N2A - Navigator Nautical Almanac
daily tables

from 01/JAN/2026 to 31/DEC/2026

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G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
1 0	100 39.7	180 36.3	S23 37.3	176 47.0	S23 43.2	347 32.3	N21 58.7	103 16.9	S 3 35.8
1	115 42.2	195 35.4	S23 37.2	191 47.3	S23 43.0	2 35.1	N21 58.8	118 19.2	S 3 35.7
2	130 44.7	210 34.4	S23 37.1	206 47.7	S23 42.9	17 37.9	N21 58.9	133 21.5	S 3 35.7
3	145 47.1	225 33.4	S23 37.0	221 48.1	S23 42.7	32 40.7	N21 58.9	148 23.9	S 3 35.6
4	160 49.6	240 32.5	S23 36.8	236 48.5	S23 42.5	47 43.5	N21 59.0	163 26.2	S 3 35.5
THU 5	175 52.1	255 31.5	S23 36.7	251 48.8	S23 42.4	62 46.3	N21 59.0	178 28.5	S 3 35.5
6	190 54.5	270 30.5	S23 36.6	266 49.2	S23 42.2	77 49.1	N21 59.1	193 30.9	S 3 35.4
7	205 57.0	285 29.6	S23 36.4	281 49.6	S23 42.0	92 51.9	N21 59.1	208 33.2	S 3 35.3
8	220 59.4	300 28.6	S23 36.3	296 50.0	S23 41.8	107 54.8	N21 59.2	223 35.5	S 3 35.3
9	236 01.9	315 27.6	S23 36.2	311 50.4	S23 41.7	122 57.6	N21 59.3	238 37.9	S 3 35.2
10	251 04.4	330 26.7	S23 36.0	326 50.7	S23 41.5	138 00.4	N21 59.3	253 40.2	S 3 35.1
11	266 06.8	345 25.7	S23 35.9	341 51.1	S23 41.3	153 03.2	N21 59.4	268 42.5	S 3 35.1
12	281 09.3	0 24.7	S23 35.7	356 51.5	S23 41.2	168 06.0	N21 59.4	283 44.9	S 3 35.0
13	296 11.8	15 23.8	S23 35.6	11 51.9	S23 41.0	183 08.8	N21 59.5	298 47.2	S 3 34.9
14	311 14.2	30 22.8	S23 35.5	26 52.3	S23 40.8	198 11.6	N21 59.5	313 49.5	S 3 34.9
15	326 16.7	45 21.8	S23 35.3	41 52.6	S23 40.6	213 14.4	N21 59.6	328 51.9	S 3 34.8
16	341 19.2	60 20.9	S23 35.2	56 53.0	S23 40.5	228 17.3	N21 59.7	343 54.2	S 3 34.7
17	356 21.6	75 19.9	S23 35.0	71 53.4	S23 40.3	243 20.1	N21 59.7	358 56.5	S 3 34.7
18	11 24.1	90 18.9	S23 34.9	86 53.8	S23 40.1	258 22.9	N21 59.8	13 58.8	S 3 34.6
19	26 26.6	105 18.0	S23 34.7	101 54.2	S23 39.9	273 25.7	N21 59.8	29 01.2	S 3 34.5
20	41 29.0	120 17.0	S23 34.6	116 54.5	S23 39.8	288 28.5	N21 59.9	44 03.5	S 3 34.5
21	56 31.5	135 16.0	S23 34.4	131 54.9	S23 39.6	303 31.3	N21 59.9	59 05.8	S 3 34.4
22	71 33.9	150 15.1	S23 34.3	146 55.3	S23 39.4	318 34.1	N21 60.0	74 08.2	S 3 34.3
23	86 36.4	165 14.1	S23 34.1	161 55.7	S23 39.2	333 36.9	N22 00.1	89 10.5	S 3 34.3
2 0	101 38.9	180 13.1	S23 34.0	176 56.1	S23 39.0	348 39.8	N22 00.1	104 12.8	S 3 34.2
1	116 41.3	195 12.2	S23 33.8	191 56.4	S23 38.9	3 42.6	N22 00.2	119 15.2	S 3 34.1
2	131 43.8	210 11.2	S23 33.7	206 56.8	S23 38.7	18 45.4	N22 00.2	134 17.5	S 3 34.1
3	146 46.3	225 10.2	S23 33.5	221 57.2	S23 38.5	33 48.2	N22 00.3	149 19.8	S 3 34.0
4	161 48.7	240 09.3	S23 33.3	236 57.6	S23 38.3	48 51.0	N22 00.3	164 22.2	S 3 33.9
FRI 5	176 51.2	255 08.3	S23 33.2	251 58.0	S23 38.2	63 53.8	N22 00.4	179 24.5	S 3 33.9
6	191 53.7	270 07.4	S23 33.0	266 58.4	S23 38.0	78 56.6	N22 00.5	194 26.8	S 3 33.8
7	206 56.1	285 06.4	S23 32.8	281 58.7	S23 37.8	93 59.5	N22 00.5	209 29.1	S 3 33.7
8	221 58.6	300 05.4	S23 32.7	296 59.1	S23 37.6	109 02.3	N22 00.6	224 31.5	S 3 33.7
9	237 01.1	315 04.5	S23 32.5	311 59.5	S23 37.4	124 05.1	N22 00.6	239 33.8	S 3 33.6
10	252 03.5	330 03.5	S23 32.3	326 59.9	S23 37.2	139 07.9	N22 00.7	254 36.1	S 3 33.5
11	267 06.0	345 02.5	S23 32.2	342 00.3	S23 37.1	154 10.7	N22 00.7	269 38.5	S 3 33.5
12	282 08.4	0 01.6	S23 32.0	357 00.6	S23 36.9	169 13.5	N22 00.8	284 40.8	S 3 33.4
13	297 10.9	15 00.6	S23 31.8	12 01.0	S23 36.7	184 16.3	N22 00.9	299 43.1	S 3 33.3
14	312 13.4	29 59.7	S23 31.7	27 01.4	S23 36.5	199 19.2	N22 00.9	314 45.4	S 3 33.3
15	327 15.8	44 58.7	S23 31.5	42 01.8	S23 36.3	214 22.0	N22 01.0	329 47.8	S 3 33.2
16	342 18.3	59 57.7	S23 31.3	57 02.2	S23 36.1	229 24.8	N22 01.0	344 50.1	S 3 33.1
17	357 20.8	74 56.8	S23 31.1	72 02.5	S23 35.9	244 27.6	N22 01.1	359 52.4	S 3 33.1
18	12 23.2	89 55.8	S23 31.0	87 02.9	S23 35.8	259 30.4	N22 01.1	14 54.7	S 3 33.0
19	27 25.7	104 54.8	S23 30.8	102 03.3	S23 35.6	274 33.2	N22 01.2	29 57.1	S 3 32.9
20	42 28.2	119 53.9	S23 30.6	117 03.7	S23 35.4	289 36.0	N22 01.3	44 59.4	S 3 32.8
21	57 30.6	134 52.9	S23 30.4	132 04.1	S23 35.2	304 38.9	N22 01.3	60 01.7	S 3 32.8
22	72 33.1	149 52.0	S23 30.2	147 04.4	S23 35.0	319 41.7	N22 01.4	75 04.1	S 3 32.7
23	87 35.6	164 51.0	S23 30.1	162 04.8	S23 34.8	334 44.5	N22 01.4	90 06.4	S 3 32.6
3 0	102 38.0	179 50.0	S23 29.9	177 05.2	S23 34.6	349 47.3	N22 01.5	105 08.7	S 3 32.6
1	117 40.5	194 49.1	S23 29.7	192 05.6	S23 34.4	4 50.1	N22 01.5	120 11.0	S 3 32.5
2	132 42.9	209 48.1	S23 29.5	207 06.0	S23 34.3	19 52.9	N22 01.6	135 13.4	S 3 32.4
3	147 45.4	224 47.2	S23 29.3	222 06.3	S23 34.1	34 55.8	N22 01.7	150 15.7	S 3 32.4
4	162 47.9	239 46.2	S23 29.1	237 06.7	S23 33.9	49 58.6	N22 01.7	165 18.0	S 3 32.3
SAT 5	177 50.3	254 45.2	S23 28.9	252 07.1	S23 33.7	65 01.4	N22 01.8	180 20.3	S 3 32.2
6	192 52.8	269 44.3	S23 28.7	267 07.5	S23 33.5	80 04.2	N22 01.8	195 22.7	S 3 32.2
7	207 55.3	284 43.3	S23 28.5	282 07.9	S23 33.3	95 07.0	N22 01.9	210 25.0	S 3 32.1
8	222 57.7	299 42.4	S23 28.3	297 08.2	S23 33.1	110 09.8	N22 01.9	225 27.3	S 3 32.0
9	238 00.2	314 41.4	S23 28.1	312 08.6	S23 32.9	125 12.6	N22 02.0	240 29.6	S 3 32.0
10	253 02.7	329 40.4	S23 27.9	327 09.0	S23 32.7	140 15.5	N22 02.1	255 32.0	S 3 31.9
11	268 05.1	344 39.5	S23 27.7	342 09.4	S23 32.5	155 18.3	N22 02.1	270 34.3	S 3 31.8
12	283 07.6	359 38.5	S23 27.5	357 09.8	S23 32.3	170 21.1	N22 02.2	285 36.6	S 3 31.7
13	298 10.1	14 37.6	S23 27.3	12 10.1	S23 32.1	185 23.9	N22 02.2	300 38.9	S 3 31.7
14	313 12.5	29 36.6	S23 27.1	27 10.5	S23 31.9	200 26.7	N22 02.3	315 41.3	S 3 31.6
15	328 15.0	44 35.6	S23 26.9	42 10.9	S23 31.7	215 29.5	N22 02.3	330 43.6	S 3 31.5
16	343 17.4	59 34.7	S23 26.7	57 11.3	S23 31.5	230 32.4	N22 02.4	345 45.9	S 3 31.5
17	358 19.9	74 33.7	S23 26.5	72 11.7	S23 31.3	245 35.2	N22 02.5	0 48.2	S 3 31.4
18	13 22.4	89 32.8	S23 26.3	87 12.1	S23 31.1	260 38.0	N22 02.5	15 50.6	S 3 31.3
19	28 24.8	104 31.8	S23 26.1	102 12.4	S23 31.0	275 40.8	N22 02.6	30 52.9	S 3 31.3
20	43 27.3	119 30.8	S23 25.9	117 12.8	S23 30.8	290 43.6	N22 02.6	45 55.2	S 3 31.2
21	58 29.8	134 29.9	S23 25.7	132 13.2	S23 30.6	305 46.4	N22 02.7	60 57.5	S 3 31.1
22	73 32.2	149 28.9	S23 25.5	147 13.6	S23 30.4	320 49.3	N22 02.7	75 59.9	S 3 31.1
23	88 34.7	164 28.0	S23 25.2	162 14.0	S23 30.2	335 52.1	N22 02.8	91 02.2	S 3 31.0
		v -1.0	d 0.2	v 0.4	d 0.2	v 2.8	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
1	0	179 10.0	S23 01.0	36 44.4	2.5	N26 24.3	6.9	60.7
	1	194 09.7	S23 00.8	51 05.8	2.4	N26 30.9	6.7	60.7
	2	209 09.5	S23 00.6	65 27.2	2.3	N26 37.5	6.5	60.8
	3	224 09.2	S23 00.4	79 48.4	2.3	N26 43.8	6.3	60.8
	4	239 08.9	S23 00.2	94 09.6	2.2	N26 49.9	6.1	60.8
T	5	254 08.6	S23 00.0	108 30.7	2.1	N26 55.8	5.9	60.8
H								
U	6	269 08.3	S22 59.8	122 51.6	2.0	N27 01.5	5.7	60.8
R	7	284 08.0	S22 59.6	137 12.6	1.9	N27 07.0	5.5	60.8
S	8	299 07.7	S22 59.4	151 33.4	1.8	N27 12.3	5.3	60.8
D	9	314 07.4	S22 59.2	165 54.1	1.8	N27 17.4	5.1	60.8
A	10	329 07.1	S22 59.0	180 14.8	1.7	N27 22.3	4.9	60.8
Y	11	344 06.8	S22 58.8	194 35.4	1.6	N27 27.0	4.7	60.8
	12	359 06.5	S22 58.6	208 56.0	1.5	N27 31.5	4.5	60.8
	13	14 06.2	S22 58.3	223 16.4	1.5	N27 35.7	4.3	60.8
	14	29 05.9	S22 58.1	237 36.9	1.4	N27 39.8	4.1	60.8
	15	44 05.6	S22 57.9	251 57.2	1.4	N27 43.6	3.8	60.8
	16	59 05.3	S22 57.7	266 17.5	1.3	N27 47.3	3.6	60.8
	17	74 05.1	S22 57.5	280 37.8	1.2	N27 50.7	3.4	60.8
	18	89 04.8	S22 57.3	294 58.0	1.2	N27 53.9	3.2	60.8
	19	104 04.5	S22 57.1	309 18.1	1.2	N27 56.9	3.0	60.8
	20	119 04.2	S22 56.8	323 38.2	1.1	N27 59.7	2.8	60.9
	21	134 03.9	S22 56.6	337 58.3	1.1	N28 02.2	2.6	60.9
	22	149 03.6	S22 56.4	352 18.4	1.0	N28 04.6	2.3	60.9
	23	164 03.3	S22 56.2	6 38.4	1.0	N28 06.7	2.1	60.9
2	0	179 03.0	S22 56.0	20 58.3	1.0	N28 08.6	1.9	60.8
	1	194 02.7	S22 55.7	35 18.3	1.0	N28 10.3	1.7	60.8
	2	209 02.4	S22 55.5	49 38.2	0.9	N28 11.8	1.5	60.8
	3	224 02.1	S22 55.3	63 58.2	0.9	N28 13.0	1.3	60.8
	4	239 01.9	S22 55.1	78 18.1	0.9	N28 14.1	1.0	60.8
F	5	254 01.6	S22 54.8	92 38.0	0.9	N28 14.9	0.8	60.8
R								
I	6	269 01.3	S22 54.6	106 57.8	0.9	N28 15.5	0.6	60.8
D	7	284 01.0	S22 54.4	121 17.7	0.9	N28 15.8	0.4	60.8
A	8	299 00.7	S22 54.2	135 37.6	0.9	N28 16.0	0.1	60.8
Y	9	314 00.4	S22 53.9	149 57.5	0.9	N28 15.9	0.1	60.8
	10	329 00.1	S22 53.7	164 17.4	0.9	N28 15.6	0.3	60.8
	11	343 59.8	S22 53.5	178 37.3	0.9	N28 15.1	0.5	60.8
	12	358 59.5	S22 53.3	192 57.3	0.9	N28 14.4	0.7	60.8
	13	13 59.2	S22 53.0	207 17.2	1.0	N28 13.4	1.0	60.8
	14	28 59.0	S22 52.8	221 37.2	1.0	N28 12.3	1.2	60.8
	15	43 58.7	S22 52.6	235 57.2	1.0	N28 10.9	1.4	60.8
	16	58 58.4	S22 52.3	250 17.2	1.0	N28 09.3	1.6	60.8
	17	73 58.1	S22 52.1	264 37.3	1.1	N28 07.4	1.8	60.8
	18	88 57.8	S22 51.9	278 57.4	1.1	N28 05.4	2.0	60.7
	19	103 57.5	S22 51.6	293 17.6	1.1	N28 03.1	2.3	60.7
	20	118 57.2	S22 51.4	307 37.7	1.2	N28 00.7	2.5	60.7
	21	133 56.9	S22 51.1	321 58.0	1.2	N27 58.0	2.7	60.7
	22	148 56.6	S22 50.9	336 18.3	1.3	N27 55.1	2.9	60.7
	23	163 56.4	S22 50.7	350 38.6	1.3	N27 52.0	3.1	60.7
3	0	178 56.1	S22 50.4	4 59.0	1.4	N27 48.6	3.3	60.7
	1	193 55.8	S22 50.2	19 19.5	1.5	N27 45.1	3.5	60.7
	2	208 55.5	S22 49.9	33 40.0	1.5	N27 41.4	3.7	60.7
	3	223 55.2	S22 49.7	48 00.6	1.6	N27 37.4	4.0	60.6
	4	238 54.9	S22 49.5	62 21.3	1.7	N27 33.2	4.2	60.6
S	5	253 54.6	S22 49.2	76 42.1	1.7	N27 28.9	4.4	60.6
A								
T	6	268 54.4	S22 49.0	91 02.9	1.8	N27 24.3	4.6	60.6
U	7	283 54.1	S22 48.7	105 23.8	1.9	N27 19.5	4.8	60.6
R	8	298 53.8	S22 48.5	119 44.8	2.0	N27 14.5	5.0	60.6
D	9	313 53.5	S22 48.2	134 05.8	2.1	N27 09.3	5.2	60.5
A	10	328 53.2	S22 48.0	148 27.0	2.2	N27 04.0	5.4	60.5
Y	11	343 52.9	S22 47.7	162 48.3	2.3	N26 58.4	5.6	60.5
	12	358 52.6	S22 47.5	177 09.6	2.3	N26 52.6	5.8	60.5
	13	13 52.4	S22 47.2	191 31.1	2.4	N26 46.6	6.0	60.5
	14	28 52.1	S22 47.0	205 52.6	2.5	N26 40.5	6.2	60.4
	15	43 51.8	S22 46.7	220 14.2	2.6	N26 34.1	6.4	60.4
	16	58 51.5	S22 46.5	234 36.0	2.8	N26 27.6	6.5	60.4
	17	73 51.2	S22 46.2	248 57.9	2.9	N26 20.8	6.7	60.4
	18	88 50.9	S22 46.0	263 19.8	3.0	N26 13.9	6.9	60.4
	19	103 50.6	S22 45.7	277 41.9	3.1	N26 06.8	7.1	60.3
	20	118 50.4	S22 45.5	292 04.1	3.2	N25 59.6	7.3	60.3
	21	133 50.1	S22 45.2	306 26.4	3.3	N25 52.1	7.5	60.3
	22	148 49.8	S22 45.0	320 48.8	3.4	N25 44.4	7.6	60.3
	23	163 49.5	S22 44.7	335 11.4	3.5	N25 36.6	7.8	60.3
		S.D. 16.3	d 0.2	S.D. 16.6		16.6	16.5	

Name	SHA ° '	Dec ° '
Acamar	315 10.9	S40 12.2
Achernar	335 19.4	S57 06.5
Acrux	172 59.2	S63 14.3
Adhara	255 04.8	S29 00.4
Albireo	67 03.8	N28 00.8
Aldebaran	290 38.4	N16 33.8
Alioth	166 12.2	N55 48.8
Alkaid	152 51.5	N49 10.7
Al Na-ir	27 32.1	S46 50.3
Alnilam	275 36.5	S 1 11.1
Alphard	217 46.7	S 8 46.3
Alphecca	126 03.3	N26 37.4
Alpheratz	357 34.0	N29 14.3
Altair	61 59.5	N 8 56.2
Ankaa	353 06.3	S42 10.1
Antares	112 15.2	S26 29.4
Arcturus	145 47.3	N19 02.6
Atria	107 09.3	S69 04.4
Avior	234 13.8	S59 35.4
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.5	S52 42.5
Capella	280 20.2	N46 01.6
Castor	245 55.6	N31 49.8
Deneb	49 25.7	N45 22.5
Denebola	182 24.0	N14 25.5
Diphda	348 46.5	S17 50.7
Dubhe	193 39.6	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.4	N51 28.9
Enif	33 38.2	N 9 59.7
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.8	S57 15.3
Gienah	175 42.7	S17 41.1
Hadar	148 35.2	S60 29.7
Hamal	327 50.2	N23 35.3
Kaus Austr.	83 31.9	S34 22.4
Kochab	137 20.6	N74 02.5
Markab	13 29.2	N15 20.8
Menkar	314 05.1	N 4 11.5
Menkent	147 56.8	S36 29.8
Miaplacidus	221 37.3	S69 49.2
Mirfak	308 26.8	N49 57.4
Nunki	75 47.1	S26 15.9
Peacock	53 04.9	S56 39.2
Polaris	315 59.0	N89 22.1
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 58.2	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 02.8	S 8 10.3
Rigil Kent	139 39.7	S60 56.4
Sabik	102 02.2	S15 45.5
Schedar	349 30.1	N56 41.1
Shaula	96 09.7	S37 07.4
Sirius	258 25.2	S16 45.1
Spica	158 21.5	S11 17.8
Suhail	222 45.3	S43 32.1
Vega	80 33.1	N38 48.4
Zuben-ubi	136 56.2	S16 09.0

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
4 0	103 37.2	179 27.0	S23 25.0	177 14.3	S23 30.0	350 54.9	N22 02.8	106 04.5	S 3 30.9
1	118 39.6	194 26.1	S23 24.8	192 14.7	S23 29.8	5 57.7	N22 02.9	121 06.8	S 3 30.8
2	133 42.1	209 25.1	S23 24.6	207 15.1	S23 29.6	21 00.5	N22 03.0	136 09.1	S 3 30.8
3	148 44.6	224 24.2	S23 24.4	222 15.5	S23 29.4	36 03.4	N22 03.0	151 11.5	S 3 30.7
4	163 47.0	239 23.2	S23 24.2	237 15.9	S23 29.1	51 06.2	N22 03.1	166 13.8	S 3 30.6
S 5	178 49.5	254 22.2	S23 23.9	252 16.2	S23 28.9	66 09.0	N22 03.1	181 16.1	S 3 30.6
U									
N 6	193 51.9	269 21.3	S23 23.7	267 16.6	S23 28.7	81 11.8	N22 03.2	196 18.4	S 3 30.5
D 7	208 54.4	284 20.3	S23 23.5	282 17.0	S23 28.5	96 14.6	N22 03.2	211 20.8	S 3 30.4
A 8	223 56.9	299 19.4	S23 23.3	297 17.4	S23 28.3	111 17.4	N22 03.3	226 23.1	S 3 30.4
Y 9	238 59.3	314 18.4	S23 23.0	312 17.8	S23 28.1	126 20.3	N22 03.4	241 25.4	S 3 30.3
10	254 01.8	329 17.5	S23 22.8	327 18.2	S23 27.9	141 23.1	N22 03.4	256 27.7	S 3 30.2
11	269 04.3	344 16.5	S23 22.6	342 18.5	S23 27.7	156 25.9	N22 03.5	271 30.0	S 3 30.1
12	284 06.7	359 15.6	S23 22.3	357 18.9	S23 27.5	171 28.7	N22 03.5	286 32.4	S 3 30.1
13	299 09.2	14 14.6	S23 22.1	12 19.3	S23 27.3	186 31.5	N22 03.6	301 34.7	S 3 30.0
14	314 11.7	29 13.6	S23 21.9	27 19.7	S23 27.1	201 34.4	N22 03.6	316 37.0	S 3 29.9
15	329 14.1	44 12.7	S23 21.6	42 20.1	S23 26.9	216 37.2	N22 03.7	331 39.3	S 3 29.9
16	344 16.6	59 11.7	S23 21.4	57 20.4	S23 26.7	231 40.0	N22 03.8	346 41.7	S 3 29.8
17	359 19.0	74 10.8	S23 21.2	72 20.8	S23 26.5	246 42.8	N22 03.8	1 44.0	S 3 29.7
18	14 21.5	89 09.8	S23 20.9	87 21.2	S23 26.3	261 45.6	N22 03.9	16 46.3	S 3 29.6
19	29 24.0	104 08.9	S23 20.7	102 21.6	S23 26.1	276 48.4	N22 03.9	31 48.6	S 3 29.6
20	44 26.4	119 07.9	S23 20.5	117 22.0	S23 25.9	291 51.3	N22 04.0	46 50.9	S 3 29.5
21	59 28.9	134 07.0	S23 20.2	132 22.4	S23 25.6	306 54.1	N22 04.0	61 53.3	S 3 29.4
22	74 31.4	149 06.0	S23 20.0	147 22.7	S23 25.4	321 56.9	N22 04.1	76 55.6	S 3 29.4
23	89 33.8	164 05.1	S23 19.7	162 23.1	S23 25.2	336 59.7	N22 04.2	91 57.9	S 3 29.3
5 0	104 36.3	179 04.1	S23 19.5	177 23.5	S23 25.0	352 02.5	N22 04.2	107 00.2	S 3 29.2
1	119 38.8	194 03.2	S23 19.2	192 23.9	S23 24.8	7 05.4	N22 04.3	122 02.5	S 3 29.2
2	134 41.2	209 02.2	S23 19.0	207 24.3	S23 24.6	22 08.2	N22 04.3	137 04.9	S 3 29.1
3	149 43.7	224 01.3	S23 18.7	222 24.7	S23 24.4	37 11.0	N22 04.4	152 07.2	S 3 29.0
4	164 46.2	239 00.3	S23 18.5	237 25.0	S23 24.2	52 13.8	N22 04.4	167 09.5	S 3 28.9
M 5	179 48.6	253 59.4	S23 18.2	252 25.4	S23 23.9	67 16.6	N22 04.5	182 11.8	S 3 28.9
O									
N 6	194 51.1	268 58.4	S23 18.0	267 25.8	S23 23.7	82 19.5	N22 04.6	197 14.1	S 3 28.8
D 7	209 53.5	283 57.5	S23 17.7	282 26.2	S23 23.5	97 22.3	N22 04.6	212 16.4	S 3 28.7
A 8	224 56.0	298 56.5	S23 17.5	297 26.6	S23 23.3	112 25.1	N22 04.7	227 18.8	S 3 28.7
Y 9	239 58.5	313 55.6	S23 17.2	312 26.9	S23 23.1	127 27.9	N22 04.7	242 21.1	S 3 28.6
10	255 00.9	328 54.6	S23 17.0	327 27.3	S23 22.9	142 30.7	N22 04.8	257 23.4	S 3 28.5
11	270 03.4	343 53.7	S23 16.7	342 27.7	S23 22.7	157 33.6	N22 04.8	272 25.7	S 3 28.4
12	285 05.9	358 52.7	S23 16.4	357 28.1	S23 22.4	172 36.4	N22 04.9	287 28.0	S 3 28.4
13	300 08.3	13 51.8	S23 16.2	12 28.5	S23 22.2	187 39.2	N22 05.0	302 30.4	S 3 28.3
14	315 10.8	28 50.8	S23 15.9	27 28.9	S23 22.0	202 42.0	N22 05.0	317 32.7	S 3 28.2
15	330 13.3	43 49.9	S23 15.6	42 29.2	S23 21.8	217 44.8	N22 05.1	332 35.0	S 3 28.1
16	345 15.7	58 48.9	S23 15.4	57 29.6	S23 21.6	232 47.7	N22 05.1	347 37.3	S 3 28.1
17	0 18.2	73 48.0	S23 15.1	72 30.0	S23 21.3	247 50.5	N22 05.2	2 39.6	S 3 28.0
18	15 20.7	88 47.0	S23 14.8	87 30.4	S23 21.1	262 53.3	N22 05.2	17 41.9	S 3 27.9
19	30 23.1	103 46.1	S23 14.6	102 30.8	S23 20.9	277 56.1	N22 05.3	32 44.3	S 3 27.9
20	45 25.6	118 45.1	S23 14.3	117 31.2	S23 20.7	292 58.9	N22 05.4	47 46.6	S 3 27.8
21	60 28.0	133 44.2	S23 14.0	132 31.5	S23 20.5	308 01.8	N22 05.4	62 48.9	S 3 27.7
22	75 30.5	148 43.2	S23 13.8	147 31.9	S23 20.2	323 04.6	N22 05.5	77 51.2	S 3 27.6
23	90 33.0	163 42.3	S23 13.5	162 32.3	S23 20.0	338 07.4	N22 05.5	92 53.5	S 3 27.6
6 0	105 35.4	178 41.4	S23 13.2	177 32.7	S23 19.8	353 10.2	N22 05.6	107 55.8	S 3 27.5
1	120 37.9	193 40.4	S23 12.9	192 33.1	S23 19.6	8 13.0	N22 05.6	122 58.2	S 3 27.4
2	135 40.4	208 39.5	S23 12.6	207 33.5	S23 19.4	23 15.9	N22 05.7	138 00.5	S 3 27.4
3	150 42.8	223 38.5	S23 12.4	222 33.8	S23 19.1	38 18.7	N22 05.7	153 02.8	S 3 27.3
4	165 45.3	238 37.6	S23 12.1	237 34.2	S23 18.9	53 21.5	N22 05.8	168 05.1	S 3 27.2
T 5	180 47.8	253 36.6	S23 11.8	252 34.6	S23 18.7	68 24.3	N22 05.9	183 07.4	S 3 27.1
U									
E 6	195 50.2	268 35.7	S23 11.5	267 35.0	S23 18.5	83 27.1	N22 05.9	198 09.7	S 3 27.1
S 7	210 52.7	283 34.7	S23 11.2	282 35.4	S23 18.2	98 30.0	N22 06.0	213 12.1	S 3 27.0
D 8	225 55.2	298 33.8	S23 11.0	297 35.8	S23 18.0	113 32.8	N22 06.0	228 14.4	S 3 26.9
A 9	240 57.6	313 32.8	S23 10.7	312 36.1	S23 17.8	128 35.6	N22 06.1	243 16.7	S 3 26.8
Y 10	256 00.1	328 31.9	S23 10.4	327 36.5	S23 17.6	143 38.4	N22 06.1	258 19.0	S 3 26.8
11	271 02.5	343 31.0	S23 10.1	342 36.9	S23 17.3	158 41.2	N22 06.2	273 21.3	S 3 26.7
12	286 05.0	358 30.0	S23 09.8	357 37.3	S23 17.1	173 44.1	N22 06.3	288 23.6	S 3 26.6
13	301 07.5	13 29.1	S23 09.5	12 37.7	S23 16.9	188 46.9	N22 06.3	303 25.9	S 3 26.5
14	316 09.9	28 28.1	S23 09.2	27 38.1	S23 16.6	203 49.7	N22 06.4	318 28.3	S 3 26.5
15	331 12.4	43 27.2	S23 08.9	42 38.4	S23 16.4	218 52.5	N22 06.4	333 30.6	S 3 26.4
16	346 14.9	58 26.2	S23 08.6	57 38.8	S23 16.2	233 55.4	N22 06.5	348 32.9	S 3 26.3
17	1 17.3	73 25.3	S23 08.3	72 39.2	S23 16.0	248 58.2	N22 06.5	3 35.2	S 3 26.3
18	16 19.8	88 24.4	S23 08.0	87 39.6	S23 15.7	264 01.0	N22 06.6	18 37.5	S 3 26.2
19	31 22.3	103 23.4	S23 07.7	102 40.0	S23 15.5	279 03.8	N22 06.7	33 39.8	S 3 26.1
20	46 24.7	118 22.5	S23 07.4	117 40.4	S23 15.3	294 06.6	N22 06.7	48 42.1	S 3 26.0
21	61 27.2	133 21.5	S23 07.1	132 40.7	S23 15.0	309 09.5	N22 06.8	63 44.4	S 3 26.0
22	76 29.7	148 20.6	S23 06.8	147 41.1	S23 14.8	324 12.3	N22 06.8	78 46.8	S 3 25.9
23	91 32.1	163 19.7	S23 06.5	162 41.5	S23 14.6	339 15.1	N22 06.9	93 49.1	S 3 25.8
		v -0.9	d 0.3	v 0.4	d 0.2	v 2.8	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
4	0	178 49.2	S22 44.4	349 34.0	3.7	N25 28.6	8.0	60.2
	1	193 48.9	S22 44.2	3 56.8	3.8	N25 20.5	8.2	60.2
	2	208 48.7	S22 43.9	18 19.7	3.9	N25 12.1	8.3	60.2
	3	223 48.4	S22 43.7	32 42.7	4.0	N25 03.6	8.5	60.2
	4	238 48.1	S22 43.4	47 05.9	4.2	N24 55.0	8.7	60.1
S	5	253 47.8	S22 43.1	61 29.2	4.3	N24 46.1	8.8	60.1
U								
N	6	268 47.5	S22 42.9	75 52.6	4.4	N24 37.1	9.0	60.1
D	7	283 47.2	S22 42.6	90 16.1	4.5	N24 28.0	9.2	60.0
A	8	298 47.0	S22 42.4	104 39.8	4.7	N24 18.7	9.3	60.0
Y	9	313 46.7	S22 42.1	119 03.6	4.8	N24 09.2	9.5	60.0
	10	328 46.4	S22 41.8	133 27.5	4.9	N23 59.6	9.6	60.0
	11	343 46.1	S22 41.6	147 51.6	5.1	N23 49.8	9.8	59.9
	12	358 45.8	S22 41.3	162 15.8	5.2	N23 39.9	9.9	59.9
	13	13 45.6	S22 41.0	176 40.1	5.3	N23 29.8	10.1	59.9
	14	28 45.3	S22 40.7	191 04.6	5.5	N23 19.6	10.2	59.9
	15	43 45.0	S22 40.5	205 29.2	5.6	N23 09.3	10.4	59.8
	16	58 44.7	S22 40.2	219 54.0	5.7	N22 58.8	10.5	59.8
	17	73 44.4	S22 39.9	234 18.9	5.9	N22 48.2	10.6	59.8
	18	88 44.2	S22 39.7	248 43.9	6.0	N22 37.4	10.8	59.7
	19	103 43.9	S22 39.4	263 09.0	6.2	N22 26.5	10.9	59.7
	20	118 43.6	S22 39.1	277 34.4	6.3	N22 15.5	11.0	59.7
	21	133 43.3	S22 38.8	291 59.8	6.4	N22 04.3	11.2	59.6
	22	148 43.0	S22 38.6	306 25.4	6.6	N21 53.0	11.3	59.6
	23	163 42.8	S22 38.3	320 51.1	6.7	N21 41.6	11.4	59.6
5	0	178 42.5	S22 38.0	335 16.9	6.9	N21 30.1	11.5	59.5
	1	193 42.2	S22 37.7	349 42.9	7.0	N21 18.5	11.6	59.5
	2	208 41.9	S22 37.5	4 09.1	7.1	N21 06.7	11.8	59.5
	3	223 41.6	S22 37.2	18 35.4	7.3	N20 54.8	11.9	59.4
	4	238 41.4	S22 36.9	33 01.8	7.4	N20 42.8	12.0	59.4
M	5	253 41.1	S22 36.6	47 28.3	7.6	N20 30.7	12.1	59.4
O								
N	6	268 40.8	S22 36.3	61 55.0	7.7	N20 18.5	12.2	59.3
D	7	283 40.5	S22 36.1	76 21.8	7.8	N20 06.2	12.3	59.3
A	8	298 40.3	S22 35.8	90 48.8	8.0	N19 53.8	12.4	59.3
Y	9	313 40.0	S22 35.5	105 15.9	8.1	N19 41.2	12.5	59.2
	10	328 39.7	S22 35.2	119 43.1	8.2	N19 28.6	12.6	59.2
	11	343 39.4	S22 34.9	134 10.5	8.4	N19 15.9	12.7	59.2
	12	358 39.1	S22 34.6	148 38.0	8.5	N19 03.1	12.8	59.1
	13	13 38.9	S22 34.3	163 05.6	8.6	N18 50.2	12.9	59.1
	14	28 38.6	S22 34.1	177 33.4	8.8	N18 37.2	13.0	59.1
	15	43 38.3	S22 33.8	192 01.3	8.9	N18 24.1	13.1	59.0
	16	58 38.0	S22 33.5	206 29.4	9.0	N18 10.9	13.2	59.0
	17	73 37.8	S22 33.2	220 57.5	9.2	N17 57.6	13.3	59.0
	18	88 37.5	S22 32.9	235 25.8	9.3	N17 44.3	13.3	58.9
	19	103 37.2	S22 32.6	249 54.3	9.4	N17 30.8	13.4	58.9
	20	118 36.9	S22 32.3	264 22.8	9.6	N17 17.3	13.5	58.8
	21	133 36.7	S22 32.0	278 51.5	9.7	N17 03.8	13.6	58.8
	22	148 36.4	S22 31.7	293 20.3	9.8	N16 50.1	13.7	58.8
	23	163 36.1	S22 31.4	307 49.3	9.9	N16 36.4	13.7	58.7
6	0	178 35.8	S22 31.1	322 18.3	10.1	N16 22.6	13.8	58.7
	1	193 35.6	S22 30.8	336 47.5	10.2	N16 08.7	13.9	58.7
	2	208 35.3	S22 30.5	351 16.8	10.3	N15 54.8	13.9	58.6
	3	223 35.0	S22 30.2	5 46.3	10.4	N15 40.8	14.0	58.6
	4	238 34.7	S22 29.9	20 15.8	10.6	N15 26.7	14.1	58.5
T	5	253 34.5	S22 29.6	34 45.5	10.7	N15 12.6	14.1	58.5
U								
E	6	268 34.2	S22 29.3	49 15.3	10.8	N14 58.4	14.2	58.5
S	7	283 33.9	S22 29.0	63 45.2	10.9	N14 44.1	14.2	58.4
D	8	298 33.6	S22 28.7	78 15.2	11.0	N14 29.8	14.3	58.4
A	9	313 33.4	S22 28.4	92 45.4	11.1	N14 15.5	14.4	58.4
Y	10	328 33.1	S22 28.1	107 15.6	11.3	N14 01.1	14.4	58.3
	11	343 32.8	S22 27.8	121 46.0	11.4	N13 46.6	14.5	58.3
	12	358 32.6	S22 27.5	136 16.5	11.5	N13 32.1	14.5	58.2
	13	13 32.3	S22 27.2	150 47.1	11.6	N13 17.5	14.6	58.2
	14	28 32.0	S22 26.9	165 17.8	11.7	N13 02.9	14.6	58.2
	15	43 31.7	S22 26.6	179 48.6	11.8	N12 48.3	14.6	58.1
	16	58 31.5	S22 26.3	194 19.5	11.9	N12 33.6	14.7	58.1
	17	73 31.2	S22 26.0	208 50.5	12.0	N12 18.9	14.7	58.0
	18	88 30.9	S22 25.7	223 21.6	12.1	N12 04.1	14.8	58.0
	19	103 30.7	S22 25.4	237 52.8	12.2	N11 49.3	14.8	58.0
	20	118 30.4	S22 25.1	252 24.2	12.3	N11 34.5	14.8	57.9
	21	133 30.1	S22 24.7	266 55.6	12.4	N11 19.6	14.9	57.9
	22	148 29.8	S22 24.4	281 27.1	12.5	N11 04.7	14.9	57.9
	23	163 29.6	S22 24.1	295 58.7	12.6	N10 49.7	14.9	57.8
		S.D. 16.3	d 0.3	S.D.	16.3	16.1	15.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.9	S40 12.2
Achernar	335 19.4	S57 06.5
Acrux	172 59.1	S63 14.3
Adhara	255 04.8	S29 00.4
Albireo	67 03.8	N28 00.8
Aldebaran	290 38.4	N16 33.8
Alioth	166 12.2	N55 48.8
Alkaid	152 51.4	N49 10.7
Al Na-ir	27 32.1	S46 50.3
Alnilam	275 36.5	S 1 11.1
Alphard	217 46.6	S 8 46.3
Alphecca	126 03.3	N26 37.4
Alpheratz	357 34.0	N29 14.2
Altair	61 59.5	N 8 56.2
Ankaa	353 06.3	S42 10.1
Antares	112 15.1	S26 29.4
Arcturus	145 47.3	N19 02.6
Atria	107 09.2	S69 04.4
Avior	234 13.8	S59 35.5
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.8	N 7 24.7
Canopus	263 51.5	S52 42.6
Capella	280 20.2	N46 01.6
Castor	245 55.6	N31 49.8
Deneb	49 25.7	N45 22.4
Denebola	182 24.0	N14 25.4
Diphda	348 46.5	S17 50.7
Dubhe	193 39.6	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.3	N51 28.9
Enif	33 38.2	N 9 59.7
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.7	S57 15.3
Gienah	175 42.7	S17 41.1
Hadar	148 35.1	S60 29.7
Hamal	327 50.2	N23 35.3
Kaus Austr.	83 31.8	S34 22.4
Kochab	137 20.5	N74 02.5
Markab	13 29.2	N15 20.8
Menkar	314 05.1	N 4 11.5
Menkent	147 56.8	S36 29.8
Miaplacidus	221 37.2	S69 49.2
Mirfak	308 26.8	N49 57.5
Nunki	75 47.1	S26 15.9
Peacock	53 04.9	S56 39.2
Polaris	316 00.0	N89 22.1
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 58.1	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 02.8	S 8 10.3
Rigil Kent	139 39.6	S60 56.4
Sabik	102 02.2	S15 45.5
Schedar	349 30.1	N56 41.1
Shaula	96 09.6	S37 07.4
Sirius	258 25.2	S16 45.1
Spica	158 21.5	S11 17.8
Suhail	222 45.3	S43 32.1
Vega	80 33.1	N38 48.4
Zuben-ubi	136 56.1	S16 09.0

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
7	0	106 34.6	178 18.7	S23 06.2	177 41.9	S23 14.3	354 17.9	N22 06.9	108 51.4	S 3 25.7
	1	121 37.0	193 17.8	S23 05.9	192 42.3	S23 14.1	9 20.7	N22 07.0	123 53.7	S 3 25.7
	2	136 39.5	208 16.8	S23 05.6	207 42.7	S23 13.9	24 23.6	N22 07.0	138 56.0	S 3 25.6
	3	151 42.0	223 15.9	S23 05.3	222 43.0	S23 13.6	39 26.4	N22 07.1	153 58.3	S 3 25.5
	4	166 44.4	238 15.0	S23 05.0	237 43.4	S23 13.4	54 29.2	N22 07.2	169 00.6	S 3 25.4
W	5	181 46.9	253 14.0	S23 04.7	252 43.8	S23 13.2	69 32.0	N22 07.2	184 02.9	S 3 25.4
E										
D	6	196 49.4	268 13.1	S23 04.3	267 44.2	S23 12.9	84 34.9	N22 07.3	199 05.3	S 3 25.3
N	7	211 51.8	283 12.1	S23 04.0	282 44.6	S23 12.7	99 37.7	N22 07.3	214 07.6	S 3 25.2
E	8	226 54.3	298 11.2	S23 03.7	297 45.0	S23 12.4	114 40.5	N22 07.4	229 09.9	S 3 25.1
S	9	241 56.8	313 10.3	S23 03.4	312 45.4	S23 12.2	129 43.3	N22 07.4	244 12.2	S 3 25.1
D	10	256 59.2	328 09.3	S23 03.1	327 45.7	S23 12.0	144 46.1	N22 07.5	259 14.5	S 3 25.0
A	11	272 01.7	343 08.4	S23 02.8	342 46.1	S23 11.7	159 49.0	N22 07.6	274 16.8	S 3 24.9
Y										
	12	287 04.1	358 07.5	S23 02.4	357 46.5	S23 11.5	174 51.8	N22 07.6	289 19.1	S 3 24.8
	13	302 06.6	13 06.5	S23 02.1	12 46.9	S23 11.3	189 54.6	N22 07.7	304 21.4	S 3 24.8
	14	317 09.1	28 05.6	S23 01.8	27 47.3	S23 11.0	204 57.4	N22 07.7	319 23.8	S 3 24.7
	15	332 11.5	43 04.7	S23 01.5	42 47.7	S23 10.8	220 00.3	N22 07.8	334 26.1	S 3 24.6
	16	347 14.0	58 03.7	S23 01.2	57 48.0	S23 10.5	235 03.1	N22 07.8	349 28.4	S 3 24.5
	17	2 16.5	73 02.8	S23 00.8	72 48.4	S23 10.3	250 05.9	N22 07.9	4 30.7	S 3 24.5
	18	17 18.9	88 01.8	S23 00.5	87 48.8	S23 10.1	265 08.7	N22 07.9	19 33.0	S 3 24.4
	19	32 21.4	103 00.9	S23 00.2	102 49.2	S23 09.8	280 11.5	N22 08.0	34 35.3	S 3 24.3
	20	47 23.9	117 60.0	S22 59.8	117 49.6	S23 09.6	295 14.4	N22 08.1	49 37.6	S 3 24.2
	21	62 26.3	132 59.0	S22 59.5	132 50.0	S23 09.3	310 17.2	N22 08.1	64 39.9	S 3 24.2
	22	77 28.8	147 58.1	S22 59.2	147 50.4	S23 09.1	325 20.0	N22 08.2	79 42.2	S 3 24.1
	23	92 31.3	162 57.2	S22 58.8	162 50.7	S23 08.8	340 22.8	N22 08.2	94 44.5	S 3 24.0
8	0	107 33.7	177 56.2	S22 58.5	177 51.1	S23 08.6	355 25.7	N22 08.3	109 46.9	S 3 23.9
	1	122 36.2	192 55.3	S22 58.2	192 51.5	S23 08.4	10 28.5	N22 08.3	124 49.2	S 3 23.9
	2	137 38.6	207 54.4	S22 57.8	207 51.9	S23 08.1	25 31.3	N22 08.4	139 51.5	S 3 23.8
	3	152 41.1	222 53.4	S22 57.5	222 52.3	S23 07.9	40 34.1	N22 08.5	154 53.8	S 3 23.7
	4	167 43.6	237 52.5	S22 57.2	237 52.7	S23 07.6	55 36.9	N22 08.5	169 56.1	S 3 23.6
T	5	182 46.0	252 51.6	S22 56.8	252 53.1	S23 07.4	70 39.8	N22 08.6	184 58.4	S 3 23.6
H										
U	6	197 48.5	267 50.6	S22 56.5	267 53.4	S23 07.1	85 42.6	N22 08.6	200 00.7	S 3 23.5
R	7	212 51.0	282 49.7	S22 56.1	282 53.8	S23 06.9	100 45.4	N22 08.7	215 03.0	S 3 23.4
S	8	227 53.4	297 48.8	S22 55.8	297 54.2	S23 06.6	115 48.2	N22 08.7	230 05.3	S 3 23.3
D	9	242 55.9	312 47.9	S22 55.4	312 54.6	S23 06.4	130 51.1	N22 08.8	245 07.6	S 3 23.3
A	10	257 58.4	327 46.9	S22 55.1	327 55.0	S23 06.1	145 53.9	N22 08.8	260 09.9	S 3 23.2
Y	11	273 00.8	342 46.0	S22 54.7	342 55.4	S23 05.9	160 56.7	N22 08.9	275 12.2	S 3 23.1
	12	288 03.3	357 45.1	S22 54.4	357 55.8	S23 05.6	175 59.5	N22 09.0	290 14.6	S 3 23.0
	13	303 05.8	12 44.1	S22 54.0	12 56.1	S23 05.4	191 02.4	N22 09.0	305 16.9	S 3 23.0
	14	318 08.2	27 43.2	S22 53.7	27 56.5	S23 05.1	206 05.2	N22 09.1	320 19.2	S 3 22.9
	15	333 10.7	42 42.3	S22 53.3	42 56.9	S23 04.9	221 08.0	N22 09.1	335 21.5	S 3 22.8
	16	348 13.1	57 41.3	S22 53.0	57 57.3	S23 04.6	236 10.8	N22 09.2	350 23.8	S 3 22.7
	17	3 15.6	72 40.4	S22 52.6	72 57.7	S23 04.4	251 13.6	N22 09.2	5 26.1	S 3 22.7
	18	18 18.1	87 39.5	S22 52.3	87 58.1	S23 04.1	266 16.5	N22 09.3	20 28.4	S 3 22.6
	19	33 20.5	102 38.6	S22 51.9	102 58.5	S23 03.9	281 19.3	N22 09.4	35 30.7	S 3 22.5
	20	48 23.0	117 37.6	S22 51.5	117 58.8	S23 03.6	296 22.1	N22 09.4	50 33.0	S 3 22.4
	21	63 25.5	132 36.7	S22 51.2	132 59.2	S23 03.4	311 24.9	N22 09.5	65 35.3	S 3 22.4
	22	78 27.9	147 35.8	S22 50.8	147 59.6	S23 03.1	326 27.8	N22 09.5	80 37.6	S 3 22.3
	23	93 30.4	162 34.9	S22 50.5	163 00.0	S23 02.9	341 30.6	N22 09.6	95 39.9	S 3 22.2
9	0	108 32.9	177 33.9	S22 50.1	178 00.4	S23 02.6	356 33.4	N22 09.6	110 42.2	S 3 22.1
	1	123 35.3	192 33.0	S22 49.7	193 00.8	S23 02.3	11 36.2	N22 09.7	125 44.5	S 3 22.0
	2	138 37.8	207 32.1	S22 49.4	208 01.2	S23 02.1	26 39.1	N22 09.7	140 46.8	S 3 22.0
	3	153 40.2	222 31.2	S22 49.0	223 01.6	S23 01.8	41 41.9	N22 09.8	155 49.2	S 3 21.9
	4	168 42.7	237 30.2	S22 48.6	238 01.9	S23 01.6	56 44.7	N22 09.9	170 51.5	S 3 21.8
F	5	183 45.2	252 29.3	S22 48.3	253 02.3	S23 01.3	71 47.5	N22 09.9	185 53.8	S 3 21.7
R										
I	6	198 47.6	267 28.4	S22 47.9	268 02.7	S23 01.1	86 50.3	N22 10.0	200 56.1	S 3 21.7
D	7	213 50.1	282 27.5	S22 47.5	283 03.1	S23 00.8	101 53.2	N22 10.0	215 58.4	S 3 21.6
A	8	228 52.6	297 26.5	S22 47.1	298 03.5	S23 00.5	116 56.0	N22 10.1	231 00.7	S 3 21.5
Y	9	243 55.0	312 25.6	S22 46.8	313 03.9	S23 00.3	131 58.8	N22 10.1	246 03.0	S 3 21.4
	10	258 57.5	327 24.7	S22 46.4	328 04.3	S23 00.0	147 01.6	N22 10.2	261 05.3	S 3 21.4
	11	273 60.0	342 23.8	S22 46.0	343 04.6	S22 59.8	162 04.5	N22 10.2	276 07.6	S 3 21.3
	12	289 02.4	357 22.8	S22 45.6	358 05.0	S22 59.5	177 07.3	N22 10.3	291 09.9	S 3 21.2
	13	304 04.9	12 21.9	S22 45.2	13 05.4	S22 59.2	192 10.1	N22 10.4	306 12.2	S 3 21.1
	14	319 07.4	27 21.0	S22 44.9	28 05.8	S22 59.0	207 12.9	N22 10.4	321 14.5	S 3 21.0
	15	334 09.8	42 20.1	S22 44.5	43 06.2	S22 58.7	222 15.8	N22 10.5	336 16.8	S 3 21.0
	16	349 12.3	57 19.2	S22 44.1	58 06.6	S22 58.5	237 18.6	N22 10.5	351 19.1	S 3 20.9
	17	4 14.7	72 18.2	S22 43.7	73 07.0	S22 58.2	252 21.4	N22 10.6	6 21.4	S 3 20.8
	18	19 17.2	87 17.3	S22 43.3	88 07.4	S22 57.9	267 24.2	N22 10.6	21 23.7	S 3 20.7
	19	34 19.7	102 16.4	S22 42.9	103 07.7	S22 57.7	282 27.1	N22 10.7	36 26.0	S 3 20.7
	20	49 22.1	117 15.5	S22 42.5	118 08.1	S22 57.4	297 29.9	N22 10.7	51 28.3	S 3 20.6
	21	64 24.6	132 14.6	S22 42.2	133 08.5	S22 57.1	312 32.7	N22 10.8	66 30.6	S 3 20.5
	22	79 27.1	147 13.6	S22 41.8	148 08.9	S22 56.9	327 35.5	N22 10.9	81 32.9	S 3 20.4
	23	94 29.5	162 12.7	S22 41.4	163 09.3	S22 56.6	342 38.3	N22 10.9	96 35.2	S 3 20.3
			v -0.9	d 0.4	v 0.4	d 0.2	v 2.8	d 0.1	v 2.3	d 0.1

G.M.T d h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
7 0	178 29.3	S22 23.8	310 30.4	12.7	N10 34.8	15.0	57.8
1	193 29.0	S22 23.5	325 02.2	12.8	N10 19.8	15.0	57.7
2	208 28.8	S22 23.2	339 34.1	12.9	N10 04.7	15.0	57.7
3	223 28.5	S22 22.9	354 06.1	13.0	N 9 49.7	15.1	57.7
4	238 28.2	S22 22.5	8 38.2	13.1	N 9 34.6	15.1	57.6
W 5	253 28.0	S22 22.2	23 10.4	13.2	N 9 19.5	15.1	57.6
E							
D 6	268 27.7	S22 21.9	37 42.6	13.3	N 9 04.4	15.1	57.5
N 7	283 27.4	S22 21.6	52 14.9	13.3	N 8 49.3	15.1	57.5
E 8	298 27.1	S22 21.3	66 47.4	13.4	N 8 34.1	15.2	57.5
S 9	313 26.9	S22 20.9	81 19.9	13.5	N 8 18.9	15.2	57.4
D 10	328 26.6	S22 20.6	95 52.5	13.6	N 8 03.7	15.2	57.4
A 11	343 26.3	S22 20.3	110 25.1	13.7	N 7 48.5	15.2	57.4
Y							
12	358 26.1	S22 20.0	124 57.9	13.7	N 7 33.3	15.2	57.3
13	13 25.8	S22 19.7	139 30.7	13.8	N 7 18.1	15.2	57.3
14	28 25.5	S22 19.3	154 03.6	13.9	N 7 02.8	15.2	57.2
15	43 25.3	S22 19.0	168 36.6	14.0	N 6 47.6	15.3	57.2
16	58 25.0	S22 18.7	183 09.6	14.0	N 6 32.3	15.3	57.2
17	73 24.7	S22 18.3	197 42.7	14.1	N 6 17.1	15.3	57.1
18	88 24.5	S22 18.0	212 15.9	14.2	N 6 01.8	15.3	57.1
19	103 24.2	S22 17.7	226 49.1	14.3	N 5 46.5	15.3	57.0
20	118 23.9	S22 17.4	241 22.5	14.3	N 5 31.2	15.3	57.0
21	133 23.7	S22 17.0	255 55.8	14.4	N 5 15.9	15.3	57.0
22	148 23.4	S22 16.7	270 29.3	14.4	N 5 00.7	15.3	56.9
23	163 23.2	S22 16.4	285 02.8	14.5	N 4 45.4	15.3	56.9
8 0	178 22.9	S22 16.0	299 36.4	14.6	N 4 30.1	15.3	56.9
1	193 22.6	S22 15.7	314 10.0	14.6	N 4 14.8	15.3	56.8
2	208 22.4	S22 15.4	328 43.7	14.7	N 3 59.5	15.3	56.8
3	223 22.1	S22 15.0	343 17.4	14.7	N 3 44.2	15.3	56.8
4	238 21.8	S22 14.7	357 51.2	14.8	N 3 29.0	15.3	56.7
T 5	253 21.6	S22 14.4	12 25.1	14.9	N 3 13.7	15.3	56.7
H							
U 6	268 21.3	S22 14.0	26 59.0	14.9	N 2 58.4	15.3	56.6
R 7	283 21.0	S22 13.7	41 33.0	15.0	N 2 43.2	15.3	56.6
S 8	298 20.8	S22 13.4	56 07.0	15.0	N 2 28.0	15.2	56.6
D 9	313 20.5	S22 13.0	70 41.0	15.1	N 2 12.7	15.2	56.5
A 10	328 20.2	S22 12.7	85 15.2	15.1	N 1 57.5	15.2	56.5
Y 11	343 20.0	S22 12.3	99 49.3	15.2	N 1 42.3	15.2	56.5
12	358 19.7	S22 12.0	114 23.5	15.2	N 1 27.1	15.2	56.4
13	13 19.5	S22 11.6	128 57.8	15.2	N 1 11.9	15.2	56.4
14	28 19.2	S22 11.3	143 32.0	15.3	N 0 56.7	15.2	56.4
15	43 18.9	S22 11.0	158 06.4	15.3	N 0 41.6	15.2	56.3
16	58 18.7	S22 10.6	172 40.7	15.4	N 0 26.5	15.1	56.3
17	73 18.4	S22 10.3	187 15.1	15.4	N 0 11.3	15.1	56.3
18	88 18.2	S22 09.9	201 49.6	15.4	S 0 03.8	15.1	56.2
19	103 17.9	S22 09.6	216 24.0	15.5	S 0 18.8	15.1	56.2
20	118 17.6	S22 09.2	230 58.5	15.5	S 0 33.9	15.1	56.2
21	133 17.4	S22 08.9	245 33.1	15.5	S 0 48.9	15.0	56.1
22	148 17.1	S22 08.5	260 07.7	15.6	S 1 04.0	15.0	56.1
23	163 16.9	S22 08.2	274 42.3	15.6	S 1 18.9	15.0	56.1
9 0	178 16.6	S22 07.8	289 16.9	15.6	S 1 33.9	15.0	56.0
1	193 16.3	S22 07.5	303 51.5	15.7	S 1 48.9	14.9	56.0
2	208 16.1	S22 07.1	318 26.2	15.7	S 2 03.8	14.9	56.0
3	223 15.8	S22 06.8	333 00.9	15.7	S 2 18.7	14.9	55.9
4	238 15.6	S22 06.4	347 35.7	15.7	S 2 33.6	14.9	55.9
F 5	253 15.3	S22 06.1	2 10.4	15.8	S 2 48.4	14.8	55.9
R							
I 6	268 15.0	S22 05.7	16 45.2	15.8	S 3 03.2	14.8	55.8
D 7	283 14.8	S22 05.4	31 20.0	15.8	S 3 18.0	14.8	55.8
A 8	298 14.5	S22 05.0	45 54.8	15.8	S 3 32.8	14.8	55.8
Y 9	313 14.3	S22 04.6	60 29.6	15.8	S 3 47.5	14.7	55.7
10	328 14.0	S22 04.3	75 04.5	15.8	S 4 02.2	14.7	55.7
11	343 13.8	S22 03.9	89 39.3	15.9	S 4 16.8	14.7	55.7
12	358 13.5	S22 03.6	104 14.2	15.9	S 4 31.5	14.6	55.6
13	13 13.2	S22 03.2	118 49.1	15.9	S 4 46.1	14.6	55.6
14	28 13.0	S22 02.8	133 24.0	15.9	S 5 00.6	14.6	55.6
15	43 12.7	S22 02.5	147 58.9	15.9	S 5 15.1	14.5	55.6
16	58 12.5	S22 02.1	162 33.8	15.9	S 5 29.6	14.5	55.5
17	73 12.2	S22 01.8	177 08.7	15.9	S 5 44.1	14.5	55.5
18	88 12.0	S22 01.4	191 43.6	15.9	S 5 58.5	14.4	55.5
19	103 11.7	S22 01.0	206 18.6	15.9	S 6 12.9	14.4	55.4
20	118 11.4	S22 00.7	220 53.5	15.9	S 6 27.2	14.3	55.4
21	133 11.2	S22 00.3	235 28.5	15.9	S 6 41.5	14.3	55.4
22	148 10.9	S21 59.9	250 03.4	15.9	S 6 55.8	14.3	55.4
23	163 10.7	S21 59.6	264 38.3	15.9	S 7 10.0	14.2	55.3
	S.D. 16.3	d 0.3	S.D.	15.6	15.4	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.9	S40 12.2
Achernar	335 19.4	S57 06.5
Acrux	172 59.1	S63 14.3
Adhara	255 04.8	S29 00.4
Albireo	67 03.8	N28 00.8
Aldebaran	290 38.4	N16 33.8
Alioth	166 12.1	N55 48.8
Alkaid	152 51.4	N49 10.7
Al Na-ir	27 32.1	S46 50.3
Alnilam	275 36.5	S 1 11.1
Alphard	217 46.6	S 8 46.3
Alphecca	126 03.3	N26 37.4
Alpheratz	357 34.0	N29 14.2
Altair	61 59.5	N 8 56.2
Ankaa	353 06.4	S42 10.1
Antares	112 15.1	S26 29.4
Arcturus	145 47.2	N19 02.6
Atria	107 09.2	S69 04.3
Avior	234 13.8	S59 35.5
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.8	N 7 24.7
Canopus	263 51.5	S52 42.6
Capella	280 20.2	N46 01.6
Castor	245 55.6	N31 49.8
Deneb	49 25.7	N45 22.4
Denebola	182 24.0	N14 25.4
Diphda	348 46.5	S17 50.7
Dubhe	193 39.5	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.3	N51 28.9
Enif	33 38.2	N 9 59.7
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.7	S57 15.3
Gienah	175 42.7	S17 41.1
Hadar	148 35.1	S60 29.7
Hamal	327 50.2	N23 35.3
Kaus Austr.	83 31.8	S34 22.4
Kochab	137 20.5	N74 02.5
Markab	13 29.2	N15 20.7
Menkar	314 05.1	N 4 11.5
Menkent	147 56.8	S36 29.8
Miaplacidus	221 37.2	S69 49.3
Mirfak	308 26.8	N49 57.5
Nunki	75 47.1	S26 15.9
Peacock	53 04.9	S56 39.2
Polaris	316 01.2	N89 22.1
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 58.1	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 02.8	S 8 10.3
Rigil Kent	139 39.6	S60 56.4
Sabik	102 02.1	S15 45.5
Schedar	349 30.2	N56 41.1
Shaula	96 09.6	S37 07.4
Sirius	258 25.2	S16 45.1
Spica	158 21.5	S11 17.9
Suhail	222 45.3	S43 32.1
Vega	80 33.1	N38 48.3
Zuben-ubi	136 56.1	S16 09.0

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
10	0	109 32.0	177 11.8	S22 41.0	178 09.7	S22 56.3	357 41.2	N22 11.0	111 37.5	S 3 20.3
	1	124 34.5	192 10.9	S22 40.6	193 10.1	S22 56.1	12 44.0	N22 11.0	126 39.8	S 3 20.2
	2	139 36.9	207 10.0	S22 40.2	208 10.5	S22 55.8	27 46.8	N22 11.1	141 42.1	S 3 20.1
	3	154 39.4	222 09.0	S22 39.8	223 10.9	S22 55.5	42 49.6	N22 11.1	156 44.4	S 3 20.0
	4	169 41.9	237 08.1	S22 39.4	238 11.2	S22 55.3	57 52.5	N22 11.2	171 46.8	S 3 20.0
S	5	184 44.3	252 07.2	S22 39.0	253 11.6	S22 55.0	72 55.3	N22 11.2	186 49.1	S 3 19.9
A										
T	6	199 46.8	267 06.3	S22 38.6	268 12.0	S22 54.7	87 58.1	N22 11.3	201 51.4	S 3 19.8
U	7	214 49.2	282 05.4	S22 38.2	283 12.4	S22 54.5	103 00.9	N22 11.4	216 53.7	S 3 19.7
R	8	229 51.7	297 04.5	S22 37.8	298 12.8	S22 54.2	118 03.8	N22 11.4	231 56.0	S 3 19.6
D	9	244 54.2	312 03.6	S22 37.4	313 13.2	S22 53.9	133 06.6	N22 11.5	246 58.3	S 3 19.6
A	10	259 56.6	327 02.6	S22 37.0	328 13.6	S22 53.7	148 09.4	N22 11.5	262 00.6	S 3 19.5
Y	11	274 59.1	342 01.7	S22 36.6	343 14.0	S22 53.4	163 12.2	N22 11.6	277 02.9	S 3 19.4
	12	290 01.6	357 00.8	S22 36.2	358 14.4	S22 53.1	178 15.1	N22 11.6	292 05.2	S 3 19.3
	13	305 04.0	11 59.9	S22 35.8	13 14.7	S22 52.8	193 17.9	N22 11.7	307 07.5	S 3 19.2
	14	320 06.5	26 59.0	S22 35.3	28 15.1	S22 52.6	208 20.7	N22 11.7	322 09.8	S 3 19.2
	15	335 09.0	41 58.1	S22 34.9	43 15.5	S22 52.3	223 23.5	N22 11.8	337 12.1	S 3 19.1
	16	350 11.4	56 57.2	S22 34.5	58 15.9	S22 52.0	238 26.3	N22 11.9	352 14.4	S 3 19.0
	17	5 13.9	71 56.2	S22 34.1	73 16.3	S22 51.8	253 29.2	N22 11.9	7 16.7	S 3 18.9
	18	20 16.3	86 55.3	S22 33.7	88 16.7	S22 51.5	268 32.0	N22 12.0	22 19.0	S 3 18.9
	19	35 18.8	101 54.4	S22 33.3	103 17.1	S22 51.2	283 34.8	N22 12.0	37 21.3	S 3 18.8
	20	50 21.3	116 53.5	S22 32.9	118 17.5	S22 50.9	298 37.6	N22 12.1	52 23.6	S 3 18.7
	21	65 23.7	131 52.6	S22 32.4	133 17.9	S22 50.7	313 40.5	N22 12.1	67 25.9	S 3 18.6
	22	80 26.2	146 51.7	S22 32.0	148 18.2	S22 50.4	328 43.3	N22 12.2	82 28.2	S 3 18.5
	23	95 28.7	161 50.8	S22 31.6	163 18.6	S22 50.1	343 46.1	N22 12.2	97 30.5	S 3 18.5
11	0	110 31.1	176 49.9	S22 31.2	178 19.0	S22 49.8	358 48.9	N22 12.3	112 32.8	S 3 18.4
	1	125 33.6	191 49.0	S22 30.8	193 19.4	S22 49.5	13 51.8	N22 12.4	127 35.1	S 3 18.3
	2	140 36.1	206 48.0	S22 30.3	208 19.8	S22 49.3	28 54.6	N22 12.4	142 37.4	S 3 18.2
	3	155 38.5	221 47.1	S22 29.9	223 20.2	S22 49.0	43 57.4	N22 12.5	157 39.7	S 3 18.1
	4	170 41.0	236 46.2	S22 29.5	238 20.6	S22 48.7	59 00.2	N22 12.5	172 42.0	S 3 18.1
S	5	185 43.5	251 45.3	S22 29.0	253 21.0	S22 48.4	74 03.1	N22 12.6	187 44.3	S 3 18.0
U										
N	6	200 45.9	266 44.4	S22 28.6	268 21.4	S22 48.2	89 05.9	N22 12.6	202 46.6	S 3 17.9
D	7	215 48.4	281 43.5	S22 28.2	283 21.8	S22 47.9	104 08.7	N22 12.7	217 48.9	S 3 17.8
A	8	230 50.8	296 42.6	S22 27.8	298 22.1	S22 47.6	119 11.5	N22 12.7	232 51.2	S 3 17.7
Y	9	245 53.3	311 41.7	S22 27.3	313 22.5	S22 47.3	134 14.3	N22 12.8	247 53.5	S 3 17.7
	10	260 55.8	326 40.8	S22 26.9	328 22.9	S22 47.0	149 17.2	N22 12.9	262 55.8	S 3 17.6
	11	275 58.2	341 39.9	S22 26.5	343 23.3	S22 46.7	164 20.0	N22 12.9	277 58.1	S 3 17.5
	12	291 00.7	356 39.0	S22 26.0	358 23.7	S22 46.5	179 22.8	N22 13.0	293 00.4	S 3 17.4
	13	306 03.2	11 38.1	S22 25.6	13 24.1	S22 46.2	194 25.6	N22 13.0	308 02.7	S 3 17.3
	14	321 05.6	26 37.2	S22 25.1	28 24.5	S22 45.9	209 28.5	N22 13.1	323 04.9	S 3 17.3
	15	336 08.1	41 36.3	S22 24.7	43 24.9	S22 45.6	224 31.3	N22 13.1	338 07.2	S 3 17.2
	16	351 10.6	56 35.3	S22 24.3	58 25.3	S22 45.3	239 34.1	N22 13.2	353 09.5	S 3 17.1
	17	6 13.0	71 34.4	S22 23.8	73 25.7	S22 45.0	254 36.9	N22 13.2	8 11.8	S 3 17.0
	18	21 15.5	86 33.5	S22 23.4	88 26.1	S22 44.8	269 39.8	N22 13.3	23 14.1	S 3 16.9
	19	36 18.0	101 32.6	S22 22.9	103 26.4	S22 44.5	284 42.6	N22 13.3	38 16.4	S 3 16.9
	20	51 20.4	116 31.7	S22 22.5	118 26.8	S22 44.2	299 45.4	N22 13.4	53 18.7	S 3 16.8
	21	66 22.9	131 30.8	S22 22.0	133 27.2	S22 43.9	314 48.2	N22 13.5	68 21.0	S 3 16.7
	22	81 25.3	146 29.9	S22 21.6	148 27.6	S22 43.6	329 51.1	N22 13.5	83 23.3	S 3 16.6
	23	96 27.8	161 29.0	S22 21.1	163 28.0	S22 43.3	344 53.9	N22 13.6	98 25.6	S 3 16.5
12	0	111 30.3	176 28.1	S22 20.7	178 28.4	S22 43.0	359 56.7	N22 13.6	113 27.9	S 3 16.5
	1	126 32.7	191 27.2	S22 20.2	193 28.8	S22 42.8	14 59.5	N22 13.7	128 30.2	S 3 16.4
	2	141 35.2	206 26.3	S22 19.8	208 29.2	S22 42.5	30 02.3	N22 13.7	143 32.5	S 3 16.3
	3	156 37.7	221 25.4	S22 19.3	223 29.6	S22 42.2	45 05.2	N22 13.8	158 34.8	S 3 16.2
	4	171 40.1	236 24.5	S22 18.9	238 30.0	S22 41.9	60 08.0	N22 13.8	173 37.1	S 3 16.1
M	5	186 42.6	251 23.6	S22 18.4	253 30.4	S22 41.6	75 10.8	N22 13.9	188 39.4	S 3 16.1
O										
N	6	201 45.1	266 22.7	S22 18.0	268 30.7	S22 41.3	90 13.6	N22 14.0	203 41.7	S 3 16.0
D	7	216 47.5	281 21.8	S22 17.5	283 31.1	S22 41.0	105 16.5	N22 14.0	218 44.0	S 3 15.9
A	8	231 50.0	296 20.9	S22 17.0	298 31.5	S22 40.7	120 19.3	N22 14.1	233 46.3	S 3 15.8
Y	9	246 52.4	311 20.0	S22 16.6	313 31.9	S22 40.4	135 22.1	N22 14.1	248 48.6	S 3 15.7
	10	261 54.9	326 19.1	S22 16.1	328 32.3	S22 40.1	150 24.9	N22 14.2	263 50.9	S 3 15.6
	11	276 57.4	341 18.2	S22 15.6	343 32.7	S22 39.9	165 27.8	N22 14.2	278 53.2	S 3 15.6
	12	291 59.8	356 17.3	S22 15.2	358 33.1	S22 39.6	180 30.6	N22 14.3	293 55.5	S 3 15.5
	13	307 02.3	11 16.4	S22 14.7	13 33.5	S22 39.3	195 33.4	N22 14.3	308 57.8	S 3 15.4
	14	322 04.8	26 15.5	S22 14.2	28 33.9	S22 39.0	210 36.2	N22 14.4	324 00.1	S 3 15.3
	15	337 07.2	41 14.7	S22 13.8	43 34.3	S22 38.7	225 39.1	N22 14.4	339 02.3	S 3 15.2
	16	352 09.7	56 13.8	S22 13.3	58 34.7	S22 38.4	240 41.9	N22 14.5	354 04.6	S 3 15.2
	17	7 12.2	71 12.9	S22 12.8	73 35.1	S22 38.1	255 44.7	N22 14.6	9 06.9	S 3 15.1
	18	22 14.6	86 12.0	S22 12.4	88 35.5	S22 37.8	270 47.5	N22 14.6	24 09.2	S 3 15.0
	19	37 17.1	101 11.1	S22 11.9	103 35.9	S22 37.5	285 50.3	N22 14.7	39 11.5	S 3 14.9
	20	52 19.6	116 10.2	S22 11.4	118 36.2	S22 37.2	300 53.2	N22 14.7	54 13.8	S 3 14.8
	21	67 22.0	131 09.3	S22 10.9	133 36.6	S22 36.9	315 56.0	N22 14.8	69 16.1	S 3 14.8
	22	82 24.5	146 08.4	S22 10.5	148 37.0	S22 36.6	330 58.8	N22 14.8	84 18.4	S 3 14.7
	23	97 26.9	161 07.5	S22 10.0	163 37.4	S22 36.3	346 01.6	N22 14.9	99 20.7	S 3 14.6
			v -0.9	d 0.4	v 0.4	d 0.3	v 2.8	d 0.1	v 2.3	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
10 0	178 10.4	S21 59.2	279 13.3	15.9	S 7 24.2	14.2	55.3	Acamar	315 10.9	S40 12.2
1	193 10.2	S21 58.8	293 48.2	15.9	S 7 38.3	14.1	55.3	Achernar	335 19.5	S57 06.5
2	208 09.9	S21 58.5	308 23.1	15.9	S 7 52.4	14.1	55.3	Acrux	172 59.1	S63 14.3
3	223 09.7	S21 58.1	322 58.1	15.9	S 8 06.5	14.1	55.2	Adhara	255 04.8	S29 00.4
4	238 09.4	S21 57.7	337 33.0	15.9	S 8 20.5	14.0	55.2	Albireo	67 03.8	N28 00.8
S 5	253 09.2	S21 57.3	352 07.9	15.9	S 8 34.4	14.0	55.2			
A								Aldebaran	290 38.4	N16 33.8
T 6	268 08.9	S21 57.0	6 42.8	15.9	S 8 48.4	13.9	55.2	Alioth	166 12.1	N55 48.8
U 7	283 08.7	S21 56.6	21 17.7	15.9	S 9 02.2	13.9	55.1	Alkaid	152 51.4	N49 10.6
R 8	298 08.4	S21 56.2	35 52.6	15.9	S 9 16.1	13.8	55.1	Al Na-ir	27 32.1	S46 50.3
D 9	313 08.2	S21 55.8	50 27.5	15.9	S 9 29.8	13.8	55.1	Alnilam	275 36.5	S 1 11.1
A 10	328 07.9	S21 55.5	65 02.3	15.9	S 9 43.6	13.7	55.1			
Y 11	343 07.7	S21 55.1	79 37.2	15.9	S 9 57.2	13.7	55.0	Alphard	217 46.6	S 8 46.3
								Alphecca	126 03.2	N26 37.4
12	358 07.4	S21 54.7	94 12.0	15.8	S10 10.9	13.6	55.0	Alpheratz	357 34.0	N29 14.2
13	13 07.1	S21 54.3	108 46.9	15.8	S10 24.4	13.6	55.0	Altair	61 59.5	N 8 56.1
14	28 06.9	S21 54.0	123 21.7	15.8	S10 38.0	13.5	55.0	Ankaa	353 06.4	S42 10.1
15	43 06.6	S21 53.6	137 56.4	15.8	S10 51.4	13.5	54.9			
16	58 06.4	S21 53.2	152 31.2	15.8	S11 04.9	13.4	54.9	Antares	112 15.1	S26 29.4
17	73 06.1	S21 52.8	167 06.0	15.7	S11 18.2	13.4	54.9	Arcturus	145 47.2	N19 02.6
								Atria	107 09.1	S69 04.3
18	88 05.9	S21 52.4	181 40.7	15.7	S11 31.6	13.3	54.9	Avior	234 13.8	S59 35.5
19	103 05.6	S21 52.1	196 15.4	15.7	S11 44.8	13.3	54.9	Bellatrix	278 21.7	N 6 22.4
20	118 05.4	S21 51.7	210 50.1	15.7	S11 58.0	13.2	54.8			
21	133 05.1	S21 51.3	225 24.7	15.7	S12 11.2	13.2	54.8	Betelgeuse	270 50.8	N 7 24.7
22	148 04.9	S21 50.9	239 59.4	15.6	S12 24.3	13.1	54.8	Canopus	263 51.5	S52 42.6
23	163 04.7	S21 50.5	254 34.0	15.6	S12 37.3	13.0	54.8	Capella	280 20.2	N46 01.6
11 0	178 04.4	S21 50.1	269 08.6	15.6	S12 50.3	13.0	54.8	Castor	245 55.6	N31 49.9
1	193 04.2	S21 49.7	283 43.1	15.6	S13 03.2	12.9	54.7	Deneb	49 25.7	N45 22.4
2	208 03.9	S21 49.4	298 17.6	15.5	S13 16.1	12.9	54.7			
3	223 03.7	S21 49.0	312 52.1	15.5	S13 28.9	12.8	54.7	Denebola	182 23.9	N14 25.4
4	238 03.4	S21 48.6	327 26.6	15.5	S13 41.6	12.7	54.7	Diphda	348 46.5	S17 50.7
S 5	253 03.2	S21 48.2	342 01.0	15.4	S13 54.3	12.7	54.7	Dubhe	193 39.5	N61 36.3
U								Elnath	278 00.5	N28 37.8
N 6	268 02.9	S21 47.8	356 35.4	15.4	S14 06.9	12.6	54.6	Eltanin	90 42.3	N51 28.9
D 7	283 02.7	S21 47.4	11 09.8	15.4	S14 19.5	12.6	54.6	Enif	33 38.2	N 9 59.7
A 8	298 02.4	S21 47.0	25 44.1	15.3	S14 32.0	12.5	54.6	Fomalhaut	15 13.8	S29 29.2
Y 9	313 02.2	S21 46.6	40 18.4	15.3	S14 44.4	12.4	54.6	Gacrux	171 50.6	S57 15.3
10	328 01.9	S21 46.2	54 52.7	15.3	S14 56.8	12.4	54.6	Gienah	175 42.6	S17 41.2
11	343 01.7	S21 45.8	69 26.9	15.2	S15 09.1	12.3	54.6	Hadar	148 35.1	S60 29.7
12	358 01.4	S21 45.4	84 01.1	15.2	S15 21.3	12.2	54.5	Hamal	327 50.2	N23 35.3
13	13 01.2	S21 45.0	98 35.2	15.1	S15 33.5	12.2	54.5	Kaus Austr.	83 31.8	S34 22.4
14	28 01.0	S21 44.6	113 09.3	15.1	S15 45.6	12.1	54.5	Kochab	137 20.4	N74 02.5
15	43 00.7	S21 44.2	127 43.4	15.1	S15 57.6	12.0	54.5	Markab	13 29.3	N15 20.7
16	58 00.5	S21 43.8	142 17.4	15.0	S16 09.6	12.0	54.5	Menkar	314 05.1	N 4 11.5
17	73 00.2	S21 43.4	156 51.4	15.0	S16 21.5	11.9	54.5			
								Menkent	147 56.7	S36 29.8
18	87 60.0	S21 43.0	171 25.3	14.9	S16 33.3	11.8	54.4	Miaplacidus	221 37.2	S69 49.3
19	102 59.7	S21 42.6	185 59.2	14.9	S16 45.1	11.8	54.4	Mirfak	308 26.8	N49 57.5
20	117 59.5	S21 42.2	200 33.0	14.8	S16 56.8	11.7	54.4	Nunki	75 47.1	S26 15.9
21	132 59.2	S21 41.8	215 06.8	14.8	S17 08.4	11.6	54.4	Peacock	53 04.9	S56 39.2
22	147 59.0	S21 41.4	229 40.6	14.8	S17 19.9	11.5	54.4			
23	162 58.8	S21 41.0	244 14.3	14.7	S17 31.4	11.5	54.4	Polaris	316 02.3	N89 22.2
12 0	177 58.5	S21 40.6	258 47.9	14.7	S17 42.8	11.4	54.4	Pollux	243 15.9	N27 57.7
1	192 58.3	S21 40.2	273 21.6	14.6	S17 54.1	11.3	54.3	Procyon	244 49.6	N 5 09.5
2	207 58.0	S21 39.8	287 55.1	14.6	S18 05.3	11.2	54.3	Rasalhague	95 58.1	N12 32.4
3	222 57.8	S21 39.4	302 28.6	14.5	S18 16.5	11.2	54.3	Regulus	207 33.3	N11 50.3
4	237 57.5	S21 39.0	317 02.1	14.5	S18 27.6	11.1	54.3			
M 5	252 57.3	S21 38.6	331 35.5	14.4	S18 38.6	11.0	54.3	Rigel	281 02.8	S 8 10.3
O								Rigil Kent	139 39.6	S60 56.4
N 6	267 57.1	S21 38.2	346 08.8	14.4	S18 49.5	10.9	54.3	Sabik	102 02.1	S15 45.5
D 7	282 56.8	S21 37.8	0 42.1	14.3	S19 00.4	10.9	54.3	Schedar	349 30.2	N56 41.1
A 8	297 56.6	S21 37.4	15 15.4	14.2	S19 11.2	10.8	54.3	Shaula	96 09.6	S37 07.3
Y 9	312 56.3	S21 37.0	29 48.6	14.2	S19 21.8	10.7	54.3			
10	327 56.1	S21 36.5	44 21.7	14.1	S19 32.5	10.6	54.2	Sirius	258 25.1	S16 45.1
11	342 55.9	S21 36.1	58 54.8	14.1	S19 43.0	10.5	54.2	Spica	158 21.4	S11 17.9
								Suhail	222 45.3	S43 32.2
12	357 55.6	S21 35.7	73 27.8	14.0	S19 53.4	10.4	54.2	Vega	80 33.1	N38 48.3
13	12 55.4	S21 35.3	88 00.8	14.0	S20 03.8	10.4	54.2	Zuben-ubi	136 56.1	S16 09.0
14	27 55.1	S21 34.9	102 33.7	13.9	S20 14.1	10.3	54.2			
15	42 54.9	S21 34.5	117 06.6	13.9	S20 24.3	10.2	54.2			
16	57 54.7	S21 34.1	131 39.4	13.8	S20 34.4	10.1	54.2			
17	72 54.4	S21 33.6	146 12.1	13.7	S20 44.4	10.0	54.2			
18	87 54.2	S21 33.2	160 44.8	13.7	S20 54.3	9.9	54.2			
19	102 54.0	S21 32.8	175 17.4	13.6	S21 04.1	9.8	54.2			
20	117 53.7	S21 32.4	189 50.0	13.6	S21 13.9	9.8	54.2			
21	132 53.5	S21 32.0	204 22.5	13.5	S21 23.6	9.7	54.2			
22	147 53.2	S21 31.6	218 54.9	13.4	S21 33.1	9.6	54.2			
23	162 53.0	S21 31.1	233 27.3	13.4	S21 42.6	9.5	54.1			
	S.D. 16.3	d 0.4	S.D.	15.0	14.9	14.8				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
13	0	112 29.4	176 06.6	S22 09.5	178 37.8	S22 36.0	1 04.5	N22 14.9	114 23.0	S 3 14.5
	1	127 31.9	191 05.7	S22 09.0	193 38.2	S22 35.7	16 07.3	N22 15.0	129 25.3	S 3 14.4
	2	142 34.3	206 04.8	S22 08.5	208 38.6	S22 35.4	31 10.1	N22 15.0	144 27.6	S 3 14.3
	3	157 36.8	221 03.9	S22 08.1	223 39.0	S22 35.1	46 12.9	N22 15.1	159 29.9	S 3 14.3
	4	172 39.3	236 03.0	S22 07.6	238 39.4	S22 34.8	61 15.8	N22 15.1	174 32.2	S 3 14.2
T	5	187 41.7	251 02.2	S22 07.1	253 39.8	S22 34.5	76 18.6	N22 15.2	189 34.5	S 3 14.1
U										
E	6	202 44.2	266 01.3	S22 06.6	268 40.2	S22 34.2	91 21.4	N22 15.3	204 36.7	S 3 14.0
S	7	217 46.7	281 00.4	S22 06.1	283 40.6	S22 33.9	106 24.2	N22 15.3	219 39.0	S 3 13.9
D	8	232 49.1	295 59.5	S22 05.6	298 41.0	S22 33.6	121 27.0	N22 15.4	234 41.3	S 3 13.8
A	9	247 51.6	310 58.6	S22 05.1	313 41.4	S22 33.3	136 29.9	N22 15.4	249 43.6	S 3 13.8
Y	10	262 54.1	325 57.7	S22 04.7	328 41.8	S22 33.0	151 32.7	N22 15.5	264 45.9	S 3 13.7
	11	277 56.5	340 56.8	S22 04.2	343 42.1	S22 32.7	166 35.5	N22 15.5	279 48.2	S 3 13.6
	12	292 59.0	355 55.9	S22 03.7	358 42.5	S22 32.4	181 38.3	N22 15.6	294 50.5	S 3 13.5
	13	308 01.4	10 55.0	S22 03.2	13 42.9	S22 32.1	196 41.2	N22 15.6	309 52.8	S 3 13.4
	14	323 03.9	25 54.2	S22 02.7	28 43.3	S22 31.8	211 44.0	N22 15.7	324 55.1	S 3 13.4
	15	338 06.4	40 53.3	S22 02.2	43 43.7	S22 31.5	226 46.8	N22 15.7	339 57.4	S 3 13.3
	16	353 08.8	55 52.4	S22 01.7	58 44.1	S22 31.2	241 49.6	N22 15.8	354 59.7	S 3 13.2
	17	8 11.3	70 51.5	S22 01.2	73 44.5	S22 30.9	256 52.4	N22 15.9	10 01.9	S 3 13.1
	18	23 13.8	85 50.6	S22 00.7	88 44.9	S22 30.6	271 55.3	N22 15.9	25 04.2	S 3 13.0
	19	38 16.2	100 49.7	S22 00.2	103 45.3	S22 30.3	286 58.1	N22 16.0	40 06.5	S 3 12.9
	20	53 18.7	115 48.9	S21 59.7	118 45.7	S22 30.0	302 00.9	N22 16.0	55 08.8	S 3 12.9
	21	68 21.2	130 48.0	S21 59.2	133 46.1	S22 29.6	317 03.7	N22 16.1	70 11.1	S 3 12.8
	22	83 23.6	145 47.1	S21 58.7	148 46.5	S22 29.3	332 06.6	N22 16.1	85 13.4	S 3 12.7
	23	98 26.1	160 46.2	S21 58.2	163 46.9	S22 29.0	347 09.4	N22 16.2	100 15.7	S 3 12.6
14	0	113 28.5	175 45.3	S21 57.7	178 47.3	S22 28.7	2 12.2	N22 16.2	115 18.0	S 3 12.5
	1	128 31.0	190 44.4	S21 57.2	193 47.7	S22 28.4	17 15.0	N22 16.3	130 20.3	S 3 12.4
	2	143 33.5	205 43.6	S21 56.6	208 48.1	S22 28.1	32 17.8	N22 16.3	145 22.6	S 3 12.4
	3	158 35.9	220 42.7	S21 56.1	223 48.5	S22 27.8	47 20.7	N22 16.4	160 24.9	S 3 12.3
	4	173 38.4	235 41.8	S21 55.6	238 48.9	S22 27.5	62 23.5	N22 16.4	175 27.1	S 3 12.2
W	5	188 40.9	250 40.9	S21 55.1	253 49.3	S22 27.2	77 26.3	N22 16.5	190 29.4	S 3 12.1
E										
D	6	203 43.3	265 40.0	S21 54.6	268 49.7	S22 26.9	92 29.1	N22 16.6	205 31.7	S 3 12.0
N	7	218 45.8	280 39.2	S21 54.1	283 50.1	S22 26.5	107 32.0	N22 16.6	220 34.0	S 3 11.9
E	8	233 48.3	295 38.3	S21 53.6	298 50.4	S22 26.2	122 34.8	N22 16.7	235 36.3	S 3 11.9
S	9	248 50.7	310 37.4	S21 53.0	313 50.8	S22 25.9	137 37.6	N22 16.7	250 38.6	S 3 11.8
D	10	263 53.2	325 36.5	S21 52.5	328 51.2	S22 25.6	152 40.4	N22 16.8	265 40.9	S 3 11.7
A	11	278 55.7	340 35.6	S21 52.0	343 51.6	S22 25.3	167 43.2	N22 16.8	280 43.2	S 3 11.6
Y										
	12	293 58.1	355 34.8	S21 51.5	358 52.0	S22 25.0	182 46.1	N22 16.9	295 45.5	S 3 11.5
	13	309 00.6	10 33.9	S21 51.0	13 52.4	S22 24.7	197 48.9	N22 16.9	310 47.7	S 3 11.4
	14	324 03.0	25 33.0	S21 50.4	28 52.8	S22 24.4	212 51.7	N22 17.0	325 50.0	S 3 11.3
	15	339 05.5	40 32.1	S21 49.9	43 53.2	S22 24.0	227 54.5	N22 17.0	340 52.3	S 3 11.3
	16	354 08.0	55 31.3	S21 49.4	58 53.6	S22 23.7	242 57.4	N22 17.1	355 54.6	S 3 11.2
	17	9 10.4	70 30.4	S21 48.9	73 54.0	S22 23.4	258 00.2	N22 17.1	10 56.9	S 3 11.1
	18	24 12.9	85 29.5	S21 48.3	88 54.4	S22 23.1	273 03.0	N22 17.2	25 59.2	S 3 11.0
	19	39 15.4	100 28.6	S21 47.8	103 54.8	S22 22.8	288 05.8	N22 17.2	41 01.5	S 3 10.9
	20	54 17.8	115 27.8	S21 47.3	118 55.2	S22 22.5	303 08.6	N22 17.3	56 03.8	S 3 10.8
	21	69 20.3	130 26.9	S21 46.7	133 55.6	S22 22.1	318 11.5	N22 17.4	71 06.0	S 3 10.8
	22	84 22.8	145 26.0	S21 46.2	148 56.0	S22 21.8	333 14.3	N22 17.4	86 08.3	S 3 10.7
	23	99 25.2	160 25.1	S21 45.7	163 56.4	S22 21.5	348 17.1	N22 17.5	101 10.6	S 3 10.6
15	0	114 27.7	175 24.3	S21 45.1	178 56.8	S22 21.2	3 19.9	N22 17.5	116 12.9	S 3 10.5
	1	129 30.2	190 23.4	S21 44.6	193 57.2	S22 20.9	18 22.7	N22 17.6	131 15.2	S 3 10.4
	2	144 32.6	205 22.5	S21 44.1	208 57.6	S22 20.5	33 25.6	N22 17.6	146 17.5	S 3 10.3
	3	159 35.1	220 21.7	S21 43.5	223 58.0	S22 20.2	48 28.4	N22 17.7	161 19.8	S 3 10.3
	4	174 37.5	235 20.8	S21 43.0	238 58.4	S22 19.9	63 31.2	N22 17.7	176 22.0	S 3 10.2
T	5	189 40.0	250 19.9	S21 42.5	253 58.8	S22 19.6	78 34.0	N22 17.8	191 24.3	S 3 10.1
H										
U	6	204 42.5	265 19.0	S21 41.9	268 59.2	S22 19.3	93 36.9	N22 17.8	206 26.6	S 3 10.0
R	7	219 44.9	280 18.2	S21 41.4	283 59.6	S22 18.9	108 39.7	N22 17.9	221 28.9	S 3 09.9
S	8	234 47.4	295 17.3	S21 40.8	298 60.0	S22 18.6	123 42.5	N22 17.9	236 31.2	S 3 09.8
D	9	249 49.9	310 16.4	S21 40.3	314 00.4	S22 18.3	138 45.3	N22 18.0	251 33.5	S 3 09.7
A	10	264 52.3	325 15.6	S21 39.7	329 00.8	S22 18.0	153 48.1	N22 18.0	266 35.8	S 3 09.7
Y	11	279 54.8	340 14.7	S21 39.2	344 01.2	S22 17.6	168 51.0	N22 18.1	281 38.0	S 3 09.6
	12	294 57.3	355 13.8	S21 38.6	359 01.6	S22 17.3	183 53.8	N22 18.2	296 40.3	S 3 09.5
	13	309 59.7	10 13.0	S21 38.1	14 02.0	S22 17.0	198 56.6	N22 18.2	311 42.6	S 3 09.4
	14	325 02.2	25 12.1	S21 37.5	29 02.4	S22 16.7	213 59.4	N22 18.3	326 44.9	S 3 09.3
	15	340 04.7	40 11.2	S21 37.0	44 02.8	S22 16.3	229 02.2	N22 18.3	341 47.2	S 3 09.2
	16	355 07.1	55 10.4	S21 36.4	59 03.2	S22 16.0	244 05.1	N22 18.4	356 49.5	S 3 09.1
	17	10 09.6	70 09.5	S21 35.9	74 03.6	S22 15.7	259 07.9	N22 18.4	11 51.8	S 3 09.1
	18	25 12.0	85 08.6	S21 35.3	89 04.0	S22 15.4	274 10.7	N22 18.5	26 54.0	S 3 09.0
	19	40 14.5	100 07.8	S21 34.8	104 04.4	S22 15.0	289 13.5	N22 18.5	41 56.3	S 3 08.9
	20	55 17.0	115 06.9	S21 34.2	119 04.8	S22 14.7	304 16.3	N22 18.6	56 58.6	S 3 08.8
	21	70 19.4	130 06.0	S21 33.7	134 05.2	S22 14.4	319 19.2	N22 18.6	72 00.9	S 3 08.7
	22	85 21.9	145 05.2	S21 33.1	149 05.6	S22 14.0	334 22.0	N22 18.7	87 03.2	S 3 08.6
	23	100 24.4	160 04.3	S21 32.5	164 06.0	S22 13.7	349 24.8	N22 18.7	102 05.5	S 3 08.5
			v -0.9	d 0.5	v 0.4	d 0.3	v 2.8	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
13	0	177 52.8	S21 30.7	247 59.6	13.3	S21 52.0	9.4	54.1
	1	192 52.5	S21 30.3	262 31.9	13.3	S22 01.3	9.3	54.1
	2	207 52.3	S21 29.9	277 04.1	13.2	S22 10.5	9.2	54.1
	3	222 52.1	S21 29.4	291 36.2	13.1	S22 19.6	9.1	54.1
	4	237 51.8	S21 29.0	306 08.3	13.1	S22 28.6	9.0	54.1
T	5	252 51.6	S21 28.6	320 40.3	13.0	S22 37.5	8.9	54.1
U								
E	6	267 51.4	S21 28.2	335 12.2	12.9	S22 46.4	8.8	54.1
S	7	282 51.1	S21 27.7	349 44.1	12.9	S22 55.1	8.7	54.1
D	8	297 50.9	S21 27.3	4 15.9	12.8	S23 03.7	8.6	54.1
A	9	312 50.7	S21 26.9	18 47.7	12.8	S23 12.2	8.5	54.1
Y	10	327 50.4	S21 26.5	33 19.4	12.7	S23 20.6	8.4	54.1
	11	342 50.2	S21 26.0	47 51.0	12.6	S23 29.0	8.3	54.1
	12	357 50.0	S21 25.6	62 22.6	12.6	S23 37.2	8.2	54.1
	13	12 49.7	S21 25.2	76 54.1	12.5	S23 45.3	8.1	54.1
	14	27 49.5	S21 24.7	91 25.5	12.4	S23 53.3	8.0	54.1
	15	42 49.3	S21 24.3	105 56.9	12.4	S24 01.2	7.9	54.1
	16	57 49.0	S21 23.9	120 28.2	12.3	S24 09.0	7.8	54.1
	17	72 48.8	S21 23.4	134 59.4	12.2	S24 16.7	7.7	54.1
	18	87 48.6	S21 23.0	149 30.6	12.2	S24 24.3	7.6	54.1
	19	102 48.3	S21 22.6	164 01.7	12.1	S24 31.8	7.5	54.1
	20	117 48.1	S21 22.1	178 32.7	12.0	S24 39.2	7.4	54.1
	21	132 47.9	S21 21.7	193 03.7	12.0	S24 46.5	7.3	54.1
	22	147 47.6	S21 21.3	207 34.6	11.9	S24 53.6	7.2	54.1
	23	162 47.4	S21 20.8	222 05.5	11.9	S25 00.7	7.1	54.1
14	0	177 47.2	S21 20.4	236 36.3	11.8	S25 07.6	6.9	54.1
	1	192 47.0	S21 19.9	251 07.0	11.7	S25 14.5	6.8	54.1
	2	207 46.7	S21 19.5	265 37.7	11.7	S25 21.2	6.7	54.1
	3	222 46.5	S21 19.1	280 08.3	11.6	S25 27.8	6.6	54.1
	4	237 46.3	S21 18.6	294 38.8	11.5	S25 34.3	6.5	54.1
W	5	252 46.0	S21 18.2	309 09.3	11.5	S25 40.6	6.4	54.1
E								
D	6	267 45.8	S21 17.7	323 39.7	11.4	S25 46.9	6.3	54.1
N	7	282 45.6	S21 17.3	338 10.0	11.4	S25 53.0	6.1	54.1
E	8	297 45.4	S21 16.8	352 40.3	11.3	S25 59.1	6.0	54.1
S	9	312 45.1	S21 16.4	7 10.6	11.2	S26 05.0	5.9	54.1
D	10	327 44.9	S21 16.0	21 40.7	11.2	S26 10.8	5.8	54.1
A	11	342 44.7	S21 15.5	36 10.8	11.1	S26 16.4	5.7	54.1
Y								
	12	357 44.5	S21 15.1	50 40.9	11.0	S26 22.0	5.5	54.1
	13	12 44.2	S21 14.6	65 10.9	11.0	S26 27.4	5.4	54.1
	14	27 44.0	S21 14.2	79 40.8	10.9	S26 32.7	5.3	54.1
	15	42 43.8	S21 13.7	94 10.7	10.9	S26 37.9	5.2	54.1
	16	57 43.5	S21 13.3	108 40.5	10.8	S26 43.0	5.1	54.1
	17	72 43.3	S21 12.8	123 10.3	10.8	S26 47.9	4.9	54.1
	18	87 43.1	S21 12.4	137 40.0	10.7	S26 52.7	4.8	54.1
	19	102 42.9	S21 11.9	152 09.6	10.6	S26 57.4	4.7	54.1
	20	117 42.6	S21 11.5	166 39.2	10.6	S27 02.0	4.6	54.2
	21	132 42.4	S21 11.0	181 08.7	10.5	S27 06.4	4.4	54.2
	22	147 42.2	S21 10.5	195 38.2	10.5	S27 10.7	4.3	54.2
	23	162 42.0	S21 10.1	210 07.7	10.4	S27 14.9	4.2	54.2
15	0	177 41.8	S21 09.6	224 37.0	10.4	S27 19.0	4.1	54.2
	1	192 41.5	S21 09.2	239 06.4	10.3	S27 22.9	3.9	54.2
	2	207 41.3	S21 08.7	253 35.7	10.3	S27 26.7	3.8	54.2
	3	222 41.1	S21 08.3	268 04.9	10.2	S27 30.3	3.7	54.2
	4	237 40.9	S21 07.8	282 34.1	10.2	S27 33.9	3.5	54.2
T	5	252 40.6	S21 07.3	297 03.2	10.1	S27 37.3	3.4	54.2
H								
U	6	267 40.4	S21 06.9	311 32.3	10.1	S27 40.6	3.3	54.2
R	7	282 40.2	S21 06.4	326 01.4	10.0	S27 43.7	3.1	54.2
S	8	297 40.0	S21 06.0	340 30.4	10.0	S27 46.7	3.0	54.2
D	9	312 39.8	S21 05.5	354 59.3	10.0	S27 49.6	2.9	54.2
A	10	327 39.5	S21 05.0	9 28.2	9.9	S27 52.3	2.7	54.3
Y	11	342 39.3	S21 04.6	23 57.1	9.9	S27 54.9	2.6	54.3
	12	357 39.1	S21 04.1	38 25.9	9.8	S27 57.4	2.5	54.3
	13	12 38.9	S21 03.6	52 54.7	9.8	S27 59.7	2.3	54.3
	14	27 38.7	S21 03.2	67 23.5	9.8	S28 01.9	2.2	54.3
	15	42 38.4	S21 02.7	81 52.2	9.7	S28 04.0	2.1	54.3
	16	57 38.2	S21 02.2	96 20.9	9.7	S28 05.9	1.9	54.3
	17	72 38.0	S21 01.8	110 49.5	9.6	S28 07.7	1.8	54.3
	18	87 37.8	S21 01.3	125 18.2	9.6	S28 09.3	1.6	54.3
	19	102 37.6	S21 00.8	139 46.7	9.6	S28 10.8	1.5	54.3
	20	117 37.4	S21 00.4	154 15.3	9.6	S28 12.2	1.4	54.3
	21	132 37.1	S20 59.9	168 43.8	9.5	S28 13.4	1.2	54.4
	22	147 36.9	S20 59.4	183 12.3	9.5	S28 14.5	1.1	54.4
	23	162 36.7	S20 59.0	197 40.8	9.5	S28 15.5	1.0	54.4
		S.D. 16.3	d 0.4	S.D.	14.7	14.7	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.9	S40 12.2
Achernar	335 19.5	S57 06.5
Acrux	172 59.0	S63 14.3
Adhara	255 04.8	S29 00.5
Albireo	67 03.8	N28 00.8
Aldebaran	290 38.4	N16 33.8
Alioth	166 12.1	N55 48.8
Alkaid	152 51.3	N49 10.6
Al Na-ir	27 32.2	S46 50.3
Alnilam	275 36.5	S 1 11.1
Alphard	217 46.6	S 8 46.3
Alphecca	126 03.2	N26 37.4
Alpheratz	357 34.0	N29 14.2
Altair	61 59.5	N 8 56.1
Ankaa	353 06.4	S42 10.1
Antares	112 15.1	S26 29.4
Arcturus	145 47.2	N19 02.6
Atria	107 09.1	S69 04.3
Avior	234 13.7	S59 35.5
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.8	N 7 24.7
Canopus	263 51.5	S52 42.6
Capella	280 20.2	N46 01.6
Castor	245 55.6	N31 49.9
Deneb	49 25.7	N45 22.4
Denebola	182 23.9	N14 25.4
Diphda	348 46.5	S17 50.7
Dubhe	193 39.5	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.3	N51 28.9
Enif	33 38.2	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.6	S57 15.3
Gienah	175 42.6	S17 41.2
Hadar	148 35.0	S60 29.7
Hamal	327 50.2	N23 35.3
Kaus Austr.	83 31.8	S34 22.4
Kochab	137 20.4	N74 02.5
Markab	13 29.3	N15 20.7
Menkar	314 05.1	N 4 11.5
Menkent	147 56.7	S36 29.8
Miaplacidus	221 37.2	S69 49.3
Mirfak	308 26.8	N49 57.5
Nunki	75 47.1	S26 15.9
Peacock	53 04.9	S56 39.2
Polaris	316 03.3	N89 22.2
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 58.1	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 02.8	S 8 10.3
Rigil Kent	139 39.5	S60 56.4
Sabik	102 02.1	S15 45.5
Schedar	349 30.2	N56 41.1
Shaula	96 09.6	S37 07.3
Sirius	258 25.1	S16 45.1
Spica	158 21.4	S11 17.9
Suhail	222 45.3	S43 32.2
Vega	80 33.1	N38 48.3
Zuben-ubi	136 56.1	S16 09.0

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
16	0	115 26.8	175 03.5	S21 32.0	179 06.4	S22 13.4	4 27.6	N22 18.8	117 07.7	S 3 08.5
	1	130 29.3	190 02.6	S21 31.4	194 06.8	S22 13.1	19 30.4	N22 18.8	132 10.0	S 3 08.4
	2	145 31.8	205 01.7	S21 30.9	209 07.2	S22 12.7	34 33.3	N22 18.9	147 12.3	S 3 08.3
	3	160 34.2	220 00.9	S21 30.3	224 07.6	S22 12.4	49 36.1	N22 18.9	162 14.6	S 3 08.2
	4	175 36.7	235 00.0	S21 29.7	239 08.0	S22 12.1	64 38.9	N22 19.0	177 16.9	S 3 08.1
F	5	190 39.2	249 59.2	S21 29.2	254 08.4	S22 11.7	79 41.7	N22 19.1	192 19.2	S 3 08.0
R										
I	6	205 41.6	264 58.3	S21 28.6	269 08.8	S22 11.4	94 44.5	N22 19.1	207 21.4	S 3 07.9
D	7	220 44.1	279 57.4	S21 28.0	284 09.2	S22 11.1	109 47.4	N22 19.2	222 23.7	S 3 07.9
A	8	235 46.5	294 56.6	S21 27.5	299 09.6	S22 10.7	124 50.2	N22 19.2	237 26.0	S 3 07.8
Y	9	250 49.0	309 55.7	S21 26.9	314 10.0	S22 10.4	139 53.0	N22 19.3	252 28.3	S 3 07.7
	10	265 51.5	324 54.9	S21 26.3	329 10.4	S22 10.1	154 55.8	N22 19.3	267 30.6	S 3 07.6
	11	280 53.9	339 54.0	S21 25.7	344 10.8	S22 09.7	169 58.6	N22 19.4	282 32.9	S 3 07.5
	12	295 56.4	354 53.2	S21 25.2	359 11.2	S22 09.4	185 01.5	N22 19.4	297 35.1	S 3 07.4
	13	310 58.9	9 52.3	S21 24.6	14 11.6	S22 09.1	200 04.3	N22 19.5	312 37.4	S 3 07.3
	14	326 01.3	24 51.4	S21 24.0	29 12.0	S22 08.7	215 07.1	N22 19.5	327 39.7	S 3 07.3
	15	341 03.8	39 50.6	S21 23.4	44 12.4	S22 08.4	230 09.9	N22 19.6	342 42.0	S 3 07.2
	16	356 06.3	54 49.7	S21 22.8	59 12.8	S22 08.0	245 12.7	N22 19.6	357 44.3	S 3 07.1
	17	11 08.7	69 48.9	S21 22.3	74 13.2	S22 07.7	260 15.5	N22 19.7	12 46.6	S 3 07.0
	18	26 11.2	84 48.0	S21 21.7	89 13.6	S22 07.4	275 18.4	N22 19.7	27 48.8	S 3 06.9
	19	41 13.6	99 47.2	S21 21.1	104 14.0	S22 07.0	290 21.2	N22 19.8	42 51.1	S 3 06.8
	20	56 16.1	114 46.3	S21 20.5	119 14.4	S22 06.7	305 24.0	N22 19.8	57 53.4	S 3 06.7
	21	71 18.6	129 45.5	S21 19.9	134 14.8	S22 06.4	320 26.8	N22 19.9	72 55.7	S 3 06.6
	22	86 21.0	144 44.6	S21 19.3	149 15.2	S22 06.0	335 29.6	N22 19.9	87 58.0	S 3 06.6
	23	101 23.5	159 43.8	S21 18.8	164 15.6	S22 05.7	350 32.5	N22 20.0	103 00.2	S 3 06.5
17	0	116 26.0	174 42.9	S21 18.2	179 16.0	S22 05.3	5 35.3	N22 20.1	118 02.5	S 3 06.4
	1	131 28.4	189 42.1	S21 17.6	194 16.4	S22 05.0	20 38.1	N22 20.1	133 04.8	S 3 06.3
	2	146 30.9	204 41.2	S21 17.0	209 16.8	S22 04.7	35 40.9	N22 20.2	148 07.1	S 3 06.2
	3	161 33.4	219 40.4	S21 16.4	224 17.2	S22 04.3	50 43.7	N22 20.2	163 09.4	S 3 06.1
	4	176 35.8	234 39.5	S21 15.8	239 17.6	S22 04.0	65 46.6	N22 20.3	178 11.6	S 3 06.0
S	5	191 38.3	249 38.7	S21 15.2	254 18.0	S22 03.6	80 49.4	N22 20.3	193 13.9	S 3 06.0
A										
T	6	206 40.8	264 37.8	S21 14.6	269 18.4	S22 03.3	95 52.2	N22 20.4	208 16.2	S 3 05.9
U	7	221 43.2	279 37.0	S21 14.0	284 18.8	S22 02.9	110 55.0	N22 20.4	223 18.5	S 3 05.8
R	8	236 45.7	294 36.1	S21 13.4	299 19.2	S22 02.6	125 57.8	N22 20.5	238 20.8	S 3 05.7
D	9	251 48.1	309 35.3	S21 12.8	314 19.6	S22 02.3	141 00.6	N22 20.5	253 23.0	S 3 05.6
A	10	266 50.6	324 34.4	S21 12.2	329 20.0	S22 01.9	156 03.5	N22 20.6	268 25.3	S 3 05.5
Y	11	281 53.1	339 33.6	S21 11.6	344 20.4	S22 01.6	171 06.3	N22 20.6	283 27.6	S 3 05.4
	12	296 55.5	354 32.7	S21 11.0	359 20.8	S22 01.2	186 09.1	N22 20.7	298 29.9	S 3 05.3
	13	311 58.0	9 31.9	S21 10.4	14 21.2	S22 00.9	201 11.9	N22 20.7	313 32.2	S 3 05.3
	14	327 00.5	24 31.1	S21 09.8	29 21.6	S22 00.5	216 14.7	N22 20.8	328 34.4	S 3 05.2
	15	342 02.9	39 30.2	S21 09.2	44 22.0	S22 00.2	231 17.5	N22 20.8	343 36.7	S 3 05.1
	16	357 05.4	54 29.4	S21 08.6	59 22.4	S21 59.8	246 20.4	N22 20.9	358 39.0	S 3 05.0
	17	12 07.9	69 28.5	S21 08.0	74 22.9	S21 59.5	261 23.2	N22 20.9	13 41.3	S 3 04.9
	18	27 10.3	84 27.7	S21 07.4	89 23.3	S21 59.1	276 26.0	N22 21.0	28 43.5	S 3 04.8
	19	42 12.8	99 26.8	S21 06.8	104 23.7	S21 58.8	291 28.8	N22 21.0	43 45.8	S 3 04.7
	20	57 15.3	114 26.0	S21 06.2	119 24.1	S21 58.4	306 31.6	N22 21.1	58 48.1	S 3 04.6
	21	72 17.7	129 25.2	S21 05.6	134 24.5	S21 58.1	321 34.4	N22 21.1	73 50.4	S 3 04.5
	22	87 20.2	144 24.3	S21 04.9	149 24.9	S21 57.7	336 37.3	N22 21.2	88 52.7	S 3 04.5
	23	102 22.6	159 23.5	S21 04.3	164 25.3	S21 57.4	351 40.1	N22 21.2	103 54.9	S 3 04.4
18	0	117 25.1	174 22.6	S21 03.7	179 25.7	S21 57.0	6 42.9	N22 21.3	118 57.2	S 3 04.3
	1	132 27.6	189 21.8	S21 03.1	194 26.1	S21 56.7	21 45.7	N22 21.4	133 59.5	S 3 04.2
	2	147 30.0	204 21.0	S21 02.5	209 26.5	S21 56.3	36 48.5	N22 21.4	149 01.8	S 3 04.1
	3	162 32.5	219 20.1	S21 01.9	224 26.9	S21 56.0	51 51.3	N22 21.5	164 04.1	S 3 04.0
	4	177 35.0	234 19.3	S21 01.3	239 27.3	S21 55.6	66 54.2	N22 21.5	179 06.3	S 3 03.9
S	5	192 37.4	249 18.4	S21 00.6	254 27.7	S21 55.3	81 57.0	N22 21.6	194 08.6	S 3 03.8
U										
N	6	207 39.9	264 17.6	S21 00.0	269 28.1	S21 54.9	96 59.8	N22 21.6	209 10.9	S 3 03.8
D	7	222 42.4	279 16.8	S20 59.4	284 28.5	S21 54.6	112 02.6	N22 21.7	224 13.2	S 3 03.7
A	8	237 44.8	294 15.9	S20 58.8	299 28.9	S21 54.2	127 05.4	N22 21.7	239 15.4	S 3 03.6
Y	9	252 47.3	309 15.1	S20 58.1	314 29.3	S21 53.9	142 08.2	N22 21.8	254 17.7	S 3 03.5
	10	267 49.8	324 14.3	S20 57.5	329 29.7	S21 53.5	157 11.1	N22 21.8	269 20.0	S 3 03.4
	11	282 52.2	339 13.4	S20 56.9	344 30.1	S21 53.2	172 13.9	N22 21.9	284 22.3	S 3 03.3
	12	297 54.7	354 12.6	S20 56.3	359 30.6	S21 52.8	187 16.7	N22 21.9	299 24.5	S 3 03.2
	13	312 57.1	9 11.8	S20 55.6	14 31.0	S21 52.4	202 19.5	N22 22.0	314 26.8	S 3 03.1
	14	327 59.6	24 10.9	S20 55.0	29 31.4	S21 52.1	217 22.3	N22 22.0	329 29.1	S 3 03.0
	15	343 02.1	39 10.1	S20 54.4	44 31.8	S21 51.7	232 25.1	N22 22.1	344 31.4	S 3 03.0
	16	358 04.5	54 09.3	S20 53.7	59 32.2	S21 51.4	247 27.9	N22 22.1	359 33.6	S 3 02.9
	17	13 07.0	69 08.4	S20 53.1	74 32.6	S21 51.0	262 30.8	N22 22.2	14 35.9	S 3 02.8
	18	28 09.5	84 07.6	S20 52.5	89 33.0	S21 50.7	277 33.6	N22 22.2	29 38.2	S 3 02.7
	19	43 11.9	99 06.8	S20 51.8	104 33.4	S21 50.3	292 36.4	N22 22.3	44 40.5	S 3 02.6
	20	58 14.4	114 05.9	S20 51.2	119 33.8	S21 49.9	307 39.2	N22 22.3	59 42.7	S 3 02.5
	21	73 16.9	129 05.1	S20 50.6	134 34.2	S21 49.6	322 42.0	N22 22.4	74 45.0	S 3 02.4
	22	88 19.3	144 04.3	S20 49.9	149 34.6	S21 49.2	337 44.8	N22 22.4	89 47.3	S 3 02.3
	23	103 21.8	159 03.5	S20 49.3	164 35.0	S21 48.9	352 47.7	N22 22.5	104 49.6	S 3 02.2
			v -0.8	d 0.6	v 0.4	d 0.3	v 2.8	d 0.1	v 2.3	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
16 0	177 36.5	S20 58.5	212 09.2	9.4	S28 16.3	0.8	54.4	Acamar	315 10.9 S40 12.2
1	192 36.3	S20 58.0	226 37.6	9.4	S28 17.0	0.7	54.4	Achernar	335 19.5 S57 06.5
2	207 36.1	S20 57.5	241 06.0	9.4	S28 17.5	0.5	54.4	Acrux	172 59.0 S63 14.4
3	222 35.8	S20 57.1	255 34.4	9.4	S28 17.9	0.4	54.4	Adhara	255 04.8 S29 00.5
4	237 35.6	S20 56.6	270 02.8	9.3	S28 18.1	0.2	54.4	Albireo	67 03.7 N28 00.7
F 5	252 35.4	S20 56.1	284 31.1	9.3	S28 18.2	0.1	54.4		
R								Aldebaran	290 38.4 N16 33.8
I 6	267 35.2	S20 55.6	298 59.4	9.3	S28 18.2	0.0	54.5	Alioth	166 12.0 N55 48.8
D 7	282 35.0	S20 55.2	313 27.7	9.3	S28 18.0	0.2	54.5	Alkaid	152 51.3 N49 10.6
A 8	297 34.8	S20 54.7	327 56.0	9.3	S28 17.7	0.3	54.5	Al Na-ir	27 32.2 S46 50.3
Y 9	312 34.6	S20 54.2	342 24.2	9.3	S28 17.3	0.5	54.5	Alnilam	275 36.5 S 1 11.1
10	327 34.3	S20 53.7	356 52.5	9.3	S28 16.6	0.6	54.5		
11	342 34.1	S20 53.2	11 20.7	9.2	S28 15.9	0.7	54.5	Alphard	217 46.6 S 8 46.3
								Alphecca	126 03.2 N26 37.4
12	357 33.9	S20 52.8	25 49.0	9.2	S28 15.0	0.9	54.5	Alpheratz	357 34.1 N29 14.2
13	12 33.7	S20 52.3	40 17.2	9.2	S28 14.0	1.0	54.5	Altair	61 59.4 N 8 56.1
14	27 33.5	S20 51.8	54 45.4	9.2	S28 12.8	1.2	54.6	Ankaa	353 06.4 S42 10.1
15	42 33.3	S20 51.3	69 13.6	9.2	S28 11.5	1.3	54.6		
16	57 33.1	S20 50.8	83 41.8	9.2	S28 10.0	1.5	54.6	Antares	112 15.0 S26 29.4
17	72 32.9	S20 50.3	98 10.0	9.2	S28 08.4	1.6	54.6	Arcturus	145 47.2 N19 02.6
								Atria	107 09.0 S69 04.3
18	87 32.6	S20 49.9	112 38.2	9.2	S28 06.7	1.7	54.6	Avior	234 13.7 S59 35.5
19	102 32.4	S20 49.4	127 06.4	9.2	S28 04.8	1.9	54.6	Bellatrix	278 21.7 N 6 22.4
20	117 32.2	S20 48.9	141 34.6	9.2	S28 02.7	2.0	54.6		
21	132 32.0	S20 48.4	156 02.8	9.2	S28 00.6	2.2	54.7	Betelgeuse	270 50.8 N 7 24.7
22	147 31.8	S20 47.9	170 31.0	9.2	S27 58.2	2.3	54.7	Canopus	263 51.5 S52 42.6
23	162 31.6	S20 47.4	184 59.2	9.2	S27 55.8	2.5	54.7	Capella	280 20.2 N46 01.6
17 0	177 31.4	S20 46.9	199 27.5	9.2	S27 53.2	2.6	54.7	Castor	245 55.5 N31 49.9
1	192 31.2	S20 46.4	213 55.7	9.2	S27 50.4	2.8	54.7	Deneb	49 25.7 N45 22.4
2	207 31.0	S20 45.9	228 23.9	9.2	S27 47.5	2.9	54.7		
3	222 30.8	S20 45.5	242 52.2	9.2	S27 44.5	3.0	54.7	Denebola	182 23.9 N14 25.4
4	237 30.6	S20 45.0	257 20.4	9.3	S27 41.3	3.2	54.8	Diphda	348 46.5 S17 50.7
S 5	252 30.4	S20 44.5	271 48.7	9.3	S27 38.0	3.3	54.8	Dubhe	193 39.4 N61 36.3
A								Elnath	278 00.5 N28 37.8
T 6	267 30.1	S20 44.0	286 17.0	9.3	S27 34.5	3.5	54.8	Eltanin	90 42.3 N51 28.9
U 7	282 29.9	S20 43.5	300 45.3	9.3	S27 30.9	3.6	54.8		
R 8	297 29.7	S20 43.0	315 13.6	9.3	S27 27.2	3.7	54.8	Enif	33 38.2 N 9 59.6
D 9	312 29.5	S20 42.5	329 41.9	9.3	S27 23.3	3.9	54.8	Fomalhaut	15 13.8 S29 29.2
A 10	327 29.3	S20 42.0	344 10.3	9.4	S27 19.2	4.0	54.9	Gacrux	171 50.6 S57 15.4
Y 11	342 29.1	S20 41.5	358 38.6	9.4	S27 15.1	4.2	54.9	Gienah	175 42.6 S17 41.2
								Hadar	148 35.0 S60 29.7
12	357 28.9	S20 41.0	13 07.0	9.4	S27 10.8	4.3	54.9		
13	12 28.7	S20 40.5	27 35.4	9.4	S27 06.3	4.5	54.9	Hamal	327 50.2 N23 35.3
14	27 28.5	S20 40.0	42 03.9	9.4	S27 01.7	4.6	54.9	Kaus Austr.	83 31.8 S34 22.4
15	42 28.3	S20 39.5	56 32.4	9.5	S26 57.0	4.7	54.9	Kochab	137 20.3 N74 02.5
16	57 28.1	S20 39.0	71 00.8	9.5	S26 52.1	4.9	55.0	Markab	13 29.3 N15 20.7
17	72 27.9	S20 38.5	85 29.4	9.5	S26 47.1	5.0	55.0	Menkar	314 05.1 N 4 11.5
								Menkent	147 56.7 S36 29.8
18	87 27.7	S20 38.0	99 57.9	9.5	S26 42.0	5.1	55.0	Miaplacidus	221 37.2 S69 49.3
19	102 27.5	S20 37.5	114 26.5	9.6	S26 36.7	5.3	55.0	Mirfak	308 26.8 N49 57.5
20	117 27.3	S20 37.0	128 55.1	9.6	S26 31.2	5.4	55.0	Nunki	75 47.1 S26 15.9
21	132 27.1	S20 36.5	143 23.8	9.6	S26 25.7	5.6	55.0	Peacock	53 04.9 S56 39.2
22	147 26.9	S20 36.0	157 52.4	9.7	S26 20.0	5.7	55.1		
23	162 26.7	S20 35.5	172 21.1	9.7	S26 14.2	5.8	55.1	Polaris	316 04.3 N89 22.2
18 0	177 26.5	S20 35.0	186 49.9	9.7	S26 08.2	6.0	55.1	Pollux	243 15.9 N27 57.7
1	192 26.3	S20 34.5	201 18.7	9.8	S26 02.1	6.1	55.1	Procyon	244 49.6 N 5 09.5
2	207 26.1	S20 34.0	215 47.5	9.8	S25 55.8	6.2	55.1	Rasalhague	95 58.1 N12 32.3
3	222 25.9	S20 33.5	230 16.3	9.9	S25 49.5	6.4	55.1	Regulus	207 33.2 N11 50.3
4	237 25.7	S20 32.9	244 45.2	9.9	S25 43.0	6.5	55.2		
S 5	252 25.5	S20 32.4	259 14.2	9.9	S25 36.3	6.6	55.2	Rigel	281 02.8 S 8 10.3
U								Rigil Kent	139 39.5 S60 56.4
N 6	267 25.3	S20 31.9	273 43.1	10.0	S25 29.6	6.8	55.2	Sabik	102 02.1 S15 45.5
D 7	282 25.1	S20 31.4	288 12.1	10.0	S25 22.7	6.9	55.2	Schedar	349 30.2 N56 41.1
A 8	297 24.9	S20 30.9	302 41.2	10.1	S25 15.6	7.0	55.2	Shaula	96 09.6 S37 07.3
Y 9	312 24.7	S20 30.4	317 10.3	10.1	S25 08.5	7.2	55.3	Sirius	258 25.1 S16 45.1
10	327 24.5	S20 29.9	331 39.4	10.1	S25 01.2	7.3	55.3	Spica	158 21.4 S11 17.9
11	342 24.3	S20 29.4	346 08.6	10.2	S24 53.8	7.4	55.3	Suhail	222 45.2 S43 32.2
								Vega	80 33.1 N38 48.3
12	357 24.1	S20 28.9	0 37.9	10.2	S24 46.2	7.5	55.3	Zuben-ubi	136 56.0 S16 09.0
13	12 23.9	S20 28.3	15 07.1	10.3	S24 38.5	7.7	55.3		
14	27 23.7	S20 27.8	29 36.5	10.3	S24 30.7	7.8	55.3		
15	42 23.5	S20 27.3	44 05.8	10.4	S24 22.8	7.9	55.4		
16	57 23.3	S20 26.8	58 35.2	10.4	S24 14.7	8.1	55.4		
17	72 23.1	S20 26.3	73 04.7	10.5	S24 06.6	8.2	55.4		
18	87 22.9	S20 25.8	87 34.2	10.5	S23 58.3	8.3	55.4		
19	102 22.7	S20 25.2	102 03.8	10.6	S23 49.8	8.4	55.4		
20	117 22.5	S20 24.7	116 33.4	10.6	S23 41.3	8.5	55.5		
21	132 22.3	S20 24.2	131 03.1	10.7	S23 32.6	8.7	55.5		
22	147 22.1	S20 23.7	145 32.8	10.7	S23 23.8	8.8	55.5		
23	162 21.9	S20 23.2	160 02.5	10.8	S23 14.9	8.9	55.5		
	S.D. 16.3	d 0.5	S.D.	14.9	15.0	15.1			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
19	0	118 24.3	174 02.6	S20 48.6	179 35.4	S21 48.5	7 50.5	N22 22.5	119 51.8	S 3 02.2
	1	133 26.7	189 01.8	S20 48.0	194 35.8	S21 48.1	22 53.3	N22 22.6	134 54.1	S 3 02.1
	2	148 29.2	204 01.0	S20 47.4	209 36.3	S21 47.8	37 56.1	N22 22.6	149 56.4	S 3 02.0
	3	163 31.6	219 00.1	S20 46.7	224 36.7	S21 47.4	52 58.9	N22 22.7	164 58.7	S 3 01.9
	4	178 34.1	233 59.3	S20 46.1	239 37.1	S21 47.0	68 01.7	N22 22.7	180 00.9	S 3 01.8
M	5	193 36.6	248 58.5	S20 45.4	254 37.5	S21 46.7	83 04.5	N22 22.8	195 03.2	S 3 01.7
O										
N	6	208 39.0	263 57.7	S20 44.8	269 37.9	S21 46.3	98 07.4	N22 22.8	210 05.5	S 3 01.6
D	7	223 41.5	278 56.8	S20 44.1	284 38.3	S21 46.0	113 10.2	N22 22.9	225 07.8	S 3 01.5
A	8	238 44.0	293 56.0	S20 43.5	299 38.7	S21 45.6	128 13.0	N22 22.9	240 10.0	S 3 01.4
Y	9	253 46.4	308 55.2	S20 42.8	314 39.1	S21 45.2	143 15.8	N22 23.0	255 12.3	S 3 01.3
	10	268 48.9	323 54.4	S20 42.2	329 39.5	S21 44.9	158 18.6	N22 23.0	270 14.6	S 3 01.3
	11	283 51.4	338 53.6	S20 41.5	344 39.9	S21 44.5	173 21.4	N22 23.1	285 16.9	S 3 01.2
	12	298 53.8	353 52.7	S20 40.9	359 40.3	S21 44.1	188 24.2	N22 23.1	300 19.1	S 3 01.1
	13	313 56.3	8 51.9	S20 40.2	14 40.7	S21 43.8	203 27.0	N22 23.2	315 21.4	S 3 01.0
	14	328 58.8	23 51.1	S20 39.6	29 41.2	S21 43.4	218 29.9	N22 23.2	330 23.7	S 3 00.9
	15	344 01.2	38 50.3	S20 38.9	44 41.6	S21 43.0	233 32.7	N22 23.3	345 26.0	S 3 00.8
	16	359 03.7	53 49.4	S20 38.3	59 42.0	S21 42.7	248 35.5	N22 23.3	0 28.2	S 3 00.7
	17	14 06.1	68 48.6	S20 37.6	74 42.4	S21 42.3	263 38.3	N22 23.4	15 30.5	S 3 00.6
	18	29 08.6	83 47.8	S20 36.9	89 42.8	S21 41.9	278 41.1	N22 23.4	30 32.8	S 3 00.5
	19	44 11.1	98 47.0	S20 36.3	104 43.2	S21 41.6	293 43.9	N22 23.5	45 35.0	S 3 00.4
	20	59 13.5	113 46.2	S20 35.6	119 43.6	S21 41.2	308 46.7	N22 23.5	60 37.3	S 3 00.4
	21	74 16.0	128 45.4	S20 34.9	134 44.0	S21 40.8	323 49.5	N22 23.6	75 39.6	S 3 00.3
	22	89 18.5	143 44.5	S20 34.3	149 44.4	S21 40.5	338 52.4	N22 23.6	90 41.9	S 3 00.2
	23	104 20.9	158 43.7	S20 33.6	164 44.8	S21 40.1	353 55.2	N22 23.7	105 44.1	S 3 00.1
20	0	119 23.4	173 42.9	S20 33.0	179 45.3	S21 39.7	8 58.0	N22 23.7	120 46.4	S 2 60.0
	1	134 25.9	188 42.1	S20 32.3	194 45.7	S21 39.3	24 00.8	N22 23.8	135 48.7	S 2 59.9
	2	149 28.3	203 41.3	S20 31.6	209 46.1	S21 39.0	39 03.6	N22 23.8	150 50.9	S 2 59.8
	3	164 30.8	218 40.5	S20 30.9	224 46.5	S21 38.6	54 06.4	N22 23.9	165 53.2	S 2 59.7
	4	179 33.2	233 39.6	S20 30.3	239 46.9	S21 38.2	69 09.2	N22 23.9	180 55.5	S 2 59.6
T	5	194 35.7	248 38.8	S20 29.6	254 47.3	S21 37.8	84 12.0	N22 24.0	195 57.8	S 2 59.5
U										
E	6	209 38.2	263 38.0	S20 28.9	269 47.7	S21 37.5	99 14.8	N22 24.0	211 00.0	S 2 59.4
S	7	224 40.6	278 37.2	S20 28.3	284 48.1	S21 37.1	114 17.7	N22 24.1	226 02.3	S 2 59.4
D	8	239 43.1	293 36.4	S20 27.6	299 48.5	S21 36.7	129 20.5	N22 24.1	241 04.6	S 2 59.3
A	9	254 45.6	308 35.6	S20 26.9	314 49.0	S21 36.4	144 23.3	N22 24.2	256 06.8	S 2 59.2
Y	10	269 48.0	323 34.8	S20 26.2	329 49.4	S21 36.0	159 26.1	N22 24.2	271 09.1	S 2 59.1
	11	284 50.5	338 34.0	S20 25.6	344 49.8	S21 35.6	174 28.9	N22 24.3	286 11.4	S 2 59.0
	12	299 53.0	353 33.1	S20 24.9	359 50.2	S21 35.2	189 31.7	N22 24.3	301 13.7	S 2 58.9
	13	314 55.4	8 32.3	S20 24.2	14 50.6	S21 34.8	204 34.5	N22 24.4	316 15.9	S 2 58.8
	14	329 57.9	23 31.5	S20 23.5	29 51.0	S21 34.5	219 37.3	N22 24.4	331 18.2	S 2 58.7
	15	345 00.4	38 30.7	S20 22.8	44 51.4	S21 34.1	234 40.1	N22 24.5	346 20.5	S 2 58.6
	16	0 02.8	53 29.9	S20 22.2	59 51.8	S21 33.7	249 43.0	N22 24.5	1 22.7	S 2 58.5
	17	15 05.3	68 29.1	S20 21.5	74 52.3	S21 33.3	264 45.8	N22 24.6	16 25.0	S 2 58.4
	18	30 07.7	83 28.3	S20 20.8	89 52.7	S21 33.0	279 48.6	N22 24.6	31 27.3	S 2 58.4
	19	45 10.2	98 27.5	S20 20.1	104 53.1	S21 32.6	294 51.4	N22 24.7	46 29.5	S 2 58.3
	20	60 12.7	113 26.7	S20 19.4	119 53.5	S21 32.2	309 54.2	N22 24.7	61 31.8	S 2 58.2
	21	75 15.1	128 25.9	S20 18.7	134 53.9	S21 31.8	324 57.0	N22 24.8	76 34.1	S 2 58.1
	22	90 17.6	143 25.1	S20 18.0	149 54.3	S21 31.4	339 59.8	N22 24.8	91 36.4	S 2 58.0
	23	105 20.1	158 24.3	S20 17.3	164 54.7	S21 31.1	355 02.6	N22 24.9	106 38.6	S 2 57.9
21	0	120 22.5	173 23.5	S20 16.7	179 55.1	S21 30.7	10 05.4	N22 24.9	121 40.9	S 2 57.8
	1	135 25.0	188 22.7	S20 16.0	194 55.6	S21 30.3	25 08.2	N22 25.0	136 43.2	S 2 57.7
	2	150 27.5	203 21.9	S20 15.3	209 56.0	S21 29.9	40 11.1	N22 25.0	151 45.4	S 2 57.6
	3	165 29.9	218 21.1	S20 14.6	224 56.4	S21 29.5	55 13.9	N22 25.1	166 47.7	S 2 57.5
	4	180 32.4	233 20.3	S20 13.9	239 56.8	S21 29.1	70 16.7	N22 25.1	181 50.0	S 2 57.4
W	5	195 34.9	248 19.5	S20 13.2	254 57.2	S21 28.8	85 19.5	N22 25.2	196 52.2	S 2 57.3
E										
D	6	210 37.3	263 18.7	S20 12.5	269 57.6	S21 28.4	100 22.3	N22 25.2	211 54.5	S 2 57.3
N	7	225 39.8	278 17.9	S20 11.8	284 58.0	S21 28.0	115 25.1	N22 25.3	226 56.8	S 2 57.2
E	8	240 42.2	293 17.1	S20 11.1	299 58.5	S21 27.6	130 27.9	N22 25.3	241 59.0	S 2 57.1
S	9	255 44.7	308 16.3	S20 10.4	314 58.9	S21 27.2	145 30.7	N22 25.4	257 01.3	S 2 57.0
D	10	270 47.2	323 15.5	S20 09.7	329 59.3	S21 26.8	160 33.5	N22 25.4	272 03.6	S 2 56.9
A	11	285 49.6	338 14.7	S20 09.0	344 59.7	S21 26.5	175 36.3	N22 25.5	287 05.8	S 2 56.8
Y										
	12	300 52.1	353 13.9	S20 08.3	0 00.1	S21 26.1	190 39.1	N22 25.5	302 08.1	S 2 56.7
	13	315 54.6	8 13.1	S20 07.6	15 00.5	S21 25.7	205 41.9	N22 25.6	317 10.4	S 2 56.6
	14	330 57.0	23 12.3	S20 06.9	30 00.9	S21 25.3	220 44.7	N22 25.6	332 12.6	S 2 56.5
	15	345 59.5	38 11.5	S20 06.2	45 01.4	S21 24.9	235 47.6	N22 25.7	347 14.9	S 2 56.4
	16	1 02.0	53 10.7	S20 05.5	60 01.8	S21 24.5	250 50.4	N22 25.7	2 17.2	S 2 56.3
	17	16 04.4	68 09.9	S20 04.7	75 02.2	S21 24.1	265 53.2	N22 25.8	17 19.4	S 2 56.2
	18	31 06.9	83 09.1	S20 04.0	90 02.6	S21 23.7	280 56.0	N22 25.8	32 21.7	S 2 56.1
	19	46 09.4	98 08.3	S20 03.3	105 03.0	S21 23.4	295 58.8	N22 25.9	47 24.0	S 2 56.1
	20	61 11.8	113 07.5	S20 02.6	120 03.4	S21 23.0	311 01.6	N22 25.9	62 26.2	S 2 56.0
	21	76 14.3	128 06.7	S20 01.9	135 03.9	S21 22.6	326 04.4	N22 26.0	77 28.5	S 2 55.9
	22	91 16.7	143 05.9	S20 01.2	150 04.3	S21 22.2	341 07.2	N22 26.0	92 30.8	S 2 55.8
	23	106 19.2	158 05.1	S20 00.5	165 04.7	S21 21.8	356 10.0	N22 26.1	107 33.0	S 2 55.7
			v -0.8	d 0.7	v 0.4	d 0.4	v 2.8	d 0.0	v 2.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
19	0	177 21.7	S20 22.6	174 32.3	10.8	S23 05.9	9.0	55.5
	1	192 21.5	S20 22.1	189 02.2	10.9	S22 56.7	9.1	55.6
	2	207 21.3	S20 21.6	203 32.1	10.9	S22 47.5	9.3	55.6
	3	222 21.1	S20 21.1	218 02.1	11.0	S22 38.1	9.4	55.6
	4	237 20.9	S20 20.5	232 32.1	11.0	S22 28.6	9.5	55.6
M	5	252 20.8	S20 20.0	247 02.2	11.1	S22 19.0	9.6	55.6
O								
N	6	267 20.6	S20 19.5	261 32.3	11.1	S22 09.3	9.7	55.6
D	7	282 20.4	S20 19.0	276 02.5	11.2	S21 59.4	9.8	55.7
A	8	297 20.2	S20 18.4	290 32.7	11.2	S21 49.5	10.0	55.7
Y	9	312 20.0	S20 17.9	305 03.0	11.3	S21 39.4	10.1	55.7
	10	327 19.8	S20 17.4	319 33.4	11.3	S21 29.2	10.2	55.7
	11	342 19.6	S20 16.9	334 03.8	11.4	S21 19.0	10.3	55.7
	12	357 19.4	S20 16.3	348 34.2	11.4	S21 08.6	10.4	55.8
	13	12 19.2	S20 15.8	3 04.7	11.5	S20 58.1	10.5	55.8
	14	27 19.0	S20 15.3	17 35.3	11.6	S20 47.5	10.6	55.8
	15	42 18.8	S20 14.7	32 05.9	11.6	S20 36.8	10.7	55.8
	16	57 18.7	S20 14.2	46 36.5	11.7	S20 25.9	10.8	55.8
	17	72 18.5	S20 13.7	61 07.2	11.7	S20 15.0	10.9	55.9
	18	87 18.3	S20 13.1	75 38.0	11.8	S20 04.0	11.0	55.9
	19	102 18.1	S20 12.6	90 08.8	11.8	S19 52.9	11.1	55.9
	20	117 17.9	S20 12.1	104 39.7	11.9	S19 41.7	11.2	55.9
	21	132 17.7	S20 11.5	119 10.6	11.9	S19 30.3	11.3	55.9
	22	147 17.5	S20 11.0	133 41.6	12.0	S19 18.9	11.4	56.0
	23	162 17.3	S20 10.4	148 12.7	12.0	S19 07.4	11.5	56.0
20	0	177 17.2	S20 09.9	162 43.7	12.1	S18 55.8	11.6	56.0
	1	192 17.0	S20 09.4	177 14.9	12.1	S18 44.1	11.7	56.0
	2	207 16.8	S20 08.8	191 46.1	12.2	S18 32.3	11.8	56.0
	3	222 16.6	S20 08.3	206 17.3	12.2	S18 20.4	11.9	56.1
	4	237 16.4	S20 07.8	220 48.6	12.3	S18 08.4	12.0	56.1
T	5	252 16.2	S20 07.2	235 19.9	12.3	S17 56.3	12.1	56.1
U								
E	6	267 16.0	S20 06.7	249 51.3	12.4	S17 44.1	12.2	56.1
S	7	282 15.9	S20 06.1	264 22.8	12.4	S17 31.8	12.3	56.1
D	8	297 15.7	S20 05.6	278 54.3	12.5	S17 19.5	12.4	56.2
A	9	312 15.5	S20 05.0	293 25.8	12.5	S17 07.0	12.4	56.2
Y	10	327 15.3	S20 04.5	307 57.4	12.6	S16 54.5	12.5	56.2
	11	342 15.1	S20 04.0	322 29.0	12.6	S16 41.9	12.6	56.2
	12	357 14.9	S20 03.4	337 00.7	12.7	S16 29.2	12.7	56.2
	13	12 14.8	S20 02.9	351 32.5	12.7	S16 16.4	12.8	56.3
	14	27 14.6	S20 02.3	6 04.2	12.8	S16 03.5	12.9	56.3
	15	42 14.4	S20 01.8	20 36.1	12.8	S15 50.6	12.9	56.3
	16	57 14.2	S20 01.2	35 07.9	12.9	S15 37.6	13.0	56.3
	17	72 14.0	S20 00.7	49 39.8	12.9	S15 24.5	13.1	56.3
	18	87 13.9	S20 00.1	64 11.8	13.0	S15 11.3	13.2	56.4
	19	102 13.7	S19 59.6	78 43.8	13.0	S14 58.0	13.3	56.4
	20	117 13.5	S19 59.0	93 15.9	13.0	S14 44.7	13.3	56.4
	21	132 13.3	S19 58.5	107 48.0	13.1	S14 31.3	13.4	56.4
	22	147 13.1	S19 57.9	122 20.1	13.1	S14 17.8	13.5	56.4
	23	162 13.0	S19 57.4	136 52.3	13.2	S14 04.2	13.6	56.5
21	0	177 12.8	S19 56.8	151 24.5	13.2	S13 50.6	13.6	56.5
	1	192 12.6	S19 56.3	165 56.7	13.3	S13 36.9	13.7	56.5
	2	207 12.4	S19 55.7	180 29.0	13.3	S13 23.1	13.8	56.5
	3	222 12.2	S19 55.1	195 01.3	13.3	S13 09.2	13.8	56.5
	4	237 12.1	S19 54.6	209 33.7	13.4	S12 55.3	13.9	56.6
W	5	252 11.9	S19 54.0	224 06.1	13.4	S12 41.4	14.0	56.6
E								
D	6	267 11.7	S19 53.5	238 38.6	13.4	S12 27.3	14.0	56.6
N	7	282 11.5	S19 52.9	253 11.0	13.5	S12 13.2	14.1	56.6
E	8	297 11.4	S19 52.4	267 43.5	13.5	S11 59.0	14.2	56.6
S	9	312 11.2	S19 51.8	282 16.1	13.5	S11 44.8	14.2	56.7
D	10	327 11.0	S19 51.2	296 48.7	13.6	S11 30.5	14.3	56.7
A	11	342 10.8	S19 50.7	311 21.3	13.6	S11 16.2	14.4	56.7
Y								
	12	357 10.7	S19 50.1	325 53.9	13.6	S11 01.7	14.4	56.7
	13	12 10.5	S19 49.6	340 26.6	13.7	S10 47.3	14.5	56.7
	14	27 10.3	S19 49.0	354 59.3	13.7	S10 32.7	14.5	56.8
	15	42 10.1	S19 48.4	9 32.0	13.7	S10 18.2	14.6	56.8
	16	57 10.0	S19 47.9	24 04.7	13.8	S10 03.5	14.6	56.8
	17	72 09.8	S19 47.3	38 37.5	13.8	S 9 48.8	14.7	56.8
	18	87 09.6	S19 46.7	53 10.3	13.8	S 9 34.1	14.7	56.8
	19	102 09.5	S19 46.2	67 43.1	13.8	S 9 19.3	14.8	56.9
	20	117 09.3	S19 45.6	82 16.0	13.8	S 9 04.4	14.8	56.9
	21	132 09.1	S19 45.0	96 48.9	13.9	S 8 49.5	14.9	56.9
	22	147 08.9	S19 44.5	111 21.8	13.9	S 8 34.6	14.9	56.9
	23	162 08.8	S19 43.9	125 54.7	13.9	S 8 19.6	15.0	57.0
		S.D. 16.3	d 0.5	S.D.	15.2	15.3	15.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.9	S40 12.2
Achernar	335 19.5	S57 06.5
Acrux	172 58.9	S63 14.4
Adhara	255 04.8	S29 00.5
Albireo	67 03.7	N28 00.7
Aldebaran	290 38.4	N16 33.8
Alioth	166 12.0	N55 48.8
Alkaid	152 51.3	N49 10.6
Al Na-ir	27 32.2	S46 50.3
Alnilam	275 36.5	S 1 11.1
Alphard	217 46.5	S 8 46.4
Alphecca	126 03.2	N26 37.3
Alpheratz	357 34.1	N29 14.2
Altair	61 59.4	N 8 56.1
Ankaa	353 06.4	S42 10.1
Antares	112 15.0	S26 29.4
Arcturus	145 47.1	N19 02.6
Atria	107 09.0	S69 04.3
Avior	234 13.7	S59 35.6
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.8	N 7 24.7
Canopus	263 51.5	S52 42.6
Capella	280 20.2	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.7	N45 22.4
Denebola	182 23.9	N14 25.4
Diphda	348 46.5	S17 50.7
Dubhe	193 39.4	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.3	N51 28.8
Enif	33 38.2	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.5	S57 15.4
Gienah	175 42.6	S17 41.2
Hadar	148 34.9	S60 29.7
Hamal	327 50.2	N23 35.3
Kaus Austr.	83 31.8	S34 22.4
Kochab	137 20.2	N74 02.5
Markab	13 29.3	N15 20.7
Menkar	314 05.1	N 4 11.5
Menkent	147 56.7	S36 29.8
Miaplacidus	221 37.1	S69 49.3
Mirfak	308 26.9	N49 57.5
Nunki	75 47.0	S26 15.9
Peacock	53 04.9	S56 39.2
Polaris	316 05.5	N89 22.2
Pollux	243 15.8	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 58.1	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 02.8	S 8 10.3
Rigil Kent	139 39.4	S60 56.4
Sabik	102 02.1	S15 45.5
Schedar	349 30.3	N56 41.1
Shaula	96 09.5	S37 07.3
Sirius	258 25.1	S16 45.2
Spica	158 21.3	S11 17.9
Suhail	222 45.2	S43 32.2
Vega	80 33.0	N38 48.3
Zuben-ubi	136 56.0	S16 09.1

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
22	0	121 21.7	173 04.3	S19 59.8	180 05.1	S21 21.4	11 12.8	N22 26.1	122 35.3	S 2 55.6
	1	136 24.1	188 03.5	S19 59.0	195 05.5	S21 21.0	26 15.6	N22 26.2	137 37.6	S 2 55.5
	2	151 26.6	203 02.7	S19 58.3	210 05.9	S21 20.6	41 18.4	N22 26.2	152 39.8	S 2 55.4
	3	166 29.1	218 02.0	S19 57.6	225 06.4	S21 20.2	56 21.2	N22 26.3	167 42.1	S 2 55.3
	4	181 31.5	233 01.2	S19 56.9	240 06.8	S21 19.8	71 24.0	N22 26.3	182 44.4	S 2 55.2
T	5	196 34.0	248 00.4	S19 56.2	255 07.2	S21 19.4	86 26.8	N22 26.4	197 46.6	S 2 55.1
H										
U	6	211 36.5	262 59.6	S19 55.4	270 07.6	S21 19.1	101 29.7	N22 26.4	212 48.9	S 2 55.0
R	7	226 38.9	277 58.8	S19 54.7	285 08.0	S21 18.7	116 32.5	N22 26.5	227 51.2	S 2 54.9
S	8	241 41.4	292 58.0	S19 54.0	300 08.4	S21 18.3	131 35.3	N22 26.5	242 53.4	S 2 54.8
D	9	256 43.8	307 57.2	S19 53.3	315 08.9	S21 17.9	146 38.1	N22 26.6	257 55.7	S 2 54.8
A	10	271 46.3	322 56.4	S19 52.5	330 09.3	S21 17.5	161 40.9	N22 26.6	272 58.0	S 2 54.7
Y	11	286 48.8	337 55.6	S19 51.8	345 09.7	S21 17.1	176 43.7	N22 26.7	288 00.2	S 2 54.6
	12	301 51.2	352 54.9	S19 51.1	0 10.1	S21 16.7	191 46.5	N22 26.7	303 02.5	S 2 54.5
	13	316 53.7	7 54.1	S19 50.4	15 10.5	S21 16.3	206 49.3	N22 26.8	318 04.8	S 2 54.4
	14	331 56.2	22 53.3	S19 49.6	30 11.0	S21 15.9	221 52.1	N22 26.8	333 07.0	S 2 54.3
	15	346 58.6	37 52.5	S19 48.9	45 11.4	S21 15.5	236 54.9	N22 26.9	348 09.3	S 2 54.2
	16	2 01.1	52 51.7	S19 48.2	60 11.8	S21 15.1	251 57.7	N22 26.9	3 11.6	S 2 54.1
	17	17 03.6	67 50.9	S19 47.4	75 12.2	S21 14.7	267 00.5	N22 27.0	18 13.8	S 2 54.0
	18	32 06.0	82 50.2	S19 46.7	90 12.6	S21 14.3	282 03.3	N22 27.0	33 16.1	S 2 53.9
	19	47 08.5	97 49.4	S19 46.0	105 13.0	S21 13.9	297 06.1	N22 27.0	48 18.3	S 2 53.8
	20	62 11.0	112 48.6	S19 45.2	120 13.5	S21 13.5	312 08.9	N22 27.1	63 20.6	S 2 53.7
	21	77 13.4	127 47.8	S19 44.5	135 13.9	S21 13.1	327 11.7	N22 27.1	78 22.9	S 2 53.6
	22	92 15.9	142 47.0	S19 43.8	150 14.3	S21 12.7	342 14.5	N22 27.2	93 25.1	S 2 53.5
	23	107 18.3	157 46.3	S19 43.0	165 14.7	S21 12.3	357 17.3	N22 27.2	108 27.4	S 2 53.4
23	0	122 20.8	172 45.5	S19 42.3	180 15.1	S21 11.9	12 20.1	N22 27.3	123 29.7	S 2 53.4
	1	137 23.3	187 44.7	S19 41.5	195 15.6	S21 11.5	27 22.9	N22 27.3	138 31.9	S 2 53.3
	2	152 25.7	202 43.9	S19 40.8	210 16.0	S21 11.1	42 25.7	N22 27.4	153 34.2	S 2 53.2
	3	167 28.2	217 43.1	S19 40.1	225 16.4	S21 10.7	57 28.5	N22 27.4	168 36.5	S 2 53.1
	4	182 30.7	232 42.4	S19 39.3	240 16.8	S21 10.3	72 31.3	N22 27.5	183 38.7	S 2 53.0
F	5	197 33.1	247 41.6	S19 38.6	255 17.2	S21 09.9	87 34.1	N22 27.5	198 41.0	S 2 52.9
R										
I	6	212 35.6	262 40.8	S19 37.8	270 17.7	S21 09.5	102 36.9	N22 27.6	213 43.2	S 2 52.8
D	7	227 38.1	277 40.0	S19 37.1	285 18.1	S21 09.1	117 39.7	N22 27.6	228 45.5	S 2 52.7
A	8	242 40.5	292 39.3	S19 36.3	300 18.5	S21 08.7	132 42.5	N22 27.7	243 47.8	S 2 52.6
Y	9	257 43.0	307 38.5	S19 35.6	315 18.9	S21 08.3	147 45.3	N22 27.7	258 50.0	S 2 52.5
	10	272 45.4	322 37.7	S19 34.8	330 19.3	S21 07.9	162 48.1	N22 27.8	273 52.3	S 2 52.4
	11	287 47.9	337 36.9	S19 34.1	345 19.8	S21 07.5	177 51.0	N22 27.8	288 54.6	S 2 52.3
	12	302 50.4	352 36.2	S19 33.3	0 20.2	S21 07.1	192 53.8	N22 27.9	303 56.8	S 2 52.2
	13	317 52.8	7 35.4	S19 32.6	15 20.6	S21 06.6	207 56.6	N22 27.9	318 59.1	S 2 52.1
	14	332 55.3	22 34.6	S19 31.8	30 21.0	S21 06.2	222 59.4	N22 28.0	334 01.3	S 2 52.0
	15	347 57.8	37 33.9	S19 31.1	45 21.5	S21 05.8	238 02.2	N22 28.0	349 03.6	S 2 51.9
	16	3 00.2	52 33.1	S19 30.3	60 21.9	S21 05.4	253 05.0	N22 28.1	4 05.9	S 2 51.8
	17	18 02.7	67 32.3	S19 29.5	75 22.3	S21 05.0	268 07.8	N22 28.1	19 08.1	S 2 51.7
	18	33 05.2	82 31.6	S19 28.8	90 22.7	S21 04.6	283 10.6	N22 28.2	34 10.4	S 2 51.7
	19	48 07.6	97 30.8	S19 28.0	105 23.1	S21 04.2	298 13.4	N22 28.2	49 12.6	S 2 51.6
	20	63 10.1	112 30.0	S19 27.3	120 23.6	S21 03.8	313 16.2	N22 28.2	64 14.9	S 2 51.5
	21	78 12.6	127 29.2	S19 26.5	135 24.0	S21 03.4	328 19.0	N22 28.3	79 17.2	S 2 51.4
	22	93 15.0	142 28.5	S19 25.7	150 24.4	S21 03.0	343 21.8	N22 28.3	94 19.4	S 2 51.3
	23	108 17.5	157 27.7	S19 25.0	165 24.8	S21 02.6	358 24.6	N22 28.4	109 21.7	S 2 51.2
24	0	123 19.9	172 26.9	S19 24.2	180 25.3	S21 02.2	13 27.4	N22 28.4	124 24.0	S 2 51.1
	1	138 22.4	187 26.2	S19 23.5	195 25.7	S21 01.7	28 30.2	N22 28.5	139 26.2	S 2 51.0
	2	153 24.9	202 25.4	S19 22.7	210 26.1	S21 01.3	43 33.0	N22 28.5	154 28.5	S 2 50.9
	3	168 27.3	217 24.6	S19 21.9	225 26.5	S21 00.9	58 35.8	N22 28.6	169 30.7	S 2 50.8
	4	183 29.8	232 23.9	S19 21.2	240 26.9	S21 00.5	73 38.6	N22 28.6	184 33.0	S 2 50.7
S	5	198 32.3	247 23.1	S19 20.4	255 27.4	S21 00.1	88 41.3	N22 28.7	199 35.3	S 2 50.6
A										
T	6	213 34.7	262 22.4	S19 19.6	270 27.8	S20 59.7	103 44.1	N22 28.7	214 37.5	S 2 50.5
U	7	228 37.2	277 21.6	S19 18.9	285 28.2	S20 59.3	118 46.9	N22 28.8	229 39.8	S 2 50.4
R	8	243 39.7	292 20.8	S19 18.1	300 28.6	S20 58.9	133 49.7	N22 28.8	244 42.0	S 2 50.3
D	9	258 42.1	307 20.1	S19 17.3	315 29.1	S20 58.4	148 52.5	N22 28.9	259 44.3	S 2 50.2
A	10	273 44.6	322 19.3	S19 16.5	330 29.5	S20 58.0	163 55.3	N22 28.9	274 46.6	S 2 50.1
Y	11	288 47.1	337 18.6	S19 15.8	345 29.9	S20 57.6	178 58.1	N22 29.0	289 48.8	S 2 50.0
	12	303 49.5	352 17.8	S19 15.0	0 30.3	S20 57.2	194 00.9	N22 29.0	304 51.1	S 2 49.9
	13	318 52.0	7 17.0	S19 14.2	15 30.8	S20 56.8	209 03.7	N22 29.0	319 53.3	S 2 49.8
	14	333 54.4	22 16.3	S19 13.4	30 31.2	S20 56.4	224 06.5	N22 29.1	334 55.6	S 2 49.8
	15	348 56.9	37 15.5	S19 12.7	45 31.6	S20 55.9	239 09.3	N22 29.1	349 57.8	S 2 49.7
	16	3 59.4	52 14.8	S19 11.9	60 32.0	S20 55.5	254 12.1	N22 29.2	5 00.1	S 2 49.6
	17	19 01.8	67 14.0	S19 11.1	75 32.5	S20 55.1	269 14.9	N22 29.2	20 02.4	S 2 49.5
	18	34 04.3	82 13.2	S19 10.3	90 32.9	S20 54.7	284 17.7	N22 29.3	35 04.6	S 2 49.4
	19	49 06.8	97 12.5	S19 09.5	105 33.3	S20 54.3	299 20.5	N22 29.3	50 06.9	S 2 49.3
	20	64 09.2	112 11.7	S19 08.7	120 33.7	S20 53.9	314 23.3	N22 29.4	65 09.1	S 2 49.2
	21	79 11.7	127 11.0	S19 08.0	135 34.2	S20 53.4	329 26.1	N22 29.4	80 11.4	S 2 49.1
	22	94 14.2	142 10.2	S19 07.2	150 34.6	S20 53.0	344 28.9	N22 29.5	95 13.7	S 2 49.0
	23	109 16.6	157 09.5	S19 06.4	165 35.0	S20 52.6	359 31.7	N22 29.5	110 15.9	S 2 48.9
			v -0.8	d 0.8	v 0.4	d 0.4	v 2.8	d 0.0	v 2.3	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
22	0	177 08.6	S19 43.3	140 27.6	13.9 S	8 04.5	15.0	57.0
	1	192 08.4	S19 42.8	155 00.6	14.0 S	7 49.5	15.1	57.0
	2	207 08.3	S19 42.2	169 33.5	14.0 S	7 34.3	15.1	57.0
	3	222 08.1	S19 41.6	184 06.5	14.0 S	7 19.2	15.2	57.0
	4	237 07.9	S19 41.0	198 39.5	14.0 S	7 04.0	15.2	57.1
T	5	252 07.7	S19 40.5	213 12.5	14.0 S	6 48.7	15.3	57.1
H								
U	6	267 07.6	S19 39.9	227 45.5	14.0 S	6 33.4	15.3	57.1
R	7	282 07.4	S19 39.3	242 18.6	14.0 S	6 18.1	15.3	57.1
S	8	297 07.2	S19 38.8	256 51.6	14.0 S	6 02.7	15.4	57.1
D	9	312 07.1	S19 38.2	271 24.7	14.1 S	5 47.3	15.4	57.2
A	10	327 06.9	S19 37.6	285 57.7	14.1 S	5 31.9	15.4	57.2
Y	11	342 06.7	S19 37.0	300 30.8	14.1 S	5 16.4	15.5	57.2
	12	357 06.6	S19 36.5	315 03.9	14.1 S	5 00.9	15.5	57.2
	13	12 06.4	S19 35.9	329 37.0	14.1 S	4 45.3	15.5	57.2
	14	27 06.2	S19 35.3	344 10.1	14.1 S	4 29.8	15.6	57.3
	15	42 06.1	S19 34.7	358 43.2	14.1 S	4 14.2	15.6	57.3
	16	57 05.9	S19 34.1	13 16.2	14.1 S	3 58.5	15.6	57.3
	17	72 05.7	S19 33.6	27 49.3	14.1 S	3 42.9	15.7	57.3
	18	87 05.6	S19 33.0	42 22.4	14.1 S	3 27.2	15.7	57.3
	19	102 05.4	S19 32.4	56 55.5	14.1 S	3 11.5	15.7	57.4
	20	117 05.3	S19 31.8	71 28.6	14.1 S	2 55.8	15.7	57.4
	21	132 05.1	S19 31.2	86 01.7	14.1 S	2 40.0	15.8	57.4
	22	147 04.9	S19 30.7	100 34.8	14.1 S	2 24.2	15.8	57.4
	23	162 04.8	S19 30.1	115 07.8	14.1 S	2 08.4	15.8	57.4
23	0	177 04.6	S19 29.5	129 40.9	14.1 S	1 52.6	15.8	57.5
	1	192 04.4	S19 28.9	144 13.9	14.0 S	1 36.8	15.8	57.5
	2	207 04.3	S19 28.3	158 47.0	14.0 S	1 20.9	15.9	57.5
	3	222 04.1	S19 27.7	173 20.0	14.0 S	1 05.1	15.9	57.5
	4	237 04.0	S19 27.1	187 53.0	14.0 S	0 49.2	15.9	57.5
F	5	252 03.8	S19 26.6	202 26.0	14.0 S	0 33.3	15.9	57.6
R								
I	6	267 03.6	S19 26.0	216 59.0	14.0 S	0 17.4	15.9	57.6
D	7	282 03.5	S19 25.4	231 32.0	14.0 S	0 01.5	15.9	57.6
A	8	297 03.3	S19 24.8	246 04.9	13.9 N	0 14.5	15.9	57.6
Y	9	312 03.2	S19 24.2	260 37.8	13.9 N	0 30.4	15.9	57.6
	10	327 03.0	S19 23.6	275 10.7	13.9 N	0 46.3	15.9	57.7
	11	342 02.8	S19 23.0	289 43.6	13.9 N	1 02.3	16.0	57.7
	12	357 02.7	S19 22.4	304 16.5	13.9 N	1 18.3	16.0	57.7
	13	12 02.5	S19 21.8	318 49.3	13.8 N	1 34.2	16.0	57.7
	14	27 02.4	S19 21.2	333 22.1	13.8 N	1 50.2	16.0	57.7
	15	42 02.2	S19 20.7	347 54.9	13.8 N	2 06.1	16.0	57.8
	16	57 02.1	S19 20.1	2 27.7	13.8 N	2 22.1	16.0	57.8
	17	72 01.9	S19 19.5	17 00.4	13.7 N	2 38.1	16.0	57.8
	18	87 01.7	S19 18.9	31 33.1	13.7 N	2 54.1	16.0	57.8
	19	102 01.6	S19 18.3	46 05.8	13.7 N	3 10.0	16.0	57.8
	20	117 01.4	S19 17.7	60 38.4	13.6 N	3 26.0	16.0	57.9
	21	132 01.3	S19 17.1	75 11.0	13.6 N	3 41.9	16.0	57.9
	22	147 01.1	S19 16.5	89 43.6	13.6 N	3 57.9	15.9	57.9
	23	162 01.0	S19 15.9	104 16.1	13.5 N	4 13.8	15.9	57.9
24	0	177 00.8	S19 15.3	118 48.5	13.5 N	4 29.7	15.9	57.9
	1	192 00.7	S19 14.7	133 21.0	13.4 N	4 45.7	15.9	58.0
	2	207 00.5	S19 14.1	147 53.4	13.4 N	5 01.6	15.9	58.0
	3	222 00.4	S19 13.5	162 25.7	13.4 N	5 17.5	15.9	58.0
	4	237 00.2	S19 12.9	176 58.0	13.3 N	5 33.4	15.9	58.0
S	5	252 00.0	S19 12.3	191 30.3	13.3 N	5 49.2	15.9	58.0
A								
T	6	266 59.9	S19 11.7	206 02.5	13.2 N	6 05.1	15.8	58.1
U	7	281 59.7	S19 11.1	220 34.7	13.2 N	6 20.9	15.8	58.1
R	8	296 59.6	S19 10.5	235 06.8	13.1 N	6 36.7	15.8	58.1
D	9	311 59.4	S19 09.9	249 38.9	13.1 N	6 52.5	15.8	58.1
A	10	326 59.3	S19 09.3	264 10.9	13.0 N	7 08.3	15.8	58.1
Y	11	341 59.1	S19 08.7	278 42.8	13.0 N	7 24.0	15.7	58.2
	12	356 59.0	S19 08.1	293 14.8	12.9 N	7 39.7	15.7	58.2
	13	11 58.8	S19 07.4	307 46.6	12.8 N	7 55.4	15.7	58.2
	14	26 58.7	S19 06.8	322 18.4	12.8 N	8 11.1	15.7	58.2
	15	41 58.5	S19 06.2	336 50.1	12.7 N	8 26.7	15.6	58.2
	16	56 58.4	S19 05.6	351 21.8	12.7 N	8 42.3	15.6	58.3
	17	71 58.2	S19 05.0	5 53.4	12.6 N	8 57.9	15.6	58.3
	18	86 58.1	S19 04.4	20 24.9	12.5 N	9 13.5	15.5	58.3
	19	101 58.0	S19 03.8	34 56.4	12.5 N	9 29.0	15.5	58.3
	20	116 57.8	S19 03.2	49 27.8	12.4 N	9 44.5	15.5	58.3
	21	131 57.7	S19 02.6	63 59.2	12.3 N	9 59.9	15.4	58.4
	22	146 57.5	S19 02.0	78 30.4	12.3 N10	15.3	15.4	58.4
	23	161 57.4	S19 01.3	93 01.6	12.2 N10	30.7	15.4	58.4
		S.D. 16.3	d 0.6	S.D.	15.6	15.7	15.9	

STARS Name	SHA	Dec
Acamar	315 11.0	S40 12.2
Achernar	335 19.6	S57 06.5
Acrux	172 58.9	S63 14.4
Adhara	255 04.8	S29 00.5
Albireo	67 03.7	N28 00.7
Aldebaran	290 38.4	N16 33.8
Alioth	166 11.9	N55 48.8
Alkaid	152 51.2	N49 10.6
Al Na-ir	27 32.2	S46 50.2
Alnilam	275 36.5	S 1 11.1
Alphard	217 46.5	S 8 46.4
Alphecca	126 03.1	N26 37.3
Alpheratz	357 34.1	N29 14.2
Altair	61 59.4	N 8 56.1
Ankaa	353 06.4	S42 10.1
Antares	112 15.0	S26 29.4
Arcturus	145 47.1	N19 02.5
Atria	107 08.9	S69 04.3
Avior	234 13.7	S59 35.6
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.8	N 7 24.7
Canopus	263 51.5	S52 42.7
Capella	280 20.2	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.7	N45 22.4
Denebola	182 23.8	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.4	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.3	N51 28.8
Enif	33 38.2	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.5	S57 15.4
Gienah	175 42.5	S17 41.2
Hadar	148 34.9	S60 29.7
Hamal	327 50.2	N23 35.3
Kaus Austr.	83 31.7	S34 22.4
Kochab	137 20.2	N74 02.5
Markab	13 29.3	N15 20.7
Menkar	314 05.1	N 4 11.5
Menkent	147 56.6	S36 29.9
Miaplacidus	221 37.1	S69 49.4
Mirfak	308 26.9	N49 57.5
Nunki	75 47.0	S26 15.9
Peacock	53 04.9	S56 39.2
Polaris	316 06.8	N89 22.2
Pollux	243 15.8	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 58.0	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 02.8	S 8 10.3
Rigil Kent	139 39.4	S60 56.4
Sabik	102 02.0	S15 45.5
Schedar	349 30.3	N56 41.1
Shaula	96 09.5	S37 07.3
Sirius	258 25.1	S16 45.2
Spica	158 21.3	S11 17.9
Suhail	222 45.2	S43 32.2
Vega	80 33.0	N38 48.3
Zuben-ubi	136 56.0	S16 09.1

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
25	0	124 19.1	172 08.7	S19 05.6	180 35.5	S20 52.2	14 34.5	N22 29.6	125 18.2	S 2 48.8
	1	139 21.5	187 08.0	S19 04.8	195 35.9	S20 51.7	29 37.3	N22 29.6	140 20.4	S 2 48.7
	2	154 24.0	202 07.2	S19 04.0	210 36.3	S20 51.3	44 40.1	N22 29.7	155 22.7	S 2 48.6
	3	169 26.5	217 06.5	S19 03.2	225 36.7	S20 50.9	59 42.9	N22 29.7	170 24.9	S 2 48.5
	4	184 28.9	232 05.7	S19 02.5	240 37.2	S20 50.5	74 45.7	N22 29.7	185 27.2	S 2 48.4
S	5	199 31.4	247 05.0	S19 01.7	255 37.6	S20 50.1	89 48.5	N22 29.8	200 29.5	S 2 48.3
U										
N	6	214 33.9	262 04.2	S19 00.9	270 38.0	S20 49.6	104 51.3	N22 29.8	215 31.7	S 2 48.2
D	7	229 36.3	277 03.5	S19 00.1	285 38.4	S20 49.2	119 54.1	N22 29.9	230 34.0	S 2 48.1
A	8	244 38.8	292 02.7	S18 59.3	300 38.9	S20 48.8	134 56.9	N22 29.9	245 36.2	S 2 48.0
Y	9	259 41.3	307 02.0	S18 58.5	315 39.3	S20 48.4	149 59.6	N22 30.0	260 38.5	S 2 47.9
	10	274 43.7	322 01.2	S18 57.7	330 39.7	S20 47.9	165 02.4	N22 30.0	275 40.7	S 2 47.8
	11	289 46.2	337 00.5	S18 56.9	345 40.2	S20 47.5	180 05.2	N22 30.1	290 43.0	S 2 47.7
	12	304 48.7	351 59.7	S18 56.1	0 40.6	S20 47.1	195 08.0	N22 30.1	305 45.3	S 2 47.6
	13	319 51.1	6 59.0	S18 55.3	15 41.0	S20 46.7	210 10.8	N22 30.2	320 47.5	S 2 47.5
	14	334 53.6	21 58.2	S18 54.5	30 41.4	S20 46.2	225 13.6	N22 30.2	335 49.8	S 2 47.4
	15	349 56.0	36 57.5	S18 53.7	45 41.9	S20 45.8	240 16.4	N22 30.3	350 52.0	S 2 47.3
	16	4 58.5	51 56.7	S18 52.9	60 42.3	S20 45.4	255 19.2	N22 30.3	5 54.3	S 2 47.3
	17	20 01.0	66 56.0	S18 52.1	75 42.7	S20 45.0	270 22.0	N22 30.3	20 56.5	S 2 47.2
	18	35 03.4	81 55.3	S18 51.3	90 43.2	S20 44.5	285 24.8	N22 30.4	35 58.8	S 2 47.1
	19	50 05.9	96 54.5	S18 50.5	105 43.6	S20 44.1	300 27.6	N22 30.4	51 01.1	S 2 47.0
	20	65 08.4	111 53.8	S18 49.7	120 44.0	S20 43.7	315 30.4	N22 30.5	66 03.3	S 2 46.9
	21	80 10.8	126 53.0	S18 48.9	135 44.4	S20 43.2	330 33.2	N22 30.5	81 05.6	S 2 46.8
	22	95 13.3	141 52.3	S18 48.1	150 44.9	S20 42.8	345 36.0	N22 30.6	96 07.8	S 2 46.7
	23	110 15.8	156 51.5	S18 47.3	165 45.3	S20 42.4	0 38.8	N22 30.6	111 10.1	S 2 46.6
26	0	125 18.2	171 50.8	S18 46.4	180 45.7	S20 42.0	15 41.5	N22 30.7	126 12.3	S 2 46.5
	1	140 20.7	186 50.1	S18 45.6	195 46.2	S20 41.5	30 44.3	N22 30.7	141 14.6	S 2 46.4
	2	155 23.2	201 49.3	S18 44.8	210 46.6	S20 41.1	45 47.1	N22 30.8	156 16.8	S 2 46.3
	3	170 25.6	216 48.6	S18 44.0	225 47.0	S20 40.7	60 49.9	N22 30.8	171 19.1	S 2 46.2
	4	185 28.1	231 47.8	S18 43.2	240 47.5	S20 40.2	75 52.7	N22 30.8	186 21.4	S 2 46.1
M	5	200 30.5	246 47.1	S18 42.4	255 47.9	S20 39.8	90 55.5	N22 30.9	201 23.6	S 2 46.0
O										
N	6	215 33.0	261 46.4	S18 41.6	270 48.3	S20 39.4	105 58.3	N22 30.9	216 25.9	S 2 45.9
D	7	230 35.5	276 45.6	S18 40.7	285 48.7	S20 38.9	121 01.1	N22 31.0	231 28.1	S 2 45.8
A	8	245 37.9	291 44.9	S18 39.9	300 49.2	S20 38.5	136 03.9	N22 31.0	246 30.4	S 2 45.7
Y	9	260 40.4	306 44.2	S18 39.1	315 49.6	S20 38.1	151 06.7	N22 31.1	261 32.6	S 2 45.6
	10	275 42.9	321 43.4	S18 38.3	330 50.0	S20 37.6	166 09.5	N22 31.1	276 34.9	S 2 45.5
	11	290 45.3	336 42.7	S18 37.5	345 50.5	S20 37.2	181 12.2	N22 31.2	291 37.1	S 2 45.4
	12	305 47.8	351 42.0	S18 36.7	0 50.9	S20 36.8	196 15.0	N22 31.2	306 39.4	S 2 45.3
	13	320 50.3	6 41.2	S18 35.8	15 51.3	S20 36.3	211 17.8	N22 31.3	321 41.6	S 2 45.2
	14	335 52.7	21 40.5	S18 35.0	30 51.8	S20 35.9	226 20.6	N22 31.3	336 43.9	S 2 45.1
	15	350 55.2	36 39.8	S18 34.2	45 52.2	S20 35.5	241 23.4	N22 31.3	351 46.1	S 2 45.0
	16	5 57.6	51 39.0	S18 33.4	60 52.6	S20 35.0	256 26.2	N22 31.4	6 48.4	S 2 44.9
	17	21 00.1	66 38.3	S18 32.5	75 53.1	S20 34.6	271 29.0	N22 31.4	21 50.7	S 2 44.8
	18	36 02.6	81 37.6	S18 31.7	90 53.5	S20 34.1	286 31.8	N22 31.5	36 52.9	S 2 44.7
	19	51 05.0	96 36.8	S18 30.9	105 53.9	S20 33.7	301 34.6	N22 31.5	51 55.2	S 2 44.6
	20	66 07.5	111 36.1	S18 30.1	120 54.4	S20 33.3	316 37.3	N22 31.6	66 57.4	S 2 44.5
	21	81 10.0	126 35.4	S18 29.2	135 54.8	S20 32.8	331 40.1	N22 31.6	81 59.7	S 2 44.4
	22	96 12.4	141 34.7	S18 28.4	150 55.2	S20 32.4	346 42.9	N22 31.7	97 01.9	S 2 44.3
	23	111 14.9	156 33.9	S18 27.6	165 55.7	S20 32.0	1 45.7	N22 31.7	112 04.2	S 2 44.2
27	0	126 17.4	171 33.2	S18 26.7	180 56.1	S20 31.5	16 48.5	N22 31.7	127 06.4	S 2 44.1
	1	141 19.8	186 32.5	S18 25.9	195 56.5	S20 31.1	31 51.3	N22 31.8	142 08.7	S 2 44.0
	2	156 22.3	201 31.8	S18 25.1	210 57.0	S20 30.6	46 54.1	N22 31.8	157 10.9	S 2 43.9
	3	171 24.8	216 31.0	S18 24.2	225 57.4	S20 30.2	61 56.9	N22 31.9	172 13.2	S 2 43.8
	4	186 27.2	231 30.3	S18 23.4	240 57.8	S20 29.8	76 59.6	N22 31.9	187 15.4	S 2 43.7
T	5	201 29.7	246 29.6	S18 22.6	255 58.3	S20 29.3	92 02.4	N22 32.0	202 17.7	S 2 43.6
U										
E	6	216 32.1	261 28.9	S18 21.7	270 58.7	S20 28.9	107 05.2	N22 32.0	217 19.9	S 2 43.5
S	7	231 34.6	276 28.1	S18 20.9	285 59.1	S20 28.4	122 08.0	N22 32.1	232 22.2	S 2 43.4
D	8	246 37.1	291 27.4	S18 20.1	300 59.6	S20 28.0	137 10.8	N22 32.1	247 24.4	S 2 43.3
A	9	261 39.5	306 26.7	S18 19.2	316 00.0	S20 27.5	152 13.6	N22 32.1	262 26.7	S 2 43.2
Y	10	276 42.0	321 26.0	S18 18.4	331 00.4	S20 27.1	167 16.4	N22 32.2	277 28.9	S 2 43.2
	11	291 44.5	336 25.2	S18 17.5	346 00.9	S20 26.7	182 19.1	N22 32.2	292 31.2	S 2 43.1
	12	306 46.9	351 24.5	S18 16.7	1 01.3	S20 26.2	197 21.9	N22 32.3	307 33.5	S 2 43.0
	13	321 49.4	6 23.8	S18 15.8	16 01.7	S20 25.8	212 24.7	N22 32.3	322 35.7	S 2 42.9
	14	336 51.9	21 23.1	S18 15.0	31 02.2	S20 25.3	227 27.5	N22 32.4	337 38.0	S 2 42.8
	15	351 54.3	36 22.4	S18 14.2	46 02.6	S20 24.9	242 30.3	N22 32.4	352 40.2	S 2 42.7
	16	6 56.8	51 21.6	S18 13.3	61 03.1	S20 24.4	257 33.1	N22 32.5	7 42.5	S 2 42.6
	17	21 59.3	66 20.9	S18 12.5	76 03.5	S20 24.0	272 35.8	N22 32.5	22 44.7	S 2 42.5
	18	37 01.7	81 20.2	S18 11.6	91 03.9	S20 23.5	287 38.6	N22 32.5	37 47.0	S 2 42.4
	19	52 04.2	96 19.5	S18 10.8	106 04.4	S20 23.1	302 41.4	N22 32.6	52 49.2	S 2 42.3
	20	67 06.6	111 18.8	S18 09.9	121 04.8	S20 22.6	317 44.2	N22 32.6	67 51.5	S 2 42.2
	21	82 09.1	126 18.1	S18 09.1	136 05.2	S20 22.2	332 47.0	N22 32.7	82 53.7	S 2 42.1
	22	97 11.6	141 17.3	S18 08.2	151 05.7	S20 21.7	347 49.8	N22 32.7	97 56.0	S 2 42.0
	23	112 14.0	156 16.6	S18 07.4	166 06.1	S20 21.3	2 52.6	N22 32.8	112 58.2	S 2 41.9
			v -0.7	d 0.8	v 0.4	d 0.4	v 2.8	d 0.0	v 2.3	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
25	0	176 57.2	S19 00.7	107 32.8	12.1	N10 46.0	15.3	58.4
	1	191 57.1	S19 00.1	122 03.8	12.1	N11 01.2	15.3	58.4
	2	206 56.9	S18 59.5	136 34.8	12.0	N11 16.5	15.2	58.5
	3	221 56.8	S18 58.9	151 05.7	11.9	N11 31.7	15.2	58.5
	4	236 56.6	S18 58.3	165 36.6	11.8	N11 46.8	15.1	58.5
S	5	251 56.5	S18 57.7	180 07.3	11.8	N12 01.9	15.1	58.5
U								
N	6	266 56.4	S18 57.0	194 38.0	11.7	N12 16.9	15.0	58.5
D	7	281 56.2	S18 56.4	209 08.6	11.6	N12 31.9	15.0	58.6
A	8	296 56.1	S18 55.8	223 39.1	11.5	N12 46.8	14.9	58.6
Y	9	311 55.9	S18 55.2	238 09.6	11.4	N13 01.7	14.9	58.6
	10	326 55.8	S18 54.6	252 39.9	11.3	N13 16.5	14.8	58.6
	11	341 55.6	S18 53.9	267 10.2	11.3	N13 31.3	14.8	58.6
	12	356 55.5	S18 53.3	281 40.3	11.2	N13 46.0	14.7	58.7
	13	11 55.4	S18 52.7	296 10.4	11.1	N14 00.7	14.6	58.7
	14	26 55.2	S18 52.1	310 40.4	11.0	N14 15.2	14.6	58.7
	15	41 55.1	S18 51.5	325 10.3	10.9	N14 29.8	14.5	58.7
	16	56 54.9	S18 50.8	339 40.2	10.8	N14 44.2	14.5	58.7
	17	71 54.8	S18 50.2	354 09.9	10.7	N14 58.6	14.4	58.7
	18	86 54.7	S18 49.6	8 39.5	10.6	N15 12.9	14.3	58.8
	19	101 54.5	S18 49.0	23 09.1	10.5	N15 27.2	14.2	58.8
	20	116 54.4	S18 48.3	37 38.5	10.4	N15 41.3	14.2	58.8
	21	131 54.2	S18 47.7	52 07.8	10.3	N15 55.4	14.1	58.8
	22	146 54.1	S18 47.1	66 37.1	10.2	N16 09.4	14.0	58.8
	23	161 54.0	S18 46.5	81 06.2	10.1	N16 23.4	13.9	58.9
26	0	176 53.8	S18 45.8	95 35.3	10.0	N16 37.3	13.9	58.9
	1	191 53.7	S18 45.2	110 04.2	9.9	N16 51.0	13.8	58.9
	2	206 53.6	S18 44.6	124 33.1	9.8	N17 04.7	13.7	58.9
	3	221 53.4	S18 43.9	139 01.8	9.7	N17 18.4	13.6	58.9
	4	236 53.3	S18 43.3	153 30.5	9.6	N17 31.9	13.5	59.0
M	5	251 53.2	S18 42.7	167 59.0	9.5	N17 45.3	13.4	59.0
O								
N	6	266 53.0	S18 42.0	182 27.4	9.4	N17 58.7	13.4	59.0
D	7	281 52.9	S18 41.4	196 55.7	9.3	N18 12.0	13.3	59.0
A	8	296 52.8	S18 40.8	211 24.0	9.2	N18 25.1	13.2	59.0
Y	9	311 52.6	S18 40.1	225 52.1	9.1	N18 38.2	13.1	59.0
	10	326 52.5	S18 39.5	240 20.1	9.0	N18 51.2	13.0	59.1
	11	341 52.4	S18 38.9	254 48.0	8.9	N19 04.1	12.9	59.1
	12	356 52.2	S18 38.2	269 15.7	8.8	N19 16.8	12.8	59.1
	13	11 52.1	S18 37.6	283 43.4	8.7	N19 29.5	12.7	59.1
	14	26 52.0	S18 37.0	298 11.0	8.6	N19 42.1	12.6	59.1
	15	41 51.8	S18 36.3	312 38.4	8.4	N19 54.6	12.5	59.1
	16	56 51.7	S18 35.7	327 05.7	8.3	N20 06.9	12.4	59.2
	17	71 51.6	S18 35.1	341 33.0	8.2	N20 19.2	12.3	59.2
	18	86 51.4	S18 34.4	356 00.1	8.1	N20 31.3	12.1	59.2
	19	101 51.3	S18 33.8	10 27.1	8.0	N20 43.4	12.0	59.2
	20	116 51.2	S18 33.1	24 53.9	7.9	N20 55.3	11.9	59.2
	21	131 51.0	S18 32.5	39 20.7	7.8	N21 07.1	11.8	59.2
	22	146 50.9	S18 31.9	53 47.4	7.6	N21 18.8	11.7	59.3
	23	161 50.8	S18 31.2	68 13.9	7.5	N21 30.3	11.6	59.3
27	0	176 50.7	S18 30.6	82 40.3	7.4	N21 41.8	11.4	59.3
	1	191 50.5	S18 29.9	97 06.6	7.3	N21 53.1	11.3	59.3
	2	206 50.4	S18 29.3	111 32.8	7.2	N22 04.3	11.2	59.3
	3	221 50.3	S18 28.7	125 58.9	7.1	N22 15.3	11.1	59.3
	4	236 50.1	S18 28.0	140 24.8	7.0	N22 26.2	10.9	59.4
T	5	251 50.0	S18 27.4	154 50.7	6.8	N22 37.1	10.8	59.4
U								
E	6	266 49.9	S18 26.7	169 16.4	6.7	N22 47.7	10.7	59.4
S	7	281 49.8	S18 26.1	183 42.0	6.6	N22 58.3	10.5	59.4
D	8	296 49.6	S18 25.4	198 07.5	6.5	N23 08.6	10.4	59.4
A	9	311 49.5	S18 24.8	212 32.9	6.4	N23 18.9	10.3	59.4
Y	10	326 49.4	S18 24.1	226 58.1	6.3	N23 29.0	10.1	59.4
	11	341 49.3	S18 23.5	241 23.3	6.2	N23 39.0	10.0	59.5
	12	356 49.1	S18 22.8	255 48.3	6.0	N23 48.8	9.8	59.5
	13	11 49.0	S18 22.2	270 13.3	5.9	N23 58.5	9.7	59.5
	14	26 48.9	S18 21.5	284 38.1	5.8	N24 08.0	9.5	59.5
	15	41 48.8	S18 20.9	299 02.8	5.7	N24 17.4	9.4	59.5
	16	56 48.6	S18 20.2	313 27.4	5.6	N24 26.7	9.2	59.5
	17	71 48.5	S18 19.6	327 51.8	5.5	N24 35.8	9.1	59.5
	18	86 48.4	S18 18.9	342 16.2	5.4	N24 44.7	8.9	59.6
	19	101 48.3	S18 18.3	356 40.4	5.3	N24 53.5	8.8	59.6
	20	116 48.2	S18 17.6	11 04.6	5.1	N25 02.1	8.6	59.6
	21	131 48.0	S18 17.0	25 28.6	5.0	N25 10.5	8.5	59.6
	22	146 47.9	S18 16.3	39 52.6	4.9	N25 18.8	8.3	59.6
	23	161 47.8	S18 15.7	54 16.4	4.8	N25 26.9	8.1	59.6
		S.D. 16.2	d 0.6	S.D.	16.0	16.1	16.2	

Name	SHA	Dec
Acamar	315 11.0	S40 12.2
Achernar	335 19.6	S57 06.5
Acrux	172 58.9	S63 14.4
Adhara	255 04.8	S29 00.5
Albireo	67 03.7	N28 00.7
Aldebaran	290 38.4	N16 33.8
Alioth	166 11.9	N55 48.8
Alkaid	152 51.2	N49 10.6
Al Na-ir	27 32.2	S46 50.2
Alnilam	275 36.5	S 1 11.1
Alphard	217 46.5	S 8 46.4
Alphecca	126 03.1	N26 37.3
Alpheratz	357 34.1	N29 14.2
Altair	61 59.4	N 8 56.1
Ankaa	353 06.4	S42 10.1
Antares	112 15.0	S26 29.4
Arcturus	145 47.1	N19 02.5
Atria	107 08.9	S69 04.3
Avior	234 13.7	S59 35.6
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.5	S52 42.7
Capella	280 20.3	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.7	N45 22.3
Denebola	182 23.8	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.3	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.2	N51 28.8
Enif	33 38.2	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.5	S57 15.4
Gienah	175 42.5	S17 41.2
Hadar	148 34.8	S60 29.7
Hamal	327 50.3	N23 35.3
Kaus Austr.	83 31.7	S34 22.4
Kochab	137 20.1	N74 02.5
Markab	13 29.3	N15 20.7
Menkar	314 05.1	N 4 11.5
Menkent	147 56.6	S36 29.9
Miaplacidus	221 37.1	S69 49.4
Mirfak	308 26.9	N49 57.5
Nunki	75 47.0	S26 15.9
Peacock	53 04.9	S56 39.1
Polaris	316 07.9	N89 22.2
Pollux	243 15.8	N27 57.7
Procyon	244 49.6	N 5 09.4
Rasalhague	95 58.0	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 02.8	S 8 10.3
Rigil Kent	139 39.3	S60 56.4
Sabik	102 02.0	S15 45.5
Schedar	349 30.3	N56 41.1
Shaula	96 09.5	S37 07.3
Sirius	258 25.1	S16 45.2
Spica	158 21.3	S11 17.9
Suhail	222 45.2	S43 32.3
Vega	80 33.0	N38 48.2
Zuben-ubi	136 56.0	S16 09.1

G.M.T d	h	ARIES GHA	VENUS GHA	VENUS Dec	MARS GHA	MARS Dec	JUPITER GHA	JUPITER Dec	SATURN GHA	SATURN Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
28	0	127 16.5	171 15.9	S18 06.5	181 06.5	S20 20.8	17 55.3	N22 32.8	128 00.5	S 2 41.8
	1	142 19.0	186 15.2	S18 05.7	196 07.0	S20 20.4	32 58.1	N22 32.9	143 02.7	S 2 41.7
	2	157 21.4	201 14.5	S18 04.8	211 07.4	S20 19.9	48 00.9	N22 32.9	158 05.0	S 2 41.6
	3	172 23.9	216 13.8	S18 03.9	226 07.9	S20 19.5	63 03.7	N22 32.9	173 07.2	S 2 41.5
	4	187 26.4	231 13.1	S18 03.1	241 08.3	S20 19.0	78 06.5	N22 33.0	188 09.5	S 2 41.4
W	5	202 28.8	246 12.4	S18 02.2	256 08.7	S20 18.6	93 09.2	N22 33.0	203 11.7	S 2 41.3
E										
D	6	217 31.3	261 11.6	S18 01.4	271 09.2	S20 18.1	108 12.0	N22 33.1	218 14.0	S 2 41.2
N	7	232 33.8	276 10.9	S18 00.5	286 09.6	S20 17.7	123 14.8	N22 33.1	233 16.2	S 2 41.1
E	8	247 36.2	291 10.2	S17 59.6	301 10.0	S20 17.2	138 17.6	N22 33.2	248 18.5	S 2 41.0
S	9	262 38.7	306 09.5	S17 58.8	316 10.5	S20 16.8	153 20.4	N22 33.2	263 20.7	S 2 40.9
D	10	277 41.1	321 08.8	S17 57.9	331 10.9	S20 16.3	168 23.2	N22 33.2	278 23.0	S 2 40.8
A	11	292 43.6	336 08.1	S17 57.1	346 11.4	S20 15.9	183 25.9	N22 33.3	293 25.2	S 2 40.7
Y										
	12	307 46.1	351 07.4	S17 56.2	1 11.8	S20 15.4	198 28.7	N22 33.3	308 27.5	S 2 40.6
	13	322 48.5	6 06.7	S17 55.3	16 12.2	S20 15.0	213 31.5	N22 33.4	323 29.7	S 2 40.5
	14	337 51.0	21 06.0	S17 54.5	31 12.7	S20 14.5	228 34.3	N22 33.4	338 32.0	S 2 40.4
	15	352 53.5	36 05.3	S17 53.6	46 13.1	S20 14.1	243 37.1	N22 33.5	353 34.2	S 2 40.3
	16	7 55.9	51 04.6	S17 52.7	61 13.6	S20 13.6	258 39.8	N22 33.5	8 36.4	S 2 40.2
	17	22 58.4	66 03.9	S17 51.9	76 14.0	S20 13.2	273 42.6	N22 33.5	23 38.7	S 2 40.1
	18	38 00.9	81 03.2	S17 51.0	91 14.4	S20 12.7	288 45.4	N22 33.6	38 40.9	S 2 40.0
	19	53 03.3	96 02.5	S17 50.1	106 14.9	S20 12.2	303 48.2	N22 33.6	53 43.2	S 2 39.9
	20	68 05.8	111 01.8	S17 49.3	121 15.3	S20 11.8	318 51.0	N22 33.7	68 45.4	S 2 39.8
	21	83 08.2	126 01.1	S17 48.4	136 15.8	S20 11.3	333 53.7	N22 33.7	83 47.7	S 2 39.7
	22	98 10.7	141 00.4	S17 47.5	151 16.2	S20 10.9	348 56.5	N22 33.8	98 49.9	S 2 39.6
	23	113 13.2	155 59.7	S17 46.6	166 16.6	S20 10.4	3 59.3	N22 33.8	113 52.2	S 2 39.5
29	0	128 15.6	170 59.0	S17 45.8	181 17.1	S20 10.0	19 02.1	N22 33.8	128 54.4	S 2 39.4
	1	143 18.1	185 58.3	S17 44.9	196 17.5	S20 09.5	34 04.8	N22 33.9	143 56.7	S 2 39.3
	2	158 20.6	200 57.6	S17 44.0	211 18.0	S20 09.0	49 07.6	N22 33.9	158 58.9	S 2 39.2
	3	173 23.0	215 56.9	S17 43.1	226 18.4	S20 08.6	64 10.4	N22 34.0	174 01.2	S 2 39.1
	4	188 25.5	230 56.2	S17 42.3	241 18.8	S20 08.1	79 13.2	N22 34.0	189 03.4	S 2 39.0
T	5	203 28.0	245 55.5	S17 41.4	256 19.3	S20 07.7	94 16.0	N22 34.1	204 05.7	S 2 38.9
H										
U	6	218 30.4	260 54.8	S17 40.5	271 19.7	S20 07.2	109 18.7	N22 34.1	219 07.9	S 2 38.8
R	7	233 32.9	275 54.1	S17 39.6	286 20.2	S20 06.7	124 21.5	N22 34.1	234 10.2	S 2 38.7
S	8	248 35.4	290 53.4	S17 38.7	301 20.6	S20 06.3	139 24.3	N22 34.2	249 12.4	S 2 38.6
D	9	263 37.8	305 52.7	S17 37.9	316 21.1	S20 05.8	154 27.1	N22 34.2	264 14.7	S 2 38.5
A	10	278 40.3	320 52.0	S17 37.0	331 21.5	S20 05.4	169 29.8	N22 34.3	279 16.9	S 2 38.4
Y	11	293 42.7	335 51.3	S17 36.1	346 21.9	S20 04.9	184 32.6	N22 34.3	294 19.1	S 2 38.3
	12	308 45.2	350 50.6	S17 35.2	1 22.4	S20 04.4	199 35.4	N22 34.4	309 21.4	S 2 38.2
	13	323 47.7	5 49.9	S17 34.3	16 22.8	S20 04.0	214 38.2	N22 34.4	324 23.6	S 2 38.1
	14	338 50.1	20 49.2	S17 33.4	31 23.3	S20 03.5	229 40.9	N22 34.4	339 25.9	S 2 38.0
	15	353 52.6	35 48.5	S17 32.5	46 23.7	S20 03.0	244 43.7	N22 34.5	354 28.1	S 2 37.9
	16	8 55.1	50 47.8	S17 31.7	61 24.2	S20 02.6	259 46.5	N22 34.5	9 30.4	S 2 37.8
	17	23 57.5	65 47.1	S17 30.8	76 24.6	S20 02.1	274 49.3	N22 34.6	24 32.6	S 2 37.7
	18	38 60.0	80 46.4	S17 29.9	91 25.0	S20 01.6	289 52.0	N22 34.6	39 34.9	S 2 37.6
	19	54 02.5	95 45.7	S17 29.0	106 25.5	S20 01.2	304 54.8	N22 34.7	54 37.1	S 2 37.5
	20	69 04.9	110 45.1	S17 28.1	121 25.9	S20 00.7	319 57.6	N22 34.7	69 39.4	S 2 37.4
	21	84 07.4	125 44.4	S17 27.2	136 26.4	S20 00.2	335 00.4	N22 34.7	84 41.6	S 2 37.3
	22	99 09.9	140 43.7	S17 26.3	151 26.8	S19 59.8	350 03.1	N22 34.8	99 43.9	S 2 37.2
	23	114 12.3	155 43.0	S17 25.4	166 27.3	S19 59.3	5 05.9	N22 34.8	114 46.1	S 2 37.1
30	0	129 14.8	170 42.3	S17 24.5	181 27.7	S19 58.8	20 08.7	N22 34.9	129 48.3	S 2 37.0
	1	144 17.2	185 41.6	S17 23.6	196 28.2	S19 58.4	35 11.5	N22 34.9	144 50.6	S 2 36.9
	2	159 19.7	200 40.9	S17 22.7	211 28.6	S19 57.9	50 14.2	N22 35.0	159 52.8	S 2 36.8
	3	174 22.2	215 40.2	S17 21.8	226 29.0	S19 57.4	65 17.0	N22 35.0	174 55.1	S 2 36.7
	4	189 24.6	230 39.6	S17 20.9	241 29.5	S19 57.0	80 19.8	N22 35.0	189 57.3	S 2 36.6
F	5	204 27.1	245 38.9	S17 20.0	256 29.9	S19 56.5	95 22.6	N22 35.1	204 59.6	S 2 36.5
R										
I	6	219 29.6	260 38.2	S17 19.1	271 30.4	S19 56.0	110 25.3	N22 35.1	220 01.8	S 2 36.4
D	7	234 32.0	275 37.5	S17 18.2	286 30.8	S19 55.6	125 28.1	N22 35.2	235 04.1	S 2 36.3
A	8	249 34.5	290 36.8	S17 17.3	301 31.3	S19 55.1	140 30.9	N22 35.2	250 06.3	S 2 36.2
Y	9	264 37.0	305 36.1	S17 16.4	316 31.7	S19 54.6	155 33.6	N22 35.2	265 08.5	S 2 36.1
	10	279 39.4	320 35.5	S17 15.5	331 32.2	S19 54.1	170 36.4	N22 35.3	280 10.8	S 2 36.0
	11	294 41.9	335 34.8	S17 14.6	346 32.6	S19 53.7	185 39.2	N22 35.3	295 13.0	S 2 35.8
	12	309 44.4	350 34.1	S17 13.7	1 33.1	S19 53.2	200 42.0	N22 35.4	310 15.3	S 2 35.7
	13	324 46.8	5 33.4	S17 12.8	16 33.5	S19 52.7	215 44.7	N22 35.4	325 17.5	S 2 35.6
	14	339 49.3	20 32.7	S17 11.9	31 34.0	S19 52.3	230 47.5	N22 35.5	340 19.8	S 2 35.5
	15	354 51.7	35 32.1	S17 11.0	46 34.4	S19 51.8	245 50.3	N22 35.5	355 22.0	S 2 35.4
	16	9 54.2	50 31.4	S17 10.1	61 34.8	S19 51.3	260 53.0	N22 35.5	10 24.3	S 2 35.3
	17	24 56.7	65 30.7	S17 09.2	76 35.3	S19 50.8	275 55.8	N22 35.6	25 26.5	S 2 35.2
	18	39 59.1	80 30.0	S17 08.3	91 35.7	S19 50.4	290 58.6	N22 35.6	40 28.7	S 2 35.1
	19	55 01.6	95 29.4	S17 07.3	106 36.2	S19 49.9	306 01.3	N22 35.7	55 31.0	S 2 35.0
	20	70 04.1	110 28.7	S17 06.4	121 36.6	S19 49.4	321 04.1	N22 35.7	70 33.2	S 2 34.9
	21	85 06.5	125 28.0	S17 05.5	136 37.1	S19 48.9	336 06.9	N22 35.7	85 35.5	S 2 34.8
	22	100 09.0	140 27.3	S17 04.6	151 37.5	S19 48.5	351 09.6	N22 35.8	100 37.7	S 2 34.7
	23	115 11.5	155 26.6	S17 03.7	166 38.0	S19 48.0	6 12.4	N22 35.8	115 40.0	S 2 34.6
			v -0.7	d 0.9	v 0.4	d 0.5	v 2.8	d 0.0	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
28 0	176 47.7	S18 15.0	68 40.1	4.7	N25 34.9	8.0	59.6	Acamar	315 11.0	S40 12.2
1	191 47.6	S18 14.3	83 03.7	4.6	N25 42.7	7.8	59.6	Achernar	335 19.6	S57 06.5
2	206 47.4	S18 13.7	97 27.3	4.5	N25 50.3	7.6	59.7	Acrux	172 58.8	S63 14.4
3	221 47.3	S18 13.0	111 50.7	4.4	N25 57.8	7.5	59.7	Adhara	255 04.8	S29 00.5
4	236 47.2	S18 12.4	126 14.0	4.3	N26 05.1	7.3	59.7	Albireo	67 03.7	N28 00.7
W 5	251 47.1	S18 11.7	140 37.2	4.2	N26 12.2	7.1	59.7			
E								Aldebaran	290 38.4	N16 33.8
D 6	266 47.0	S18 11.1	155 00.3	4.1	N26 19.1	6.9	59.7	Alioth	166 11.9	N55 48.8
N 7	281 46.9	S18 10.4	169 23.4	4.0	N26 25.9	6.8	59.7	Alkaid	152 51.2	N49 10.6
E 8	296 46.7	S18 09.7	183 46.3	3.9	N26 32.4	6.6	59.7	Al Na-ir	27 32.2	S46 50.2
S 9	311 46.6	S18 09.1	198 09.2	3.8	N26 38.8	6.4	59.7	Alnilam	275 36.6	S 1 11.1
D 10	326 46.5	S18 08.4	212 31.9	3.8	N26 45.1	6.2	59.7			
A 11	341 46.4	S18 07.8	226 54.6	3.7	N26 51.1	6.0	59.8	Alphard	217 46.5	S 8 46.4
Y								Alphecca	126 03.1	N26 37.3
12	356 46.3	S18 07.1	241 17.2	3.6	N26 57.0	5.9	59.8	Alpheratz	357 34.1	N29 14.2
13	11 46.2	S18 06.4	255 39.7	3.5	N27 02.6	5.7	59.8	Altair	61 59.4	N 8 56.1
14	26 46.0	S18 05.8	270 02.1	3.4	N27 08.1	5.5	59.8	Ankaa	353 06.4	S42 10.1
15	41 45.9	S18 05.1	284 24.4	3.3	N27 13.4	5.3	59.8			
16	56 45.8	S18 04.4	298 46.7	3.3	N27 18.5	5.1	59.8	Antares	112 14.9	S26 29.4
17	71 45.7	S18 03.8	313 08.9	3.2	N27 23.4	4.9	59.8	Arcturus	145 47.1	N19 02.5
								Atria	107 08.8	S69 04.3
18	86 45.6	S18 03.1	327 31.0	3.1	N27 28.2	4.7	59.8	Avior	234 13.7	S59 35.6
19	101 45.5	S18 02.4	341 53.1	3.0	N27 32.7	4.5	59.8	Bellatrix	278 21.7	N 6 22.4
20	116 45.4	S18 01.8	356 15.0	3.0	N27 37.0	4.3	59.8			
21	131 45.2	S18 01.1	10 36.9	2.9	N27 41.2	4.1	59.8	Betelgeuse	270 50.9	N 7 24.7
22	146 45.1	S18 00.4	24 58.8	2.9	N27 45.1	3.9	59.8	Canopus	263 51.5	S52 42.7
23	161 45.0	S17 59.8	39 20.6	2.8	N27 48.9	3.7	59.9	Capella	280 20.3	N46 01.6
29 0	176 44.9	S17 59.1	53 42.3	2.7	N27 52.4	3.6	59.9	Castor	245 55.5	N31 49.9
1	191 44.8	S17 58.4	68 04.0	2.7	N27 55.8	3.4	59.9	Deneb	49 25.7	N45 22.3
2	206 44.7	S17 57.8	82 25.6	2.6	N27 58.9	3.2	59.9			
3	221 44.6	S17 57.1	96 47.2	2.6	N28 01.9	3.0	59.9	Denebola	182 23.8	N14 25.4
4	236 44.5	S17 56.4	111 08.7	2.5	N28 04.6	2.8	59.9	Diphda	348 46.6	S17 50.7
T 5	251 44.4	S17 55.7	125 30.2	2.5	N28 07.2	2.5	59.9	Dubhe	193 39.3	N61 36.3
H								Elnath	278 00.5	N28 37.8
U 6	266 44.3	S17 55.1	139 51.7	2.4	N28 09.5	2.3	59.9	Eltanin	90 42.2	N51 28.8
R 7	281 44.1	S17 54.4	154 13.1	2.4	N28 11.7	2.1	59.9			
S 8	296 44.0	S17 53.7	168 34.4	2.4	N28 13.6	1.9	59.9	Enif	33 38.2	N 9 59.6
D 9	311 43.9	S17 53.1	182 55.8	2.3	N28 15.3	1.7	59.9	Fomalhaut	15 13.8	S29 29.2
A 10	326 43.8	S17 52.4	197 17.1	2.3	N28 16.9	1.5	59.9	Gacrux	171 50.4	S57 15.4
Y 11	341 43.7	S17 51.7	211 38.4	2.3	N28 18.2	1.3	59.9	Gienah	175 42.5	S17 41.2
								Hadar	148 34.8	S60 29.7
12	356 43.6	S17 51.0	225 59.6	2.3	N28 19.3	1.1	59.9			
13	11 43.5	S17 50.4	240 20.9	2.2	N28 20.2	0.9	59.9	Hamal	327 50.3	N23 35.3
14	26 43.4	S17 49.7	254 42.1	2.2	N28 20.9	0.7	59.9	Kaus Austr.	83 31.7	S34 22.4
15	41 43.3	S17 49.0	269 03.3	2.2	N28 21.4	0.5	59.9	Kochab	137 20.0	N74 02.5
16	56 43.2	S17 48.3	283 24.5	2.2	N28 21.7	0.3	59.9	Markab	13 29.3	N15 20.7
17	71 43.1	S17 47.6	297 45.7	2.2	N28 21.8	0.1	59.9	Menkar	314 05.1	N 4 11.5
								Menkent	147 56.6	S36 29.9
18	86 43.0	S17 47.0	312 06.8	2.2	N28 21.6	0.1	59.9	Miaplacidus	221 37.1	S69 49.4
19	101 42.9	S17 46.3	326 28.0	2.2	N28 21.3	0.3	59.9	Mirfak	308 26.9	N49 57.5
20	116 42.8	S17 45.6	340 49.2	2.2	N28 20.8	0.5	59.9	Nunki	75 47.0	S26 15.9
21	131 42.7	S17 44.9	355 10.4	2.2	N28 20.0	0.7	59.9	Peacock	53 04.8	S56 39.1
22	146 42.6	S17 44.2	9 31.6	2.2	N28 19.1	1.0	59.9			
23	161 42.5	S17 43.6	23 52.8	2.2	N28 17.9	1.2	59.9	Polaris	316 08.9	N89 22.2
30 0	176 42.4	S17 42.9	38 14.0	2.2	N28 16.5	1.4	59.9	Pollux	243 15.8	N27 57.7
1	191 42.2	S17 42.2	52 35.2	2.2	N28 15.0	1.6	59.9	Procyon	244 49.6	N 5 09.4
2	206 42.1	S17 41.5	66 56.5	2.3	N28 13.2	1.8	59.9	Rasalhague	95 58.0	N12 32.3
3	221 42.0	S17 40.8	81 17.8	2.3	N28 11.2	2.0	59.9	Regulus	207 33.2	N11 50.3
4	236 41.9	S17 40.1	95 39.1	2.3	N28 09.0	2.2	59.9			
F 5	251 41.8	S17 39.5	110 00.4	2.3	N28 06.6	2.4	59.9	Rigel	281 02.8	S 8 10.3
R								Rigil Kent	139 39.3	S60 56.4
I 6	266 41.7	S17 38.8	124 21.8	2.4	N28 04.0	2.6	59.9	Sabik	102 02.0	S15 45.5
D 7	281 41.6	S17 38.1	138 43.2	2.4	N28 01.2	2.8	59.9	Schedar	349 30.3	N56 41.0
A 8	296 41.5	S17 37.4	153 04.6	2.4	N27 58.2	3.0	59.9	Shaula	96 09.5	S37 07.3
Y 9	311 41.4	S17 36.7	167 26.1	2.5	N27 55.0	3.2	59.9	Sirius	258 25.1	S16 45.2
10	326 41.3	S17 36.0	181 47.6	2.5	N27 51.6	3.4	59.9	Spica	158 21.3	S11 17.9
11	341 41.2	S17 35.3	196 09.2	2.6	N27 47.9	3.6	59.9	Suhail	222 45.2	S43 32.3
								Vega	80 33.0	N38 48.2
12	356 41.1	S17 34.6	210 30.8	2.6	N27 44.1	3.8	59.9	Zuben-ubi	136 55.9	S16 09.1
13	11 41.0	S17 34.0	224 52.5	2.7	N27 40.1	4.0	59.9			
14	26 41.0	S17 33.3	239 14.2	2.7	N27 35.9	4.2	59.9			
15	41 40.9	S17 32.6	253 36.0	2.8	N27 31.5	4.4	59.9			
16	56 40.8	S17 31.9	267 57.8	2.8	N27 26.9	4.6	59.9			
17	71 40.7	S17 31.2	282 19.7	2.9	N27 22.1	4.8	59.9			
18	86 40.6	S17 30.5	296 41.7	3.0	N27 17.1	5.0	59.9			
19	101 40.5	S17 29.8	311 03.8	3.0	N27 11.9	5.2	59.9			
20	116 40.4	S17 29.1	325 25.9	3.1	N27 06.5	5.4	59.8			
21	131 40.3	S17 28.4	339 48.1	3.2	N27 00.9	5.6	59.8			
22	146 40.2	S17 27.7	354 10.3	3.3	N26 55.1	5.8	59.8			
23	161 40.1	S17 27.0	8 32.7	3.3	N26 49.2	6.0	59.8			
	S.D. 16.2	d 0.7	S.D.	16.3	16.3	16.3				

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA ° '	GHA ° '	Dec ° '	GHA ° '	Dec ° '	GHA ° '	Dec ° '	GHA ° '	Dec ° '
31	0	130 13.9	170 26.0	S17 02.8	181 38.4	S19 47.5	21 15.2	N22 35.9	130 42.2	S 2 34.5
	1	145 16.4	185 25.3	S17 01.9	196 38.9	S19 47.0	36 18.0	N22 35.9	145 44.4	S 2 34.4
	2	160 18.9	200 24.6	S17 00.9	211 39.3	S19 46.6	51 20.7	N22 35.9	160 46.7	S 2 34.3
	3	175 21.3	215 24.0	S17 00.0	226 39.8	S19 46.1	66 23.5	N22 36.0	175 48.9	S 2 34.2
	4	190 23.8	230 23.3	S16 59.1	241 40.2	S19 45.6	81 26.3	N22 36.0	190 51.2	S 2 34.1
S	5	205 26.2	245 22.6	S16 58.2	256 40.7	S19 45.1	96 29.0	N22 36.1	205 53.4	S 2 34.0
A										
T	6	220 28.7	260 21.9	S16 57.3	271 41.1	S19 44.6	111 31.8	N22 36.1	220 55.7	S 2 33.9
U	7	235 31.2	275 21.3	S16 56.3	286 41.6	S19 44.2	126 34.6	N22 36.2	235 57.9	S 2 33.8
R	8	250 33.6	290 20.6	S16 55.4	301 42.0	S19 43.7	141 37.3	N22 36.2	251 00.1	S 2 33.7
D	9	265 36.1	305 19.9	S16 54.5	316 42.5	S19 43.2	156 40.1	N22 36.2	266 02.4	S 2 33.6
A	10	280 38.6	320 19.3	S16 53.6	331 42.9	S19 42.7	171 42.9	N22 36.3	281 04.6	S 2 33.5
Y	11	295 41.0	335 18.6	S16 52.7	346 43.4	S19 42.2	186 45.6	N22 36.3	296 06.9	S 2 33.4
	12	310 43.5	350 17.9	S16 51.7	1 43.8	S19 41.8	201 48.4	N22 36.4	311 09.1	S 2 33.3
	13	325 46.0	5 17.3	S16 50.8	16 44.3	S19 41.3	216 51.2	N22 36.4	326 11.3	S 2 33.2
	14	340 48.4	20 16.6	S16 49.9	31 44.7	S19 40.8	231 53.9	N22 36.4	341 13.6	S 2 33.1
	15	355 50.9	35 15.9	S16 49.0	46 45.2	S19 40.3	246 56.7	N22 36.5	356 15.8	S 2 33.0
	16	10 53.3	50 15.3	S16 48.0	61 45.6	S19 39.8	261 59.4	N22 36.5	11 18.1	S 2 32.9
	17	25 55.8	65 14.6	S16 47.1	76 46.1	S19 39.3	277 02.2	N22 36.6	26 20.3	S 2 32.8
	18	40 58.3	80 13.9	S16 46.2	91 46.5	S19 38.9	292 05.0	N22 36.6	41 22.6	S 2 32.7
	19	56 00.7	95 13.3	S16 45.2	106 47.0	S19 38.4	307 07.7	N22 36.6	56 24.8	S 2 32.6
	20	71 03.2	110 12.6	S16 44.3	121 47.4	S19 37.9	322 10.5	N22 36.7	71 27.0	S 2 32.5
	21	86 05.7	125 11.9	S16 43.4	136 47.9	S19 37.4	337 13.3	N22 36.7	86 29.3	S 2 32.4
	22	101 08.1	140 11.3	S16 42.4	151 48.3	S19 36.9	352 16.0	N22 36.8	101 31.5	S 2 32.3
	23	116 10.6	155 10.6	S16 41.5	166 48.8	S19 36.4	7 18.8	N22 36.8	116 33.8	S 2 32.2
1	0	131 13.1	170 10.0	S16 40.6	181 49.2	S19 36.0	22 21.6	N22 36.8	131 36.0	S 2 32.1
	1	146 15.5	185 09.3	S16 39.6	196 49.7	S19 35.5	37 24.3	N22 36.9	146 38.2	S 2 32.0
	2	161 18.0	200 08.6	S16 38.7	211 50.2	S19 35.0	52 27.1	N22 36.9	161 40.5	S 2 31.9
	3	176 20.5	215 08.0	S16 37.8	226 50.6	S19 34.5	67 29.8	N22 37.0	176 42.7	S 2 31.8
	4	191 22.9	230 07.3	S16 36.8	241 51.1	S19 34.0	82 32.6	N22 37.0	191 45.0	S 2 31.7
S	5	206 25.4	245 06.7	S16 35.9	256 51.5	S19 33.5	97 35.4	N22 37.0	206 47.2	S 2 31.6
U										
N	6	221 27.8	260 06.0	S16 34.9	271 52.0	S19 33.0	112 38.1	N22 37.1	221 49.4	S 2 31.5
D	7	236 30.3	275 05.3	S16 34.0	286 52.4	S19 32.6	127 40.9	N22 37.1	236 51.7	S 2 31.3
A	8	251 32.8	290 04.7	S16 33.1	301 52.9	S19 32.1	142 43.7	N22 37.2	251 53.9	S 2 31.2
Y	9	266 35.2	305 04.0	S16 32.1	316 53.3	S19 31.6	157 46.4	N22 37.2	266 56.2	S 2 31.1
	10	281 37.7	320 03.4	S16 31.2	331 53.8	S19 31.1	172 49.2	N22 37.2	281 58.4	S 2 31.0
	11	296 40.2	335 02.7	S16 30.2	346 54.2	S19 30.6	187 51.9	N22 37.3	297 00.6	S 2 30.9
	12	311 42.6	350 02.1	S16 29.3	1 54.7	S19 30.1	202 54.7	N22 37.3	312 02.9	S 2 30.8
	13	326 45.1	5 01.4	S16 28.3	16 55.1	S19 29.6	217 57.5	N22 37.4	327 05.1	S 2 30.7
	14	341 47.6	20 00.8	S16 27.4	31 55.6	S19 29.1	233 00.2	N22 37.4	342 07.4	S 2 30.6
	15	356 50.0	35 00.1	S16 26.4	46 56.1	S19 28.6	248 03.0	N22 37.4	357 09.6	S 2 30.5
	16	11 52.5	49 59.5	S16 25.5	61 56.5	S19 28.1	263 05.7	N22 37.5	12 11.8	S 2 30.4
	17	26 55.0	64 58.8	S16 24.6	76 57.0	S19 27.6	278 08.5	N22 37.5	27 14.1	S 2 30.3
	18	41 57.4	79 58.2	S16 23.6	91 57.4	S19 27.2	293 11.3	N22 37.6	42 16.3	S 2 30.2
	19	56 59.9	94 57.5	S16 22.7	106 57.9	S19 26.7	308 14.0	N22 37.6	57 18.5	S 2 30.1
	20	72 02.3	109 56.9	S16 21.7	121 58.3	S19 26.2	323 16.8	N22 37.6	72 20.8	S 2 30.0
	21	87 04.8	124 56.2	S16 20.7	136 58.8	S19 25.7	338 19.5	N22 37.7	87 23.0	S 2 29.9
	22	102 07.3	139 55.6	S16 19.8	151 59.2	S19 25.2	353 22.3	N22 37.7	102 25.3	S 2 29.8
	23	117 09.7	154 54.9	S16 18.8	166 59.7	S19 24.7	8 25.0	N22 37.8	117 27.5	S 2 29.7
2	0	132 12.2	169 54.3	S16 17.9	182 00.2	S19 24.2	23 27.8	N22 37.8	132 29.7	S 2 29.6
	1	147 14.7	184 53.6	S16 16.9	197 00.6	S19 23.7	38 30.6	N22 37.8	147 32.0	S 2 29.5
	2	162 17.1	199 53.0	S16 16.0	212 01.1	S19 23.2	53 33.3	N22 37.9	162 34.2	S 2 29.4
	3	177 19.6	214 52.3	S16 15.0	227 01.5	S19 22.7	68 36.1	N22 37.9	177 36.5	S 2 29.3
	4	192 22.1	229 51.7	S16 14.1	242 02.0	S19 22.2	83 38.8	N22 38.0	192 38.7	S 2 29.2
M	5	207 24.5	244 51.0	S16 13.1	257 02.4	S19 21.7	98 41.6	N22 38.0	207 40.9	S 2 29.1
O										
N	6	222 27.0	259 50.4	S16 12.1	272 02.9	S19 21.2	113 44.3	N22 38.0	222 43.2	S 2 29.0
D	7	237 29.5	274 49.7	S16 11.2	287 03.4	S19 20.7	128 47.1	N22 38.1	237 45.4	S 2 28.9
A	8	252 31.9	289 49.1	S16 10.2	302 03.8	S19 20.2	143 49.9	N22 38.1	252 47.6	S 2 28.8
Y	9	267 34.4	304 48.5	S16 09.3	317 04.3	S19 19.7	158 52.6	N22 38.1	267 49.9	S 2 28.7
	10	282 36.8	319 47.8	S16 08.3	332 04.7	S19 19.2	173 55.4	N22 38.2	282 52.1	S 2 28.6
	11	297 39.3	334 47.2	S16 07.3	347 05.2	S19 18.7	188 58.1	N22 38.2	297 54.4	S 2 28.4
	12	312 41.8	349 46.5	S16 06.4	2 05.6	S19 18.2	204 00.9	N22 38.3	312 56.6	S 2 28.3
	13	327 44.2	4 45.9	S16 05.4	17 06.1	S19 17.7	219 03.6	N22 38.3	327 58.8	S 2 28.2
	14	342 46.7	19 45.2	S16 04.5	32 06.6	S19 17.2	234 06.4	N22 38.3	343 01.1	S 2 28.1
	15	357 49.2	34 44.6	S16 03.5	47 07.0	S19 16.7	249 09.1	N22 38.4	358 03.3	S 2 28.0
	16	12 51.6	49 44.0	S16 02.5	62 07.5	S19 16.2	264 11.9	N22 38.4	13 05.5	S 2 27.9
	17	27 54.1	64 43.3	S16 01.6	77 07.9	S19 15.7	279 14.6	N22 38.5	28 07.8	S 2 27.8
	18	42 56.6	79 42.7	S16 00.6	92 08.4	S19 15.2	294 17.4	N22 38.5	43 10.0	S 2 27.7
	19	57 59.0	94 42.0	S15 59.6	107 08.9	S19 14.7	309 20.2	N22 38.5	58 12.2	S 2 27.6
	20	73 01.5	109 41.4	S15 58.6	122 09.3	S19 14.2	324 22.9	N22 38.6	73 14.5	S 2 27.5
	21	88 04.0	124 40.8	S15 57.7	137 09.8	S19 13.7	339 25.7	N22 38.6	88 16.7	S 2 27.4
	22	103 06.4	139 40.1	S15 56.7	152 10.2	S19 13.2	354 28.4	N22 38.6	103 19.0	S 2 27.3
	23	118 08.9	154 39.5	S15 55.7	167 10.7	S19 12.7	9 31.2	N22 38.7	118 21.2	S 2 27.2
			v -0.7	d 0.9	v 0.5	d 0.5	v 2.8	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '	STARS Name	SHA ° '	Dec ° '
31	0	176 40.0	S17 26.3	22 55.1	3.4	N26 43.1	6.1	59.8	Acamar	315 11.0	S40 12.2
	1	191 39.9	S17 25.6	37 17.6	3.5	N26 36.7	6.3	59.8	Achernar	335 19.6	S57 06.5
	2	206 39.8	S17 24.9	51 40.2	3.6	N26 30.2	6.5	59.8	Acrux	172 58.8	S63 14.4
	3	221 39.7	S17 24.2	66 02.9	3.7	N26 23.5	6.7	59.8	Adhara	255 04.8	S29 00.5
	4	236 39.6	S17 23.6	80 25.6	3.8	N26 16.6	6.9	59.8	Albireo	67 03.7	N28 00.7
S	5	251 39.5	S17 22.9	94 48.5	3.9	N26 09.6	7.1	59.8			
A									Aldebaran	290 38.4	N16 33.8
T	6	266 39.4	S17 22.2	109 11.4	3.9	N26 02.4	7.2	59.8	Alioth	166 11.8	N55 48.8
U	7	281 39.3	S17 21.5	123 34.5	4.0	N25 55.0	7.4	59.7	Alkaid	152 51.1	N49 10.6
R	8	296 39.3	S17 20.8	137 57.6	4.1	N25 47.4	7.6	59.7	Al Na-ir	27 32.2	S46 50.2
D	9	311 39.2	S17 20.1	152 20.9	4.2	N25 39.6	7.8	59.7	Alnilam	275 36.6	S 1 11.1
A	10	326 39.1	S17 19.4	166 44.2	4.3	N25 31.7	7.9	59.7			
Y	11	341 39.0	S17 18.7	181 07.6	4.4	N25 23.6	8.1	59.7	Alphard	217 46.5	S 8 46.4
									Alphecca	126 03.1	N26 37.3
	12	356 38.9	S17 18.0	195 31.2	4.5	N25 15.3	8.3	59.7	Alpheratz	357 34.1	N29 14.2
	13	11 38.8	S17 17.3	209 54.8	4.6	N25 06.9	8.4	59.7	Altair	61 59.4	N 8 56.1
	14	26 38.7	S17 16.5	224 18.6	4.8	N24 58.3	8.6	59.7	Ankaa	353 06.5	S42 10.1
	15	41 38.6	S17 15.8	238 42.4	4.9	N24 49.5	8.8	59.6			
	16	56 38.5	S17 15.1	253 06.4	5.0	N24 40.6	8.9	59.6	Antares	112 14.9	S26 29.4
	17	71 38.5	S17 14.4	267 30.5	5.1	N24 31.5	9.1	59.6	Arcturus	145 47.0	N19 02.5
									Atria	107 08.7	S69 04.3
	18	86 38.4	S17 13.7	281 54.7	5.2	N24 22.3	9.2	59.6	Avior	234 13.7	S59 35.6
	19	101 38.3	S17 13.0	296 19.0	5.3	N24 12.9	9.4	59.6	Bellatrix	278 21.7	N 6 22.4
	20	116 38.2	S17 12.3	310 43.4	5.4	N24 03.3	9.5	59.6			
	21	131 38.1	S17 11.6	325 07.9	5.5	N23 53.6	9.7	59.6	Betelgeuse	270 50.9	N 7 24.7
	22	146 38.0	S17 10.9	339 32.6	5.6	N23 43.8	9.9	59.5	Canopus	263 51.5	S52 42.7
	23	161 37.9	S17 10.2	353 57.3	5.8	N23 33.8	10.0	59.5	Capella	280 20.3	N46 01.6
1	0	176 37.8	S17 09.5	8 22.2	5.9	N23 23.6	10.1	59.5	Castor	245 55.5	N31 49.9
	1	191 37.8	S17 08.8	22 47.2	6.0	N23 13.4	10.3	59.5	Deneb	49 25.7	N45 22.3
	2	206 37.7	S17 08.1	37 12.3	6.1	N23 02.9	10.4	59.5			
	3	221 37.6	S17 07.4	51 37.5	6.2	N22 52.4	10.6	59.4	Denebola	182 23.8	N14 25.4
	4	236 37.5	S17 06.7	66 02.9	6.3	N22 41.6	10.7	59.4	Diphda	348 46.6	S17 50.7
S	5	251 37.4	S17 05.9	80 28.3	6.5	N22 30.8	10.8	59.4	Dubhe	193 39.3	N61 36.3
U									Elnath	278 00.5	N28 37.8
N	6	266 37.3	S17 05.2	94 53.9	6.6	N22 19.8	11.0	59.4	Eltanin	90 42.2	N51 28.8
D	7	281 37.3	S17 04.5	109 19.6	6.7	N22 08.7	11.1	59.4			
A	8	296 37.2	S17 03.8	123 45.5	6.8	N21 57.5	11.2	59.4	Enif	33 38.2	N 9 59.6
Y	9	311 37.1	S17 03.1	138 11.4	6.9	N21 46.1	11.4	59.3	Fomalhaut	15 13.8	S29 29.2
	10	326 37.0	S17 02.4	152 37.5	7.1	N21 34.6	11.5	59.3	Gacrux	171 50.4	S57 15.4
	11	341 36.9	S17 01.7	167 03.7	7.2	N21 23.0	11.6	59.3	Gienah	175 42.5	S17 41.2
									Hadar	148 34.7	S60 29.7
	12	356 36.9	S17 01.0	181 30.0	7.3	N21 11.3	11.7	59.3			
	13	11 36.8	S17 00.2	195 56.4	7.4	N20 59.4	11.9	59.3	Hamal	327 50.3	N23 35.3
	14	26 36.7	S16 59.5	210 22.9	7.6	N20 47.4	12.0	59.2	Kaus Austr.	83 31.7	S34 22.4
	15	41 36.6	S16 58.8	224 49.6	7.7	N20 35.3	12.1	59.2	Kochab	137 20.0	N74 02.5
	16	56 36.5	S16 58.1	239 16.4	7.8	N20 23.1	12.2	59.2	Markab	13 29.3	N15 20.7
	17	71 36.5	S16 57.4	253 43.3	7.9	N20 10.8	12.3	59.2	Menkar	314 05.2	N 4 11.5
									Menkent	147 56.5	S36 29.9
	18	86 36.4	S16 56.7	268 10.4	8.0	N19 58.4	12.4	59.1	Miaplacidus	221 37.1	S69 49.4
	19	101 36.3	S16 55.9	282 37.5	8.2	N19 45.8	12.5	59.1	Mirfak	308 26.9	N49 57.5
	20	116 36.2	S16 55.2	297 04.8	8.3	N19 33.2	12.6	59.1	Nunki	75 47.0	S26 15.9
	21	131 36.1	S16 54.5	311 32.2	8.4	N19 20.5	12.7	59.1	Peacock	53 04.8	S56 39.1
	22	146 36.1	S16 53.8	325 59.7	8.5	N19 07.6	12.8	59.0			
	23	161 36.0	S16 53.1	340 27.3	8.6	N18 54.7	12.9	59.0	Polaris	316 10.1	N89 22.2
2	0	176 35.9	S16 52.3	354 55.1	8.8	N18 41.6	13.0	59.0	Pollux	243 15.8	N27 57.7
	1	191 35.8	S16 51.6	9 23.0	8.9	N18 28.5	13.1	59.0	Procyon	244 49.6	N 5 09.4
	2	206 35.8	S16 50.9	23 51.0	9.0	N18 15.3	13.2	58.9	Rasalhague	95 58.0	N12 32.3
	3	221 35.7	S16 50.2	38 19.1	9.1	N18 01.9	13.3	58.9	Regulus	207 33.2	N11 50.3
	4	236 35.6	S16 49.5	52 47.3	9.2	N17 48.5	13.4	58.9			
M	5	251 35.5	S16 48.7	67 15.6	9.3	N17 35.0	13.5	58.9	Rigel	281 02.8	S 8 10.4
O									Rigil Kent	139 39.2	S60 56.4
N	6	266 35.5	S16 48.0	81 44.1	9.5	N17 21.5	13.6	58.8	Sabik	102 02.0	S15 45.5
D	7	281 35.4	S16 47.3	96 12.7	9.6	N17 07.8	13.7	58.8	Schedar	349 30.3	N56 41.0
A	8	296 35.3	S16 46.6	110 41.3	9.7	N16 54.0	13.7	58.8	Shaula	96 09.4	S37 07.3
Y	9	311 35.2	S16 45.8	125 10.1	9.8	N16 40.2	13.8	58.8	Sirius	258 25.1	S16 45.2
	10	326 35.2	S16 45.1	139 39.0	9.9	N16 26.3	13.9	58.7	Spica	158 21.2	S11 17.9
	11	341 35.1	S16 44.4	154 08.1	10.0	N16 12.3	14.0	58.7	Suhail	222 45.2	S43 32.3
									Vega	80 33.0	N38 48.2
	12	356 35.0	S16 43.7	168 37.2	10.1	N15 58.3	14.1	58.7	Zuben-ubi	136 55.9	S16 09.1
	13	11 34.9	S16 42.9	183 06.4	10.2	N15 44.1	14.1	58.7			
	14	26 34.9	S16 42.2	197 35.8	10.3	N15 29.9	14.2	58.6			
	15	41 34.8	S16 41.5	212 05.2	10.5	N15 15.7	14.3	58.6			
	16	56 34.7	S16 40.7	226 34.8	10.6	N15 01.3	14.3	58.6			
	17	71 34.7	S16 40.0	241 04.5	10.7	N14 46.9	14.4	58.5			
	18	86 34.6	S16 39.3	255 34.3	10.8	N14 32.5	14.5	58.5			
	19	101 34.5	S16 38.6	270 04.1	10.9	N14 18.0	14.5	58.5			
	20	116 34.4	S16 37.8	284 34.1	11.0	N14 03.4	14.6	58.5			
	21	131 34.4	S16 37.1	299 04.2	11.1	N13 48.8	14.6	58.4			
	22	146 34.3	S16 36.4	313 34.4	11.2	N13 34.1	14.7	58.4			
	23	161 34.2	S16 35.6	328 04.7	11.3	N13 19.3	14.7	58.4			
		S.D. 16.2	d 0.7	S.D.	16.3		16.1	16.0			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
3	0	133 11.3	169 38.9	S15 54.8	182 11.2	S19 12.2	24 33.9	N22 38.7	133 23.4	S 2 27.1
	1	148 13.8	184 38.2	S15 53.8	197 11.6	S19 11.7	39 36.7	N22 38.8	148 25.7	S 2 27.0
	2	163 16.3	199 37.6	S15 52.8	212 12.1	S19 11.2	54 39.4	N22 38.8	163 27.9	S 2 26.9
	3	178 18.7	214 37.0	S15 51.8	227 12.5	S19 10.7	69 42.2	N22 38.8	178 30.1	S 2 26.8
	4	193 21.2	229 36.3	S15 50.9	242 13.0	S19 10.2	84 44.9	N22 38.9	193 32.4	S 2 26.7
T	5	208 23.7	244 35.7	S15 49.9	257 13.5	S19 09.7	99 47.7	N22 38.9	208 34.6	S 2 26.6
U										
E	6	223 26.1	259 35.1	S15 48.9	272 13.9	S19 09.2	114 50.4	N22 39.0	223 36.8	S 2 26.5
S	7	238 28.6	274 34.4	S15 47.9	287 14.4	S19 08.7	129 53.2	N22 39.0	238 39.1	S 2 26.4
D	8	253 31.1	289 33.8	S15 47.0	302 14.8	S19 08.2	144 55.9	N22 39.0	253 41.3	S 2 26.3
A	9	268 33.5	304 33.2	S15 46.0	317 15.3	S19 07.7	159 58.7	N22 39.1	268 43.5	S 2 26.1
Y	10	283 36.0	319 32.5	S15 45.0	332 15.8	S19 07.2	175 01.4	N22 39.1	283 45.8	S 2 26.0
	11	298 38.4	334 31.9	S15 44.0	347 16.2	S19 06.7	190 04.2	N22 39.1	298 48.0	S 2 25.9
	12	313 40.9	349 31.3	S15 43.0	2 16.7	S19 06.2	205 06.9	N22 39.2	313 50.3	S 2 25.8
	13	328 43.4	4 30.7	S15 42.0	17 17.2	S19 05.6	220 09.7	N22 39.2	328 52.5	S 2 25.7
	14	343 45.8	19 30.0	S15 41.1	32 17.6	S19 05.1	235 12.4	N22 39.3	343 54.7	S 2 25.6
	15	358 48.3	34 29.4	S15 40.1	47 18.1	S19 04.6	250 15.2	N22 39.3	358 57.0	S 2 25.5
	16	13 50.8	49 28.8	S15 39.1	62 18.5	S19 04.1	265 17.9	N22 39.3	13 59.2	S 2 25.4
	17	28 53.2	64 28.2	S15 38.1	77 19.0	S19 03.6	280 20.7	N22 39.4	29 01.4	S 2 25.3
	18	43 55.7	79 27.5	S15 37.1	92 19.5	S19 03.1	295 23.4	N22 39.4	44 03.7	S 2 25.2
	19	58 58.2	94 26.9	S15 36.1	107 19.9	S19 02.6	310 26.2	N22 39.4	59 05.9	S 2 25.1
	20	74 00.6	109 26.3	S15 35.1	122 20.4	S19 02.1	325 28.9	N22 39.5	74 08.1	S 2 25.0
	21	89 03.1	124 25.7	S15 34.2	137 20.9	S19 01.6	340 31.7	N22 39.5	89 10.4	S 2 24.9
	22	104 05.6	139 25.0	S15 33.2	152 21.3	S19 01.1	355 34.4	N22 39.6	104 12.6	S 2 24.8
	23	119 08.0	154 24.4	S15 32.2	167 21.8	S19 00.5	10 37.1	N22 39.6	119 14.8	S 2 24.7
4	0	134 10.5	169 23.8	S15 31.2	182 22.2	S19 00.0	25 39.9	N22 39.6	134 17.1	S 2 24.6
	1	149 12.9	184 23.2	S15 30.2	197 22.7	S18 59.5	40 42.6	N22 39.7	149 19.3	S 2 24.5
	2	164 15.4	199 22.5	S15 29.2	212 23.2	S18 59.0	55 45.4	N22 39.7	164 21.5	S 2 24.4
	3	179 17.9	214 21.9	S15 28.2	227 23.6	S18 58.5	70 48.1	N22 39.7	179 23.8	S 2 24.3
	4	194 20.3	229 21.3	S15 27.2	242 24.1	S18 58.0	85 50.9	N22 39.8	194 26.0	S 2 24.1
W	5	209 22.8	244 20.7	S15 26.2	257 24.6	S18 57.5	100 53.6	N22 39.8	209 28.2	S 2 24.0
E										
D	6	224 25.3	259 20.1	S15 25.2	272 25.0	S18 57.0	115 56.4	N22 39.9	224 30.5	S 2 23.9
N	7	239 27.7	274 19.4	S15 24.2	287 25.5	S18 56.4	130 59.1	N22 39.9	239 32.7	S 2 23.8
E	8	254 30.2	289 18.8	S15 23.2	302 26.0	S18 55.9	146 01.8	N22 39.9	254 34.9	S 2 23.7
S	9	269 32.7	304 18.2	S15 22.2	317 26.4	S18 55.4	161 04.6	N22 40.0	269 37.2	S 2 23.6
D	10	284 35.1	319 17.6	S15 21.2	332 26.9	S18 54.9	176 07.3	N22 40.0	284 39.4	S 2 23.5
A	11	299 37.6	334 17.0	S15 20.2	347 27.4	S18 54.4	191 10.1	N22 40.0	299 41.6	S 2 23.4
Y										
	12	314 40.1	349 16.4	S15 19.2	2 27.8	S18 53.9	206 12.8	N22 40.1	314 43.9	S 2 23.3
	13	329 42.5	4 15.7	S15 18.2	17 28.3	S18 53.4	221 15.6	N22 40.1	329 46.1	S 2 23.2
	14	344 45.0	19 15.1	S15 17.2	32 28.8	S18 52.8	236 18.3	N22 40.2	344 48.3	S 2 23.1
	15	359 47.4	34 14.5	S15 16.2	47 29.2	S18 52.3	251 21.1	N22 40.2	359 50.6	S 2 23.0
	16	14 49.9	49 13.9	S15 15.2	62 29.7	S18 51.8	266 23.8	N22 40.2	14 52.8	S 2 22.9
	17	29 52.4	64 13.3	S15 14.2	77 30.2	S18 51.3	281 26.5	N22 40.3	29 55.0	S 2 22.8
	18	44 54.8	79 12.7	S15 13.2	92 30.6	S18 50.8	296 29.3	N22 40.3	44 57.3	S 2 22.7
	19	59 57.3	94 12.1	S15 12.2	107 31.1	S18 50.2	311 32.0	N22 40.3	59 59.5	S 2 22.6
	20	74 59.8	109 11.4	S15 11.2	122 31.6	S18 49.7	326 34.8	N22 40.4	75 01.7	S 2 22.5
	21	90 02.2	124 10.8	S15 10.2	137 32.0	S18 49.2	341 37.5	N22 40.4	90 03.9	S 2 22.3
	22	105 04.7	139 10.2	S15 09.2	152 32.5	S18 48.7	356 40.2	N22 40.4	105 06.2	S 2 22.2
	23	120 07.2	154 09.6	S15 08.2	167 33.0	S18 48.2	11 43.0	N22 40.5	120 08.4	S 2 22.1
5	0	135 09.6	169 09.0	S15 07.2	182 33.4	S18 47.6	26 45.7	N22 40.5	135 10.6	S 2 22.0
	1	150 12.1	184 08.4	S15 06.2	197 33.9	S18 47.1	41 48.5	N22 40.6	150 12.9	S 2 21.9
	2	165 14.5	199 07.8	S15 05.2	212 34.4	S18 46.6	56 51.2	N22 40.6	165 15.1	S 2 21.8
	3	180 17.0	214 07.2	S15 04.2	227 34.8	S18 46.1	71 53.9	N22 40.6	180 17.3	S 2 21.7
	4	195 19.5	229 06.6	S15 03.2	242 35.3	S18 45.6	86 56.7	N22 40.7	195 19.6	S 2 21.6
T	5	210 21.9	244 06.0	S15 02.1	257 35.8	S18 45.0	101 59.4	N22 40.7	210 21.8	S 2 21.5
H										
U	6	225 24.4	259 05.4	S15 01.1	272 36.3	S18 44.5	117 02.2	N22 40.7	225 24.0	S 2 21.4
R	7	240 26.9	274 04.8	S15 00.1	287 36.7	S18 44.0	132 04.9	N22 40.8	240 26.3	S 2 21.3
S	8	255 29.3	289 04.1	S14 59.1	302 37.2	S18 43.5	147 07.6	N22 40.8	255 28.5	S 2 21.2
D	9	270 31.8	304 03.5	S14 58.1	317 37.7	S18 42.9	162 10.4	N22 40.8	270 30.7	S 2 21.1
A	10	285 34.3	319 02.9	S14 57.1	332 38.1	S18 42.4	177 13.1	N22 40.9	285 32.9	S 2 21.0
Y	11	300 36.7	334 02.3	S14 56.1	347 38.6	S18 41.9	192 15.8	N22 40.9	300 35.2	S 2 20.9
	12	315 39.2	349 01.7	S14 55.0	2 39.1	S18 41.4	207 18.6	N22 41.0	315 37.4	S 2 20.8
	13	330 41.7	4 01.1	S14 54.0	17 39.5	S18 40.8	222 21.3	N22 41.0	330 39.6	S 2 20.6
	14	345 44.1	19 00.5	S14 53.0	32 40.0	S18 40.3	237 24.1	N22 41.0	345 41.9	S 2 20.5
	15	0 46.6	33 59.9	S14 52.0	47 40.5	S18 39.8	252 26.8	N22 41.1	0 44.1	S 2 20.4
	16	15 49.0	48 59.3	S14 51.0	62 41.0	S18 39.3	267 29.5	N22 41.1	15 46.3	S 2 20.3
	17	30 51.5	63 58.7	S14 49.9	77 41.4	S18 38.7	282 32.3	N22 41.1	30 48.6	S 2 20.2
	18	45 54.0	78 58.1	S14 48.9	92 41.9	S18 38.2	297 35.0	N22 41.2	45 50.8	S 2 20.1
	19	60 56.4	93 57.5	S14 47.9	107 42.4	S18 37.7	312 37.7	N22 41.2	60 53.0	S 2 20.0
	20	75 58.9	108 56.9	S14 46.9	122 42.8	S18 37.2	327 40.5	N22 41.2	75 55.3	S 2 19.9
	21	91 01.4	123 56.3	S14 45.9	137 43.3	S18 36.6	342 43.2	N22 41.3	90 57.5	S 2 19.8
	22	106 03.8	138 55.7	S14 44.8	152 43.8	S18 36.1	357 45.9	N22 41.3	105 59.7	S 2 19.7
	23	121 06.3	153 55.1	S14 43.8	167 44.3	S18 35.6	12 48.7	N22 41.3	121 01.9	S 2 19.6
			v -0.6	d 1.0	v 0.5	d 0.5	v 2.7	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
3	0	176 34.2	S16 34.9	342 35.1	11.4	N13 04.5	14.8	58.3
	1	191 34.1	S16 34.2	357 05.6	11.5	N12 49.7	14.8	58.3
	2	206 34.0	S16 33.4	11 36.1	11.6	N12 34.8	14.9	58.3
	3	221 34.0	S16 32.7	26 06.8	11.7	N12 19.8	14.9	58.3
	4	236 33.9	S16 32.0	40 37.6	11.8	N12 04.8	15.0	58.2
T	5	251 33.8	S16 31.2	55 08.5	11.9	N11 49.8	15.0	58.2
U								
E	6	266 33.8	S16 30.5	69 39.4	12.0	N11 34.7	15.1	58.2
S	7	281 33.7	S16 29.8	84 10.5	12.1	N11 19.6	15.1	58.1
D	8	296 33.6	S16 29.0	98 41.6	12.1	N11 04.5	15.2	58.1
A	9	311 33.6	S16 28.3	113 12.8	12.2	N10 49.3	15.2	58.1
Y	10	326 33.5	S16 27.5	127 44.2	12.3	N10 34.1	15.2	58.0
	11	341 33.4	S16 26.8	142 15.6	12.4	N10 18.8	15.3	58.0
	12	356 33.4	S16 26.1	156 47.1	12.5	N10 03.5	15.3	58.0
	13	11 33.3	S16 25.3	171 18.6	12.6	N 9 48.2	15.3	57.9
	14	26 33.2	S16 24.6	185 50.3	12.7	N 9 32.8	15.3	57.9
	15	41 33.2	S16 23.9	200 22.0	12.7	N 9 17.5	15.4	57.9
	16	56 33.1	S16 23.1	214 53.8	12.8	N 9 02.1	15.4	57.8
	17	71 33.1	S16 22.4	229 25.7	12.9	N 8 46.6	15.4	57.8
	18	86 33.0	S16 21.6	243 57.7	13.0	N 8 31.2	15.5	57.8
	19	101 32.9	S16 20.9	258 29.8	13.1	N 8 15.7	15.5	57.8
	20	116 32.9	S16 20.1	273 01.9	13.1	N 8 00.2	15.5	57.7
	21	131 32.8	S16 19.4	287 34.1	13.2	N 7 44.7	15.5	57.7
	22	146 32.8	S16 18.7	302 06.4	13.3	N 7 29.2	15.5	57.7
	23	161 32.7	S16 17.9	316 38.7	13.3	N 7 13.6	15.5	57.6
4	0	176 32.6	S16 17.2	331 11.1	13.4	N 6 58.1	15.6	57.6
	1	191 32.6	S16 16.4	345 43.6	13.5	N 6 42.5	15.6	57.6
	2	206 32.5	S16 15.7	0 16.2	13.6	N 6 26.9	15.6	57.5
	3	221 32.5	S16 14.9	14 48.8	13.6	N 6 11.3	15.6	57.5
	4	236 32.4	S16 14.2	29 21.5	13.7	N 5 55.7	15.6	57.5
W	5	251 32.3	S16 13.4	43 54.2	13.8	N 5 40.1	15.6	57.4
E								
D	6	266 32.3	S16 12.7	58 27.1	13.8	N 5 24.5	15.6	57.4
N	7	281 32.2	S16 11.9	72 59.9	13.9	N 5 08.9	15.6	57.4
E	8	296 32.2	S16 11.2	87 32.9	13.9	N 4 53.2	15.6	57.3
S	9	311 32.1	S16 10.4	102 05.9	14.0	N 4 37.6	15.6	57.3
D	10	326 32.0	S16 09.7	116 38.9	14.1	N 4 22.0	15.6	57.3
A	11	341 32.0	S16 08.9	131 12.0	14.1	N 4 06.4	15.6	57.2
Y								
	12	356 31.9	S16 08.2	145 45.2	14.2	N 3 50.7	15.6	57.2
	13	11 31.9	S16 07.4	160 18.4	14.2	N 3 35.1	15.6	57.2
	14	26 31.8	S16 06.7	174 51.7	14.3	N 3 19.5	15.6	57.1
	15	41 31.8	S16 05.9	189 25.0	14.3	N 3 03.9	15.6	57.1
	16	56 31.7	S16 05.2	203 58.4	14.4	N 2 48.2	15.6	57.1
	17	71 31.7	S16 04.4	218 31.8	14.4	N 2 32.6	15.6	57.0
	18	86 31.6	S16 03.7	233 05.2	14.5	N 2 17.0	15.6	57.0
	19	101 31.6	S16 02.9	247 38.8	14.5	N 2 01.5	15.6	57.0
	20	116 31.5	S16 02.2	262 12.3	14.6	N 1 45.9	15.6	56.9
	21	131 31.4	S16 01.4	276 45.9	14.6	N 1 30.3	15.6	56.9
	22	146 31.4	S16 00.7	291 19.6	14.6	N 1 14.8	15.6	56.9
	23	161 31.3	S15 59.9	305 53.2	14.7	N 0 59.2	15.5	56.8
5	0	176 31.3	S15 59.2	320 27.0	14.7	N 0 43.7	15.5	56.8
	1	191 31.2	S15 58.4	335 00.7	14.8	N 0 28.2	15.5	56.8
	2	206 31.2	S15 57.6	349 34.5	14.8	N 0 12.7	15.5	56.7
	3	221 31.1	S15 56.9	4 08.4	14.8	S 0 02.8	15.5	56.7
	4	236 31.1	S15 56.1	18 42.2	14.9	S 0 18.3	15.5	56.7
T	5	251 31.0	S15 55.4	33 16.1	14.9	S 0 33.7	15.4	56.6
H								
U	6	266 31.0	S15 54.6	47 50.1	14.9	S 0 49.1	15.4	56.6
R	7	281 30.9	S15 53.9	62 24.1	15.0	S 1 04.5	15.4	56.6
S	8	296 30.9	S15 53.1	76 58.0	15.0	S 1 19.9	15.4	56.5
D	9	311 30.8	S15 52.3	91 32.1	15.0	S 1 35.2	15.3	56.5
A	10	326 30.8	S15 51.6	106 06.1	15.1	S 1 50.5	15.3	56.5
Y	11	341 30.7	S15 50.8	120 40.2	15.1	S 2 05.8	15.3	56.5
	12	356 30.7	S15 50.0	135 14.3	15.1	S 2 21.1	15.3	56.4
	13	11 30.7	S15 49.3	149 48.4	15.1	S 2 36.3	15.2	56.4
	14	26 30.6	S15 48.5	164 22.6	15.2	S 2 51.6	15.2	56.4
	15	41 30.6	S15 47.8	178 56.8	15.2	S 3 06.7	15.2	56.3
	16	56 30.5	S15 47.0	193 31.0	15.2	S 3 21.9	15.2	56.3
	17	71 30.5	S15 46.2	208 05.2	15.2	S 3 37.0	15.1	56.3
	18	86 30.4	S15 45.5	222 39.4	15.2	S 3 52.1	15.1	56.2
	19	101 30.4	S15 44.7	237 13.7	15.2	S 4 07.2	15.1	56.2
	20	116 30.3	S15 43.9	251 47.9	15.3	S 4 22.2	15.0	56.2
	21	131 30.3	S15 43.2	266 22.2	15.3	S 4 37.2	15.0	56.1
	22	146 30.2	S15 42.4	280 56.5	15.3	S 4 52.1	14.9	56.1
	23	161 30.2	S15 41.6	295 30.8	15.3	S 5 07.0	14.9	56.1
		S.D. 16.2	d 0.8	S.D.	15.8	15.6	15.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.0	S40 12.2
Achernar	335 19.6	S57 06.5
Acrux	172 58.7	S63 14.4
Adhara	255 04.8	S29 00.6
Albireo	67 03.7	N28 00.7
Aldebaran	290 38.4	N16 33.8
Alioth	166 11.8	N55 48.8
Alkaid	152 51.1	N49 10.6
Al Na-ir	27 32.1	S46 50.2
Alnilam	275 36.6	S 1 11.1
Alphard	217 46.5	S 8 46.4
Alphecca	126 03.0	N26 37.3
Alpheratz	357 34.1	N29 14.2
Altair	61 59.4	N 8 56.1
Ankaa	353 06.5	S42 10.1
Antares	112 14.9	S26 29.4
Arcturus	145 47.0	N19 02.5
Atria	107 08.7	S69 04.3
Avior	234 13.7	S59 35.6
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.5	S52 42.7
Capella	280 20.3	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.7	N45 22.3
Denebola	182 23.8	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.2	N61 36.3
Elnath	278 00.5	N28 37.8
Eltanin	90 42.2	N51 28.8
Enif	33 38.2	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.4	S57 15.4
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 29.8
Hamal	327 50.3	N23 35.3
Kaus Austr.	83 31.6	S34 22.4
Kochab	137 19.9	N74 02.4
Markab	13 29.3	N15 20.7
Menkar	314 05.2	N 4 11.5
Menkent	147 56.5	S36 29.9
Miaplacidus	221 37.1	S69 49.4
Mirfak	308 26.9	N49 57.5
Nunki	75 46.9	S26 15.9
Peacock	53 04.8	S56 39.1
Polaris	316 11.4	N89 22.2
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 58.0	N12 32.3
Regulus	207 33.1	N11 50.2
Rigel	281 02.8	S 8 10.4
Rigil Kent	139 39.2	S60 56.4
Sabik	102 02.0	S15 45.5
Schedar	349 30.4	N56 41.0
Shaula	96 09.4	S37 07.3
Sirius	258 25.2	S16 45.2
Spica	158 21.2	S11 17.9
Suhail	222 45.2	S43 32.3
Vega	80 33.0	N38 48.2
Zuben-ubi	136 55.9	S16 09.1

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
6	0	136 08.8	168 54.5	S14 42.8	182 44.7	S18 35.1	27 51.4	N22 41.4	136 04.2	S 2 19.5
	1	151 11.2	183 53.9	S14 41.8	197 45.2	S18 34.5	42 54.1	N22 41.4	151 06.4	S 2 19.4
	2	166 13.7	198 53.3	S14 40.7	212 45.7	S18 34.0	57 56.9	N22 41.5	166 08.6	S 2 19.3
	3	181 16.1	213 52.7	S14 39.7	227 46.1	S18 33.5	72 59.6	N22 41.5	181 10.9	S 2 19.1
	4	196 18.6	228 52.1	S14 38.7	242 46.6	S18 32.9	88 02.3	N22 41.5	196 13.1	S 2 19.0
F	5	211 21.1	243 51.5	S14 37.6	257 47.1	S18 32.4	103 05.1	N22 41.6	211 15.3	S 2 18.9
R										
I	6	226 23.5	258 51.0	S14 36.6	272 47.6	S18 31.9	118 07.8	N22 41.6	226 17.5	S 2 18.8
D	7	241 26.0	273 50.4	S14 35.6	287 48.0	S18 31.3	133 10.5	N22 41.6	241 19.8	S 2 18.7
A	8	256 28.5	288 49.8	S14 34.6	302 48.5	S18 30.8	148 13.3	N22 41.7	256 22.0	S 2 18.6
Y	9	271 30.9	303 49.2	S14 33.5	317 49.0	S18 30.3	163 16.0	N22 41.7	271 24.2	S 2 18.5
	10	286 33.4	318 48.6	S14 32.5	332 49.5	S18 29.7	178 18.7	N22 41.7	286 26.5	S 2 18.4
	11	301 35.9	333 48.0	S14 31.5	347 49.9	S18 29.2	193 21.5	N22 41.8	301 28.7	S 2 18.3
	12	316 38.3	348 47.4	S14 30.4	2 50.4	S18 28.7	208 24.2	N22 41.8	316 30.9	S 2 18.2
	13	331 40.8	3 46.8	S14 29.4	17 50.9	S18 28.1	223 26.9	N22 41.8	331 33.1	S 2 18.1
	14	346 43.3	18 46.2	S14 28.4	32 51.4	S18 27.6	238 29.6	N22 41.9	346 35.4	S 2 18.0
	15	1 45.7	33 45.6	S14 27.3	47 51.8	S18 27.1	253 32.4	N22 41.9	1 37.6	S 2 17.9
	16	16 48.2	48 45.0	S14 26.3	62 52.3	S18 26.5	268 35.1	N22 41.9	16 39.8	S 2 17.8
	17	31 50.6	63 44.5	S14 25.2	77 52.8	S18 26.0	283 37.8	N22 42.0	31 42.1	S 2 17.6
	18	46 53.1	78 43.9	S14 24.2	92 53.3	S18 25.5	298 40.6	N22 42.0	46 44.3	S 2 17.5
	19	61 55.6	93 43.3	S14 23.2	107 53.7	S18 24.9	313 43.3	N22 42.0	61 46.5	S 2 17.4
	20	76 58.0	108 42.7	S14 22.1	122 54.2	S18 24.4	328 46.0	N22 42.1	76 48.7	S 2 17.3
	21	92 00.5	123 42.1	S14 21.1	137 54.7	S18 23.9	343 48.7	N22 42.1	91 51.0	S 2 17.2
	22	107 03.0	138 41.5	S14 20.0	152 55.2	S18 23.3	358 51.5	N22 42.1	106 53.2	S 2 17.1
	23	122 05.4	153 40.9	S14 19.0	167 55.6	S18 22.8	13 54.2	N22 42.2	121 55.4	S 2 17.0
7	0	137 07.9	168 40.3	S14 18.0	182 56.1	S18 22.3	28 56.9	N22 42.2	136 57.6	S 2 16.9
	1	152 10.4	183 39.8	S14 16.9	197 56.6	S18 21.7	43 59.7	N22 42.3	151 59.9	S 2 16.8
	2	167 12.8	198 39.2	S14 15.9	212 57.1	S18 21.2	59 02.4	N22 42.3	167 02.1	S 2 16.7
	3	182 15.3	213 38.6	S14 14.8	227 57.5	S18 20.6	74 05.1	N22 42.3	182 04.3	S 2 16.6
	4	197 17.8	228 38.0	S14 13.8	242 58.0	S18 20.1	89 07.8	N22 42.4	197 06.5	S 2 16.5
S	5	212 20.2	243 37.4	S14 12.7	257 58.5	S18 19.6	104 10.6	N22 42.4	212 08.8	S 2 16.3
A										
T	6	227 22.7	258 36.8	S14 11.7	272 59.0	S18 19.0	119 13.3	N22 42.4	227 11.0	S 2 16.2
U	7	242 25.1	273 36.3	S14 10.7	287 59.5	S18 18.5	134 16.0	N22 42.5	242 13.2	S 2 16.1
R	8	257 27.6	288 35.7	S14 09.6	302 59.9	S18 17.9	149 18.7	N22 42.5	257 15.5	S 2 16.0
D	9	272 30.1	303 35.1	S14 08.6	318 00.4	S18 17.4	164 21.5	N22 42.5	272 17.7	S 2 15.9
A	10	287 32.5	318 34.5	S14 07.5	333 00.9	S18 16.9	179 24.2	N22 42.6	287 19.9	S 2 15.8
Y	11	302 35.0	333 33.9	S14 06.5	348 01.4	S18 16.3	194 26.9	N22 42.6	302 22.1	S 2 15.7
	12	317 37.5	348 33.4	S14 05.4	3 01.8	S18 15.8	209 29.6	N22 42.6	317 24.4	S 2 15.6
	13	332 39.9	3 32.8	S14 04.4	18 02.3	S18 15.2	224 32.4	N22 42.7	332 26.6	S 2 15.5
	14	347 42.4	18 32.2	S14 03.3	33 02.8	S18 14.7	239 35.1	N22 42.7	347 28.8	S 2 15.4
	15	2 44.9	33 31.6	S14 02.3	48 03.3	S18 14.2	254 37.8	N22 42.7	2 31.0	S 2 15.3
	16	17 47.3	48 31.1	S14 01.2	63 03.8	S18 13.6	269 40.5	N22 42.8	17 33.3	S 2 15.2
	17	32 49.8	63 30.5	S14 00.2	78 04.2	S18 13.1	284 43.3	N22 42.8	32 35.5	S 2 15.0
	18	47 52.2	78 29.9	S13 59.1	93 04.7	S18 12.5	299 46.0	N22 42.8	47 37.7	S 2 14.9
	19	62 54.7	93 29.3	S13 58.0	108 05.2	S18 12.0	314 48.7	N22 42.9	62 39.9	S 2 14.8
	20	77 57.2	108 28.8	S13 57.0	123 05.7	S18 11.4	329 51.4	N22 42.9	77 42.2	S 2 14.7
	21	92 59.6	123 28.2	S13 55.9	138 06.2	S18 10.9	344 54.1	N22 42.9	92 44.4	S 2 14.6
	22	108 02.1	138 27.6	S13 54.9	153 06.6	S18 10.4	359 56.9	N22 43.0	107 46.6	S 2 14.5
	23	123 04.6	153 27.0	S13 53.8	168 07.1	S18 09.8	14 59.6	N22 43.0	122 48.8	S 2 14.4
8	0	138 07.0	168 26.5	S13 52.8	183 07.6	S18 09.3	30 02.3	N22 43.0	137 51.1	S 2 14.3
	1	153 09.5	183 25.9	S13 51.7	198 08.1	S18 08.7	45 05.0	N22 43.1	152 53.3	S 2 14.2
	2	168 12.0	198 25.3	S13 50.6	213 08.6	S18 08.2	60 07.7	N22 43.1	167 55.5	S 2 14.1
	3	183 14.4	213 24.7	S13 49.6	228 09.0	S18 07.6	75 10.5	N22 43.1	182 57.7	S 2 14.0
	4	198 16.9	228 24.2	S13 48.5	243 09.5	S18 07.1	90 13.2	N22 43.2	197 60.0	S 2 13.9
S	5	213 19.4	243 23.6	S13 47.5	258 10.0	S18 06.5	105 15.9	N22 43.2	213 02.2	S 2 13.7
U										
N	6	228 21.8	258 23.0	S13 46.4	273 10.5	S18 06.0	120 18.6	N22 43.2	228 04.4	S 2 13.6
D	7	243 24.3	273 22.5	S13 45.3	288 11.0	S18 05.4	135 21.3	N22 43.3	243 06.6	S 2 13.5
A	8	258 26.7	288 21.9	S13 44.3	303 11.4	S18 04.9	150 24.1	N22 43.3	258 08.9	S 2 13.4
Y	9	273 29.2	303 21.3	S13 43.2	318 11.9	S18 04.3	165 26.8	N22 43.3	273 11.1	S 2 13.3
	10	288 31.7	318 20.8	S13 42.1	333 12.4	S18 03.8	180 29.5	N22 43.4	288 13.3	S 2 13.2
	11	303 34.1	333 20.2	S13 41.1	348 12.9	S18 03.2	195 32.2	N22 43.4	303 15.5	S 2 13.1
	12	318 36.6	348 19.6	S13 40.0	3 13.4	S18 02.7	210 34.9	N22 43.4	318 17.8	S 2 13.0
	13	333 39.1	3 19.1	S13 39.0	18 13.9	S18 02.1	225 37.7	N22 43.5	333 20.0	S 2 12.9
	14	348 41.5	18 18.5	S13 37.9	33 14.3	S18 01.6	240 40.4	N22 43.5	348 22.2	S 2 12.8
	15	3 44.0	33 17.9	S13 36.8	48 14.8	S18 01.0	255 43.1	N22 43.5	3 24.4	S 2 12.7
	16	18 46.5	48 17.4	S13 35.7	63 15.3	S18 00.5	270 45.8	N22 43.6	18 26.7	S 2 12.5
	17	33 48.9	63 16.8	S13 34.7	78 15.8	S17 59.9	285 48.5	N22 43.6	33 28.9	S 2 12.4
	18	48 51.4	78 16.2	S13 33.6	93 16.3	S17 59.4	300 51.2	N22 43.6	48 31.1	S 2 12.3
	19	63 53.9	93 15.7	S13 32.5	108 16.8	S17 58.8	315 53.9	N22 43.7	63 33.3	S 2 12.2
	20	78 56.3	108 15.1	S13 31.5	123 17.2	S17 58.3	330 56.7	N22 43.7	78 35.5	S 2 12.1
	21	93 58.8	123 14.5	S13 30.4	138 17.7	S17 57.7	345 59.4	N22 43.7	93 37.8	S 2 12.0
	22	109 01.2	138 14.0	S13 29.3	153 18.2	S17 57.2	1 02.1	N22 43.8	108 40.0	S 2 11.9
	23	124 03.7	153 13.4	S13 28.3	168 18.7	S17 56.6	16 04.8	N22 43.8	123 42.2	S 2 11.8
			v -0.6	d 1.1	v 0.5	d 0.5	v 2.7	d 0.0	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
6 0	176 30.2	S15 40.9	310 05.1	15.3	S 5 21.9	14.9	56.0	Acamar	315 11.0	S40 12.2
1	191 30.1	S15 40.1	324 39.4	15.3	S 5 36.7	14.8	56.0	Achernar	335 19.7	S57 06.5
2	206 30.1	S15 39.3	339 13.8	15.3	S 5 51.5	14.8	56.0	Acrux	172 58.7	S63 14.5
3	221 30.0	S15 38.6	353 48.1	15.3	S 6 06.3	14.8	56.0	Adhara	255 04.8	S29 00.6
4	236 30.0	S15 37.8	8 22.4	15.3	S 6 21.0	14.7	55.9	Albireo	67 03.7	N28 00.7
F 5	251 29.9	S15 37.0	22 56.8	15.4	S 6 35.7	14.7	55.9			
R								Aldebaran	290 38.4	N16 33.8
I 6	266 29.9	S15 36.3	37 31.1	15.4	S 6 50.3	14.6	55.9	Alioth	166 11.8	N55 48.8
D 7	281 29.9	S15 35.5	52 05.5	15.4	S 7 04.9	14.6	55.8	Alkaid	152 51.1	N49 10.6
A 8	296 29.8	S15 34.7	66 39.9	15.4	S 7 19.4	14.5	55.8	Al Na-ir	27 32.2	S46 50.2
Y 9	311 29.8	S15 33.9	81 14.2	15.4	S 7 33.9	14.5	55.8	Alnilam	275 36.6	S 1 11.2
10	326 29.7	S15 33.2	95 48.6	15.4	S 7 48.4	14.5	55.8			
11	341 29.7	S15 32.4	110 22.9	15.4	S 8 02.8	14.4	55.7	Alphard	217 46.5	S 8 46.4
								Alphecca	126 03.0	N26 37.3
12	356 29.7	S15 31.6	124 57.3	15.4	S 8 17.2	14.4	55.7	Alpheratz	357 34.1	N29 14.2
13	11 29.6	S15 30.8	139 31.6	15.4	S 8 31.5	14.3	55.7	Altair	61 59.4	N 8 56.1
14	26 29.6	S15 30.1	154 06.0	15.3	S 8 45.7	14.3	55.6	Ankaa	353 06.5	S42 10.1
15	41 29.5	S15 29.3	168 40.3	15.3	S 8 59.9	14.2	55.6			
16	56 29.5	S15 28.5	183 14.7	15.3	S 9 14.1	14.2	55.6	Antares	112 14.9	S26 29.4
17	71 29.5	S15 27.7	197 49.0	15.3	S 9 28.2	14.1	55.6	Arcturus	145 47.0	N19 02.5
								Atria	107 08.6	S69 04.3
18	86 29.4	S15 27.0	212 23.3	15.3	S 9 42.3	14.1	55.5	Avior	234 13.7	S59 35.7
19	101 29.4	S15 26.2	226 57.6	15.3	S 9 56.3	14.0	55.5	Bellatrix	278 21.7	N 6 22.4
20	116 29.4	S15 25.4	241 31.9	15.3	S10 10.2	14.0	55.5			
21	131 29.3	S15 24.6	256 06.2	15.3	S10 24.1	13.9	55.5	Betelgeuse	270 50.9	N 7 24.7
22	146 29.3	S15 23.9	270 40.5	15.3	S10 38.0	13.8	55.4	Canopus	263 51.6	S52 42.7
23	161 29.2	S15 23.1	285 14.7	15.3	S10 51.8	13.8	55.4	Capella	280 20.3	N46 01.6
7 0	176 29.2	S15 22.3	299 49.0	15.2	S11 05.5	13.7	55.4	Castor	245 55.5	N31 49.9
1	191 29.2	S15 21.5	314 23.2	15.2	S11 19.2	13.7	55.4	Deneb	49 25.7	N45 22.3
2	206 29.1	S15 20.7	328 57.4	15.2	S11 32.8	13.6	55.3	Denebola	182 23.7	N14 25.4
3	221 29.1	S15 20.0	343 31.6	15.2	S11 46.3	13.6	55.3	Diphda	348 46.6	S17 50.7
4	236 29.1	S15 19.2	358 05.8	15.2	S11 59.8	13.5	55.3	Dubhe	193 39.2	N61 36.3
S 5	251 29.0	S15 18.4	12 39.9	15.2	S12 13.3	13.4	55.3	Elnath	278 00.5	N28 37.8
A								Eltanin	90 42.1	N51 28.8
T 6	266 29.0	S15 17.6	27 14.1	15.1	S12 26.6	13.4	55.2			
U 7	281 29.0	S15 16.8	41 48.2	15.1	S12 40.0	13.3	55.2	Enif	33 38.2	N 9 59.6
R 8	296 28.9	S15 16.1	56 22.3	15.1	S12 53.2	13.3	55.2	Fomalhaut	15 13.8	S29 29.2
D 9	311 28.9	S15 15.3	70 56.3	15.1	S13 06.4	13.2	55.2	Gacrux	171 50.3	S57 15.5
A 10	326 28.9	S15 14.5	85 30.4	15.0	S13 19.5	13.1	55.1	Gienah	175 42.4	S17 41.3
Y 11	341 28.8	S15 13.7	100 04.4	15.0	S13 32.6	13.1	55.1	Hadar	148 34.7	S60 29.8
12	356 28.8	S15 12.9	114 38.4	15.0	S13 45.6	13.0	55.1	Hamal	327 50.3	N23 35.3
13	11 28.8	S15 12.1	129 12.3	15.0	S13 58.5	12.9	55.1	Kaus Austr.	83 31.6	S34 22.4
14	26 28.8	S15 11.4	143 46.3	14.9	S14 11.4	12.9	55.0	Kochab	137 19.8	N74 02.4
15	41 28.7	S15 10.6	158 20.2	14.9	S14 24.2	12.8	55.0	Markab	13 29.3	N15 20.7
16	56 28.7	S15 09.8	172 54.0	14.9	S14 36.9	12.7	55.0	Menkar	314 05.2	N 4 11.5
17	71 28.7	S15 09.0	187 27.9	14.8	S14 49.5	12.7	55.0			
								Menkent	147 56.5	S36 29.9
18	86 28.6	S15 08.2	202 01.7	14.8	S15 02.1	12.6	55.0	Miaplacidus	221 37.1	S69 49.5
19	101 28.6	S15 07.4	216 35.5	14.8	S15 14.6	12.5	54.9	Mirfak	308 27.0	N49 57.5
20	116 28.6	S15 06.6	231 09.2	14.7	S15 27.1	12.4	54.9	Nunki	75 46.9	S26 15.9
21	131 28.6	S15 05.9	245 42.9	14.7	S15 39.5	12.4	54.9	Peacock	53 04.8	S56 39.1
22	146 28.5	S15 05.1	260 16.6	14.7	S15 51.8	12.3	54.9			
23	161 28.5	S15 04.3	274 50.2	14.6	S16 04.0	12.2	54.9	Polaris	316 12.6	N89 22.2
8 0	176 28.5	S15 03.5	289 23.8	14.6	S16 16.2	12.2	54.8	Pollux	243 15.8	N27 57.8
1	191 28.4	S15 02.7	303 57.4	14.6	S16 28.2	12.1	54.8	Procyon	244 49.6	N 5 09.4
2	206 28.4	S15 01.9	318 30.9	14.5	S16 40.2	12.0	54.8	Rasalhague	95 57.9	N12 32.3
3	221 28.4	S15 01.1	333 04.4	14.5	S16 52.2	11.9	54.8	Regulus	207 33.1	N11 50.2
4	236 28.4	S15 00.3	347 37.9	14.4	S17 04.0	11.9	54.8			
S 5	251 28.3	S14 59.5	2 11.3	14.4	S17 15.8	11.8	54.7	Rigel	281 02.8	S 8 10.4
U								Rigil Kent	139 39.2	S60 56.4
								Sabik	102 01.9	S15 45.5
N 6	266 28.3	S14 58.7	16 44.6	14.4	S17 27.5	11.7	54.7	Schedar	349 30.4	N56 41.0
D 7	281 28.3	S14 57.9	31 18.0	14.3	S17 39.1	11.6	54.7	Shaula	96 09.4	S37 07.3
A 8	296 28.3	S14 57.2	45 51.2	14.3	S17 50.7	11.5	54.7			
Y 9	311 28.2	S14 56.4	60 24.5	14.2	S18 02.1	11.5	54.7	Sirius	258 25.2	S16 45.2
10	326 28.2	S14 55.6	74 57.7	14.2	S18 13.5	11.4	54.7	Spica	158 21.2	S11 18.0
11	341 28.2	S14 54.8	89 30.8	14.1	S18 24.8	11.3	54.6	Suhail	222 45.2	S43 32.3
								Vega	80 32.9	N38 48.2
12	356 28.2	S14 54.0	104 03.9	14.1	S18 36.0	11.2	54.6	Zuben-ubi	136 55.9	S16 09.1
13	11 28.1	S14 53.2	118 37.0	14.1	S18 47.2	11.1	54.6			
14	26 28.1	S14 52.4	133 10.0	14.0	S18 58.2	11.1	54.6			
15	41 28.1	S14 51.6	147 43.0	14.0	S19 09.2	11.0	54.6			
16	56 28.1	S14 50.8	162 15.9	13.9	S19 20.1	10.9	54.6			
17	71 28.1	S14 50.0	176 48.8	13.9	S19 30.9	10.8	54.5			
18	86 28.0	S14 49.2	191 21.6	13.8	S19 41.6	10.7	54.5			
19	101 28.0	S14 48.4	205 54.3	13.8	S19 52.2	10.6	54.5			
20	116 28.0	S14 47.6	220 27.1	13.7	S20 02.7	10.5	54.5			
21	131 28.0	S14 46.8	234 59.7	13.7	S20 13.2	10.4	54.5			
22	146 28.0	S14 46.0	249 32.4	13.6	S20 23.5	10.4	54.5			
23	161 27.9	S14 45.2	264 04.9	13.6	S20 33.8	10.3	54.5			
	S.D. 16.2	d 0.8	S.D.	15.2	15.0	14.9				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
9	0	139 06.2	168 12.9	S13 27.2	183 19.2	S17 56.1	31 07.5	N22 43.8	138 44.4	S 2 11.7
	1	154 08.6	183 12.3	S13 26.1	198 19.7	S17 55.5	46 10.2	N22 43.9	153 46.7	S 2 11.6
	2	169 11.1	198 11.7	S13 25.0	213 20.1	S17 55.0	61 12.9	N22 43.9	168 48.9	S 2 11.5
	3	184 13.6	213 11.2	S13 24.0	228 20.6	S17 54.4	76 15.7	N22 43.9	183 51.1	S 2 11.3
	4	199 16.0	228 10.6	S13 22.9	243 21.1	S17 53.9	91 18.4	N22 43.9	198 53.3	S 2 11.2
M	5	214 18.5	243 10.1	S13 21.8	258 21.6	S17 53.3	106 21.1	N22 44.0	213 55.6	S 2 11.1
O										
N	6	229 21.0	258 09.5	S13 20.7	273 22.1	S17 52.7	121 23.8	N22 44.0	228 57.8	S 2 11.0
D	7	244 23.4	273 08.9	S13 19.7	288 22.6	S17 52.2	136 26.5	N22 44.0	244 00.0	S 2 10.9
A	8	259 25.9	288 08.4	S13 18.6	303 23.1	S17 51.6	151 29.2	N22 44.1	259 02.2	S 2 10.8
Y	9	274 28.3	303 07.8	S13 17.5	318 23.5	S17 51.1	166 31.9	N22 44.1	274 04.4	S 2 10.7
	10	289 30.8	318 07.3	S13 16.4	333 24.0	S17 50.5	181 34.6	N22 44.1	289 06.7	S 2 10.6
	11	304 33.3	333 06.7	S13 15.3	348 24.5	S17 50.0	196 37.4	N22 44.2	304 08.9	S 2 10.5
	12	319 35.7	348 06.2	S13 14.3	3 25.0	S17 49.4	211 40.1	N22 44.2	319 11.1	S 2 10.4
	13	334 38.2	3 05.6	S13 13.2	18 25.5	S17 48.8	226 42.8	N22 44.2	334 13.3	S 2 10.2
	14	349 40.7	18 05.0	S13 12.1	33 26.0	S17 48.3	241 45.5	N22 44.3	349 15.6	S 2 10.1
	15	4 43.1	33 04.5	S13 11.0	48 26.5	S17 47.7	256 48.2	N22 44.3	4 17.8	S 2 10.0
	16	19 45.6	48 03.9	S13 09.9	63 27.0	S17 47.2	271 50.9	N22 44.3	19 20.0	S 2 09.9
	17	34 48.1	63 03.4	S13 08.8	78 27.4	S17 46.6	286 53.6	N22 44.4	34 22.2	S 2 09.8
	18	49 50.5	78 02.8	S13 07.8	93 27.9	S17 46.1	301 56.3	N22 44.4	49 24.4	S 2 09.7
	19	64 53.0	93 02.3	S13 06.7	108 28.4	S17 45.5	316 59.0	N22 44.4	64 26.7	S 2 09.6
	20	79 55.5	108 01.7	S13 05.6	123 28.9	S17 44.9	332 01.7	N22 44.5	79 28.9	S 2 09.5
	21	94 57.9	123 01.2	S13 04.5	138 29.4	S17 44.4	347 04.4	N22 44.5	94 31.1	S 2 09.4
	22	110 00.4	138 00.6	S13 03.4	153 29.9	S17 43.8	2 07.2	N22 44.5	109 33.3	S 2 09.3
	23	125 02.8	153 00.1	S13 02.3	168 30.4	S17 43.2	17 09.9	N22 44.6	124 35.5	S 2 09.1
10	0	140 05.3	167 59.5	S13 01.2	183 30.9	S17 42.7	32 12.6	N22 44.6	139 37.8	S 2 09.0
	1	155 07.8	182 59.0	S13 00.1	198 31.3	S17 42.1	47 15.3	N22 44.6	154 40.0	S 2 08.9
	2	170 10.2	197 58.4	S12 59.1	213 31.8	S17 41.6	62 18.0	N22 44.6	169 42.2	S 2 08.8
	3	185 12.7	212 57.9	S12 58.0	228 32.3	S17 41.0	77 20.7	N22 44.7	184 44.4	S 2 08.7
	4	200 15.2	227 57.3	S12 56.9	243 32.8	S17 40.4	92 23.4	N22 44.7	199 46.7	S 2 08.6
T	5	215 17.6	242 56.8	S12 55.8	258 33.3	S17 39.9	107 26.1	N22 44.7	214 48.9	S 2 08.5
U										
E	6	230 20.1	257 56.2	S12 54.7	273 33.8	S17 39.3	122 28.8	N22 44.8	229 51.1	S 2 08.4
S	7	245 22.6	272 55.7	S12 53.6	288 34.3	S17 38.7	137 31.5	N22 44.8	244 53.3	S 2 08.3
D	8	260 25.0	287 55.1	S12 52.5	303 34.8	S17 38.2	152 34.2	N22 44.8	259 55.5	S 2 08.2
A	9	275 27.5	302 54.6	S12 51.4	318 35.3	S17 37.6	167 36.9	N22 44.9	274 57.8	S 2 08.0
Y	10	290 30.0	317 54.1	S12 50.3	333 35.8	S17 37.1	182 39.6	N22 44.9	289 60.0	S 2 07.9
	11	305 32.4	332 53.5	S12 49.2	348 36.2	S17 36.5	197 42.3	N22 44.9	305 02.2	S 2 07.8
	12	320 34.9	347 53.0	S12 48.1	3 36.7	S17 35.9	212 45.0	N22 45.0	320 04.4	S 2 07.7
	13	335 37.3	2 52.4	S12 47.0	18 37.2	S17 35.4	227 47.7	N22 45.0	335 06.6	S 2 07.6
	14	350 39.8	17 51.9	S12 45.9	33 37.7	S17 34.8	242 50.4	N22 45.0	350 08.9	S 2 07.5
	15	5 42.3	32 51.3	S12 44.8	48 38.2	S17 34.2	257 53.1	N22 45.0	5 11.1	S 2 07.4
	16	20 44.7	47 50.8	S12 43.7	63 38.7	S17 33.7	272 55.8	N22 45.1	20 13.3	S 2 07.3
	17	35 47.2	62 50.3	S12 42.6	78 39.2	S17 33.1	287 58.5	N22 45.1	35 15.5	S 2 07.2
	18	50 49.7	77 49.7	S12 41.5	93 39.7	S17 32.5	303 01.2	N22 45.1	50 17.7	S 2 07.0
	19	65 52.1	92 49.2	S12 40.4	108 40.2	S17 32.0	318 03.9	N22 45.2	65 20.0	S 2 06.9
	20	80 54.6	107 48.6	S12 39.3	123 40.7	S17 31.4	333 06.7	N22 45.2	80 22.2	S 2 06.8
	21	95 57.1	122 48.1	S12 38.2	138 41.2	S17 30.8	348 09.4	N22 45.2	95 24.4	S 2 06.7
	22	110 59.5	137 47.6	S12 37.1	153 41.7	S17 30.3	3 12.1	N22 45.3	110 26.6	S 2 06.6
	23	126 02.0	152 47.0	S12 36.0	168 42.1	S17 29.7	18 14.8	N22 45.3	125 28.8	S 2 06.5
11	0	141 04.4	167 46.5	S12 34.9	183 42.6	S17 29.1	33 17.5	N22 45.3	140 31.0	S 2 06.4
	1	156 06.9	182 45.9	S12 33.8	198 43.1	S17 28.5	48 20.2	N22 45.4	155 33.3	S 2 06.3
	2	171 09.4	197 45.4	S12 32.7	213 43.6	S17 28.0	63 22.9	N22 45.4	170 35.5	S 2 06.2
	3	186 11.8	212 44.9	S12 31.6	228 44.1	S17 27.4	78 25.6	N22 45.4	185 37.7	S 2 06.0
	4	201 14.3	227 44.3	S12 30.5	243 44.6	S17 26.8	93 28.2	N22 45.4	200 39.9	S 2 05.9
W	5	216 16.8	242 43.8	S12 29.4	258 45.1	S17 26.3	108 30.9	N22 45.5	215 42.1	S 2 05.8
E										
D	6	231 19.2	257 43.3	S12 28.3	273 45.6	S17 25.7	123 33.6	N22 45.5	230 44.4	S 2 05.7
N	7	246 21.7	272 42.7	S12 27.2	288 46.1	S17 25.1	138 36.3	N22 45.5	245 46.6	S 2 05.6
E	8	261 24.2	287 42.2	S12 26.1	303 46.6	S17 24.6	153 39.0	N22 45.6	260 48.8	S 2 05.5
S	9	276 26.6	302 41.7	S12 25.0	318 47.1	S17 24.0	168 41.7	N22 45.6	275 51.0	S 2 05.4
D	10	291 29.1	317 41.1	S12 23.9	333 47.6	S17 23.4	183 44.4	N22 45.6	290 53.2	S 2 05.3
A	11	306 31.6	332 40.6	S12 22.8	348 48.1	S17 22.8	198 47.1	N22 45.7	305 55.5	S 2 05.2
Y										
	12	321 34.0	347 40.1	S12 21.7	3 48.6	S17 22.3	213 49.8	N22 45.7	320 57.7	S 2 05.0
	13	336 36.5	2 39.5	S12 20.6	18 49.1	S17 21.7	228 52.5	N22 45.7	335 59.9	S 2 04.9
	14	351 38.9	17 39.0	S12 19.4	33 49.6	S17 21.1	243 55.2	N22 45.7	351 02.1	S 2 04.8
	15	6 41.4	32 38.5	S12 18.3	48 50.1	S17 20.5	258 57.9	N22 45.8	6 04.3	S 2 04.7
	16	21 43.9	47 37.9	S12 17.2	63 50.6	S17 20.0	274 00.6	N22 45.8	21 06.5	S 2 04.6
	17	36 46.3	62 37.4	S12 16.1	78 51.0	S17 19.4	289 03.3	N22 45.8	36 08.8	S 2 04.5
	18	51 48.8	77 36.9	S12 15.0	93 51.5	S17 18.8	304 06.0	N22 45.9	51 11.0	S 2 04.4
	19	66 51.3	92 36.3	S12 13.9	108 52.0	S17 18.2	319 08.7	N22 45.9	66 13.2	S 2 04.3
	20	81 53.7	107 35.8	S12 12.8	123 52.5	S17 17.7	334 11.4	N22 45.9	81 15.4	S 2 04.2
	21	96 56.2	122 35.3	S12 11.7	138 53.0	S17 17.1	349 14.1	N22 46.0	96 17.6	S 2 04.0
	22	111 58.7	137 34.8	S12 10.5	153 53.5	S17 16.5	4 16.8	N22 46.0	111 19.8	S 2 03.9
	23	127 01.1	152 34.2	S12 09.4	168 54.0	S17 15.9	19 19.5	N22 46.0	126 22.1	S 2 03.8
			v -0.5	d 1.1	v 0.5	d 0.6	v 2.7	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
9	0	176 27.9	S14 44.4	278 37.4	13.5	S20 44.0	10.2	54.5
	1	191 27.9	S14 43.6	293 09.9	13.5	S20 54.0	10.1	54.4
	2	206 27.9	S14 42.8	307 42.3	13.4	S21 04.0	10.0	54.4
	3	221 27.9	S14 42.0	322 14.7	13.4	S21 13.9	9.9	54.4
	4	236 27.8	S14 41.2	336 47.0	13.3	S21 23.7	9.8	54.4
M	5	251 27.8	S14 40.4	351 19.2	13.2	S21 33.5	9.7	54.4
O								
N	6	266 27.8	S14 39.6	5 51.4	13.2	S21 43.1	9.6	54.4
D	7	281 27.8	S14 38.8	20 23.5	13.1	S21 52.6	9.5	54.4
A	8	296 27.8	S14 38.0	34 55.6	13.1	S22 02.0	9.4	54.4
Y	9	311 27.8	S14 37.2	49 27.7	13.0	S22 11.3	9.3	54.4
	10	326 27.7	S14 36.4	63 59.6	13.0	S22 20.6	9.2	54.3
	11	341 27.7	S14 35.6	78 31.5	12.9	S22 29.7	9.1	54.3
	12	356 27.7	S14 34.8	93 03.4	12.9	S22 38.7	9.0	54.3
	13	11 27.7	S14 34.0	107 35.2	12.8	S22 47.7	8.9	54.3
	14	26 27.7	S14 33.2	122 07.0	12.7	S22 56.5	8.8	54.3
	15	41 27.7	S14 32.4	136 38.6	12.7	S23 05.2	8.7	54.3
	16	56 27.7	S14 31.5	151 10.3	12.6	S23 13.9	8.6	54.3
	17	71 27.6	S14 30.7	165 41.8	12.6	S23 22.4	8.5	54.3
	18	86 27.6	S14 29.9	180 13.4	12.5	S23 30.8	8.4	54.3
	19	101 27.6	S14 29.1	194 44.8	12.5	S23 39.1	8.3	54.3
	20	116 27.6	S14 28.3	209 16.2	12.4	S23 47.3	8.2	54.3
	21	131 27.6	S14 27.5	223 47.6	12.3	S23 55.4	8.1	54.3
	22	146 27.6	S14 26.7	238 18.8	12.3	S24 03.4	8.0	54.3
	23	161 27.6	S14 25.9	252 50.1	12.2	S24 11.3	7.9	54.2
10	0	176 27.6	S14 25.1	267 21.2	12.2	S24 19.1	7.8	54.2
	1	191 27.5	S14 24.3	281 52.3	12.1	S24 26.8	7.7	54.2
	2	206 27.5	S14 23.5	296 23.4	12.1	S24 34.4	7.6	54.2
	3	221 27.5	S14 22.6	310 54.4	12.0	S24 41.8	7.5	54.2
	4	236 27.5	S14 21.8	325 25.3	11.9	S24 49.2	7.3	54.2
T	5	251 27.5	S14 21.0	339 56.2	11.9	S24 56.4	7.2	54.2
U								
E	6	266 27.5	S14 20.2	354 27.0	11.8	S25 03.5	7.1	54.2
S	7	281 27.5	S14 19.4	8 57.8	11.8	S25 10.5	7.0	54.2
D	8	296 27.5	S14 18.6	23 28.5	11.7	S25 17.4	6.9	54.2
A	9	311 27.5	S14 17.8	37 59.1	11.6	S25 24.2	6.8	54.2
Y	10	326 27.5	S14 17.0	52 29.7	11.6	S25 30.9	6.7	54.2
	11	341 27.5	S14 16.1	67 00.2	11.5	S25 37.4	6.6	54.2
	12	356 27.4	S14 15.3	81 30.7	11.5	S25 43.9	6.4	54.2
	13	11 27.4	S14 14.5	96 01.1	11.4	S25 50.2	6.3	54.2
	14	26 27.4	S14 13.7	110 31.5	11.4	S25 56.4	6.2	54.2
	15	41 27.4	S14 12.9	125 01.8	11.3	S26 02.5	6.1	54.2
	16	56 27.4	S14 12.1	139 32.0	11.2	S26 08.5	6.0	54.2
	17	71 27.4	S14 11.2	154 02.2	11.2	S26 14.3	5.8	54.2
	18	86 27.4	S14 10.4	168 32.4	11.1	S26 20.0	5.7	54.2
	19	101 27.4	S14 09.6	183 02.5	11.1	S26 25.6	5.6	54.2
	20	116 27.4	S14 08.8	197 32.5	11.0	S26 31.1	5.5	54.2
	21	131 27.4	S14 08.0	212 02.5	11.0	S26 36.5	5.4	54.2
	22	146 27.4	S14 07.1	226 32.4	10.9	S26 41.7	5.2	54.2
	23	161 27.4	S14 06.3	241 02.3	10.9	S26 46.8	5.1	54.2
11	0	176 27.4	S14 05.5	255 32.1	10.8	S26 51.8	5.0	54.2
	1	191 27.4	S14 04.7	270 01.9	10.8	S26 56.7	4.9	54.2
	2	206 27.4	S14 03.9	284 31.6	10.7	S27 01.4	4.7	54.2
	3	221 27.4	S14 03.0	299 01.2	10.7	S27 06.1	4.6	54.2
	4	236 27.4	S14 02.2	313 30.8	10.6	S27 10.6	4.5	54.2
W	5	251 27.4	S14 01.4	328 00.4	10.6	S27 14.9	4.4	54.2
E								
D	6	266 27.4	S14 00.6	342 29.9	10.5	S27 19.2	4.2	54.2
N	7	281 27.4	S13 59.8	356 59.4	10.5	S27 23.3	4.1	54.2
E	8	296 27.4	S13 58.9	11 28.8	10.4	S27 27.2	4.0	54.2
S	9	311 27.4	S13 58.1	25 58.2	10.4	S27 31.1	3.9	54.2
D	10	326 27.4	S13 57.3	40 27.5	10.3	S27 34.8	3.7	54.2
A	11	341 27.4	S13 56.5	54 56.8	10.3	S27 38.4	3.6	54.2
Y								
	12	356 27.4	S13 55.6	69 26.0	10.2	S27 41.9	3.5	54.3
	13	11 27.4	S13 54.8	83 55.2	10.2	S27 45.2	3.3	54.3
	14	26 27.4	S13 54.0	98 24.4	10.2	S27 48.4	3.2	54.3
	15	41 27.4	S13 53.2	112 53.5	10.1	S27 51.5	3.1	54.3
	16	56 27.4	S13 52.3	127 22.6	10.1	S27 54.4	2.9	54.3
	17	71 27.4	S13 51.5	141 51.6	10.0	S27 57.2	2.8	54.3
	18	86 27.4	S13 50.7	156 20.6	10.0	S27 59.8	2.7	54.3
	19	101 27.4	S13 49.8	170 49.6	10.0	S28 02.4	2.5	54.3
	20	116 27.4	S13 49.0	185 18.5	9.9	S28 04.8	2.4	54.3
	21	131 27.4	S13 48.2	199 47.4	9.9	S28 07.0	2.3	54.3
	22	146 27.4	S13 47.4	214 16.2	9.8	S28 09.1	2.1	54.3
	23	161 27.4	S13 46.5	228 45.0	9.8	S28 11.1	2.0	54.3
		S.D. 16.2	d 0.8	S.D.	14.8	14.8	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 12.2
Achernar	335 19.7	S57 06.5
Acrux	172 58.7	S63 14.5
Adhara	255 04.8	S29 00.6
Albireo	67 03.7	N28 00.7
Aldebaran	290 38.5	N16 33.8
Alioth	166 11.7	N55 48.8
Alkaid	152 51.1	N49 10.6
Al Na-ir	27 32.1	S46 50.2
Alnilam	275 36.6	S 1 11.2
Alphard	217 46.5	S 8 46.4
Alphecca	126 03.0	N26 37.3
Alpheratz	357 34.1	N29 14.2
Altair	61 59.4	N 8 56.1
Ankaa	353 06.5	S42 10.1
Antares	112 14.8	S26 29.4
Arcturus	145 47.0	N19 02.5
Atria	107 08.6	S69 04.3
Avior	234 13.7	S59 35.7
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.6	S52 42.7
Capella	280 20.3	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.6	N45 22.3
Denebola	182 23.7	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.2	N61 36.4
Elnath	278 00.5	N28 37.8
Eltanin	90 42.1	N51 28.7
Enif	33 38.2	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.3	S57 15.5
Gienah	175 42.4	S17 41.3
Hadar	148 34.6	S60 29.8
Hamal	327 50.3	N23 35.3
Kaus Austr.	83 31.6	S34 22.4
Kochab	137 19.8	N74 02.4
Markab	13 29.3	N15 20.7
Menkar	314 05.2	N 4 11.5
Menkent	147 56.5	S36 29.9
Miaplacidus	221 37.1	S69 49.5
Mirfak	308 27.0	N49 57.5
Nunki	75 46.9	S26 15.9
Peacock	53 04.8	S56 39.1
Polaris	316 13.6	N89 22.2
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.9	N12 32.3
Regulus	207 33.1	N11 50.2
Rigel	281 02.8	S 8 10.4
Rigil Kent	139 39.1	S60 56.4
Sabik	102 01.9	S15 45.5
Schedar	349 30.4	N56 41.0
Shaula	96 09.3	S37 07.3
Sirius	258 25.2	S16 45.2
Spica	158 21.2	S11 18.0
Suhail	222 45.2	S43 32.3
Vega	80 32.9	N38 48.2
Zuben-ubi	136 55.8	S16 09.1

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
12	0	142 03.6	167 33.7	S12 08.3	183 54.5	S17 15.4	34 22.2	N22 46.0	141 24.3	S 2 03.7
	1	157 06.1	182 33.2	S12 07.2	198 55.0	S17 14.8	49 24.9	N22 46.1	156 26.5	S 2 03.6
	2	172 08.5	197 32.7	S12 06.1	213 55.5	S17 14.2	64 27.5	N22 46.1	171 28.7	S 2 03.5
	3	187 11.0	212 32.1	S12 05.0	228 56.0	S17 13.6	79 30.2	N22 46.1	186 30.9	S 2 03.4
	4	202 13.4	227 31.6	S12 03.8	243 56.5	S17 13.0	94 32.9	N22 46.2	201 33.1	S 2 03.3
T	5	217 15.9	242 31.1	S12 02.7	258 57.0	S17 12.5	109 35.6	N22 46.2	216 35.4	S 2 03.2
H										
U	6	232 18.4	257 30.5	S12 01.6	273 57.5	S17 11.9	124 38.3	N22 46.2	231 37.6	S 2 03.0
R	7	247 20.8	272 30.0	S12 00.5	288 58.0	S17 11.3	139 41.0	N22 46.2	246 39.8	S 2 02.9
S	8	262 23.3	287 29.5	S11 59.4	303 58.5	S17 10.7	154 43.7	N22 46.3	261 42.0	S 2 02.8
D	9	277 25.8	302 29.0	S11 58.2	318 59.0	S17 10.2	169 46.4	N22 46.3	276 44.2	S 2 02.7
A	10	292 28.2	317 28.5	S11 57.1	333 59.5	S17 09.6	184 49.1	N22 46.3	291 46.4	S 2 02.6
Y	11	307 30.7	332 27.9	S11 56.0	349 00.0	S17 09.0	199 51.8	N22 46.4	306 48.7	S 2 02.5
	12	322 33.2	347 27.4	S11 54.9	4 00.5	S17 08.4	214 54.5	N22 46.4	321 50.9	S 2 02.4
	13	337 35.6	2 26.9	S11 53.7	19 01.0	S17 07.8	229 57.1	N22 46.4	336 53.1	S 2 02.3
	14	352 38.1	17 26.4	S11 52.6	34 01.5	S17 07.2	244 59.8	N22 46.4	351 55.3	S 2 02.1
	15	7 40.6	32 25.8	S11 51.5	49 02.0	S17 06.7	260 02.5	N22 46.5	6 57.5	S 2 02.0
	16	22 43.0	47 25.3	S11 50.4	64 02.5	S17 06.1	275 05.2	N22 46.5	21 59.7	S 2 01.9
	17	37 45.5	62 24.8	S11 49.2	79 03.0	S17 05.5	290 07.9	N22 46.5	37 02.0	S 2 01.8
	18	52 47.9	77 24.3	S11 48.1	94 03.5	S17 04.9	305 10.6	N22 46.6	52 04.2	S 2 01.7
	19	67 50.4	92 23.8	S11 47.0	109 04.0	S17 04.3	320 13.3	N22 46.6	67 06.4	S 2 01.6
	20	82 52.9	107 23.3	S11 45.9	124 04.5	S17 03.8	335 16.0	N22 46.6	82 08.6	S 2 01.5
	21	97 55.3	122 22.7	S11 44.7	139 05.0	S17 03.2	350 18.6	N22 46.6	97 10.8	S 2 01.4
	22	112 57.8	137 22.2	S11 43.6	154 05.5	S17 02.6	5 21.3	N22 46.7	112 13.0	S 2 01.2
	23	128 00.3	152 21.7	S11 42.5	169 06.0	S17 02.0	20 24.0	N22 46.7	127 15.3	S 2 01.1
13	0	143 02.7	167 21.2	S11 41.3	184 06.5	S17 01.4	35 26.7	N22 46.7	142 17.5	S 2 01.0
	1	158 05.2	182 20.7	S11 40.2	199 07.0	S17 00.8	50 29.4	N22 46.8	157 19.7	S 2 00.9
	2	173 07.7	197 20.2	S11 39.1	214 07.5	S17 00.2	65 32.1	N22 46.8	172 21.9	S 2 00.8
	3	188 10.1	212 19.6	S11 38.0	229 08.0	S16 59.7	80 34.8	N22 46.8	187 24.1	S 2 00.7
	4	203 12.6	227 19.1	S11 36.8	244 08.5	S16 59.1	95 37.4	N22 46.8	202 26.3	S 2 00.6
F	5	218 15.1	242 18.6	S11 35.7	259 09.0	S16 58.5	110 40.1	N22 46.9	217 28.5	S 2 00.5
R										
I	6	233 17.5	257 18.1	S11 34.6	274 09.5	S16 57.9	125 42.8	N22 46.9	232 30.8	S 2 00.3
D	7	248 20.0	272 17.6	S11 33.4	289 10.0	S16 57.3	140 45.5	N22 46.9	247 33.0	S 2 00.2
A	8	263 22.4	287 17.1	S11 32.3	304 10.5	S16 56.7	155 48.2	N22 47.0	262 35.2	S 2 00.1
Y	9	278 24.9	302 16.6	S11 31.2	319 11.0	S16 56.1	170 50.9	N22 47.0	277 37.4	S 2 00.0
	10	293 27.4	317 16.0	S11 30.0	334 11.5	S16 55.6	185 53.5	N22 47.0	292 39.6	S 1 59.9
	11	308 29.8	332 15.5	S11 28.9	349 12.0	S16 55.0	200 56.2	N22 47.0	307 41.8	S 1 59.8
	12	323 32.3	347 15.0	S11 27.8	4 12.5	S16 54.4	215 58.9	N22 47.1	322 44.0	S 1 59.7
	13	338 34.8	2 14.5	S11 26.6	19 13.0	S16 53.8	231 01.6	N22 47.1	337 46.3	S 1 59.6
	14	353 37.2	17 14.0	S11 25.5	34 13.5	S16 53.2	246 04.3	N22 47.1	352 48.5	S 1 59.4
	15	8 39.7	32 13.5	S11 24.3	49 14.0	S16 52.6	261 06.9	N22 47.2	7 50.7	S 1 59.3
	16	23 42.2	47 13.0	S11 23.2	64 14.6	S16 52.0	276 09.6	N22 47.2	22 52.9	S 1 59.2
	17	38 44.6	62 12.5	S11 22.1	79 15.1	S16 51.4	291 12.3	N22 47.2	37 55.1	S 1 59.1
	18	53 47.1	77 12.0	S11 20.9	94 15.6	S16 50.8	306 15.0	N22 47.2	52 57.3	S 1 59.0
	19	68 49.5	92 11.5	S11 19.8	109 16.1	S16 50.3	321 17.7	N22 47.3	67 59.5	S 1 58.9
	20	83 52.0	107 11.0	S11 18.6	124 16.6	S16 49.7	336 20.3	N22 47.3	83 01.8	S 1 58.8
	21	98 54.5	122 10.4	S11 17.5	139 17.1	S16 49.1	351 23.0	N22 47.3	98 04.0	S 1 58.7
	22	113 56.9	137 09.9	S11 16.4	154 17.6	S16 48.5	6 25.7	N22 47.3	113 06.2	S 1 58.5
	23	128 59.4	152 09.4	S11 15.2	169 18.1	S16 47.9	21 28.4	N22 47.4	128 08.4	S 1 58.4
14	0	144 01.9	167 08.9	S11 14.1	184 18.6	S16 47.3	36 31.1	N22 47.4	143 10.6	S 1 58.3
	1	159 04.3	182 08.4	S11 12.9	199 19.1	S16 46.7	51 33.7	N22 47.4	158 12.8	S 1 58.2
	2	174 06.8	197 07.9	S11 11.8	214 19.6	S16 46.1	66 36.4	N22 47.5	173 15.0	S 1 58.1
	3	189 09.3	212 07.4	S11 10.6	229 20.1	S16 45.5	81 39.1	N22 47.5	188 17.2	S 1 58.0
	4	204 11.7	227 06.9	S11 09.5	244 20.6	S16 44.9	96 41.8	N22 47.5	203 19.5	S 1 57.9
S	5	219 14.2	242 06.4	S11 08.4	259 21.1	S16 44.3	111 44.4	N22 47.5	218 21.7	S 1 57.8
A										
T	6	234 16.7	257 05.9	S11 07.2	274 21.6	S16 43.7	126 47.1	N22 47.6	233 23.9	S 1 57.6
U	7	249 19.1	272 05.4	S11 06.1	289 22.1	S16 43.1	141 49.8	N22 47.6	248 26.1	S 1 57.5
R	8	264 21.6	287 04.9	S11 04.9	304 22.6	S16 42.5	156 52.5	N22 47.6	263 28.3	S 1 57.4
D	9	279 24.0	302 04.4	S11 03.8	319 23.1	S16 42.0	171 55.1	N22 47.6	278 30.5	S 1 57.3
A	10	294 26.5	317 03.9	S11 02.6	334 23.7	S16 41.4	186 57.8	N22 47.7	293 32.7	S 1 57.2
Y	11	309 29.0	332 03.4	S11 01.5	349 24.2	S16 40.8	202 00.5	N22 47.7	308 35.0	S 1 57.1
	12	324 31.4	347 02.9	S11 00.3	4 24.7	S16 40.2	217 03.2	N22 47.7	323 37.2	S 1 57.0
	13	339 33.9	2 02.4	S10 59.2	19 25.2	S16 39.6	232 05.8	N22 47.8	338 39.4	S 1 56.8
	14	354 36.4	17 01.9	S10 58.0	34 25.7	S16 39.0	247 08.5	N22 47.8	353 41.6	S 1 56.7
	15	9 38.8	32 01.4	S10 56.9	49 26.2	S16 38.4	262 11.2	N22 47.8	8 43.8	S 1 56.6
	16	24 41.3	47 00.9	S10 55.7	64 26.7	S16 37.8	277 13.9	N22 47.8	23 46.0	S 1 56.5
	17	39 43.8	62 00.4	S10 54.6	79 27.2	S16 37.2	292 16.5	N22 47.9	38 48.2	S 1 56.4
	18	54 46.2	76 59.9	S10 53.4	94 27.7	S16 36.6	307 19.2	N22 47.9	53 50.4	S 1 56.3
	19	69 48.7	91 59.4	S10 52.3	109 28.2	S16 36.0	322 21.9	N22 47.9	68 52.6	S 1 56.2
	20	84 51.2	106 58.9	S10 51.1	124 28.7	S16 35.4	337 24.5	N22 47.9	83 54.9	S 1 56.0
	21	99 53.6	121 58.4	S10 50.0	139 29.2	S16 34.8	352 27.2	N22 48.0	98 57.1	S 1 55.9
	22	114 56.1	136 57.9	S10 48.8	154 29.8	S16 34.2	7 29.9	N22 48.0	113 59.3	S 1 55.8
	23	129 58.5	151 57.4	S10 47.7	169 30.3	S16 33.6	22 32.6	N22 48.0	129 01.5	S 1 55.7
			v -0.5	d 1.1	v 0.5	d 0.6	v 2.7	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
12	0	176 27.4	S13 45.7	243 13.8	9.8	S28 13.0	1.8	54.3
	1	191 27.4	S13 44.9	257 42.5	9.7	S28 14.7	1.7	54.4
	2	206 27.4	S13 44.0	272 11.2	9.7	S28 16.3	1.6	54.4
	3	221 27.4	S13 43.2	286 39.9	9.7	S28 17.7	1.4	54.4
	4	236 27.4	S13 42.4	301 08.6	9.7	S28 19.0	1.3	54.4
T	5	251 27.4	S13 41.5	315 37.2	9.6	S28 20.2	1.2	54.4
H								
U	6	266 27.4	S13 40.7	330 05.8	9.6	S28 21.2	1.0	54.4
R	7	281 27.4	S13 39.9	344 34.4	9.6	S28 22.1	0.9	54.4
S	8	296 27.4	S13 39.0	359 02.9	9.5	S28 22.8	0.7	54.4
D	9	311 27.5	S13 38.2	13 31.4	9.5	S28 23.4	0.6	54.4
A	10	326 27.5	S13 37.4	27 59.9	9.5	S28 23.9	0.5	54.4
Y	11	341 27.5	S13 36.5	42 28.4	9.5	S28 24.2	0.3	54.5
	12	356 27.5	S13 35.7	56 56.9	9.5	S28 24.4	0.2	54.5
	13	11 27.5	S13 34.9	71 25.3	9.4	S28 24.4	0.0	54.5
	14	26 27.5	S13 34.0	85 53.7	9.4	S28 24.3	0.1	54.5
	15	41 27.5	S13 33.2	100 22.1	9.4	S28 24.1	0.2	54.5
	16	56 27.5	S13 32.4	114 50.5	9.4	S28 23.7	0.4	54.5
	17	71 27.5	S13 31.5	129 18.9	9.4	S28 23.2	0.5	54.5
	18	86 27.5	S13 30.7	143 47.3	9.4	S28 22.5	0.7	54.5
	19	101 27.5	S13 29.9	158 15.6	9.3	S28 21.7	0.8	54.6
	20	116 27.6	S13 29.0	172 44.0	9.3	S28 20.8	0.9	54.6
	21	131 27.6	S13 28.2	187 12.3	9.3	S28 19.7	1.1	54.6
	22	146 27.6	S13 27.3	201 40.6	9.3	S28 18.4	1.2	54.6
	23	161 27.6	S13 26.5	216 08.9	9.3	S28 17.1	1.4	54.6
13	0	176 27.6	S13 25.7	230 37.2	9.3	S28 15.5	1.5	54.6
	1	191 27.6	S13 24.8	245 05.5	9.3	S28 13.9	1.7	54.6
	2	206 27.6	S13 24.0	259 33.8	9.3	S28 12.1	1.8	54.7
	3	221 27.6	S13 23.1	274 02.1	9.3	S28 10.1	1.9	54.7
	4	236 27.7	S13 22.3	288 30.4	9.3	S28 08.0	2.1	54.7
F	5	251 27.7	S13 21.5	302 58.7	9.3	S28 05.8	2.2	54.7
R								
I	6	266 27.7	S13 20.6	317 27.0	9.3	S28 03.4	2.4	54.7
D	7	281 27.7	S13 19.8	331 55.3	9.3	S28 00.9	2.5	54.7
A	8	296 27.7	S13 18.9	346 23.6	9.3	S27 58.2	2.7	54.8
Y	9	311 27.7	S13 18.1	0 51.9	9.3	S27 55.4	2.8	54.8
	10	326 27.7	S13 17.3	15 20.2	9.3	S27 52.5	2.9	54.8
	11	341 27.8	S13 16.4	29 48.6	9.3	S27 49.4	3.1	54.8
	12	356 27.8	S13 15.6	44 16.9	9.3	S27 46.2	3.2	54.8
	13	11 27.8	S13 14.7	58 45.2	9.3	S27 42.8	3.4	54.8
	14	26 27.8	S13 13.9	73 13.6	9.4	S27 39.3	3.5	54.9
	15	41 27.8	S13 13.0	87 41.9	9.4	S27 35.6	3.7	54.9
	16	56 27.8	S13 12.2	102 10.3	9.4	S27 31.8	3.8	54.9
	17	71 27.9	S13 11.3	116 38.7	9.4	S27 27.9	3.9	54.9
	18	86 27.9	S13 10.5	131 07.1	9.4	S27 23.8	4.1	54.9
	19	101 27.9	S13 09.6	145 35.5	9.4	S27 19.6	4.2	55.0
	20	116 27.9	S13 08.8	160 04.0	9.4	S27 15.2	4.4	55.0
	21	131 27.9	S13 08.0	174 32.4	9.5	S27 10.7	4.5	55.0
	22	146 28.0	S13 07.1	189 00.9	9.5	S27 06.1	4.6	55.0
	23	161 28.0	S13 06.3	203 29.4	9.5	S27 01.3	4.8	55.0
14	0	176 28.0	S13 05.4	217 57.9	9.5	S26 56.4	4.9	55.0
	1	191 28.0	S13 04.6	232 26.5	9.5	S26 51.3	5.1	55.1
	2	206 28.0	S13 03.7	246 55.0	9.6	S26 46.1	5.2	55.1
	3	221 28.1	S13 02.9	261 23.6	9.6	S26 40.8	5.3	55.1
	4	236 28.1	S13 02.0	275 52.3	9.6	S26 35.3	5.5	55.1
S	5	251 28.1	S13 01.2	290 20.9	9.6	S26 29.7	5.6	55.1
A								
T	6	266 28.1	S13 00.3	304 49.6	9.7	S26 23.9	5.8	55.2
U	7	281 28.1	S12 59.5	319 18.3	9.7	S26 18.0	5.9	55.2
R	8	296 28.2	S12 58.6	333 47.0	9.7	S26 12.0	6.0	55.2
D	9	311 28.2	S12 57.8	348 15.8	9.8	S26 05.8	6.2	55.2
A	10	326 28.2	S12 56.9	2 44.6	9.8	S25 59.5	6.3	55.3
Y	11	341 28.2	S12 56.1	17 13.4	9.8	S25 53.1	6.4	55.3
	12	356 28.3	S12 55.2	31 42.2	9.9	S25 46.5	6.6	55.3
	13	11 28.3	S12 54.3	46 11.1	9.9	S25 39.8	6.7	55.3
	14	26 28.3	S12 53.5	60 40.1	9.9	S25 33.0	6.8	55.3
	15	41 28.3	S12 52.6	75 09.0	10.0	S25 26.0	7.0	55.4
	16	56 28.4	S12 51.8	89 38.0	10.0	S25 18.9	7.1	55.4
	17	71 28.4	S12 50.9	104 07.0	10.0	S25 11.7	7.2	55.4
	18	86 28.4	S12 50.1	118 36.1	10.1	S25 04.3	7.4	55.4
	19	101 28.4	S12 49.2	133 05.2	10.1	S24 56.8	7.5	55.5
	20	116 28.5	S12 48.4	147 34.4	10.1	S24 49.2	7.6	55.5
	21	131 28.5	S12 47.5	162 03.5	10.2	S24 41.4	7.8	55.5
	22	146 28.5	S12 46.7	176 32.8	10.2	S24 33.5	7.9	55.5
	23	161 28.5	S12 45.8	191 02.0	10.3	S24 25.5	8.0	55.5
		S.D. 16.2	d 0.8	S.D.	14.8	14.9	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 12.2
Achernar	335 19.7	S57 06.5
Acrux	172 58.6	S63 14.5
Adhara	255 04.8	S29 00.6
Albireo	67 03.6	N28 00.6
Aldebaran	290 38.5	N16 33.7
Alioth	166 11.7	N55 48.8
Alkaid	152 51.0	N49 10.6
Al Na-ir	27 32.1	S46 50.2
Alnilam	275 36.6	S 1 11.2
Alphard	217 46.5	S 8 46.4
Alphecca	126 03.0	N26 37.3
Alpheratz	357 34.1	N29 14.2
Altair	61 59.3	N 8 56.1
Ankaa	353 06.5	S42 10.1
Antares	112 14.8	S26 29.4
Arcturus	145 46.9	N19 02.5
Atria	107 08.5	S69 04.3
Avior	234 13.8	S59 35.7
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.6	S52 42.8
Capella	280 20.3	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.6	N45 22.3
Denebola	182 23.7	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.2	N61 36.4
Elnath	278 00.6	N28 37.8
Eltanin	90 42.1	N51 28.7
Enif	33 38.2	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.3	S57 15.5
Gienah	175 42.4	S17 41.3
Hadar	148 34.6	S60 29.8
Hamal	327 50.3	N23 35.3
Kaus Austr.	83 31.6	S34 22.4
Kochab	137 19.7	N74 02.4
Markab	13 29.3	N15 20.7
Menkar	314 05.2	N 4 11.5
Menkent	147 56.4	S36 29.9
Miaplacidus	221 37.1	S69 49.5
Mirfak	308 27.0	N49 57.5
Nunki	75 46.9	S26 15.9
Peacock	53 04.7	S56 39.1
Polaris	316 14.7	N89 22.2
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.9	N12 32.3
Regulus	207 33.1	N11 50.2
Rigel	281 02.8	S 8 10.4
Rigil Kent	139 39.1	S60 56.4
Sabik	102 01.9	S15 45.5
Schedar	349 30.4	N56 41.0
Shaula	96 09.3	S37 07.3
Sirius	258 25.2	S16 45.2
Spica	158 21.2	S11 18.0
Suhail	222 45.2	S43 32.4
Vega	80 32.9	N38 48.2
Zuben-ubi	136 55.8	S16 09.1

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
15	0	145 01.0	166 56.9	S10 46.5	184 30.8	S16 33.0	37 35.2	N22 48.0	144 03.7	S 1 55.6
	1	160 03.5	181 56.4	S10 45.4	199 31.3	S16 32.4	52 37.9	N22 48.1	159 05.9	S 1 55.5
	2	175 05.9	196 55.9	S10 44.2	214 31.8	S16 31.8	67 40.6	N22 48.1	174 08.1	S 1 55.4
	3	190 08.4	211 55.4	S10 43.0	229 32.3	S16 31.2	82 43.2	N22 48.1	189 10.3	S 1 55.3
	4	205 10.9	226 54.9	S10 41.9	244 32.8	S16 30.6	97 45.9	N22 48.2	204 12.6	S 1 55.1
S	5	220 13.3	241 54.4	S10 40.7	259 33.3	S16 30.0	112 48.6	N22 48.2	219 14.8	S 1 55.0
U										
N	6	235 15.8	256 54.0	S10 39.6	274 33.8	S16 29.4	127 51.2	N22 48.2	234 17.0	S 1 54.9
D	7	250 18.3	271 53.5	S10 38.4	289 34.4	S16 28.8	142 53.9	N22 48.2	249 19.2	S 1 54.8
A	8	265 20.7	286 53.0	S10 37.3	304 34.9	S16 28.2	157 56.6	N22 48.3	264 21.4	S 1 54.7
Y	9	280 23.2	301 52.5	S10 36.1	319 35.4	S16 27.6	172 59.2	N22 48.3	279 23.6	S 1 54.6
	10	295 25.7	316 52.0	S10 34.9	334 35.9	S16 27.0	188 01.9	N22 48.3	294 25.8	S 1 54.5
	11	310 28.1	331 51.5	S10 33.8	349 36.4	S16 26.4	203 04.6	N22 48.3	309 28.0	S 1 54.3
	12	325 30.6	346 51.0	S10 32.6	4 36.9	S16 25.8	218 07.2	N22 48.4	324 30.2	S 1 54.2
	13	340 33.0	1 50.5	S10 31.5	19 37.4	S16 25.2	233 09.9	N22 48.4	339 32.5	S 1 54.1
	14	355 35.5	16 50.0	S10 30.3	34 37.9	S16 24.6	248 12.6	N22 48.4	354 34.7	S 1 54.0
	15	10 38.0	31 49.5	S10 29.1	49 38.4	S16 24.0	263 15.2	N22 48.4	9 36.9	S 1 53.9
	16	25 40.4	46 49.0	S10 28.0	64 39.0	S16 23.4	278 17.9	N22 48.5	24 39.1	S 1 53.8
	17	40 42.9	61 48.6	S10 26.8	79 39.5	S16 22.8	293 20.6	N22 48.5	39 41.3	S 1 53.7
	18	55 45.4	76 48.1	S10 25.6	94 40.0	S16 22.2	308 23.2	N22 48.5	54 43.5	S 1 53.5
	19	70 47.8	91 47.6	S10 24.5	109 40.5	S16 21.6	323 25.9	N22 48.5	69 45.7	S 1 53.4
	20	85 50.3	106 47.1	S10 23.3	124 41.0	S16 21.0	338 28.6	N22 48.6	84 47.9	S 1 53.3
	21	100 52.8	121 46.6	S10 22.2	139 41.5	S16 20.3	353 31.2	N22 48.6	99 50.1	S 1 53.2
	22	115 55.2	136 46.1	S10 21.0	154 42.0	S16 19.7	8 33.9	N22 48.6	114 52.3	S 1 53.1
	23	130 57.7	151 45.6	S10 19.8	169 42.6	S16 19.1	23 36.6	N22 48.6	129 54.6	S 1 53.0
16	0	146 00.1	166 45.1	S10 18.7	184 43.1	S16 18.5	38 39.2	N22 48.7	144 56.8	S 1 52.9
	1	161 02.6	181 44.7	S10 17.5	199 43.6	S16 17.9	53 41.9	N22 48.7	159 59.0	S 1 52.7
	2	176 05.1	196 44.2	S10 16.3	214 44.1	S16 17.3	68 44.5	N22 48.7	175 01.2	S 1 52.6
	3	191 07.5	211 43.7	S10 15.2	229 44.6	S16 16.7	83 47.2	N22 48.7	190 03.4	S 1 52.5
	4	206 10.0	226 43.2	S10 14.0	244 45.1	S16 16.1	98 49.9	N22 48.8	205 05.6	S 1 52.4
M	5	221 12.5	241 42.7	S10 12.8	259 45.6	S16 15.5	113 52.5	N22 48.8	220 07.8	S 1 52.3
O										
N	6	236 14.9	256 42.2	S10 11.6	274 46.2	S16 14.9	128 55.2	N22 48.8	235 10.0	S 1 52.2
D	7	251 17.4	271 41.8	S10 10.5	289 46.7	S16 14.3	143 57.8	N22 48.8	250 12.2	S 1 52.1
A	8	266 19.9	286 41.3	S10 09.3	304 47.2	S16 13.7	159 00.5	N22 48.9	265 14.4	S 1 51.9
Y	9	281 22.3	301 40.8	S10 08.1	319 47.7	S16 13.1	174 03.2	N22 48.9	280 16.7	S 1 51.8
	10	296 24.8	316 40.3	S10 07.0	334 48.2	S16 12.4	189 05.8	N22 48.9	295 18.9	S 1 51.7
	11	311 27.3	331 39.8	S10 05.8	349 48.7	S16 11.8	204 08.5	N22 48.9	310 21.1	S 1 51.6
	12	326 29.7	346 39.4	S10 04.6	4 49.3	S16 11.2	219 11.1	N22 49.0	325 23.3	S 1 51.5
	13	341 32.2	1 38.9	S10 03.5	19 49.8	S16 10.6	234 13.8	N22 49.0	340 25.5	S 1 51.4
	14	356 34.6	16 38.4	S10 02.3	34 50.3	S16 10.0	249 16.5	N22 49.0	355 27.7	S 1 51.3
	15	11 37.1	31 37.9	S10 01.1	49 50.8	S16 09.4	264 19.1	N22 49.0	10 29.9	S 1 51.1
	16	26 39.6	46 37.4	S 9 59.9	64 51.3	S16 08.8	279 21.8	N22 49.1	25 32.1	S 1 51.0
	17	41 42.0	61 37.0	S 9 58.8	79 51.8	S16 08.2	294 24.4	N22 49.1	40 34.3	S 1 50.9
	18	56 44.5	76 36.5	S 9 57.6	94 52.4	S16 07.6	309 27.1	N22 49.1	55 36.5	S 1 50.8
	19	71 47.0	91 36.0	S 9 56.4	109 52.9	S16 07.0	324 29.7	N22 49.1	70 38.7	S 1 50.7
	20	86 49.4	106 35.5	S 9 55.2	124 53.4	S16 06.3	339 32.4	N22 49.2	85 41.0	S 1 50.6
	21	101 51.9	121 35.0	S 9 54.1	139 53.9	S16 05.7	354 35.1	N22 49.2	100 43.2	S 1 50.5
	22	116 54.4	136 34.6	S 9 52.9	154 54.4	S16 05.1	9 37.7	N22 49.2	115 45.4	S 1 50.3
	23	131 56.8	151 34.1	S 9 51.7	169 54.9	S16 04.5	24 40.4	N22 49.2	130 47.6	S 1 50.2
17	0	146 59.3	166 33.6	S 9 50.5	184 55.5	S16 03.9	39 43.0	N22 49.3	145 49.8	S 1 50.1
	1	162 01.8	181 33.1	S 9 49.4	199 56.0	S16 03.3	54 45.7	N22 49.3	160 52.0	S 1 50.0
	2	177 04.2	196 32.7	S 9 48.2	214 56.5	S16 02.7	69 48.3	N22 49.3	175 54.2	S 1 49.9
	3	192 06.7	211 32.2	S 9 47.0	229 57.0	S16 02.0	84 51.0	N22 49.3	190 56.4	S 1 49.8
	4	207 09.1	226 31.7	S 9 45.8	244 57.5	S16 01.4	99 53.6	N22 49.4	205 58.6	S 1 49.7
T	5	222 11.6	241 31.2	S 9 44.6	259 58.1	S16 00.8	114 56.3	N22 49.4	221 00.8	S 1 49.5
U										
E	6	237 14.1	256 30.8	S 9 43.5	274 58.6	S16 00.2	129 58.9	N22 49.4	236 03.0	S 1 49.4
S	7	252 16.5	271 30.3	S 9 42.3	289 59.1	S15 59.6	145 01.6	N22 49.4	251 05.2	S 1 49.3
D	8	267 19.0	286 29.8	S 9 41.1	304 59.6	S15 59.0	160 04.2	N22 49.5	266 07.4	S 1 49.2
A	9	282 21.5	301 29.3	S 9 39.9	320 00.1	S15 58.4	175 06.9	N22 49.5	281 09.7	S 1 49.1
Y	10	297 23.9	316 28.9	S 9 38.7	335 00.7	S15 57.7	190 09.5	N22 49.5	296 11.9	S 1 49.0
	11	312 26.4	331 28.4	S 9 37.5	350 01.2	S15 57.1	205 12.2	N22 49.5	311 14.1	S 1 48.8
	12	327 28.9	346 27.9	S 9 36.4	5 01.7	S15 56.5	220 14.8	N22 49.6	326 16.3	S 1 48.7
	13	342 31.3	1 27.5	S 9 35.2	20 02.2	S15 55.9	235 17.5	N22 49.6	341 18.5	S 1 48.6
	14	357 33.8	16 27.0	S 9 34.0	35 02.7	S15 55.3	250 20.1	N22 49.6	356 20.7	S 1 48.5
	15	12 36.2	31 26.5	S 9 32.8	50 03.3	S15 54.7	265 22.8	N22 49.6	11 22.9	S 1 48.4
	16	27 38.7	46 26.1	S 9 31.6	65 03.8	S15 54.0	280 25.4	N22 49.6	26 25.1	S 1 48.3
	17	42 41.2	61 25.6	S 9 30.4	80 04.3	S15 53.4	295 28.1	N22 49.7	41 27.3	S 1 48.2
	18	57 43.6	76 25.1	S 9 29.3	95 04.8	S15 52.8	310 30.7	N22 49.7	56 29.5	S 1 48.0
	19	72 46.1	91 24.6	S 9 28.1	110 05.4	S15 52.2	325 33.4	N22 49.7	71 31.7	S 1 47.9
	20	87 48.6	106 24.2	S 9 26.9	125 05.9	S15 51.6	340 36.0	N22 49.7	86 33.9	S 1 47.8
	21	102 51.0	121 23.7	S 9 25.7	140 06.4	S15 50.9	355 38.7	N22 49.8	101 36.1	S 1 47.7
	22	117 53.5	136 23.2	S 9 24.5	155 06.9	S15 50.3	10 41.3	N22 49.8	116 38.3	S 1 47.6
	23	132 56.0	151 22.8	S 9 23.3	170 07.4	S15 49.7	25 44.0	N22 49.8	131 40.6	S 1 47.5
			v -0.5	d 1.2	v 0.5	d 0.6	v 2.7	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
15	0	176 28.6	S12 44.9	205 31.3	10.3	S24 17.3	8.1	55.6
	1	191 28.6	S12 44.1	220 00.7	10.3	S24 09.1	8.3	55.6
	2	206 28.6	S12 43.2	234 30.1	10.4	S24 00.7	8.4	55.6
	3	221 28.6	S12 42.4	248 59.5	10.4	S23 52.1	8.5	55.6
	4	236 28.7	S12 41.5	263 29.0	10.5	S23 43.5	8.7	55.7
S	5	251 28.7	S12 40.6	277 58.5	10.5	S23 34.7	8.8	55.7
U								
N	6	266 28.7	S12 39.8	292 28.1	10.6	S23 25.8	8.9	55.7
D	7	281 28.8	S12 38.9	306 57.7	10.6	S23 16.8	9.0	55.7
A	8	296 28.8	S12 38.1	321 27.3	10.7	S23 07.7	9.1	55.8
Y	9	311 28.8	S12 37.2	335 57.0	10.7	S22 58.4	9.3	55.8
	10	326 28.9	S12 36.3	350 26.8	10.7	S22 49.0	9.4	55.8
	11	341 28.9	S12 35.5	4 56.6	10.8	S22 39.5	9.5	55.8
	12	356 28.9	S12 34.6	19 26.4	10.8	S22 29.9	9.6	55.8
	13	11 28.9	S12 33.8	33 56.3	10.9	S22 20.1	9.7	55.9
	14	26 29.0	S12 32.9	48 26.2	10.9	S22 10.3	9.9	55.9
	15	41 29.0	S12 32.0	62 56.2	11.0	S22 00.3	10.0	55.9
	16	56 29.0	S12 31.2	77 26.2	11.0	S21 50.2	10.1	55.9
	17	71 29.1	S12 30.3	91 56.2	11.1	S21 40.0	10.2	56.0
	18	86 29.1	S12 29.5	106 26.4	11.1	S21 29.7	10.3	56.0
	19	101 29.1	S12 28.6	120 56.5	11.2	S21 19.2	10.4	56.0
	20	116 29.2	S12 27.7	135 26.7	11.2	S21 08.7	10.6	56.0
	21	131 29.2	S12 26.9	149 57.0	11.3	S20 58.0	10.7	56.1
	22	146 29.2	S12 26.0	164 27.3	11.3	S20 47.2	10.8	56.1
	23	161 29.3	S12 25.1	178 57.6	11.3	S20 36.3	10.9	56.1
16	0	176 29.3	S12 24.3	193 28.0	11.4	S20 25.4	11.0	56.1
	1	191 29.3	S12 23.4	207 58.4	11.4	S20 14.3	11.1	56.2
	2	206 29.4	S12 22.5	222 28.9	11.5	S20 03.0	11.2	56.2
	3	221 29.4	S12 21.7	236 59.5	11.5	S19 51.7	11.3	56.2
	4	236 29.5	S12 20.8	251 30.0	11.6	S19 40.3	11.4	56.2
M	5	251 29.5	S12 19.9	266 00.7	11.6	S19 28.8	11.5	56.3
O								
N	6	266 29.5	S12 19.1	280 31.3	11.7	S19 17.2	11.6	56.3
D	7	281 29.6	S12 18.2	295 02.1	11.7	S19 05.4	11.7	56.3
A	8	296 29.6	S12 17.3	309 32.8	11.8	S18 53.6	11.8	56.3
Y	9	311 29.6	S12 16.5	324 03.6	11.8	S18 41.7	11.9	56.4
	10	326 29.7	S12 15.6	338 34.5	11.9	S18 29.6	12.0	56.4
	11	341 29.7	S12 14.7	353 05.4	11.9	S18 17.5	12.1	56.4
	12	356 29.8	S12 13.8	7 36.3	11.9	S18 05.3	12.2	56.4
	13	11 29.8	S12 13.0	22 07.3	12.0	S17 53.0	12.3	56.5
	14	26 29.8	S12 12.1	36 38.4	12.0	S17 40.6	12.4	56.5
	15	41 29.9	S12 11.2	51 09.4	12.1	S17 28.0	12.5	56.5
	16	56 29.9	S12 10.4	65 40.6	12.1	S17 15.4	12.6	56.5
	17	71 29.9	S12 09.5	80 11.7	12.2	S17 02.7	12.7	56.6
	18	86 30.0	S12 08.6	94 42.9	12.2	S16 49.9	12.8	56.6
	19	101 30.0	S12 07.8	109 14.2	12.3	S16 37.1	12.9	56.6
	20	116 30.1	S12 06.9	123 45.5	12.3	S16 24.1	13.0	56.6
	21	131 30.1	S12 06.0	138 16.8	12.3	S16 11.0	13.1	56.7
	22	146 30.2	S12 05.1	152 48.2	12.4	S15 57.9	13.1	56.7
	23	161 30.2	S12 04.3	167 19.6	12.4	S15 44.7	13.2	56.7
17	0	176 30.2	S12 03.4	181 51.1	12.5	S15 31.3	13.3	56.7
	1	191 30.3	S12 02.5	196 22.6	12.5	S15 17.9	13.4	56.8
	2	206 30.3	S12 01.6	210 54.1	12.5	S15 04.5	13.5	56.8
	3	221 30.4	S12 00.8	225 25.7	12.6	S14 50.9	13.6	56.8
	4	236 30.4	S11 59.9	239 57.3	12.6	S14 37.3	13.6	56.8
T	5	251 30.4	S11 59.0	254 28.9	12.6	S14 23.5	13.7	56.9
U								
E	6	266 30.5	S11 58.1	269 00.6	12.7	S14 09.7	13.8	56.9
S	7	281 30.5	S11 57.3	283 32.3	12.7	S13 55.8	13.9	56.9
D	8	296 30.6	S11 56.4	298 04.1	12.8	S13 41.9	14.0	56.9
A	9	311 30.6	S11 55.5	312 35.9	12.8	S13 27.9	14.0	57.0
Y	10	326 30.7	S11 54.6	327 07.7	12.8	S13 13.8	14.1	57.0
	11	341 30.7	S11 53.8	341 39.5	12.9	S12 59.6	14.2	57.0
	12	356 30.8	S11 52.9	356 11.4	12.9	S12 45.3	14.3	57.0
	13	11 30.8	S11 52.0	10 43.3	12.9	S12 31.0	14.3	57.1
	14	26 30.9	S11 51.1	25 15.3	13.0	S12 16.6	14.4	57.1
	15	41 30.9	S11 50.2	39 47.3	13.0	S12 02.2	14.5	57.1
	16	56 30.9	S11 49.4	54 19.3	13.0	S11 47.6	14.5	57.1
	17	71 31.0	S11 48.5	68 51.3	13.0	S11 33.0	14.6	57.1
	18	86 31.0	S11 47.6	83 23.4	13.1	S11 18.4	14.7	57.2
	19	101 31.1	S11 46.7	97 55.5	13.1	S11 03.7	14.7	57.2
	20	116 31.1	S11 45.8	112 27.6	13.1	S10 48.9	14.8	57.2
	21	131 31.2	S11 45.0	126 59.8	13.1	S10 34.0	14.8	57.2
	22	146 31.2	S11 44.1	141 31.9	13.2	S10 19.1	14.9	57.3
	23	161 31.3	S11 43.2	156 04.1	13.2	S10 04.2	15.0	57.3
		S.D. 16.2	d 0.9	S.D.	15.2	15.4	15.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 12.2
Achernar	335 19.7	S57 06.5
Acrux	172 58.6	S63 14.5
Adhara	255 04.8	S29 00.6
Albireo	67 03.6	N28 00.6
Aldebaran	290 38.5	N16 33.8
Alioth	166 11.7	N55 48.8
Alkaid	152 51.0	N49 10.6
Al Na-ir	27 32.1	S46 50.2
Alnilam	275 36.6	S 1 11.2
Alphard	217 46.5	S 8 46.4
Alphecca	126 02.9	N26 37.3
Alpheratz	357 34.1	N29 14.2
Altair	61 59.3	N 8 56.1
Ankaa	353 06.5	S42 10.1
Antares	112 14.8	S26 29.4
Arcturus	145 46.9	N19 02.5
Atria	107 08.4	S69 04.3
Avior	234 13.8	S59 35.7
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.6	S52 42.8
Capella	280 20.3	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.6	N45 22.2
Denebola	182 23.7	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.4
Elnath	278 00.6	N28 37.8
Eltanin	90 42.1	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.2
Gacrux	171 50.2	S57 15.5
Gienah	175 42.4	S17 41.3
Hadar	148 34.5	S60 29.8
Hamal	327 50.3	N23 35.3
Kaus Austr.	83 31.5	S34 22.4
Kochab	137 19.6	N74 02.4
Markab	13 29.3	N15 20.7
Menkar	314 05.2	N 4 11.5
Menkent	147 56.4	S36 29.9
Miaplacidus	221 37.1	S69 49.5
Mirfak	308 27.0	N49 57.5
Nunki	75 46.9	S26 15.9
Peacock	53 04.7	S56 39.1
Polaris	316 15.8	N89 22.2
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.9	N12 32.3
Regulus	207 33.1	N11 50.2
Rigel	281 02.8	S 8 10.4
Rigil Kent	139 39.0	S60 56.4
Sabik	102 01.9	S15 45.5
Schedar	349 30.4	N56 41.0
Shaula	96 09.3	S37 07.3
Sirius	258 25.2	S16 45.2
Spica	158 21.1	S11 18.0
Suhail	222 45.2	S43 32.4
Vega	80 32.9	N38 48.2
Zuben-ubi	136 55.8	S16 09.1

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
18	0	147 58.4	166 22.3	S 9 22.1	185 08.0	S15 49.1	40 46.6	N22 49.8	146 42.8	S 1 47.3
	1	163 00.9	181 21.8	S 9 21.0	200 08.5	S15 48.5	55 49.3	N22 49.9	161 45.0	S 1 47.2
	2	178 03.4	196 21.4	S 9 19.8	215 09.0	S15 47.8	70 51.9	N22 49.9	176 47.2	S 1 47.1
	3	193 05.8	211 20.9	S 9 18.6	230 09.5	S15 47.2	85 54.6	N22 49.9	191 49.4	S 1 47.0
	4	208 08.3	226 20.4	S 9 17.4	245 10.1	S15 46.6	100 57.2	N22 49.9	206 51.6	S 1 46.9
W	5	223 10.7	241 20.0	S 9 16.2	260 10.6	S15 46.0	115 59.9	N22 49.9	221 53.8	S 1 46.8
E										
D	6	238 13.2	256 19.5	S 9 15.0	275 11.1	S15 45.4	131 02.5	N22 50.0	236 56.0	S 1 46.7
N	7	253 15.7	271 19.0	S 9 13.8	290 11.6	S15 44.7	146 05.1	N22 50.0	251 58.2	S 1 46.5
E	8	268 18.1	286 18.6	S 9 12.6	305 12.2	S15 44.1	161 07.8	N22 50.0	267 00.4	S 1 46.4
S	9	283 20.6	301 18.1	S 9 11.4	320 12.7	S15 43.5	176 10.4	N22 50.0	282 02.6	S 1 46.3
D	10	298 23.1	316 17.7	S 9 10.2	335 13.2	S15 42.9	191 13.1	N22 50.1	297 04.8	S 1 46.2
A	11	313 25.5	331 17.2	S 9 09.0	350 13.7	S15 42.2	206 15.7	N22 50.1	312 07.0	S 1 46.1
Y										
	12	328 28.0	346 16.7	S 9 07.9	5 14.3	S15 41.6	221 18.4	N22 50.1	327 09.2	S 1 46.0
	13	343 30.5	1 16.3	S 9 06.7	20 14.8	S15 41.0	236 21.0	N22 50.1	342 11.4	S 1 45.8
	14	358 32.9	16 15.8	S 9 05.5	35 15.3	S15 40.4	251 23.6	N22 50.2	357 13.6	S 1 45.7
	15	13 35.4	31 15.3	S 9 04.3	50 15.8	S15 39.7	266 26.3	N22 50.2	12 15.9	S 1 45.6
	16	28 37.9	46 14.9	S 9 03.1	65 16.4	S15 39.1	281 28.9	N22 50.2	27 18.1	S 1 45.5
	17	43 40.3	61 14.4	S 9 01.9	80 16.9	S15 38.5	296 31.6	N22 50.2	42 20.3	S 1 45.4
	18	58 42.8	76 14.0	S 9 00.7	95 17.4	S15 37.9	311 34.2	N22 50.2	57 22.5	S 1 45.3
	19	73 45.2	91 13.5	S 8 59.5	110 17.9	S15 37.2	326 36.8	N22 50.3	72 24.7	S 1 45.2
	20	88 47.7	106 13.0	S 8 58.3	125 18.5	S15 36.6	341 39.5	N22 50.3	87 26.9	S 1 45.0
	21	103 50.2	121 12.6	S 8 57.1	140 19.0	S15 36.0	356 42.1	N22 50.3	102 29.1	S 1 44.9
	22	118 52.6	136 12.1	S 8 55.9	155 19.5	S15 35.4	11 44.8	N22 50.3	117 31.3	S 1 44.8
	23	133 55.1	151 11.7	S 8 54.7	170 20.0	S15 34.7	26 47.4	N22 50.4	132 33.5	S 1 44.7
19	0	148 57.6	166 11.2	S 8 53.5	185 20.6	S15 34.1	41 50.0	N22 50.4	147 35.7	S 1 44.6
	1	164 00.0	181 10.8	S 8 52.3	200 21.1	S15 33.5	56 52.7	N22 50.4	162 37.9	S 1 44.5
	2	179 02.5	196 10.3	S 8 51.1	215 21.6	S15 32.9	71 55.3	N22 50.4	177 40.1	S 1 44.3
	3	194 05.0	211 09.8	S 8 49.9	230 22.1	S15 32.2	86 58.0	N22 50.4	192 42.3	S 1 44.2
	4	209 07.4	226 09.4	S 8 48.7	245 22.7	S15 31.6	102 00.6	N22 50.5	207 44.5	S 1 44.1
T	5	224 09.9	241 08.9	S 8 47.5	260 23.2	S15 31.0	117 03.2	N22 50.5	222 46.7	S 1 44.0
H										
U	6	239 12.3	256 08.5	S 8 46.3	275 23.7	S15 30.3	132 05.9	N22 50.5	237 48.9	S 1 43.9
R	7	254 14.8	271 08.0	S 8 45.1	290 24.3	S15 29.7	147 08.5	N22 50.5	252 51.1	S 1 43.8
S	8	269 17.3	286 07.6	S 8 43.9	305 24.8	S15 29.1	162 11.1	N22 50.6	267 53.3	S 1 43.6
D	9	284 19.7	301 07.1	S 8 42.7	320 25.3	S15 28.5	177 13.8	N22 50.6	282 55.5	S 1 43.5
A	10	299 22.2	316 06.7	S 8 41.5	335 25.8	S15 27.8	192 16.4	N22 50.6	297 57.7	S 1 43.4
Y	11	314 24.7	331 06.2	S 8 40.3	350 26.4	S15 27.2	207 19.0	N22 50.6	312 59.9	S 1 43.3
	12	329 27.1	346 05.8	S 8 39.1	5 26.9	S15 26.6	222 21.7	N22 50.6	328 02.2	S 1 43.2
	13	344 29.6	1 05.3	S 8 37.9	20 27.4	S15 25.9	237 24.3	N22 50.7	343 04.4	S 1 43.1
	14	359 32.1	16 04.8	S 8 36.7	35 28.0	S15 25.3	252 26.9	N22 50.7	358 06.6	S 1 42.9
	15	14 34.5	31 04.4	S 8 35.5	50 28.5	S15 24.7	267 29.6	N22 50.7	13 08.8	S 1 42.8
	16	29 37.0	46 03.9	S 8 34.3	65 29.0	S15 24.0	282 32.2	N22 50.7	28 11.0	S 1 42.7
	17	44 39.5	61 03.5	S 8 33.1	80 29.6	S15 23.4	297 34.8	N22 50.8	43 13.2	S 1 42.6
	18	59 41.9	76 03.0	S 8 31.9	95 30.1	S15 22.8	312 37.5	N22 50.8	58 15.4	S 1 42.5
	19	74 44.4	91 02.6	S 8 30.7	110 30.6	S15 22.1	327 40.1	N22 50.8	73 17.6	S 1 42.4
	20	89 46.8	106 02.1	S 8 29.5	125 31.1	S15 21.5	342 42.7	N22 50.8	88 19.8	S 1 42.2
	21	104 49.3	121 01.7	S 8 28.3	140 31.7	S15 20.9	357 45.4	N22 50.8	103 22.0	S 1 42.1
	22	119 51.8	136 01.2	S 8 27.1	155 32.2	S15 20.2	12 48.0	N22 50.9	118 24.2	S 1 42.0
	23	134 54.2	151 00.8	S 8 25.9	170 32.7	S15 19.6	27 50.6	N22 50.9	133 26.4	S 1 41.9
20	0	149 56.7	166 00.3	S 8 24.6	185 33.3	S15 19.0	42 53.3	N22 50.9	148 28.6	S 1 41.8
	1	164 59.2	180 59.9	S 8 23.4	200 33.8	S15 18.3	57 55.9	N22 50.9	163 30.8	S 1 41.7
	2	180 01.6	195 59.4	S 8 22.2	215 34.3	S15 17.7	72 58.5	N22 50.9	178 33.0	S 1 41.5
	3	195 04.1	210 59.0	S 8 21.0	230 34.9	S15 17.1	88 01.2	N22 51.0	193 35.2	S 1 41.4
	4	210 06.6	225 58.5	S 8 19.8	245 35.4	S15 16.4	103 03.8	N22 51.0	208 37.4	S 1 41.3
F	5	225 09.0	240 58.1	S 8 18.6	260 35.9	S15 15.8	118 06.4	N22 51.0	223 39.6	S 1 41.2
R										
I	6	240 11.5	255 57.6	S 8 17.4	275 36.5	S15 15.2	133 09.0	N22 51.0	238 41.8	S 1 41.1
D	7	255 13.9	270 57.2	S 8 16.2	290 37.0	S15 14.5	148 11.7	N22 51.0	253 44.0	S 1 41.0
A	8	270 16.4	285 56.8	S 8 15.0	305 37.5	S15 13.9	163 14.3	N22 51.1	268 46.2	S 1 40.8
Y	9	285 18.9	300 56.3	S 8 13.8	320 38.1	S15 13.3	178 16.9	N22 51.1	283 48.4	S 1 40.7
	10	300 21.3	315 55.9	S 8 12.6	335 38.6	S15 12.6	193 19.5	N22 51.1	298 50.6	S 1 40.6
	11	315 23.8	330 55.4	S 8 11.3	350 39.1	S15 12.0	208 22.2	N22 51.1	313 52.8	S 1 40.5
	12	330 26.3	345 55.0	S 8 10.1	5 39.7	S15 11.4	223 24.8	N22 51.2	328 55.0	S 1 40.4
	13	345 28.7	0 54.5	S 8 08.9	20 40.2	S15 10.7	238 27.4	N22 51.2	343 57.2	S 1 40.3
	14	0 31.2	15 54.1	S 8 07.7	35 40.7	S15 10.1	253 30.0	N22 51.2	358 59.4	S 1 40.1
	15	15 33.7	30 53.6	S 8 06.5	50 41.3	S15 09.4	268 32.7	N22 51.2	14 01.6	S 1 40.0
	16	30 36.1	45 53.2	S 8 05.3	65 41.8	S15 08.8	283 35.3	N22 51.2	29 03.8	S 1 39.9
	17	45 38.6	60 52.8	S 8 04.1	80 42.3	S15 08.2	298 37.9	N22 51.3	44 06.0	S 1 39.8
	18	60 41.1	75 52.3	S 8 02.9	95 42.9	S15 07.5	313 40.5	N22 51.3	59 08.2	S 1 39.7
	19	75 43.5	90 51.9	S 8 01.6	110 43.4	S15 06.9	328 43.2	N22 51.3	74 10.5	S 1 39.6
	20	90 46.0	105 51.4	S 8 00.4	125 43.9	S15 06.3	343 45.8	N22 51.3	89 12.7	S 1 39.4
	21	105 48.4	120 51.0	S 7 59.2	140 44.5	S15 05.6	358 48.4	N22 51.3	104 14.9	S 1 39.3
	22	120 50.9	135 50.5	S 7 58.0	155 45.0	S15 05.0	13 51.0	N22 51.4	119 17.1	S 1 39.2
	23	135 53.4	150 50.1	S 7 56.8	170 45.5	S15 04.3	28 53.7	N22 51.4	134 19.3	S 1 39.1
			v -0.5	d 1.2	v 0.5	d 0.6	v 2.6	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
18	0	176 31.3	S11 42.3	170 36.4	13.2	S 9 49.1	15.0	57.3
	1	191 31.4	S11 41.4	185 08.6	13.2	S 9 34.1	15.1	57.3
	2	206 31.4	S11 40.6	199 40.9	13.3	S 9 18.9	15.1	57.4
	3	221 31.5	S11 39.7	214 13.1	13.3	S 9 03.7	15.2	57.4
	4	236 31.5	S11 38.8	228 45.4	13.3	S 8 48.5	15.2	57.4
W	5	251 31.6	S11 37.9	243 17.8	13.3	S 8 33.2	15.3	57.4
E								
D	6	266 31.6	S11 37.0	257 50.1	13.3	S 8 17.9	15.3	57.4
N	7	281 31.7	S11 36.1	272 22.4	13.4	S 8 02.5	15.4	57.5
E	8	296 31.7	S11 35.3	286 54.8	13.4	S 7 47.0	15.4	57.5
S	9	311 31.8	S11 34.4	301 27.2	13.4	S 7 31.5	15.5	57.5
D	10	326 31.8	S11 33.5	315 59.6	13.4	S 7 16.0	15.5	57.5
A	11	341 31.9	S11 32.6	330 32.0	13.4	S 7 00.4	15.6	57.6
Y								
	12	356 31.9	S11 31.7	345 04.4	13.4	S 6 44.8	15.6	57.6
	13	11 32.0	S11 30.8	359 36.9	13.4	S 6 29.1	15.7	57.6
	14	26 32.1	S11 29.9	14 09.3	13.4	S 6 13.4	15.7	57.6
	15	41 32.1	S11 29.1	28 41.8	13.5	S 5 57.7	15.7	57.6
	16	56 32.2	S11 28.2	43 14.2	13.5	S 5 41.9	15.8	57.7
	17	71 32.2	S11 27.3	57 46.7	13.5	S 5 26.1	15.8	57.7
	18	86 32.3	S11 26.4	72 19.1	13.5	S 5 10.2	15.9	57.7
	19	101 32.3	S11 25.5	86 51.6	13.5	S 4 54.3	15.9	57.7
	20	116 32.4	S11 24.6	101 24.1	13.5	S 4 38.4	15.9	57.8
	21	131 32.4	S11 23.7	115 56.6	13.5	S 4 22.5	16.0	57.8
	22	146 32.5	S11 22.8	130 29.1	13.5	S 4 06.5	16.0	57.8
	23	161 32.6	S11 22.0	145 01.5	13.5	S 3 50.5	16.0	57.8
19	0	176 32.6	S11 21.1	159 34.0	13.5	S 3 34.4	16.0	57.8
	1	191 32.7	S11 20.2	174 06.5	13.5	S 3 18.4	16.1	57.9
	2	206 32.7	S11 19.3	188 39.0	13.5	S 3 02.3	16.1	57.9
	3	221 32.8	S11 18.4	203 11.4	13.5	S 2 46.1	16.1	57.9
	4	236 32.8	S11 17.5	217 43.9	13.5	S 2 30.0	16.1	57.9
T	5	251 32.9	S11 16.6	232 16.4	13.5	S 2 13.8	16.2	57.9
H								
U	6	266 33.0	S11 15.7	246 48.8	13.5	S 1 57.7	16.2	58.0
R	7	281 33.0	S11 14.8	261 21.3	13.4	S 1 41.4	16.2	58.0
S	8	296 33.1	S11 13.9	275 53.7	13.4	S 1 25.2	16.2	58.0
D	9	311 33.1	S11 13.0	290 26.1	13.4	S 1 09.0	16.2	58.0
A	10	326 33.2	S11 12.2	304 58.5	13.4	S 0 52.7	16.3	58.0
Y	11	341 33.2	S11 11.3	319 30.9	13.4	S 0 36.5	16.3	58.0
	12	356 33.3	S11 10.4	334 03.3	13.4	S 0 20.2	16.3	58.1
	13	11 33.4	S11 09.5	348 35.7	13.4	S 0 03.9	16.3	58.1
	14	26 33.4	S11 08.6	3 08.0	13.3	N 0 12.4	16.3	58.1
	15	41 33.5	S11 07.7	17 40.3	13.3	N 0 28.7	16.3	58.1
	16	56 33.6	S11 06.8	32 12.6	13.3	N 0 45.0	16.3	58.1
	17	71 33.6	S11 05.9	46 44.9	13.3	N 1 01.3	16.3	58.2
	18	86 33.7	S11 05.0	61 17.2	13.3	N 1 17.7	16.3	58.2
	19	101 33.7	S11 04.1	75 49.4	13.2	N 1 34.0	16.3	58.2
	20	116 33.8	S11 03.2	90 21.7	13.2	N 1 50.3	16.3	58.2
	21	131 33.9	S11 02.3	104 53.9	13.2	N 2 06.7	16.3	58.2
	22	146 33.9	S11 01.4	119 26.0	13.2	N 2 23.0	16.3	58.2
	23	161 34.0	S11 00.5	133 58.2	13.1	N 2 39.3	16.3	58.3
20	0	176 34.0	S10 59.6	148 30.3	13.1	N 2 55.6	16.3	58.3
	1	191 34.1	S10 58.7	163 02.4	13.1	N 3 12.0	16.3	58.3
	2	206 34.2	S10 57.8	177 34.4	13.1	N 3 28.3	16.3	58.3
	3	221 34.2	S10 56.9	192 06.4	13.0	N 3 44.6	16.3	58.3
	4	236 34.3	S10 56.0	206 38.4	13.0	N 4 00.9	16.3	58.3
F	5	251 34.4	S10 55.1	221 10.4	12.9	N 4 17.1	16.3	58.4
R								
I	6	266 34.4	S10 54.2	235 42.3	12.9	N 4 33.4	16.3	58.4
D	7	281 34.5	S10 53.3	250 14.2	12.9	N 4 49.7	16.3	58.4
A	8	296 34.6	S10 52.4	264 46.0	12.8	N 5 05.9	16.2	58.4
Y	9	311 34.6	S10 51.5	279 17.8	12.8	N 5 22.1	16.2	58.4
	10	326 34.7	S10 50.7	293 49.6	12.8	N 5 38.3	16.2	58.4
	11	341 34.8	S10 49.8	308 21.3	12.7	N 5 54.5	16.2	58.5
	12	356 34.8	S10 48.9	322 52.9	12.7	N 6 10.7	16.2	58.5
	13	11 34.9	S10 48.0	337 24.6	12.6	N 6 26.8	16.1	58.5
	14	26 35.0	S10 47.0	351 56.1	12.6	N 6 42.9	16.1	58.5
	15	41 35.0	S10 46.1	6 27.7	12.5	N 6 59.0	16.1	58.5
	16	56 35.1	S10 45.2	20 59.2	12.5	N 7 15.1	16.1	58.5
	17	71 35.2	S10 44.3	35 30.6	12.4	N 7 31.1	16.0	58.5
	18	86 35.2	S10 43.4	50 02.0	12.4	N 7 47.1	16.0	58.6
	19	101 35.3	S10 42.5	64 33.3	12.3	N 8 03.1	16.0	58.6
	20	116 35.4	S10 41.6	79 04.6	12.3	N 8 19.1	15.9	58.6
	21	131 35.4	S10 40.7	93 35.8	12.2	N 8 35.0	15.9	58.6
	22	146 35.5	S10 39.8	108 07.0	12.2	N 8 50.9	15.9	58.6
	23	161 35.6	S10 38.9	122 38.1	12.1	N 9 06.7	15.8	58.6
		S.D. 16.2	d 0.9	S.D.	15.7		15.8	15.9

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 12.2
Achernar	335 19.8	S57 06.5
Acrux	172 58.6	S63 14.5
Adhara	255 04.9	S29 00.6
Albireo	67 03.6	N28 00.6
Aldebaran	290 38.5	N16 33.7
Alioth	166 11.6	N55 48.8
Alkaid	152 51.0	N49 10.6
Al Na-ir	27 32.1	S46 50.1
Alnilam	275 36.6	S 1 11.2
Alphard	217 46.5	S 8 46.4
Alphecca	126 02.9	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.3	N 8 56.1
Ankaa	353 06.5	S42 10.0
Antares	112 14.8	S26 29.4
Arcturus	145 46.9	N19 02.5
Atria	107 08.4	S69 04.3
Avior	234 13.8	S59 35.7
Bellatrix	278 21.7	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.6	S52 42.8
Capella	280 20.4	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.6	N45 22.2
Denebola	182 23.7	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.4
Elnath	278 00.6	N28 37.8
Eltanin	90 42.0	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.1
Gacrux	171 50.2	S57 15.5
Gienah	175 42.4	S17 41.3
Hadar	148 34.5	S60 29.8
Hamal	327 50.3	N23 35.3
Kaus Austr.	83 31.5	S34 22.4
Kochab	137 19.6	N74 02.4
Markab	13 29.3	N15 20.7
Menkar	314 05.2	N 4 11.5
Menkent	147 56.4	S36 29.9
Miaplacidus	221 37.1	S69 49.5
Mirfak	308 27.0	N49 57.5
Nunki	75 46.8	S26 15.9
Peacock	53 04.7	S56 39.0
Polaris	316 17.1	N89 22.2
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.8	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 39.0	S60 56.4
Sabik	102 01.8	S15 45.5
Schedar	349 30.4	N56 41.0
Shaula	96 09.3	S37 07.3
Sirius	258 25.2	S16 45.2
Spica	158 21.1	S11 18.0
Suhail	222 45.2	S43 32.4
Vega	80 32.9	N38 48.1
Zuben-ubi	136 55.8	S16 09.1

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
21	0	150 55.8	165 49.7	S 7 55.6	185 46.1	S15 03.7	43 56.3	N22 51.4	149 21.5	S 1 39.0
	1	165 58.3	180 49.2	S 7 54.3	200 46.6	S15 03.1	58 58.9	N22 51.4	164 23.7	S 1 38.9
	2	181 00.8	195 48.8	S 7 53.1	215 47.2	S15 02.4	74 01.5	N22 51.4	179 25.9	S 1 38.7
	3	196 03.2	210 48.3	S 7 51.9	230 47.7	S15 01.8	89 04.1	N22 51.5	194 28.1	S 1 38.6
	4	211 05.7	225 47.9	S 7 50.7	245 48.2	S15 01.1	104 06.8	N22 51.5	209 30.3	S 1 38.5
S	5	226 08.2	240 47.5	S 7 49.5	260 48.8	S15 00.5	119 09.4	N22 51.5	224 32.5	S 1 38.4
A										
T	6	241 10.6	255 47.0	S 7 48.3	275 49.3	S14 59.9	134 12.0	N22 51.5	239 34.7	S 1 38.3
U	7	256 13.1	270 46.6	S 7 47.0	290 49.8	S14 59.2	149 14.6	N22 51.5	254 36.9	S 1 38.2
R	8	271 15.6	285 46.1	S 7 45.8	305 50.4	S14 58.6	164 17.2	N22 51.6	269 39.1	S 1 38.0
D	9	286 18.0	300 45.7	S 7 44.6	320 50.9	S14 57.9	179 19.9	N22 51.6	284 41.3	S 1 37.9
A	10	301 20.5	315 45.3	S 7 43.4	335 51.4	S14 57.3	194 22.5	N22 51.6	299 43.5	S 1 37.8
Y	11	316 22.9	330 44.8	S 7 42.2	350 52.0	S14 56.6	209 25.1	N22 51.6	314 45.7	S 1 37.7
	12	331 25.4	345 44.4	S 7 40.9	5 52.5	S14 56.0	224 27.7	N22 51.6	329 47.9	S 1 37.6
	13	346 27.9	0 44.0	S 7 39.7	20 53.1	S14 55.4	239 30.3	N22 51.7	344 50.1	S 1 37.5
	14	1 30.3	15 43.5	S 7 38.5	35 53.6	S14 54.7	254 33.0	N22 51.7	359 52.3	S 1 37.3
	15	16 32.8	30 43.1	S 7 37.3	50 54.1	S14 54.1	269 35.6	N22 51.7	14 54.5	S 1 37.2
	16	31 35.3	45 42.7	S 7 36.1	65 54.7	S14 53.4	284 38.2	N22 51.7	29 56.7	S 1 37.1
	17	46 37.7	60 42.2	S 7 34.8	80 55.2	S14 52.8	299 40.8	N22 51.7	44 58.9	S 1 37.0
	18	61 40.2	75 41.8	S 7 33.6	95 55.8	S14 52.1	314 43.4	N22 51.8	60 01.1	S 1 36.9
	19	76 42.7	90 41.3	S 7 32.4	110 56.3	S14 51.5	329 46.0	N22 51.8	75 03.3	S 1 36.8
	20	91 45.1	105 40.9	S 7 31.2	125 56.8	S14 50.8	344 48.6	N22 51.8	90 05.5	S 1 36.6
	21	106 47.6	120 40.5	S 7 29.9	140 57.4	S14 50.2	359 51.3	N22 51.8	105 07.7	S 1 36.5
	22	121 50.0	135 40.0	S 7 28.7	155 57.9	S14 49.6	14 53.9	N22 51.8	120 09.9	S 1 36.4
	23	136 52.5	150 39.6	S 7 27.5	170 58.5	S14 48.9	29 56.5	N22 51.8	135 12.1	S 1 36.3
22	0	151 55.0	165 39.2	S 7 26.3	185 59.0	S14 48.3	44 59.1	N22 51.9	150 14.3	S 1 36.2
	1	166 57.4	180 38.7	S 7 25.0	200 59.5	S14 47.6	60 01.7	N22 51.9	165 16.5	S 1 36.0
	2	181 59.9	195 38.3	S 7 23.8	216 00.1	S14 47.0	75 04.3	N22 51.9	180 18.7	S 1 35.9
	3	197 02.4	210 37.9	S 7 22.6	231 00.6	S14 46.3	90 06.9	N22 51.9	195 20.9	S 1 35.8
	4	212 04.8	225 37.4	S 7 21.4	246 01.2	S14 45.7	105 09.6	N22 51.9	210 23.1	S 1 35.7
S	5	227 07.3	240 37.0	S 7 20.1	261 01.7	S14 45.0	120 12.2	N22 52.0	225 25.3	S 1 35.6
U										
N	6	242 09.8	255 36.6	S 7 18.9	276 02.2	S14 44.4	135 14.8	N22 52.0	240 27.5	S 1 35.5
D	7	257 12.2	270 36.2	S 7 17.7	291 02.8	S14 43.7	150 17.4	N22 52.0	255 29.7	S 1 35.3
A	8	272 14.7	285 35.7	S 7 16.5	306 03.3	S14 43.1	165 20.0	N22 52.0	270 31.9	S 1 35.2
Y	9	287 17.2	300 35.3	S 7 15.2	321 03.9	S14 42.4	180 22.6	N22 52.0	285 34.1	S 1 35.1
	10	302 19.6	315 34.9	S 7 14.0	336 04.4	S14 41.8	195 25.2	N22 52.1	300 36.3	S 1 35.0
	11	317 22.1	330 34.4	S 7 12.8	351 05.0	S14 41.1	210 27.8	N22 52.1	315 38.5	S 1 34.9
	12	332 24.5	345 34.0	S 7 11.5	6 05.5	S14 40.5	225 30.4	N22 52.1	330 40.7	S 1 34.8
	13	347 27.0	0 33.6	S 7 10.3	21 06.0	S14 39.8	240 33.0	N22 52.1	345 42.9	S 1 34.6
	14	2 29.5	15 33.1	S 7 09.1	36 06.6	S14 39.2	255 35.7	N22 52.1	0 45.1	S 1 34.5
	15	17 31.9	30 32.7	S 7 07.9	51 07.1	S14 38.5	270 38.3	N22 52.2	15 47.3	S 1 34.4
	16	32 34.4	45 32.3	S 7 06.6	66 07.7	S14 37.9	285 40.9	N22 52.2	30 49.5	S 1 34.3
	17	47 36.9	60 31.9	S 7 05.4	81 08.2	S14 37.2	300 43.5	N22 52.2	45 51.7	S 1 34.2
	18	62 39.3	75 31.4	S 7 04.2	96 08.8	S14 36.6	315 46.1	N22 52.2	60 53.9	S 1 34.0
	19	77 41.8	90 31.0	S 7 02.9	111 09.3	S14 35.9	330 48.7	N22 52.2	75 56.1	S 1 33.9
	20	92 44.3	105 30.6	S 7 01.7	126 09.8	S14 35.3	345 51.3	N22 52.2	90 58.3	S 1 33.8
	21	107 46.7	120 30.2	S 7 00.5	141 10.4	S14 34.6	0 53.9	N22 52.3	106 00.5	S 1 33.7
	22	122 49.2	135 29.7	S 6 59.2	156 10.9	S14 34.0	15 56.5	N22 52.3	121 02.7	S 1 33.6
	23	137 51.6	150 29.3	S 6 58.0	171 11.5	S14 33.3	30 59.1	N22 52.3	136 04.9	S 1 33.5
23	0	152 54.1	165 28.9	S 6 56.8	186 12.0	S14 32.7	46 01.7	N22 52.3	151 07.1	S 1 33.3
	1	167 56.6	180 28.5	S 6 55.5	201 12.6	S14 32.0	61 04.3	N22 52.3	166 09.3	S 1 33.2
	2	182 59.0	195 28.0	S 6 54.3	216 13.1	S14 31.4	76 06.9	N22 52.4	181 11.5	S 1 33.1
	3	198 01.5	210 27.6	S 6 53.1	231 13.7	S14 30.7	91 09.5	N22 52.4	196 13.7	S 1 33.0
	4	213 04.0	225 27.2	S 6 51.8	246 14.2	S14 30.1	106 12.1	N22 52.4	211 15.9	S 1 32.9
M	5	228 06.4	240 26.8	S 6 50.6	261 14.7	S14 29.4	121 14.7	N22 52.4	226 18.1	S 1 32.7
O										
N	6	243 08.9	255 26.3	S 6 49.4	276 15.3	S14 28.7	136 17.3	N22 52.4	241 20.3	S 1 32.6
D	7	258 11.4	270 25.9	S 6 48.1	291 15.8	S14 28.1	151 19.9	N22 52.4	256 22.5	S 1 32.5
A	8	273 13.8	285 25.5	S 6 46.9	306 16.4	S14 27.4	166 22.5	N22 52.5	271 24.7	S 1 32.4
Y	9	288 16.3	300 25.1	S 6 45.7	321 16.9	S14 26.8	181 25.1	N22 52.5	286 26.9	S 1 32.3
	10	303 18.8	315 24.6	S 6 44.4	336 17.5	S14 26.1	196 27.7	N22 52.5	301 29.1	S 1 32.2
	11	318 21.2	330 24.2	S 6 43.2	351 18.0	S14 25.5	211 30.4	N22 52.5	316 31.3	S 1 32.0
	12	333 23.7	345 23.8	S 6 42.0	6 18.6	S14 24.8	226 33.0	N22 52.5	331 33.5	S 1 31.9
	13	348 26.1	0 23.4	S 6 40.7	21 19.1	S14 24.2	241 35.6	N22 52.5	346 35.7	S 1 31.8
	14	3 28.6	15 23.0	S 6 39.5	36 19.7	S14 23.5	256 38.2	N22 52.6	1 37.9	S 1 31.7
	15	18 31.1	30 22.5	S 6 38.3	51 20.2	S14 22.9	271 40.8	N22 52.6	16 40.1	S 1 31.6
	16	33 33.5	45 22.1	S 6 37.0	66 20.8	S14 22.2	286 43.4	N22 52.6	31 42.3	S 1 31.4
	17	48 36.0	60 21.7	S 6 35.8	81 21.3	S14 21.5	301 45.9	N22 52.6	46 44.5	S 1 31.3
	18	63 38.5	75 21.3	S 6 34.5	96 21.8	S14 20.9	316 48.5	N22 52.6	61 46.7	S 1 31.2
	19	78 40.9	90 20.9	S 6 33.3	111 22.4	S14 20.2	331 51.1	N22 52.7	76 48.9	S 1 31.1
	20	93 43.4	105 20.4	S 6 32.1	126 22.9	S14 19.6	346 53.7	N22 52.7	91 51.1	S 1 31.0
	21	108 45.9	120 20.0	S 6 30.8	141 23.5	S14 18.9	1 56.3	N22 52.7	106 53.3	S 1 30.9
	22	123 48.3	135 19.6	S 6 29.6	156 24.0	S14 18.3	16 58.9	N22 52.7	121 55.4	S 1 30.7
	23	138 50.8	150 19.2	S 6 28.4	171 24.6	S14 17.6	32 01.5	N22 52.7	136 57.6	S 1 30.6
			v -0.4	d 1.2	v 0.5	d 0.6	v 2.6	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
21	0	176 35.7	S10 38.0	137 09.1	12.1	N 9 22.5	15.8	58.6
	1	191 35.7	S10 37.1	151 40.1	12.0	N 9 38.2	15.8	58.7
	2	206 35.8	S10 36.2	166 11.1	11.9	N 9 54.0	15.7	58.7
	3	221 35.9	S10 35.3	180 42.0	11.9	N10 09.6	15.7	58.7
	4	236 35.9	S10 34.4	195 12.8	11.8	N10 25.3	15.6	58.7
S	5	251 36.0	S10 33.5	209 43.5	11.7	N10 40.8	15.6	58.7
A								
T	6	266 36.1	S10 32.6	224 14.2	11.7	N10 56.4	15.5	58.7
U	7	281 36.2	S10 31.7	238 44.8	11.6	N11 11.9	15.5	58.7
R	8	296 36.2	S10 30.8	253 15.3	11.5	N11 27.3	15.4	58.7
D	9	311 36.3	S10 29.9	267 45.8	11.5	N11 42.7	15.4	58.8
A	10	326 36.4	S10 29.0	282 16.2	11.4	N11 58.0	15.3	58.8
Y	11	341 36.5	S10 28.1	296 46.6	11.3	N12 13.3	15.3	58.8
	12	356 36.5	S10 27.2	311 16.8	11.3	N12 28.5	15.2	58.8
	13	11 36.6	S10 26.3	325 47.0	11.2	N12 43.6	15.2	58.8
	14	26 36.7	S10 25.4	340 17.2	11.1	N12 58.7	15.1	58.8
	15	41 36.7	S10 24.4	354 47.2	11.0	N13 13.7	15.0	58.8
	16	56 36.8	S10 23.5	9 17.2	11.0	N13 28.7	15.0	58.8
	17	71 36.9	S10 22.6	23 47.1	10.9	N13 43.6	14.9	58.8
	18	86 37.0	S10 21.7	38 16.9	10.8	N13 58.4	14.8	58.9
	19	101 37.1	S10 20.8	52 46.6	10.7	N14 13.2	14.8	58.9
	20	116 37.1	S10 19.9	67 16.3	10.7	N14 27.9	14.7	58.9
	21	131 37.2	S10 19.0	81 45.8	10.6	N14 42.5	14.6	58.9
	22	146 37.3	S10 18.1	96 15.3	10.5	N14 57.1	14.5	58.9
	23	161 37.4	S10 17.2	110 44.7	10.4	N15 11.5	14.5	58.9
22	0	176 37.4	S10 16.3	125 14.1	10.3	N15 25.9	14.4	58.9
	1	191 37.5	S10 15.4	139 43.3	10.2	N15 40.2	14.3	58.9
	2	206 37.6	S10 14.4	154 12.5	10.2	N15 54.5	14.2	58.9
	3	221 37.7	S10 13.5	168 41.5	10.1	N16 08.6	14.2	58.9
	4	236 37.7	S10 12.6	183 10.5	10.0	N16 22.7	14.1	58.9
S	5	251 37.8	S10 11.7	197 39.4	9.9	N16 36.7	14.0	59.0
U								
N	6	266 37.9	S10 10.8	212 08.2	9.8	N16 50.6	13.9	59.0
D	7	281 38.0	S10 09.9	226 36.9	9.7	N17 04.4	13.8	59.0
A	8	296 38.1	S10 09.0	241 05.5	9.6	N17 18.1	13.7	59.0
Y	9	311 38.1	S10 08.1	255 34.1	9.5	N17 31.8	13.6	59.0
	10	326 38.2	S10 07.1	270 02.5	9.4	N17 45.3	13.5	59.0
	11	341 38.3	S10 06.2	284 30.8	9.3	N17 58.7	13.4	59.0
	12	356 38.4	S10 05.3	298 59.1	9.3	N18 12.1	13.3	59.0
	13	11 38.5	S10 04.4	313 27.3	9.2	N18 25.3	13.2	59.0
	14	26 38.5	S10 03.5	327 55.3	9.1	N18 38.5	13.1	59.0
	15	41 38.6	S10 02.6	342 23.3	9.0	N18 51.5	13.0	59.0
	16	56 38.7	S10 01.7	356 51.2	8.9	N19 04.4	12.9	59.0
	17	71 38.8	S10 00.8	11 18.9	8.8	N19 17.3	12.8	59.1
	18	86 38.9	S 9 59.8	25 46.6	8.7	N19 30.0	12.7	59.1
	19	101 39.0	S 9 58.9	40 14.2	8.6	N19 42.6	12.6	59.1
	20	116 39.0	S 9 58.0	54 41.7	8.5	N19 55.1	12.5	59.1
	21	131 39.1	S 9 57.1	69 09.1	8.4	N20 07.5	12.4	59.1
	22	146 39.2	S 9 56.2	83 36.4	8.3	N20 19.8	12.3	59.1
	23	161 39.3	S 9 55.3	98 03.6	8.2	N20 32.0	12.2	59.1
23	0	176 39.4	S 9 54.3	112 30.7	8.1	N20 44.0	12.0	59.1
	1	191 39.5	S 9 53.4	126 57.6	8.0	N20 55.9	11.9	59.1
	2	206 39.5	S 9 52.5	141 24.5	7.9	N21 07.8	11.8	59.1
	3	221 39.6	S 9 51.6	155 51.3	7.8	N21 19.4	11.7	59.1
	4	236 39.7	S 9 50.7	170 18.0	7.7	N21 31.0	11.6	59.1
M	5	251 39.8	S 9 49.8	184 44.6	7.6	N21 42.4	11.4	59.1
O								
N	6	266 39.9	S 9 48.8	199 11.1	7.5	N21 53.7	11.3	59.1
D	7	281 40.0	S 9 47.9	213 37.5	7.4	N22 04.9	11.2	59.1
A	8	296 40.0	S 9 47.0	228 03.8	7.3	N22 16.0	11.0	59.1
Y	9	311 40.1	S 9 46.1	242 30.0	7.2	N22 26.9	10.9	59.1
	10	326 40.2	S 9 45.2	256 56.1	7.1	N22 37.7	10.8	59.2
	11	341 40.3	S 9 44.2	271 22.1	7.0	N22 48.3	10.6	59.2
	12	356 40.4	S 9 43.3	285 48.0	6.9	N22 58.8	10.5	59.2
	13	11 40.5	S 9 42.4	300 13.8	6.8	N23 09.2	10.4	59.2
	14	26 40.6	S 9 41.5	314 39.5	6.7	N23 19.4	10.2	59.2
	15	41 40.7	S 9 40.6	329 05.1	6.6	N23 29.5	10.1	59.2
	16	56 40.7	S 9 39.6	343 30.6	6.5	N23 39.5	9.9	59.2
	17	71 40.8	S 9 38.7	357 56.0	6.4	N23 49.3	9.8	59.2
	18	86 40.9	S 9 37.8	12 21.3	6.3	N23 58.9	9.7	59.2
	19	101 41.0	S 9 36.9	26 46.6	6.2	N24 08.4	9.5	59.2
	20	116 41.1	S 9 36.0	41 11.7	6.1	N24 17.8	9.4	59.2
	21	131 41.2	S 9 35.0	55 36.7	6.0	N24 27.0	9.2	59.2
	22	146 41.3	S 9 34.1	70 01.6	5.9	N24 36.0	9.0	59.2
	23	161 41.4	S 9 33.2	84 26.5	5.8	N24 44.9	8.9	59.2
		S.D. 16.2	d 0.9	S.D. 16.0		16.1		16.1

Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 12.2
Achernar	335 19.8	S57 06.4
Acrux	172 58.6	S63 14.5
Adhara	255 04.9	S29 00.6
Albireo	67 03.6	N28 00.6
Aldebaran	290 38.5	N16 33.7
Alioth	166 11.6	N55 48.8
Alkaid	152 50.9	N49 10.6
Al Na-ir	27 32.1	S46 50.1
Alnilam	275 36.6	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.9	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.3	N 8 56.1
Ankaa	353 06.5	S42 10.0
Antares	112 14.7	S26 29.4
Arcturus	145 46.9	N19 02.5
Atria	107 08.3	S69 04.3
Avior	234 13.8	S59 35.7
Bellatrix	278 21.8	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.7	S52 42.8
Capella	280 20.4	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.6	N45 22.2
Denebola	182 23.7	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.4
Elnath	278 00.6	N28 37.8
Eltanin	90 42.0	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.1
Gacrux	171 50.2	S57 15.5
Gienah	175 42.3	S17 41.3
Hadar	148 34.5	S60 29.8
Hamal	327 50.3	N23 35.3
Kaus Austr.	83 31.5	S34 22.4
Kochab	137 19.5	N74 02.5
Markab	13 29.3	N15 20.7
Menkar	314 05.2	N 4 11.5
Menkent	147 56.4	S36 30.0
Miaplacidus	221 37.2	S69 49.5
Mirfak	308 27.1	N49 57.5
Nunki	75 46.8	S26 15.9
Peacock	53 04.7	S56 39.0
Polaris	316 18.1	N89 22.2
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.8	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 39.0	S60 56.5
Sabik	102 01.8	S15 45.5
Schedar	349 30.5	N56 41.0
Shaula	96 09.2	S37 07.3
Sirius	258 25.2	S16 45.2
Spica	158 21.1	S11 18.0
Suhail	222 45.2	S43 32.4
Vega	80 32.8	N38 48.1
Zuben-ubi	136 55.8	S16 09.1

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
24	0	153 53.3	165 18.8	S 6 27.1	186 25.1	S14 16.9	47 04.1	N22 52.7	151 59.8	S 1 30.5
	1	168 55.7	180 18.3	S 6 25.9	201 25.7	S14 16.3	62 06.7	N22 52.8	167 02.0	S 1 30.4
	2	183 58.2	195 17.9	S 6 24.6	216 26.2	S14 15.6	77 09.3	N22 52.8	182 04.2	S 1 30.3
	3	199 00.6	210 17.5	S 6 23.4	231 26.8	S14 15.0	92 11.9	N22 52.8	197 06.4	S 1 30.1
	4	214 03.1	225 17.1	S 6 22.1	246 27.3	S14 14.3	107 14.5	N22 52.8	212 08.6	S 1 30.0
T	5	229 05.6	240 16.7	S 6 20.9	261 27.9	S14 13.6	122 17.1	N22 52.8	227 10.8	S 1 29.9
U										
E	6	244 08.0	255 16.3	S 6 19.7	276 28.4	S14 13.0	137 19.7	N22 52.8	242 13.0	S 1 29.8
S	7	259 10.5	270 15.8	S 6 18.4	291 29.0	S14 12.3	152 22.3	N22 52.9	257 15.2	S 1 29.7
D	8	274 13.0	285 15.4	S 6 17.2	306 29.5	S14 11.7	167 24.9	N22 52.9	272 17.4	S 1 29.6
A	9	289 15.4	300 15.0	S 6 15.9	321 30.1	S14 11.0	182 27.5	N22 52.9	287 19.6	S 1 29.4
Y	10	304 17.9	315 14.6	S 6 14.7	336 30.6	S14 10.3	197 30.1	N22 52.9	302 21.8	S 1 29.3
	11	319 20.4	330 14.2	S 6 13.5	351 31.2	S14 09.7	212 32.7	N22 52.9	317 24.0	S 1 29.2
	12	334 22.8	345 13.8	S 6 12.2	6 31.7	S14 09.0	227 35.3	N22 52.9	332 26.2	S 1 29.1
	13	349 25.3	0 13.3	S 6 11.0	21 32.3	S14 08.4	242 37.9	N22 53.0	347 28.4	S 1 29.0
	14	4 27.8	15 12.9	S 6 09.7	36 32.8	S14 07.7	257 40.4	N22 53.0	2 30.6	S 1 28.8
	15	19 30.2	30 12.5	S 6 08.5	51 33.4	S14 07.0	272 43.0	N22 53.0	17 32.8	S 1 28.7
	16	34 32.7	45 12.1	S 6 07.2	66 33.9	S14 06.4	287 45.6	N22 53.0	32 35.0	S 1 28.6
	17	49 35.1	60 11.7	S 6 06.0	81 34.5	S14 05.7	302 48.2	N22 53.0	47 37.2	S 1 28.5
	18	64 37.6	75 11.3	S 6 04.7	96 35.0	S14 05.0	317 50.8	N22 53.0	62 39.4	S 1 28.4
	19	79 40.1	90 10.9	S 6 03.5	111 35.6	S14 04.4	332 53.4	N22 53.1	77 41.6	S 1 28.2
	20	94 42.5	105 10.5	S 6 02.3	126 36.2	S14 03.7	347 56.0	N22 53.1	92 43.8	S 1 28.1
	21	109 45.0	120 10.0	S 6 01.0	141 36.7	S14 03.1	2 58.6	N22 53.1	107 46.0	S 1 28.0
	22	124 47.5	135 09.6	S 5 59.8	156 37.3	S14 02.4	18 01.2	N22 53.1	122 48.2	S 1 27.9
	23	139 49.9	150 09.2	S 5 58.5	171 37.8	S14 01.7	33 03.8	N22 53.1	137 50.4	S 1 27.8
25	0	154 52.4	165 08.8	S 5 57.3	186 38.4	S14 01.1	48 06.3	N22 53.1	152 52.6	S 1 27.7
	1	169 54.9	180 08.4	S 5 56.0	201 38.9	S14 00.4	63 08.9	N22 53.2	167 54.8	S 1 27.5
	2	184 57.3	195 08.0	S 5 54.8	216 39.5	S13 59.7	78 11.5	N22 53.2	182 57.0	S 1 27.4
	3	199 59.8	210 07.6	S 5 53.5	231 40.0	S13 59.1	93 14.1	N22 53.2	197 59.2	S 1 27.3
	4	215 02.2	225 07.2	S 5 52.3	246 40.6	S13 58.4	108 16.7	N22 53.2	213 01.4	S 1 27.2
W	5	230 04.7	240 06.8	S 5 51.0	261 41.1	S13 57.7	123 19.3	N22 53.2	228 03.6	S 1 27.1
E										
D	6	245 07.2	255 06.3	S 5 49.8	276 41.7	S13 57.1	138 21.9	N22 53.2	243 05.8	S 1 26.9
N	7	260 09.6	270 05.9	S 5 48.5	291 42.2	S13 56.4	153 24.4	N22 53.2	258 07.9	S 1 26.8
E	8	275 12.1	285 05.5	S 5 47.3	306 42.8	S13 55.7	168 27.0	N22 53.3	273 10.1	S 1 26.7
S	9	290 14.6	300 05.1	S 5 46.0	321 43.4	S13 55.1	183 29.6	N22 53.3	288 12.3	S 1 26.6
D	10	305 17.0	315 04.7	S 5 44.8	336 43.9	S13 54.4	198 32.2	N22 53.3	303 14.5	S 1 26.5
A	11	320 19.5	330 04.3	S 5 43.5	351 44.5	S13 53.7	213 34.8	N22 53.3	318 16.7	S 1 26.3
Y										
	12	335 22.0	345 03.9	S 5 42.3	6 45.0	S13 53.1	228 37.4	N22 53.3	333 18.9	S 1 26.2
	13	350 24.4	0 03.5	S 5 41.0	21 45.6	S13 52.4	243 39.9	N22 53.3	348 21.1	S 1 26.1
	14	5 26.9	15 03.1	S 5 39.8	36 46.1	S13 51.7	258 42.5	N22 53.4	3 23.3	S 1 26.0
	15	20 29.4	30 02.7	S 5 38.5	51 46.7	S13 51.1	273 45.1	N22 53.4	18 25.5	S 1 25.9
	16	35 31.8	45 02.3	S 5 37.3	66 47.2	S13 50.4	288 47.7	N22 53.4	33 27.7	S 1 25.7
	17	50 34.3	60 01.8	S 5 36.0	81 47.8	S13 49.7	303 50.3	N22 53.4	48 29.9	S 1 25.6
	18	65 36.7	75 01.4	S 5 34.8	96 48.4	S13 49.1	318 52.9	N22 53.4	63 32.1	S 1 25.5
	19	80 39.2	90 01.0	S 5 33.5	111 48.9	S13 48.4	333 55.4	N22 53.4	78 34.3	S 1 25.4
	20	95 41.7	105 00.6	S 5 32.3	126 49.5	S13 47.7	348 58.0	N22 53.4	93 36.5	S 1 25.3
	21	110 44.1	120 00.2	S 5 31.0	141 50.0	S13 47.1	4 00.6	N22 53.5	108 38.7	S 1 25.2
	22	125 46.6	134 59.8	S 5 29.8	156 50.6	S13 46.4	19 03.2	N22 53.5	123 40.9	S 1 25.0
	23	140 49.1	149 59.4	S 5 28.5	171 51.1	S13 45.7	34 05.8	N22 53.5	138 43.1	S 1 24.9
26	0	155 51.5	164 59.0	S 5 27.3	186 51.7	S13 45.0	49 08.3	N22 53.5	153 45.3	S 1 24.8
	1	170 54.0	179 58.6	S 5 26.0	201 52.3	S13 44.4	64 10.9	N22 53.5	168 47.5	S 1 24.7
	2	185 56.5	194 58.2	S 5 24.8	216 52.8	S13 43.7	79 13.5	N22 53.5	183 49.7	S 1 24.6
	3	200 58.9	209 57.8	S 5 23.5	231 53.4	S13 43.0	94 16.1	N22 53.6	198 51.9	S 1 24.4
	4	216 01.4	224 57.4	S 5 22.3	246 53.9	S13 42.4	109 18.7	N22 53.6	213 54.1	S 1 24.3
T	5	231 03.9	239 57.0	S 5 21.0	261 54.5	S13 41.7	124 21.2	N22 53.6	228 56.3	S 1 24.2
H										
U	6	246 06.3	254 56.6	S 5 19.8	276 55.0	S13 41.0	139 23.8	N22 53.6	243 58.4	S 1 24.1
R	7	261 08.8	269 56.2	S 5 18.5	291 55.6	S13 40.3	154 26.4	N22 53.6	259 00.6	S 1 24.0
S	8	276 11.2	284 55.8	S 5 17.2	306 56.2	S13 39.7	169 29.0	N22 53.6	274 02.8	S 1 23.8
D	9	291 13.7	299 55.4	S 5 16.0	321 56.7	S13 39.0	184 31.5	N22 53.6	289 05.0	S 1 23.7
A	10	306 16.2	314 55.0	S 5 14.7	336 57.3	S13 38.3	199 34.1	N22 53.7	304 07.2	S 1 23.6
Y	11	321 18.6	329 54.6	S 5 13.5	351 57.8	S13 37.7	214 36.7	N22 53.7	319 09.4	S 1 23.5
	12	336 21.1	344 54.2	S 5 12.2	6 58.4	S13 37.0	229 39.3	N22 53.7	334 11.6	S 1 23.4
	13	351 23.6	359 53.8	S 5 11.0	21 59.0	S13 36.3	244 41.8	N22 53.7	349 13.8	S 1 23.2
	14	6 26.0	14 53.4	S 5 09.7	36 59.5	S13 35.6	259 44.4	N22 53.7	4 16.0	S 1 23.1
	15	21 28.5	29 53.0	S 5 08.5	52 00.1	S13 35.0	274 47.0	N22 53.7	19 18.2	S 1 23.0
	16	36 31.0	44 52.6	S 5 07.2	67 00.6	S13 34.3	289 49.6	N22 53.7	34 20.4	S 1 22.9
	17	51 33.4	59 52.2	S 5 05.9	82 01.2	S13 33.6	304 52.1	N22 53.8	49 22.6	S 1 22.8
	18	66 35.9	74 51.8	S 5 04.7	97 01.8	S13 32.9	319 54.7	N22 53.8	64 24.8	S 1 22.6
	19	81 38.4	89 51.4	S 5 03.4	112 02.3	S13 32.3	334 57.3	N22 53.8	79 27.0	S 1 22.5
	20	96 40.8	104 51.0	S 5 02.2	127 02.9	S13 31.6	349 59.8	N22 53.8	94 29.2	S 1 22.4
	21	111 43.3	119 50.6	S 5 00.9	142 03.4	S13 30.9	5 02.4	N22 53.8	109 31.4	S 1 22.3
	22	126 45.7	134 50.2	S 4 59.7	157 04.0	S13 30.2	20 05.0	N22 53.8	124 33.6	S 1 22.2
	23	141 48.2	149 49.8	S 4 58.4	172 04.6	S13 29.6	35 07.6	N22 53.8	139 35.7	S 1 22.0
			v -0.4	d 1.2	v 0.6	d 0.7	v 2.6	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
24	0	176 41.5	S 9 32.3	98 51.2	5.7	N24 53.7	8.7	59.2
	1	191 41.6	S 9 31.3	113 15.9	5.7	N25 02.2	8.6	59.2
	2	206 41.6	S 9 30.4	127 40.5	5.6	N25 10.7	8.4	59.2
	3	221 41.7	S 9 29.5	142 04.9	5.5	N25 18.9	8.3	59.2
	4	236 41.8	S 9 28.6	156 29.3	5.4	N25 27.0	8.1	59.2
T	5	251 41.9	S 9 27.7	170 53.6	5.3	N25 35.0	7.9	59.2
U								
E	6	266 42.0	S 9 26.7	185 17.8	5.2	N25 42.7	7.8	59.2
S	7	281 42.1	S 9 25.8	199 42.0	5.1	N25 50.3	7.6	59.2
D	8	296 42.2	S 9 24.9	214 06.0	5.0	N25 57.8	7.4	59.2
A	9	311 42.3	S 9 24.0	228 30.0	5.0	N26 05.0	7.3	59.2
Y	10	326 42.4	S 9 23.0	242 53.9	4.9	N26 12.1	7.1	59.2
	11	341 42.5	S 9 22.1	257 17.7	4.8	N26 19.1	6.9	59.2
	12	356 42.6	S 9 21.2	271 41.4	4.7	N26 25.8	6.8	59.2
	13	11 42.7	S 9 20.3	286 05.0	4.6	N26 32.4	6.6	59.2
	14	26 42.8	S 9 19.3	300 28.6	4.6	N26 38.8	6.4	59.2
	15	41 42.8	S 9 18.4	314 52.1	4.5	N26 45.0	6.2	59.2
	16	56 42.9	S 9 17.5	329 15.6	4.4	N26 51.1	6.1	59.2
	17	71 43.0	S 9 16.6	343 38.9	4.4	N26 57.0	5.9	59.2
	18	86 43.1	S 9 15.6	358 02.2	4.3	N27 02.6	5.7	59.2
	19	101 43.2	S 9 14.7	12 25.4	4.2	N27 08.2	5.5	59.2
	20	116 43.3	S 9 13.8	26 48.6	4.2	N27 13.5	5.3	59.2
	21	131 43.4	S 9 12.8	41 11.7	4.1	N27 18.6	5.1	59.2
	22	146 43.5	S 9 11.9	55 34.7	4.0	N27 23.6	5.0	59.2
	23	161 43.6	S 9 11.0	69 57.7	4.0	N27 28.4	4.8	59.2
25	0	176 43.7	S 9 10.1	84 20.6	3.9	N27 33.0	4.6	59.2
	1	191 43.8	S 9 09.1	98 43.5	3.9	N27 37.4	4.4	59.2
	2	206 43.9	S 9 08.2	113 06.3	3.8	N27 41.6	4.2	59.2
	3	221 44.0	S 9 07.3	127 29.1	3.8	N27 45.6	4.0	59.2
	4	236 44.1	S 9 06.3	141 51.8	3.7	N27 49.5	3.8	59.2
W	5	251 44.2	S 9 05.4	156 14.5	3.7	N27 53.1	3.6	59.2
E								
D	6	266 44.3	S 9 04.5	170 37.1	3.6	N27 56.6	3.5	59.2
N	7	281 44.4	S 9 03.6	184 59.7	3.6	N27 59.8	3.3	59.2
E	8	296 44.5	S 9 02.6	199 22.2	3.5	N28 02.9	3.1	59.2
S	9	311 44.6	S 9 01.7	213 44.7	3.5	N28 05.8	2.9	59.2
D	10	326 44.7	S 9 00.8	228 07.2	3.5	N28 08.5	2.7	59.2
A	11	341 44.8	S 8 59.8	242 29.6	3.4	N28 11.0	2.5	59.2
Y								
	12	356 44.9	S 8 58.9	256 52.1	3.4	N28 13.3	2.3	59.2
	13	11 45.0	S 8 58.0	271 14.5	3.4	N28 15.4	2.1	59.2
	14	26 45.1	S 8 57.0	285 36.8	3.4	N28 17.3	1.9	59.2
	15	41 45.2	S 8 56.1	299 59.2	3.3	N28 19.0	1.7	59.2
	16	56 45.3	S 8 55.2	314 21.5	3.3	N28 20.5	1.5	59.2
	17	71 45.4	S 8 54.2	328 43.8	3.3	N28 21.9	1.3	59.2
	18	86 45.5	S 8 53.3	343 06.1	3.3	N28 23.0	1.1	59.2
	19	101 45.6	S 8 52.4	357 28.4	3.3	N28 23.9	0.9	59.2
	20	116 45.7	S 8 51.4	11 50.7	3.3	N28 24.7	0.7	59.2
	21	131 45.8	S 8 50.5	26 12.9	3.3	N28 25.2	0.5	59.2
	22	146 45.9	S 8 49.6	40 35.2	3.3	N28 25.5	0.3	59.2
	23	161 46.0	S 8 48.6	54 57.5	3.3	N28 25.7	0.1	59.2
26	0	176 46.1	S 8 47.7	69 19.7	3.3	N28 25.6	0.1	59.2
	1	191 46.2	S 8 46.8	83 42.0	3.3	N28 25.4	0.2	59.2
	2	206 46.3	S 8 45.8	98 04.3	3.3	N28 25.0	0.4	59.2
	3	221 46.4	S 8 44.9	112 26.6	3.3	N28 24.3	0.6	59.2
	4	236 46.5	S 8 44.0	126 48.9	3.3	N28 23.5	0.8	59.2
T	5	251 46.6	S 8 43.0	141 11.2	3.3	N28 22.4	1.0	59.2
H								
U	6	266 46.7	S 8 42.1	155 33.5	3.3	N28 21.2	1.2	59.2
R	7	281 46.8	S 8 41.2	169 55.9	3.4	N28 19.8	1.4	59.2
S	8	296 46.9	S 8 40.2	184 18.3	3.4	N28 18.2	1.6	59.2
D	9	311 47.0	S 8 39.3	198 40.7	3.4	N28 16.4	1.8	59.2
A	10	326 47.2	S 8 38.4	213 03.1	3.4	N28 14.4	2.0	59.2
Y	11	341 47.3	S 8 37.4	227 25.6	3.5	N28 12.1	2.2	59.2
	12	356 47.4	S 8 36.5	241 48.0	3.5	N28 09.8	2.4	59.1
	13	11 47.5	S 8 35.6	256 10.6	3.5	N28 07.2	2.6	59.1
	14	26 47.6	S 8 34.6	270 33.2	3.6	N28 04.4	2.8	59.1
	15	41 47.7	S 8 33.7	284 55.8	3.6	N28 01.4	3.0	59.1
	16	56 47.8	S 8 32.7	299 18.4	3.7	N27 58.2	3.2	59.1
	17	71 47.9	S 8 31.8	313 41.1	3.7	N27 54.9	3.4	59.1
	18	86 48.0	S 8 30.9	328 03.9	3.7	N27 51.3	3.5	59.1
	19	101 48.1	S 8 29.9	342 26.7	3.8	N27 47.6	3.7	59.1
	20	116 48.2	S 8 29.0	356 49.5	3.8	N27 43.7	3.9	59.1
	21	131 48.3	S 8 28.1	11 12.4	3.9	N27 39.6	4.1	59.1
	22	146 48.4	S 8 27.1	25 35.4	4.0	N27 35.3	4.3	59.1
	23	161 48.5	S 8 26.2	39 58.4	4.0	N27 30.8	4.5	59.1
		S.D. 16.2	d 0.9	S.D. 16.1		16.1		16.1

STARS Name	SHA	Dec
Acamar	315 11.1	S40 12.2
Achernar	335 19.8	S57 06.4
Acrux	172 58.5	S63 14.6
Adhara	255 04.9	S29 00.6
Albireo	67 03.6	N28 00.6
Aldebaran	290 38.5	N16 33.7
Alioth	166 11.6	N55 48.8
Alkaid	152 50.9	N49 10.6
Al Na-ir	27 32.1	S46 50.1
Alnilam	275 36.6	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.9	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.3	N 8 56.1
Ankaa	353 06.5	S42 10.0
Antares	112 14.7	S26 29.4
Arcturus	145 46.9	N19 02.5
Atria	107 08.3	S69 04.3
Avior	234 13.8	S59 35.8
Bellatrix	278 21.8	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.7	S52 42.8
Capella	280 20.4	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.6	N45 22.2
Denebola	182 23.7	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.4
Elnath	278 00.6	N28 37.8
Eltanin	90 42.0	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.1
Gacrux	171 50.2	S57 15.6
Gienah	175 42.3	S17 41.3
Hadar	148 34.4	S60 29.8
Hamal	327 50.4	N23 35.3
Kaus Austr.	83 31.5	S34 22.4
Kochab	137 19.5	N74 02.5
Markab	13 29.3	N15 20.7
Menkar	314 05.2	N 4 11.5
Menkent	147 56.3	S36 30.0
Miaplacidus	221 37.2	S69 49.6
Mirfak	308 27.1	N49 57.5
Nunki	75 46.8	S26 15.9
Peacock	53 04.6	S56 39.0
Polaris	316 19.0	N89 22.1
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.8	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 38.9	S60 56.5
Sabik	102 01.8	S15 45.6
Schedar	349 30.5	N56 41.0
Shaula	96 09.2	S37 07.3
Sirius	258 25.2	S16 45.3
Spica	158 21.1	S11 18.0
Suhail	222 45.2	S43 32.4
Vega	80 32.8	N38 48.1
Zuben-ubi	136 55.7	S16 09.1

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
27	0	156 50.7	164 49.4	S 4 57.1	187 05.1	S13 28.9	50 10.1	N22 53.9	154 37.9	S 1 21.9
	1	171 53.1	179 49.0	S 4 55.9	202 05.7	S13 28.2	65 12.7	N22 53.9	169 40.1	S 1 21.8
	2	186 55.6	194 48.6	S 4 54.6	217 06.3	S13 27.5	80 15.3	N22 53.9	184 42.3	S 1 21.7
	3	201 58.1	209 48.2	S 4 53.4	232 06.8	S13 26.9	95 17.8	N22 53.9	199 44.5	S 1 21.6
	4	217 00.5	224 47.8	S 4 52.1	247 07.4	S13 26.2	110 20.4	N22 53.9	214 46.7	S 1 21.4
F	5	232 03.0	239 47.4	S 4 50.8	262 07.9	S13 25.5	125 23.0	N22 53.9	229 48.9	S 1 21.3
R										
I	6	247 05.5	254 47.0	S 4 49.6	277 08.5	S13 24.8	140 25.5	N22 53.9	244 51.1	S 1 21.2
D	7	262 07.9	269 46.6	S 4 48.3	292 09.1	S13 24.2	155 28.1	N22 54.0	259 53.3	S 1 21.1
A	8	277 10.4	284 46.2	S 4 47.1	307 09.6	S13 23.5	170 30.7	N22 54.0	274 55.5	S 1 21.0
Y	9	292 12.8	299 45.8	S 4 45.8	322 10.2	S13 22.8	185 33.3	N22 54.0	289 57.7	S 1 20.8
	10	307 15.3	314 45.4	S 4 44.5	337 10.8	S13 22.1	200 35.8	N22 54.0	304 59.9	S 1 20.7
	11	322 17.8	329 45.0	S 4 43.3	352 11.3	S13 21.4	215 38.4	N22 54.0	320 02.1	S 1 20.6
	12	337 20.2	344 44.6	S 4 42.0	7 11.9	S13 20.8	230 41.0	N22 54.0	335 04.3	S 1 20.5
	13	352 22.7	359 44.2	S 4 40.8	22 12.4	S13 20.1	245 43.5	N22 54.0	350 06.5	S 1 20.4
	14	7 25.2	14 43.8	S 4 39.5	37 13.0	S13 19.4	260 46.1	N22 54.1	5 08.7	S 1 20.3
	15	22 27.6	29 43.4	S 4 38.2	52 13.6	S13 18.7	275 48.6	N22 54.1	20 10.8	S 1 20.1
	16	37 30.1	44 43.0	S 4 37.0	67 14.1	S13 18.0	290 51.2	N22 54.1	35 13.0	S 1 20.0
	17	52 32.6	59 42.6	S 4 35.7	82 14.7	S13 17.4	305 53.8	N22 54.1	50 15.2	S 1 19.9
	18	67 35.0	74 42.2	S 4 34.5	97 15.3	S13 16.7	320 56.3	N22 54.1	65 17.4	S 1 19.8
	19	82 37.5	89 41.8	S 4 33.2	112 15.8	S13 16.0	335 58.9	N22 54.1	80 19.6	S 1 19.7
	20	97 40.0	104 41.4	S 4 31.9	127 16.4	S13 15.3	351 01.5	N22 54.1	95 21.8	S 1 19.5
	21	112 42.4	119 41.0	S 4 30.7	142 17.0	S13 14.6	6 04.0	N22 54.1	110 24.0	S 1 19.4
	22	127 44.9	134 40.6	S 4 29.4	157 17.5	S13 14.0	21 06.6	N22 54.2	125 26.2	S 1 19.3
	23	142 47.3	149 40.2	S 4 28.1	172 18.1	S13 13.3	36 09.2	N22 54.2	140 28.4	S 1 19.2
28	0	157 49.8	164 39.8	S 4 26.9	187 18.7	S13 12.6	51 11.7	N22 54.2	155 30.6	S 1 19.1
	1	172 52.3	179 39.5	S 4 25.6	202 19.2	S13 11.9	66 14.3	N22 54.2	170 32.8	S 1 18.9
	2	187 54.7	194 39.1	S 4 24.3	217 19.8	S13 11.2	81 16.8	N22 54.2	185 35.0	S 1 18.8
	3	202 57.2	209 38.7	S 4 23.1	232 20.4	S13 10.6	96 19.4	N22 54.2	200 37.2	S 1 18.7
	4	217 59.7	224 38.3	S 4 21.8	247 20.9	S13 09.9	111 22.0	N22 54.2	215 39.4	S 1 18.6
S	5	233 02.1	239 37.9	S 4 20.6	262 21.5	S13 09.2	126 24.5	N22 54.3	230 41.5	S 1 18.5
A										
T	6	248 04.6	254 37.5	S 4 19.3	277 22.1	S13 08.5	141 27.1	N22 54.3	245 43.7	S 1 18.3
U	7	263 07.1	269 37.1	S 4 18.0	292 22.6	S13 07.8	156 29.6	N22 54.3	260 45.9	S 1 18.2
R	8	278 09.5	284 36.7	S 4 16.8	307 23.2	S13 07.1	171 32.2	N22 54.3	275 48.1	S 1 18.1
D	9	293 12.0	299 36.3	S 4 15.5	322 23.8	S13 06.5	186 34.8	N22 54.3	290 50.3	S 1 18.0
A	10	308 14.5	314 35.9	S 4 14.2	337 24.3	S13 05.8	201 37.3	N22 54.3	305 52.5	S 1 17.9
Y	11	323 16.9	329 35.5	S 4 13.0	352 24.9	S13 05.1	216 39.9	N22 54.3	320 54.7	S 1 17.7
	12	338 19.4	344 35.1	S 4 11.7	7 25.5	S13 04.4	231 42.4	N22 54.3	335 56.9	S 1 17.6
	13	353 21.8	359 34.7	S 4 10.4	22 26.0	S13 03.7	246 45.0	N22 54.4	350 59.1	S 1 17.5
	14	8 24.3	14 34.4	S 4 09.2	37 26.6	S13 03.0	261 47.5	N22 54.4	6 01.3	S 1 17.4
	15	23 26.8	29 34.0	S 4 07.9	52 27.2	S13 02.4	276 50.1	N22 54.4	21 03.5	S 1 17.2
	16	38 29.2	44 33.6	S 4 06.6	67 27.7	S13 01.7	291 52.7	N22 54.4	36 05.7	S 1 17.1
	17	53 31.7	59 33.2	S 4 05.4	82 28.3	S13 01.0	306 55.2	N22 54.4	51 07.9	S 1 17.0
	18	68 34.2	74 32.8	S 4 04.1	97 28.9	S13 00.3	321 57.8	N22 54.4	66 10.0	S 1 16.9
	19	83 36.6	89 32.4	S 4 02.8	112 29.4	S12 59.6	337 00.3	N22 54.4	81 12.2	S 1 16.8
	20	98 39.1	104 32.0	S 4 01.6	127 30.0	S12 58.9	352 02.9	N22 54.4	96 14.4	S 1 16.6
	21	113 41.6	119 31.6	S 4 00.3	142 30.6	S12 58.3	7 05.4	N22 54.5	111 16.6	S 1 16.5
	22	128 44.0	134 31.2	S 3 59.0	157 31.2	S12 57.6	22 08.0	N22 54.5	126 18.8	S 1 16.4
	23	143 46.5	149 30.8	S 3 57.8	172 31.7	S12 56.9	37 10.5	N22 54.5	141 21.0	S 1 16.3
1	0	158 49.0	164 30.5	S 3 56.5	187 32.3	S12 56.2	52 13.1	N22 54.5	156 23.2	S 1 16.2
	1	173 51.4	179 30.1	S 3 55.2	202 32.9	S12 55.5	67 15.6	N22 54.5	171 25.4	S 1 16.0
	2	188 53.9	194 29.7	S 3 54.0	217 33.4	S12 54.8	82 18.2	N22 54.5	186 27.6	S 1 15.9
	3	203 56.3	209 29.3	S 3 52.7	232 34.0	S12 54.1	97 20.8	N22 54.5	201 29.8	S 1 15.8
	4	218 58.8	224 28.9	S 3 51.4	247 34.6	S12 53.4	112 23.3	N22 54.5	216 32.0	S 1 15.7
S	5	234 01.3	239 28.5	S 3 50.1	262 35.1	S12 52.8	127 25.9	N22 54.5	231 34.2	S 1 15.6
U										
N	6	249 03.7	254 28.1	S 3 48.9	277 35.7	S12 52.1	142 28.4	N22 54.6	246 36.3	S 1 15.4
D	7	264 06.2	269 27.7	S 3 47.6	292 36.3	S12 51.4	157 31.0	N22 54.6	261 38.5	S 1 15.3
A	8	279 08.7	284 27.4	S 3 46.3	307 36.9	S12 50.7	172 33.5	N22 54.6	276 40.7	S 1 15.2
Y	9	294 11.1	299 27.0	S 3 45.1	322 37.4	S12 50.0	187 36.1	N22 54.6	291 42.9	S 1 15.1
	10	309 13.6	314 26.6	S 3 43.8	337 38.0	S12 49.3	202 38.6	N22 54.6	306 45.1	S 1 15.0
	11	324 16.1	329 26.2	S 3 42.5	352 38.6	S12 48.6	217 41.2	N22 54.6	321 47.3	S 1 14.8
	12	339 18.5	344 25.8	S 3 41.3	7 39.1	S12 47.9	232 43.7	N22 54.6	336 49.5	S 1 14.7
	13	354 21.0	359 25.4	S 3 40.0	22 39.7	S12 47.2	247 46.3	N22 54.6	351 51.7	S 1 14.6
	14	9 23.4	14 25.0	S 3 38.7	37 40.3	S12 46.6	262 48.8	N22 54.7	6 53.9	S 1 14.5
	15	24 25.9	29 24.7	S 3 37.4	52 40.9	S12 45.9	277 51.3	N22 54.7	21 56.1	S 1 14.4
	16	39 28.4	44 24.3	S 3 36.2	67 41.4	S12 45.2	292 53.9	N22 54.7	36 58.3	S 1 14.2
	17	54 30.8	59 23.9	S 3 34.9	82 42.0	S12 44.5	307 56.4	N22 54.7	52 00.5	S 1 14.1
	18	69 33.3	74 23.5	S 3 33.6	97 42.6	S12 43.8	322 59.0	N22 54.7	67 02.6	S 1 14.0
	19	84 35.8	89 23.1	S 3 32.4	112 43.2	S12 43.1	338 01.5	N22 54.7	82 04.8	S 1 13.9
	20	99 38.2	104 22.7	S 3 31.1	127 43.7	S12 42.4	353 04.1	N22 54.7	97 07.0	S 1 13.8
	21	114 40.7	119 22.3	S 3 29.8	142 44.3	S12 41.7	8 06.6	N22 54.7	112 09.2	S 1 13.6
	22	129 43.2	134 22.0	S 3 28.5	157 44.9	S12 41.0	23 09.2	N22 54.7	127 11.4	S 1 13.5
	23	144 45.6	149 21.6	S 3 27.3	172 45.4	S12 40.3	38 11.7	N22 54.8	142 13.6	S 1 13.4
			v -0.4	d 1.3	v 0.6	d 0.7	v 2.6	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
27	0	176 48.7	S 8 25.2	54 21.5	4.1	N27 26.2	4.7	59.1
	1	191 48.8	S 8 24.3	68 44.6	4.1	N27 21.3	4.8	59.1
	2	206 48.9	S 8 23.4	83 07.8	4.2	N27 16.3	5.0	59.1
	3	221 49.0	S 8 22.4	97 31.1	4.3	N27 11.1	5.2	59.1
	4	236 49.1	S 8 21.5	111 54.4	4.3	N27 05.7	5.4	59.0
F	5	251 49.2	S 8 20.5	126 17.9	4.4	N27 00.1	5.6	59.0
R								
I	6	266 49.3	S 8 19.6	140 41.4	4.5	N26 54.4	5.7	59.0
D	7	281 49.4	S 8 18.7	155 04.9	4.6	N26 48.4	5.9	59.0
A	8	296 49.5	S 8 17.7	169 28.6	4.6	N26 42.3	6.1	59.0
Y	9	311 49.6	S 8 16.8	183 52.3	4.7	N26 36.1	6.3	59.0
	10	326 49.8	S 8 15.8	198 16.1	4.8	N26 29.6	6.4	59.0
	11	341 49.9	S 8 14.9	212 40.0	4.9	N26 23.0	6.6	59.0
	12	356 50.0	S 8 14.0	227 03.9	5.0	N26 16.2	6.8	59.0
	13	11 50.1	S 8 13.0	241 28.0	5.1	N26 09.2	7.0	59.0
	14	26 50.2	S 8 12.1	255 52.1	5.1	N26 02.1	7.1	59.0
	15	41 50.3	S 8 11.1	270 16.3	5.2	N25 54.8	7.3	58.9
	16	56 50.4	S 8 10.2	284 40.7	5.3	N25 47.4	7.5	58.9
	17	71 50.5	S 8 09.2	299 05.1	5.4	N25 39.7	7.6	58.9
	18	86 50.7	S 8 08.3	313 29.6	5.5	N25 32.0	7.8	58.9
	19	101 50.8	S 8 07.4	327 54.2	5.6	N25 24.0	7.9	58.9
	20	116 50.9	S 8 06.4	342 18.8	5.7	N25 15.9	8.1	58.9
	21	131 51.0	S 8 05.5	356 43.6	5.8	N25 07.6	8.3	58.9
	22	146 51.1	S 8 04.5	11 08.5	5.9	N24 59.2	8.4	58.9
	23	161 51.2	S 8 03.6	25 33.5	6.0	N24 50.7	8.6	58.9
28	0	176 51.3	S 8 02.6	39 58.5	6.1	N24 41.9	8.7	58.9
	1	191 51.5	S 8 01.7	54 23.7	6.2	N24 33.1	8.9	58.8
	2	206 51.6	S 8 00.8	68 49.0	6.3	N24 24.0	9.0	58.8
	3	221 51.7	S 7 59.8	83 14.4	6.4	N24 14.9	9.2	58.8
	4	236 51.8	S 7 58.9	97 39.8	6.5	N24 05.5	9.3	58.8
S	5	251 51.9	S 7 57.9	112 05.4	6.6	N23 56.1	9.5	58.8
A								
T	6	266 52.0	S 7 57.0	126 31.1	6.7	N23 46.5	9.6	58.8
U	7	281 52.1	S 7 56.0	140 56.9	6.8	N23 36.7	9.7	58.8
R	8	296 52.3	S 7 55.1	155 22.8	6.9	N23 26.8	9.9	58.8
D	9	311 52.4	S 7 54.1	169 48.8	7.0	N23 16.8	10.0	58.7
A	10	326 52.5	S 7 53.2	184 14.8	7.1	N23 06.6	10.2	58.7
Y	11	341 52.6	S 7 52.2	198 41.1	7.2	N22 56.3	10.3	58.7
	12	356 52.7	S 7 51.3	213 07.4	7.3	N22 45.9	10.4	58.7
	13	11 52.8	S 7 50.3	227 33.8	7.4	N22 35.3	10.6	58.7
	14	26 53.0	S 7 49.4	242 00.3	7.5	N22 24.6	10.7	58.7
	15	41 53.1	S 7 48.5	256 26.9	7.6	N22 13.8	10.8	58.7
	16	56 53.2	S 7 47.5	270 53.7	7.7	N22 02.9	10.9	58.6
	17	71 53.3	S 7 46.6	285 20.5	7.8	N21 51.8	11.1	58.6
	18	86 53.4	S 7 45.6	299 47.5	8.0	N21 40.6	11.2	58.6
	19	101 53.6	S 7 44.7	314 14.5	8.1	N21 29.3	11.3	58.6
	20	116 53.7	S 7 43.7	328 41.7	8.2	N21 17.9	11.4	58.6
	21	131 53.8	S 7 42.8	343 09.0	8.3	N21 06.3	11.6	58.6
	22	146 53.9	S 7 41.8	357 36.3	8.4	N20 54.7	11.7	58.6
	23	161 54.0	S 7 40.9	12 03.8	8.5	N20 42.9	11.8	58.5
1	0	176 54.2	S 7 39.9	26 31.4	8.6	N20 31.0	11.9	58.5
	1	191 54.3	S 7 39.0	40 59.1	8.7	N20 19.0	12.0	58.5
	2	206 54.4	S 7 38.0	55 26.9	8.8	N20 06.9	12.1	58.5
	3	221 54.5	S 7 37.1	69 54.8	8.9	N19 54.7	12.2	58.5
	4	236 54.6	S 7 36.1	84 22.9	9.0	N19 42.3	12.3	58.5
S	5	251 54.8	S 7 35.2	98 51.0	9.1	N19 29.9	12.4	58.4
U								
N	6	266 54.9	S 7 34.2	113 19.2	9.2	N19 17.4	12.5	58.4
D	7	281 55.0	S 7 33.3	127 47.5	9.3	N19 04.8	12.6	58.4
A	8	296 55.1	S 7 32.3	142 16.0	9.4	N18 52.0	12.7	58.4
Y	9	311 55.2	S 7 31.4	156 44.5	9.5	N18 39.2	12.8	58.4
	10	326 55.4	S 7 30.4	171 13.2	9.6	N18 26.3	12.9	58.4
	11	341 55.5	S 7 29.5	185 41.9	9.7	N18 13.3	13.0	58.3
	12	356 55.6	S 7 28.5	200 10.8	9.9	N18 00.2	13.1	58.3
	13	11 55.7	S 7 27.6	214 39.7	10.0	N17 47.0	13.2	58.3
	14	26 55.9	S 7 26.6	229 08.8	10.1	N17 33.7	13.3	58.3
	15	41 56.0	S 7 25.7	243 37.9	10.2	N17 20.4	13.4	58.3
	16	56 56.1	S 7 24.7	258 07.2	10.3	N17 06.9	13.4	58.3
	17	71 56.2	S 7 23.8	272 36.5	10.4	N16 53.4	13.5	58.2
	18	86 56.4	S 7 22.8	287 06.0	10.5	N16 39.8	13.6	58.2
	19	101 56.5	S 7 21.9	301 35.5	10.6	N16 26.1	13.7	58.2
	20	116 56.6	S 7 20.9	316 05.2	10.6	N16 12.4	13.8	58.2
	21	131 56.7	S 7 20.0	330 34.9	10.7	N15 58.5	13.8	58.2
	22	146 56.9	S 7 19.0	345 04.8	10.8	N15 44.6	13.9	58.1
	23	161 57.0	S 7 18.1	359 34.7	10.9	N15 30.6	14.0	58.1
		S.D. 16.1	d 0.9	S.D. 16.1		16.0	15.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.2	S40 12.2
Achernar	335 19.8	S57 06.4
Acrux	172 58.5	S63 14.6
Adhara	255 04.9	S29 00.6
Albireo	67 03.5	N28 00.6
Aldebaran	290 38.5	N16 33.7
Alioth	166 11.6	N55 48.8
Alkaid	152 50.9	N49 10.6
Al Na-ir	27 32.1	S46 50.1
Alnilam	275 36.6	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.8	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.3	N 8 56.0
Ankaa	353 06.5	S42 10.0
Antares	112 14.7	S26 29.4
Arcturus	145 46.8	N19 02.5
Atria	107 08.2	S69 04.3
Avior	234 13.8	S59 35.8
Bellatrix	278 21.8	N 6 22.4
Betelgeuse	270 50.9	N 7 24.7
Canopus	263 51.7	S52 42.8
Capella	280 20.4	N46 01.6
Castor	245 55.5	N31 49.9
Deneb	49 25.6	N45 22.2
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.4
Elnath	278 00.6	N28 37.8
Eltanin	90 41.9	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.1
Gacrux	171 50.2	S57 15.6
Gienah	175 42.3	S17 41.3
Hadar	148 34.4	S60 29.8
Hamal	327 50.4	N23 35.3
Kaus Austr.	83 31.4	S34 22.4
Kochab	137 19.4	N74 02.5
Markab	13 29.3	N15 20.6
Menkar	314 05.2	N 4 11.5
Menkent	147 56.3	S36 30.0
Miaplacidus	221 37.2	S69 49.6
Mirfak	308 27.1	N49 57.5
Nunki	75 46.8	S26 15.9
Peacock	53 04.6	S56 39.0
Polaris	316 20.0	N89 22.1
Pollux	243 15.8	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.8	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 38.9	S60 56.5
Sabik	102 01.8	S15 45.6
Schedar	349 30.5	N56 41.0
Shaula	96 09.2	S37 07.3
Sirius	258 25.2	S16 45.3
Spica	158 21.1	S11 18.0
Suhail	222 45.2	S43 32.4
Vega	80 32.8	N38 48.1
Zuben-ubi	136 55.7	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
2 0	159 48.1	164 21.2	S 3 26.0	187 46.0	S12 39.7	53 14.3	N22 54.8	157 15.8	S 1 13.3
1	174 50.6	179 20.8	S 3 24.7	202 46.6	S12 39.0	68 16.8	N22 54.8	172 18.0	S 1 13.2
2	189 53.0	194 20.4	S 3 23.5	217 47.2	S12 38.3	83 19.3	N22 54.8	187 20.2	S 1 13.0
3	204 55.5	209 20.0	S 3 22.2	232 47.7	S12 37.6	98 21.9	N22 54.8	202 22.4	S 1 12.9
4	219 57.9	224 19.7	S 3 20.9	247 48.3	S12 36.9	113 24.4	N22 54.8	217 24.6	S 1 12.8
M 5	235 00.4	239 19.3	S 3 19.6	262 48.9	S12 36.2	128 27.0	N22 54.8	232 26.7	S 1 12.7
O									
N 6	250 02.9	254 18.9	S 3 18.4	277 49.5	S12 35.5	143 29.5	N22 54.8	247 28.9	S 1 12.6
D 7	265 05.3	269 18.5	S 3 17.1	292 50.0	S12 34.8	158 32.1	N22 54.8	262 31.1	S 1 12.4
A 8	280 07.8	284 18.1	S 3 15.8	307 50.6	S12 34.1	173 34.6	N22 54.9	277 33.3	S 1 12.3
Y 9	295 10.3	299 17.7	S 3 14.5	322 51.2	S12 33.4	188 37.1	N22 54.9	292 35.5	S 1 12.2
10	310 12.7	314 17.4	S 3 13.3	337 51.8	S12 32.7	203 39.7	N22 54.9	307 37.7	S 1 12.1
11	325 15.2	329 17.0	S 3 12.0	352 52.3	S12 32.0	218 42.2	N22 54.9	322 39.9	S 1 11.9
12	340 17.7	344 16.6	S 3 10.7	7 52.9	S12 31.3	233 44.8	N22 54.9	337 42.1	S 1 11.8
13	355 20.1	359 16.2	S 3 09.4	22 53.5	S12 30.6	248 47.3	N22 54.9	352 44.3	S 1 11.7
14	10 22.6	14 15.8	S 3 08.2	37 54.1	S12 29.9	263 49.8	N22 54.9	7 46.5	S 1 11.6
15	25 25.1	29 15.4	S 3 06.9	52 54.7	S12 29.3	278 52.4	N22 54.9	22 48.6	S 1 11.5
16	40 27.5	44 15.1	S 3 05.6	67 55.2	S12 28.6	293 54.9	N22 54.9	37 50.8	S 1 11.3
17	55 30.0	59 14.7	S 3 04.3	82 55.8	S12 27.9	308 57.5	N22 55.0	52 53.0	S 1 11.2
18	70 32.4	74 14.3	S 3 03.1	97 56.4	S12 27.2	323 60.0	N22 55.0	67 55.2	S 1 11.1
19	85 34.9	89 13.9	S 3 01.8	112 57.0	S12 26.5	339 02.5	N22 55.0	82 57.4	S 1 11.0
20	100 37.4	104 13.5	S 3 00.5	127 57.5	S12 25.8	354 05.1	N22 55.0	97 59.6	S 1 10.9
21	115 39.8	119 13.2	S 2 59.2	142 58.1	S12 25.1	9 07.6	N22 55.0	113 01.8	S 1 10.7
22	130 42.3	134 12.8	S 2 58.0	157 58.7	S12 24.4	24 10.1	N22 55.0	128 04.0	S 1 10.6
23	145 44.8	149 12.4	S 2 56.7	172 59.3	S12 23.7	39 12.7	N22 55.0	143 06.2	S 1 10.5
3 0	160 47.2	164 12.0	S 2 55.4	187 59.8	S12 23.0	54 15.2	N22 55.0	158 08.4	S 1 10.4
1	175 49.7	179 11.6	S 2 54.1	203 00.4	S12 22.3	69 17.8	N22 55.0	173 10.5	S 1 10.3
2	190 52.2	194 11.3	S 2 52.9	218 01.0	S12 21.6	84 20.3	N22 55.0	188 12.7	S 1 10.1
3	205 54.6	209 10.9	S 2 51.6	233 01.6	S12 20.9	99 22.8	N22 55.1	203 14.9	S 1 10.0
4	220 57.1	224 10.5	S 2 50.3	248 02.2	S12 20.2	114 25.4	N22 55.1	218 17.1	S 1 09.9
T 5	235 59.5	239 10.1	S 2 49.0	263 02.7	S12 19.5	129 27.9	N22 55.1	233 19.3	S 1 09.8
U									
E 6	251 02.0	254 09.7	S 2 47.8	278 03.3	S12 18.8	144 30.4	N22 55.1	248 21.5	S 1 09.6
S 7	266 04.5	269 09.4	S 2 46.5	293 03.9	S12 18.1	159 33.0	N22 55.1	263 23.7	S 1 09.5
D 8	281 06.9	284 09.0	S 2 45.2	308 04.5	S12 17.4	174 35.5	N22 55.1	278 25.9	S 1 09.4
A 9	296 09.4	299 08.6	S 2 43.9	323 05.1	S12 16.7	189 38.0	N22 55.1	293 28.1	S 1 09.3
Y 10	311 11.9	314 08.2	S 2 42.6	338 05.6	S12 16.0	204 40.6	N22 55.1	308 30.2	S 1 09.2
11	326 14.3	329 07.9	S 2 41.4	353 06.2	S12 15.3	219 43.1	N22 55.1	323 32.4	S 1 09.0
12	341 16.8	344 07.5	S 2 40.1	8 06.8	S12 14.6	234 45.6	N22 55.1	338 34.6	S 1 08.9
13	356 19.3	359 07.1	S 2 38.8	23 07.4	S12 13.9	249 48.1	N22 55.2	353 36.8	S 1 08.8
14	11 21.7	14 06.7	S 2 37.5	38 08.0	S12 13.2	264 50.7	N22 55.2	8 39.0	S 1 08.7
15	26 24.2	29 06.3	S 2 36.3	53 08.5	S12 12.5	279 53.2	N22 55.2	23 41.2	S 1 08.6
16	41 26.7	44 06.0	S 2 35.0	68 09.1	S12 11.8	294 55.7	N22 55.2	38 43.4	S 1 08.4
17	56 29.1	59 05.6	S 2 33.7	83 09.7	S12 11.1	309 58.3	N22 55.2	53 45.6	S 1 08.3
18	71 31.6	74 05.2	S 2 32.4	98 10.3	S12 10.4	325 00.8	N22 55.2	68 47.8	S 1 08.2
19	86 34.0	89 04.8	S 2 31.1	113 10.9	S12 09.7	340 03.3	N22 55.2	83 49.9	S 1 08.1
20	101 36.5	104 04.5	S 2 29.9	128 11.4	S12 09.0	355 05.9	N22 55.2	98 52.1	S 1 08.0
21	116 39.0	119 04.1	S 2 28.6	143 12.0	S12 08.3	10 08.4	N22 55.2	113 54.3	S 1 07.8
22	131 41.4	134 03.7	S 2 27.3	158 12.6	S12 07.6	25 10.9	N22 55.2	128 56.5	S 1 07.7
23	146 43.9	149 03.3	S 2 26.0	173 13.2	S12 06.9	40 13.4	N22 55.2	143 58.7	S 1 07.6
4 0	161 46.4	164 03.0	S 2 24.7	188 13.8	S12 06.2	55 16.0	N22 55.3	159 00.9	S 1 07.5
1	176 48.8	179 02.6	S 2 23.5	203 14.4	S12 05.5	70 18.5	N22 55.3	174 03.1	S 1 07.3
2	191 51.3	194 02.2	S 2 22.2	218 14.9	S12 04.8	85 21.0	N22 55.3	189 05.3	S 1 07.2
3	206 53.8	209 01.8	S 2 20.9	233 15.5	S12 04.1	100 23.5	N22 55.3	204 07.5	S 1 07.1
4	221 56.2	224 01.4	S 2 19.6	248 16.1	S12 03.4	115 26.1	N22 55.3	219 09.6	S 1 07.0
W 5	236 58.7	239 01.1	S 2 18.3	263 16.7	S12 02.7	130 28.6	N22 55.3	234 11.8	S 1 06.9
E									
D 6	252 01.2	254 00.7	S 2 17.1	278 17.3	S12 02.0	145 31.1	N22 55.3	249 14.0	S 1 06.7
N 7	267 03.6	269 00.3	S 2 15.8	293 17.9	S12 01.3	160 33.6	N22 55.3	264 16.2	S 1 06.6
E 8	282 06.1	283 59.9	S 2 14.5	308 18.4	S12 00.6	175 36.2	N22 55.3	279 18.4	S 1 06.5
S 9	297 08.5	298 59.6	S 2 13.2	323 19.0	S11 59.9	190 38.7	N22 55.3	294 20.6	S 1 06.4
D 10	312 11.0	313 59.2	S 2 11.9	338 19.6	S11 59.2	205 41.2	N22 55.3	309 22.8	S 1 06.3
A 11	327 13.5	328 58.8	S 2 10.7	353 20.2	S11 58.5	220 43.7	N22 55.4	324 25.0	S 1 06.1
Y									
12	342 15.9	343 58.4	S 2 09.4	8 20.8	S11 57.8	235 46.3	N22 55.4	339 27.1	S 1 06.0
13	357 18.4	358 58.1	S 2 08.1	23 21.4	S11 57.1	250 48.8	N22 55.4	354 29.3	S 1 05.9
14	12 20.9	13 57.7	S 2 06.8	38 21.9	S11 56.4	265 51.3	N22 55.4	9 31.5	S 1 05.8
15	27 23.3	28 57.3	S 2 05.5	53 22.5	S11 55.7	280 53.8	N22 55.4	24 33.7	S 1 05.6
16	42 25.8	43 57.0	S 2 04.3	68 23.1	S11 55.0	295 56.3	N22 55.4	39 35.9	S 1 05.5
17	57 28.3	58 56.6	S 2 03.0	83 23.7	S11 54.3	310 58.9	N22 55.4	54 38.1	S 1 05.4
18	72 30.7	73 56.2	S 2 01.7	98 24.3	S11 53.5	326 01.4	N22 55.4	69 40.3	S 1 05.3
19	87 33.2	88 55.8	S 2 00.4	113 24.9	S11 52.8	341 03.9	N22 55.4	84 42.5	S 1 05.2
20	102 35.6	103 55.5	S 1 59.1	128 25.4	S11 52.1	356 06.4	N22 55.4	99 44.7	S 1 05.0
21	117 38.1	118 55.1	S 1 57.9	143 26.0	S11 51.4	11 08.9	N22 55.4	114 46.8	S 1 04.9
22	132 40.6	133 54.7	S 1 56.6	158 26.6	S11 50.7	26 11.5	N22 55.4	129 49.0	S 1 04.8
23	147 43.0	148 54.3	S 1 55.3	173 27.2	S11 50.0	41 14.0	N22 55.5	144 51.2	S 1 04.7
		v -0.4	d 1.3	v 0.6	d 0.7	v 2.5	d 0.0	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
2 0	176 57.1	S 7 17.1	14 04.7	11.0	N15 16.6	14.1	58.1	Acamar	315 11.2	S40 12.2
1	191 57.2	S 7 16.2	28 34.9	11.1	N15 02.4	14.1	58.1	Achernar	335 19.8	S57 06.4
2	206 57.4	S 7 15.2	43 05.1	11.2	N14 48.3	14.2	58.1	Acrux	172 58.5	S63 14.6
3	221 57.5	S 7 14.2	57 35.4	11.3	N14 34.0	14.3	58.0	Adhara	255 04.9	S29 00.6
4	236 57.6	S 7 13.3	72 05.8	11.4	N14 19.7	14.3	58.0	Albireo	67 03.5	N28 00.6
M 5	251 57.7	S 7 12.3	86 36.3	11.5	N14 05.3	14.4	58.0			
O								Aldebaran	290 38.5	N16 33.7
N 6	266 57.9	S 7 11.4	101 06.8	11.6	N13 50.9	14.4	58.0	Alioth	166 11.6	N55 48.8
D 7	281 58.0	S 7 10.4	115 37.5	11.7	N13 36.4	14.5	58.0	Alkaid	152 50.9	N49 10.6
A 8	296 58.1	S 7 09.5	130 08.2	11.7	N13 21.8	14.6	57.9	Al Na-ir	27 32.1	S46 50.1
Y 9	311 58.2	S 7 08.5	144 39.1	11.8	N13 07.2	14.6	57.9	Alnilam	275 36.7	S 1 11.2
10	326 58.4	S 7 07.6	159 10.0	11.9	N12 52.5	14.7	57.9			
11	341 58.5	S 7 06.6	173 41.0	12.0	N12 37.8	14.7	57.9	Alphard	217 46.5	S 8 46.5
								Alphecca	126 02.8	N26 37.3
12	356 58.6	S 7 05.7	188 12.1	12.1	N12 23.1	14.8	57.9	Alpheratz	357 34.1	N29 14.1
13	11 58.8	S 7 04.7	202 43.2	12.2	N12 08.2	14.8	57.8	Altair	61 59.2	N 8 56.0
14	26 58.9	S 7 03.7	217 14.5	12.2	N11 53.4	14.9	57.8	Ankaa	353 06.5	S42 10.0
15	41 59.0	S 7 02.8	231 45.8	12.3	N11 38.5	14.9	57.8			
16	56 59.1	S 7 01.8	246 17.2	12.4	N11 23.5	15.0	57.8	Antares	112 14.7	S26 29.4
17	71 59.3	S 7 00.9	260 48.7	12.5	N11 08.5	15.0	57.7	Arcturus	145 46.8	N19 02.5
								Atria	107 08.1	S69 04.3
18	86 59.4	S 6 59.9	275 20.2	12.6	N10 53.5	15.0	57.7	Avior	234 13.9	S59 35.8
19	101 59.5	S 6 59.0	289 51.9	12.6	N10 38.4	15.1	57.7	Bellatrix	278 21.8	N 6 22.4
20	116 59.7	S 6 58.0	304 23.6	12.7	N10 23.3	15.1	57.7			
21	131 59.8	S 6 57.1	318 55.3	12.8	N10 08.1	15.2	57.7	Betelgeuse	270 50.9	N 7 24.7
22	146 59.9	S 6 56.1	333 27.2	12.9	N 9 52.9	15.2	57.6	Canopus	263 51.7	S52 42.8
23	162 00.0	S 6 55.1	347 59.1	12.9	N 9 37.7	15.2	57.6	Capella	280 20.4	N46 01.7
3 0	177 00.2	S 6 54.2	2 31.1	13.0	N 9 22.4	15.3	57.6	Castor	245 55.6	N31 49.9
1	192 00.3	S 6 53.2	17 03.2	13.1	N 9 07.1	15.3	57.6	Deneb	49 25.5	N45 22.2
2	207 00.4	S 6 52.3	31 35.3	13.1	N 8 51.8	15.3	57.5			
3	222 00.6	S 6 51.3	46 07.5	13.2	N 8 36.5	15.3	57.5	Denebola	182 23.6	N14 25.4
4	237 00.7	S 6 50.3	60 39.7	13.3	N 8 21.1	15.4	57.5	Diphda	348 46.6	S17 50.7
T 5	252 00.8	S 6 49.4	75 12.1	13.3	N 8 05.7	15.4	57.5	Dubhe	193 39.1	N61 36.4
U								Elnath	278 00.6	N28 37.8
E 6	267 01.0	S 6 48.4	89 44.4	13.4	N 7 50.3	15.4	57.4	Eltanin	90 41.9	N51 28.7
S 7	282 01.1	S 6 47.5	104 16.9	13.4	N 7 34.8	15.4	57.4			
D 8	297 01.2	S 6 46.5	118 49.4	13.5	N 7 19.3	15.5	57.4	Enif	33 38.1	N 9 59.6
A 9	312 01.4	S 6 45.6	133 22.0	13.6	N 7 03.8	15.5	57.4	Fomalhaut	15 13.8	S29 29.1
Y 10	327 01.5	S 6 44.6	147 54.6	13.6	N 6 48.3	15.5	57.3	Gacrux	171 50.1	S57 15.6
11	342 01.6	S 6 43.6	162 27.3	13.7	N 6 32.8	15.5	57.3	Gienah	175 42.3	S17 41.3
								Hadar	148 34.4	S60 29.9
12	357 01.8	S 6 42.7	177 00.0	13.7	N 6 17.3	15.5	57.3			
13	12 01.9	S 6 41.7	191 32.8	13.8	N 6 01.7	15.6	57.3	Hamal	327 50.4	N23 35.3
14	27 02.0	S 6 40.8	206 05.7	13.8	N 5 46.1	15.6	57.3	Kaus Austr.	83 31.4	S34 22.4
15	42 02.2	S 6 39.8	220 38.6	13.9	N 5 30.6	15.6	57.2	Kochab	137 19.3	N74 02.5
16	57 02.3	S 6 38.8	235 11.5	14.0	N 5 15.0	15.6	57.2	Markab	13 29.3	N15 20.6
17	72 02.4	S 6 37.9	249 44.5	14.0	N 4 59.4	15.6	57.2	Menkar	314 05.3	N 4 11.5
								Menkent	147 56.3	S36 30.0
18	87 02.6	S 6 36.9	264 17.6	14.1	N 4 43.8	15.6	57.2	Miaplacidus	221 37.2	S69 49.6
19	102 02.7	S 6 36.0	278 50.7	14.1	N 4 28.1	15.6	57.1	Mirfak	308 27.1	N49 57.5
20	117 02.8	S 6 35.0	293 23.8	14.1	N 4 12.5	15.6	57.1	Nunki	75 46.7	S26 15.9
21	132 03.0	S 6 34.0	307 57.0	14.2	N 3 56.9	15.6	57.1	Peacock	53 04.6	S56 39.0
22	147 03.1	S 6 33.1	322 30.2	14.2	N 3 41.3	15.6	57.1			
23	162 03.2	S 6 32.1	337 03.5	14.3	N 3 25.6	15.6	57.0	Polaris	316 21.1	N89 22.1
4 0	177 03.4	S 6 31.2	351 36.8	14.3	N 3 10.0	15.6	57.0	Pollux	243 15.9	N27 57.8
1	192 03.5	S 6 30.2	6 10.2	14.4	N 2 54.4	15.6	57.0	Procyon	244 49.6	N 5 09.4
2	207 03.6	S 6 29.2	20 43.6	14.4	N 2 38.7	15.6	57.0	Rasalhague	95 57.8	N12 32.2
3	222 03.8	S 6 28.3	35 17.0	14.4	N 2 23.1	15.6	56.9	Regulus	207 33.1	N11 50.2
4	237 03.9	S 6 27.3	49 50.5	14.5	N 2 07.5	15.6	56.9			
W 5	252 04.1	S 6 26.4	64 24.0	14.5	N 1 51.9	15.6	56.9	Rigel	281 02.9	S 8 10.4
E								Rigil Kent	139 38.8	S60 56.5
D 6	267 04.2	S 6 25.4	78 57.6	14.6	N 1 36.3	15.6	56.9	Sabik	102 01.7	S15 45.6
N 7	282 04.3	S 6 24.4	93 31.2	14.6	N 1 20.6	15.6	56.8	Schedar	349 30.5	N56 40.9
E 8	297 04.5	S 6 23.5	108 04.8	14.6	N 1 05.1	15.6	56.8	Shaula	96 09.1	S37 07.3
S 9	312 04.6	S 6 22.5	122 38.4	14.6	N 0 49.5	15.6	56.8	Sirius	258 25.2	S16 45.3
D 10	327 04.7	S 6 21.5	137 12.1	14.7	N 0 33.9	15.6	56.7	Spica	158 21.0	S11 18.0
A 11	342 04.9	S 6 20.6	151 45.8	14.7	N 0 18.3	15.6	56.7	Suhail	222 45.2	S43 32.5
Y								Vega	80 32.8	N38 48.1
12	357 05.0	S 6 19.6	166 19.6	14.7	N 0 02.8	15.5	56.7	Zuben-ubi	136 55.7	S16 09.2
13	12 05.1	S 6 18.6	180 53.3	14.8	S 0 12.7	15.5	56.7			
14	27 05.3	S 6 17.7	195 27.1	14.8	S 0 28.3	15.5	56.6			
15	42 05.4	S 6 16.7	210 00.9	14.8	S 0 43.8	15.5	56.6			
16	57 05.6	S 6 15.8	224 34.8	14.8	S 0 59.2	15.5	56.6			
17	72 05.7	S 6 14.8	239 08.6	14.9	S 1 14.7	15.5	56.6			
18	87 05.8	S 6 13.8	253 42.5	14.9	S 1 30.2	15.4	56.5			
19	102 06.0	S 6 12.9	268 16.4	14.9	S 1 45.6	15.4	56.5			
20	117 06.1	S 6 11.9	282 50.4	14.9	S 2 01.0	15.4	56.5			
21	132 06.3	S 6 10.9	297 24.3	14.9	S 2 16.4	15.4	56.5			
22	147 06.4	S 6 10.0	311 58.3	15.0	S 2 31.7	15.4	56.4			
23	162 06.5	S 6 09.0	326 32.2	15.0	S 2 47.0	15.3	56.4			
	S.D. 16.1	d 1.0	S.D.	15.8	15.6	15.4				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
5	0	162 45.5	163 54.0	S 1 54.0	188 27.8	S11 49.3	56 16.5	N22 55.5	159 53.4	S 1 04.6
	1	177 48.0	178 53.6	S 1 52.7	203 28.4	S11 48.6	71 19.0	N22 55.5	174 55.6	S 1 04.4
	2	192 50.4	193 53.2	S 1 51.4	218 29.0	S11 47.9	86 21.5	N22 55.5	189 57.8	S 1 04.3
	3	207 52.9	208 52.8	S 1 50.2	233 29.5	S11 47.2	101 24.1	N22 55.5	204 60.0	S 1 04.2
	4	222 55.4	223 52.5	S 1 48.9	248 30.1	S11 46.5	116 26.6	N22 55.5	220 02.2	S 1 04.1
T	5	237 57.8	238 52.1	S 1 47.6	263 30.7	S11 45.8	131 29.1	N22 55.5	235 04.3	S 1 03.9
H										
U	6	253 00.3	253 51.7	S 1 46.3	278 31.3	S11 45.1	146 31.6	N22 55.5	250 06.5	S 1 03.8
R	7	268 02.8	268 51.4	S 1 45.0	293 31.9	S11 44.4	161 34.1	N22 55.5	265 08.7	S 1 03.7
S	8	283 05.2	283 51.0	S 1 43.7	308 32.5	S11 43.7	176 36.6	N22 55.5	280 10.9	S 1 03.6
D	9	298 07.7	298 50.6	S 1 42.5	323 33.1	S11 42.9	191 39.1	N22 55.5	295 13.1	S 1 03.5
A	10	313 10.1	313 50.2	S 1 41.2	338 33.7	S11 42.2	206 41.7	N22 55.5	310 15.3	S 1 03.3
Y	11	328 12.6	328 49.9	S 1 39.9	353 34.2	S11 41.5	221 44.2	N22 55.6	325 17.5	S 1 03.2
	12	343 15.1	343 49.5	S 1 38.6	8 34.8	S11 40.8	236 46.7	N22 55.6	340 19.7	S 1 03.1
	13	358 17.5	358 49.1	S 1 37.3	23 35.4	S11 40.1	251 49.2	N22 55.6	355 21.8	S 1 03.0
	14	13 20.0	13 48.8	S 1 36.0	38 36.0	S11 39.4	266 51.7	N22 55.6	10 24.0	S 1 02.9
	15	28 22.5	28 48.4	S 1 34.8	53 36.6	S11 38.7	281 54.2	N22 55.6	25 26.2	S 1 02.7
	16	43 24.9	43 48.0	S 1 33.5	68 37.2	S11 38.0	296 56.7	N22 55.6	40 28.4	S 1 02.6
	17	58 27.4	58 47.6	S 1 32.2	83 37.8	S11 37.3	311 59.3	N22 55.6	55 30.6	S 1 02.5
	18	73 29.9	73 47.3	S 1 30.9	98 38.4	S11 36.6	327 01.8	N22 55.6	70 32.8	S 1 02.4
	19	88 32.3	88 46.9	S 1 29.6	113 39.0	S11 35.9	342 04.3	N22 55.6	85 35.0	S 1 02.2
	20	103 34.8	103 46.5	S 1 28.3	128 39.5	S11 35.1	357 06.8	N22 55.6	100 37.1	S 1 02.1
	21	118 37.2	118 46.2	S 1 27.1	143 40.1	S11 34.4	12 09.3	N22 55.6	115 39.3	S 1 02.0
	22	133 39.7	133 45.8	S 1 25.8	158 40.7	S11 33.7	27 11.8	N22 55.6	130 41.5	S 1 01.9
	23	148 42.2	148 45.4	S 1 24.5	173 41.3	S11 33.0	42 14.3	N22 55.6	145 43.7	S 1 01.8
6	0	163 44.6	163 45.0	S 1 23.2	188 41.9	S11 32.3	57 16.8	N22 55.6	160 45.9	S 1 01.6
	1	178 47.1	178 44.7	S 1 21.9	203 42.5	S11 31.6	72 19.3	N22 55.7	175 48.1	S 1 01.5
	2	193 49.6	193 44.3	S 1 20.6	218 43.1	S11 30.9	87 21.8	N22 55.7	190 50.3	S 1 01.4
	3	208 52.0	208 43.9	S 1 19.4	233 43.7	S11 30.2	102 24.4	N22 55.7	205 52.5	S 1 01.3
	4	223 54.5	223 43.6	S 1 18.1	248 44.3	S11 29.5	117 26.9	N22 55.7	220 54.6	S 1 01.2
F	5	238 57.0	238 43.2	S 1 16.8	263 44.8	S11 28.7	132 29.4	N22 55.7	235 56.8	S 1 01.0
R										
I	6	253 59.4	253 42.8	S 1 15.5	278 45.4	S11 28.0	147 31.9	N22 55.7	250 59.0	S 1 00.9
D	7	269 01.9	268 42.5	S 1 14.2	293 46.0	S11 27.3	162 34.4	N22 55.7	266 01.2	S 1 00.8
A	8	284 04.4	283 42.1	S 1 12.9	308 46.6	S11 26.6	177 36.9	N22 55.7	281 03.4	S 1 00.7
Y	9	299 06.8	298 41.7	S 1 11.7	323 47.2	S11 25.9	192 39.4	N22 55.7	296 05.6	S 1 00.5
	10	314 09.3	313 41.4	S 1 10.4	338 47.8	S11 25.2	207 41.9	N22 55.7	311 07.8	S 1 00.4
	11	329 11.7	328 41.0	S 1 09.1	353 48.4	S11 24.5	222 44.4	N22 55.7	326 09.9	S 1 00.3
	12	344 14.2	343 40.6	S 1 07.8	8 49.0	S11 23.8	237 46.9	N22 55.7	341 12.1	S 1 00.2
	13	359 16.7	358 40.2	S 1 06.5	23 49.6	S11 23.0	252 49.4	N22 55.7	356 14.3	S 1 00.1
	14	14 19.1	13 39.9	S 1 05.2	38 50.2	S11 22.3	267 51.9	N22 55.7	11 16.5	S 0 59.9
	15	29 21.6	28 39.5	S 1 03.9	53 50.8	S11 21.6	282 54.4	N22 55.8	26 18.7	S 0 59.8
	16	44 24.1	43 39.1	S 1 02.7	68 51.4	S11 20.9	297 56.9	N22 55.8	41 20.9	S 0 59.7
	17	59 26.5	58 38.8	S 1 01.4	83 51.9	S11 20.2	312 59.4	N22 55.8	56 23.1	S 0 59.6
	18	74 29.0	73 38.4	S 1 00.1	98 52.5	S11 19.5	328 01.9	N22 55.8	71 25.2	S 0 59.4
	19	89 31.5	88 38.0	S 0 58.8	113 53.1	S11 18.8	343 04.4	N22 55.8	86 27.4	S 0 59.3
	20	104 33.9	103 37.7	S 0 57.5	128 53.7	S11 18.0	358 06.9	N22 55.8	101 29.6	S 0 59.2
	21	119 36.4	118 37.3	S 0 56.2	143 54.3	S11 17.3	13 09.4	N22 55.8	116 31.8	S 0 59.1
	22	134 38.9	133 36.9	S 0 54.9	158 54.9	S11 16.6	28 11.9	N22 55.8	131 34.0	S 0 59.0
	23	149 41.3	148 36.6	S 0 53.7	173 55.5	S11 15.9	43 14.4	N22 55.8	146 36.2	S 0 58.8
7	0	164 43.8	163 36.2	S 0 52.4	188 56.1	S11 15.2	58 16.9	N22 55.8	161 38.4	S 0 58.7
	1	179 46.2	178 35.8	S 0 51.1	203 56.7	S11 14.5	73 19.4	N22 55.8	176 40.5	S 0 58.6
	2	194 48.7	193 35.5	S 0 49.8	218 57.3	S11 13.7	88 21.9	N22 55.8	191 42.7	S 0 58.5
	3	209 51.2	208 35.1	S 0 48.5	233 57.9	S11 13.0	103 24.4	N22 55.8	206 44.9	S 0 58.3
	4	224 53.6	223 34.7	S 0 47.2	248 58.5	S11 12.3	118 26.9	N22 55.8	221 47.1	S 0 58.2
S	5	239 56.1	238 34.4	S 0 45.9	263 59.1	S11 11.6	133 29.4	N22 55.8	236 49.3	S 0 58.1
A										
T	6	254 58.6	253 34.0	S 0 44.7	278 59.7	S11 10.9	148 31.9	N22 55.8	251 51.5	S 0 58.0
U	7	270 01.0	268 33.6	S 0 43.4	294 00.3	S11 10.2	163 34.4	N22 55.9	266 53.7	S 0 57.9
R	8	285 03.5	283 33.3	S 0 42.1	309 00.8	S11 09.4	178 36.9	N22 55.9	281 55.8	S 0 57.7
D	9	300 06.0	298 32.9	S 0 40.8	324 01.4	S11 08.7	193 39.4	N22 55.9	296 58.0	S 0 57.6
A	10	315 08.4	313 32.5	S 0 39.5	339 02.0	S11 08.0	208 41.9	N22 55.9	312 00.2	S 0 57.5
Y	11	330 10.9	328 32.2	S 0 38.2	354 02.6	S11 07.3	223 44.4	N22 55.9	327 02.4	S 0 57.4
	12	345 13.3	343 31.8	S 0 36.9	9 03.2	S11 06.6	238 46.9	N22 55.9	342 04.6	S 0 57.2
	13	0 15.8	358 31.4	S 0 35.7	24 03.8	S11 05.9	253 49.4	N22 55.9	357 06.8	S 0 57.1
	14	15 18.3	13 31.1	S 0 34.4	39 04.4	S11 05.1	268 51.9	N22 55.9	12 09.0	S 0 57.0
	15	30 20.7	28 30.7	S 0 33.1	54 05.0	S11 04.4	283 54.4	N22 55.9	27 11.1	S 0 56.9
	16	45 23.2	43 30.3	S 0 31.8	69 05.6	S11 03.7	298 56.9	N22 55.9	42 13.3	S 0 56.8
	17	60 25.7	58 30.0	S 0 30.5	84 06.2	S11 03.0	313 59.4	N22 55.9	57 15.5	S 0 56.6
	18	75 28.1	73 29.6	S 0 29.2	99 06.8	S11 02.3	329 01.9	N22 55.9	72 17.7	S 0 56.5
	19	90 30.6	88 29.2	S 0 27.9	114 07.4	S11 01.5	344 04.4	N22 55.9	87 19.9	S 0 56.4
	20	105 33.1	103 28.9	S 0 26.6	129 08.0	S11 00.8	359 06.9	N22 55.9	102 22.1	S 0 56.3
	21	120 35.5	118 28.5	S 0 25.4	144 08.6	S11 00.1	14 09.4	N22 55.9	117 24.3	S 0 56.1
	22	135 38.0	133 28.1	S 0 24.1	159 09.2	S10 59.4	29 11.9	N22 55.9	132 26.4	S 0 56.0
	23	150 40.5	148 27.8	S 0 22.8	174 09.8	S10 58.7	44 14.4	N22 55.9	147 28.6	S 0 55.9
			v -0.4	d 1.3	v 0.6	d 0.7	v 2.5	d 0.0	v 2.2	d 0.1

G.M.T d h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
5 0	177 06.7	S 6 08.0	341 06.2	15.0	S 3 02.3	15.3	56.4
1	192 06.8	S 6 07.1	355 40.2	15.0	S 3 17.6	15.3	56.4
2	207 07.0	S 6 06.1	10 14.3	15.0	S 3 32.9	15.2	56.3
3	222 07.1	S 6 05.2	24 48.3	15.0	S 3 48.1	15.2	56.3
4	237 07.2	S 6 04.2	39 22.3	15.0	S 4 03.3	15.2	56.3
T 5	252 07.4	S 6 03.2	53 56.4	15.1	S 4 18.4	15.2	56.3
H							
U 6	267 07.5	S 6 02.3	68 30.4	15.1	S 4 33.6	15.1	56.2
R 7	282 07.7	S 6 01.3	83 04.5	15.1	S 4 48.6	15.1	56.2
S 8	297 07.8	S 6 00.3	97 38.6	15.1	S 5 03.7	15.1	56.2
D 9	312 07.9	S 5 59.4	112 12.7	15.1	S 5 18.7	15.0	56.2
A 10	327 08.1	S 5 58.4	126 46.7	15.1	S 5 33.7	15.0	56.1
Y 11	342 08.2	S 5 57.4	141 20.8	15.1	S 5 48.7	14.9	56.1
12	357 08.4	S 5 56.5	155 54.9	15.1	S 6 03.6	14.9	56.1
13	12 08.5	S 5 55.5	170 29.0	15.1	S 6 18.4	14.9	56.1
14	27 08.7	S 5 54.5	185 03.1	15.1	S 6 33.3	14.8	56.0
15	42 08.8	S 5 53.6	199 37.2	15.1	S 6 48.1	14.8	56.0
16	57 08.9	S 5 52.6	214 11.3	15.1	S 7 02.8	14.7	56.0
17	72 09.1	S 5 51.6	228 45.4	15.1	S 7 17.5	14.7	56.0
18	87 09.2	S 5 50.7	243 19.4	15.1	S 7 32.2	14.7	55.9
19	102 09.4	S 5 49.7	257 53.5	15.1	S 7 46.8	14.6	55.9
20	117 09.5	S 5 48.7	272 27.6	15.1	S 8 01.4	14.6	55.9
21	132 09.7	S 5 47.8	287 01.7	15.1	S 8 15.9	14.5	55.9
22	147 09.8	S 5 46.8	301 35.7	15.1	S 8 30.4	14.5	55.8
23	162 09.9	S 5 45.8	316 09.8	15.0	S 8 44.8	14.4	55.8
6 0	177 10.1	S 5 44.8	330 43.8	15.0	S 8 59.2	14.4	55.8
1	192 10.2	S 5 43.9	345 17.8	15.0	S 9 13.5	14.3	55.8
2	207 10.4	S 5 42.9	359 51.8	15.0	S 9 27.8	14.3	55.7
3	222 10.5	S 5 41.9	14 25.9	15.0	S 9 42.0	14.2	55.7
4	237 10.7	S 5 41.0	28 59.8	15.0	S 9 56.2	14.2	55.7
F 5	252 10.8	S 5 40.0	43 33.8	15.0	S10 10.3	14.1	55.7
R							
I 6	267 11.0	S 5 39.0	58 07.8	15.0	S10 24.4	14.1	55.6
D 7	282 11.1	S 5 38.1	72 41.7	14.9	S10 38.4	14.0	55.6
A 8	297 11.3	S 5 37.1	87 15.7	14.9	S10 52.3	14.0	55.6
Y 9	312 11.4	S 5 36.1	101 49.6	14.9	S11 06.2	13.9	55.6
10	327 11.5	S 5 35.2	116 23.5	14.9	S11 20.1	13.8	55.5
11	342 11.7	S 5 34.2	130 57.3	14.9	S11 33.9	13.8	55.5
12	357 11.8	S 5 33.2	145 31.2	14.9	S11 47.6	13.7	55.5
13	12 12.0	S 5 32.2	160 05.0	14.8	S12 01.2	13.7	55.5
14	27 12.1	S 5 31.3	174 38.8	14.8	S12 14.9	13.6	55.4
15	42 12.3	S 5 30.3	189 12.6	14.8	S12 28.4	13.5	55.4
16	57 12.4	S 5 29.3	203 46.4	14.8	S12 41.9	13.5	55.4
17	72 12.6	S 5 28.4	218 20.1	14.7	S12 55.3	13.4	55.4
18	87 12.7	S 5 27.4	232 53.8	14.7	S13 08.6	13.3	55.4
19	102 12.9	S 5 26.4	247 27.5	14.7	S13 21.9	13.3	55.3
20	117 13.0	S 5 25.5	262 01.2	14.7	S13 35.1	13.2	55.3
21	132 13.2	S 5 24.5	276 34.8	14.6	S13 48.3	13.2	55.3
22	147 13.3	S 5 23.5	291 08.4	14.6	S14 01.4	13.1	55.3
23	162 13.5	S 5 22.5	305 42.0	14.6	S14 14.4	13.0	55.2
7 0	177 13.6	S 5 21.6	320 15.5	14.5	S14 27.3	12.9	55.2
1	192 13.8	S 5 20.6	334 49.0	14.5	S14 40.2	12.9	55.2
2	207 13.9	S 5 19.6	349 22.5	14.5	S14 53.0	12.8	55.2
3	222 14.1	S 5 18.7	3 55.9	14.4	S15 05.7	12.7	55.2
4	237 14.2	S 5 17.7	18 29.3	14.4	S15 18.4	12.7	55.1
S 5	252 14.4	S 5 16.7	33 02.7	14.4	S15 31.0	12.6	55.1
A							
T 6	267 14.5	S 5 15.7	47 36.1	14.3	S15 43.5	12.5	55.1
U 7	282 14.7	S 5 14.8	62 09.4	14.3	S15 55.9	12.4	55.1
R 8	297 14.8	S 5 13.8	76 42.6	14.3	S16 08.3	12.4	55.1
D 9	312 15.0	S 5 12.8	91 15.9	14.2	S16 20.6	12.3	55.0
A 10	327 15.1	S 5 11.8	105 49.1	14.2	S16 32.8	12.2	55.0
Y 11	342 15.3	S 5 10.9	120 22.2	14.2	S16 44.9	12.1	55.0
12	357 15.4	S 5 09.9	134 55.4	14.1	S16 57.0	12.1	55.0
13	12 15.6	S 5 08.9	149 28.4	14.1	S17 09.0	12.0	55.0
14	27 15.7	S 5 08.0	164 01.5	14.0	S17 20.9	11.9	54.9
15	42 15.9	S 5 07.0	178 34.5	14.0	S17 32.7	11.8	54.9
16	57 16.0	S 5 06.0	193 07.4	14.0	S17 44.4	11.7	54.9
17	72 16.2	S 5 05.0	207 40.3	13.9	S17 56.1	11.6	54.9
18	87 16.3	S 5 04.1	222 13.2	13.9	S18 07.6	11.6	54.9
19	102 16.5	S 5 03.1	236 46.1	13.8	S18 19.1	11.5	54.9
20	117 16.6	S 5 02.1	251 18.8	13.8	S18 30.5	11.4	54.8
21	132 16.8	S 5 01.1	265 51.6	13.7	S18 41.8	11.3	54.8
22	147 16.9	S 5 00.2	280 24.3	13.7	S18 53.0	11.2	54.8
23	162 17.1	S 4 59.2	294 56.9	13.7	S19 04.2	11.1	54.8
	S.D. 16.1	d 1.0	S.D.	15.3	15.1	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.2	S40 12.2
Achernar	335 19.9	S57 06.4
Acrux	172 58.5	S63 14.6
Adhara	255 04.9	S29 00.6
Albireo	67 03.5	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.5	N55 48.8
Alkaid	152 50.8	N49 10.6
Al Na-ir	27 32.1	S46 50.1
Alnilam	275 36.7	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.8	N26 37.3
Alpheratz	357 34.2	N29 14.1
Altair	61 59.2	N 8 56.0
Ankaa	353 06.5	S42 10.0
Antares	112 14.6	S26 29.4
Arcturus	145 46.8	N19 02.5
Atria	107 08.1	S69 04.3
Avior	234 13.9	S59 35.8
Bellatrix	278 21.8	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.8	S52 42.8
Capella	280 20.4	N46 01.7
Castor	245 55.6	N31 49.9
Deneb	49 25.5	N45 22.2
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.5
Elnath	278 00.6	N28 37.8
Eltanin	90 41.9	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.1
Gacrux	171 50.1	S57 15.6
Gienah	175 42.3	S17 41.4
Hadar	148 34.3	S60 29.9
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.4	S34 22.3
Kochab	137 19.3	N74 02.5
Markab	13 29.3	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.3	S36 30.0
Miaplacidus	221 37.2	S69 49.6
Mirfak	308 27.1	N49 57.5
Nunki	75 46.7	S26 15.9
Peacock	53 04.6	S56 39.0
Polaris	316 22.1	N89 22.1
Pollux	243 15.9	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.7	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 38.8	S60 56.5
Sabik	102 01.7	S15 45.6
Schedar	349 30.5	N56 40.9
Shaula	96 09.1	S37 07.3
Sirius	258 25.2	S16 45.3
Spica	158 21.0	S11 18.0
Suhail	222 45.2	S43 32.5
Vega	80 32.7	N38 48.1
Zuben-ubi	136 55.7	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
8	0	165 42.9	163 27.4	S 0 21.5	189 10.4	S10 58.0	59 16.8	N22 55.9	162 30.8	S 0 55.8
	1	180 45.4	178 27.0	S 0 20.2	204 11.0	S10 57.2	74 19.3	N22 56.0	177 33.0	S 0 55.7
	2	195 47.8	193 26.7	S 0 18.9	219 11.6	S10 56.5	89 21.8	N22 56.0	192 35.2	S 0 55.5
	3	210 50.3	208 26.3	S 0 17.6	234 12.2	S10 55.8	104 24.3	N22 56.0	207 37.4	S 0 55.4
	4	225 52.8	223 25.9	S 0 16.3	249 12.8	S10 55.1	119 26.8	N22 56.0	222 39.6	S 0 55.3
S	5	240 55.2	238 25.6	S 0 15.1	264 13.4	S10 54.3	134 29.3	N22 56.0	237 41.7	S 0 55.2
U										
N	6	255 57.7	253 25.2	S 0 13.8	279 14.0	S10 53.6	149 31.8	N22 56.0	252 43.9	S 0 55.0
D	7	271 00.2	268 24.8	S 0 12.5	294 14.6	S10 52.9	164 34.3	N22 56.0	267 46.1	S 0 54.9
A	8	286 02.6	283 24.5	S 0 11.2	309 15.2	S10 52.2	179 36.8	N22 56.0	282 48.3	S 0 54.8
Y	9	301 05.1	298 24.1	S 0 09.9	324 15.8	S10 51.5	194 39.3	N22 56.0	297 50.5	S 0 54.7
	10	316 07.6	313 23.7	S 0 08.6	339 16.4	S10 50.7	209 41.7	N22 56.0	312 52.7	S 0 54.6
	11	331 10.0	328 23.4	S 0 07.3	354 17.0	S10 50.0	224 44.2	N22 56.0	327 54.8	S 0 54.4
	12	346 12.5	343 23.0	S 0 06.0	9 17.6	S10 49.3	239 46.7	N22 56.0	342 57.0	S 0 54.3
	13	1 14.9	358 22.6	S 0 04.8	24 18.2	S10 48.6	254 49.2	N22 56.0	357 59.2	S 0 54.2
	14	16 17.4	13 22.3	S 0 03.5	39 18.8	S10 47.9	269 51.7	N22 56.0	13 01.4	S 0 54.1
	15	31 19.9	28 21.9	S 0 02.2	54 19.4	S10 47.1	284 54.2	N22 56.0	28 03.6	S 0 53.9
	16	46 22.3	43 21.5	S 0 00.9	69 20.0	S10 46.4	299 56.7	N22 56.0	43 05.8	S 0 53.8
	17	61 24.8	58 21.2	N 0 00.4	84 20.6	S10 45.7	314 59.1	N22 56.0	58 08.0	S 0 53.7
	18	76 27.3	73 20.8	N 0 01.7	99 21.2	S10 45.0	330 01.6	N22 56.0	73 10.1	S 0 53.6
	19	91 29.7	88 20.4	N 0 03.0	114 21.8	S10 44.2	345 04.1	N22 56.0	88 12.3	S 0 53.5
	20	106 32.2	103 20.1	N 0 04.3	129 22.4	S10 43.5	0 06.6	N22 56.0	103 14.5	S 0 53.3
	21	121 34.7	118 19.7	N 0 05.5	144 23.0	S10 42.8	15 09.1	N22 56.0	118 16.7	S 0 53.2
	22	136 37.1	133 19.3	N 0 06.8	159 23.6	S10 42.1	30 11.6	N22 56.1	133 18.9	S 0 53.1
	23	151 39.6	148 19.0	N 0 08.1	174 24.2	S10 41.3	45 14.1	N22 56.1	148 21.1	S 0 53.0
9	0	166 42.1	163 18.6	N 0 09.4	189 24.8	S10 40.6	60 16.5	N22 56.1	163 23.2	S 0 52.8
	1	181 44.5	178 18.3	N 0 10.7	204 25.4	S10 39.9	75 19.0	N22 56.1	178 25.4	S 0 52.7
	2	196 47.0	193 17.9	N 0 12.0	219 26.0	S10 39.2	90 21.5	N22 56.1	193 27.6	S 0 52.6
	3	211 49.4	208 17.5	N 0 13.3	234 26.6	S10 38.4	105 24.0	N22 56.1	208 29.8	S 0 52.5
	4	226 51.9	223 17.2	N 0 14.6	249 27.2	S10 37.7	120 26.5	N22 56.1	223 32.0	S 0 52.4
M	5	241 54.4	238 16.8	N 0 15.8	264 27.8	S10 37.0	135 28.9	N22 56.1	238 34.2	S 0 52.2
O										
N	6	256 56.8	253 16.4	N 0 17.1	279 28.4	S10 36.3	150 31.4	N22 56.1	253 36.3	S 0 52.1
D	7	271 59.3	268 16.1	N 0 18.4	294 29.0	S10 35.5	165 33.9	N22 56.1	268 38.5	S 0 52.0
A	8	287 01.8	283 15.7	N 0 19.7	309 29.6	S10 34.8	180 36.4	N22 56.1	283 40.7	S 0 51.9
Y	9	302 04.2	298 15.3	N 0 21.0	324 30.2	S10 34.1	195 38.9	N22 56.1	298 42.9	S 0 51.7
	10	317 06.7	313 15.0	N 0 22.3	339 30.8	S10 33.4	210 41.3	N22 56.1	313 45.1	S 0 51.6
	11	332 09.2	328 14.6	N 0 23.6	354 31.4	S10 32.6	225 43.8	N22 56.1	328 47.3	S 0 51.5
	12	347 11.6	343 14.2	N 0 24.9	9 32.0	S10 31.9	240 46.3	N22 56.1	343 49.5	S 0 51.4
	13	2 14.1	358 13.9	N 0 26.1	24 32.6	S10 31.2	255 48.8	N22 56.1	358 51.6	S 0 51.3
	14	17 16.6	13 13.5	N 0 27.4	39 33.2	S10 30.5	270 51.3	N22 56.1	13 53.8	S 0 51.1
	15	32 19.0	28 13.2	N 0 28.7	54 33.8	S10 29.7	285 53.7	N22 56.1	28 56.0	S 0 51.0
	16	47 21.5	43 12.8	N 0 30.0	69 34.4	S10 29.0	300 56.2	N22 56.1	43 58.2	S 0 50.9
	17	62 23.9	58 12.4	N 0 31.3	84 35.0	S10 28.3	315 58.7	N22 56.1	59 00.4	S 0 50.8
	18	77 26.4	73 12.1	N 0 32.6	99 35.6	S10 27.6	331 01.2	N22 56.1	74 02.6	S 0 50.6
	19	92 28.9	88 11.7	N 0 33.9	114 36.2	S10 26.8	346 03.6	N22 56.1	89 04.7	S 0 50.5
	20	107 31.3	103 11.3	N 0 35.2	129 36.8	S10 26.1	1 06.1	N22 56.1	104 06.9	S 0 50.4
	21	122 33.8	118 11.0	N 0 36.4	144 37.4	S10 25.4	16 08.6	N22 56.1	119 09.1	S 0 50.3
	22	137 36.3	133 10.6	N 0 37.7	159 38.0	S10 24.6	31 11.1	N22 56.1	134 11.3	S 0 50.2
	23	152 38.7	148 10.2	N 0 39.0	174 38.6	S10 23.9	46 13.5	N22 56.2	149 13.5	S 0 50.0
10	0	167 41.2	163 09.9	N 0 40.3	189 39.2	S10 23.2	61 16.0	N22 56.2	164 15.7	S 0 49.9
	1	182 43.7	178 09.5	N 0 41.6	204 39.8	S10 22.5	76 18.5	N22 56.2	179 17.8	S 0 49.8
	2	197 46.1	193 09.2	N 0 42.9	219 40.4	S10 21.7	91 21.0	N22 56.2	194 20.0	S 0 49.7
	3	212 48.6	208 08.8	N 0 44.2	234 41.0	S10 21.0	106 23.4	N22 56.2	209 22.2	S 0 49.5
	4	227 51.0	223 08.4	N 0 45.5	249 41.6	S10 20.3	121 25.9	N22 56.2	224 24.4	S 0 49.4
T	5	242 53.5	238 08.1	N 0 46.7	264 42.2	S10 19.5	136 28.4	N22 56.2	239 26.6	S 0 49.3
U										
E	6	257 56.0	253 07.7	N 0 48.0	279 42.9	S10 18.8	151 30.9	N22 56.2	254 28.8	S 0 49.2
S	7	272 58.4	268 07.3	N 0 49.3	294 43.5	S10 18.1	166 33.3	N22 56.2	269 30.9	S 0 49.0
D	8	288 00.9	283 07.0	N 0 50.6	309 44.1	S10 17.4	181 35.8	N22 56.2	284 33.1	S 0 48.9
A	9	303 03.4	298 06.6	N 0 51.9	324 44.7	S10 16.6	196 38.3	N22 56.2	299 35.3	S 0 48.8
Y	10	318 05.8	313 06.2	N 0 53.2	339 45.3	S10 15.9	211 40.7	N22 56.2	314 37.5	S 0 48.7
	11	333 08.3	328 05.9	N 0 54.5	354 45.9	S10 15.2	226 43.2	N22 56.2	329 39.7	S 0 48.6
	12	348 10.8	343 05.5	N 0 55.8	9 46.5	S10 14.4	241 45.7	N22 56.2	344 41.9	S 0 48.4
	13	3 13.2	358 05.2	N 0 57.1	24 47.1	S10 13.7	256 48.1	N22 56.2	359 44.0	S 0 48.3
	14	18 15.7	13 04.8	N 0 58.3	39 47.7	S10 13.0	271 50.6	N22 56.2	14 46.2	S 0 48.2
	15	33 18.2	28 04.4	N 0 59.6	54 48.3	S10 12.2	286 53.1	N22 56.2	29 48.4	S 0 48.1
	16	48 20.6	43 04.1	N 1 00.9	69 48.9	S10 11.5	301 55.6	N22 56.2	44 50.6	S 0 47.9
	17	63 23.1	58 03.7	N 1 02.2	84 49.5	S10 10.8	316 58.0	N22 56.2	59 52.8	S 0 47.8
	18	78 25.5	73 03.3	N 1 03.5	99 50.1	S10 10.0	332 00.5	N22 56.2	74 54.9	S 0 47.7
	19	93 28.0	88 03.0	N 1 04.8	114 50.7	S10 09.3	347 03.0	N22 56.2	89 57.1	S 0 47.6
	20	108 30.5	103 02.6	N 1 06.1	129 51.3	S10 08.6	2 05.4	N22 56.2	104 59.3	S 0 47.5
	21	123 32.9	118 02.3	N 1 07.4	144 51.9	S10 07.9	17 07.9	N22 56.2	120 01.5	S 0 47.3
	22	138 35.4	133 01.9	N 1 08.6	159 52.6	S10 07.1	32 10.4	N22 56.2	135 03.7	S 0 47.2
	23	153 37.9	148 01.5	N 1 09.9	174 53.2	S10 06.4	47 12.8	N22 56.2	150 05.9	S 0 47.1
			v -0.4	d 1.3	v 0.6	d 0.7	v 2.5	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
8	0	177 17.2	S 4 58.2	309 29.5	13.6	S19 15.2	11.0	54.8
	1	192 17.4	S 4 57.2	324 02.1	13.6	S19 26.2	11.0	54.7
	2	207 17.5	S 4 56.3	338 34.6	13.5	S19 37.0	10.9	54.7
	3	222 17.7	S 4 55.3	353 07.1	13.5	S19 47.8	10.8	54.7
	4	237 17.8	S 4 54.3	7 39.5	13.4	S19 58.5	10.7	54.7
S	5	252 18.0	S 4 53.3	22 11.9	13.4	S20 09.1	10.6	54.7
U								
N	6	267 18.1	S 4 52.4	36 44.2	13.3	S20 19.6	10.5	54.7
D	7	282 18.3	S 4 51.4	51 16.5	13.3	S20 30.0	10.4	54.7
A	8	297 18.4	S 4 50.4	65 48.7	13.2	S20 40.4	10.3	54.6
Y	9	312 18.6	S 4 49.4	80 20.9	13.2	S20 50.6	10.2	54.6
	10	327 18.8	S 4 48.5	94 53.0	13.1	S21 00.7	10.1	54.6
	11	342 18.9	S 4 47.5	109 25.1	13.1	S21 10.7	10.0	54.6
	12	357 19.1	S 4 46.5	123 57.1	13.0	S21 20.7	9.9	54.6
	13	12 19.2	S 4 45.5	138 29.1	13.0	S21 30.5	9.8	54.6
	14	27 19.4	S 4 44.6	153 01.1	12.9	S21 40.3	9.7	54.6
	15	42 19.5	S 4 43.6	167 32.9	12.9	S21 49.9	9.6	54.5
	16	57 19.7	S 4 42.6	182 04.8	12.8	S21 59.5	9.5	54.5
	17	72 19.8	S 4 41.6	196 36.5	12.8	S22 08.9	9.4	54.5
	18	87 20.0	S 4 40.7	211 08.3	12.7	S22 18.2	9.3	54.5
	19	102 20.1	S 4 39.7	225 39.9	12.7	S22 27.5	9.2	54.5
	20	117 20.3	S 4 38.7	240 11.5	12.6	S22 36.6	9.1	54.5
	21	132 20.5	S 4 37.7	254 43.1	12.6	S22 45.7	9.0	54.5
	22	147 20.6	S 4 36.8	269 14.6	12.5	S22 54.6	8.9	54.5
	23	162 20.8	S 4 35.8	283 46.1	12.5	S23 03.4	8.8	54.4
9	0	177 20.9	S 4 34.8	298 17.5	12.4	S23 12.1	8.7	54.4
	1	192 21.1	S 4 33.8	312 48.9	12.4	S23 20.8	8.6	54.4
	2	207 21.2	S 4 32.8	327 20.2	12.3	S23 29.3	8.5	54.4
	3	222 21.4	S 4 31.9	341 51.4	12.3	S23 37.7	8.4	54.4
	4	237 21.5	S 4 30.9	356 22.6	12.2	S23 46.0	8.3	54.4
M	5	252 21.7	S 4 29.9	10 53.8	12.1	S23 54.1	8.2	54.4
O								
N	6	267 21.9	S 4 28.9	25 24.9	12.1	S24 02.2	8.1	54.4
D	7	282 22.0	S 4 28.0	39 55.9	12.0	S24 10.2	8.0	54.4
A	8	297 22.2	S 4 27.0	54 26.9	12.0	S24 18.0	7.9	54.4
Y	9	312 22.3	S 4 26.0	68 57.8	11.9	S24 25.8	7.7	54.3
	10	327 22.5	S 4 25.0	83 28.7	11.9	S24 33.4	7.6	54.3
	11	342 22.6	S 4 24.0	97 59.5	11.8	S24 40.9	7.5	54.3
	12	357 22.8	S 4 23.1	112 30.3	11.8	S24 48.4	7.4	54.3
	13	12 23.0	S 4 22.1	127 01.0	11.7	S24 55.6	7.3	54.3
	14	27 23.1	S 4 21.1	141 31.7	11.7	S25 02.8	7.2	54.3
	15	42 23.3	S 4 20.1	156 02.3	11.6	S25 09.9	7.1	54.3
	16	57 23.4	S 4 19.2	170 32.9	11.6	S25 16.8	6.9	54.3
	17	72 23.6	S 4 18.2	185 03.4	11.5	S25 23.7	6.8	54.3
	18	87 23.8	S 4 17.2	199 33.9	11.5	S25 30.4	6.7	54.3
	19	102 23.9	S 4 16.2	214 04.3	11.4	S25 37.0	6.6	54.3
	20	117 24.1	S 4 15.2	228 34.7	11.4	S25 43.5	6.5	54.3
	21	132 24.2	S 4 14.3	243 05.0	11.3	S25 49.8	6.4	54.3
	22	147 24.4	S 4 13.3	257 35.3	11.3	S25 56.1	6.2	54.3
	23	162 24.6	S 4 12.3	272 05.5	11.2	S26 02.2	6.1	54.3
10	0	177 24.7	S 4 11.3	286 35.7	11.2	S26 08.2	6.0	54.3
	1	192 24.9	S 4 10.3	301 05.8	11.1	S26 14.1	5.9	54.2
	2	207 25.0	S 4 09.4	315 35.9	11.1	S26 19.8	5.8	54.2
	3	222 25.2	S 4 08.4	330 05.9	11.0	S26 25.4	5.6	54.2
	4	237 25.4	S 4 07.4	344 35.9	11.0	S26 31.0	5.5	54.2
T	5	252 25.5	S 4 06.4	359 05.8	10.9	S26 36.3	5.4	54.2
U								
E	6	267 25.7	S 4 05.4	13 35.7	10.9	S26 41.6	5.3	54.2
S	7	282 25.8	S 4 04.5	28 05.6	10.8	S26 46.7	5.1	54.2
D	8	297 26.0	S 4 03.5	42 35.4	10.8	S26 51.8	5.0	54.2
A	9	312 26.2	S 4 02.5	57 05.1	10.8	S26 56.6	4.9	54.2
Y	10	327 26.3	S 4 01.5	71 34.8	10.7	S27 01.4	4.8	54.2
	11	342 26.5	S 4 00.5	86 04.5	10.7	S27 06.0	4.6	54.2
	12	357 26.6	S 3 59.6	100 34.1	10.6	S27 10.5	4.5	54.2
	13	12 26.8	S 3 58.6	115 03.7	10.6	S27 14.9	4.4	54.2
	14	27 27.0	S 3 57.6	129 33.3	10.5	S27 19.2	4.2	54.2
	15	42 27.1	S 3 56.6	144 02.8	10.5	S27 23.3	4.1	54.2
	16	57 27.3	S 3 55.6	158 32.2	10.5	S27 27.3	4.0	54.2
	17	72 27.4	S 3 54.7	173 01.6	10.4	S27 31.1	3.9	54.2
	18	87 27.6	S 3 53.7	187 31.0	10.4	S27 34.9	3.7	54.2
	19	102 27.8	S 3 52.7	202 00.4	10.3	S27 38.5	3.6	54.2
	20	117 27.9	S 3 51.7	216 29.7	10.3	S27 41.9	3.5	54.2
	21	132 28.1	S 3 50.7	230 59.0	10.3	S27 45.3	3.3	54.2
	22	147 28.3	S 3 49.8	245 28.2	10.2	S27 48.5	3.2	54.2
	23	162 28.4	S 3 48.8	259 57.4	10.2	S27 51.6	3.1	54.2
		S.D. 16.1	d 1.0	S.D. 14.9		14.8		14.8

STARS Name	SHA	Dec
Acamar	315 11.2	S40 12.2
Achernar	335 19.9	S57 06.4
Acrux	172 58.5	S63 14.6
Adhara	255 04.9	S29 00.6
Albireo	67 03.5	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.5	N55 48.9
Alkaid	152 50.8	N49 10.6
Al Na-ir	27 32.1	S46 50.1
Alnilam	275 36.7	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.8	N26 37.3
Alpheratz	357 34.2	N29 14.1
Altair	61 59.2	N 8 56.0
Ankaa	353 06.5	S42 10.0
Antares	112 14.6	S26 29.4
Arcturus	145 46.8	N19 02.5
Atria	107 08.0	S69 04.3
Avior	234 13.9	S59 35.8
Bellatrix	278 21.8	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.8	S52 42.8
Capella	280 20.5	N46 01.6
Castor	245 55.6	N31 49.9
Deneb	49 25.5	N45 22.2
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.5
Elnath	278 00.7	N28 37.8
Eltanin	90 41.9	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.1
Gacrux	171 50.1	S57 15.6
Gienah	175 42.3	S17 41.4
Hadar	148 34.3	S60 29.9
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.4	S34 22.3
Kochab	137 19.2	N74 02.5
Markab	13 29.3	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.2	S36 30.0
Miaplacidus	221 37.3	S69 49.6
Mirfak	308 27.2	N49 57.4
Nunki	75 46.7	S26 15.9
Peacock	53 04.5	S56 39.0
Polaris	316 22.9	N89 22.1
Pollux	243 15.9	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.7	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 38.8	S60 56.5
Sabik	102 01.7	S15 45.6
Schedar	349 30.5	N56 40.9
Shaula	96 09.1	S37 07.3
Sirius	258 25.3	S16 45.3
Spica	158 21.0	S11 18.0
Suhail	222 45.2	S43 32.5
Vega	80 32.7	N38 48.1
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
11	0	168 40.3	163 01.2	N 1 11.2	189 53.8	S10 05.7	62 15.3	N22 56.2	165 08.0	S 0 47.0
	1	183 42.8	178 00.8	N 1 12.5	204 54.4	S10 04.9	77 17.8	N22 56.2	180 10.2	S 0 46.8
	2	198 45.3	193 00.4	N 1 13.8	219 55.0	S10 04.2	92 20.2	N22 56.2	195 12.4	S 0 46.7
	3	213 47.7	208 00.1	N 1 15.1	234 55.6	S10 03.5	107 22.7	N22 56.2	210 14.6	S 0 46.6
	4	228 50.2	222 59.7	N 1 16.4	249 56.2	S10 02.7	122 25.1	N22 56.2	225 16.8	S 0 46.5
W	5	243 52.7	237 59.3	N 1 17.7	264 56.8	S10 02.0	137 27.6	N22 56.2	240 19.0	S 0 46.3
E										
D	6	258 55.1	252 59.0	N 1 18.9	279 57.4	S10 01.3	152 30.1	N22 56.2	255 21.1	S 0 46.2
N	7	273 57.6	267 58.6	N 1 20.2	294 58.0	S10 00.5	167 32.5	N22 56.2	270 23.3	S 0 46.1
E	8	289 00.0	282 58.3	N 1 21.5	309 58.6	S 9 59.8	182 35.0	N22 56.2	285 25.5	S 0 46.0
S	9	304 02.5	297 57.9	N 1 22.8	324 59.3	S 9 59.1	197 37.5	N22 56.2	300 27.7	S 0 45.9
D	10	319 05.0	312 57.5	N 1 24.1	339 59.9	S 9 58.3	212 39.9	N22 56.2	315 29.9	S 0 45.7
A	11	334 07.4	327 57.2	N 1 25.4	355 00.5	S 9 57.6	227 42.4	N22 56.2	330 32.1	S 0 45.6
Y										
	12	349 09.9	342 56.8	N 1 26.7	10 01.1	S 9 56.9	242 44.8	N22 56.2	345 34.2	S 0 45.5
	13	4 12.4	357 56.4	N 1 27.9	25 01.7	S 9 56.1	257 47.3	N22 56.3	0 36.4	S 0 45.4
	14	19 14.8	12 56.1	N 1 29.2	40 02.3	S 9 55.4	272 49.8	N22 56.3	15 38.6	S 0 45.2
	15	34 17.3	27 55.7	N 1 30.5	55 02.9	S 9 54.7	287 52.2	N22 56.3	30 40.8	S 0 45.1
	16	49 19.8	42 55.4	N 1 31.8	70 03.5	S 9 53.9	302 54.7	N22 56.3	45 43.0	S 0 45.0
	17	64 22.2	57 55.0	N 1 33.1	85 04.1	S 9 53.2	317 57.1	N22 56.3	60 45.1	S 0 44.9
	18	79 24.7	72 54.6	N 1 34.4	100 04.7	S 9 52.4	332 59.6	N22 56.3	75 47.3	S 0 44.7
	19	94 27.2	87 54.3	N 1 35.7	115 05.4	S 9 51.7	348 02.1	N22 56.3	90 49.5	S 0 44.6
	20	109 29.6	102 53.9	N 1 37.0	130 06.0	S 9 51.0	3 04.5	N22 56.3	105 51.7	S 0 44.5
	21	124 32.1	117 53.5	N 1 38.2	145 06.6	S 9 50.2	18 07.0	N22 56.3	120 53.9	S 0 44.4
	22	139 34.5	132 53.2	N 1 39.5	160 07.2	S 9 49.5	33 09.4	N22 56.3	135 56.1	S 0 44.3
	23	154 37.0	147 52.8	N 1 40.8	175 07.8	S 9 48.8	48 11.9	N22 56.3	150 58.2	S 0 44.1
12	0	169 39.5	162 52.4	N 1 42.1	190 08.4	S 9 48.0	63 14.3	N22 56.3	166 00.4	S 0 44.0
	1	184 41.9	177 52.1	N 1 43.4	205 09.0	S 9 47.3	78 16.8	N22 56.3	181 02.6	S 0 43.9
	2	199 44.4	192 51.7	N 1 44.7	220 09.6	S 9 46.6	93 19.3	N22 56.3	196 04.8	S 0 43.8
	3	214 46.9	207 51.4	N 1 46.0	235 10.2	S 9 45.8	108 21.7	N22 56.3	211 07.0	S 0 43.6
	4	229 49.3	222 51.0	N 1 47.3	250 10.9	S 9 45.1	123 24.2	N22 56.3	226 09.2	S 0 43.5
T	5	244 51.8	237 50.6	N 1 48.5	265 11.5	S 9 44.4	138 26.6	N22 56.3	241 11.3	S 0 43.4
H										
U	6	259 54.3	252 50.3	N 1 49.8	280 12.1	S 9 43.6	153 29.1	N22 56.3	256 13.5	S 0 43.3
R	7	274 56.7	267 49.9	N 1 51.1	295 12.7	S 9 42.9	168 31.5	N22 56.3	271 15.7	S 0 43.2
S	8	289 59.2	282 49.5	N 1 52.4	310 13.3	S 9 42.1	183 34.0	N22 56.3	286 17.9	S 0 43.0
D	9	305 01.6	297 49.2	N 1 53.7	325 13.9	S 9 41.4	198 36.4	N22 56.3	301 20.1	S 0 42.9
A	10	320 04.1	312 48.8	N 1 55.0	340 14.5	S 9 40.7	213 38.9	N22 56.3	316 22.2	S 0 42.8
Y	11	335 06.6	327 48.5	N 1 56.3	355 15.1	S 9 39.9	228 41.3	N22 56.3	331 24.4	S 0 42.7
	12	350 09.0	342 48.1	N 1 57.5	10 15.8	S 9 39.2	243 43.8	N22 56.3	346 26.6	S 0 42.5
	13	5 11.5	357 47.7	N 1 58.8	25 16.4	S 9 38.5	258 46.2	N22 56.3	1 28.8	S 0 42.4
	14	20 14.0	12 47.4	N 2 00.1	40 17.0	S 9 37.7	273 48.7	N22 56.3	16 31.0	S 0 42.3
	15	35 16.4	27 47.0	N 2 01.4	55 17.6	S 9 37.0	288 51.1	N22 56.3	31 33.1	S 0 42.2
	16	50 18.9	42 46.6	N 2 02.7	70 18.2	S 9 36.2	303 53.6	N22 56.3	46 35.3	S 0 42.0
	17	65 21.4	57 46.3	N 2 04.0	85 18.8	S 9 35.5	318 56.0	N22 56.3	61 37.5	S 0 41.9
	18	80 23.8	72 45.9	N 2 05.3	100 19.4	S 9 34.8	333 58.5	N22 56.3	76 39.7	S 0 41.8
	19	95 26.3	87 45.5	N 2 06.5	115 20.0	S 9 34.0	349 00.9	N22 56.3	91 41.9	S 0 41.7
	20	110 28.8	102 45.2	N 2 07.8	130 20.7	S 9 33.3	4 03.4	N22 56.3	106 44.1	S 0 41.6
	21	125 31.2	117 44.8	N 2 09.1	145 21.3	S 9 32.5	19 05.8	N22 56.3	121 46.2	S 0 41.4
	22	140 33.7	132 44.5	N 2 10.4	160 21.9	S 9 31.8	34 08.3	N22 56.3	136 48.4	S 0 41.3
	23	155 36.1	147 44.1	N 2 11.7	175 22.5	S 9 31.1	49 10.7	N22 56.3	151 50.6	S 0 41.2
13	0	170 38.6	162 43.7	N 2 13.0	190 23.1	S 9 30.3	64 13.2	N22 56.3	166 52.8	S 0 41.1
	1	185 41.1	177 43.4	N 2 14.3	205 23.7	S 9 29.6	79 15.6	N22 56.3	181 55.0	S 0 40.9
	2	200 43.5	192 43.0	N 2 15.5	220 24.4	S 9 28.8	94 18.1	N22 56.3	196 57.1	S 0 40.8
	3	215 46.0	207 42.6	N 2 16.8	235 25.0	S 9 28.1	109 20.5	N22 56.3	211 59.3	S 0 40.7
	4	230 48.5	222 42.3	N 2 18.1	250 25.6	S 9 27.4	124 23.0	N22 56.3	227 01.5	S 0 40.6
F	5	245 50.9	237 41.9	N 2 19.4	265 26.2	S 9 26.6	139 25.4	N22 56.3	242 03.7	S 0 40.4
R										
I	6	260 53.4	252 41.5	N 2 20.7	280 26.8	S 9 25.9	154 27.9	N22 56.3	257 05.9	S 0 40.3
D	7	275 55.9	267 41.2	N 2 22.0	295 27.4	S 9 25.1	169 30.3	N22 56.3	272 08.1	S 0 40.2
A	8	290 58.3	282 40.8	N 2 23.2	310 28.0	S 9 24.4	184 32.8	N22 56.3	287 10.2	S 0 40.1
Y	9	306 00.8	297 40.5	N 2 24.5	325 28.7	S 9 23.7	199 35.2	N22 56.3	302 12.4	S 0 40.0
	10	321 03.3	312 40.1	N 2 25.8	340 29.3	S 9 22.9	214 37.6	N22 56.3	317 14.6	S 0 39.8
	11	336 05.7	327 39.7	N 2 27.1	355 29.9	S 9 22.2	229 40.1	N22 56.3	332 16.8	S 0 39.7
	12	351 08.2	342 39.4	N 2 28.4	10 30.5	S 9 21.4	244 42.5	N22 56.3	347 19.0	S 0 39.6
	13	6 10.6	357 39.0	N 2 29.7	25 31.1	S 9 20.7	259 45.0	N22 56.3	2 21.1	S 0 39.5
	14	21 13.1	12 38.6	N 2 31.0	40 31.7	S 9 19.9	274 47.4	N22 56.3	17 23.3	S 0 39.3
	15	36 15.6	27 38.3	N 2 32.2	55 32.4	S 9 19.2	289 49.9	N22 56.3	32 25.5	S 0 39.2
	16	51 18.0	42 37.9	N 2 33.5	70 33.0	S 9 18.5	304 52.3	N22 56.3	47 27.7	S 0 39.1
	17	66 20.5	57 37.5	N 2 34.8	85 33.6	S 9 17.7	319 54.7	N22 56.3	62 29.9	S 0 39.0
	18	81 23.0	72 37.2	N 2 36.1	100 34.2	S 9 17.0	334 57.2	N22 56.3	77 32.0	S 0 38.8
	19	96 25.4	87 36.8	N 2 37.4	115 34.8	S 9 16.2	349 59.6	N22 56.3	92 34.2	S 0 38.7
	20	111 27.9	102 36.5	N 2 38.7	130 35.4	S 9 15.5	5 02.1	N22 56.3	107 36.4	S 0 38.6
	21	126 30.4	117 36.1	N 2 39.9	145 36.1	S 9 14.8	20 04.5	N22 56.3	122 38.6	S 0 38.5
	22	141 32.8	132 35.7	N 2 41.2	160 36.7	S 9 14.0	35 06.9	N22 56.3	137 40.8	S 0 38.4
	23	156 35.3	147 35.4	N 2 42.5	175 37.3	S 9 13.3	50 09.4	N22 56.3	152 42.9	S 0 38.2
			v -0.4	d 1.3	v 0.6	d 0.7	v 2.5	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
11	0	177 28.6	S 3 47.8	274 26.6	10.2	S27 54.5	2.9	54.2
	1	192 28.7	S 3 46.8	288 55.7	10.1	S27 57.3	2.8	54.2
	2	207 28.9	S 3 45.8	303 24.8	10.1	S27 60.0	2.7	54.2
	3	222 29.1	S 3 44.8	317 53.9	10.1	S28 02.5	2.5	54.3
	4	237 29.2	S 3 43.9	332 22.9	10.0	S28 04.9	2.4	54.3
W	5	252 29.4	S 3 42.9	346 51.9	10.0	S28 07.2	2.3	54.3
E								
D	6	267 29.6	S 3 41.9	1 20.9	10.0	S28 09.3	2.1	54.3
N	7	282 29.7	S 3 40.9	15 49.9	10.0	S28 11.3	2.0	54.3
E	8	297 29.9	S 3 39.9	30 18.8	9.9	S28 13.2	1.9	54.3
S	9	312 30.1	S 3 39.0	44 47.7	9.9	S28 14.9	1.7	54.3
D	10	327 30.2	S 3 38.0	59 16.6	9.9	S28 16.5	1.6	54.3
A	11	342 30.4	S 3 37.0	73 45.4	9.9	S28 18.0	1.5	54.3
Y								
	12	357 30.5	S 3 36.0	88 14.3	9.8	S28 19.3	1.3	54.3
	13	12 30.7	S 3 35.0	102 43.1	9.8	S28 20.5	1.2	54.3
	14	27 30.9	S 3 34.0	117 11.9	9.8	S28 21.5	1.0	54.3
	15	42 31.0	S 3 33.1	131 40.7	9.8	S28 22.4	0.9	54.3
	16	57 31.2	S 3 32.1	146 09.4	9.8	S28 23.2	0.8	54.3
	17	72 31.4	S 3 31.1	160 38.1	9.7	S28 23.8	0.6	54.3
	18	87 31.5	S 3 30.1	175 06.9	9.7	S28 24.3	0.5	54.3
	19	102 31.7	S 3 29.1	189 35.6	9.7	S28 24.7	0.4	54.4
	20	117 31.9	S 3 28.1	204 04.2	9.7	S28 24.9	0.2	54.4
	21	132 32.0	S 3 27.2	218 32.9	9.7	S28 25.0	0.1	54.4
	22	147 32.2	S 3 26.2	233 01.6	9.7	S28 24.9	0.1	54.4
	23	162 32.4	S 3 25.2	247 30.2	9.6	S28 24.7	0.2	54.4
12	0	177 32.5	S 3 24.2	261 58.9	9.6	S28 24.4	0.3	54.4
	1	192 32.7	S 3 23.2	276 27.5	9.6	S28 23.9	0.5	54.4
	2	207 32.9	S 3 22.2	290 56.1	9.6	S28 23.3	0.6	54.4
	3	222 33.0	S 3 21.3	305 24.7	9.6	S28 22.5	0.8	54.4
	4	237 33.2	S 3 20.3	319 53.3	9.6	S28 21.6	0.9	54.4
T	5	252 33.4	S 3 19.3	334 21.9	9.6	S28 20.6	1.0	54.5
H								
U	6	267 33.5	S 3 18.3	348 50.5	9.6	S28 19.4	1.2	54.5
R	7	282 33.7	S 3 17.3	3 19.1	9.6	S28 18.1	1.3	54.5
S	8	297 33.9	S 3 16.3	17 47.7	9.6	S28 16.6	1.5	54.5
D	9	312 34.0	S 3 15.4	32 16.3	9.6	S28 15.0	1.6	54.5
A	10	327 34.2	S 3 14.4	46 44.9	9.6	S28 13.3	1.7	54.5
Y	11	342 34.4	S 3 13.4	61 13.5	9.6	S28 11.4	1.9	54.5
	12	357 34.5	S 3 12.4	75 42.1	9.6	S28 09.4	2.0	54.6
	13	12 34.7	S 3 11.4	90 10.7	9.6	S28 07.2	2.2	54.6
	14	27 34.9	S 3 10.4	104 39.3	9.6	S28 04.9	2.3	54.6
	15	42 35.0	S 3 09.4	119 07.9	9.6	S28 02.5	2.4	54.6
	16	57 35.2	S 3 08.5	133 36.5	9.6	S27 59.9	2.6	54.6
	17	72 35.4	S 3 07.5	148 05.2	9.6	S27 57.2	2.7	54.6
	18	87 35.5	S 3 06.5	162 33.8	9.6	S27 54.3	2.9	54.6
	19	102 35.7	S 3 05.5	177 02.4	9.6	S27 51.3	3.0	54.7
	20	117 35.9	S 3 04.5	191 31.1	9.7	S27 48.2	3.1	54.7
	21	132 36.0	S 3 03.5	205 59.8	9.7	S27 44.9	3.3	54.7
	22	147 36.2	S 3 02.6	220 28.4	9.7	S27 41.5	3.4	54.7
	23	162 36.4	S 3 01.6	234 57.1	9.7	S27 37.9	3.6	54.7
13	0	177 36.5	S 3 00.6	249 25.8	9.7	S27 34.2	3.7	54.7
	1	192 36.7	S 2 59.6	263 54.6	9.7	S27 30.4	3.8	54.8
	2	207 36.9	S 2 58.6	278 23.3	9.7	S27 26.4	4.0	54.8
	3	222 37.1	S 2 57.6	292 52.1	9.8	S27 22.3	4.1	54.8
	4	237 37.2	S 2 56.6	307 20.8	9.8	S27 18.1	4.2	54.8
F	5	252 37.4	S 2 55.7	321 49.6	9.8	S27 13.7	4.4	54.8
R								
I	6	267 37.6	S 2 54.7	336 18.4	9.8	S27 09.2	4.5	54.8
D	7	282 37.7	S 2 53.7	350 47.3	9.8	S27 04.5	4.7	54.9
A	8	297 37.9	S 2 52.7	5 16.1	9.9	S26 59.7	4.8	54.9
Y	9	312 38.1	S 2 51.7	19 45.0	9.9	S26 54.8	4.9	54.9
	10	327 38.2	S 2 50.7	34 13.9	9.9	S26 49.7	5.1	54.9
	11	342 38.4	S 2 49.7	48 42.8	9.9	S26 44.5	5.2	54.9
	12	357 38.6	S 2 48.8	63 11.8	9.9	S26 39.2	5.3	55.0
	13	12 38.7	S 2 47.8	77 40.7	10.0	S26 33.7	5.5	55.0
	14	27 38.9	S 2 46.8	92 09.7	10.0	S26 28.1	5.6	55.0
	15	42 39.1	S 2 45.8	106 38.8	10.0	S26 22.4	5.7	55.0
	16	57 39.3	S 2 44.8	121 07.8	10.1	S26 16.5	5.9	55.1
	17	72 39.4	S 2 43.8	135 36.9	10.1	S26 10.5	6.0	55.1
	18	87 39.6	S 2 42.8	150 06.0	10.1	S26 04.3	6.1	55.1
	19	102 39.8	S 2 41.9	164 35.2	10.1	S25 58.1	6.3	55.1
	20	117 39.9	S 2 40.9	179 04.3	10.2	S25 51.6	6.4	55.1
	21	132 40.1	S 2 39.9	193 33.5	10.2	S25 45.1	6.5	55.2
	22	147 40.3	S 2 38.9	208 02.8	10.2	S25 38.4	6.7	55.2
	23	162 40.5	S 2 37.9	222 32.1	10.3	S25 31.6	6.8	55.2
		S.D. 16.1	d 1.0	S.D.	14.8	14.9	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.2	S40 12.2
Achernar	335 19.9	S57 06.4
Acrux	172 58.4	S63 14.7
Adhara	255 05.0	S29 00.7
Albireo	67 03.5	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.5	N55 48.9
Alkaid	152 50.8	N49 10.6
Al Na-ir	27 32.0	S46 50.1
Alnilam	275 36.7	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.2	N 8 56.0
Ankaa	353 06.5	S42 10.0
Antares	112 14.6	S26 29.5
Arcturus	145 46.8	N19 02.5
Atria	107 08.0	S69 04.3
Avior	234 13.9	S59 35.8
Bellatrix	278 21.8	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.8	S52 42.8
Capella	280 20.5	N46 01.6
Castor	245 55.6	N31 49.9
Deneb	49 25.5	N45 22.2
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.5
Elnath	278 00.7	N28 37.8
Eltanin	90 41.8	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.8	S29 29.1
Gacrux	171 50.1	S57 15.6
Gienah	175 42.3	S17 41.4
Hadar	148 34.3	S60 29.9
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.3	S34 22.3
Kochab	137 19.2	N74 02.5
Markab	13 29.3	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.2	S36 30.0
Miaplacidus	221 37.3	S69 49.7
Mirfak	308 27.2	N49 57.4
Nunki	75 46.7	S26 15.9
Peacock	53 04.5	S56 39.0
Polaris	316 23.6	N89 22.1
Pollux	243 15.9	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.7	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 38.7	S60 56.5
Sabik	102 01.7	S15 45.6
Schedar	349 30.5	N56 40.9
Shaula	96 09.1	S37 07.3
Sirius	258 25.3	S16 45.3
Spica	158 21.0	S11 18.0
Suhail	222 45.2	S43 32.5
Vega	80 32.7	N38 48.1
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
14	0	171 37.8	162 35.0	N 2 43.8	190 37.9	S 9 12.5	65 11.8	N22 56.3	167 45.1	S 0 38.1
	1	186 40.2	177 34.6	N 2 45.1	205 38.5	S 9 11.8	80 14.3	N22 56.3	182 47.3	S 0 38.0
	2	201 42.7	192 34.3	N 2 46.4	220 39.2	S 9 11.0	95 16.7	N22 56.3	197 49.5	S 0 37.9
	3	216 45.1	207 33.9	N 2 47.6	235 39.8	S 9 10.3	110 19.1	N22 56.3	212 51.7	S 0 37.7
	4	231 47.6	222 33.5	N 2 48.9	250 40.4	S 9 09.5	125 21.6	N22 56.3	227 53.9	S 0 37.6
S	5	246 50.1	237 33.2	N 2 50.2	265 41.0	S 9 08.8	140 24.0	N22 56.3	242 56.0	S 0 37.5
A										
T	6	261 52.5	252 32.8	N 2 51.5	280 41.6	S 9 08.1	155 26.5	N22 56.3	257 58.2	S 0 37.4
U	7	276 55.0	267 32.4	N 2 52.8	295 42.2	S 9 07.3	170 28.9	N22 56.3	273 00.4	S 0 37.2
R	8	291 57.5	282 32.1	N 2 54.1	310 42.9	S 9 06.6	185 31.3	N22 56.3	288 02.6	S 0 37.1
D	9	306 59.9	297 31.7	N 2 55.3	325 43.5	S 9 05.8	200 33.8	N22 56.3	303 04.8	S 0 37.0
A	10	322 02.4	312 31.3	N 2 56.6	340 44.1	S 9 05.1	215 36.2	N22 56.3	318 06.9	S 0 36.9
Y	11	337 04.9	327 31.0	N 2 57.9	355 44.7	S 9 04.3	230 38.6	N22 56.3	333 09.1	S 0 36.7
	12	352 07.3	342 30.6	N 2 59.2	10 45.3	S 9 03.6	245 41.1	N22 56.3	348 11.3	S 0 36.6
	13	7 09.8	357 30.3	N 3 00.5	25 46.0	S 9 02.8	260 43.5	N22 56.3	3 13.5	S 0 36.5
	14	22 12.2	12 29.9	N 3 01.7	40 46.6	S 9 02.1	275 45.9	N22 56.3	18 15.7	S 0 36.4
	15	37 14.7	27 29.5	N 3 03.0	55 47.2	S 9 01.4	290 48.4	N22 56.3	33 17.8	S 0 36.3
	16	52 17.2	42 29.2	N 3 04.3	70 47.8	S 9 00.6	305 50.8	N22 56.3	48 20.0	S 0 36.1
	17	67 19.6	57 28.8	N 3 05.6	85 48.4	S 8 59.9	320 53.2	N22 56.3	63 22.2	S 0 36.0
	18	82 22.1	72 28.4	N 3 06.9	100 49.1	S 8 59.1	335 55.7	N22 56.3	78 24.4	S 0 35.9
	19	97 24.6	87 28.1	N 3 08.2	115 49.7	S 8 58.4	350 58.1	N22 56.3	93 26.6	S 0 35.8
	20	112 27.0	102 27.7	N 3 09.4	130 50.3	S 8 57.6	6 00.5	N22 56.3	108 28.7	S 0 35.6
	21	127 29.5	117 27.3	N 3 10.7	145 50.9	S 8 56.9	21 03.0	N22 56.3	123 30.9	S 0 35.5
	22	142 32.0	132 27.0	N 3 12.0	160 51.6	S 8 56.1	36 05.4	N22 56.3	138 33.1	S 0 35.4
	23	157 34.4	147 26.6	N 3 13.3	175 52.2	S 8 55.4	51 07.8	N22 56.3	153 35.3	S 0 35.3
15	0	172 36.9	162 26.2	N 3 14.6	190 52.8	S 8 54.6	66 10.3	N22 56.3	168 37.5	S 0 35.1
	1	187 39.4	177 25.9	N 3 15.8	205 53.4	S 8 53.9	81 12.7	N22 56.3	183 39.6	S 0 35.0
	2	202 41.8	192 25.5	N 3 17.1	220 54.0	S 8 53.1	96 15.1	N22 56.3	198 41.8	S 0 34.9
	3	217 44.3	207 25.1	N 3 18.4	235 54.7	S 8 52.4	111 17.5	N22 56.3	213 44.0	S 0 34.8
	4	232 46.7	222 24.8	N 3 19.7	250 55.3	S 8 51.7	126 20.0	N22 56.3	228 46.2	S 0 34.7
S	5	247 49.2	237 24.4	N 3 21.0	265 55.9	S 8 50.9	141 22.4	N22 56.3	243 48.4	S 0 34.5
U										
N	6	262 51.7	252 24.0	N 3 22.2	280 56.5	S 8 50.2	156 24.8	N22 56.3	258 50.5	S 0 34.4
D	7	277 54.1	267 23.7	N 3 23.5	295 57.1	S 8 49.4	171 27.3	N22 56.3	273 52.7	S 0 34.3
A	8	292 56.6	282 23.3	N 3 24.8	310 57.8	S 8 48.7	186 29.7	N22 56.3	288 54.9	S 0 34.2
Y	9	307 59.1	297 22.9	N 3 26.1	325 58.4	S 8 47.9	201 32.1	N22 56.3	303 57.1	S 0 34.0
	10	323 01.5	312 22.6	N 3 27.4	340 59.0	S 8 47.2	216 34.5	N22 56.3	318 59.3	S 0 33.9
	11	338 04.0	327 22.2	N 3 28.6	355 59.6	S 8 46.4	231 37.0	N22 56.3	334 01.4	S 0 33.8
	12	353 06.5	342 21.8	N 3 29.9	11 00.3	S 8 45.7	246 39.4	N22 56.3	349 03.6	S 0 33.7
	13	8 08.9	357 21.5	N 3 31.2	26 00.9	S 8 44.9	261 41.8	N22 56.3	4 05.8	S 0 33.5
	14	23 11.4	12 21.1	N 3 32.5	41 01.5	S 8 44.2	276 44.2	N22 56.3	19 08.0	S 0 33.4
	15	38 13.9	27 20.7	N 3 33.8	56 02.1	S 8 43.4	291 46.7	N22 56.2	34 10.2	S 0 33.3
	16	53 16.3	42 20.4	N 3 35.0	71 02.8	S 8 42.7	306 49.1	N22 56.2	49 12.3	S 0 33.2
	17	68 18.8	57 20.0	N 3 36.3	86 03.4	S 8 41.9	321 51.5	N22 56.2	64 14.5	S 0 33.1
	18	83 21.2	72 19.6	N 3 37.6	101 04.0	S 8 41.2	336 53.9	N22 56.2	79 16.7	S 0 32.9
	19	98 23.7	87 19.3	N 3 38.9	116 04.6	S 8 40.4	351 56.4	N22 56.2	94 18.9	S 0 32.8
	20	113 26.2	102 18.9	N 3 40.2	131 05.3	S 8 39.7	6 58.8	N22 56.2	109 21.1	S 0 32.7
	21	128 28.6	117 18.5	N 3 41.4	146 05.9	S 8 38.9	22 01.2	N22 56.2	124 23.2	S 0 32.6
	22	143 31.1	132 18.2	N 3 42.7	161 06.5	S 8 38.2	37 03.6	N22 56.2	139 25.4	S 0 32.4
	23	158 33.6	147 17.8	N 3 44.0	176 07.1	S 8 37.4	52 06.1	N22 56.2	154 27.6	S 0 32.3
16	0	173 36.0	162 17.4	N 3 45.3	191 07.7	S 8 36.7	67 08.5	N22 56.2	169 29.8	S 0 32.2
	1	188 38.5	177 17.1	N 3 46.5	206 08.4	S 8 35.9	82 10.9	N22 56.2	184 32.0	S 0 32.1
	2	203 41.0	192 16.7	N 3 47.8	221 09.0	S 8 35.2	97 13.3	N22 56.2	199 34.1	S 0 31.9
	3	218 43.4	207 16.3	N 3 49.1	236 09.6	S 8 34.4	112 15.7	N22 56.2	214 36.3	S 0 31.8
	4	233 45.9	222 16.0	N 3 50.4	251 10.2	S 8 33.7	127 18.2	N22 56.2	229 38.5	S 0 31.7
M	5	248 48.3	237 15.6	N 3 51.7	266 10.9	S 8 32.9	142 20.6	N22 56.2	244 40.7	S 0 31.6
O										
N	6	263 50.8	252 15.2	N 3 52.9	281 11.5	S 8 32.2	157 23.0	N22 56.2	259 42.9	S 0 31.5
D	7	278 53.3	267 14.9	N 3 54.2	296 12.1	S 8 31.4	172 25.4	N22 56.2	274 45.0	S 0 31.3
A	8	293 55.7	282 14.5	N 3 55.5	311 12.8	S 8 30.7	187 27.8	N22 56.2	289 47.2	S 0 31.2
Y	9	308 58.2	297 14.1	N 3 56.8	326 13.4	S 8 29.9	202 30.2	N22 56.2	304 49.4	S 0 31.1
	10	324 00.7	312 13.8	N 3 58.0	341 14.0	S 8 29.2	217 32.7	N22 56.2	319 51.6	S 0 31.0
	11	339 03.1	327 13.4	N 3 59.3	356 14.6	S 8 28.4	232 35.1	N22 56.2	334 53.8	S 0 30.8
	12	354 05.6	342 13.0	N 4 00.6	11 15.3	S 8 27.7	247 37.5	N22 56.2	349 55.9	S 0 30.7
	13	9 08.1	357 12.7	N 4 01.9	26 15.9	S 8 26.9	262 39.9	N22 56.2	4 58.1	S 0 30.6
	14	24 10.5	12 12.3	N 4 03.2	41 16.5	S 8 26.2	277 42.3	N22 56.2	20 00.3	S 0 30.5
	15	39 13.0	27 11.9	N 4 04.4	56 17.1	S 8 25.4	292 44.8	N22 56.2	35 02.5	S 0 30.3
	16	54 15.5	42 11.6	N 4 05.7	71 17.8	S 8 24.7	307 47.2	N22 56.2	50 04.7	S 0 30.2
	17	69 17.9	57 11.2	N 4 07.0	86 18.4	S 8 23.9	322 49.6	N22 56.2	65 06.8	S 0 30.1
	18	84 20.4	72 10.8	N 4 08.3	101 19.0	S 8 23.2	337 52.0	N22 56.2	80 09.0	S 0 30.0
	19	99 22.8	87 10.4	N 4 09.5	116 19.6	S 8 22.4	352 54.4	N22 56.2	95 11.2	S 0 29.8
	20	114 25.3	102 10.1	N 4 10.8	131 20.3	S 8 21.7	7 56.8	N22 56.2	110 13.4	S 0 29.7
	21	129 27.8	117 09.7	N 4 12.1	146 20.9	S 8 20.9	22 59.2	N22 56.2	125 15.6	S 0 29.6
	22	144 30.2	132 09.3	N 4 13.4	161 21.5	S 8 20.2	38 01.7	N22 56.2	140 17.7	S 0 29.5
	23	159 32.7	147 09.0	N 4 14.6	176 22.2	S 8 19.4	53 04.1	N22 56.2	155 19.9	S 0 29.4
			v -0.4	d 1.3	v 0.6	d 0.7	v 2.4	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
14	0	177 40.6	S 2 36.9	237 01.4	10.3	S25 24.7	6.9	55.2
	1	192 40.8	S 2 35.9	251 30.7	10.3	S25 17.6	7.1	55.3
	2	207 41.0	S 2 35.0	266 00.1	10.4	S25 10.4	7.2	55.3
	3	222 41.1	S 2 34.0	280 29.5	10.4	S25 03.1	7.3	55.3
	4	237 41.3	S 2 33.0	294 58.9	10.4	S24 55.7	7.5	55.3
S	5	252 41.5	S 2 32.0	309 28.4	10.5	S24 48.1	7.6	55.4
A								
T	6	267 41.7	S 2 31.0	323 57.9	10.5	S24 40.4	7.7	55.4
U	7	282 41.8	S 2 30.0	338 27.4	10.5	S24 32.5	7.8	55.4
R	8	297 42.0	S 2 29.0	352 57.0	10.6	S24 24.6	8.0	55.4
D	9	312 42.2	S 2 28.0	7 26.7	10.6	S24 16.5	8.1	55.5
A	10	327 42.3	S 2 27.1	21 56.3	10.7	S24 08.3	8.2	55.5
Y	11	342 42.5	S 2 26.1	36 26.0	10.7	S23 59.9	8.3	55.5
	12	357 42.7	S 2 25.1	50 55.8	10.7	S23 51.5	8.5	55.5
	13	12 42.9	S 2 24.1	65 25.5	10.8	S23 42.9	8.6	55.6
	14	27 43.0	S 2 23.1	79 55.3	10.8	S23 34.2	8.7	55.6
	15	42 43.2	S 2 22.1	94 25.2	10.9	S23 25.3	8.8	55.6
	16	57 43.4	S 2 21.1	108 55.1	10.9	S23 16.4	9.0	55.6
	17	72 43.6	S 2 20.1	123 25.0	10.9	S23 07.3	9.1	55.7
	18	87 43.7	S 2 19.2	137 55.0	11.0	S22 58.1	9.2	55.7
	19	102 43.9	S 2 18.2	152 25.0	11.0	S22 48.8	9.3	55.7
	20	117 44.1	S 2 17.2	166 55.1	11.1	S22 39.3	9.4	55.7
	21	132 44.3	S 2 16.2	181 25.1	11.1	S22 29.8	9.6	55.8
	22	147 44.4	S 2 15.2	195 55.3	11.1	S22 20.1	9.7	55.8
	23	162 44.6	S 2 14.2	210 25.5	11.2	S22 10.3	9.8	55.8
15	0	177 44.8	S 2 13.2	224 55.7	11.2	S22 00.4	9.9	55.9
	1	192 44.9	S 2 12.2	239 25.9	11.3	S21 50.4	10.0	55.9
	2	207 45.1	S 2 11.3	253 56.2	11.3	S21 40.3	10.1	55.9
	3	222 45.3	S 2 10.3	268 26.5	11.3	S21 30.0	10.3	55.9
	4	237 45.5	S 2 09.3	282 56.9	11.4	S21 19.7	10.4	56.0
S	5	252 45.6	S 2 08.3	297 27.3	11.4	S21 09.2	10.5	56.0
U								
N	6	267 45.8	S 2 07.3	311 57.8	11.5	S20 58.6	10.6	56.0
D	7	282 46.0	S 2 06.3	326 28.3	11.5	S20 47.9	10.7	56.1
A	8	297 46.2	S 2 05.3	340 58.8	11.5	S20 37.1	10.8	56.1
Y	9	312 46.3	S 2 04.3	355 29.4	11.6	S20 26.2	10.9	56.1
	10	327 46.5	S 2 03.4	10 00.0	11.6	S20 15.1	11.0	56.1
	11	342 46.7	S 2 02.4	24 30.7	11.7	S20 04.0	11.1	56.2
	12	357 46.9	S 2 01.4	39 01.4	11.7	S19 52.7	11.2	56.2
	13	12 47.0	S 2 00.4	53 32.1	11.7	S19 41.4	11.4	56.2
	14	27 47.2	S 1 59.4	68 02.9	11.8	S19 29.9	11.5	56.3
	15	42 47.4	S 1 58.4	82 33.7	11.8	S19 18.4	11.6	56.3
	16	57 47.6	S 1 57.4	97 04.5	11.8	S19 06.7	11.7	56.3
	17	72 47.7	S 1 56.4	111 35.4	11.9	S18 54.9	11.8	56.3
	18	87 47.9	S 1 55.5	126 06.3	11.9	S18 43.1	11.9	56.4
	19	102 48.1	S 1 54.5	140 37.3	12.0	S18 31.1	12.0	56.4
	20	117 48.3	S 1 53.5	155 08.3	12.0	S18 19.0	12.1	56.4
	21	132 48.4	S 1 52.5	169 39.3	12.0	S18 06.8	12.2	56.5
	22	147 48.6	S 1 51.5	184 10.4	12.1	S17 54.6	12.3	56.5
	23	162 48.8	S 1 50.5	198 41.5	12.1	S17 42.2	12.4	56.5
16	0	177 49.0	S 1 49.5	213 12.7	12.1	S17 29.7	12.5	56.6
	1	192 49.1	S 1 48.5	227 43.8	12.2	S17 17.2	12.6	56.6
	2	207 49.3	S 1 47.5	242 15.0	12.2	S17 04.5	12.7	56.6
	3	222 49.5	S 1 46.6	256 46.3	12.2	S16 51.7	12.8	56.7
	4	237 49.7	S 1 45.6	271 17.6	12.3	S16 38.9	12.8	56.7
M	5	252 49.9	S 1 44.6	285 48.9	12.3	S16 26.0	12.9	56.7
O								
N	6	267 50.0	S 1 43.6	300 20.2	12.3	S16 12.9	13.0	56.7
D	7	282 50.2	S 1 42.6	314 51.6	12.4	S15 59.8	13.1	56.8
A	8	297 50.4	S 1 41.6	329 23.0	12.4	S15 46.6	13.2	56.8
Y	9	312 50.6	S 1 40.6	343 54.5	12.4	S15 33.3	13.3	56.8
	10	327 50.7	S 1 39.6	358 25.9	12.5	S15 19.9	13.4	56.9
	11	342 50.9	S 1 38.7	12 57.5	12.5	S15 06.4	13.5	56.9
	12	357 51.1	S 1 37.7	27 29.0	12.5	S14 52.9	13.6	56.9
	13	12 51.3	S 1 36.7	42 00.5	12.6	S14 39.2	13.6	57.0
	14	27 51.4	S 1 35.7	56 32.1	12.6	S14 25.5	13.7	57.0
	15	42 51.6	S 1 34.7	71 03.7	12.6	S14 11.7	13.8	57.0
	16	57 51.8	S 1 33.7	85 35.4	12.6	S13 57.8	13.9	57.1
	17	72 52.0	S 1 32.7	100 07.1	12.7	S13 43.8	14.0	57.1
	18	87 52.2	S 1 31.7	114 38.8	12.7	S13 29.7	14.1	57.1
	19	102 52.3	S 1 30.7	129 10.5	12.7	S13 15.6	14.1	57.2
	20	117 52.5	S 1 29.8	143 42.2	12.7	S13 01.4	14.2	57.2
	21	132 52.7	S 1 28.8	158 14.0	12.8	S12 47.1	14.3	57.2
	22	147 52.9	S 1 27.8	172 45.8	12.8	S12 32.7	14.4	57.3
	23	162 53.0	S 1 26.8	187 17.6	12.8	S12 18.3	14.4	57.3
		S.D. 16.1	d 1.0	S.D.	15.1	15.3	15.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.2	S40 12.2
Achernar	335 19.9	S57 06.4
Acrux	172 58.4	S63 14.7
Adhara	255 05.0	S29 00.7
Albireo	67 03.4	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.5	N55 48.9
Alkaid	152 50.8	N49 10.7
Al Na-ir	27 32.0	S46 50.0
Alnilam	275 36.7	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.2	N 8 56.0
Ankaa	353 06.5	S42 09.9
Antares	112 14.5	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.9	S69 04.3
Avior	234 13.9	S59 35.8
Bellatrix	278 21.8	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.8	S52 42.8
Capella	280 20.5	N46 01.6
Castor	245 55.6	N31 49.9
Deneb	49 25.5	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.7
Dubhe	193 39.1	N61 36.5
Elnath	278 00.7	N28 37.8
Eltanin	90 41.8	N51 28.7
Enif	33 38.1	N 9 59.6
Fomalhaut	15 13.7	S29 29.1
Gacrux	171 50.1	S57 15.7
Gienah	175 42.3	S17 41.4
Hadar	148 34.2	S60 29.9
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.3	S34 22.3
Kochab	137 19.1	N74 02.5
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.2	S36 30.0
Miaplacidus	221 37.3	S69 49.7
Mirfak	308 27.2	N49 57.4
Nunki	75 46.7	S26 15.9
Peacock	53 04.5	S56 38.9
Polaris	316 24.4	N89 22.1
Pollux	243 15.9	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.7	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 02.9	S 8 10.4
Rigil Kent	139 38.7	S60 56.5
Sabik	102 01.6	S15 45.6
Schedar	349 30.5	N56 40.9
Shaula	96 09.0	S37 07.3
Sirius	258 25.3	S16 45.3
Spica	158 21.0	S11 18.1
Suhail	222 45.3	S43 32.5
Vega	80 32.7	N38 48.1
Zuben-ubi	136 55.6	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
17	0	174 35.2	162 08.6	N 4 15.9	191 22.8	S 8 18.6	68 06.5	N22 56.2	170 22.1	S 0 29.2
	1	189 37.6	177 08.2	N 4 17.2	206 23.4	S 8 17.9	83 08.9	N22 56.2	185 24.3	S 0 29.1
	2	204 40.1	192 07.9	N 4 18.5	221 24.0	S 8 17.1	98 11.3	N22 56.2	200 26.5	S 0 29.0
	3	219 42.6	207 07.5	N 4 19.7	236 24.7	S 8 16.4	113 13.7	N22 56.2	215 28.6	S 0 28.9
	4	234 45.0	222 07.1	N 4 21.0	251 25.3	S 8 15.6	128 16.1	N22 56.2	230 30.8	S 0 28.7
T	5	249 47.5	237 06.7	N 4 22.3	266 25.9	S 8 14.9	143 18.5	N22 56.1	245 33.0	S 0 28.6
U										
E	6	264 50.0	252 06.4	N 4 23.5	281 26.6	S 8 14.1	158 20.9	N22 56.1	260 35.2	S 0 28.5
S	7	279 52.4	267 06.0	N 4 24.8	296 27.2	S 8 13.4	173 23.4	N22 56.1	275 37.3	S 0 28.4
D	8	294 54.9	282 05.6	N 4 26.1	311 27.8	S 8 12.6	188 25.8	N22 56.1	290 39.5	S 0 28.2
A	9	309 57.3	297 05.3	N 4 27.4	326 28.4	S 8 11.9	203 28.2	N22 56.1	305 41.7	S 0 28.1
Y	10	324 59.8	312 04.9	N 4 28.6	341 29.1	S 8 11.1	218 30.6	N22 56.1	320 43.9	S 0 28.0
	11	340 02.3	327 04.5	N 4 29.9	356 29.7	S 8 10.4	233 33.0	N22 56.1	335 46.1	S 0 27.9
	12	355 04.7	342 04.2	N 4 31.2	11 30.3	S 8 09.6	248 35.4	N22 56.1	350 48.2	S 0 27.8
	13	10 07.2	357 03.8	N 4 32.5	26 31.0	S 8 08.8	263 37.8	N22 56.1	5 50.4	S 0 27.6
	14	25 09.7	12 03.4	N 4 33.7	41 31.6	S 8 08.1	278 40.2	N22 56.1	20 52.6	S 0 27.5
	15	40 12.1	27 03.0	N 4 35.0	56 32.2	S 8 07.3	293 42.6	N22 56.1	35 54.8	S 0 27.4
	16	55 14.6	42 02.7	N 4 36.3	71 32.8	S 8 06.6	308 45.0	N22 56.1	50 57.0	S 0 27.3
	17	70 17.1	57 02.3	N 4 37.5	86 33.5	S 8 05.8	323 47.4	N22 56.1	65 59.1	S 0 27.1
	18	85 19.5	72 01.9	N 4 38.8	101 34.1	S 8 05.1	338 49.8	N22 56.1	81 01.3	S 0 27.0
	19	100 22.0	87 01.6	N 4 40.1	116 34.7	S 8 04.3	353 52.3	N22 56.1	96 03.5	S 0 26.9
	20	115 24.4	102 01.2	N 4 41.4	131 35.4	S 8 03.6	8 54.7	N22 56.1	111 05.7	S 0 26.8
	21	130 26.9	117 00.8	N 4 42.6	146 36.0	S 8 02.8	23 57.1	N22 56.1	126 07.9	S 0 26.6
	22	145 29.4	132 00.4	N 4 43.9	161 36.6	S 8 02.1	38 59.5	N22 56.1	141 10.0	S 0 26.5
	23	160 31.8	147 00.1	N 4 45.2	176 37.3	S 8 01.3	54 01.9	N22 56.1	156 12.2	S 0 26.4
18	0	175 34.3	161 59.7	N 4 46.4	191 37.9	S 8 00.5	69 04.3	N22 56.1	171 14.4	S 0 26.3
	1	190 36.8	176 59.3	N 4 47.7	206 38.5	S 7 59.8	84 06.7	N22 56.1	186 16.6	S 0 26.1
	2	205 39.2	191 59.0	N 4 49.0	221 39.2	S 7 59.0	99 09.1	N22 56.1	201 18.7	S 0 26.0
	3	220 41.7	206 58.6	N 4 50.3	236 39.8	S 7 58.3	114 11.5	N22 56.1	216 20.9	S 0 25.9
	4	235 44.2	221 58.2	N 4 51.5	251 40.4	S 7 57.5	129 13.9	N22 56.1	231 23.1	S 0 25.8
W	5	250 46.6	236 57.8	N 4 52.8	266 41.0	S 7 56.8	144 16.3	N22 56.1	246 25.3	S 0 25.7
E										
D	6	265 49.1	251 57.5	N 4 54.1	281 41.7	S 7 56.0	159 18.7	N22 56.1	261 27.5	S 0 25.5
N	7	280 51.6	266 57.1	N 4 55.3	296 42.3	S 7 55.2	174 21.1	N22 56.0	276 29.6	S 0 25.4
E	8	295 54.0	281 56.7	N 4 56.6	311 42.9	S 7 54.5	189 23.5	N22 56.0	291 31.8	S 0 25.3
S	9	310 56.5	296 56.3	N 4 57.9	326 43.6	S 7 53.7	204 25.9	N22 56.0	306 34.0	S 0 25.2
D	10	325 58.9	311 56.0	N 4 59.1	341 44.2	S 7 53.0	219 28.3	N22 56.0	321 36.2	S 0 25.0
A	11	341 01.4	326 55.6	N 5 00.4	356 44.8	S 7 52.2	234 30.7	N22 56.0	336 38.4	S 0 24.9
Y										
	12	356 03.9	341 55.2	N 5 01.7	11 45.5	S 7 51.5	249 33.1	N22 56.0	351 40.5	S 0 24.8
	13	11 06.3	356 54.9	N 5 02.9	26 46.1	S 7 50.7	264 35.5	N22 56.0	6 42.7	S 0 24.7
	14	26 08.8	11 54.5	N 5 04.2	41 46.7	S 7 49.9	279 37.9	N22 56.0	21 44.9	S 0 24.5
	15	41 11.3	26 54.1	N 5 05.5	56 47.4	S 7 49.2	294 40.3	N22 56.0	36 47.1	S 0 24.4
	16	56 13.7	41 53.7	N 5 06.8	71 48.0	S 7 48.4	309 42.7	N22 56.0	51 49.3	S 0 24.3
	17	71 16.2	56 53.4	N 5 08.0	86 48.6	S 7 47.7	324 45.1	N22 56.0	66 51.4	S 0 24.2
	18	86 18.7	71 53.0	N 5 09.3	101 49.3	S 7 46.9	339 47.5	N22 56.0	81 53.6	S 0 24.1
	19	101 21.1	86 52.6	N 5 10.6	116 49.9	S 7 46.2	354 49.9	N22 56.0	96 55.8	S 0 23.9
	20	116 23.6	101 52.2	N 5 11.8	131 50.5	S 7 45.4	9 52.3	N22 56.0	111 58.0	S 0 23.8
	21	131 26.1	116 51.9	N 5 13.1	146 51.2	S 7 44.6	24 54.7	N22 56.0	127 00.1	S 0 23.7
	22	146 28.5	131 51.5	N 5 14.4	161 51.8	S 7 43.9	39 57.1	N22 56.0	142 02.3	S 0 23.6
	23	161 31.0	146 51.1	N 5 15.6	176 52.4	S 7 43.1	54 59.5	N22 56.0	157 04.5	S 0 23.4
19	0	176 33.4	161 50.7	N 5 16.9	191 53.1	S 7 42.4	70 01.9	N22 56.0	172 06.7	S 0 23.3
	1	191 35.9	176 50.4	N 5 18.2	206 53.7	S 7 41.6	85 04.3	N22 56.0	187 08.9	S 0 23.2
	2	206 38.4	191 50.0	N 5 19.4	221 54.3	S 7 40.8	100 06.7	N22 56.0	202 11.0	S 0 23.1
	3	221 40.8	206 49.6	N 5 20.7	236 55.0	S 7 40.1	115 09.1	N22 55.9	217 13.2	S 0 22.9
	4	236 43.3	221 49.2	N 5 22.0	251 55.6	S 7 39.3	130 11.4	N22 55.9	232 15.4	S 0 22.8
T	5	251 45.8	236 48.9	N 5 23.2	266 56.2	S 7 38.6	145 13.8	N22 55.9	247 17.6	S 0 22.7
H										
U	6	266 48.2	251 48.5	N 5 24.5	281 56.9	S 7 37.8	160 16.2	N22 55.9	262 19.8	S 0 22.6
R	7	281 50.7	266 48.1	N 5 25.7	296 57.5	S 7 37.1	175 18.6	N22 55.9	277 21.9	S 0 22.4
S	8	296 53.2	281 47.7	N 5 27.0	311 58.1	S 7 36.3	190 21.0	N22 55.9	292 24.1	S 0 22.3
D	9	311 55.6	296 47.4	N 5 28.3	326 58.8	S 7 35.5	205 23.4	N22 55.9	307 26.3	S 0 22.2
A	10	326 58.1	311 47.0	N 5 29.5	341 59.4	S 7 34.8	220 25.8	N22 55.9	322 28.5	S 0 22.1
Y	11	342 00.5	326 46.6	N 5 30.8	357 00.1	S 7 34.0	235 28.2	N22 55.9	337 30.6	S 0 22.0
	12	357 03.0	341 46.2	N 5 32.1	12 00.7	S 7 33.3	250 30.6	N22 55.9	352 32.8	S 0 21.8
	13	12 05.5	356 45.8	N 5 33.3	27 01.3	S 7 32.5	265 33.0	N22 55.9	7 35.0	S 0 21.7
	14	27 07.9	11 45.5	N 5 34.6	42 02.0	S 7 31.7	280 35.4	N22 55.9	22 37.2	S 0 21.6
	15	42 10.4	26 45.1	N 5 35.9	57 02.6	S 7 31.0	295 37.8	N22 55.9	37 39.4	S 0 21.5
	16	57 12.9	41 44.7	N 5 37.1	72 03.2	S 7 30.2	310 40.1	N22 55.9	52 41.5	S 0 21.3
	17	72 15.3	56 44.3	N 5 38.4	87 03.9	S 7 29.4	325 42.5	N22 55.9	67 43.7	S 0 21.2
	18	87 17.8	71 44.0	N 5 39.6	102 04.5	S 7 28.7	340 44.9	N22 55.9	82 45.9	S 0 21.1
	19	102 20.3	86 43.6	N 5 40.9	117 05.1	S 7 27.9	355 47.3	N22 55.9	97 48.1	S 0 21.0
	20	117 22.7	101 43.2	N 5 42.2	132 05.8	S 7 27.2	10 49.7	N22 55.9	112 50.2	S 0 20.8
	21	132 25.2	116 42.8	N 5 43.4	147 06.4	S 7 26.4	25 52.1	N22 55.8	127 52.4	S 0 20.7
	22	147 27.7	131 42.5	N 5 44.7	162 07.1	S 7 25.6	40 54.5	N22 55.8	142 54.6	S 0 20.6
	23	162 30.1	146 42.1	N 5 46.0	177 07.7	S 7 24.9	55 56.9	N22 55.8	157 56.8	S 0 20.5
			v -0.4	d 1.3	v 0.6	d 0.8	v 2.4	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
17	0	177 53.2	S 1 25.8	201 49.4	12.8	S12 03.8	14.5	57.3
	1	192 53.4	S 1 24.8	216 21.3	12.8	S11 49.2	14.6	57.3
	2	207 53.6	S 1 23.8	230 53.1	12.9	S11 34.5	14.7	57.4
	3	222 53.8	S 1 22.8	245 25.0	12.9	S11 19.8	14.7	57.4
	4	237 53.9	S 1 21.8	259 56.9	12.9	S11 05.0	14.8	57.4
T	5	252 54.1	S 1 20.9	274 28.8	12.9	S10 50.1	14.9	57.5
U								
E	6	267 54.3	S 1 19.9	289 00.8	12.9	S10 35.2	14.9	57.5
S	7	282 54.5	S 1 18.9	303 32.7	13.0	S10 20.2	15.0	57.5
D	8	297 54.7	S 1 17.9	318 04.7	13.0	S10 05.1	15.1	57.6
A	9	312 54.8	S 1 16.9	332 36.7	13.0	S 9 50.0	15.1	57.6
Y	10	327 55.0	S 1 15.9	347 08.7	13.0	S 9 34.8	15.2	57.6
	11	342 55.2	S 1 14.9	1 40.7	13.0	S 9 19.6	15.3	57.7
	12	357 55.4	S 1 13.9	16 12.7	13.0	S 9 04.3	15.3	57.7
	13	12 55.5	S 1 12.9	30 44.7	13.0	S 8 48.9	15.4	57.7
	14	27 55.7	S 1 12.0	45 16.7	13.0	S 8 33.5	15.4	57.7
	15	42 55.9	S 1 11.0	59 48.8	13.0	S 8 18.0	15.5	57.8
	16	57 56.1	S 1 10.0	74 20.8	13.0	S 8 02.4	15.5	57.8
	17	72 56.3	S 1 09.0	88 52.8	13.0	S 7 46.8	15.6	57.8
	18	87 56.4	S 1 08.0	103 24.9	13.1	S 7 31.2	15.6	57.9
	19	102 56.6	S 1 07.0	117 57.0	13.1	S 7 15.5	15.7	57.9
	20	117 56.8	S 1 06.0	132 29.0	13.1	S 6 59.8	15.7	57.9
	21	132 57.0	S 1 05.0	147 01.1	13.1	S 6 44.0	15.8	58.0
	22	147 57.2	S 1 04.0	161 33.1	13.1	S 6 28.1	15.8	58.0
	23	162 57.3	S 1 03.1	176 05.2	13.1	S 6 12.2	15.9	58.0
18	0	177 57.5	S 1 02.1	190 37.3	13.1	S 5 56.3	15.9	58.0
	1	192 57.7	S 1 01.1	205 09.3	13.1	S 5 40.3	16.0	58.1
	2	207 57.9	S 1 00.1	219 41.4	13.1	S 5 24.3	16.0	58.1
	3	222 58.1	S 0 59.1	234 13.4	13.0	S 5 08.2	16.1	58.1
	4	237 58.2	S 0 58.1	248 45.5	13.0	S 4 52.1	16.1	58.2
W	5	252 58.4	S 0 57.1	263 17.5	13.0	S 4 35.9	16.1	58.2
E								
D	6	267 58.6	S 0 56.1	277 49.5	13.0	S 4 19.8	16.2	58.2
N	7	282 58.8	S 0 55.1	292 21.6	13.0	S 4 03.5	16.2	58.2
E	8	297 59.0	S 0 54.1	306 53.6	13.0	S 3 47.3	16.3	58.3
S	9	312 59.1	S 0 53.2	321 25.6	13.0	S 3 31.0	16.3	58.3
D	10	327 59.3	S 0 52.2	335 57.6	13.0	S 3 14.7	16.3	58.3
A	11	342 59.5	S 0 51.2	350 29.5	13.0	S 2 58.3	16.4	58.4
Y								
	12	357 59.7	S 0 50.2	5 01.5	13.0	S 2 41.9	16.4	58.4
	13	12 59.9	S 0 49.2	19 33.4	12.9	S 2 25.5	16.4	58.4
	14	28 00.1	S 0 48.2	34 05.4	12.9	S 2 09.1	16.4	58.4
	15	43 00.2	S 0 47.2	48 37.3	12.9	S 1 52.6	16.5	58.5
	16	58 00.4	S 0 46.2	63 09.2	12.9	S 1 36.1	16.5	58.5
	17	73 00.6	S 0 45.2	77 41.0	12.9	S 1 19.6	16.5	58.5
	18	88 00.8	S 0 44.3	92 12.9	12.8	S 1 03.1	16.5	58.5
	19	103 01.0	S 0 43.3	106 44.7	12.8	S 0 46.5	16.6	58.6
	20	118 01.1	S 0 42.3	121 16.5	12.8	S 0 30.0	16.6	58.6
	21	133 01.3	S 0 41.3	135 48.3	12.8	S 0 13.4	16.6	58.6
	22	148 01.5	S 0 40.3	150 20.0	12.8	N 0 03.2	16.6	58.7
	23	163 01.7	S 0 39.3	164 51.8	12.7	N 0 19.8	16.6	58.7
19	0	178 01.9	S 0 38.3	179 23.5	12.7	N 0 36.5	16.6	58.7
	1	193 02.0	S 0 37.3	193 55.1	12.7	N 0 53.1	16.6	58.7
	2	208 02.2	S 0 36.3	208 26.8	12.6	N 1 09.8	16.6	58.8
	3	223 02.4	S 0 35.4	222 58.4	12.6	N 1 26.4	16.7	58.8
	4	238 02.6	S 0 34.4	237 29.9	12.6	N 1 43.1	16.7	58.8
T	5	253 02.8	S 0 33.4	252 01.5	12.5	N 1 59.7	16.7	58.8
H								
U	6	268 03.0	S 0 32.4	266 33.0	12.5	N 2 16.4	16.7	58.8
R	7	283 03.1	S 0 31.4	281 04.5	12.5	N 2 33.1	16.7	58.9
S	8	298 03.3	S 0 30.4	295 35.9	12.4	N 2 49.8	16.7	58.9
D	9	313 03.5	S 0 29.4	310 07.3	12.4	N 3 06.4	16.7	58.9
A	10	328 03.7	S 0 28.4	324 38.6	12.4	N 3 23.1	16.7	58.9
Y	11	343 03.9	S 0 27.4	339 09.9	12.3	N 3 39.8	16.7	59.0
	12	358 04.1	S 0 26.5	353 41.2	12.3	N 3 56.4	16.7	59.0
	13	13 04.2	S 0 25.5	8 12.4	12.2	N 4 13.1	16.7	59.0
	14	28 04.4	S 0 24.5	22 43.6	12.2	N 4 29.7	16.6	59.0
	15	43 04.6	S 0 23.5	37 14.7	12.1	N 4 46.4	16.6	59.0
	16	58 04.8	S 0 22.5	51 45.8	12.1	N 5 03.0	16.6	59.1
	17	73 05.0	S 0 21.5	66 16.9	12.0	N 5 19.6	16.6	59.1
	18	88 05.1	S 0 20.5	80 47.8	12.0	N 5 36.2	16.6	59.1
	19	103 05.3	S 0 19.5	95 18.8	11.9	N 5 52.8	16.6	59.1
	20	118 05.5	S 0 18.5	109 49.7	11.9	N 6 09.3	16.6	59.1
	21	133 05.7	S 0 17.6	124 20.5	11.8	N 6 25.9	16.5	59.2
	22	148 05.9	S 0 16.6	138 51.3	11.8	N 6 42.4	16.5	59.2
	23	163 06.1	S 0 15.6	153 22.0	11.7	N 6 58.9	16.5	59.2
		S.D. 16.1	d 1.0	S.D.	15.7	15.9	16.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.2
Achernar	335 19.9	S57 06.3
Acrux	172 58.4	S63 14.7
Adhara	255 05.0	S29 00.7
Albireo	67 03.4	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.5	N55 48.9
Alkaid	152 50.8	N49 10.7
Al Na-ir	27 32.0	S46 50.0
Alnilam	275 36.7	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.2	N 8 56.0
Ankaa	353 06.5	S42 09.9
Antares	112 14.5	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.9	S69 04.3
Avior	234 14.0	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 20.5	N46 01.6
Castor	245 55.6	N31 49.9
Deneb	49 25.4	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.5
Elnath	278 00.7	N28 37.8
Eltanin	90 41.8	N51 28.7
Enif	33 38.0	N 9 59.5
Fomalhaut	15 13.7	S29 29.1
Gacrux	171 50.1	S57 15.7
Gienah	175 42.3	S17 41.4
Hadar	148 34.2	S60 29.9
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.3	S34 22.3
Kochab	137 19.1	N74 02.5
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.2	S36 30.0
Miaplacidus	221 37.4	S69 49.7
Mirfak	308 27.2	N49 57.4
Nunki	75 46.6	S26 15.9
Peacock	53 04.4	S56 38.9
Polaris	316 25.3	N89 22.1
Pollux	243 15.9	N27 57.8
Procyon	244 49.6	N 5 09.4
Rasalhague	95 57.6	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.0	S 8 10.4
Rigil Kent	139 38.7	S60 56.6
Sabik	102 01.6	S15 45.6
Schedar	349 30.5	N56 40.9
Shaula	96 09.0	S37 07.3
Sirius	258 25.3	S16 45.3
Spica	158 21.0	S11 18.1
Suhail	222 45.3	S43 32.5
Vega	80 32.6	N38 48.1
Zuben-ubi	136 55.6	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
20	0	177 32.6	161 41.7	N 5 47.2	192 08.3	S 7 24.1	70 59.3	N22 55.8	172 59.0	S 0 20.4
	1	192 35.0	176 41.3	N 5 48.5	207 09.0	S 7 23.4	86 01.6	N22 55.8	188 01.1	S 0 20.2
	2	207 37.5	191 40.9	N 5 49.7	222 09.6	S 7 22.6	101 04.0	N22 55.8	203 03.3	S 0 20.1
	3	222 40.0	206 40.6	N 5 51.0	237 10.2	S 7 21.8	116 06.4	N22 55.8	218 05.5	S 0 20.0
	4	237 42.4	221 40.2	N 5 52.3	252 10.9	S 7 21.1	131 08.8	N22 55.8	233 07.7	S 0 19.9
F	5	252 44.9	236 39.8	N 5 53.5	267 11.5	S 7 20.3	146 11.2	N22 55.8	248 09.9	S 0 19.7
R										
I	6	267 47.4	251 39.4	N 5 54.8	282 12.2	S 7 19.6	161 13.6	N22 55.8	263 12.0	S 0 19.6
D	7	282 49.8	266 39.0	N 5 56.0	297 12.8	S 7 18.8	176 16.0	N22 55.8	278 14.2	S 0 19.5
A	8	297 52.3	281 38.7	N 5 57.3	312 13.4	S 7 18.0	191 18.3	N22 55.8	293 16.4	S 0 19.4
Y	9	312 54.8	296 38.3	N 5 58.6	327 14.1	S 7 17.3	206 20.7	N22 55.8	308 18.6	S 0 19.2
	10	327 57.2	311 37.9	N 5 59.8	342 14.7	S 7 16.5	221 23.1	N22 55.8	323 20.7	S 0 19.1
	11	342 59.7	326 37.5	N 6 01.1	357 15.3	S 7 15.7	236 25.5	N22 55.8	338 22.9	S 0 19.0
	12	358 02.1	341 37.1	N 6 02.3	12 16.0	S 7 15.0	251 27.9	N22 55.8	353 25.1	S 0 18.9
	13	13 04.6	356 36.8	N 6 03.6	27 16.6	S 7 14.2	266 30.3	N22 55.7	8 27.3	S 0 18.8
	14	28 07.1	11 36.4	N 6 04.8	42 17.3	S 7 13.5	281 32.6	N22 55.7	23 29.5	S 0 18.6
	15	43 09.5	26 36.0	N 6 06.1	57 17.9	S 7 12.7	296 35.0	N22 55.7	38 31.6	S 0 18.5
	16	58 12.0	41 35.6	N 6 07.4	72 18.5	S 7 11.9	311 37.4	N22 55.7	53 33.8	S 0 18.4
	17	73 14.5	56 35.2	N 6 08.6	87 19.2	S 7 11.2	326 39.8	N22 55.7	68 36.0	S 0 18.3
	18	88 16.9	71 34.9	N 6 09.9	102 19.8	S 7 10.4	341 42.2	N22 55.7	83 38.2	S 0 18.1
	19	103 19.4	86 34.5	N 6 11.1	117 20.5	S 7 09.6	356 44.5	N22 55.7	98 40.3	S 0 18.0
	20	118 21.9	101 34.1	N 6 12.4	132 21.1	S 7 08.9	11 46.9	N22 55.7	113 42.5	S 0 17.9
	21	133 24.3	116 33.7	N 6 13.6	147 21.7	S 7 08.1	26 49.3	N22 55.7	128 44.7	S 0 17.8
	22	148 26.8	131 33.3	N 6 14.9	162 22.4	S 7 07.3	41 51.7	N22 55.7	143 46.9	S 0 17.6
	23	163 29.3	146 32.9	N 6 16.2	177 23.0	S 7 06.6	56 54.1	N22 55.7	158 49.1	S 0 17.5
21	0	178 31.7	161 32.6	N 6 17.4	192 23.7	S 7 05.8	71 56.4	N22 55.7	173 51.2	S 0 17.4
	1	193 34.2	176 32.2	N 6 18.7	207 24.3	S 7 05.1	86 58.8	N22 55.7	188 53.4	S 0 17.3
	2	208 36.6	191 31.8	N 6 19.9	222 24.9	S 7 04.3	102 01.2	N22 55.7	203 55.6	S 0 17.1
	3	223 39.1	206 31.4	N 6 21.2	237 25.6	S 7 03.5	117 03.6	N22 55.6	218 57.8	S 0 17.0
	4	238 41.6	221 31.0	N 6 22.4	252 26.2	S 7 02.8	132 05.9	N22 55.6	233 59.9	S 0 16.9
S	5	253 44.0	236 30.7	N 6 23.7	267 26.9	S 7 02.0	147 08.3	N22 55.6	249 02.1	S 0 16.8
A										
T	6	268 46.5	251 30.3	N 6 24.9	282 27.5	S 7 01.2	162 10.7	N22 55.6	264 04.3	S 0 16.7
U	7	283 49.0	266 29.9	N 6 26.2	297 28.1	S 7 00.5	177 13.1	N22 55.6	279 06.5	S 0 16.5
R	8	298 51.4	281 29.5	N 6 27.5	312 28.8	S 6 59.7	192 15.4	N22 55.6	294 08.7	S 0 16.4
D	9	313 53.9	296 29.1	N 6 28.7	327 29.4	S 6 58.9	207 17.8	N22 55.6	309 10.8	S 0 16.3
A	10	328 56.4	311 28.7	N 6 30.0	342 30.1	S 6 58.2	222 20.2	N22 55.6	324 13.0	S 0 16.2
Y	11	343 58.8	326 28.4	N 6 31.2	357 30.7	S 6 57.4	237 22.6	N22 55.6	339 15.2	S 0 16.0
	12	359 01.3	341 28.0	N 6 32.5	12 31.3	S 6 56.6	252 24.9	N22 55.6	354 17.4	S 0 15.9
	13	14 03.7	356 27.6	N 6 33.7	27 32.0	S 6 55.9	267 27.3	N22 55.6	9 19.5	S 0 15.8
	14	29 06.2	11 27.2	N 6 35.0	42 32.6	S 6 55.1	282 29.7	N22 55.6	24 21.7	S 0 15.7
	15	44 08.7	26 26.8	N 6 36.2	57 33.3	S 6 54.4	297 32.1	N22 55.6	39 23.9	S 0 15.5
	16	59 11.1	41 26.4	N 6 37.5	72 33.9	S 6 53.6	312 34.4	N22 55.6	54 26.1	S 0 15.4
	17	74 13.6	56 26.0	N 6 38.7	87 34.6	S 6 52.8	327 36.8	N22 55.5	69 28.3	S 0 15.3
	18	89 16.1	71 25.7	N 6 40.0	102 35.2	S 6 52.1	342 39.2	N22 55.5	84 30.4	S 0 15.2
	19	104 18.5	86 25.3	N 6 41.2	117 35.8	S 6 51.3	357 41.6	N22 55.5	99 32.6	S 0 15.1
	20	119 21.0	101 24.9	N 6 42.5	132 36.5	S 6 50.5	12 43.9	N22 55.5	114 34.8	S 0 14.9
	21	134 23.5	116 24.5	N 6 43.7	147 37.1	S 6 49.8	27 46.3	N22 55.5	129 37.0	S 0 14.8
	22	149 25.9	131 24.1	N 6 45.0	162 37.8	S 6 49.0	42 48.7	N22 55.5	144 39.1	S 0 14.7
	23	164 28.4	146 23.7	N 6 46.2	177 38.4	S 6 48.2	57 51.0	N22 55.5	159 41.3	S 0 14.6
22	0	179 30.9	161 23.3	N 6 47.5	192 39.1	S 6 47.5	72 53.4	N22 55.5	174 43.5	S 0 14.4
	1	194 33.3	176 23.0	N 6 48.7	207 39.7	S 6 46.7	87 55.8	N22 55.5	189 45.7	S 0 14.3
	2	209 35.8	191 22.6	N 6 50.0	222 40.3	S 6 45.9	102 58.1	N22 55.5	204 47.9	S 0 14.2
	3	224 38.2	206 22.2	N 6 51.2	237 41.0	S 6 45.2	118 00.5	N22 55.5	219 50.0	S 0 14.1
	4	239 40.7	221 21.8	N 6 52.5	252 41.6	S 6 44.4	133 02.9	N22 55.5	234 52.2	S 0 13.9
S	5	254 43.2	236 21.4	N 6 53.7	267 42.3	S 6 43.6	148 05.2	N22 55.4	249 54.4	S 0 13.8
U										
N	6	269 45.6	251 21.0	N 6 55.0	282 42.9	S 6 42.9	163 07.6	N22 55.4	264 56.6	S 0 13.7
D	7	284 48.1	266 20.6	N 6 56.2	297 43.6	S 6 42.1	178 10.0	N22 55.4	279 58.7	S 0 13.6
A	8	299 50.6	281 20.2	N 6 57.5	312 44.2	S 6 41.3	193 12.3	N22 55.4	295 00.9	S 0 13.5
Y	9	314 53.0	296 19.9	N 6 58.7	327 44.8	S 6 40.6	208 14.7	N22 55.4	310 03.1	S 0 13.3
	10	329 55.5	311 19.5	N 6 60.0	342 45.5	S 6 39.8	223 17.1	N22 55.4	325 05.3	S 0 13.2
	11	344 58.0	326 19.1	N 7 01.2	357 46.1	S 6 39.0	238 19.4	N22 55.4	340 07.5	S 0 13.1
	12	0 00.4	341 18.7	N 7 02.5	12 46.8	S 6 38.3	253 21.8	N22 55.4	355 09.6	S 0 13.0
	13	15 02.9	356 18.3	N 7 03.7	27 47.4	S 6 37.5	268 24.2	N22 55.4	10 11.8	S 0 12.8
	14	30 05.3	11 17.9	N 7 04.9	42 48.1	S 6 36.7	283 26.5	N22 55.4	25 14.0	S 0 12.7
	15	45 07.8	26 17.5	N 7 06.2	57 48.7	S 6 36.0	298 28.9	N22 55.4	40 16.2	S 0 12.6
	16	60 10.3	41 17.1	N 7 07.4	72 49.4	S 6 35.2	313 31.3	N22 55.4	55 18.3	S 0 12.5
	17	75 12.7	56 16.7	N 7 08.7	87 50.0	S 6 34.4	328 33.6	N22 55.3	70 20.5	S 0 12.3
	18	90 15.2	71 16.4	N 7 09.9	102 50.7	S 6 33.7	343 36.0	N22 55.3	85 22.7	S 0 12.2
	19	105 17.7	86 16.0	N 7 11.2	117 51.3	S 6 32.9	358 38.4	N22 55.3	100 24.9	S 0 12.1
	20	120 20.1	101 15.6	N 7 12.4	132 51.9	S 6 32.1	13 40.7	N22 55.3	115 27.1	S 0 12.0
	21	135 22.6	116 15.2	N 7 13.7	147 52.6	S 6 31.4	28 43.1	N22 55.3	130 29.2	S 0 11.9
	22	150 25.1	131 14.8	N 7 14.9	162 53.2	S 6 30.6	43 45.4	N22 55.3	145 31.4	S 0 11.7
	23	165 27.5	146 14.4	N 7 16.1	177 53.9	S 6 29.8	58 47.8	N22 55.3	160 33.6	S 0 11.6
			v -0.4	d 1.3	v 0.6	d 0.8	v 2.4	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
20	0	178 06.2	S 0 14.6	167 52.7	11.7	N 7 15.3	16.5	59.2
	1	193 06.4	S 0 13.6	182 23.3	11.6	N 7 31.8	16.4	59.2
	2	208 06.6	S 0 12.6	196 53.8	11.6	N 7 48.2	16.4	59.3
	3	223 06.8	S 0 11.6	211 24.3	11.5	N 8 04.5	16.4	59.3
	4	238 07.0	S 0 10.6	225 54.7	11.4	N 8 20.9	16.3	59.3
F	5	253 07.2	S 0 09.6	240 25.1	11.4	N 8 37.2	16.3	59.3
R								
I	6	268 07.3	S 0 08.7	254 55.4	11.3	N 8 53.5	16.3	59.3
D	7	283 07.5	S 0 07.7	269 25.7	11.2	N 9 09.7	16.2	59.3
A	8	298 07.7	S 0 06.7	283 55.8	11.2	N 9 25.9	16.2	59.4
Y	9	313 07.9	S 0 05.7	298 25.9	11.1	N 9 42.0	16.2	59.4
	10	328 08.1	S 0 04.7	312 56.0	11.0	N 9 58.2	16.1	59.4
	11	343 08.3	S 0 03.7	327 25.9	11.0	N10 14.2	16.1	59.4
	12	358 08.4	S 0 02.7	341 55.8	10.9	N10 30.2	16.0	59.4
	13	13 08.6	S 0 01.7	356 25.7	10.8	N10 46.2	16.0	59.4
	14	28 08.8	S 0 00.7	10 55.4	10.8	N11 02.1	15.9	59.5
	15	43 09.0	N 0 00.2	25 25.1	10.7	N11 18.0	15.9	59.5
	16	58 09.2	N 0 01.2	39 54.7	10.6	N11 33.8	15.8	59.5
	17	73 09.4	N 0 02.2	54 24.3	10.5	N11 49.6	15.8	59.5
	18	88 09.6	N 0 03.2	68 53.7	10.5	N12 05.3	15.7	59.5
	19	103 09.7	N 0 04.2	83 23.1	10.4	N12 20.9	15.6	59.5
	20	118 09.9	N 0 05.2	97 52.4	10.3	N12 36.5	15.6	59.5
	21	133 10.1	N 0 06.2	112 21.6	10.2	N12 52.0	15.5	59.5
	22	148 10.3	N 0 07.2	126 50.8	10.1	N13 07.5	15.5	59.6
	23	163 10.5	N 0 08.1	141 19.8	10.1	N13 22.9	15.4	59.6
21	0	178 10.7	N 0 09.1	155 48.8	10.0	N13 38.2	15.3	59.6
	1	193 10.8	N 0 10.1	170 17.7	9.9	N13 53.4	15.2	59.6
	2	208 11.0	N 0 11.1	184 46.5	9.8	N14 08.6	15.2	59.6
	3	223 11.2	N 0 12.1	199 15.3	9.7	N14 23.7	15.1	59.6
	4	238 11.4	N 0 13.1	213 43.9	9.6	N14 38.8	15.0	59.6
S	5	253 11.6	N 0 14.1	228 12.5	9.6	N14 53.7	14.9	59.6
A								
T	6	268 11.8	N 0 15.1	242 40.9	9.5	N15 08.6	14.9	59.6
U	7	283 12.0	N 0 16.1	257 09.3	9.4	N15 23.4	14.8	59.6
R	8	298 12.1	N 0 17.0	271 37.6	9.3	N15 38.1	14.7	59.7
D	9	313 12.3	N 0 18.0	286 05.8	9.2	N15 52.7	14.6	59.7
A	10	328 12.5	N 0 19.0	300 33.9	9.1	N16 07.2	14.5	59.7
Y	11	343 12.7	N 0 20.0	315 02.0	9.0	N16 21.7	14.4	59.7
	12	358 12.9	N 0 21.0	329 29.9	8.9	N16 36.0	14.4	59.7
	13	13 13.1	N 0 22.0	343 57.7	8.8	N16 50.3	14.3	59.7
	14	28 13.3	N 0 23.0	358 25.5	8.8	N17 04.4	14.2	59.7
	15	43 13.4	N 0 24.0	12 53.1	8.7	N17 18.5	14.1	59.7
	16	58 13.6	N 0 24.9	27 20.7	8.6	N17 32.5	14.0	59.7
	17	73 13.8	N 0 25.9	41 48.2	8.5	N17 46.4	13.9	59.7
	18	88 14.0	N 0 26.9	56 15.5	8.4	N18 00.1	13.8	59.7
	19	103 14.2	N 0 27.9	70 42.8	8.3	N18 13.8	13.7	59.7
	20	118 14.4	N 0 28.9	85 10.0	8.2	N18 27.3	13.6	59.7
	21	133 14.5	N 0 29.9	99 37.1	8.1	N18 40.8	13.4	59.7
	22	148 14.7	N 0 30.9	114 04.1	8.0	N18 54.1	13.3	59.7
	23	163 14.9	N 0 31.9	128 31.0	7.9	N19 07.4	13.2	59.7
22	0	178 15.1	N 0 32.8	142 57.8	7.8	N19 20.5	13.1	59.8
	1	193 15.3	N 0 33.8	157 24.5	7.7	N19 33.5	13.0	59.8
	2	208 15.5	N 0 34.8	171 51.1	7.6	N19 46.3	12.9	59.8
	3	223 15.7	N 0 35.8	186 17.6	7.5	N19 59.1	12.8	59.8
	4	238 15.8	N 0 36.8	200 44.0	7.4	N20 11.7	12.6	59.8
S	5	253 16.0	N 0 37.8	215 10.3	7.3	N20 24.3	12.5	59.8
U								
N	6	268 16.2	N 0 38.8	229 36.6	7.2	N20 36.7	12.4	59.8
D	7	283 16.4	N 0 39.8	244 02.7	7.1	N20 48.9	12.3	59.8
A	8	298 16.6	N 0 40.7	258 28.7	7.0	N21 01.1	12.1	59.8
Y	9	313 16.8	N 0 41.7	272 54.6	6.9	N21 13.1	12.0	59.8
	10	328 17.0	N 0 42.7	287 20.5	6.8	N21 24.9	11.9	59.8
	11	343 17.2	N 0 43.7	301 46.2	6.7	N21 36.7	11.7	59.8
	12	358 17.3	N 0 44.7	316 11.8	6.6	N21 48.3	11.6	59.8
	13	13 17.5	N 0 45.7	330 37.4	6.5	N21 59.8	11.5	59.8
	14	28 17.7	N 0 46.7	345 02.8	6.4	N22 11.1	11.3	59.8
	15	43 17.9	N 0 47.7	359 28.2	6.3	N22 22.3	11.2	59.8
	16	58 18.1	N 0 48.6	13 53.4	6.3	N22 33.3	11.0	59.8
	17	73 18.3	N 0 49.6	28 18.6	6.2	N22 44.2	10.9	59.8
	18	88 18.5	N 0 50.6	42 43.6	6.1	N22 55.0	10.8	59.8
	19	103 18.6	N 0 51.6	57 08.6	6.0	N23 05.6	10.6	59.8
	20	118 18.8	N 0 52.6	71 33.5	5.9	N23 16.0	10.5	59.8
	21	133 19.0	N 0 53.6	85 58.3	5.8	N23 26.3	10.3	59.8
	22	148 19.2	N 0 54.6	100 23.0	5.7	N23 36.5	10.2	59.8
	23	163 19.4	N 0 55.5	114 47.6	5.6	N23 46.5	10.0	59.8
		S.D. 16.1	d 1.0	S.D.	16.2	16.3	16.3	

STARS Name	SHA	Dec
Acamar	315 11.3	S40 12.1
Achernar	335 19.9	S57 06.3
Acrux	172 58.4	S63 14.7
Adhara	255 05.0	S29 00.7
Albireo	67 03.4	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.5	N55 48.9
Alkaid	152 50.8	N49 10.7
Al Na-ir	27 32.0	S46 50.0
Alnilam	275 36.7	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.1	N 8 56.0
Ankaa	353 06.5	S42 09.9
Antares	112 14.5	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.8	S69 04.3
Avior	234 14.0	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 20.5	N46 01.6
Castor	245 55.6	N31 49.9
Deneb	49 25.4	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.5
Elnath	278 00.7	N28 37.8
Eltanin	90 41.7	N51 28.7
Enif	33 38.0	N 9 59.5
Fomalhaut	15 13.7	S29 29.1
Gacrux	171 50.1	S57 15.7
Gienah	175 42.3	S17 41.4
Hadar	148 34.2	S60 29.9
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.3	S34 22.3
Kochab	137 19.0	N74 02.5
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.2	S36 30.1
Miaplacidus	221 37.4	S69 49.7
Mirfak	308 27.2	N49 57.4
Nunki	75 46.6	S26 15.8
Peacock	53 04.4	S56 38.9
Polaris	316 26.0	N89 22.1
Pollux	243 15.9	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.6	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.0	S 8 10.4
Rigil Kent	139 38.6	S60 56.6
Sabik	102 01.6	S15 45.6
Schedar	349 30.5	N56 40.9
Shaula	96 09.0	S37 07.3
Sirius	258 25.3	S16 45.3
Spica	158 21.0	S11 18.1
Suhail	222 45.3	S43 32.5
Vega	80 32.6	N38 48.1
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
23	0	180 30.0	161 14.0	N 7 17.4	192 54.5	S 6 29.0	73 50.2	N22 55.3	175 35.8	S 0 11.5
	1	195 32.5	176 13.6	N 7 18.6	207 55.2	S 6 28.3	88 52.5	N22 55.3	190 37.9	S 0 11.4
	2	210 34.9	191 13.2	N 7 19.9	222 55.8	S 6 27.5	103 54.9	N22 55.3	205 40.1	S 0 11.2
	3	225 37.4	206 12.8	N 7 21.1	237 56.5	S 6 26.7	118 57.3	N22 55.3	220 42.3	S 0 11.1
	4	240 39.8	221 12.5	N 7 22.4	252 57.1	S 6 26.0	133 59.6	N22 55.2	235 44.5	S 0 11.0
M	5	255 42.3	236 12.1	N 7 23.6	267 57.8	S 6 25.2	149 02.0	N22 55.2	250 46.7	S 0 10.9
O										
N	6	270 44.8	251 11.7	N 7 24.8	282 58.4	S 6 24.4	164 04.3	N22 55.2	265 48.8	S 0 10.7
D	7	285 47.2	266 11.3	N 7 26.1	297 59.0	S 6 23.7	179 06.7	N22 55.2	280 51.0	S 0 10.6
A	8	300 49.7	281 10.9	N 7 27.3	312 59.7	S 6 22.9	194 09.0	N22 55.2	295 53.2	S 0 10.5
Y	9	315 52.2	296 10.5	N 7 28.6	328 00.3	S 6 22.1	209 11.4	N22 55.2	310 55.4	S 0 10.4
	10	330 54.6	311 10.1	N 7 29.8	343 01.0	S 6 21.4	224 13.8	N22 55.2	325 57.5	S 0 10.3
	11	345 57.1	326 09.7	N 7 31.0	358 01.6	S 6 20.6	239 16.1	N22 55.2	340 59.7	S 0 10.1
	12	0 59.6	341 09.3	N 7 32.3	13 02.3	S 6 19.8	254 18.5	N22 55.2	356 01.9	S 0 10.0
	13	16 02.0	356 08.9	N 7 33.5	28 02.9	S 6 19.1	269 20.8	N22 55.2	11 04.1	S 0 09.9
	14	31 04.5	11 08.5	N 7 34.8	43 03.6	S 6 18.3	284 23.2	N22 55.2	26 06.3	S 0 09.8
	15	46 07.0	26 08.1	N 7 36.0	58 04.2	S 6 17.5	299 25.5	N22 55.1	41 08.4	S 0 09.6
	16	61 09.4	41 07.7	N 7 37.2	73 04.9	S 6 16.7	314 27.9	N22 55.1	56 10.6	S 0 09.5
	17	76 11.9	56 07.3	N 7 38.5	88 05.5	S 6 16.0	329 30.3	N22 55.1	71 12.8	S 0 09.4
	18	91 14.3	71 06.9	N 7 39.7	103 06.2	S 6 15.2	344 32.6	N22 55.1	86 15.0	S 0 09.3
	19	106 16.8	86 06.6	N 7 41.0	118 06.8	S 6 14.4	359 35.0	N22 55.1	101 17.1	S 0 09.1
	20	121 19.3	101 06.2	N 7 42.2	133 07.5	S 6 13.7	14 37.3	N22 55.1	116 19.3	S 0 09.0
	21	136 21.7	116 05.8	N 7 43.4	148 08.1	S 6 12.9	29 39.7	N22 55.1	131 21.5	S 0 08.9
	22	151 24.2	131 05.4	N 7 44.7	163 08.8	S 6 12.1	44 42.0	N22 55.1	146 23.7	S 0 08.8
	23	166 26.7	146 05.0	N 7 45.9	178 09.4	S 6 11.4	59 44.4	N22 55.1	161 25.8	S 0 08.7
24	0	181 29.1	161 04.6	N 7 47.1	193 10.1	S 6 10.6	74 46.7	N22 55.1	176 28.0	S 0 08.5
	1	196 31.6	176 04.2	N 7 48.4	208 10.7	S 6 09.8	89 49.1	N22 55.0	191 30.2	S 0 08.4
	2	211 34.1	191 03.8	N 7 49.6	223 11.4	S 6 09.0	104 51.4	N22 55.0	206 32.4	S 0 08.3
	3	226 36.5	206 03.4	N 7 50.8	238 12.0	S 6 08.3	119 53.8	N22 55.0	221 34.6	S 0 08.2
	4	241 39.0	221 03.0	N 7 52.1	253 12.7	S 6 07.5	134 56.1	N22 55.0	236 36.7	S 0 08.0
T	5	256 41.5	236 02.6	N 7 53.3	268 13.3	S 6 06.7	149 58.5	N22 55.0	251 38.9	S 0 07.9
U										
E	6	271 43.9	251 02.2	N 7 54.5	283 14.0	S 6 06.0	165 00.8	N22 55.0	266 41.1	S 0 07.8
S	7	286 46.4	266 01.8	N 7 55.8	298 14.6	S 6 05.2	180 03.2	N22 55.0	281 43.3	S 0 07.7
D	8	301 48.8	281 01.4	N 7 57.0	313 15.3	S 6 04.4	195 05.5	N22 55.0	296 45.4	S 0 07.5
A	9	316 51.3	296 01.0	N 7 58.2	328 15.9	S 6 03.6	210 07.9	N22 55.0	311 47.6	S 0 07.4
Y	10	331 53.8	311 00.6	N 7 59.5	343 16.6	S 6 02.9	225 10.2	N22 55.0	326 49.8	S 0 07.3
	11	346 56.2	326 00.2	N 8 00.7	358 17.2	S 6 02.1	240 12.6	N22 54.9	341 52.0	S 0 07.2
	12	1 58.7	340 59.8	N 8 01.9	13 17.9	S 6 01.3	255 14.9	N22 54.9	356 54.2	S 0 07.1
	13	17 01.2	355 59.4	N 8 03.2	28 18.5	S 6 00.6	270 17.3	N22 54.9	11 56.3	S 0 06.9
	14	32 03.6	10 59.0	N 8 04.4	43 19.2	S 5 59.8	285 19.6	N22 54.9	26 58.5	S 0 06.8
	15	47 06.1	25 58.6	N 8 05.6	58 19.8	S 5 59.0	300 22.0	N22 54.9	42 00.7	S 0 06.7
	16	62 08.6	40 58.2	N 8 06.9	73 20.5	S 5 58.2	315 24.3	N22 54.9	57 02.9	S 0 06.6
	17	77 11.0	55 57.8	N 8 08.1	88 21.1	S 5 57.5	330 26.7	N22 54.9	72 05.0	S 0 06.4
	18	92 13.5	70 57.4	N 8 09.3	103 21.8	S 5 56.7	345 29.0	N22 54.9	87 07.2	S 0 06.3
	19	107 15.9	85 57.0	N 8 10.6	118 22.4	S 5 55.9	0 31.4	N22 54.9	102 09.4	S 0 06.2
	20	122 18.4	100 56.6	N 8 11.8	133 23.1	S 5 55.2	15 33.7	N22 54.9	117 11.6	S 0 06.1
	21	137 20.9	115 56.2	N 8 13.0	148 23.7	S 5 54.4	30 36.1	N22 54.8	132 13.8	S 0 05.9
	22	152 23.3	130 55.8	N 8 14.2	163 24.4	S 5 53.6	45 38.4	N22 54.8	147 15.9	S 0 05.8
	23	167 25.8	145 55.4	N 8 15.5	178 25.0	S 5 52.8	60 40.8	N22 54.8	162 18.1	S 0 05.7
25	0	182 28.3	160 55.0	N 8 16.7	193 25.7	S 5 52.1	75 43.1	N22 54.8	177 20.3	S 0 05.6
	1	197 30.7	175 54.6	N 8 17.9	208 26.3	S 5 51.3	90 45.4	N22 54.8	192 22.5	S 0 05.5
	2	212 33.2	190 54.2	N 8 19.2	223 27.0	S 5 50.5	105 47.8	N22 54.8	207 24.6	S 0 05.3
	3	227 35.7	205 53.8	N 8 20.4	238 27.6	S 5 49.8	120 50.1	N22 54.8	222 26.8	S 0 05.2
	4	242 38.1	220 53.4	N 8 21.6	253 28.3	S 5 49.0	135 52.5	N22 54.8	237 29.0	S 0 05.1
W	5	257 40.6	235 53.0	N 8 22.8	268 28.9	S 5 48.2	150 54.8	N22 54.8	252 31.2	S 0 05.0
E										
D	6	272 43.1	250 52.6	N 8 24.1	283 29.6	S 5 47.4	165 57.2	N22 54.7	267 33.3	S 0 04.8
N	7	287 45.5	265 52.2	N 8 25.3	298 30.2	S 5 46.7	180 59.5	N22 54.7	282 35.5	S 0 04.7
E	8	302 48.0	280 51.8	N 8 26.5	313 30.9	S 5 45.9	196 01.8	N22 54.7	297 37.7	S 0 04.6
S	9	317 50.4	295 51.4	N 8 27.7	328 31.5	S 5 45.1	211 04.2	N22 54.7	312 39.9	S 0 04.5
D	10	332 52.9	310 51.0	N 8 29.0	343 32.2	S 5 44.3	226 06.5	N22 54.7	327 42.1	S 0 04.3
A	11	347 55.4	325 50.6	N 8 30.2	358 32.8	S 5 43.6	241 08.9	N22 54.7	342 44.2	S 0 04.2
Y										
	12	2 57.8	340 50.2	N 8 31.4	13 33.5	S 5 42.8	256 11.2	N22 54.7	357 46.4	S 0 04.1
	13	18 00.3	355 49.8	N 8 32.6	28 34.1	S 5 42.0	271 13.6	N22 54.7	12 48.6	S 0 04.0
	14	33 02.8	10 49.4	N 8 33.9	43 34.8	S 5 41.3	286 15.9	N22 54.7	27 50.8	S 0 03.9
	15	48 05.2	25 49.0	N 8 35.1	58 35.4	S 5 40.5	301 18.2	N22 54.6	42 52.9	S 0 03.7
	16	63 07.7	40 48.6	N 8 36.3	73 36.1	S 5 39.7	316 20.6	N22 54.6	57 55.1	S 0 03.6
	17	78 10.2	55 48.2	N 8 37.5	88 36.8	S 5 38.9	331 22.9	N22 54.6	72 57.3	S 0 03.5
	18	93 12.6	70 47.8	N 8 38.8	103 37.4	S 5 38.2	346 25.2	N22 54.6	87 59.5	S 0 03.4
	19	108 15.1	85 47.4	N 8 40.0	118 38.1	S 5 37.4	1 27.6	N22 54.6	103 01.7	S 0 03.2
	20	123 17.6	100 46.9	N 8 41.2	133 38.7	S 5 36.6	16 29.9	N22 54.6	118 03.8	S 0 03.1
	21	138 20.0	115 46.5	N 8 42.4	148 39.4	S 5 35.8	31 32.3	N22 54.6	133 06.0	S 0 03.0
	22	153 22.5	130 46.1	N 8 43.6	163 40.0	S 5 35.1	46 34.6	N22 54.6	148 08.2	S 0 02.9
	23	168 24.9	145 45.7	N 8 44.9	178 40.7	S 5 34.3	61 36.9	N22 54.5	163 10.4	S 0 02.8
			v -0.4	d 1.2	v 0.7	d 0.8	v 2.3	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
23	0	178 19.6	N 0 56.5	129 12.1	5.5	N23 56.3	9.8	59.8
	1	193 19.8	N 0 57.5	143 36.5	5.4	N24 06.0	9.7	59.7
	2	208 20.0	N 0 58.5	158 00.9	5.3	N24 15.5	9.5	59.7
	3	223 20.1	N 0 59.5	172 25.1	5.3	N24 24.9	9.4	59.7
	4	238 20.3	N 1 00.5	186 49.3	5.2	N24 34.1	9.2	59.7
M	5	253 20.5	N 1 01.5	201 13.4	5.1	N24 43.1	9.0	59.7
O								
N	6	268 20.7	N 1 02.4	215 37.4	5.0	N24 52.0	8.9	59.7
D	7	283 20.9	N 1 03.4	230 01.3	4.9	N25 00.7	8.7	59.7
A	8	298 21.1	N 1 04.4	244 25.1	4.8	N25 09.3	8.5	59.7
Y	9	313 21.3	N 1 05.4	258 48.9	4.8	N25 17.6	8.4	59.7
	10	328 21.4	N 1 06.4	273 12.5	4.7	N25 25.8	8.2	59.7
	11	343 21.6	N 1 07.4	287 36.1	4.6	N25 33.9	8.0	59.7
	12	358 21.8	N 1 08.4	301 59.7	4.5	N25 41.7	7.9	59.7
	13	13 22.0	N 1 09.3	316 23.1	4.4	N25 49.4	7.7	59.7
	14	28 22.2	N 1 10.3	330 46.5	4.4	N25 56.9	7.5	59.7
	15	43 22.4	N 1 11.3	345 09.8	4.3	N26 04.2	7.3	59.7
	16	58 22.6	N 1 12.3	359 33.0	4.2	N26 11.4	7.1	59.7
	17	73 22.8	N 1 13.3	13 56.2	4.2	N26 18.3	7.0	59.7
	18	88 22.9	N 1 14.3	28 19.3	4.1	N26 25.1	6.8	59.7
	19	103 23.1	N 1 15.3	42 42.3	4.0	N26 31.7	6.6	59.6
	20	118 23.3	N 1 16.2	57 05.3	4.0	N26 38.1	6.4	59.6
	21	133 23.5	N 1 17.2	71 28.2	3.9	N26 44.4	6.2	59.6
	22	148 23.7	N 1 18.2	85 51.1	3.9	N26 50.4	6.0	59.6
	23	163 23.9	N 1 19.2	100 13.9	3.8	N26 56.3	5.9	59.6
24	0	178 24.1	N 1 20.2	114 36.7	3.8	N27 02.0	5.7	59.6
	1	193 24.3	N 1 21.2	128 59.4	3.7	N27 07.4	5.5	59.6
	2	208 24.4	N 1 22.2	143 22.0	3.6	N27 12.7	5.3	59.6
	3	223 24.6	N 1 23.1	157 44.6	3.6	N27 17.9	5.1	59.6
	4	238 24.8	N 1 24.1	172 07.2	3.6	N27 22.8	4.9	59.6
T	5	253 25.0	N 1 25.1	186 29.7	3.5	N27 27.5	4.7	59.6
U								
E	6	268 25.2	N 1 26.1	200 52.2	3.5	N27 32.0	4.5	59.5
S	7	283 25.4	N 1 27.1	215 14.6	3.4	N27 36.4	4.3	59.5
D	8	298 25.6	N 1 28.1	229 37.0	3.4	N27 40.5	4.2	59.5
A	9	313 25.8	N 1 29.0	243 59.3	3.4	N27 44.5	4.0	59.5
Y	10	328 26.0	N 1 30.0	258 21.7	3.3	N27 48.3	3.8	59.5
	11	343 26.1	N 1 31.0	272 44.0	3.3	N27 51.8	3.6	59.5
	12	358 26.3	N 1 32.0	287 06.3	3.3	N27 55.2	3.4	59.5
	13	13 26.5	N 1 33.0	301 28.5	3.3	N27 58.4	3.2	59.5
	14	28 26.7	N 1 34.0	315 50.7	3.2	N28 01.3	3.0	59.5
	15	43 26.9	N 1 35.0	330 13.0	3.2	N28 04.1	2.8	59.4
	16	58 27.1	N 1 35.9	344 35.2	3.2	N28 06.7	2.6	59.4
	17	73 27.3	N 1 36.9	358 57.3	3.2	N28 09.1	2.4	59.4
	18	88 27.5	N 1 37.9	13 19.5	3.2	N28 11.3	2.2	59.4
	19	103 27.6	N 1 38.9	27 41.7	3.2	N28 13.3	2.0	59.4
	20	118 27.8	N 1 39.9	42 03.8	3.2	N28 15.1	1.8	59.4
	21	133 28.0	N 1 40.9	56 26.0	3.2	N28 16.7	1.6	59.4
	22	148 28.2	N 1 41.8	70 48.1	3.2	N28 18.1	1.4	59.4
	23	163 28.4	N 1 42.8	85 10.3	3.2	N28 19.3	1.2	59.3
25	0	178 28.6	N 1 43.8	99 32.5	3.2	N28 20.3	1.0	59.3
	1	193 28.8	N 1 44.8	113 54.6	3.2	N28 21.1	0.8	59.3
	2	208 29.0	N 1 45.8	128 16.8	3.2	N28 21.7	0.6	59.3
	3	223 29.1	N 1 46.8	142 39.0	3.2	N28 22.1	0.4	59.3
	4	238 29.3	N 1 47.7	157 01.2	3.2	N28 22.3	0.2	59.3
W	5	253 29.5	N 1 48.7	171 23.4	3.2	N28 22.3	0.0	59.3
E								
D	6	268 29.7	N 1 49.7	185 45.7	3.2	N28 22.2	0.2	59.3
N	7	283 29.9	N 1 50.7	200 07.9	3.3	N28 21.8	0.4	59.2
E	8	298 30.1	N 1 51.7	214 30.2	3.3	N28 21.2	0.6	59.2
S	9	313 30.3	N 1 52.7	228 52.5	3.3	N28 20.4	0.8	59.2
D	10	328 30.5	N 1 53.6	243 14.9	3.3	N28 19.5	1.0	59.2
A	11	343 30.7	N 1 54.6	257 37.3	3.4	N28 18.3	1.2	59.2
Y								
	12	358 30.8	N 1 55.6	271 59.7	3.4	N28 17.0	1.4	59.2
	13	13 31.0	N 1 56.6	286 22.1	3.5	N28 15.4	1.5	59.2
	14	28 31.2	N 1 57.6	300 44.6	3.5	N28 13.7	1.7	59.1
	15	43 31.4	N 1 58.5	315 07.2	3.5	N28 11.7	1.9	59.1
	16	58 31.6	N 1 59.5	329 29.8	3.6	N28 09.6	2.1	59.1
	17	73 31.8	N 2 00.5	343 52.4	3.6	N28 07.3	2.3	59.1
	18	88 32.0	N 2 01.5	358 15.1	3.7	N28 04.8	2.5	59.1
	19	103 32.2	N 2 02.5	12 37.8	3.7	N28 02.1	2.7	59.1
	20	118 32.4	N 2 03.5	27 00.6	3.8	N27 59.2	2.9	59.1
	21	133 32.5	N 2 04.4	41 23.4	3.8	N27 56.1	3.1	59.0
	22	148 32.7	N 2 05.4	55 46.4	3.9	N27 52.9	3.3	59.0
	23	163 32.9	N 2 06.4	70 09.3	4.0	N27 49.4	3.4	59.0
		S.D. 16.0	d 1.0	S.D.	16.3	16.2	16.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.1
Achernar	335 19.9	S57 06.3
Acrux	172 58.4	S63 14.7
Adhara	255 05.0	S29 00.7
Albireo	67 03.4	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.5	N55 48.9
Alkaid	152 50.7	N49 10.7
Al Na-ir	27 32.0	S46 50.0
Alnilam	275 36.7	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.1	N 8 56.0
Ankaa	353 06.5	S42 09.9
Antares	112 14.5	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.7	S69 04.3
Avior	234 14.0	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 20.6	N46 01.6
Castor	245 55.6	N31 49.9
Deneb	49 25.4	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.5
Elnath	278 00.7	N28 37.8
Eltanin	90 41.7	N51 28.7
Enif	33 38.0	N 9 59.5
Fomalhaut	15 13.7	S29 29.0
Gacrux	171 50.0	S57 15.7
Gienah	175 42.2	S17 41.4
Hadar	148 34.2	S60 30.0
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.2	S34 22.3
Kochab	137 19.0	N74 02.5
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.4	S69 49.7
Mirfak	308 27.2	N49 57.4
Nunki	75 46.6	S26 15.8
Peacock	53 04.4	S56 38.9
Polaris	316 26.5	N89 22.1
Pollux	243 15.9	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.6	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.0	S 8 10.4
Rigil Kent	139 38.6	S60 56.6
Sabik	102 01.6	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.9	S37 07.3
Sirius	258 25.3	S16 45.3
Spica	158 21.0	S11 18.1
Suhail	222 45.3	S43 32.5
Vega	80 32.6	N38 48.1
Zuben-ubi	136 55.6	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
26	0	183 27.4	160 45.3	N 8 46.1	193 41.3	S 5 33.5	76 39.3	N22 54.5	178 12.5	S 0 02.6
	1	198 29.9	175 44.9	N 8 47.3	208 42.0	S 5 32.7	91 41.6	N22 54.5	193 14.7	S 0 02.5
	2	213 32.3	190 44.5	N 8 48.5	223 42.6	S 5 32.0	106 43.9	N22 54.5	208 16.9	S 0 02.4
	3	228 34.8	205 44.1	N 8 49.7	238 43.3	S 5 31.2	121 46.3	N22 54.5	223 19.1	S 0 02.3
	4	243 37.3	220 43.7	N 8 51.0	253 43.9	S 5 30.4	136 48.6	N22 54.5	238 21.2	S 0 02.1
T	5	258 39.7	235 43.3	N 8 52.2	268 44.6	S 5 29.6	151 50.9	N22 54.5	253 23.4	S 0 02.0
H										
U	6	273 42.2	250 42.9	N 8 53.4	283 45.3	S 5 28.9	166 53.3	N22 54.5	268 25.6	S 0 01.9
R	7	288 44.7	265 42.5	N 8 54.6	298 45.9	S 5 28.1	181 55.6	N22 54.5	283 27.8	S 0 01.8
S	8	303 47.1	280 42.1	N 8 55.8	313 46.6	S 5 27.3	196 58.0	N22 54.4	298 30.0	S 0 01.6
D	9	318 49.6	295 41.7	N 8 57.1	328 47.2	S 5 26.5	212 00.3	N22 54.4	313 32.1	S 0 01.5
A	10	333 52.1	310 41.2	N 8 58.3	343 47.9	S 5 25.8	227 02.6	N22 54.4	328 34.3	S 0 01.4
Y	11	348 54.5	325 40.8	N 8 59.5	358 48.5	S 5 25.0	242 04.9	N22 54.4	343 36.5	S 0 01.3
	12	3 57.0	340 40.4	N 9 00.7	13 49.2	S 5 24.2	257 07.3	N22 54.4	358 38.7	S 0 01.2
	13	18 59.4	355 40.0	N 9 01.9	28 49.8	S 5 23.4	272 09.6	N22 54.4	13 40.8	S 0 01.0
	14	34 01.9	10 39.6	N 9 03.1	43 50.5	S 5 22.7	287 11.9	N22 54.4	28 43.0	S 0 00.9
	15	49 04.4	25 39.2	N 9 04.3	58 51.2	S 5 21.9	302 14.3	N22 54.4	43 45.2	S 0 00.8
	16	64 06.8	40 38.8	N 9 05.6	73 51.8	S 5 21.1	317 16.6	N22 54.3	58 47.4	S 0 00.7
	17	79 09.3	55 38.4	N 9 06.8	88 52.5	S 5 20.3	332 18.9	N22 54.3	73 49.6	S 0 00.5
	18	94 11.8	70 38.0	N 9 08.0	103 53.1	S 5 19.6	347 21.3	N22 54.3	88 51.7	S 0 00.4
	19	109 14.2	85 37.5	N 9 09.2	118 53.8	S 5 18.8	2 23.6	N22 54.3	103 53.9	S 0 00.3
	20	124 16.7	100 37.1	N 9 10.4	133 54.4	S 5 18.0	17 25.9	N22 54.3	118 56.1	S 0 00.2
	21	139 19.2	115 36.7	N 9 11.6	148 55.1	S 5 17.2	32 28.3	N22 54.3	133 58.3	S 0 00.1
	22	154 21.6	130 36.3	N 9 12.8	163 55.7	S 5 16.5	47 30.6	N22 54.3	149 00.4	N 0 00.1
	23	169 24.1	145 35.9	N 9 14.1	178 56.4	S 5 15.7	62 32.9	N22 54.3	164 02.6	N 0 00.2
27	0	184 26.5	160 35.5	N 9 15.3	193 57.1	S 5 14.9	77 35.2	N22 54.2	179 04.8	N 0 00.3
	1	199 29.0	175 35.1	N 9 16.5	208 57.7	S 5 14.1	92 37.6	N22 54.2	194 07.0	N 0 00.4
	2	214 31.5	190 34.7	N 9 17.7	223 58.4	S 5 13.4	107 39.9	N22 54.2	209 09.1	N 0 00.6
	3	229 33.9	205 34.3	N 9 18.9	238 59.0	S 5 12.6	122 42.2	N22 54.2	224 11.3	N 0 00.7
	4	244 36.4	220 33.8	N 9 20.1	253 59.7	S 5 11.8	137 44.6	N22 54.2	239 13.5	N 0 00.8
F	5	259 38.9	235 33.4	N 9 21.3	269 00.3	S 5 11.0	152 46.9	N22 54.2	254 15.7	N 0 00.9
R										
I	6	274 41.3	250 33.0	N 9 22.5	284 01.0	S 5 10.3	167 49.2	N22 54.2	269 17.9	N 0 01.0
D	7	289 43.8	265 32.6	N 9 23.7	299 01.7	S 5 09.5	182 51.5	N22 54.2	284 20.0	N 0 01.2
A	8	304 46.3	280 32.2	N 9 24.9	314 02.3	S 5 08.7	197 53.9	N22 54.1	299 22.2	N 0 01.3
Y	9	319 48.7	295 31.8	N 9 26.2	329 03.0	S 5 07.9	212 56.2	N22 54.1	314 24.4	N 0 01.4
	10	334 51.2	310 31.3	N 9 27.4	344 03.6	S 5 07.2	227 58.5	N22 54.1	329 26.6	N 0 01.5
	11	349 53.7	325 30.9	N 9 28.6	359 04.3	S 5 06.4	243 00.8	N22 54.1	344 28.7	N 0 01.7
	12	4 56.1	340 30.5	N 9 29.8	14 04.9	S 5 05.6	258 03.2	N22 54.1	359 30.9	N 0 01.8
	13	19 58.6	355 30.1	N 9 31.0	29 05.6	S 5 04.8	273 05.5	N22 54.1	14 33.1	N 0 01.9
	14	35 01.0	10 29.7	N 9 32.2	44 06.3	S 5 04.1	288 07.8	N22 54.1	29 35.3	N 0 02.0
	15	50 03.5	25 29.3	N 9 33.4	59 06.9	S 5 03.3	303 10.1	N22 54.0	44 37.5	N 0 02.2
	16	65 06.0	40 28.9	N 9 34.6	74 07.6	S 5 02.5	318 12.4	N22 54.0	59 39.6	N 0 02.3
	17	80 08.4	55 28.4	N 9 35.8	89 08.2	S 5 01.7	333 14.8	N22 54.0	74 41.8	N 0 02.4
	18	95 10.9	70 28.0	N 9 37.0	104 08.9	S 5 00.9	348 17.1	N22 54.0	89 44.0	N 0 02.5
	19	110 13.4	85 27.6	N 9 38.2	119 09.6	S 5 00.2	3 19.4	N22 54.0	104 46.2	N 0 02.6
	20	125 15.8	100 27.2	N 9 39.4	134 10.2	S 4 59.4	18 21.7	N22 54.0	119 48.3	N 0 02.8
	21	140 18.3	115 26.8	N 9 40.6	149 10.9	S 4 58.6	33 24.1	N22 54.0	134 50.5	N 0 02.9
	22	155 20.8	130 26.3	N 9 41.8	164 11.5	S 4 57.8	48 26.4	N22 54.0	149 52.7	N 0 03.0
	23	170 23.2	145 25.9	N 9 43.0	179 12.2	S 4 57.1	63 28.7	N22 53.9	164 54.9	N 0 03.1
28	0	185 25.7	160 25.5	N 9 44.2	194 12.9	S 4 56.3	78 31.0	N22 53.9	179 57.1	N 0 03.3
	1	200 28.2	175 25.1	N 9 45.4	209 13.5	S 4 55.5	93 33.3	N22 53.9	194 59.2	N 0 03.4
	2	215 30.6	190 24.7	N 9 46.6	224 14.2	S 4 54.7	108 35.7	N22 53.9	210 01.4	N 0 03.5
	3	230 33.1	205 24.2	N 9 47.8	239 14.8	S 4 54.0	123 38.0	N22 53.9	225 03.6	N 0 03.6
	4	245 35.5	220 23.8	N 9 49.0	254 15.5	S 4 53.2	138 40.3	N22 53.9	240 05.8	N 0 03.7
S	5	260 38.0	235 23.4	N 9 50.2	269 16.1	S 4 52.4	153 42.6	N22 53.9	255 07.9	N 0 03.9
A										
T	6	275 40.5	250 23.0	N 9 51.4	284 16.8	S 4 51.6	168 44.9	N22 53.8	270 10.1	N 0 04.0
U	7	290 42.9	265 22.6	N 9 52.6	299 17.5	S 4 50.8	183 47.2	N22 53.8	285 12.3	N 0 04.1
R	8	305 45.4	280 22.1	N 9 53.8	314 18.1	S 4 50.1	198 49.6	N22 53.8	300 14.5	N 0 04.2
D	9	320 47.9	295 21.7	N 9 55.0	329 18.8	S 4 49.3	213 51.9	N22 53.8	315 16.6	N 0 04.4
A	10	335 50.3	310 21.3	N 9 56.2	344 19.4	S 4 48.5	228 54.2	N22 53.8	330 18.8	N 0 04.5
Y	11	350 52.8	325 20.9	N 9 57.4	359 20.1	S 4 47.7	243 56.5	N22 53.8	345 21.0	N 0 04.6
	12	5 55.3	340 20.5	N 9 58.6	14 20.8	S 4 47.0	258 58.8	N22 53.8	0 23.2	N 0 04.7
	13	20 57.7	355 20.0	N 9 59.8	29 21.4	S 4 46.2	274 01.1	N22 53.7	15 25.4	N 0 04.8
	14	36 00.2	10 19.6	N10 01.0	44 22.1	S 4 45.4	289 03.5	N22 53.7	30 27.5	N 0 05.0
	15	51 02.7	25 19.2	N10 02.2	59 22.7	S 4 44.6	304 05.8	N22 53.7	45 29.7	N 0 05.1
	16	66 05.1	40 18.8	N10 03.4	74 23.4	S 4 43.8	319 08.1	N22 53.7	60 31.9	N 0 05.2
	17	81 07.6	55 18.3	N10 04.6	89 24.1	S 4 43.1	334 10.4	N22 53.7	75 34.1	N 0 05.3
	18	96 10.0	70 17.9	N10 05.8	104 24.7	S 4 42.3	349 12.7	N22 53.7	90 36.2	N 0 05.5
	19	111 12.5	85 17.5	N10 07.0	119 25.4	S 4 41.5	4 15.0	N22 53.7	105 38.4	N 0 05.6
	20	126 15.0	100 17.1	N10 08.2	134 26.1	S 4 40.7	19 17.3	N22 53.6	120 40.6	N 0 05.7
	21	141 17.4	115 16.6	N10 09.4	149 26.7	S 4 40.0	34 19.7	N22 53.6	135 42.8	N 0 05.8
	22	156 19.9	130 16.2	N10 10.6	164 27.4	S 4 39.2	49 22.0	N22 53.6	150 45.0	N 0 05.9
	23	171 22.4	145 15.8	N10 11.8	179 28.0	S 4 38.4	64 24.3	N22 53.6	165 47.1	N 0 06.1
			v -0.4	d 1.2	v 0.7	d 0.8	v 2.3	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
26	0	178 33.1	N 2 07.4	84 32.4	4.0	N27 45.8	3.6	59.0
	1	193 33.3	N 2 08.4	98 55.4	4.1	N27 42.0	3.8	59.0
	2	208 33.5	N 2 09.3	113 18.6	4.2	N27 38.0	4.0	59.0
	3	223 33.7	N 2 10.3	127 41.8	4.2	N27 33.8	4.2	58.9
	4	238 33.9	N 2 11.3	142 05.2	4.3	N27 29.4	4.4	58.9
T	5	253 34.1	N 2 12.3	156 28.5	4.4	N27 24.9	4.5	58.9
H								
U	6	268 34.2	N 2 13.3	170 52.0	4.5	N27 20.2	4.7	58.9
R	7	283 34.4	N 2 14.3	185 15.5	4.5	N27 15.3	4.9	58.9
S	8	298 34.6	N 2 15.2	199 39.1	4.6	N27 10.2	5.1	58.9
D	9	313 34.8	N 2 16.2	214 02.8	4.7	N27 05.0	5.2	58.8
A	10	328 35.0	N 2 17.2	228 26.6	4.8	N26 59.5	5.4	58.8
Y	11	343 35.2	N 2 18.2	242 50.5	4.9	N26 53.9	5.6	58.8
	12	358 35.4	N 2 19.2	257 14.4	4.9	N26 48.2	5.8	58.8
	13	13 35.6	N 2 20.1	271 38.4	5.0	N26 42.2	5.9	58.8
	14	28 35.8	N 2 21.1	286 02.5	5.1	N26 36.1	6.1	58.8
	15	43 35.9	N 2 22.1	300 26.8	5.2	N26 29.9	6.3	58.7
	16	58 36.1	N 2 23.1	314 51.1	5.3	N26 23.4	6.4	58.7
	17	73 36.3	N 2 24.1	329 15.4	5.4	N26 16.8	6.6	58.7
	18	88 36.5	N 2 25.0	343 39.9	5.5	N26 10.0	6.8	58.7
	19	103 36.7	N 2 26.0	358 04.5	5.6	N26 03.1	6.9	58.7
	20	118 36.9	N 2 27.0	12 29.2	5.7	N25 56.0	7.1	58.7
	21	133 37.1	N 2 28.0	26 54.0	5.8	N25 48.8	7.2	58.6
	22	148 37.3	N 2 29.0	41 18.8	5.9	N25 41.4	7.4	58.6
	23	163 37.5	N 2 29.9	55 43.8	6.0	N25 33.8	7.6	58.6
27	0	178 37.6	N 2 30.9	70 08.9	6.1	N25 26.1	7.7	58.6
	1	193 37.8	N 2 31.9	84 34.1	6.2	N25 18.2	7.9	58.6
	2	208 38.0	N 2 32.9	98 59.3	6.3	N25 10.2	8.0	58.6
	3	223 38.2	N 2 33.9	113 24.7	6.4	N25 02.0	8.2	58.5
	4	238 38.4	N 2 34.8	127 50.2	6.5	N24 53.7	8.3	58.5
F	5	253 38.6	N 2 35.8	142 15.8	6.6	N24 45.2	8.5	58.5
R								
I	6	268 38.8	N 2 36.8	156 41.5	6.7	N24 36.6	8.6	58.5
D	7	283 39.0	N 2 37.8	171 07.3	6.8	N24 27.9	8.8	58.5
A	8	298 39.2	N 2 38.7	185 33.2	6.9	N24 19.0	8.9	58.5
Y	9	313 39.3	N 2 39.7	199 59.2	7.0	N24 09.9	9.0	58.4
	10	328 39.5	N 2 40.7	214 25.3	7.1	N24 00.8	9.2	58.4
	11	343 39.7	N 2 41.7	228 51.5	7.2	N23 51.5	9.3	58.4
	12	358 39.9	N 2 42.7	243 17.9	7.3	N23 42.0	9.4	58.4
	13	13 40.1	N 2 43.6	257 44.3	7.4	N23 32.4	9.6	58.4
	14	28 40.3	N 2 44.6	272 10.9	7.5	N23 22.7	9.7	58.3
	15	43 40.5	N 2 45.6	286 37.5	7.7	N23 12.9	9.8	58.3
	16	58 40.7	N 2 46.6	301 04.3	7.8	N23 02.9	10.0	58.3
	17	73 40.9	N 2 47.6	315 31.2	7.9	N22 52.8	10.1	58.3
	18	88 41.0	N 2 48.5	329 58.1	8.0	N22 42.6	10.2	58.3
	19	103 41.2	N 2 49.5	344 25.2	8.1	N22 32.2	10.4	58.3
	20	118 41.4	N 2 50.5	358 52.4	8.2	N22 21.7	10.5	58.2
	21	133 41.6	N 2 51.5	13 19.8	8.3	N22 11.1	10.6	58.2
	22	148 41.8	N 2 52.4	27 47.2	8.4	N22 00.4	10.7	58.2
	23	163 42.0	N 2 53.4	42 14.7	8.5	N21 49.6	10.8	58.2
28	0	178 42.2	N 2 54.4	56 42.3	8.6	N21 38.6	10.9	58.2
	1	193 42.4	N 2 55.4	71 10.1	8.7	N21 27.6	11.1	58.1
	2	208 42.6	N 2 56.3	85 37.9	8.9	N21 16.4	11.2	58.1
	3	223 42.7	N 2 57.3	100 05.9	9.0	N21 05.1	11.3	58.1
	4	238 42.9	N 2 58.3	114 34.0	9.1	N20 53.7	11.4	58.1
S	5	253 43.1	N 2 59.3	129 02.1	9.2	N20 42.2	11.5	58.1
A								
T	6	268 43.3	N 3 00.3	143 30.4	9.3	N20 30.6	11.6	58.0
U	7	283 43.5	N 3 01.2	157 58.8	9.4	N20 18.9	11.7	58.0
R	8	298 43.7	N 3 02.2	172 27.3	9.5	N20 07.1	11.8	58.0
D	9	313 43.9	N 3 03.2	186 55.9	9.6	N19 55.2	11.9	58.0
A	10	328 44.1	N 3 04.2	201 24.6	9.7	N19 43.2	12.0	58.0
Y	11	343 44.3	N 3 05.1	215 53.4	9.8	N19 31.1	12.1	58.0
	12	358 44.4	N 3 06.1	230 22.3	9.9	N19 18.9	12.2	57.9
	13	13 44.6	N 3 07.1	244 51.4	10.0	N19 06.6	12.3	57.9
	14	28 44.8	N 3 08.1	259 20.5	10.1	N18 54.2	12.4	57.9
	15	43 45.0	N 3 09.0	273 49.7	10.2	N18 41.7	12.5	57.9
	16	58 45.2	N 3 10.0	288 19.0	10.3	N18 29.1	12.6	57.9
	17	73 45.4	N 3 11.0	302 48.4	10.4	N18 16.4	12.7	57.8
	18	88 45.6	N 3 12.0	317 18.0	10.5	N18 03.7	12.8	57.8
	19	103 45.8	N 3 12.9	331 47.6	10.6	N17 50.8	12.8	57.8
	20	118 46.0	N 3 13.9	346 17.3	10.7	N17 37.9	12.9	57.8
	21	133 46.1	N 3 14.9	0 47.1	10.8	N17 24.9	13.0	57.8
	22	148 46.3	N 3 15.9	15 17.0	10.9	N17 11.8	13.1	57.7
	23	163 46.5	N 3 16.8	29 47.1	11.0	N16 58.7	13.2	57.7
		S.D. 16.0	d 1.0	S.D. 16.0		15.9	15.8	

STARS Name	SHA	Dec
Acamar	315 11.3	S40 12.1
Achernar	335 19.9	S57 06.3
Acrux	172 58.4	S63 14.7
Adhara	255 05.0	S29 00.7
Albireo	67 03.3	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.4	N55 48.9
Alkaid	152 50.7	N49 10.7
Al Na-ir	27 31.9	S46 50.0
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.6	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.1	N 8 56.0
Ankaa	353 06.5	S42 09.9
Antares	112 14.5	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.7	S69 04.3
Avior	234 14.0	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.0	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 20.6	N46 01.6
Castor	245 55.7	N31 49.9
Deneb	49 25.4	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.5
Elnath	278 00.7	N28 37.8
Eltanin	90 41.7	N51 28.7
Enif	33 38.0	N 9 59.6
Fomalhaut	15 13.7	S29 29.0
Gacrux	171 50.0	S57 15.7
Gienah	175 42.2	S17 41.4
Hadar	148 34.1	S60 30.0
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.2	S34 22.3
Kochab	137 19.0	N74 02.5
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.5	S69 49.7
Mirfak	308 27.2	N49 57.4
Nunki	75 46.6	S26 15.8
Peacock	53 04.3	S56 38.9
Polaris	316 26.9	N89 22.0
Pollux	243 15.9	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.6	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.0	S 8 10.4
Rigil Kent	139 38.6	S60 56.6
Sabik	102 01.5	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.9	S37 07.3
Sirius	258 25.3	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.3	S43 32.5
Vega	80 32.6	N38 48.1
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
29	0	186 24.8	160 15.4	N10 13.0	194 28.7	S 4 37.6	79 26.6	N22 53.6	180 49.3	N 0 06.2
	1	201 27.3	175 14.9	N10 14.2	209 29.4	S 4 36.8	94 28.9	N22 53.6	195 51.5	N 0 06.3
	2	216 29.8	190 14.5	N10 15.4	224 30.0	S 4 36.1	109 31.2	N22 53.6	210 53.7	N 0 06.4
	3	231 32.2	205 14.1	N10 16.5	239 30.7	S 4 35.3	124 33.5	N22 53.5	225 55.8	N 0 06.6
	4	246 34.7	220 13.7	N10 17.7	254 31.3	S 4 34.5	139 35.8	N22 53.5	240 58.0	N 0 06.7
S	5	261 37.1	235 13.2	N10 18.9	269 32.0	S 4 33.7	154 38.2	N22 53.5	256 00.2	N 0 06.8
U										
N	6	276 39.6	250 12.8	N10 20.1	284 32.7	S 4 32.9	169 40.5	N22 53.5	271 02.4	N 0 06.9
D	7	291 42.1	265 12.4	N10 21.3	299 33.3	S 4 32.2	184 42.8	N22 53.5	286 04.6	N 0 07.0
A	8	306 44.5	280 12.0	N10 22.5	314 34.0	S 4 31.4	199 45.1	N22 53.5	301 06.7	N 0 07.2
Y	9	321 47.0	295 11.5	N10 23.7	329 34.7	S 4 30.6	214 47.4	N22 53.5	316 08.9	N 0 07.3
	10	336 49.5	310 11.1	N10 24.9	344 35.3	S 4 29.8	229 49.7	N22 53.4	331 11.1	N 0 07.4
	11	351 51.9	325 10.7	N10 26.1	359 36.0	S 4 29.1	244 52.0	N22 53.4	346 13.3	N 0 07.5
	12	6 54.4	340 10.2	N10 27.3	14 36.6	S 4 28.3	259 54.3	N22 53.4	1 15.4	N 0 07.7
	13	21 56.9	355 09.8	N10 28.4	29 37.3	S 4 27.5	274 56.6	N22 53.4	16 17.6	N 0 07.8
	14	36 59.3	10 09.4	N10 29.6	44 38.0	S 4 26.7	289 58.9	N22 53.4	31 19.8	N 0 07.9
	15	52 01.8	25 08.9	N10 30.8	59 38.6	S 4 25.9	305 01.2	N22 53.4	46 22.0	N 0 08.0
	16	67 04.3	40 08.5	N10 32.0	74 39.3	S 4 25.2	320 03.5	N22 53.3	61 24.1	N 0 08.1
	17	82 06.7	55 08.1	N10 33.2	89 40.0	S 4 24.4	335 05.9	N22 53.3	76 26.3	N 0 08.3
	18	97 09.2	70 07.7	N10 34.4	104 40.6	S 4 23.6	350 08.2	N22 53.3	91 28.5	N 0 08.4
	19	112 11.6	85 07.2	N10 35.6	119 41.3	S 4 22.8	5 10.5	N22 53.3	106 30.7	N 0 08.5
	20	127 14.1	100 06.8	N10 36.7	134 41.9	S 4 22.0	20 12.8	N22 53.3	121 32.9	N 0 08.6
	21	142 16.6	115 06.4	N10 37.9	149 42.6	S 4 21.3	35 15.1	N22 53.3	136 35.0	N 0 08.8
	22	157 19.0	130 05.9	N10 39.1	164 43.3	S 4 20.5	50 17.4	N22 53.3	151 37.2	N 0 08.9
	23	172 21.5	145 05.5	N10 40.3	179 43.9	S 4 19.7	65 19.7	N22 53.2	166 39.4	N 0 09.0
30	0	187 24.0	160 05.1	N10 41.5	194 44.6	S 4 18.9	80 22.0	N22 53.2	181 41.6	N 0 09.1
	1	202 26.4	175 04.6	N10 42.7	209 45.3	S 4 18.1	95 24.3	N22 53.2	196 43.7	N 0 09.2
	2	217 28.9	190 04.2	N10 43.8	224 45.9	S 4 17.4	110 26.6	N22 53.2	211 45.9	N 0 09.4
	3	232 31.4	205 03.8	N10 45.0	239 46.6	S 4 16.6	125 28.9	N22 53.2	226 48.1	N 0 09.5
	4	247 33.8	220 03.3	N10 46.2	254 47.3	S 4 15.8	140 31.2	N22 53.2	241 50.3	N 0 09.6
M	5	262 36.3	235 02.9	N10 47.4	269 47.9	S 4 15.0	155 33.5	N22 53.1	256 52.5	N 0 09.7
O										
N	6	277 38.8	250 02.5	N10 48.6	284 48.6	S 4 14.2	170 35.8	N22 53.1	271 54.6	N 0 09.8
D	7	292 41.2	265 02.0	N10 49.7	299 49.3	S 4 13.5	185 38.1	N22 53.1	286 56.8	N 0 10.0
A	8	307 43.7	280 01.6	N10 50.9	314 49.9	S 4 12.7	200 40.4	N22 53.1	301 59.0	N 0 10.1
Y	9	322 46.1	295 01.2	N10 52.1	329 50.6	S 4 11.9	215 42.7	N22 53.1	317 01.2	N 0 10.2
	10	337 48.6	310 00.7	N10 53.3	344 51.2	S 4 11.1	230 45.0	N22 53.1	332 03.3	N 0 10.3
	11	352 51.1	325 00.3	N10 54.5	359 51.9	S 4 10.3	245 47.3	N22 53.1	347 05.5	N 0 10.5
	12	7 53.5	339 59.8	N10 55.6	14 52.6	S 4 09.6	260 49.6	N22 53.0	2 07.7	N 0 10.6
	13	22 56.0	354 59.4	N10 56.8	29 53.2	S 4 08.8	275 51.9	N22 53.0	17 09.9	N 0 10.7
	14	37 58.5	9 59.0	N10 58.0	44 53.9	S 4 08.0	290 54.2	N22 53.0	32 12.1	N 0 10.8
	15	53 00.9	24 58.5	N10 59.2	59 54.6	S 4 07.2	305 56.5	N22 53.0	47 14.2	N 0 10.9
	16	68 03.4	39 58.1	N11 00.3	74 55.2	S 4 06.4	320 58.8	N22 53.0	62 16.4	N 0 11.1
	17	83 05.9	54 57.7	N11 01.5	89 55.9	S 4 05.7	336 01.1	N22 53.0	77 18.6	N 0 11.2
	18	98 08.3	69 57.2	N11 02.7	104 56.6	S 4 04.9	351 03.4	N22 52.9	92 20.8	N 0 11.3
	19	113 10.8	84 56.8	N11 03.9	119 57.2	S 4 04.1	6 05.7	N22 52.9	107 22.9	N 0 11.4
	20	128 13.2	99 56.3	N11 05.0	134 57.9	S 4 03.3	21 08.0	N22 52.9	122 25.1	N 0 11.6
	21	143 15.7	114 55.9	N11 06.2	149 58.6	S 4 02.5	36 10.3	N22 52.9	137 27.3	N 0 11.7
	22	158 18.2	129 55.5	N11 07.4	164 59.2	S 4 01.8	51 12.6	N22 52.9	152 29.5	N 0 11.8
	23	173 20.6	144 55.0	N11 08.6	179 59.9	S 4 01.0	66 14.9	N22 52.9	167 31.7	N 0 11.9
31	0	188 23.1	159 54.6	N11 09.7	195 00.6	S 4 00.2	81 17.2	N22 52.8	182 33.8	N 0 12.0
	1	203 25.6	174 54.1	N11 10.9	210 01.2	S 3 59.4	96 19.5	N22 52.8	197 36.0	N 0 12.2
	2	218 28.0	189 53.7	N11 12.1	225 01.9	S 3 58.6	111 21.8	N22 52.8	212 38.2	N 0 12.3
	3	233 30.5	204 53.3	N11 13.2	240 02.6	S 3 57.9	126 24.1	N22 52.8	227 40.4	N 0 12.4
	4	248 33.0	219 52.8	N11 14.4	255 03.2	S 3 57.1	141 26.4	N22 52.8	242 42.5	N 0 12.5
T	5	263 35.4	234 52.4	N11 15.6	270 03.9	S 3 56.3	156 28.7	N22 52.8	257 44.7	N 0 12.6
U										
E	6	278 37.9	249 51.9	N11 16.7	285 04.6	S 3 55.5	171 31.0	N22 52.7	272 46.9	N 0 12.8
S	7	293 40.4	264 51.5	N11 17.9	300 05.2	S 3 54.7	186 33.3	N22 52.7	287 49.1	N 0 12.9
D	8	308 42.8	279 51.0	N11 19.1	315 05.9	S 3 53.9	201 35.5	N22 52.7	302 51.3	N 0 13.0
A	9	323 45.3	294 50.6	N11 20.2	330 06.6	S 3 53.2	216 37.8	N22 52.7	317 53.4	N 0 13.1
Y	10	338 47.7	309 50.2	N11 21.4	345 07.2	S 3 52.4	231 40.1	N22 52.7	332 55.6	N 0 13.3
	11	353 50.2	324 49.7	N11 22.6	0 07.9	S 3 51.6	246 42.4	N22 52.7	347 57.8	N 0 13.4
	12	8 52.7	339 49.3	N11 23.7	15 08.6	S 3 50.8	261 44.7	N22 52.6	2 60.0	N 0 13.5
	13	23 55.1	354 48.8	N11 24.9	30 09.2	S 3 50.0	276 47.0	N22 52.6	18 02.1	N 0 13.6
	14	38 57.6	9 48.4	N11 26.1	45 09.9	S 3 49.3	291 49.3	N22 52.6	33 04.3	N 0 13.7
	15	54 00.1	24 47.9	N11 27.2	60 10.6	S 3 48.5	306 51.6	N22 52.6	48 06.5	N 0 13.9
	16	69 02.5	39 47.5	N11 28.4	75 11.2	S 3 47.7	321 53.9	N22 52.6	63 08.7	N 0 14.0
	17	84 05.0	54 47.1	N11 29.6	90 11.9	S 3 46.9	336 56.2	N22 52.6	78 10.9	N 0 14.1
	18	99 07.5	69 46.6	N11 30.7	105 12.6	S 3 46.1	351 58.5	N22 52.5	93 13.0	N 0 14.2
	19	114 09.9	84 46.2	N11 31.9	120 13.2	S 3 45.4	7 00.8	N22 52.5	108 15.2	N 0 14.3
	20	129 12.4	99 45.7	N11 33.1	135 13.9	S 3 44.6	22 03.0	N22 52.5	123 17.4	N 0 14.5
	21	144 14.8	114 45.3	N11 34.2	150 14.6	S 3 43.8	37 05.3	N22 52.5	138 19.6	N 0 14.6
	22	159 17.3	129 44.8	N11 35.4	165 15.2	S 3 43.0	52 07.6	N22 52.5	153 21.7	N 0 14.7
	23	174 19.8	144 44.4	N11 36.5	180 15.9	S 3 42.2	67 09.9	N22 52.5	168 23.9	N 0 14.8
			v -0.4	d 1.2	v 0.7	d 0.8	v 2.3	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
29	0	178 46.7	N 3 17.8	44 17.2	11.1	N16 45.4	13.2	57.7
	1	193 46.9	N 3 18.8	58 47.4	11.2	N16 32.1	13.3	57.7
	2	208 47.1	N 3 19.8	73 17.7	11.3	N16 18.7	13.4	57.7
	3	223 47.3	N 3 20.7	87 48.0	11.4	N16 05.3	13.5	57.6
	4	238 47.5	N 3 21.7	102 18.5	11.5	N15 51.7	13.5	57.6
S	5	253 47.7	N 3 22.7	116 49.1	11.6	N15 38.1	13.6	57.6
U								
N	6	268 47.8	N 3 23.7	131 19.7	11.7	N15 24.5	13.7	57.6
D	7	283 48.0	N 3 24.6	145 50.5	11.7	N15 10.7	13.7	57.6
A	8	298 48.2	N 3 25.6	160 21.3	11.8	N14 56.9	13.8	57.5
Y	9	313 48.4	N 3 26.6	174 52.3	11.9	N14 43.1	13.9	57.5
	10	328 48.6	N 3 27.5	189 23.3	12.0	N14 29.1	13.9	57.5
	11	343 48.8	N 3 28.5	203 54.4	12.1	N14 15.1	14.0	57.5
	12	358 49.0	N 3 29.5	218 25.5	12.2	N14 01.1	14.0	57.5
	13	13 49.2	N 3 30.5	232 56.8	12.3	N13 47.0	14.1	57.4
	14	28 49.4	N 3 31.4	247 28.1	12.3	N13 32.8	14.2	57.4
	15	43 49.5	N 3 32.4	261 59.6	12.4	N13 18.6	14.2	57.4
	16	58 49.7	N 3 33.4	276 31.1	12.5	N13 04.3	14.3	57.4
	17	73 49.9	N 3 34.4	291 02.6	12.6	N12 50.0	14.3	57.4
	18	88 50.1	N 3 35.3	305 34.3	12.7	N12 35.6	14.4	57.3
	19	103 50.3	N 3 36.3	320 06.0	12.7	N12 21.2	14.4	57.3
	20	118 50.5	N 3 37.3	334 37.8	12.8	N12 06.7	14.5	57.3
	21	133 50.7	N 3 38.2	349 09.7	12.9	N11 52.2	14.5	57.3
	22	148 50.9	N 3 39.2	3 41.7	13.0	N11 37.6	14.6	57.3
	23	163 51.0	N 3 40.2	18 13.7	13.0	N11 23.0	14.6	57.2
30	0	178 51.2	N 3 41.2	32 45.8	13.1	N11 08.4	14.7	57.2
	1	193 51.4	N 3 42.1	47 18.0	13.2	N10 53.7	14.7	57.2
	2	208 51.6	N 3 43.1	61 50.2	13.2	N10 39.0	14.7	57.2
	3	223 51.8	N 3 44.1	76 22.5	13.3	N10 24.2	14.8	57.2
	4	238 52.0	N 3 45.0	90 54.9	13.4	N10 09.4	14.8	57.1
M	5	253 52.2	N 3 46.0	105 27.3	13.4	N 9 54.5	14.8	57.1
O								
N	6	268 52.4	N 3 47.0	119 59.8	13.5	N 9 39.6	14.9	57.1
D	7	283 52.6	N 3 48.0	134 32.4	13.6	N 9 24.7	14.9	57.1
A	8	298 52.7	N 3 48.9	149 05.0	13.6	N 9 09.8	14.9	57.1
Y	9	313 52.9	N 3 49.9	163 37.7	13.7	N 8 54.8	15.0	57.0
	10	328 53.1	N 3 50.9	178 10.5	13.7	N 8 39.8	15.0	57.0
	11	343 53.3	N 3 51.8	192 43.3	13.8	N 8 24.8	15.0	57.0
	12	358 53.5	N 3 52.8	207 16.1	13.9	N 8 09.7	15.1	57.0
	13	13 53.7	N 3 53.8	221 49.1	13.9	N 7 54.6	15.1	57.0
	14	28 53.9	N 3 54.7	236 22.0	14.0	N 7 39.5	15.1	56.9
	15	43 54.1	N 3 55.7	250 55.1	14.0	N 7 24.4	15.1	56.9
	16	58 54.2	N 3 56.7	265 28.2	14.1	N 7 09.2	15.2	56.9
	17	73 54.4	N 3 57.7	280 01.3	14.1	N 6 54.0	15.2	56.9
	18	88 54.6	N 3 58.6	294 34.5	14.2	N 6 38.8	15.2	56.9
	19	103 54.8	N 3 59.6	309 07.7	14.2	N 6 23.6	15.2	56.8
	20	118 55.0	N 4 00.6	323 41.0	14.3	N 6 08.4	15.2	56.8
	21	133 55.2	N 4 01.5	338 14.3	14.3	N 5 53.1	15.3	56.8
	22	148 55.4	N 4 02.5	352 47.7	14.4	N 5 37.9	15.3	56.8
	23	163 55.6	N 4 03.5	7 21.1	14.4	N 5 22.6	15.3	56.8
31	0	178 55.7	N 4 04.4	21 54.6	14.5	N 5 07.3	15.3	56.7
	1	193 55.9	N 4 05.4	36 28.1	14.5	N 4 52.0	15.3	56.7
	2	208 56.1	N 4 06.4	51 01.6	14.5	N 4 36.7	15.3	56.7
	3	223 56.3	N 4 07.3	65 35.2	14.6	N 4 21.4	15.3	56.7
	4	238 56.5	N 4 08.3	80 08.8	14.6	N 4 06.0	15.3	56.7
T	5	253 56.7	N 4 09.3	94 42.5	14.7	N 3 50.7	15.3	56.6
U								
E	6	268 56.9	N 4 10.2	109 16.2	14.7	N 3 35.3	15.3	56.6
S	7	283 57.1	N 4 11.2	123 49.9	14.7	N 3 20.0	15.3	56.6
D	8	298 57.2	N 4 12.2	138 23.7	14.8	N 3 04.6	15.4	56.6
A	9	313 57.4	N 4 13.2	152 57.5	14.8	N 2 49.3	15.4	56.6
Y	10	328 57.6	N 4 14.1	167 31.3	14.8	N 2 33.9	15.4	56.5
	11	343 57.8	N 4 15.1	182 05.2	14.9	N 2 18.6	15.4	56.5
	12	358 58.0	N 4 16.1	196 39.1	14.9	N 2 03.2	15.4	56.5
	13	13 58.2	N 4 17.0	211 13.0	14.9	N 1 47.9	15.4	56.5
	14	28 58.4	N 4 18.0	225 46.9	14.9	N 1 32.5	15.3	56.4
	15	43 58.6	N 4 19.0	240 20.9	15.0	N 1 17.2	15.3	56.4
	16	58 58.7	N 4 19.9	254 54.9	15.0	N 1 01.8	15.3	56.4
	17	73 58.9	N 4 20.9	269 28.9	15.0	N 0 46.5	15.3	56.4
	18	88 59.1	N 4 21.9	284 03.0	15.0	N 0 31.2	15.3	56.4
	19	103 59.3	N 4 22.8	298 37.0	15.1	N 0 15.9	15.3	56.3
	20	118 59.5	N 4 23.8	313 11.1	15.1	N 0 00.6	15.3	56.3
	21	133 59.7	N 4 24.7	327 45.2	15.1	S 0 14.7	15.3	56.3
	22	148 59.9	N 4 25.7	342 19.4	15.1	S 0 30.0	15.3	56.3
	23	164 00.1	N 4 26.7	356 53.5	15.1	S 0 45.3	15.3	56.3
		S.D. 16.0	d 1.0	S.D.	15.7	15.5	15.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.1
Achernar	335 19.9	S57 06.3
Acrux	172 58.4	S63 14.8
Adhara	255 05.0	S29 00.7
Albireo	67 03.3	N28 00.6
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.4	N55 48.9
Alkaid	152 50.7	N49 10.7
Al Na-ir	27 31.9	S46 50.0
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.6	N26 37.3
Alpheratz	357 34.1	N29 14.1
Altair	61 59.1	N 8 56.0
Ankaa	353 06.5	S42 09.9
Antares	112 14.4	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.6	S69 04.3
Avior	234 14.1	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.0	S52 42.8
Capella	280 20.6	N46 01.6
Castor	245 55.7	N31 49.9
Deneb	49 25.3	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.6
Elnath	278 00.7	N28 37.8
Eltanin	90 41.6	N51 28.7
Enif	33 38.0	N 9 59.6
Fomalhaut	15 13.7	S29 29.0
Gacrux	171 50.0	S57 15.7
Gienah	175 42.2	S17 41.4
Hadar	148 34.1	S60 30.0
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.2	S34 22.3
Kochab	137 18.9	N74 02.6
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.5	S69 49.7
Mirfak	308 27.2	N49 57.4
Nunki	75 46.5	S26 15.8
Peacock	53 04.3	S56 38.9
Polaris	316 27.6	N89 22.0
Pollux	243 16.0	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.6	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.0	S 8 10.4
Rigil Kent	139 38.6	S60 56.6
Sabik	102 01.5	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.9	S37 07.3
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.3	S43 32.6
Vega	80 32.5	N38 48.1
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
1	0	189 22.2	159 43.9	N11 37.7	195 16.6	S 3 41.4	82 12.2	N22 52.4	183 26.1	N 0 15.0
	1	204 24.7	174 43.5	N11 38.9	210 17.2	S 3 40.7	97 14.5	N22 52.4	198 28.3	N 0 15.1
	2	219 27.2	189 43.0	N11 40.0	225 17.9	S 3 39.9	112 16.8	N22 52.4	213 30.5	N 0 15.2
	3	234 29.6	204 42.6	N11 41.2	240 18.6	S 3 39.1	127 19.1	N22 52.4	228 32.6	N 0 15.3
	4	249 32.1	219 42.1	N11 42.3	255 19.2	S 3 38.3	142 21.4	N22 52.4	243 34.8	N 0 15.4
W	5	264 34.6	234 41.7	N11 43.5	270 19.9	S 3 37.5	157 23.6	N22 52.3	258 37.0	N 0 15.6
E										
D	6	279 37.0	249 41.2	N11 44.7	285 20.6	S 3 36.8	172 25.9	N22 52.3	273 39.2	N 0 15.7
N	7	294 39.5	264 40.8	N11 45.8	300 21.2	S 3 36.0	187 28.2	N22 52.3	288 41.3	N 0 15.8
E	8	309 42.0	279 40.3	N11 47.0	315 21.9	S 3 35.2	202 30.5	N22 52.3	303 43.5	N 0 15.9
S	9	324 44.4	294 39.9	N11 48.1	330 22.6	S 3 34.4	217 32.8	N22 52.3	318 45.7	N 0 16.0
D	10	339 46.9	309 39.4	N11 49.3	345 23.3	S 3 33.6	232 35.1	N22 52.3	333 47.9	N 0 16.2
A	11	354 49.3	324 39.0	N11 50.4	0 23.9	S 3 32.8	247 37.4	N22 52.2	348 50.1	N 0 16.3
Y										
	12	9 51.8	339 38.5	N11 51.6	15 24.6	S 3 32.1	262 39.6	N22 52.2	3 52.2	N 0 16.4
	13	24 54.3	354 38.1	N11 52.8	30 25.3	S 3 31.3	277 41.9	N22 52.2	18 54.4	N 0 16.5
	14	39 56.7	9 37.6	N11 53.9	45 25.9	S 3 30.5	292 44.2	N22 52.2	33 56.6	N 0 16.7
	15	54 59.2	24 37.2	N11 55.1	60 26.6	S 3 29.7	307 46.5	N22 52.2	48 58.8	N 0 16.8
	16	70 01.7	39 36.7	N11 56.2	75 27.3	S 3 28.9	322 48.8	N22 52.2	64 01.0	N 0 16.9
	17	85 04.1	54 36.3	N11 57.4	90 27.9	S 3 28.1	337 51.1	N22 52.1	79 03.1	N 0 17.0
	18	100 06.6	69 35.8	N11 58.5	105 28.6	S 3 27.4	352 53.3	N22 52.1	94 05.3	N 0 17.1
	19	115 09.1	84 35.3	N11 59.7	120 29.3	S 3 26.6	7 55.6	N22 52.1	109 07.5	N 0 17.3
	20	130 11.5	99 34.9	N12 00.8	135 29.9	S 3 25.8	22 57.9	N22 52.1	124 09.7	N 0 17.4
	21	145 14.0	114 34.4	N12 02.0	150 30.6	S 3 25.0	38 00.2	N22 52.1	139 11.8	N 0 17.5
	22	160 16.5	129 34.0	N12 03.1	165 31.3	S 3 24.2	53 02.5	N22 52.0	154 14.0	N 0 17.6
	23	175 18.9	144 33.5	N12 04.3	180 32.0	S 3 23.5	68 04.8	N22 52.0	169 16.2	N 0 17.7
2	0	190 21.4	159 33.1	N12 05.4	195 32.6	S 3 22.7	83 07.0	N22 52.0	184 18.4	N 0 17.9
	1	205 23.8	174 32.6	N12 06.6	210 33.3	S 3 21.9	98 09.3	N22 52.0	199 20.6	N 0 18.0
	2	220 26.3	189 32.2	N12 07.7	225 34.0	S 3 21.1	113 11.6	N22 52.0	214 22.7	N 0 18.1
	3	235 28.8	204 31.7	N12 08.9	240 34.6	S 3 20.3	128 13.9	N22 52.0	229 24.9	N 0 18.2
	4	250 31.2	219 31.2	N12 10.0	255 35.3	S 3 19.5	143 16.1	N22 51.9	244 27.1	N 0 18.4
T	5	265 33.7	234 30.8	N12 11.2	270 36.0	S 3 18.8	158 18.4	N22 51.9	259 29.3	N 0 18.5
H										
U	6	280 36.2	249 30.3	N12 12.3	285 36.6	S 3 18.0	173 20.7	N22 51.9	274 31.4	N 0 18.6
R	7	295 38.6	264 29.9	N12 13.4	300 37.3	S 3 17.2	188 23.0	N22 51.9	289 33.6	N 0 18.7
S	8	310 41.1	279 29.4	N12 14.6	315 38.0	S 3 16.4	203 25.3	N22 51.9	304 35.8	N 0 18.8
D	9	325 43.6	294 28.9	N12 15.7	330 38.7	S 3 15.6	218 27.5	N22 51.8	319 38.0	N 0 19.0
A	10	340 46.0	309 28.5	N12 16.9	345 39.3	S 3 14.8	233 29.8	N22 51.8	334 40.2	N 0 19.1
Y	11	355 48.5	324 28.0	N12 18.0	0 40.0	S 3 14.1	248 32.1	N22 51.8	349 42.3	N 0 19.2
	12	10 50.9	339 27.6	N12 19.2	15 40.7	S 3 13.3	263 34.4	N22 51.8	4 44.5	N 0 19.3
	13	25 53.4	354 27.1	N12 20.3	30 41.3	S 3 12.5	278 36.7	N22 51.8	19 46.7	N 0 19.4
	14	40 55.9	9 26.6	N12 21.5	45 42.0	S 3 11.7	293 38.9	N22 51.7	34 48.9	N 0 19.6
	15	55 58.3	24 26.2	N12 22.6	60 42.7	S 3 10.9	308 41.2	N22 51.7	49 51.1	N 0 19.7
	16	71 00.8	39 25.7	N12 23.7	75 43.4	S 3 10.1	323 43.5	N22 51.7	64 53.2	N 0 19.8
	17	86 03.3	54 25.3	N12 24.9	90 44.0	S 3 09.4	338 45.8	N22 51.7	79 55.4	N 0 19.9
	18	101 05.7	69 24.8	N12 26.0	105 44.7	S 3 08.6	353 48.0	N22 51.7	94 57.6	N 0 20.0
	19	116 08.2	84 24.3	N12 27.2	120 45.4	S 3 07.8	8 50.3	N22 51.7	109 59.8	N 0 20.2
	20	131 10.7	99 23.9	N12 28.3	135 46.0	S 3 07.0	23 52.6	N22 51.6	125 01.9	N 0 20.3
	21	146 13.1	114 23.4	N12 29.4	150 46.7	S 3 06.2	38 54.9	N22 51.6	140 04.1	N 0 20.4
	22	161 15.6	129 22.9	N12 30.6	165 47.4	S 3 05.4	53 57.1	N22 51.6	155 06.3	N 0 20.5
	23	176 18.1	144 22.5	N12 31.7	180 48.1	S 3 04.7	68 59.4	N22 51.6	170 08.5	N 0 20.7
3	0	191 20.5	159 22.0	N12 32.8	195 48.7	S 3 03.9	84 01.7	N22 51.6	185 10.7	N 0 20.8
	1	206 23.0	174 21.5	N12 34.0	210 49.4	S 3 03.1	99 03.9	N22 51.5	200 12.8	N 0 20.9
	2	221 25.4	189 21.1	N12 35.1	225 50.1	S 3 02.3	114 06.2	N22 51.5	215 15.0	N 0 21.0
	3	236 27.9	204 20.6	N12 36.2	240 50.7	S 3 01.5	129 08.5	N22 51.5	230 17.2	N 0 21.1
	4	251 30.4	219 20.1	N12 37.4	255 51.4	S 3 00.7	144 10.8	N22 51.5	245 19.4	N 0 21.3
F	5	266 32.8	234 19.7	N12 38.5	270 52.1	S 2 60.0	159 13.0	N22 51.5	260 21.5	N 0 21.4
R										
I	6	281 35.3	249 19.2	N12 39.7	285 52.8	S 2 59.2	174 15.3	N22 51.4	275 23.7	N 0 21.5
D	7	296 37.8	264 18.7	N12 40.8	300 53.4	S 2 58.4	189 17.6	N22 51.4	290 25.9	N 0 21.6
A	8	311 40.2	279 18.3	N12 41.9	315 54.1	S 2 57.6	204 19.8	N22 51.4	305 28.1	N 0 21.7
Y	9	326 42.7	294 17.8	N12 43.0	330 54.8	S 2 56.8	219 22.1	N22 51.4	320 30.3	N 0 21.9
	10	341 45.2	309 17.3	N12 44.2	345 55.5	S 2 56.0	234 24.4	N22 51.4	335 32.4	N 0 22.0
	11	356 47.6	324 16.9	N12 45.3	0 56.1	S 2 55.3	249 26.7	N22 51.3	350 34.6	N 0 22.1
	12	11 50.1	339 16.4	N12 46.4	15 56.8	S 2 54.5	264 28.9	N22 51.3	5 36.8	N 0 22.2
	13	26 52.5	354 15.9	N12 47.6	30 57.5	S 2 53.7	279 31.2	N22 51.3	20 39.0	N 0 22.3
	14	41 55.0	9 15.5	N12 48.7	45 58.1	S 2 52.9	294 33.5	N22 51.3	35 41.2	N 0 22.5
	15	56 57.5	24 15.0	N12 49.8	60 58.8	S 2 52.1	309 35.7	N22 51.3	50 43.3	N 0 22.6
	16	71 59.9	39 14.5	N12 51.0	75 59.5	S 2 51.3	324 38.0	N22 51.2	65 45.5	N 0 22.7
	17	87 02.4	54 14.1	N12 52.1	91 00.2	S 2 50.6	339 40.3	N22 51.2	80 47.7	N 0 22.8
	18	102 04.9	69 13.6	N12 53.2	106 00.8	S 2 49.8	354 42.5	N22 51.2	95 49.9	N 0 22.9
	19	117 07.3	84 13.1	N12 54.3	121 01.5	S 2 49.0	9 44.8	N22 51.2	110 52.0	N 0 23.1
	20	132 09.8	99 12.6	N12 55.5	136 02.2	S 2 48.2	24 47.1	N22 51.2	125 54.2	N 0 23.2
	21	147 12.3	114 12.2	N12 56.6	151 02.9	S 2 47.4	39 49.3	N22 51.1	140 56.4	N 0 23.3
	22	162 14.7	129 11.7	N12 57.7	166 03.5	S 2 46.6	54 51.6	N22 51.1	155 58.6	N 0 23.4
	23	177 17.2	144 11.2	N12 58.8	181 04.2	S 2 45.9	69 53.9	N22 51.1	171 00.8	N 0 23.5
			v -0.5	d 1.1	v 0.7	d 0.8	v 2.3	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
1	0	179 00.2	N 4 27.6	11 27.7	15.2	S 1 00.5	15.3	56.2
	1	194 00.4	N 4 28.6	26 01.8	15.2	S 1 15.8	15.2	56.2
	2	209 00.6	N 4 29.6	40 36.0	15.2	S 1 31.0	15.2	56.2
	3	224 00.8	N 4 30.5	55 10.2	15.2	S 1 46.2	15.2	56.2
	4	239 01.0	N 4 31.5	69 44.5	15.2	S 2 01.4	15.2	56.2
W	5	254 01.2	N 4 32.5	84 18.7	15.2	S 2 16.6	15.2	56.1
E								
D	6	269 01.4	N 4 33.4	98 52.9	15.2	S 2 31.7	15.2	56.1
N	7	284 01.5	N 4 34.4	113 27.2	15.2	S 2 46.8	15.1	56.1
E	8	299 01.7	N 4 35.4	128 01.4	15.3	S 3 02.0	15.1	56.1
S	9	314 01.9	N 4 36.3	142 35.7	15.3	S 3 17.0	15.1	56.1
D	10	329 02.1	N 4 37.3	157 09.9	15.3	S 3 32.1	15.1	56.0
A	11	344 02.3	N 4 38.3	171 44.2	15.3	S 3 47.1	15.0	56.0
Y								
	12	359 02.5	N 4 39.2	186 18.5	15.3	S 4 02.1	15.0	56.0
	13	14 02.7	N 4 40.2	200 52.8	15.3	S 4 17.1	15.0	56.0
	14	29 02.9	N 4 41.1	215 27.0	15.3	S 4 32.1	15.0	56.0
	15	44 03.0	N 4 42.1	230 01.3	15.3	S 4 47.0	14.9	55.9
	16	59 03.2	N 4 43.1	244 35.6	15.3	S 5 01.9	14.9	55.9
	17	74 03.4	N 4 44.0	259 09.9	15.3	S 5 16.8	14.9	55.9
	18	89 03.6	N 4 45.0	273 44.1	15.3	S 5 31.6	14.8	55.9
	19	104 03.8	N 4 46.0	288 18.4	15.3	S 5 46.4	14.8	55.9
	20	119 04.0	N 4 46.9	302 52.7	15.3	S 6 01.2	14.8	55.8
	21	134 04.2	N 4 47.9	317 26.9	15.3	S 6 15.9	14.7	55.8
	22	149 04.3	N 4 48.8	332 01.2	15.3	S 6 30.6	14.7	55.8
	23	164 04.5	N 4 49.8	346 35.4	15.2	S 6 45.3	14.7	55.8
2	0	179 04.7	N 4 50.8	1 09.7	15.2	S 6 59.9	14.6	55.8
	1	194 04.9	N 4 51.7	15 43.9	15.2	S 7 14.5	14.6	55.7
	2	209 05.1	N 4 52.7	30 18.1	15.2	S 7 29.0	14.5	55.7
	3	224 05.3	N 4 53.7	44 52.3	15.2	S 7 43.5	14.5	55.7
	4	239 05.5	N 4 54.6	59 26.5	15.2	S 7 58.0	14.5	55.7
T	5	254 05.6	N 4 55.6	74 00.7	15.2	S 8 12.4	14.4	55.7
H								
U	6	269 05.8	N 4 56.5	88 34.9	15.2	S 8 26.7	14.4	55.6
R	7	284 06.0	N 4 57.5	103 09.0	15.2	S 8 41.1	14.3	55.6
S	8	299 06.2	N 4 58.5	117 43.1	15.1	S 8 55.4	14.3	55.6
D	9	314 06.4	N 4 59.4	132 17.3	15.1	S 9 09.6	14.2	55.6
A	10	329 06.6	N 5 00.4	146 51.4	15.1	S 9 23.8	14.2	55.6
Y	11	344 06.7	N 5 01.3	161 25.4	15.1	S 9 37.9	14.1	55.5
	12	359 06.9	N 5 02.3	175 59.5	15.1	S 9 52.0	14.1	55.5
	13	14 07.1	N 5 03.3	190 33.6	15.0	S10 06.1	14.0	55.5
	14	29 07.3	N 5 04.2	205 07.6	15.0	S10 20.1	14.0	55.5
	15	44 07.5	N 5 05.2	219 41.6	15.0	S10 34.0	13.9	55.5
	16	59 07.7	N 5 06.1	234 15.6	15.0	S10 47.9	13.9	55.4
	17	74 07.9	N 5 07.1	248 49.5	15.0	S11 01.7	13.8	55.4
	18	89 08.0	N 5 08.1	263 23.4	14.9	S11 15.5	13.8	55.4
	19	104 08.2	N 5 09.0	277 57.3	14.9	S11 29.2	13.7	55.4
	20	119 08.4	N 5 10.0	292 31.2	14.9	S11 42.9	13.7	55.4
	21	134 08.6	N 5 10.9	307 05.1	14.9	S11 56.5	13.6	55.3
	22	149 08.8	N 5 11.9	321 38.9	14.8	S12 10.1	13.6	55.3
	23	164 09.0	N 5 12.8	336 12.7	14.8	S12 23.6	13.5	55.3
3	0	179 09.1	N 5 13.8	350 46.5	14.8	S12 37.0	13.4	55.3
	1	194 09.3	N 5 14.8	5 20.2	14.7	S12 50.4	13.4	55.3
	2	209 09.5	N 5 15.7	19 53.9	14.7	S13 03.7	13.3	55.3
	3	224 09.7	N 5 16.7	34 27.6	14.7	S13 16.9	13.2	55.2
	4	239 09.9	N 5 17.6	49 01.2	14.6	S13 30.1	13.2	55.2
F	5	254 10.1	N 5 18.6	63 34.8	14.6	S13 43.2	13.1	55.2
R								
I	6	269 10.2	N 5 19.6	78 08.4	14.6	S13 56.3	13.1	55.2
D	7	284 10.4	N 5 20.5	92 41.9	14.5	S14 09.3	13.0	55.2
A	8	299 10.6	N 5 21.5	107 15.4	14.5	S14 22.2	12.9	55.1
Y	9	314 10.8	N 5 22.4	121 48.9	14.5	S14 35.1	12.9	55.1
	10	329 11.0	N 5 23.4	136 22.3	14.4	S14 47.8	12.8	55.1
	11	344 11.2	N 5 24.3	150 55.7	14.4	S15 00.6	12.7	55.1
	12	359 11.3	N 5 25.3	165 29.1	14.4	S15 13.2	12.6	55.1
	13	14 11.5	N 5 26.2	180 02.4	14.3	S15 25.8	12.6	55.1
	14	29 11.7	N 5 27.2	194 35.7	14.3	S15 38.3	12.5	55.0
	15	44 11.9	N 5 28.2	209 08.9	14.2	S15 50.7	12.4	55.0
	16	59 12.1	N 5 29.1	223 42.1	14.2	S16 03.1	12.4	55.0
	17	74 12.3	N 5 30.1	238 15.3	14.2	S16 15.3	12.3	55.0
	18	89 12.4	N 5 31.0	252 48.4	14.1	S16 27.6	12.2	55.0
	19	104 12.6	N 5 32.0	267 21.5	14.1	S16 39.7	12.1	55.0
	20	119 12.8	N 5 32.9	281 54.5	14.0	S16 51.7	12.1	54.9
	21	134 13.0	N 5 33.9	296 27.5	14.0	S17 03.7	12.0	54.9
	22	149 13.2	N 5 34.8	311 00.5	13.9	S17 15.6	11.9	54.9
	23	164 13.4	N 5 35.8	325 33.4	13.9	S17 27.4	11.8	54.9
		S.D. 16.0	d 1.0	S.D.	15.3	15.1	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.1
Achernar	335 19.9	S57 06.3
Acrux	172 58.4	S63 14.8
Adhara	255 05.1	S29 00.7
Albireo	67 03.3	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.7
Al Na-ir	27 31.9	S46 50.0
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.6	N26 37.3
Alpheratz	357 34.1	N29 14.0
Altair	61 59.0	N 8 56.0
Ankaa	353 06.5	S42 09.9
Antares	112 14.4	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.6	S69 04.3
Avior	234 14.1	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.0	S52 42.8
Capella	280 20.6	N46 01.6
Castor	245 55.7	N31 49.9
Deneb	49 25.3	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.6	N51 28.7
Enif	33 38.0	N 9 59.6
Fomalhaut	15 13.7	S29 29.0
Gacrux	171 50.0	S57 15.8
Gienah	175 42.2	S17 41.4
Hadar	148 34.1	S60 30.0
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.1	S34 22.3
Kochab	137 18.9	N74 02.6
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.5	S69 49.7
Mirfak	308 27.3	N49 57.4
Nunki	75 46.5	S26 15.8
Peacock	53 04.3	S56 38.9
Polaris	316 28.1	N89 22.0
Pollux	243 16.0	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.5	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.0	S 8 10.4
Rigil Kent	139 38.5	S60 56.6
Sabik	102 01.5	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.9	S37 07.3
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.3	S43 32.6
Vega	80 32.5	N38 48.1
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
4	0	192 19.7	159 10.7	N12 60.0	196 04.9	S 2 45.1	84 56.1	N22 51.1	186 02.9	N 0 23.7
	1	207 22.1	174 10.3	N13 01.1	211 05.6	S 2 44.3	99 58.4	N22 51.1	201 05.1	N 0 23.8
	2	222 24.6	189 09.8	N13 02.2	226 06.2	S 2 43.5	115 00.7	N22 51.0	216 07.3	N 0 23.9
	3	237 27.0	204 09.3	N13 03.3	241 06.9	S 2 42.7	130 02.9	N22 51.0	231 09.5	N 0 24.0
	4	252 29.5	219 08.9	N13 04.5	256 07.6	S 2 41.9	145 05.2	N22 51.0	246 11.7	N 0 24.2
S	5	267 32.0	234 08.4	N13 05.6	271 08.3	S 2 41.1	160 07.5	N22 51.0	261 13.8	N 0 24.3
A										
T	6	282 34.4	249 07.9	N13 06.7	286 08.9	S 2 40.4	175 09.7	N22 51.0	276 16.0	N 0 24.4
U	7	297 36.9	264 07.4	N13 07.8	301 09.6	S 2 39.6	190 12.0	N22 50.9	291 18.2	N 0 24.5
R	8	312 39.4	279 06.9	N13 08.9	316 10.3	S 2 38.8	205 14.2	N22 50.9	306 20.4	N 0 24.6
D	9	327 41.8	294 06.5	N13 10.1	331 10.9	S 2 38.0	220 16.5	N22 50.9	321 22.6	N 0 24.8
A	10	342 44.3	309 06.0	N13 11.2	346 11.6	S 2 37.2	235 18.8	N22 50.9	336 24.7	N 0 24.9
Y	11	357 46.8	324 05.5	N13 12.3	1 12.3	S 2 36.4	250 21.0	N22 50.9	351 26.9	N 0 25.0
	12	12 49.2	339 05.0	N13 13.4	16 13.0	S 2 35.7	265 23.3	N22 50.8	6 29.1	N 0 25.1
	13	27 51.7	354 04.6	N13 14.5	31 13.6	S 2 34.9	280 25.6	N22 50.8	21 31.3	N 0 25.2
	14	42 54.1	9 04.1	N13 15.6	46 14.3	S 2 34.1	295 27.8	N22 50.8	36 33.4	N 0 25.4
	15	57 56.6	24 03.6	N13 16.8	61 15.0	S 2 33.3	310 30.1	N22 50.8	51 35.6	N 0 25.5
	16	72 59.1	39 03.1	N13 17.9	76 15.7	S 2 32.5	325 32.3	N22 50.8	66 37.8	N 0 25.6
	17	88 01.5	54 02.6	N13 19.0	91 16.3	S 2 31.7	340 34.6	N22 50.7	81 40.0	N 0 25.7
	18	103 04.0	69 02.2	N13 20.1	106 17.0	S 2 31.0	355 36.9	N22 50.7	96 42.2	N 0 25.8
	19	118 06.5	84 01.7	N13 21.2	121 17.7	S 2 30.2	10 39.1	N22 50.7	111 44.3	N 0 26.0
	20	133 08.9	99 01.2	N13 22.3	136 18.4	S 2 29.4	25 41.4	N22 50.7	126 46.5	N 0 26.1
	21	148 11.4	114 00.7	N13 23.4	151 19.0	S 2 28.6	40 43.6	N22 50.6	141 48.7	N 0 26.2
	22	163 13.9	129 00.2	N13 24.6	166 19.7	S 2 27.8	55 45.9	N22 50.6	156 50.9	N 0 26.3
	23	178 16.3	143 59.8	N13 25.7	181 20.4	S 2 27.0	70 48.2	N22 50.6	171 53.1	N 0 26.4
5	0	193 18.8	158 59.3	N13 26.8	196 21.1	S 2 26.2	85 50.4	N22 50.6	186 55.2	N 0 26.6
	1	208 21.3	173 58.8	N13 27.9	211 21.7	S 2 25.5	100 52.7	N22 50.6	201 57.4	N 0 26.7
	2	223 23.7	188 58.3	N13 29.0	226 22.4	S 2 24.7	115 54.9	N22 50.5	216 59.6	N 0 26.8
	3	238 26.2	203 57.8	N13 30.1	241 23.1	S 2 23.9	130 57.2	N22 50.5	232 01.8	N 0 26.9
	4	253 28.6	218 57.3	N13 31.2	256 23.8	S 2 23.1	145 59.4	N22 50.5	247 04.0	N 0 27.0
S	5	268 31.1	233 56.9	N13 32.3	271 24.4	S 2 22.3	161 01.7	N22 50.5	262 06.1	N 0 27.2
U										
N	6	283 33.6	248 56.4	N13 33.4	286 25.1	S 2 21.5	176 04.0	N22 50.5	277 08.3	N 0 27.3
D	7	298 36.0	263 55.9	N13 34.5	301 25.8	S 2 20.8	191 06.2	N22 50.4	292 10.5	N 0 27.4
A	8	313 38.5	278 55.4	N13 35.6	316 26.5	S 2 20.0	206 08.5	N22 50.4	307 12.7	N 0 27.5
Y	9	328 41.0	293 54.9	N13 36.8	331 27.2	S 2 19.2	221 10.7	N22 50.4	322 14.8	N 0 27.6
	10	343 43.4	308 54.4	N13 37.9	346 27.8	S 2 18.4	236 13.0	N22 50.4	337 17.0	N 0 27.8
	11	358 45.9	323 53.9	N13 39.0	1 28.5	S 2 17.6	251 15.2	N22 50.3	352 19.2	N 0 27.9
	12	13 48.4	338 53.5	N13 40.1	16 29.2	S 2 16.8	266 17.5	N22 50.3	7 21.4	N 0 28.0
	13	28 50.8	353 53.0	N13 41.2	31 29.9	S 2 16.0	281 19.7	N22 50.3	22 23.6	N 0 28.1
	14	43 53.3	8 52.5	N13 42.3	46 30.5	S 2 15.3	296 22.0	N22 50.3	37 25.7	N 0 28.2
	15	58 55.8	23 52.0	N13 43.4	61 31.2	S 2 14.5	311 24.2	N22 50.3	52 27.9	N 0 28.4
	16	73 58.2	38 51.5	N13 44.5	76 31.9	S 2 13.7	326 26.5	N22 50.2	67 30.1	N 0 28.5
	17	89 00.7	53 51.0	N13 45.6	91 32.6	S 2 12.9	341 28.7	N22 50.2	82 32.3	N 0 28.6
	18	104 03.1	68 50.5	N13 46.7	106 33.2	S 2 12.1	356 31.0	N22 50.2	97 34.5	N 0 28.7
	19	119 05.6	83 50.0	N13 47.8	121 33.9	S 2 11.3	11 33.3	N22 50.2	112 36.6	N 0 28.8
	20	134 08.1	98 49.5	N13 48.9	136 34.6	S 2 10.6	26 35.5	N22 50.2	127 38.8	N 0 29.0
	21	149 10.5	113 49.1	N13 50.0	151 35.3	S 2 09.8	41 37.8	N22 50.1	142 41.0	N 0 29.1
	22	164 13.0	128 48.6	N13 51.1	166 35.9	S 2 09.0	56 40.0	N22 50.1	157 43.2	N 0 29.2
	23	179 15.5	143 48.1	N13 52.2	181 36.6	S 2 08.2	71 42.3	N22 50.1	172 45.4	N 0 29.3
6	0	194 17.9	158 47.6	N13 53.3	196 37.3	S 2 07.4	86 44.5	N22 50.1	187 47.5	N 0 29.4
	1	209 20.4	173 47.1	N13 54.4	211 38.0	S 2 06.6	101 46.8	N22 50.0	202 49.7	N 0 29.6
	2	224 22.9	188 46.6	N13 55.5	226 38.7	S 2 05.8	116 49.0	N22 50.0	217 51.9	N 0 29.7
	3	239 25.3	203 46.1	N13 56.6	241 39.3	S 2 05.1	131 51.3	N22 50.0	232 54.1	N 0 29.8
	4	254 27.8	218 45.6	N13 57.6	256 40.0	S 2 04.3	146 53.5	N22 50.0	247 56.3	N 0 29.9
M	5	269 30.2	233 45.1	N13 58.7	271 40.7	S 2 03.5	161 55.8	N22 50.0	262 58.4	N 0 30.0
O										
N	6	284 32.7	248 44.6	N13 59.8	286 41.4	S 2 02.7	176 58.0	N22 49.9	278 00.6	N 0 30.2
D	7	299 35.2	263 44.1	N14 00.9	301 42.0	S 2 01.9	192 00.3	N22 49.9	293 02.8	N 0 30.3
A	8	314 37.6	278 43.6	N14 02.0	316 42.7	S 2 01.1	207 02.5	N22 49.9	308 05.0	N 0 30.4
Y	9	329 40.1	293 43.1	N14 03.1	331 43.4	S 2 00.4	222 04.8	N22 49.9	323 07.2	N 0 30.5
	10	344 42.6	308 42.6	N14 04.2	346 44.1	S 1 59.6	237 07.0	N22 49.8	338 09.3	N 0 30.6
	11	359 45.0	323 42.1	N14 05.3	1 44.8	S 1 58.8	252 09.2	N22 49.8	353 11.5	N 0 30.8
	12	14 47.5	338 41.6	N14 06.4	16 45.4	S 1 58.0	267 11.5	N22 49.8	8 13.7	N 0 30.9
	13	29 50.0	353 41.1	N14 07.5	31 46.1	S 1 57.2	282 13.7	N22 49.8	23 15.9	N 0 31.0
	14	44 52.4	8 40.6	N14 08.6	46 46.8	S 1 56.4	297 16.0	N22 49.7	38 18.1	N 0 31.1
	15	59 54.9	23 40.1	N14 09.7	61 47.5	S 1 55.6	312 18.2	N22 49.7	53 20.2	N 0 31.2
	16	74 57.4	38 39.7	N14 10.7	76 48.1	S 1 54.9	327 20.5	N22 49.7	68 22.4	N 0 31.4
	17	89 59.8	53 39.2	N14 11.8	91 48.8	S 1 54.1	342 22.7	N22 49.7	83 24.6	N 0 31.5
	18	105 02.3	68 38.7	N14 12.9	106 49.5	S 1 53.3	357 25.0	N22 49.7	98 26.8	N 0 31.6
	19	120 04.7	83 38.2	N14 14.0	121 50.2	S 1 52.5	12 27.2	N22 49.6	113 29.0	N 0 31.7
	20	135 07.2	98 37.7	N14 15.1	136 50.9	S 1 51.7	27 29.5	N22 49.6	128 31.1	N 0 31.8
	21	150 09.7	113 37.2	N14 16.2	151 51.5	S 1 50.9	42 31.7	N22 49.6	143 33.3	N 0 32.0
	22	165 12.1	128 36.7	N14 17.3	166 52.2	S 1 50.1	57 33.9	N22 49.6	158 35.5	N 0 32.1
	23	180 14.6	143 36.2	N14 18.3	181 52.9	S 1 49.4	72 36.2	N22 49.5	173 37.7	N 0 32.2
			v -0.5	d 1.1	v 0.7	d 0.8	v 2.3	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
4	0	179 13.5	N 5 36.8	340 06.2	13.9	S17 39.1	11.7	54.9
	1	194 13.7	N 5 37.7	354 39.0	13.8	S17 50.8	11.7	54.9
	2	209 13.9	N 5 38.7	9 11.8	13.8	S18 02.4	11.6	54.8
	3	224 14.1	N 5 39.6	23 44.5	13.7	S18 13.9	11.5	54.8
	4	239 14.3	N 5 40.6	38 17.2	13.7	S18 25.3	11.4	54.8
S	5	254 14.5	N 5 41.5	52 49.8	13.6	S18 36.6	11.3	54.8
A								
T	6	269 14.6	N 5 42.5	67 22.4	13.6	S18 47.8	11.2	54.8
U	7	284 14.8	N 5 43.4	81 55.0	13.5	S18 58.9	11.1	54.8
R	8	299 15.0	N 5 44.4	96 27.4	13.5	S19 10.0	11.1	54.7
D	9	314 15.2	N 5 45.3	110 59.9	13.4	S19 21.0	11.0	54.7
A	10	329 15.4	N 5 46.3	125 32.3	13.4	S19 31.9	10.9	54.7
Y	11	344 15.5	N 5 47.2	140 04.6	13.3	S19 42.6	10.8	54.7
	12	359 15.7	N 5 48.2	154 36.9	13.3	S19 53.3	10.7	54.7
	13	14 15.9	N 5 49.1	169 09.1	13.2	S20 04.0	10.6	54.7
	14	29 16.1	N 5 50.1	183 41.3	13.2	S20 14.5	10.5	54.7
	15	44 16.3	N 5 51.0	198 13.5	13.1	S20 24.9	10.4	54.6
	16	59 16.5	N 5 52.0	212 45.6	13.1	S20 35.2	10.3	54.6
	17	74 16.6	N 5 52.9	227 17.6	13.0	S20 45.5	10.2	54.6
	18	89 16.8	N 5 53.9	241 49.6	13.0	S20 55.6	10.1	54.6
	19	104 17.0	N 5 54.9	256 21.5	12.9	S21 05.6	10.0	54.6
	20	119 17.2	N 5 55.8	270 53.4	12.9	S21 15.6	9.9	54.6
	21	134 17.4	N 5 56.8	285 25.2	12.8	S21 25.4	9.8	54.6
	22	149 17.5	N 5 57.7	299 57.0	12.8	S21 35.2	9.7	54.5
	23	164 17.7	N 5 58.7	314 28.8	12.7	S21 44.8	9.6	54.5
5	0	179 17.9	N 5 59.6	329 00.4	12.7	S21 54.4	9.5	54.5
	1	194 18.1	N 6 00.6	343 32.1	12.6	S22 03.8	9.4	54.5
	2	209 18.3	N 6 01.5	358 03.6	12.6	S22 13.2	9.3	54.5
	3	224 18.4	N 6 02.5	12 35.2	12.5	S22 22.4	9.2	54.5
	4	239 18.6	N 6 03.4	27 06.6	12.5	S22 31.5	9.1	54.5
S	5	254 18.8	N 6 04.4	41 38.0	12.4	S22 40.6	9.0	54.5
U								
N	6	269 19.0	N 6 05.3	56 09.4	12.4	S22 49.5	8.9	54.5
D	7	284 19.2	N 6 06.2	70 40.7	12.3	S22 58.3	8.8	54.4
A	8	299 19.3	N 6 07.2	85 12.0	12.3	S23 07.1	8.7	54.4
Y	9	314 19.5	N 6 08.1	99 43.2	12.2	S23 15.7	8.6	54.4
	10	329 19.7	N 6 09.1	114 14.4	12.2	S23 24.2	8.5	54.4
	11	344 19.9	N 6 10.0	128 45.5	12.1	S23 32.6	8.4	54.4
	12	359 20.1	N 6 11.0	143 16.5	12.1	S23 40.9	8.3	54.4
	13	14 20.2	N 6 11.9	157 47.5	12.0	S23 49.0	8.2	54.4
	14	29 20.4	N 6 12.9	172 18.5	12.0	S23 57.1	8.1	54.4
	15	44 20.6	N 6 13.8	186 49.4	11.9	S24 05.1	8.0	54.4
	16	59 20.8	N 6 14.8	201 20.2	11.9	S24 12.9	7.8	54.3
	17	74 21.0	N 6 15.7	215 51.0	11.8	S24 20.6	7.7	54.3
	18	89 21.1	N 6 16.7	230 21.8	11.7	S24 28.3	7.6	54.3
	19	104 21.3	N 6 17.6	244 52.5	11.7	S24 35.8	7.5	54.3
	20	119 21.5	N 6 18.6	259 23.1	11.6	S24 43.2	7.4	54.3
	21	134 21.7	N 6 19.5	273 53.7	11.6	S24 50.4	7.3	54.3
	22	149 21.9	N 6 20.5	288 24.3	11.6	S24 57.6	7.2	54.3
	23	164 22.0	N 6 21.4	302 54.8	11.5	S25 04.6	7.0	54.3
6	0	179 22.2	N 6 22.4	317 25.2	11.5	S25 11.6	6.9	54.3
	1	194 22.4	N 6 23.3	331 55.6	11.4	S25 18.4	6.8	54.3
	2	209 22.6	N 6 24.2	346 26.0	11.4	S25 25.1	6.7	54.3
	3	224 22.7	N 6 25.2	0 56.3	11.3	S25 31.6	6.6	54.3
	4	239 22.9	N 6 26.1	15 26.6	11.3	S25 38.1	6.5	54.2
M	5	254 23.1	N 6 27.1	29 56.8	11.2	S25 44.4	6.3	54.2
O								
N	6	269 23.3	N 6 28.0	44 27.0	11.2	S25 50.6	6.2	54.2
D	7	284 23.5	N 6 29.0	58 57.1	11.1	S25 56.7	6.1	54.2
A	8	299 23.6	N 6 29.9	73 27.2	11.1	S26 02.7	6.0	54.2
Y	9	314 23.8	N 6 30.9	87 57.2	11.0	S26 08.5	5.8	54.2
	10	329 24.0	N 6 31.8	102 27.2	11.0	S26 14.2	5.7	54.2
	11	344 24.2	N 6 32.7	116 57.1	10.9	S26 19.8	5.6	54.2
	12	359 24.3	N 6 33.7	131 27.1	10.9	S26 25.3	5.5	54.2
	13	14 24.5	N 6 34.6	145 56.9	10.9	S26 30.7	5.3	54.2
	14	29 24.7	N 6 35.6	160 26.7	10.8	S26 35.9	5.2	54.2
	15	44 24.9	N 6 36.5	174 56.5	10.8	S26 41.0	5.1	54.2
	16	59 25.1	N 6 37.5	189 26.3	10.7	S26 46.0	5.0	54.2
	17	74 25.2	N 6 38.4	203 56.0	10.7	S26 50.8	4.8	54.2
	18	89 25.4	N 6 39.3	218 25.6	10.7	S26 55.5	4.7	54.2
	19	104 25.6	N 6 40.3	232 55.3	10.6	S27 00.1	4.6	54.2
	20	119 25.8	N 6 41.2	247 24.9	10.6	S27 04.6	4.5	54.2
	21	134 25.9	N 6 42.2	261 54.4	10.6	S27 08.9	4.3	54.2
	22	149 26.1	N 6 43.1	276 23.9	10.5	S27 13.1	4.2	54.2
	23	164 26.3	N 6 44.0	290 53.4	10.5	S27 17.2	4.1	54.2
		S.D. 16.0	d 0.9	S.D. 14.9		14.8		14.8

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.1
Achernar	335 20.0	S57 06.2
Acrux	172 58.4	S63 14.8
Adhara	255 05.1	S29 00.7
Albireo	67 03.3	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.7
Al Na-ir	27 31.9	S46 49.9
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.6	N26 37.3
Alpheratz	357 34.1	N29 14.0
Altair	61 59.0	N 8 56.0
Ankaa	353 06.5	S42 09.8
Antares	112 14.4	S26 29.5
Arcturus	145 46.7	N19 02.5
Atria	107 07.5	S69 04.4
Avior	234 14.1	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.0	S52 42.8
Capella	280 20.6	N46 01.6
Castor	245 55.7	N31 49.9
Deneb	49 25.3	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.6	N51 28.7
Enif	33 37.9	N 9 59.6
Fomalhaut	15 13.7	S29 29.0
Gacrux	171 50.0	S57 15.8
Gienah	175 42.2	S17 41.4
Hadar	148 34.1	S60 30.0
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.1	S34 22.3
Kochab	137 18.9	N74 02.6
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.6	S69 49.8
Mirfak	308 27.3	N49 57.4
Nunki	75 46.5	S26 15.8
Peacock	53 04.2	S56 38.9
Polaris	316 28.4	N89 22.0
Pollux	243 16.0	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.5	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.0	S 8 10.4
Rigil Kent	139 38.5	S60 56.6
Sabik	102 01.5	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.8	S37 07.3
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.4	S43 32.6
Vega	80 32.5	N38 48.1
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA	VENUS GHA	VENUS Dec	MARS GHA	MARS Dec	JUPITER GHA	JUPITER Dec	SATURN GHA	SATURN Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
7	0	195 17.1	158 35.7	N14 19.4	196 53.6	S 1 48.6	87 38.4	N22 49.5	188 39.9	N 0 32.3
	1	210 19.5	173 35.1	N14 20.5	211 54.2	S 1 47.8	102 40.7	N22 49.5	203 42.0	N 0 32.4
	2	225 22.0	188 34.6	N14 21.6	226 54.9	S 1 47.0	117 42.9	N22 49.5	218 44.2	N 0 32.6
	3	240 24.5	203 34.1	N14 22.7	241 55.6	S 1 46.2	132 45.2	N22 49.4	233 46.4	N 0 32.7
	4	255 26.9	218 33.6	N14 23.7	256 56.3	S 1 45.4	147 47.4	N22 49.4	248 48.6	N 0 32.8
T	5	270 29.4	233 33.1	N14 24.8	271 57.0	S 1 44.7	162 49.6	N22 49.4	263 50.8	N 0 32.9
U										
E	6	285 31.9	248 32.6	N14 25.9	286 57.6	S 1 43.9	177 51.9	N22 49.4	278 52.9	N 0 33.0
S	7	300 34.3	263 32.1	N14 27.0	301 58.3	S 1 43.1	192 54.1	N22 49.4	293 55.1	N 0 33.2
D	8	315 36.8	278 31.6	N14 28.1	316 59.0	S 1 42.3	207 56.4	N22 49.3	308 57.3	N 0 33.3
A	9	330 39.2	293 31.1	N14 29.1	331 59.7	S 1 41.5	222 58.6	N22 49.3	323 59.5	N 0 33.4
Y	10	345 41.7	308 30.6	N14 30.2	347 00.4	S 1 40.7	238 00.8	N22 49.3	339 01.7	N 0 33.5
	11	0 44.2	323 30.1	N14 31.3	2 01.0	S 1 39.9	253 03.1	N22 49.3	354 03.8	N 0 33.6
	12	15 46.6	338 29.6	N14 32.4	17 01.7	S 1 39.2	268 05.3	N22 49.2	9 06.0	N 0 33.8
	13	30 49.1	353 29.1	N14 33.4	32 02.4	S 1 38.4	283 07.6	N22 49.2	24 08.2	N 0 33.9
	14	45 51.6	8 28.6	N14 34.5	47 03.1	S 1 37.6	298 09.8	N22 49.2	39 10.4	N 0 34.0
	15	60 54.0	23 28.1	N14 35.6	62 03.8	S 1 36.8	313 12.0	N22 49.2	54 12.6	N 0 34.1
	16	75 56.5	38 27.6	N14 36.7	77 04.4	S 1 36.0	328 14.3	N22 49.1	69 14.7	N 0 34.2
	17	90 59.0	53 27.1	N14 37.7	92 05.1	S 1 35.2	343 16.5	N22 49.1	84 16.9	N 0 34.3
	18	106 01.4	68 26.6	N14 38.8	107 05.8	S 1 34.4	358 18.8	N22 49.1	99 19.1	N 0 34.5
	19	121 03.9	83 26.0	N14 39.9	122 06.5	S 1 33.7	13 21.0	N22 49.1	114 21.3	N 0 34.6
	20	136 06.4	98 25.5	N14 40.9	137 07.2	S 1 32.9	28 23.2	N22 49.0	129 23.5	N 0 34.7
	21	151 08.8	113 25.0	N14 42.0	152 07.8	S 1 32.1	43 25.5	N22 49.0	144 25.6	N 0 34.8
	22	166 11.3	128 24.5	N14 43.1	167 08.5	S 1 31.3	58 27.7	N22 49.0	159 27.8	N 0 34.9
	23	181 13.7	143 24.0	N14 44.2	182 09.2	S 1 30.5	73 29.9	N22 49.0	174 30.0	N 0 35.1
8	0	196 16.2	158 23.5	N14 45.2	197 09.9	S 1 29.7	88 32.2	N22 49.0	189 32.2	N 0 35.2
	1	211 18.7	173 23.0	N14 46.3	212 10.6	S 1 29.0	103 34.4	N22 48.9	204 34.4	N 0 35.3
	2	226 21.1	188 22.5	N14 47.4	227 11.2	S 1 28.2	118 36.6	N22 48.9	219 36.5	N 0 35.4
	3	241 23.6	203 22.0	N14 48.4	242 11.9	S 1 27.4	133 38.9	N22 48.9	234 38.7	N 0 35.5
	4	256 26.1	218 21.4	N14 49.5	257 12.6	S 1 26.6	148 41.1	N22 48.9	249 40.9	N 0 35.7
W	5	271 28.5	233 20.9	N14 50.6	272 13.3	S 1 25.8	163 43.4	N22 48.8	264 43.1	N 0 35.8
E										
D	6	286 31.0	248 20.4	N14 51.6	287 14.0	S 1 25.0	178 45.6	N22 48.8	279 45.3	N 0 35.9
N	7	301 33.5	263 19.9	N14 52.7	302 14.6	S 1 24.2	193 47.8	N22 48.8	294 47.4	N 0 36.0
E	8	316 35.9	278 19.4	N14 53.7	317 15.3	S 1 23.5	208 50.1	N22 48.8	309 49.6	N 0 36.1
S	9	331 38.4	293 18.9	N14 54.8	332 16.0	S 1 22.7	223 52.3	N22 48.7	324 51.8	N 0 36.3
D	10	346 40.8	308 18.4	N14 55.9	347 16.7	S 1 21.9	238 54.5	N22 48.7	339 54.0	N 0 36.4
A	11	1 43.3	323 17.8	N14 56.9	2 17.4	S 1 21.1	253 56.8	N22 48.7	354 56.2	N 0 36.5
Y										
	12	16 45.8	338 17.3	N14 58.0	17 18.0	S 1 20.3	268 59.0	N22 48.7	9 58.3	N 0 36.6
	13	31 48.2	353 16.8	N14 59.1	32 18.7	S 1 19.5	284 01.2	N22 48.6	25 00.5	N 0 36.7
	14	46 50.7	8 16.3	N15 00.1	47 19.4	S 1 18.7	299 03.4	N22 48.6	40 02.7	N 0 36.9
	15	61 53.2	23 15.8	N15 01.2	62 20.1	S 1 18.0	314 05.7	N22 48.6	55 04.9	N 0 37.0
	16	76 55.6	38 15.3	N15 02.2	77 20.8	S 1 17.2	329 07.9	N22 48.6	70 07.1	N 0 37.1
	17	91 58.1	53 14.7	N15 03.3	92 21.4	S 1 16.4	344 10.1	N22 48.5	85 09.2	N 0 37.2
	18	107 00.6	68 14.2	N15 04.3	107 22.1	S 1 15.6	359 12.4	N22 48.5	100 11.4	N 0 37.3
	19	122 03.0	83 13.7	N15 05.4	122 22.8	S 1 14.8	14 14.6	N22 48.5	115 13.6	N 0 37.4
	20	137 05.5	98 13.2	N15 06.5	137 23.5	S 1 14.0	29 16.8	N22 48.5	130 15.8	N 0 37.6
	21	152 08.0	113 12.7	N15 07.5	152 24.2	S 1 13.3	44 19.1	N22 48.4	145 18.0	N 0 37.7
	22	167 10.4	128 12.1	N15 08.6	167 24.8	S 1 12.5	59 21.3	N22 48.4	160 20.1	N 0 37.8
	23	182 12.9	143 11.6	N15 09.6	182 25.5	S 1 11.7	74 23.5	N22 48.4	175 22.3	N 0 37.9
9	0	197 15.3	158 11.1	N15 10.7	197 26.2	S 1 10.9	89 25.7	N22 48.4	190 24.5	N 0 38.0
	1	212 17.8	173 10.6	N15 11.7	212 26.9	S 1 10.1	104 28.0	N22 48.3	205 26.7	N 0 38.2
	2	227 20.3	188 10.0	N15 12.8	227 27.6	S 1 09.3	119 30.2	N22 48.3	220 28.9	N 0 38.3
	3	242 22.7	203 09.5	N15 13.8	242 28.3	S 1 08.5	134 32.4	N22 48.3	235 31.1	N 0 38.4
	4	257 25.2	218 09.0	N15 14.9	257 28.9	S 1 07.8	149 34.7	N22 48.3	250 33.2	N 0 38.5
T	5	272 27.7	233 08.5	N15 15.9	272 29.6	S 1 07.0	164 36.9	N22 48.2	265 35.4	N 0 38.6
H										
U	6	287 30.1	248 08.0	N15 17.0	287 30.3	S 1 06.2	179 39.1	N22 48.2	280 37.6	N 0 38.8
R	7	302 32.6	263 07.4	N15 18.0	302 31.0	S 1 05.4	194 41.3	N22 48.2	295 39.8	N 0 38.9
S	8	317 35.1	278 06.9	N15 19.1	317 31.7	S 1 04.6	209 43.6	N22 48.2	310 42.0	N 0 39.0
D	9	332 37.5	293 06.4	N15 20.1	332 32.3	S 1 03.8	224 45.8	N22 48.1	325 44.1	N 0 39.1
A	10	347 40.0	308 05.9	N15 21.2	347 33.0	S 1 03.0	239 48.0	N22 48.1	340 46.3	N 0 39.2
Y	11	2 42.5	323 05.3	N15 22.2	2 33.7	S 1 02.3	254 50.2	N22 48.1	355 48.5	N 0 39.3
	12	17 44.9	338 04.8	N15 23.2	17 34.4	S 1 01.5	269 52.5	N22 48.1	10 50.7	N 0 39.5
	13	32 47.4	353 04.3	N15 24.3	32 35.1	S 1 00.7	284 54.7	N22 48.0	25 52.9	N 0 39.6
	14	47 49.8	8 03.7	N15 25.3	47 35.8	S 0 59.9	299 56.9	N22 48.0	40 55.0	N 0 39.7
	15	62 52.3	23 03.2	N15 26.4	62 36.4	S 0 59.1	314 59.1	N22 48.0	55 57.2	N 0 39.8
	16	77 54.8	38 02.7	N15 27.4	77 37.1	S 0 58.3	330 01.4	N22 48.0	70 59.4	N 0 39.9
	17	92 57.2	53 02.2	N15 28.5	92 37.8	S 0 57.6	345 03.6	N22 47.9	86 01.6	N 0 40.1
	18	107 59.7	68 01.6	N15 29.5	107 38.5	S 0 56.8	0 05.8	N22 47.9	101 03.8	N 0 40.2
	19	123 02.2	83 01.1	N15 30.5	122 39.2	S 0 56.0	15 08.0	N22 47.9	116 06.0	N 0 40.3
	20	138 04.6	98 00.6	N15 31.6	137 39.9	S 0 55.2	30 10.3	N22 47.9	131 08.1	N 0 40.4
	21	153 07.1	113 00.0	N15 32.6	152 40.5	S 0 54.4	45 12.5	N22 47.8	146 10.3	N 0 40.5
	22	168 09.6	127 59.5	N15 33.7	167 41.2	S 0 53.6	60 14.7	N22 47.8	161 12.5	N 0 40.7
	23	183 12.0	142 59.0	N15 34.7	182 41.9	S 0 52.8	75 16.9	N22 47.8	176 14.7	N 0 40.8
			v -0.5	d 1.1	v 0.7	d 0.8	v 2.2	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
7	0	179 26.5	N 6 45.0	305 22.9	10.4	S27 21.1	3.9	54.2
	1	194 26.6	N 6 45.9	319 52.3	10.4	S27 24.9	3.8	54.2
	2	209 26.8	N 6 46.9	334 21.7	10.4	S27 28.6	3.7	54.2
	3	224 27.0	N 6 47.8	348 51.0	10.4	S27 32.2	3.6	54.1
	4	239 27.2	N 6 48.8	3 20.3	10.3	S27 35.6	3.4	54.1
T	5	254 27.4	N 6 49.7	17 49.6	10.3	S27 38.9	3.3	54.1
U								
E	6	269 27.5	N 6 50.6	32 18.9	10.3	S27 42.1	3.2	54.1
S	7	284 27.7	N 6 51.6	46 48.1	10.2	S27 45.1	3.0	54.1
D	8	299 27.9	N 6 52.5	61 17.3	10.2	S27 48.0	2.9	54.1
A	9	314 28.1	N 6 53.5	75 46.5	10.2	S27 50.7	2.8	54.1
Y	10	329 28.2	N 6 54.4	90 15.7	10.2	S27 53.4	2.6	54.1
	11	344 28.4	N 6 55.3	104 44.8	10.1	S27 55.8	2.5	54.1
	12	359 28.6	N 6 56.3	119 13.9	10.1	S27 58.2	2.4	54.1
	13	14 28.8	N 6 57.2	133 43.0	10.1	S28 00.4	2.2	54.1
	14	29 28.9	N 6 58.1	148 12.1	10.1	S28 02.5	2.1	54.1
	15	44 29.1	N 6 59.1	162 41.1	10.0	S28 04.5	2.0	54.2
	16	59 29.3	N 7 00.0	177 10.1	10.0	S28 06.3	1.8	54.2
	17	74 29.5	N 7 01.0	191 39.1	10.0	S28 08.0	1.7	54.2
	18	89 29.6	N 7 01.9	206 08.1	10.0	S28 09.5	1.5	54.2
	19	104 29.8	N 7 02.8	220 37.1	10.0	S28 10.9	1.4	54.2
	20	119 30.0	N 7 03.8	235 06.1	10.0	S28 12.2	1.3	54.2
	21	134 30.2	N 7 04.7	249 35.0	9.9	S28 13.3	1.1	54.2
	22	149 30.3	N 7 05.6	264 04.0	9.9	S28 14.3	1.0	54.2
	23	164 30.5	N 7 06.6	278 32.9	9.9	S28 15.2	0.9	54.2
8	0	179 30.7	N 7 07.5	293 01.8	9.9	S28 15.9	0.7	54.2
	1	194 30.8	N 7 08.5	307 30.7	9.9	S28 16.5	0.6	54.2
	2	209 31.0	N 7 09.4	321 59.6	9.9	S28 17.0	0.5	54.2
	3	224 31.2	N 7 10.3	336 28.5	9.9	S28 17.3	0.3	54.2
	4	239 31.4	N 7 11.3	350 57.3	9.9	S28 17.5	0.2	54.2
W	5	254 31.5	N 7 12.2	5 26.2	9.9	S28 17.5	0.0	54.2
E								
D	6	269 31.7	N 7 13.1	19 55.1	9.9	S28 17.4	0.1	54.2
N	7	284 31.9	N 7 14.1	34 23.9	9.9	S28 17.2	0.2	54.2
E	8	299 32.1	N 7 15.0	48 52.8	9.9	S28 16.9	0.4	54.2
S	9	314 32.2	N 7 15.9	63 21.6	9.9	S28 16.3	0.5	54.2
D	10	329 32.4	N 7 16.9	77 50.5	9.9	S28 15.7	0.6	54.2
A	11	344 32.6	N 7 17.8	92 19.4	9.9	S28 14.9	0.8	54.2
Y								
	12	359 32.8	N 7 18.7	106 48.2	9.9	S28 14.0	0.9	54.2
	13	14 32.9	N 7 19.7	121 17.1	9.9	S28 13.0	1.1	54.3
	14	29 33.1	N 7 20.6	135 45.9	9.9	S28 11.8	1.2	54.3
	15	44 33.3	N 7 21.5	150 14.8	9.9	S28 10.4	1.3	54.3
	16	59 33.4	N 7 22.5	164 43.7	9.9	S28 09.0	1.5	54.3
	17	74 33.6	N 7 23.4	179 12.6	9.9	S28 07.4	1.6	54.3
	18	89 33.8	N 7 24.3	193 41.5	9.9	S28 05.6	1.7	54.3
	19	104 34.0	N 7 25.3	208 10.4	9.9	S28 03.8	1.9	54.3
	20	119 34.1	N 7 26.2	222 39.3	9.9	S28 01.8	2.0	54.3
	21	134 34.3	N 7 27.1	237 08.2	9.9	S27 59.6	2.1	54.3
	22	149 34.5	N 7 28.1	251 37.1	9.9	S27 57.3	2.3	54.3
	23	164 34.6	N 7 29.0	266 06.1	9.9	S27 54.9	2.4	54.4
9	0	179 34.8	N 7 29.9	280 35.0	10.0	S27 52.3	2.6	54.4
	1	194 35.0	N 7 30.9	295 04.0	10.0	S27 49.7	2.7	54.4
	2	209 35.2	N 7 31.8	309 33.0	10.0	S27 46.8	2.8	54.4
	3	224 35.3	N 7 32.7	324 02.0	10.0	S27 43.9	3.0	54.4
	4	239 35.5	N 7 33.6	338 31.0	10.0	S27 40.8	3.1	54.4
T	5	254 35.7	N 7 34.6	353 00.0	10.0	S27 37.5	3.2	54.4
H								
U	6	269 35.8	N 7 35.5	7 29.1	10.1	S27 34.2	3.4	54.4
R	7	284 36.0	N 7 36.4	21 58.2	10.1	S27 30.7	3.5	54.4
S	8	299 36.2	N 7 37.4	36 27.3	10.1	S27 27.0	3.6	54.5
D	9	314 36.3	N 7 38.3	50 56.4	10.1	S27 23.2	3.8	54.5
A	10	329 36.5	N 7 39.2	65 25.6	10.1	S27 19.3	3.9	54.5
Y	11	344 36.7	N 7 40.2	79 54.7	10.2	S27 15.3	4.0	54.5
	12	359 36.9	N 7 41.1	94 23.9	10.2	S27 11.1	4.2	54.5
	13	14 37.0	N 7 42.0	108 53.1	10.2	S27 06.8	4.3	54.5
	14	29 37.2	N 7 42.9	123 22.4	10.2	S27 02.4	4.4	54.5
	15	44 37.4	N 7 43.9	137 51.6	10.3	S26 57.8	4.6	54.6
	16	59 37.5	N 7 44.8	152 20.9	10.3	S26 53.1	4.7	54.6
	17	74 37.7	N 7 45.7	166 50.3	10.3	S26 48.3	4.8	54.6
	18	89 37.9	N 7 46.6	181 19.6	10.4	S26 43.3	5.0	54.6
	19	104 38.0	N 7 47.6	195 49.0	10.4	S26 38.2	5.1	54.6
	20	119 38.2	N 7 48.5	210 18.4	10.4	S26 33.0	5.2	54.6
	21	134 38.4	N 7 49.4	224 47.8	10.4	S26 27.6	5.4	54.7
	22	149 38.5	N 7 50.4	239 17.3	10.5	S26 22.1	5.5	54.7
	23	164 38.7	N 7 51.3	253 46.8	10.5	S26 16.5	5.6	54.7
		S.D. 16.0	d 0.9	S.D. 14.8		14.8	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.1
Achernar	335 20.0	S57 06.2
Acrux	172 58.4	S63 14.8
Adhara	255 05.1	S29 00.7
Albireo	67 03.3	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.7
Al Na-ir	27 31.9	S46 49.9
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.5	S 8 46.5
Alphecca	126 02.6	N26 37.3
Alpheratz	357 34.1	N29 14.0
Altair	61 59.0	N 8 56.0
Ankaa	353 06.5	S42 09.8
Antares	112 14.4	S26 29.5
Arcturus	145 46.6	N19 02.5
Atria	107 07.5	S69 04.4
Avior	234 14.2	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.1	S52 42.8
Capella	280 20.6	N46 01.6
Castor	245 55.7	N31 49.9
Deneb	49 25.3	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.5	N51 28.7
Enif	33 37.9	N 9 59.6
Fomalhaut	15 13.6	S29 29.0
Gacrux	171 50.0	S57 15.8
Gienah	175 42.2	S17 41.4
Hadar	148 34.1	S60 30.0
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.1	S34 22.3
Kochab	137 18.8	N74 02.6
Markab	13 29.2	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.6	S69 49.8
Mirfak	308 27.3	N49 57.4
Nunki	75 46.5	S26 15.8
Peacock	53 04.2	S56 38.9
Polaris	316 28.5	N89 22.0
Pollux	243 16.0	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.5	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.1	S 8 10.4
Rigil Kent	139 38.5	S60 56.6
Sabik	102 01.5	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.8	S37 07.4
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.4	S43 32.6
Vega	80 32.5	N38 48.1
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
10	0	198 14.5	157 58.5	N15 35.7	197 42.6	S 0 52.1	90 19.1	N22 47.8	191 16.9	N 0 40.9
	1	213 17.0	172 57.9	N15 36.8	212 43.3	S 0 51.3	105 21.4	N22 47.7	206 19.0	N 0 41.0
	2	228 19.4	187 57.4	N15 37.8	227 43.9	S 0 50.5	120 23.6	N22 47.7	221 21.2	N 0 41.1
	3	243 21.9	202 56.9	N15 38.8	242 44.6	S 0 49.7	135 25.8	N22 47.7	236 23.4	N 0 41.2
	4	258 24.3	217 56.3	N15 39.9	257 45.3	S 0 48.9	150 28.0	N22 47.6	251 25.6	N 0 41.4
F	5	273 26.8	232 55.8	N15 40.9	272 46.0	S 0 48.1	165 30.2	N22 47.6	266 27.8	N 0 41.5
R										
I	6	288 29.3	247 55.3	N15 41.9	287 46.7	S 0 47.3	180 32.5	N22 47.6	281 29.9	N 0 41.6
D	7	303 31.7	262 54.7	N15 43.0	302 47.4	S 0 46.6	195 34.7	N22 47.6	296 32.1	N 0 41.7
A	8	318 34.2	277 54.2	N15 44.0	317 48.0	S 0 45.8	210 36.9	N22 47.5	311 34.3	N 0 41.8
Y	9	333 36.7	292 53.6	N15 45.0	332 48.7	S 0 45.0	225 39.1	N22 47.5	326 36.5	N 0 42.0
	10	348 39.1	307 53.1	N15 46.1	347 49.4	S 0 44.2	240 41.3	N22 47.5	341 38.7	N 0 42.1
	11	3 41.6	322 52.6	N15 47.1	2 50.1	S 0 43.4	255 43.6	N22 47.5	356 40.9	N 0 42.2
	12	18 44.1	337 52.0	N15 48.1	17 50.8	S 0 42.6	270 45.8	N22 47.4	11 43.0	N 0 42.3
	13	33 46.5	352 51.5	N15 49.2	32 51.5	S 0 41.9	285 48.0	N22 47.4	26 45.2	N 0 42.4
	14	48 49.0	7 51.0	N15 50.2	47 52.1	S 0 41.1	300 50.2	N22 47.4	41 47.4	N 0 42.5
	15	63 51.4	22 50.4	N15 51.2	62 52.8	S 0 40.3	315 52.4	N22 47.4	56 49.6	N 0 42.7
	16	78 53.9	37 49.9	N15 52.2	77 53.5	S 0 39.5	330 54.7	N22 47.3	71 51.8	N 0 42.8
	17	93 56.4	52 49.3	N15 53.3	92 54.2	S 0 38.7	345 56.9	N22 47.3	86 53.9	N 0 42.9
	18	108 58.8	67 48.8	N15 54.3	107 54.9	S 0 37.9	0 59.1	N22 47.3	101 56.1	N 0 43.0
	19	124 01.3	82 48.3	N15 55.3	122 55.6	S 0 37.1	16 01.3	N22 47.3	116 58.3	N 0 43.1
	20	139 03.8	97 47.7	N15 56.3	137 56.2	S 0 36.4	31 03.5	N22 47.2	132 00.5	N 0 43.3
	21	154 06.2	112 47.2	N15 57.4	152 56.9	S 0 35.6	46 05.7	N22 47.2	147 02.7	N 0 43.4
	22	169 08.7	127 46.6	N15 58.4	167 57.6	S 0 34.8	61 07.9	N22 47.2	162 04.9	N 0 43.5
	23	184 11.2	142 46.1	N15 59.4	182 58.3	S 0 34.0	76 10.2	N22 47.1	177 07.0	N 0 43.6
11	0	199 13.6	157 45.6	N16 00.4	197 59.0	S 0 33.2	91 12.4	N22 47.1	192 09.2	N 0 43.7
	1	214 16.1	172 45.0	N16 01.4	212 59.7	S 0 32.4	106 14.6	N22 47.1	207 11.4	N 0 43.8
	2	229 18.6	187 44.5	N16 02.5	228 00.3	S 0 31.7	121 16.8	N22 47.1	222 13.6	N 0 44.0
	3	244 21.0	202 43.9	N16 03.5	243 01.0	S 0 30.9	136 19.0	N22 47.0	237 15.8	N 0 44.1
	4	259 23.5	217 43.4	N16 04.5	258 01.7	S 0 30.1	151 21.2	N22 47.0	252 18.0	N 0 44.2
S	5	274 25.9	232 42.8	N16 05.5	273 02.4	S 0 29.3	166 23.4	N22 47.0	267 20.1	N 0 44.3
A										
T	6	289 28.4	247 42.3	N16 06.5	288 03.1	S 0 28.5	181 25.7	N22 47.0	282 22.3	N 0 44.4
U	7	304 30.9	262 41.8	N16 07.5	303 03.8	S 0 27.7	196 27.9	N22 46.9	297 24.5	N 0 44.6
R	8	319 33.3	277 41.2	N16 08.6	318 04.5	S 0 27.0	211 30.1	N22 46.9	312 26.7	N 0 44.7
D	9	334 35.8	292 40.7	N16 09.6	333 05.1	S 0 26.2	226 32.3	N22 46.9	327 28.9	N 0 44.8
A	10	349 38.3	307 40.1	N16 10.6	348 05.8	S 0 25.4	241 34.5	N22 46.8	342 31.0	N 0 44.9
Y	11	4 40.7	322 39.6	N16 11.6	3 06.5	S 0 24.6	256 36.7	N22 46.8	357 33.2	N 0 45.0
	12	19 43.2	337 39.0	N16 12.6	18 07.2	S 0 23.8	271 38.9	N22 46.8	12 35.4	N 0 45.1
	13	34 45.7	352 38.5	N16 13.6	33 07.9	S 0 23.0	286 41.1	N22 46.8	27 37.6	N 0 45.3
	14	49 48.1	7 37.9	N16 14.6	48 08.6	S 0 22.2	301 43.3	N22 46.7	42 39.8	N 0 45.4
	15	64 50.6	22 37.4	N16 15.6	63 09.2	S 0 21.5	316 45.6	N22 46.7	57 42.0	N 0 45.5
	16	79 53.1	37 36.8	N16 16.7	78 09.9	S 0 20.7	331 47.8	N22 46.7	72 44.1	N 0 45.6
	17	94 55.5	52 36.3	N16 17.7	93 10.6	S 0 19.9	346 50.0	N22 46.7	87 46.3	N 0 45.7
	18	109 58.0	67 35.7	N16 18.7	108 11.3	S 0 19.1	1 52.2	N22 46.6	102 48.5	N 0 45.9
	19	125 00.4	82 35.2	N16 19.7	123 12.0	S 0 18.3	16 54.4	N22 46.6	117 50.7	N 0 46.0
	20	140 02.9	97 34.6	N16 20.7	138 12.7	S 0 17.5	31 56.6	N22 46.6	132 52.9	N 0 46.1
	21	155 05.4	112 34.1	N16 21.7	153 13.4	S 0 16.8	46 58.8	N22 46.5	147 55.1	N 0 46.2
	22	170 07.8	127 33.5	N16 22.7	168 14.0	S 0 16.0	62 01.0	N22 46.5	162 57.2	N 0 46.3
	23	185 10.3	142 33.0	N16 23.7	183 14.7	S 0 15.2	77 03.2	N22 46.5	177 59.4	N 0 46.4
12	0	200 12.8	157 32.4	N16 24.7	198 15.4	S 0 14.4	92 05.4	N22 46.5	193 01.6	N 0 46.6
	1	215 15.2	172 31.9	N16 25.7	213 16.1	S 0 13.6	107 07.6	N22 46.4	208 03.8	N 0 46.7
	2	230 17.7	187 31.3	N16 26.7	228 16.8	S 0 12.8	122 09.8	N22 46.4	223 06.0	N 0 46.8
	3	245 20.2	202 30.7	N16 27.7	243 17.5	S 0 12.1	137 12.1	N22 46.4	238 08.1	N 0 46.9
	4	260 22.6	217 30.2	N16 28.7	258 18.1	S 0 11.3	152 14.3	N22 46.4	253 10.3	N 0 47.0
S	5	275 25.1	232 29.6	N16 29.7	273 18.8	S 0 10.5	167 16.5	N22 46.3	268 12.5	N 0 47.1
U										
N	6	290 27.6	247 29.1	N16 30.7	288 19.5	S 0 09.7	182 18.7	N22 46.3	283 14.7	N 0 47.3
D	7	305 30.0	262 28.5	N16 31.7	303 20.2	S 0 08.9	197 20.9	N22 46.3	298 16.9	N 0 47.4
A	8	320 32.5	277 28.0	N16 32.7	318 20.9	S 0 08.1	212 23.1	N22 46.2	313 19.1	N 0 47.5
Y	9	335 34.9	292 27.4	N16 33.7	333 21.6	S 0 07.3	227 25.3	N22 46.2	328 21.2	N 0 47.6
	10	350 37.4	307 26.9	N16 34.7	348 22.3	S 0 06.6	242 27.5	N22 46.2	343 23.4	N 0 47.7
	11	5 39.9	322 26.3	N16 35.7	3 22.9	S 0 05.8	257 29.7	N22 46.2	358 25.6	N 0 47.8
	12	20 42.3	337 25.7	N16 36.7	18 23.6	S 0 05.0	272 31.9	N22 46.1	13 27.8	N 0 48.0
	13	35 44.8	352 25.2	N16 37.7	33 24.3	S 0 04.2	287 34.1	N22 46.1	28 30.0	N 0 48.1
	14	50 47.3	7 24.6	N16 38.7	48 25.0	S 0 03.4	302 36.3	N22 46.1	43 32.2	N 0 48.2
	15	65 49.7	22 24.1	N16 39.7	63 25.7	S 0 02.6	317 38.5	N22 46.0	58 34.3	N 0 48.3
	16	80 52.2	37 23.5	N16 40.7	78 26.4	S 0 01.9	332 40.7	N22 46.0	73 36.5	N 0 48.4
	17	95 54.7	52 22.9	N16 41.7	93 27.1	S 0 01.1	347 42.9	N22 46.0	88 38.7	N 0 48.6
	18	110 57.1	67 22.4	N16 42.7	108 27.7	S 0 00.3	2 45.1	N22 46.0	103 40.9	N 0 48.7
	19	125 59.6	82 21.8	N16 43.6	123 28.4	N 0 00.5	17 47.3	N22 45.9	118 43.1	N 0 48.8
	20	141 02.0	97 21.3	N16 44.6	138 29.1	N 0 01.3	32 49.5	N22 45.9	133 45.3	N 0 48.9
	21	156 04.5	112 20.7	N16 45.6	153 29.8	N 0 02.1	47 51.7	N22 45.9	148 47.4	N 0 49.0
	22	171 07.0	127 20.1	N16 46.6	168 30.5	N 0 02.8	62 53.9	N22 45.8	163 49.6	N 0 49.1
	23	186 09.4	142 19.6	N16 47.6	183 31.2	N 0 03.6	77 56.1	N22 45.8	178 51.8	N 0 49.3
			v -0.5	d 1.0	v 0.7	d 0.8	v 2.2	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
10	0	179 38.9	N 7 52.2	268 16.4	10.5	S26 10.8	5.7	54.7
	1	194 39.1	N 7 53.1	282 45.9	10.6	S26 04.9	5.9	54.7
	2	209 39.2	N 7 54.1	297 15.5	10.6	S25 58.9	6.0	54.8
	3	224 39.4	N 7 55.0	311 45.2	10.6	S25 52.7	6.1	54.8
	4	239 39.6	N 7 55.9	326 14.8	10.7	S25 46.5	6.3	54.8
F	5	254 39.7	N 7 56.8	340 44.6	10.7	S25 40.1	6.4	54.8
R								
I	6	269 39.9	N 7 57.8	355 14.3	10.7	S25 33.6	6.5	54.8
D	7	284 40.1	N 7 58.7	9 44.1	10.8	S25 26.9	6.6	54.8
A	8	299 40.2	N 7 59.6	24 13.9	10.8	S25 20.2	6.8	54.9
Y	9	314 40.4	N 8 00.5	38 43.7	10.9	S25 13.3	6.9	54.9
	10	329 40.6	N 8 01.5	53 13.6	10.9	S25 06.3	7.0	54.9
	11	344 40.7	N 8 02.4	67 43.6	10.9	S24 59.1	7.1	54.9
	12	359 40.9	N 8 03.3	82 13.5	11.0	S24 51.9	7.3	55.0
	13	14 41.1	N 8 04.2	96 43.5	11.0	S24 44.5	7.4	55.0
	14	29 41.2	N 8 05.1	111 13.6	11.0	S24 37.0	7.5	55.0
	15	44 41.4	N 8 06.1	125 43.6	11.1	S24 29.4	7.6	55.0
	16	59 41.6	N 8 07.0	140 13.8	11.1	S24 21.6	7.7	55.0
	17	74 41.7	N 8 07.9	154 43.9	11.2	S24 13.7	7.9	55.1
	18	89 41.9	N 8 08.8	169 14.1	11.2	S24 05.8	8.0	55.1
	19	104 42.1	N 8 09.8	183 44.4	11.2	S23 57.6	8.1	55.1
	20	119 42.2	N 8 10.7	198 14.6	11.3	S23 49.4	8.2	55.1
	21	134 42.4	N 8 11.6	212 45.0	11.3	S23 41.1	8.3	55.2
	22	149 42.6	N 8 12.5	227 15.3	11.4	S23 32.6	8.5	55.2
	23	164 42.7	N 8 13.4	241 45.7	11.4	S23 24.0	8.6	55.2
11	0	179 42.9	N 8 14.4	256 16.1	11.4	S23 15.3	8.7	55.2
	1	194 43.1	N 8 15.3	270 46.6	11.5	S23 06.5	8.8	55.3
	2	209 43.2	N 8 16.2	285 17.1	11.5	S22 57.6	8.9	55.3
	3	224 43.4	N 8 17.1	299 47.7	11.6	S22 48.5	9.0	55.3
	4	239 43.5	N 8 18.0	314 18.3	11.6	S22 39.4	9.2	55.3
S	5	254 43.7	N 8 19.0	328 48.9	11.6	S22 30.1	9.3	55.4
A								
T	6	269 43.9	N 8 19.9	343 19.6	11.7	S22 20.7	9.4	55.4
U	7	284 44.0	N 8 20.8	357 50.3	11.7	S22 11.2	9.5	55.4
R	8	299 44.2	N 8 21.7	12 21.1	11.8	S22 01.6	9.6	55.4
D	9	314 44.4	N 8 22.6	26 51.9	11.8	S21 51.9	9.7	55.5
A	10	329 44.5	N 8 23.5	41 22.7	11.8	S21 42.0	9.8	55.5
Y	11	344 44.7	N 8 24.5	55 53.6	11.9	S21 32.1	9.9	55.5
	12	359 44.9	N 8 25.4	70 24.5	11.9	S21 22.0	10.1	55.6
	13	14 45.0	N 8 26.3	84 55.5	12.0	S21 11.9	10.2	55.6
	14	29 45.2	N 8 27.2	99 26.5	12.0	S21 01.6	10.3	55.6
	15	44 45.4	N 8 28.1	113 57.5	12.0	S20 51.2	10.4	55.6
	16	59 45.5	N 8 29.1	128 28.6	12.1	S20 40.8	10.5	55.7
	17	74 45.7	N 8 30.0	142 59.7	12.1	S20 30.2	10.6	55.7
	18	89 45.8	N 8 30.9	157 30.9	12.2	S20 19.5	10.7	55.7
	19	104 46.0	N 8 31.8	172 02.1	12.2	S20 08.7	10.8	55.8
	20	119 46.2	N 8 32.7	186 33.3	12.2	S19 57.8	10.9	55.8
	21	134 46.3	N 8 33.6	201 04.6	12.3	S19 46.8	11.0	55.8
	22	149 46.5	N 8 34.5	215 35.9	12.3	S19 35.7	11.1	55.8
	23	164 46.7	N 8 35.5	230 07.2	12.3	S19 24.5	11.2	55.9
12	0	179 46.8	N 8 36.4	244 38.6	12.4	S19 13.1	11.3	55.9
	1	194 47.0	N 8 37.3	259 10.0	12.4	S19 01.7	11.4	55.9
	2	209 47.1	N 8 38.2	273 41.4	12.4	S18 50.2	11.5	56.0
	3	224 47.3	N 8 39.1	288 12.9	12.5	S18 38.6	11.6	56.0
	4	239 47.5	N 8 40.0	302 44.4	12.5	S18 26.9	11.7	56.0
S	5	254 47.6	N 8 40.9	317 16.0	12.5	S18 15.1	11.8	56.1
U								
N	6	269 47.8	N 8 41.9	331 47.6	12.6	S18 03.2	11.9	56.1
D	7	284 47.9	N 8 42.8	346 19.2	12.6	S17 51.2	12.0	56.1
A	8	299 48.1	N 8 43.7	0 50.8	12.6	S17 39.1	12.1	56.2
Y	9	314 48.3	N 8 44.6	15 22.5	12.7	S17 26.9	12.2	56.2
	10	329 48.4	N 8 45.5	29 54.2	12.7	S17 14.6	12.3	56.2
	11	344 48.6	N 8 46.4	44 26.0	12.7	S17 02.3	12.4	56.3
	12	359 48.7	N 8 47.3	58 57.7	12.8	S16 49.8	12.5	56.3
	13	14 48.9	N 8 48.2	73 29.5	12.8	S16 37.3	12.6	56.3
	14	29 49.1	N 8 49.2	88 01.4	12.8	S16 24.6	12.6	56.4
	15	44 49.2	N 8 50.1	102 33.2	12.9	S16 11.9	12.7	56.4
	16	59 49.4	N 8 51.0	117 05.1	12.9	S15 59.0	12.8	56.4
	17	74 49.5	N 8 51.9	131 37.0	12.9	S15 46.1	12.9	56.5
	18	89 49.7	N 8 52.8	146 09.0	12.9	S15 33.1	13.0	56.5
	19	104 49.9	N 8 53.7	160 40.9	13.0	S15 20.0	13.1	56.5
	20	119 50.0	N 8 54.6	175 12.9	13.0	S15 06.9	13.2	56.6
	21	134 50.2	N 8 55.5	189 44.9	13.0	S14 53.6	13.3	56.6
	22	149 50.3	N 8 56.4	204 17.0	13.0	S14 40.3	13.3	56.6
	23	164 50.5	N 8 57.3	218 49.0	13.1	S14 26.9	13.4	56.7
		S.D. 16.0	d 0.9	S.D.	15.0	15.1	15.3	

STARS Name	SHA	Dec
Acamar	315 11.3	S40 12.1
Achernar	335 19.9	S57 06.2
Acrux	172 58.4	S63 14.8
Adhara	255 05.1	S29 00.7
Albireo	67 03.2	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.8
Al Na-ir	27 31.8	S46 49.9
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.6	N26 37.3
Alpheratz	357 34.1	N29 14.0
Altair	61 59.0	N 8 56.0
Ankaa	353 06.5	S42 09.8
Antares	112 14.3	S26 29.5
Arcturus	145 46.6	N19 02.5
Atria	107 07.4	S69 04.4
Avior	234 14.2	S59 35.9
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.1	S52 42.8
Capella	280 20.6	N46 01.6
Castor	245 55.7	N31 49.9
Deneb	49 25.2	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.5	N51 28.7
Enif	33 37.9	N 9 59.6
Fomalhaut	15 13.6	S29 29.0
Gacrux	171 50.0	S57 15.8
Gienah	175 42.2	S17 41.4
Hadar	148 34.0	S60 30.1
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.1	S34 22.3
Kochab	137 18.8	N74 02.6
Markab	13 29.1	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.6	S69 49.8
Mirfak	308 27.3	N49 57.4
Nunki	75 46.4	S26 15.8
Peacock	53 04.1	S56 38.9
Polaris	316 28.8	N89 22.0
Pollux	243 16.0	N27 57.8
Procyon	244 49.7	N 5 09.4
Rasalhague	95 57.5	N12 32.2
Regulus	207 33.1	N11 50.2
Rigel	281 03.1	S 8 10.4
Rigil Kent	139 38.5	S60 56.7
Sabik	102 01.4	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.8	S37 07.4
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.4	S43 32.6
Vega	80 32.4	N38 48.1
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
13	0	201 11.9	157 19.0	N16 48.6	198 31.9	N 0 04.4	92 58.3	N22 45.8	193 54.0	N 0 49.4
	1	216 14.4	172 18.4	N16 49.6	213 32.5	N 0 05.2	108 00.5	N22 45.8	208 56.2	N 0 49.5
	2	231 16.8	187 17.9	N16 50.6	228 33.2	N 0 06.0	123 02.7	N22 45.7	223 58.4	N 0 49.6
	3	246 19.3	202 17.3	N16 51.5	243 33.9	N 0 06.8	138 04.9	N22 45.7	239 00.5	N 0 49.7
	4	261 21.8	217 16.7	N16 52.5	258 34.6	N 0 07.5	153 07.1	N22 45.7	254 02.7	N 0 49.8
M	5	276 24.2	232 16.2	N16 53.5	273 35.3	N 0 08.3	168 09.3	N22 45.6	269 04.9	N 0 50.0
O										
N	6	291 26.7	247 15.6	N16 54.5	288 36.0	N 0 09.1	183 11.5	N22 45.6	284 07.1	N 0 50.1
D	7	306 29.2	262 15.0	N16 55.5	303 36.7	N 0 09.9	198 13.7	N22 45.6	299 09.3	N 0 50.2
A	8	321 31.6	277 14.5	N16 56.4	318 37.4	N 0 10.7	213 15.9	N22 45.5	314 11.5	N 0 50.3
Y	9	336 34.1	292 13.9	N16 57.4	333 38.0	N 0 11.5	228 18.1	N22 45.5	329 13.6	N 0 50.4
	10	351 36.5	307 13.3	N16 58.4	348 38.7	N 0 12.2	243 20.3	N22 45.5	344 15.8	N 0 50.5
	11	6 39.0	322 12.8	N16 59.4	3 39.4	N 0 13.0	258 22.5	N22 45.5	359 18.0	N 0 50.7
	12	21 41.5	337 12.2	N17 00.4	18 40.1	N 0 13.8	273 24.7	N22 45.4	14 20.2	N 0 50.8
	13	36 43.9	352 11.6	N17 01.3	33 40.8	N 0 14.6	288 26.9	N22 45.4	29 22.4	N 0 50.9
	14	51 46.4	7 11.1	N17 02.3	48 41.5	N 0 15.4	303 29.1	N22 45.4	44 24.6	N 0 51.0
	15	66 48.9	22 10.5	N17 03.3	63 42.2	N 0 16.2	318 31.3	N22 45.3	59 26.7	N 0 51.1
	16	81 51.3	37 09.9	N17 04.3	78 42.8	N 0 16.9	333 33.5	N22 45.3	74 28.9	N 0 51.2
	17	96 53.8	52 09.4	N17 05.2	93 43.5	N 0 17.7	348 35.7	N22 45.3	89 31.1	N 0 51.4
	18	111 56.3	67 08.8	N17 06.2	108 44.2	N 0 18.5	3 37.9	N22 45.3	104 33.3	N 0 51.5
	19	126 58.7	82 08.2	N17 07.2	123 44.9	N 0 19.3	18 40.1	N22 45.2	119 35.5	N 0 51.6
	20	142 01.2	97 07.6	N17 08.2	138 45.6	N 0 20.1	33 42.3	N22 45.2	134 37.7	N 0 51.7
	21	157 03.7	112 07.1	N17 09.1	153 46.3	N 0 20.9	48 44.5	N22 45.2	149 39.8	N 0 51.8
	22	172 06.1	127 06.5	N17 10.1	168 47.0	N 0 21.6	63 46.7	N22 45.1	164 42.0	N 0 51.9
	23	187 08.6	142 05.9	N17 11.1	183 47.7	N 0 22.4	78 48.9	N22 45.1	179 44.2	N 0 52.1
14	0	202 11.0	157 05.3	N17 12.0	198 48.3	N 0 23.2	93 51.1	N22 45.1	194 46.4	N 0 52.2
	1	217 13.5	172 04.8	N17 13.0	213 49.0	N 0 24.0	108 53.2	N22 45.0	209 48.6	N 0 52.3
	2	232 16.0	187 04.2	N17 14.0	228 49.7	N 0 24.8	123 55.4	N22 45.0	224 50.8	N 0 52.4
	3	247 18.4	202 03.6	N17 14.9	243 50.4	N 0 25.5	138 57.6	N22 45.0	239 53.0	N 0 52.5
	4	262 20.9	217 03.0	N17 15.9	258 51.1	N 0 26.3	153 59.8	N22 45.0	254 55.1	N 0 52.6
T	5	277 23.4	232 02.5	N17 16.9	273 51.8	N 0 27.1	169 02.0	N22 44.9	269 57.3	N 0 52.8
U										
E	6	292 25.8	247 01.9	N17 17.8	288 52.5	N 0 27.9	184 04.2	N22 44.9	284 59.5	N 0 52.9
S	7	307 28.3	262 01.3	N17 18.8	303 53.1	N 0 28.7	199 06.4	N22 44.9	300 01.7	N 0 53.0
D	8	322 30.8	277 00.7	N17 19.8	318 53.8	N 0 29.5	214 08.6	N22 44.8	315 03.9	N 0 53.1
A	9	337 33.2	292 00.1	N17 20.7	333 54.5	N 0 30.2	229 10.8	N22 44.8	330 06.1	N 0 53.2
Y	10	352 35.7	306 59.6	N17 21.7	348 55.2	N 0 31.0	244 13.0	N22 44.8	345 08.2	N 0 53.3
	11	7 38.1	321 59.0	N17 22.6	3 55.9	N 0 31.8	259 15.2	N22 44.7	0 10.4	N 0 53.5
	12	22 40.6	336 58.4	N17 23.6	18 56.6	N 0 32.6	274 17.4	N22 44.7	15 12.6	N 0 53.6
	13	37 43.1	351 57.8	N17 24.6	33 57.3	N 0 33.4	289 19.5	N22 44.7	30 14.8	N 0 53.7
	14	52 45.5	6 57.2	N17 25.5	48 58.0	N 0 34.2	304 21.7	N22 44.7	45 17.0	N 0 53.8
	15	67 48.0	21 56.7	N17 26.5	63 58.7	N 0 34.9	319 23.9	N22 44.6	60 19.2	N 0 53.9
	16	82 50.5	36 56.1	N17 27.4	78 59.3	N 0 35.7	334 26.1	N22 44.6	75 21.4	N 0 54.0
	17	97 52.9	51 55.5	N17 28.4	94 00.0	N 0 36.5	349 28.3	N22 44.6	90 23.5	N 0 54.2
	18	112 55.4	66 54.9	N17 29.3	109 00.7	N 0 37.3	4 30.5	N22 44.5	105 25.7	N 0 54.3
	19	127 57.9	81 54.3	N17 30.3	124 01.4	N 0 38.1	19 32.7	N22 44.5	120 27.9	N 0 54.4
	20	143 00.3	96 53.8	N17 31.2	139 02.1	N 0 38.8	34 34.9	N22 44.5	135 30.1	N 0 54.5
	21	158 02.8	111 53.2	N17 32.2	154 02.8	N 0 39.6	49 37.1	N22 44.4	150 32.3	N 0 54.6
	22	173 05.3	126 52.6	N17 33.1	169 03.5	N 0 40.4	64 39.2	N22 44.4	165 34.5	N 0 54.7
	23	188 07.7	141 52.0	N17 34.1	184 04.2	N 0 41.2	79 41.4	N22 44.4	180 36.6	N 0 54.9
15	0	203 10.2	156 51.4	N17 35.0	199 04.8	N 0 42.0	94 43.6	N22 44.3	195 38.8	N 0 55.0
	1	218 12.6	171 50.8	N17 36.0	214 05.5	N 0 42.8	109 45.8	N22 44.3	210 41.0	N 0 55.1
	2	233 15.1	186 50.2	N17 36.9	229 06.2	N 0 43.5	124 48.0	N22 44.3	225 43.2	N 0 55.2
	3	248 17.6	201 49.7	N17 37.9	244 06.9	N 0 44.3	139 50.2	N22 44.3	240 45.4	N 0 55.3
	4	263 20.0	216 49.1	N17 38.8	259 07.6	N 0 45.1	154 52.4	N22 44.2	255 47.6	N 0 55.4
W	5	278 22.5	231 48.5	N17 39.8	274 08.3	N 0 45.9	169 54.5	N22 44.2	270 49.8	N 0 55.5
E										
D	6	293 25.0	246 47.9	N17 40.7	289 09.0	N 0 46.7	184 56.7	N22 44.2	285 51.9	N 0 55.7
N	7	308 27.4	261 47.3	N17 41.7	304 09.7	N 0 47.4	199 58.9	N22 44.1	300 54.1	N 0 55.8
E	8	323 29.9	276 46.7	N17 42.6	319 10.3	N 0 48.2	215 01.1	N22 44.1	315 56.3	N 0 55.9
S	9	338 32.4	291 46.1	N17 43.6	334 11.0	N 0 49.0	230 03.3	N22 44.1	330 58.5	N 0 56.0
D	10	353 34.8	306 45.5	N17 44.5	349 11.7	N 0 49.8	245 05.5	N22 44.0	346 00.7	N 0 56.1
A	11	8 37.3	321 44.9	N17 45.4	4 12.4	N 0 50.6	260 07.7	N22 44.0	1 02.9	N 0 56.2
Y										
	12	23 39.7	336 44.3	N17 46.4	19 13.1	N 0 51.4	275 09.8	N22 44.0	16 05.0	N 0 56.4
	13	38 42.2	351 43.8	N17 47.3	34 13.8	N 0 52.1	290 12.0	N22 43.9	31 07.2	N 0 56.5
	14	53 44.7	6 43.2	N17 48.3	49 14.5	N 0 52.9	305 14.2	N22 43.9	46 09.4	N 0 56.6
	15	68 47.1	21 42.6	N17 49.2	64 15.2	N 0 53.7	320 16.4	N22 43.9	61 11.6	N 0 56.7
	16	83 49.6	36 42.0	N17 50.1	79 15.9	N 0 54.5	335 18.6	N22 43.9	76 13.8	N 0 56.8
	17	98 52.1	51 41.4	N17 51.1	94 16.5	N 0 55.3	350 20.8	N22 43.8	91 16.0	N 0 56.9
	18	113 54.5	66 40.8	N17 52.0	109 17.2	N 0 56.0	5 22.9	N22 43.8	106 18.2	N 0 57.1
	19	128 57.0	81 40.2	N17 53.0	124 17.9	N 0 56.8	20 25.1	N22 43.8	121 20.3	N 0 57.2
	20	143 59.5	96 39.6	N17 53.9	139 18.6	N 0 57.6	35 27.3	N22 43.7	136 22.5	N 0 57.3
	21	159 01.9	111 39.0	N17 54.8	154 19.3	N 0 58.4	50 29.5	N22 43.7	151 24.7	N 0 57.4
	22	174 04.4	126 38.4	N17 55.8	169 20.0	N 0 59.2	65 31.7	N22 43.7	166 26.9	N 0 57.5
	23	189 06.9	141 37.8	N17 56.7	184 20.7	N 0 59.9	80 33.8	N22 43.6	181 29.1	N 0 57.6
			v -0.6	d 1.0	v 0.7	d 0.8	v 2.2	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
13	0	179 50.7	N 8 58.2	233 21.1	13.1	S14 13.3	13.5	56.7
	1	194 50.8	N 8 59.2	247 53.2	13.1	S13 59.8	13.6	56.7
	2	209 51.0	N 9 00.1	262 25.3	13.1	S13 46.1	13.7	56.8
	3	224 51.1	N 9 01.0	276 57.5	13.1	S13 32.3	13.7	56.8
	4	239 51.3	N 9 01.9	291 29.6	13.2	S13 18.5	13.8	56.8
M	5	254 51.5	N 9 02.8	306 01.8	13.2	S13 04.6	13.9	56.9
O								
N	6	269 51.6	N 9 03.7	320 34.0	13.2	S12 50.6	14.0	56.9
D	7	284 51.8	N 9 04.6	335 06.2	13.2	S12 36.6	14.1	56.9
A	8	299 51.9	N 9 05.5	349 38.4	13.2	S12 22.4	14.1	57.0
Y	9	314 52.1	N 9 06.4	4 10.7	13.2	S12 08.2	14.2	57.0
	10	329 52.2	N 9 07.3	18 42.9	13.3	S11 53.9	14.3	57.1
	11	344 52.4	N 9 08.2	33 15.2	13.3	S11 39.6	14.4	57.1
	12	359 52.6	N 9 09.1	47 47.4	13.3	S11 25.2	14.4	57.1
	13	14 52.7	N 9 10.0	62 19.7	13.3	S11 10.7	14.5	57.2
	14	29 52.9	N 9 10.9	76 52.0	13.3	S10 56.1	14.6	57.2
	15	44 53.0	N 9 11.8	91 24.3	13.3	S10 41.5	14.6	57.2
	16	59 53.2	N 9 12.7	105 56.6	13.3	S10 26.8	14.7	57.3
	17	74 53.3	N 9 13.7	120 29.0	13.3	S10 12.0	14.8	57.3
	18	89 53.5	N 9 14.6	135 01.3	13.3	S 9 57.2	14.8	57.3
	19	104 53.6	N 9 15.5	149 33.6	13.3	S 9 42.3	14.9	57.4
	20	119 53.8	N 9 16.4	164 05.9	13.3	S 9 27.3	15.0	57.4
	21	134 54.0	N 9 17.3	178 38.3	13.3	S 9 12.3	15.0	57.5
	22	149 54.1	N 9 18.2	193 10.6	13.3	S 8 57.2	15.1	57.5
	23	164 54.3	N 9 19.1	207 43.0	13.3	S 8 42.0	15.2	57.5
14	0	179 54.4	N 9 20.0	222 15.3	13.3	S 8 26.8	15.2	57.6
	1	194 54.6	N 9 20.9	236 47.6	13.3	S 8 11.5	15.3	57.6
	2	209 54.7	N 9 21.8	251 20.0	13.3	S 7 56.2	15.3	57.6
	3	224 54.9	N 9 22.7	265 52.3	13.3	S 7 40.8	15.4	57.7
	4	239 55.0	N 9 23.6	280 24.6	13.3	S 7 25.4	15.4	57.7
T	5	254 55.2	N 9 24.5	294 56.9	13.3	S 7 09.9	15.5	57.8
U								
E	6	269 55.4	N 9 25.4	309 29.2	13.3	S 6 54.3	15.5	57.8
S	7	284 55.5	N 9 26.3	324 01.5	13.3	S 6 38.7	15.6	57.8
D	8	299 55.7	N 9 27.2	338 33.8	13.3	S 6 23.1	15.7	57.9
A	9	314 55.8	N 9 28.1	353 06.1	13.3	S 6 07.4	15.7	57.9
Y	10	329 56.0	N 9 29.0	7 38.4	13.3	S 5 51.6	15.8	57.9
	11	344 56.1	N 9 29.9	22 10.7	13.3	S 5 35.8	15.8	58.0
	12	359 56.3	N 9 30.8	36 42.9	13.2	S 5 20.0	15.8	58.0
	13	14 56.4	N 9 31.7	51 15.1	13.2	S 5 04.1	15.9	58.1
	14	29 56.6	N 9 32.6	65 47.3	13.2	S 4 48.1	15.9	58.1
	15	44 56.7	N 9 33.5	80 19.5	13.2	S 4 32.2	16.0	58.1
	16	59 56.9	N 9 34.4	94 51.7	13.2	S 4 16.1	16.0	58.2
	17	74 57.0	N 9 35.3	109 23.9	13.2	S 4 00.1	16.1	58.2
	18	89 57.2	N 9 36.2	123 56.0	13.1	S 3 44.0	16.1	58.2
	19	104 57.3	N 9 37.1	138 28.1	13.1	S 3 27.8	16.1	58.3
	20	119 57.5	N 9 38.0	153 00.2	13.1	S 3 11.6	16.2	58.3
	21	134 57.6	N 9 38.9	167 32.3	13.1	S 2 55.4	16.2	58.3
	22	149 57.8	N 9 39.8	182 04.3	13.0	S 2 39.2	16.3	58.4
	23	164 58.0	N 9 40.7	196 36.4	13.0	S 2 22.9	16.3	58.4
15	0	179 58.1	N 9 41.5	211 08.4	13.0	S 2 06.6	16.3	58.5
	1	194 58.3	N 9 42.4	225 40.3	13.0	S 1 50.2	16.3	58.5
	2	209 58.4	N 9 43.3	240 12.2	12.9	S 1 33.8	16.4	58.5
	3	224 58.6	N 9 44.2	254 44.1	12.9	S 1 17.4	16.4	58.6
	4	239 58.7	N 9 45.1	269 16.0	12.9	S 1 01.0	16.4	58.6
W	5	254 58.9	N 9 46.0	283 47.8	12.8	S 0 44.5	16.5	58.6
E								
D	6	269 59.0	N 9 46.9	298 19.6	12.8	S 0 28.1	16.5	58.7
N	7	284 59.2	N 9 47.8	312 51.4	12.8	S 0 11.6	16.5	58.7
E	8	299 59.3	N 9 48.7	327 23.1	12.7	N 0 05.0	16.5	58.7
S	9	314 59.5	N 9 49.6	341 54.8	12.7	N 0 21.5	16.5	58.8
D	10	329 59.6	N 9 50.5	356 26.4	12.6	N 0 38.1	16.6	58.8
A	11	344 59.8	N 9 51.4	10 58.0	12.6	N 0 54.7	16.6	58.8
Y								
	12	359 59.9	N 9 52.3	25 29.6	12.6	N 1 11.3	16.6	58.9
	13	15 00.1	N 9 53.2	40 01.1	12.5	N 1 27.9	16.6	58.9
	14	30 00.2	N 9 54.1	54 32.6	12.5	N 1 44.5	16.6	58.9
	15	45 00.4	N 9 54.9	69 04.0	12.4	N 2 01.2	16.6	59.0
	16	60 00.5	N 9 55.8	83 35.4	12.4	N 2 17.8	16.6	59.0
	17	75 00.7	N 9 56.7	98 06.7	12.3	N 2 34.5	16.7	59.0
	18	90 00.8	N 9 57.6	112 38.0	12.3	N 2 51.1	16.7	59.1
	19	105 01.0	N 9 58.5	127 09.2	12.2	N 3 07.8	16.7	59.1
	20	120 01.1	N 9 59.4	141 40.4	12.2	N 3 24.5	16.7	59.1
	21	135 01.2	N10 00.3	156 11.5	12.1	N 3 41.1	16.7	59.2
	22	150 01.4	N10 01.2	170 42.5	12.1	N 3 57.8	16.7	59.2
	23	165 01.5	N10 02.1	185 13.5	12.0	N 4 14.5	16.7	59.2
		S.D. 15.9	d 0.9	S.D.	15.6	15.8	16.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.0
Achernar	335 19.9	S57 06.2
Acrux	172 58.4	S63 14.8
Adhara	255 05.1	S29 00.7
Albireo	67 03.2	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.8
Al Na-ir	27 31.8	S46 49.9
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.5	N26 37.3
Alpheratz	357 34.1	N29 14.0
Altair	61 59.0	N 8 56.1
Ankaa	353 06.5	S42 09.8
Antares	112 14.3	S26 29.5
Arcturus	145 46.6	N19 02.5
Atria	107 07.4	S69 04.4
Avior	234 14.2	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.1	S52 42.8
Capella	280 20.7	N46 01.6
Castor	245 55.7	N31 49.9
Deneb	49 25.2	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.1	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.5	N51 28.7
Enif	33 37.9	N 9 59.6
Fomalhaut	15 13.6	S29 29.0
Gacrux	171 50.0	S57 15.8
Gienah	175 42.2	S17 41.4
Hadar	148 34.0	S60 30.1
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.0	S34 22.3
Kochab	137 18.8	N74 02.6
Markab	13 29.1	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.7	S69 49.8
Mirfak	308 27.3	N49 57.4
Nunki	75 46.4	S26 15.8
Peacock	53 04.1	S56 38.9
Polaris	316 29.1	N89 22.0
Pollux	243 16.0	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.4	N12 32.2
Regulus	207 33.1	N11 50.3
Rigel	281 03.1	S 8 10.4
Rigil Kent	139 38.4	S60 56.7
Sabik	102 01.4	S15 45.6
Schedar	349 30.5	N56 40.8
Shaula	96 08.7	S37 07.4
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.4	S43 32.6
Vega	80 32.4	N38 48.1
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
16	0	204 09.3	156 37.2	N17 57.6	199 21.4	N 1 00.7	95 36.0	N22 43.6	196 31.3	N 0 57.7
	1	219 11.8	171 36.6	N17 58.5	214 22.0	N 1 01.5	110 38.2	N22 43.6	211 33.5	N 0 57.9
	2	234 14.2	186 36.0	N17 59.5	229 22.7	N 1 02.3	125 40.4	N22 43.5	226 35.6	N 0 58.0
	3	249 16.7	201 35.4	N18 00.4	244 23.4	N 1 03.1	140 42.6	N22 43.5	241 37.8	N 0 58.1
	4	264 19.2	216 34.8	N18 01.3	259 24.1	N 1 03.8	155 44.7	N22 43.5	256 40.0	N 0 58.2
T	5	279 21.6	231 34.2	N18 02.3	274 24.8	N 1 04.6	170 46.9	N22 43.4	271 42.2	N 0 58.3
H										
U	6	294 24.1	246 33.6	N18 03.2	289 25.5	N 1 05.4	185 49.1	N22 43.4	286 44.4	N 0 58.4
R	7	309 26.6	261 33.0	N18 04.1	304 26.2	N 1 06.2	200 51.3	N22 43.4	301 46.6	N 0 58.6
S	8	324 29.0	276 32.4	N18 05.0	319 26.9	N 1 07.0	215 53.5	N22 43.3	316 48.8	N 0 58.7
D	9	339 31.5	291 31.8	N18 06.0	334 27.6	N 1 07.8	230 55.6	N22 43.3	331 50.9	N 0 58.8
A	10	354 34.0	306 31.2	N18 06.9	349 28.3	N 1 08.5	245 57.8	N22 43.3	346 53.1	N 0 58.9
Y	11	9 36.4	321 30.6	N18 07.8	4 28.9	N 1 09.3	260 60.0	N22 43.2	1 55.3	N 0 59.0
	12	24 38.9	336 30.0	N18 08.7	19 29.6	N 1 10.1	276 02.2	N22 43.2	16 57.5	N 0 59.1
	13	39 41.3	351 29.4	N18 09.7	34 30.3	N 1 10.9	291 04.3	N22 43.2	31 59.7	N 0 59.3
	14	54 43.8	6 28.8	N18 10.6	49 31.0	N 1 11.7	306 06.5	N22 43.1	47 01.9	N 0 59.4
	15	69 46.3	21 28.2	N18 11.5	64 31.7	N 1 12.4	321 08.7	N22 43.1	62 04.1	N 0 59.5
	16	84 48.7	36 27.6	N18 12.4	79 32.4	N 1 13.2	336 10.9	N22 43.1	77 06.2	N 0 59.6
	17	99 51.2	51 27.0	N18 13.3	94 33.1	N 1 14.0	351 13.0	N22 43.1	92 08.4	N 0 59.7
	18	114 53.7	66 26.4	N18 14.2	109 33.8	N 1 14.8	6 15.2	N22 43.0	107 10.6	N 0 59.8
	19	129 56.1	81 25.8	N18 15.2	124 34.5	N 1 15.6	21 17.4	N22 43.0	122 12.8	N 0 59.9
	20	144 58.6	96 25.2	N18 16.1	139 35.1	N 1 16.3	36 19.6	N22 43.0	137 15.0	N 1 00.1
	21	160 01.1	111 24.6	N18 17.0	154 35.8	N 1 17.1	51 21.7	N22 42.9	152 17.2	N 1 00.2
	22	175 03.5	126 24.0	N18 17.9	169 36.5	N 1 17.9	66 23.9	N22 42.9	167 19.4	N 1 00.3
	23	190 06.0	141 23.4	N18 18.8	184 37.2	N 1 18.7	81 26.1	N22 42.9	182 21.6	N 1 00.4
17	0	205 08.5	156 22.8	N18 19.7	199 37.9	N 1 19.5	96 28.3	N22 42.8	197 23.7	N 1 00.5
	1	220 10.9	171 22.1	N18 20.6	214 38.6	N 1 20.2	111 30.4	N22 42.8	212 25.9	N 1 00.6
	2	235 13.4	186 21.5	N18 21.5	229 39.3	N 1 21.0	126 32.6	N22 42.8	227 28.1	N 1 00.7
	3	250 15.8	201 20.9	N18 22.5	244 40.0	N 1 21.8	141 34.8	N22 42.7	242 30.3	N 1 00.9
	4	265 18.3	216 20.3	N18 23.4	259 40.7	N 1 22.6	156 37.0	N22 42.7	257 32.5	N 1 01.0
F	5	280 20.8	231 19.7	N18 24.3	274 41.4	N 1 23.3	171 39.1	N22 42.7	272 34.7	N 1 01.1
R										
I	6	295 23.2	246 19.1	N18 25.2	289 42.0	N 1 24.1	186 41.3	N22 42.6	287 36.9	N 1 01.2
D	7	310 25.7	261 18.5	N18 26.1	304 42.7	N 1 24.9	201 43.5	N22 42.6	302 39.0	N 1 01.3
A	8	325 28.2	276 17.9	N18 27.0	319 43.4	N 1 25.7	216 45.6	N22 42.6	317 41.2	N 1 01.4
Y	9	340 30.6	291 17.3	N18 27.9	334 44.1	N 1 26.5	231 47.8	N22 42.5	332 43.4	N 1 01.6
	10	355 33.1	306 16.7	N18 28.8	349 44.8	N 1 27.2	246 50.0	N22 42.5	347 45.6	N 1 01.7
	11	10 35.6	321 16.0	N18 29.7	4 45.5	N 1 28.0	261 52.2	N22 42.5	2 47.8	N 1 01.8
	12	25 38.0	336 15.4	N18 30.6	19 46.2	N 1 28.8	276 54.3	N22 42.4	17 50.0	N 1 01.9
	13	40 40.5	351 14.8	N18 31.5	34 46.9	N 1 29.6	291 56.5	N22 42.4	32 52.2	N 1 02.0
	14	55 43.0	6 14.2	N18 32.4	49 47.6	N 1 30.4	306 58.7	N22 42.4	47 54.4	N 1 02.1
	15	70 45.4	21 13.6	N18 33.3	64 48.3	N 1 31.1	322 00.8	N22 42.3	62 56.5	N 1 02.2
	16	85 47.9	36 13.0	N18 34.2	79 48.9	N 1 31.9	337 03.0	N22 42.3	77 58.7	N 1 02.4
	17	100 50.3	51 12.4	N18 35.1	94 49.6	N 1 32.7	352 05.2	N22 42.3	93 00.9	N 1 02.5
	18	115 52.8	66 11.7	N18 36.0	109 50.3	N 1 33.5	7 07.3	N22 42.2	108 03.1	N 1 02.6
	19	130 55.3	81 11.1	N18 36.9	124 51.0	N 1 34.3	22 09.5	N22 42.2	123 05.3	N 1 02.7
	20	145 57.7	96 10.5	N18 37.8	139 51.7	N 1 35.0	37 11.7	N22 42.2	138 07.5	N 1 02.8
	21	161 00.2	111 09.9	N18 38.7	154 52.4	N 1 35.8	52 13.8	N22 42.1	153 09.7	N 1 02.9
	22	176 02.7	126 09.3	N18 39.6	169 53.1	N 1 36.6	67 16.0	N22 42.1	168 11.9	N 1 03.0
	23	191 05.1	141 08.6	N18 40.5	184 53.8	N 1 37.4	82 18.2	N22 42.1	183 14.0	N 1 03.2
18	0	206 07.6	156 08.0	N18 41.4	199 54.5	N 1 38.1	97 20.3	N22 42.0	198 16.2	N 1 03.3
	1	221 10.1	171 07.4	N18 42.3	214 55.2	N 1 38.9	112 22.5	N22 42.0	213 18.4	N 1 03.4
	2	236 12.5	186 06.8	N18 43.1	229 55.8	N 1 39.7	127 24.7	N22 42.0	228 20.6	N 1 03.5
	3	251 15.0	201 06.2	N18 44.0	244 56.5	N 1 40.5	142 26.8	N22 41.9	243 22.8	N 1 03.6
	4	266 17.4	216 05.5	N18 44.9	259 57.2	N 1 41.3	157 29.0	N22 41.9	258 25.0	N 1 03.7
S	5	281 19.9	231 04.9	N18 45.8	274 57.9	N 1 42.0	172 31.2	N22 41.9	273 27.2	N 1 03.8
A										
T	6	296 22.4	246 04.3	N18 46.7	289 58.6	N 1 42.8	187 33.3	N22 41.8	288 29.4	N 1 04.0
U	7	311 24.8	261 03.7	N18 47.6	304 59.3	N 1 43.6	202 35.5	N22 41.8	303 31.5	N 1 04.1
R	8	326 27.3	276 03.1	N18 48.5	319 60.0	N 1 44.4	217 37.7	N22 41.7	318 33.7	N 1 04.2
D	9	341 29.8	291 02.4	N18 49.4	335 00.7	N 1 45.2	232 39.8	N22 41.7	333 35.9	N 1 04.3
A	10	356 32.2	306 01.8	N18 50.2	350 01.4	N 1 45.9	247 42.0	N22 41.7	348 38.1	N 1 04.4
Y	11	11 34.7	321 01.2	N18 51.1	5 02.1	N 1 46.7	262 44.2	N22 41.6	3 40.3	N 1 04.5
	12	26 37.2	336 00.6	N18 52.0	20 02.7	N 1 47.5	277 46.3	N22 41.6	18 42.5	N 1 04.6
	13	41 39.6	350 59.9	N18 52.9	35 03.4	N 1 48.3	292 48.5	N22 41.6	33 44.7	N 1 04.8
	14	56 42.1	5 59.3	N18 53.8	50 04.1	N 1 49.0	307 50.7	N22 41.5	48 46.9	N 1 04.9
	15	71 44.6	20 58.7	N18 54.6	65 04.8	N 1 49.8	322 52.8	N22 41.5	63 49.0	N 1 05.0
	16	86 47.0	35 58.1	N18 55.5	80 05.5	N 1 50.6	337 55.0	N22 41.5	78 51.2	N 1 05.1
	17	101 49.5	50 57.4	N18 56.4	95 06.2	N 1 51.4	352 57.1	N22 41.4	93 53.4	N 1 05.2
	18	116 51.9	65 56.8	N18 57.3	110 06.9	N 1 52.1	7 59.3	N22 41.4	108 55.6	N 1 05.3
	19	131 54.4	80 56.2	N18 58.1	125 07.6	N 1 52.9	23 01.5	N22 41.4	123 57.8	N 1 05.4
	20	146 56.9	95 55.5	N18 59.0	140 08.3	N 1 53.7	38 03.6	N22 41.3	138 60.0	N 1 05.6
	21	161 59.3	110 54.9	N18 59.9	155 09.0	N 1 54.5	53 05.8	N22 41.3	154 02.2	N 1 05.7
	22	177 01.8	125 54.3	N19 00.8	170 09.7	N 1 55.3	68 08.0	N22 41.3	169 04.4	N 1 05.8
	23	192 04.3	140 53.7	N19 01.6	185 10.3	N 1 56.0	83 10.1	N22 41.2	184 06.5	N 1 05.9
			v -0.6	d 0.9	v 0.7	d 0.8	v 2.2	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
16	0	180 01.7	N10 03.0	199 44.5	11.9	N 4 31.2	16.7	59.3
	1	195 01.8	N10 03.8	214 15.3	11.9	N 4 47.8	16.7	59.3
	2	210 02.0	N10 04.7	228 46.2	11.8	N 5 04.5	16.7	59.3
	3	225 02.1	N10 05.6	243 16.9	11.8	N 5 21.1	16.7	59.4
	4	240 02.3	N10 06.5	257 47.6	11.7	N 5 37.8	16.6	59.4
T	5	255 02.4	N10 07.4	272 18.2	11.6	N 5 54.4	16.6	59.4
H								
U	6	270 02.6	N10 08.3	286 48.8	11.6	N 6 11.0	16.6	59.5
R	7	285 02.7	N10 09.2	301 19.3	11.5	N 6 27.6	16.6	59.5
S	8	300 02.9	N10 10.1	315 49.7	11.4	N 6 44.2	16.6	59.5
D	9	315 03.0	N10 10.9	330 20.1	11.4	N 7 00.8	16.6	59.5
A	10	330 03.2	N10 11.8	344 50.4	11.3	N 7 17.4	16.6	59.6
Y	11	345 03.3	N10 12.7	359 20.6	11.2	N 7 33.9	16.5	59.6
	12	0 03.4	N10 13.6	13 50.7	11.1	N 7 50.4	16.5	59.6
	13	15 03.6	N10 14.5	28 20.8	11.1	N 8 06.9	16.5	59.7
	14	30 03.7	N10 15.4	42 50.8	11.0	N 8 23.3	16.5	59.7
	15	45 03.9	N10 16.3	57 20.7	10.9	N 8 39.8	16.4	59.7
	16	60 04.0	N10 17.1	71 50.5	10.8	N 8 56.1	16.4	59.7
	17	75 04.2	N10 18.0	86 20.3	10.8	N 9 12.5	16.4	59.8
	18	90 04.3	N10 18.9	100 50.0	10.7	N 9 28.8	16.3	59.8
	19	105 04.5	N10 19.8	115 19.6	10.6	N 9 45.1	16.3	59.8
	20	120 04.6	N10 20.7	129 49.1	10.5	N10 01.4	16.3	59.8
	21	135 04.8	N10 21.6	144 18.5	10.4	N10 17.6	16.2	59.9
	22	150 04.9	N10 22.4	158 47.8	10.3	N10 33.8	16.2	59.9
	23	165 05.0	N10 23.3	173 17.1	10.3	N10 49.9	16.1	59.9
17	0	180 05.2	N10 24.2	187 46.3	10.2	N11 06.0	16.1	59.9
	1	195 05.3	N10 25.1	202 15.3	10.1	N11 22.0	16.0	60.0
	2	210 05.5	N10 26.0	216 44.3	10.0	N11 38.0	16.0	60.0
	3	225 05.6	N10 26.8	231 13.2	9.9	N11 53.9	15.9	60.0
	4	240 05.8	N10 27.7	245 42.0	9.8	N12 09.8	15.9	60.0
F	5	255 05.9	N10 28.6	260 10.7	9.7	N12 25.6	15.8	60.1
R								
I	6	270 06.0	N10 29.5	274 39.3	9.6	N12 41.3	15.8	60.1
D	7	285 06.2	N10 30.4	289 07.9	9.5	N12 57.0	15.7	60.1
A	8	300 06.3	N10 31.2	303 36.3	9.4	N13 12.7	15.6	60.1
Y	9	315 06.5	N10 32.1	318 04.6	9.3	N13 28.3	15.6	60.2
	10	330 06.6	N10 33.0	332 32.9	9.2	N13 43.8	15.5	60.2
	11	345 06.8	N10 33.9	347 01.0	9.1	N13 59.2	15.4	60.2
	12	0 06.9	N10 34.8	1 29.0	9.0	N14 14.6	15.4	60.2
	13	15 07.0	N10 35.6	15 57.0	8.9	N14 29.9	15.3	60.2
	14	30 07.2	N10 36.5	30 24.8	8.8	N14 45.1	15.2	60.2
	15	45 07.3	N10 37.4	44 52.5	8.7	N15 00.2	15.1	60.3
	16	60 07.5	N10 38.3	59 20.1	8.6	N15 15.3	15.1	60.3
	17	75 07.6	N10 39.1	73 47.7	8.5	N15 30.3	15.0	60.3
	18	90 07.7	N10 40.0	88 15.1	8.4	N15 45.2	14.9	60.3
	19	105 07.9	N10 40.9	102 42.4	8.3	N15 60.0	14.8	60.3
	20	120 08.0	N10 41.8	117 09.6	8.2	N16 14.7	14.7	60.4
	21	135 08.2	N10 42.7	131 36.7	8.1	N16 29.3	14.6	60.4
	22	150 08.3	N10 43.5	146 03.7	8.0	N16 43.9	14.5	60.4
	23	165 08.4	N10 44.4	160 30.6	7.9	N16 58.3	14.4	60.4
18	0	180 08.6	N10 45.3	174 57.4	7.8	N17 12.6	14.3	60.4
	1	195 08.7	N10 46.2	189 24.0	7.7	N17 26.9	14.2	60.4
	2	210 08.9	N10 47.0	203 50.6	7.6	N17 41.0	14.1	60.4
	3	225 09.0	N10 47.9	218 17.1	7.5	N17 55.1	14.0	60.5
	4	240 09.1	N10 48.8	232 43.4	7.3	N18 09.0	13.9	60.5
S	5	255 09.3	N10 49.6	247 09.6	7.2	N18 22.9	13.8	60.5
A								
T	6	270 09.4	N10 50.5	261 35.8	7.1	N18 36.6	13.7	60.5
U	7	285 09.6	N10 51.4	276 01.8	7.0	N18 50.2	13.6	60.5
R	8	300 09.7	N10 52.3	290 27.7	6.9	N19 03.7	13.5	60.5
D	9	315 09.8	N10 53.1	304 53.5	6.8	N19 17.1	13.4	60.5
A	10	330 10.0	N10 54.0	319 19.1	6.7	N19 30.3	13.3	60.5
Y	11	345 10.1	N10 54.9	333 44.7	6.6	N19 43.5	13.1	60.5
	12	0 10.2	N10 55.7	348 10.2	6.5	N19 56.5	13.0	60.6
	13	15 10.4	N10 56.6	2 35.5	6.3	N20 09.4	12.9	60.6
	14	30 10.5	N10 57.5	17 00.7	6.2	N20 22.2	12.8	60.6
	15	45 10.7	N10 58.4	31 25.9	6.1	N20 34.8	12.6	60.6
	16	60 10.8	N10 59.2	45 50.9	6.0	N20 47.3	12.5	60.6
	17	75 10.9	N11 00.1	60 15.8	5.9	N20 59.7	12.4	60.6
	18	90 11.1	N11 01.0	74 40.6	5.8	N21 11.9	12.2	60.6
	19	105 11.2	N11 01.8	89 05.3	5.7	N21 24.0	12.1	60.6
	20	120 11.3	N11 02.7	103 29.8	5.6	N21 36.0	12.0	60.6
	21	135 11.5	N11 03.6	117 54.3	5.5	N21 47.8	11.8	60.6
	22	150 11.6	N11 04.4	132 18.7	5.4	N21 59.4	11.7	60.6
	23	165 11.7	N11 05.3	146 42.9	5.3	N22 11.0	11.5	60.6
		S.D. 15.9	d 0.9	S.D.	16.2	16.4	16.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.0
Achernar	335 19.9	S57 06.2
Acrux	172 58.4	S63 14.9
Adhara	255 05.1	S29 00.7
Albireo	67 03.2	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.8
Al Na-ir	27 31.8	S46 49.9
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.5	N26 37.3
Alpheratz	357 34.1	N29 14.0
Altair	61 58.9	N 8 56.1
Ankaa	353 06.5	S42 09.8
Antares	112 14.3	S26 29.5
Arcturus	145 46.6	N19 02.5
Atria	107 07.3	S69 04.4
Avior	234 14.3	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.1	S52 42.8
Capella	280 20.7	N46 01.6
Castor	245 55.8	N31 49.9
Deneb	49 25.2	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.6
Dubhe	193 39.2	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.5	N51 28.7
Enif	33 37.9	N 9 59.6
Fomalhaut	15 13.6	S29 29.0
Gacrux	171 50.0	S57 15.8
Gienah	175 42.2	S17 41.4
Hadar	148 34.0	S60 30.1
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.0	S34 22.3
Kochab	137 18.8	N74 02.6
Markab	13 29.1	N15 20.6
Menkar	314 05.4	N 4 11.5
Menkent	147 56.0	S36 30.1
Miaplacidus	221 37.7	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.4	S26 15.8
Peacock	53 04.1	S56 38.9
Polaris	316 29.2	N89 21.9
Pollux	243 16.0	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.4	N12 32.2
Regulus	207 33.1	N11 50.3
Rigel	281 03.1	S 8 10.4
Rigil Kent	139 38.4	S60 56.7
Sabik	102 01.4	S15 45.6
Schedar	349 30.4	N56 40.8
Shaula	96 08.7	S37 07.4
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.4	S43 32.6
Vega	80 32.4	N38 48.1
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
19	0	207 06.7	155 53.0	N19 02.5	200 11.0	N 1 56.8	98 12.3	N22 41.2	199 08.7	N 1 06.0
	1	222 09.2	170 52.4	N19 03.4	215 11.7	N 1 57.6	113 14.4	N22 41.2	214 10.9	N 1 06.1
	2	237 11.7	185 51.8	N19 04.3	230 12.4	N 1 58.4	128 16.6	N22 41.1	229 13.1	N 1 06.2
	3	252 14.1	200 51.1	N19 05.1	245 13.1	N 1 59.1	143 18.8	N22 41.1	244 15.3	N 1 06.4
	4	267 16.6	215 50.5	N19 06.0	260 13.8	N 1 59.9	158 20.9	N22 41.1	259 17.5	N 1 06.5
S	5	282 19.0	230 49.9	N19 06.9	275 14.5	N 2 00.7	173 23.1	N22 41.0	274 19.7	N 1 06.6
U										
N	6	297 21.5	245 49.2	N19 07.7	290 15.2	N 2 01.5	188 25.2	N22 41.0	289 21.9	N 1 06.7
D	7	312 24.0	260 48.6	N19 08.6	305 15.9	N 2 02.2	203 27.4	N22 41.0	304 24.1	N 1 06.8
A	8	327 26.4	275 48.0	N19 09.5	320 16.6	N 2 03.0	218 29.6	N22 40.9	319 26.2	N 1 06.9
Y	9	342 28.9	290 47.3	N19 10.3	335 17.3	N 2 03.8	233 31.7	N22 40.9	334 28.4	N 1 07.0
	10	357 31.4	305 46.7	N19 11.2	350 17.9	N 2 04.6	248 33.9	N22 40.8	349 30.6	N 1 07.2
	11	12 33.8	320 46.1	N19 12.0	5 18.6	N 2 05.4	263 36.0	N22 40.8	4 32.8	N 1 07.3
	12	27 36.3	335 45.4	N19 12.9	20 19.3	N 2 06.1	278 38.2	N22 40.8	19 35.0	N 1 07.4
	13	42 38.8	350 44.8	N19 13.8	35 20.0	N 2 06.9	293 40.3	N22 40.7	34 37.2	N 1 07.5
	14	57 41.2	5 44.2	N19 14.6	50 20.7	N 2 07.7	308 42.5	N22 40.7	49 39.4	N 1 07.6
	15	72 43.7	20 43.5	N19 15.5	65 21.4	N 2 08.5	323 44.7	N22 40.7	64 41.6	N 1 07.7
	16	87 46.2	35 42.9	N19 16.3	80 22.1	N 2 09.2	338 46.8	N22 40.6	79 43.8	N 1 07.8
	17	102 48.6	50 42.2	N19 17.2	95 22.8	N 2 10.0	353 49.0	N22 40.6	94 45.9	N 1 07.9
	18	117 51.1	65 41.6	N19 18.1	110 23.5	N 2 10.8	8 51.1	N22 40.6	109 48.1	N 1 08.1
	19	132 53.5	80 41.0	N19 18.9	125 24.2	N 2 11.6	23 53.3	N22 40.5	124 50.3	N 1 08.2
	20	147 56.0	95 40.3	N19 19.8	140 24.9	N 2 12.3	38 55.4	N22 40.5	139 52.5	N 1 08.3
	21	162 58.5	110 39.7	N19 20.6	155 25.6	N 2 13.1	53 57.6	N22 40.5	154 54.7	N 1 08.4
	22	178 00.9	125 39.1	N19 21.5	170 26.2	N 2 13.9	68 59.7	N22 40.4	169 56.9	N 1 08.5
	23	193 03.4	140 38.4	N19 22.3	185 26.9	N 2 14.7	84 01.9	N22 40.4	184 59.1	N 1 08.6
20	0	208 05.9	155 37.8	N19 23.2	200 27.6	N 2 15.4	99 04.1	N22 40.3	200 01.3	N 1 08.7
	1	223 08.3	170 37.1	N19 24.0	215 28.3	N 2 16.2	114 06.2	N22 40.3	215 03.5	N 1 08.9
	2	238 10.8	185 36.5	N19 24.9	230 29.0	N 2 17.0	129 08.4	N22 40.3	230 05.6	N 1 09.0
	3	253 13.3	200 35.8	N19 25.7	245 29.7	N 2 17.8	144 10.5	N22 40.2	245 07.8	N 1 09.1
	4	268 15.7	215 35.2	N19 26.6	260 30.4	N 2 18.5	159 12.7	N22 40.2	260 10.0	N 1 09.2
M	5	283 18.2	230 34.6	N19 27.4	275 31.1	N 2 19.3	174 14.8	N22 40.2	275 12.2	N 1 09.3
O										
N	6	298 20.7	245 33.9	N19 28.3	290 31.8	N 2 20.1	189 17.0	N22 40.1	290 14.4	N 1 09.4
D	7	313 23.1	260 33.3	N19 29.1	305 32.5	N 2 20.9	204 19.1	N22 40.1	305 16.6	N 1 09.5
A	8	328 25.6	275 32.6	N19 29.9	320 33.2	N 2 21.6	219 21.3	N22 40.1	320 18.8	N 1 09.6
Y	9	343 28.0	290 32.0	N19 30.8	335 33.9	N 2 22.4	234 23.4	N22 40.0	335 21.0	N 1 09.8
	10	358 30.5	305 31.3	N19 31.6	350 34.5	N 2 23.2	249 25.6	N22 40.0	350 23.2	N 1 09.9
	11	13 33.0	320 30.7	N19 32.5	5 35.2	N 2 24.0	264 27.7	N22 40.0	5 25.4	N 1 10.0
	12	28 35.4	335 30.0	N19 33.3	20 35.9	N 2 24.7	279 29.9	N22 39.9	20 27.5	N 1 10.1
	13	43 37.9	350 29.4	N19 34.2	35 36.6	N 2 25.5	294 32.0	N22 39.9	35 29.7	N 1 10.2
	14	58 40.4	5 28.7	N19 35.0	50 37.3	N 2 26.3	309 34.2	N22 39.8	50 31.9	N 1 10.3
	15	73 42.8	20 28.1	N19 35.8	65 38.0	N 2 27.1	324 36.3	N22 39.8	65 34.1	N 1 10.4
	16	88 45.3	35 27.4	N19 36.7	80 38.7	N 2 27.8	339 38.5	N22 39.8	80 36.3	N 1 10.6
	17	103 47.8	50 26.8	N19 37.5	95 39.4	N 2 28.6	354 40.6	N22 39.7	95 38.5	N 1 10.7
	18	118 50.2	65 26.2	N19 38.3	110 40.1	N 2 29.4	9 42.8	N22 39.7	110 40.7	N 1 10.8
	19	133 52.7	80 25.5	N19 39.2	125 40.8	N 2 30.2	24 44.9	N22 39.7	125 42.9	N 1 10.9
	20	148 55.2	95 24.9	N19 40.0	140 41.5	N 2 30.9	39 47.1	N22 39.6	140 45.1	N 1 11.0
	21	163 57.6	110 24.2	N19 40.8	155 42.2	N 2 31.7	54 49.2	N22 39.6	155 47.3	N 1 11.1
	22	179 00.1	125 23.5	N19 41.7	170 42.9	N 2 32.5	69 51.4	N22 39.5	170 49.4	N 1 11.2
	23	194 02.5	140 22.9	N19 42.5	185 43.5	N 2 33.3	84 53.5	N22 39.5	185 51.6	N 1 11.3
21	0	209 05.0	155 22.2	N19 43.3	200 44.2	N 2 34.0	99 55.7	N22 39.5	200 53.8	N 1 11.5
	1	224 07.5	170 21.6	N19 44.2	215 44.9	N 2 34.8	114 57.8	N22 39.4	215 56.0	N 1 11.6
	2	239 09.9	185 20.9	N19 45.0	230 45.6	N 2 35.6	129 60.0	N22 39.4	230 58.2	N 1 11.7
	3	254 12.4	200 20.3	N19 45.8	245 46.3	N 2 36.4	145 02.1	N22 39.4	246 00.4	N 1 11.8
	4	269 14.9	215 19.6	N19 46.6	260 47.0	N 2 37.1	160 04.3	N22 39.3	261 02.6	N 1 11.9
T	5	284 17.3	230 19.0	N19 47.5	275 47.7	N 2 37.9	175 06.4	N22 39.3	276 04.8	N 1 12.0
U										
E	6	299 19.8	245 18.3	N19 48.3	290 48.4	N 2 38.7	190 08.6	N22 39.3	291 07.0	N 1 12.1
S	7	314 22.3	260 17.7	N19 49.1	305 49.1	N 2 39.4	205 10.7	N22 39.2	306 09.2	N 1 12.2
D	8	329 24.7	275 17.0	N19 49.9	320 49.8	N 2 40.2	220 12.9	N22 39.2	321 11.3	N 1 12.4
A	9	344 27.2	290 16.4	N19 50.7	335 50.5	N 2 41.0	235 15.0	N22 39.1	336 13.5	N 1 12.5
Y	10	359 29.6	305 15.7	N19 51.6	350 51.2	N 2 41.8	250 17.1	N22 39.1	351 15.7	N 1 12.6
	11	14 32.1	320 15.0	N19 52.4	5 51.9	N 2 42.5	265 19.3	N22 39.1	6 17.9	N 1 12.7
	12	29 34.6	335 14.4	N19 53.2	20 52.5	N 2 43.3	280 21.4	N22 39.0	21 20.1	N 1 12.8
	13	44 37.0	350 13.7	N19 54.0	35 53.2	N 2 44.1	295 23.6	N22 39.0	36 22.3	N 1 12.9
	14	59 39.5	5 13.1	N19 54.8	50 53.9	N 2 44.9	310 25.7	N22 39.0	51 24.5	N 1 13.0
	15	74 42.0	20 12.4	N19 55.7	65 54.6	N 2 45.6	325 27.9	N22 38.9	66 26.7	N 1 13.1
	16	89 44.4	35 11.7	N19 56.5	80 55.3	N 2 46.4	340 30.0	N22 38.9	81 28.9	N 1 13.3
	17	104 46.9	50 11.1	N19 57.3	95 56.0	N 2 47.2	355 32.2	N22 38.8	96 31.1	N 1 13.4
	18	119 49.4	65 10.4	N19 58.1	110 56.7	N 2 47.9	10 34.3	N22 38.8	111 33.3	N 1 13.5
	19	134 51.8	80 09.8	N19 58.9	125 57.4	N 2 48.7	25 36.4	N22 38.8	126 35.4	N 1 13.6
	20	149 54.3	95 09.1	N19 59.7	140 58.1	N 2 49.5	40 38.6	N22 38.7	141 37.6	N 1 13.7
	21	164 56.8	110 08.4	N20 00.5	155 58.8	N 2 50.3	55 40.7	N22 38.7	156 39.8	N 1 13.8
	22	179 59.2	125 07.8	N20 01.3	170 59.5	N 2 51.0	70 42.9	N22 38.7	171 42.0	N 1 13.9
	23	195 01.7	140 07.1	N20 02.1	186 00.2	N 2 51.8	85 45.0	N22 38.6	186 44.2	N 1 14.0
			v -0.6	d 0.8	v 0.7	d 0.8	v 2.2	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
19	0	180 11.9	N11 06.2	161 07.1	5.1	N22 22.3	11.4	60.6
	1	195 12.0	N11 07.0	175 31.1	5.0	N22 33.6	11.2	60.6
	2	210 12.1	N11 07.9	189 55.0	4.9	N22 44.6	11.1	60.6
	3	225 12.3	N11 08.8	204 18.9	4.8	N22 55.6	10.9	60.6
	4	240 12.4	N11 09.6	218 42.6	4.7	N23 06.3	10.8	60.6
S	5	255 12.6	N11 10.5	233 06.2	4.6	N23 16.9	10.6	60.6
U								
N	6	270 12.7	N11 11.4	247 29.7	4.5	N23 27.4	10.4	60.6
D	7	285 12.8	N11 12.2	261 53.2	4.4	N23 37.6	10.3	60.6
A	8	300 13.0	N11 13.1	276 16.5	4.3	N23 47.8	10.1	60.6
Y	9	315 13.1	N11 14.0	290 39.7	4.2	N23 57.7	10.0	60.6
	10	330 13.2	N11 14.8	305 02.8	4.1	N24 07.5	9.8	60.6
	11	345 13.4	N11 15.7	319 25.9	4.0	N24 17.1	9.6	60.6
	12	0 13.5	N11 16.6	333 48.8	3.9	N24 26.6	9.4	60.6
	13	15 13.6	N11 17.4	348 11.6	3.8	N24 35.8	9.3	60.6
	14	30 13.8	N11 18.3	2 34.4	3.8	N24 44.9	9.1	60.6
	15	45 13.9	N11 19.1	16 57.1	3.7	N24 53.8	8.9	60.6
	16	60 14.0	N11 20.0	31 19.6	3.6	N25 02.6	8.7	60.6
	17	75 14.2	N11 20.9	45 42.1	3.5	N25 11.1	8.6	60.6
	18	90 14.3	N11 21.7	60 04.5	3.4	N25 19.5	8.4	60.6
	19	105 14.4	N11 22.6	74 26.8	3.3	N25 27.7	8.2	60.6
	20	120 14.6	N11 23.4	88 49.1	3.2	N25 35.7	8.0	60.6
	21	135 14.7	N11 24.3	103 11.2	3.2	N25 43.5	7.8	60.6
	22	150 14.8	N11 25.2	117 33.3	3.1	N25 51.2	7.6	60.6
	23	165 14.9	N11 26.0	131 55.3	3.0	N25 58.6	7.4	60.6
20	0	180 15.1	N11 26.9	146 17.3	2.9	N26 05.9	7.3	60.6
	1	195 15.2	N11 27.7	160 39.2	2.9	N26 13.0	7.1	60.6
	2	210 15.3	N11 28.6	175 01.0	2.8	N26 19.8	6.9	60.6
	3	225 15.5	N11 29.5	189 22.7	2.7	N26 26.5	6.7	60.5
	4	240 15.6	N11 30.3	203 44.4	2.7	N26 33.0	6.5	60.5
M	5	255 15.7	N11 31.2	218 06.0	2.6	N26 39.3	6.3	60.5
O								
N	6	270 15.9	N11 32.0	232 27.5	2.6	N26 45.4	6.1	60.5
D	7	285 16.0	N11 32.9	246 49.0	2.5	N26 51.3	5.9	60.5
A	8	300 16.1	N11 33.7	261 10.5	2.4	N26 57.0	5.7	60.5
Y	9	315 16.3	N11 34.6	275 31.9	2.4	N27 02.4	5.5	60.5
	10	330 16.4	N11 35.5	289 53.2	2.3	N27 07.7	5.3	60.5
	11	345 16.5	N11 36.3	304 14.5	2.3	N27 12.8	5.1	60.5
	12	0 16.6	N11 37.2	318 35.8	2.3	N27 17.7	4.9	60.5
	13	15 16.8	N11 38.0	332 57.0	2.2	N27 22.4	4.7	60.4
	14	30 16.9	N11 38.9	347 18.2	2.2	N27 26.9	4.5	60.4
	15	45 17.0	N11 39.7	1 39.3	2.1	N27 31.1	4.3	60.4
	16	60 17.2	N11 40.6	16 00.4	2.1	N27 35.2	4.1	60.4
	17	75 17.3	N11 41.4	30 21.5	2.1	N27 39.1	3.9	60.4
	18	90 17.4	N11 42.3	44 42.6	2.1	N27 42.7	3.7	60.4
	19	105 17.5	N11 43.1	59 03.6	2.0	N27 46.1	3.4	60.4
	20	120 17.7	N11 44.0	73 24.6	2.0	N27 49.4	3.2	60.3
	21	135 17.8	N11 44.8	87 45.6	2.0	N27 52.4	3.0	60.3
	22	150 17.9	N11 45.7	102 06.6	2.0	N27 55.2	2.8	60.3
	23	165 18.0	N11 46.6	116 27.6	2.0	N27 57.8	2.6	60.3
21	0	180 18.2	N11 47.4	130 48.6	2.0	N28 00.2	2.4	60.3
	1	195 18.3	N11 48.3	145 09.6	2.0	N28 02.4	2.2	60.3
	2	210 18.4	N11 49.1	159 30.5	2.0	N28 04.4	2.0	60.2
	3	225 18.6	N11 50.0	173 51.5	2.0	N28 06.2	1.8	60.2
	4	240 18.7	N11 50.8	188 12.5	2.0	N28 07.7	1.6	60.2
T	5	255 18.8	N11 51.7	202 33.5	2.0	N28 09.1	1.4	60.2
U								
E	6	270 18.9	N11 52.5	216 54.5	2.0	N28 10.2	1.1	60.2
S	7	285 19.1	N11 53.4	231 15.5	2.0	N28 11.2	0.9	60.2
D	8	300 19.2	N11 54.2	245 36.5	2.0	N28 11.9	0.7	60.1
A	9	315 19.3	N11 55.0	259 57.5	2.0	N28 12.4	0.5	60.1
Y	10	330 19.4	N11 55.9	274 18.6	2.1	N28 12.7	0.3	60.1
	11	345 19.6	N11 56.7	288 39.7	2.1	N28 12.8	0.1	60.1
	12	0 19.7	N11 57.6	303 00.9	2.1	N28 12.7	0.1	60.1
	13	15 19.8	N11 58.4	317 22.0	2.2	N28 12.4	0.3	60.0
	14	30 19.9	N11 59.3	331 43.2	2.2	N28 11.9	0.5	60.0
	15	45 20.1	N12 00.1	346 04.5	2.2	N28 11.2	0.7	60.0
	16	60 20.2	N12 01.0	0 25.7	2.3	N28 10.2	0.9	60.0
	17	75 20.3	N12 01.8	14 47.1	2.3	N28 09.1	1.1	60.0
	18	90 20.4	N12 02.7	29 08.4	2.4	N28 07.8	1.3	59.9
	19	105 20.5	N12 03.5	43 29.9	2.4	N28 06.2	1.5	59.9
	20	120 20.7	N12 04.4	57 51.3	2.5	N28 04.5	1.7	59.9
	21	135 20.8	N12 05.2	72 12.9	2.5	N28 02.5	1.9	59.9
	22	150 20.9	N12 06.0	86 34.4	2.6	N28 00.4	2.1	59.8
	23	165 21.0	N12 06.9	100 56.1	2.7	N27 58.0	2.3	59.8
		S.D. 15.9	d 0.9	S.D.	16.5	16.5	16.4	

STARS Name	SHA	Dec
Acamar	315 11.3	S40 12.0
Achernar	335 19.9	S57 06.2
Acrux	172 58.4	S63 14.9
Adhara	255 05.2	S29 00.7
Albireo	67 03.2	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.8
Al Na-ir	27 31.8	S46 49.9
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.5	N26 37.3
Alpheratz	357 34.0	N29 14.0
Altair	61 58.9	N 8 56.1
Ankaa	353 06.5	S42 09.8
Antares	112 14.3	S26 29.5
Arcturus	145 46.6	N19 02.5
Atria	107 07.3	S69 04.4
Avior	234 14.3	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.2	S52 42.8
Capella	280 20.7	N46 01.6
Castor	245 55.8	N31 49.9
Deneb	49 25.2	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.5
Dubhe	193 39.2	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.4	N51 28.7
Enif	33 37.8	N 9 59.6
Fomalhaut	15 13.6	S29 28.9
Gacrux	171 50.0	S57 15.8
Gienah	175 42.2	S17 41.5
Hadar	148 34.0	S60 30.1
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.0	S34 22.3
Kochab	137 18.8	N74 02.7
Markab	13 29.1	N15 20.6
Menkar	314 05.4	N 4 11.5
Menkent	147 56.0	S36 30.2
Miaplacidus	221 37.8	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.4	S26 15.8
Peacock	53 04.0	S56 38.8
Polaris	316 29.1	N89 21.9
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.4	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.4
Rigil Kent	139 38.4	S60 56.7
Sabik	102 01.4	S15 45.6
Schedar	349 30.4	N56 40.7
Shaula	96 08.7	S37 07.4
Sirius	258 25.4	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.4	S43 32.6
Vega	80 32.4	N38 48.1
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
22	0	210 04.1	155 06.5	N20 03.0	201 00.9	N 2 52.6	100 47.2	N22 38.6	201 46.4	N 1 14.2
	1	225 06.6	170 05.8	N20 03.8	216 01.5	N 2 53.4	115 49.3	N22 38.5	216 48.6	N 1 14.3
	2	240 09.1	185 05.1	N20 04.6	231 02.2	N 2 54.1	130 51.4	N22 38.5	231 50.8	N 1 14.4
	3	255 11.5	200 04.5	N20 05.4	246 02.9	N 2 54.9	145 53.6	N22 38.5	246 53.0	N 1 14.5
	4	270 14.0	215 03.8	N20 06.2	261 03.6	N 2 55.7	160 55.7	N22 38.4	261 55.2	N 1 14.6
W	5	285 16.5	230 03.1	N20 07.0	276 04.3	N 2 56.4	175 57.9	N22 38.4	276 57.4	N 1 14.7
E										
D	6	300 18.9	245 02.5	N20 07.8	291 05.0	N 2 57.2	190 60.0	N22 38.3	291 59.6	N 1 14.8
N	7	315 21.4	260 01.8	N20 08.6	306 05.7	N 2 58.0	206 02.1	N22 38.3	307 01.7	N 1 14.9
E	8	330 23.9	275 01.1	N20 09.4	321 06.4	N 2 58.8	221 04.3	N22 38.3	322 03.9	N 1 15.0
S	9	345 26.3	290 00.5	N20 10.2	336 07.1	N 2 59.5	236 06.4	N22 38.2	337 06.1	N 1 15.2
D	10	0 28.8	304 59.8	N20 11.0	351 07.8	N 3 00.3	251 08.6	N22 38.2	352 08.3	N 1 15.3
A	11	15 31.3	319 59.1	N20 11.8	6 08.5	N 3 01.1	266 10.7	N22 38.2	7 10.5	N 1 15.4
Y										
	12	30 33.7	334 58.5	N20 12.6	21 09.2	N 3 01.8	281 12.8	N22 38.1	22 12.7	N 1 15.5
	13	45 36.2	349 57.8	N20 13.4	36 09.9	N 3 02.6	296 15.0	N22 38.1	37 14.9	N 1 15.6
	14	60 38.6	4 57.1	N20 14.2	51 10.6	N 3 03.4	311 17.1	N22 38.0	52 17.1	N 1 15.7
	15	75 41.1	19 56.5	N20 15.0	66 11.2	N 3 04.2	326 19.2	N22 38.0	67 19.3	N 1 15.8
	16	90 43.6	34 55.8	N20 15.7	81 11.9	N 3 04.9	341 21.4	N22 38.0	82 21.5	N 1 15.9
	17	105 46.0	49 55.1	N20 16.5	96 12.6	N 3 05.7	356 23.5	N22 37.9	97 23.7	N 1 16.1
	18	120 48.5	64 54.4	N20 17.3	111 13.3	N 3 06.5	11 25.7	N22 37.9	112 25.9	N 1 16.2
	19	135 51.0	79 53.8	N20 18.1	126 14.0	N 3 07.2	26 27.8	N22 37.9	127 28.0	N 1 16.3
	20	150 53.4	94 53.1	N20 18.9	141 14.7	N 3 08.0	41 29.9	N22 37.8	142 30.2	N 1 16.4
	21	165 55.9	109 52.4	N20 19.7	156 15.4	N 3 08.8	56 32.1	N22 37.8	157 32.4	N 1 16.5
	22	180 58.4	124 51.8	N20 20.5	171 16.1	N 3 09.5	71 34.2	N22 37.7	172 34.6	N 1 16.6
	23	196 00.8	139 51.1	N20 21.3	186 16.8	N 3 10.3	86 36.3	N22 37.7	187 36.8	N 1 16.7
23	0	211 03.3	154 50.4	N20 22.1	201 17.5	N 3 11.1	101 38.5	N22 37.7	202 39.0	N 1 16.8
	1	226 05.8	169 49.7	N20 22.8	216 18.2	N 3 11.9	116 40.6	N22 37.6	217 41.2	N 1 16.9
	2	241 08.2	184 49.1	N20 23.6	231 18.9	N 3 12.6	131 42.7	N22 37.6	232 43.4	N 1 17.1
	3	256 10.7	199 48.4	N20 24.4	246 19.6	N 3 13.4	146 44.9	N22 37.5	247 45.6	N 1 17.2
	4	271 13.1	214 47.7	N20 25.2	261 20.3	N 3 14.2	161 47.0	N22 37.5	262 47.8	N 1 17.3
T	5	286 15.6	229 47.0	N20 26.0	276 20.9	N 3 14.9	176 49.2	N22 37.5	277 50.0	N 1 17.4
H										
U	6	301 18.1	244 46.4	N20 26.7	291 21.6	N 3 15.7	191 51.3	N22 37.4	292 52.2	N 1 17.5
R	7	316 20.5	259 45.7	N20 27.5	306 22.3	N 3 16.5	206 53.4	N22 37.4	307 54.4	N 1 17.6
S	8	331 23.0	274 45.0	N20 28.3	321 23.0	N 3 17.2	221 55.6	N22 37.3	322 56.6	N 1 17.7
D	9	346 25.5	289 44.3	N20 29.1	336 23.7	N 3 18.0	236 57.7	N22 37.3	337 58.7	N 1 17.8
A	10	1 27.9	304 43.7	N20 29.9	351 24.4	N 3 18.8	251 59.8	N22 37.3	353 00.9	N 1 17.9
Y	11	16 30.4	319 43.0	N20 30.6	6 25.1	N 3 19.5	267 02.0	N22 37.2	8 03.1	N 1 18.1
	12	31 32.9	334 42.3	N20 31.4	21 25.8	N 3 20.3	282 04.1	N22 37.2	23 05.3	N 1 18.2
	13	46 35.3	349 41.6	N20 32.2	36 26.5	N 3 21.1	297 06.2	N22 37.1	38 07.5	N 1 18.3
	14	61 37.8	4 40.9	N20 32.9	51 27.2	N 3 21.9	312 08.4	N22 37.1	53 09.7	N 1 18.4
	15	76 40.3	19 40.3	N20 33.7	66 27.9	N 3 22.6	327 10.5	N22 37.1	68 11.9	N 1 18.5
	16	91 42.7	34 39.6	N20 34.5	81 28.6	N 3 23.4	342 12.6	N22 37.0	83 14.1	N 1 18.6
	17	106 45.2	49 38.9	N20 35.3	96 29.3	N 3 24.2	357 14.7	N22 37.0	98 16.3	N 1 18.7
	18	121 47.6	64 38.2	N20 36.0	111 30.0	N 3 24.9	12 16.9	N22 37.0	113 18.5	N 1 18.8
	19	136 50.1	79 37.5	N20 36.8	126 30.7	N 3 25.7	27 19.0	N22 36.9	128 20.7	N 1 18.9
	20	151 52.6	94 36.8	N20 37.6	141 31.3	N 3 26.5	42 21.1	N22 36.9	143 22.9	N 1 19.1
	21	166 55.0	109 36.2	N20 38.3	156 32.0	N 3 27.2	57 23.3	N22 36.8	158 25.1	N 1 19.2
	22	181 57.5	124 35.5	N20 39.1	171 32.7	N 3 28.0	72 25.4	N22 36.8	173 27.3	N 1 19.3
	23	196 60.0	139 34.8	N20 39.9	186 33.4	N 3 28.8	87 27.5	N22 36.8	188 29.5	N 1 19.4
24	0	212 02.4	154 34.1	N20 40.6	201 34.1	N 3 29.5	102 29.7	N22 36.7	203 31.6	N 1 19.5
	1	227 04.9	169 33.4	N20 41.4	216 34.8	N 3 30.3	117 31.8	N22 36.7	218 33.8	N 1 19.6
	2	242 07.4	184 32.7	N20 42.1	231 35.5	N 3 31.1	132 33.9	N22 36.6	233 36.0	N 1 19.7
	3	257 09.8	199 32.1	N20 42.9	246 36.2	N 3 31.8	147 36.1	N22 36.6	248 38.2	N 1 19.8
	4	272 12.3	214 31.4	N20 43.7	261 36.9	N 3 32.6	162 38.2	N22 36.6	263 40.4	N 1 19.9
F	5	287 14.7	229 30.7	N20 44.4	276 37.6	N 3 33.4	177 40.3	N22 36.5	278 42.6	N 1 20.1
R										
I	6	302 17.2	244 30.0	N20 45.2	291 38.3	N 3 34.1	192 42.4	N22 36.5	293 44.8	N 1 20.2
D	7	317 19.7	259 29.3	N20 45.9	306 39.0	N 3 34.9	207 44.6	N22 36.4	308 47.0	N 1 20.3
A	8	332 22.1	274 28.6	N20 46.7	321 39.7	N 3 35.7	222 46.7	N22 36.4	323 49.2	N 1 20.4
Y	9	347 24.6	289 27.9	N20 47.4	336 40.4	N 3 36.4	237 48.8	N22 36.4	338 51.4	N 1 20.5
	10	2 27.1	304 27.2	N20 48.2	351 41.1	N 3 37.2	252 50.9	N22 36.3	353 53.6	N 1 20.6
	11	17 29.5	319 26.6	N20 48.9	6 41.8	N 3 38.0	267 53.1	N22 36.3	8 55.8	N 1 20.7
	12	32 32.0	334 25.9	N20 49.7	21 42.4	N 3 38.7	282 55.2	N22 36.2	23 58.0	N 1 20.8
	13	47 34.5	349 25.2	N20 50.4	36 43.1	N 3 39.5	297 57.3	N22 36.2	39 00.2	N 1 20.9
	14	62 36.9	4 24.5	N20 51.2	51 43.8	N 3 40.3	312 59.5	N22 36.1	54 02.4	N 1 21.0
	15	77 39.4	19 23.8	N20 51.9	66 44.5	N 3 41.0	328 01.6	N22 36.1	69 04.6	N 1 21.2
	16	92 41.9	34 23.1	N20 52.7	81 45.2	N 3 41.8	343 03.7	N22 36.1	84 06.8	N 1 21.3
	17	107 44.3	49 22.4	N20 53.4	96 45.9	N 3 42.6	358 05.8	N22 36.0	99 08.9	N 1 21.4
	18	122 46.8	64 21.7	N20 54.2	111 46.6	N 3 43.3	13 08.0	N22 36.0	114 11.1	N 1 21.5
	19	137 49.2	79 21.0	N20 54.9	126 47.3	N 3 44.1	28 10.1	N22 35.9	129 13.3	N 1 21.6
	20	152 51.7	94 20.3	N20 55.7	141 48.0	N 3 44.9	43 12.2	N22 35.9	144 15.5	N 1 21.7
	21	167 54.2	109 19.6	N20 56.4	156 48.7	N 3 45.6	58 14.3	N22 35.9	159 17.7	N 1 21.8
	22	182 56.6	124 19.0	N20 57.1	171 49.4	N 3 46.4	73 16.5	N22 35.8	174 19.9	N 1 21.9
	23	197 59.1	139 18.3	N20 57.9	186 50.1	N 3 47.2	88 18.6	N22 35.8	189 22.1	N 1 22.0
			v -0.7	d 0.8	v 0.7	d 0.8	v 2.1	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
22	0	180 21.2	N12 07.7	115 17.8	2.7	N27 55.5	2.5	59.8
	1	195 21.3	N12 08.6	129 39.6	2.8	N27 52.8	2.7	59.8
	2	210 21.4	N12 09.4	144 01.5	2.9	N27 49.8	2.9	59.8
	3	225 21.5	N12 10.3	158 23.4	2.9	N27 46.7	3.1	59.7
	4	240 21.7	N12 11.1	172 45.4	3.0	N27 43.4	3.3	59.7
W	5	255 21.8	N12 11.9	187 07.4	3.1	N27 39.8	3.5	59.7
E								
D	6	270 21.9	N12 12.8	201 29.6	3.2	N27 36.1	3.7	59.7
N	7	285 22.0	N12 13.6	215 51.8	3.2	N27 32.2	3.9	59.6
E	8	300 22.1	N12 14.5	230 14.2	3.3	N27 28.1	4.1	59.6
S	9	315 22.3	N12 15.3	244 36.6	3.4	N27 23.8	4.3	59.6
D	10	330 22.4	N12 16.1	258 59.0	3.5	N27 19.4	4.5	59.6
A	11	345 22.5	N12 17.0	273 21.6	3.6	N27 14.7	4.7	59.5
Y								
	12	0 22.6	N12 17.8	287 44.3	3.7	N27 09.9	4.8	59.5
	13	15 22.7	N12 18.7	302 07.1	3.8	N27 04.9	5.0	59.5
	14	30 22.9	N12 19.5	316 29.9	3.9	N26 59.7	5.2	59.5
	15	45 23.0	N12 20.3	330 52.9	4.0	N26 54.3	5.4	59.4
	16	60 23.1	N12 21.2	345 16.0	4.1	N26 48.7	5.6	59.4
	17	75 23.2	N12 22.0	359 39.1	4.2	N26 43.0	5.7	59.4
	18	90 23.3	N12 22.8	14 02.4	4.3	N26 37.1	5.9	59.4
	19	105 23.5	N12 23.7	28 25.7	4.4	N26 31.0	6.1	59.3
	20	120 23.6	N12 24.5	42 49.2	4.5	N26 24.8	6.3	59.3
	21	135 23.7	N12 25.3	57 12.8	4.6	N26 18.3	6.4	59.3
	22	150 23.8	N12 26.2	71 36.5	4.7	N26 11.7	6.6	59.3
	23	165 23.9	N12 27.0	86 00.3	4.8	N26 05.0	6.8	59.2
23	0	180 24.0	N12 27.9	100 24.2	4.9	N25 58.1	6.9	59.2
	1	195 24.2	N12 28.7	114 48.2	5.0	N25 51.0	7.1	59.2
	2	210 24.3	N12 29.5	129 12.4	5.1	N25 43.7	7.2	59.2
	3	225 24.4	N12 30.4	143 36.6	5.3	N25 36.3	7.4	59.1
	4	240 24.5	N12 31.2	158 01.0	5.4	N25 28.8	7.6	59.1
T	5	255 24.6	N12 32.0	172 25.5	5.5	N25 21.0	7.7	59.1
H								
U	6	270 24.8	N12 32.9	186 50.1	5.6	N25 13.2	7.9	59.0
R	7	285 24.9	N12 33.7	201 14.8	5.7	N25 05.1	8.0	59.0
S	8	300 25.0	N12 34.5	215 39.6	5.8	N24 57.0	8.2	59.0
D	9	315 25.1	N12 35.3	230 04.6	6.0	N24 48.6	8.3	59.0
A	10	330 25.2	N12 36.2	244 29.7	6.1	N24 40.1	8.5	58.9
Y	11	345 25.3	N12 37.0	258 54.9	6.2	N24 31.5	8.6	58.9
	12	0 25.4	N12 37.8	273 20.2	6.3	N24 22.8	8.8	58.9
	13	15 25.6	N12 38.7	287 45.6	6.4	N24 13.8	8.9	58.9
	14	30 25.7	N12 39.5	302 11.2	6.6	N24 04.8	9.0	58.8
	15	45 25.8	N12 40.3	316 36.9	6.7	N23 55.6	9.2	58.8
	16	60 25.9	N12 41.2	331 02.7	6.8	N23 46.3	9.3	58.8
	17	75 26.0	N12 42.0	345 28.6	6.9	N23 36.8	9.5	58.7
	18	90 26.1	N12 42.8	359 54.7	7.1	N23 27.2	9.6	58.7
	19	105 26.3	N12 43.6	14 20.9	7.2	N23 17.5	9.7	58.7
	20	120 26.4	N12 44.5	28 47.2	7.3	N23 07.7	9.9	58.7
	21	135 26.5	N12 45.3	43 13.6	7.4	N22 57.7	10.0	58.6
	22	150 26.6	N12 46.1	57 40.1	7.6	N22 47.6	10.1	58.6
	23	165 26.7	N12 46.9	72 06.8	7.7	N22 37.4	10.2	58.6
24	0	180 26.8	N12 47.8	86 33.6	7.8	N22 27.0	10.4	58.5
	1	195 26.9	N12 48.6	101 00.5	7.9	N22 16.5	10.5	58.5
	2	210 27.0	N12 49.4	115 27.6	8.0	N22 05.9	10.6	58.5
	3	225 27.2	N12 50.2	129 54.7	8.2	N21 55.2	10.7	58.5
	4	240 27.3	N12 51.1	144 22.0	8.3	N21 44.4	10.8	58.4
F	5	255 27.4	N12 51.9	158 49.4	8.4	N21 33.5	10.9	58.4
R								
I	6	270 27.5	N12 52.7	173 17.0	8.5	N21 22.4	11.0	58.4
D	7	285 27.6	N12 53.5	187 44.6	8.7	N21 11.3	11.2	58.4
A	8	300 27.7	N12 54.4	202 12.4	8.8	N21 00.0	11.3	58.3
Y	9	315 27.8	N12 55.2	216 40.3	8.9	N20 48.7	11.4	58.3
	10	330 27.9	N12 56.0	231 08.3	9.0	N20 37.2	11.5	58.3
	11	345 28.1	N12 56.8	245 36.5	9.1	N20 25.6	11.6	58.2
	12	0 28.2	N12 57.6	260 04.7	9.3	N20 13.9	11.7	58.2
	13	15 28.3	N12 58.5	274 33.1	9.4	N20 02.2	11.8	58.2
	14	30 28.4	N12 59.3	289 01.6	9.5	N19 50.3	11.9	58.2
	15	45 28.5	N13 00.1	303 30.2	9.6	N19 38.3	12.0	58.1
	16	60 28.6	N13 00.9	317 58.9	9.7	N19 26.3	12.1	58.1
	17	75 28.7	N13 01.8	332 27.7	9.8	N19 14.1	12.2	58.1
	18	90 28.8	N13 02.6	346 56.7	10.0	N19 01.9	12.2	58.0
	19	105 28.9	N13 03.4	1 25.8	10.1	N18 49.5	12.3	58.0
	20	120 29.0	N13 04.2	15 54.9	10.2	N18 37.1	12.4	58.0
	21	135 29.2	N13 05.0	30 24.2	10.3	N18 24.6	12.5	58.0
	22	150 29.3	N13 05.8	44 53.6	10.4	N18 12.0	12.6	57.9
	23	165 29.4	N13 06.7	59 23.2	10.5	N17 59.4	12.7	57.9
		S.D. 15.9	d 0.8	S.D.	16.2		16.0	15.9

Name	STARS SHA ° '	STARS Dec ° '
Acamar	315 11.3	S40 12.0
Achernar	335 19.9	S57 06.1
Acrux	172 58.4	S63 14.9
Adhara	255 05.2	S29 00.7
Albireo	67 03.1	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.0
Alkaid	152 50.7	N49 10.8
Al Na-ir	27 31.7	S46 49.9
Alnilam	275 36.8	S 1 11.2
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.5	N26 37.3
Alpheratz	357 34.0	N29 14.0
Altair	61 58.9	N 8 56.1
Ankaa	353 06.4	S42 09.8
Antares	112 14.3	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 07.2	S69 04.4
Avior	234 14.3	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.2	S52 42.8
Capella	280 20.7	N46 01.6
Castor	245 55.8	N31 49.9
Deneb	49 25.1	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.5
Dubhe	193 39.2	N61 36.6
Elnath	278 00.8	N28 37.8
Eltanin	90 41.4	N51 28.7
Enif	33 37.8	N 9 59.6
Fomalhaut	15 13.6	S29 28.9
Gacrux	171 50.0	S57 15.9
Gienah	175 42.2	S17 41.5
Hadar	148 34.0	S60 30.1
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 31.0	S34 22.3
Kochab	137 18.8	N74 02.7
Markab	13 29.1	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.0	S36 30.2
Miaplacidus	221 37.8	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.3	S26 15.8
Peacock	53 04.0	S56 38.8
Polaris	316 29.0	N89 21.9
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.4	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.4
Rigil Kent	139 38.4	S60 56.7
Sabik	102 01.3	S15 45.6
Schedar	349 30.4	N56 40.7
Shaula	96 08.7	S37 07.4
Sirius	258 25.5	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.5	S43 32.6
Vega	80 32.3	N38 48.1
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
25	0	213 01.6	154 17.6	N20 58.6	201 50.8	N 3 47.9	103 20.7	N22 35.7	204 24.3	N 1 22.2
	1	228 04.0	169 16.9	N20 59.4	216 51.5	N 3 48.7	118 22.8	N22 35.7	219 26.5	N 1 22.3
	2	243 06.5	184 16.2	N21 00.1	231 52.2	N 3 49.5	133 25.0	N22 35.7	234 28.7	N 1 22.4
	3	258 09.0	199 15.5	N21 00.8	246 52.8	N 3 50.2	148 27.1	N22 35.6	249 30.9	N 1 22.5
	4	273 11.4	214 14.8	N21 01.6	261 53.5	N 3 51.0	163 29.2	N22 35.6	264 33.1	N 1 22.6
S	5	288 13.9	229 14.1	N21 02.3	276 54.2	N 3 51.8	178 31.3	N22 35.5	279 35.3	N 1 22.7
A										
T	6	303 16.4	244 13.4	N21 03.0	291 54.9	N 3 52.5	193 33.4	N22 35.5	294 37.5	N 1 22.8
U	7	318 18.8	259 12.7	N21 03.8	306 55.6	N 3 53.3	208 35.6	N22 35.5	309 39.7	N 1 22.9
R	8	333 21.3	274 12.0	N21 04.5	321 56.3	N 3 54.1	223 37.7	N22 35.4	324 41.9	N 1 23.0
D	9	348 23.7	289 11.3	N21 05.2	336 57.0	N 3 54.8	238 39.8	N22 35.4	339 44.1	N 1 23.1
A	10	3 26.2	304 10.6	N21 06.0	351 57.7	N 3 55.6	253 41.9	N22 35.3	354 46.3	N 1 23.3
Y	11	18 28.7	319 09.9	N21 06.7	6 58.4	N 3 56.4	268 44.1	N22 35.3	9 48.5	N 1 23.4
	12	33 31.1	334 09.2	N21 07.4	21 59.1	N 3 57.1	283 46.2	N22 35.2	24 50.7	N 1 23.5
	13	48 33.6	349 08.5	N21 08.1	36 59.8	N 3 57.9	298 48.3	N22 35.2	39 52.8	N 1 23.6
	14	63 36.1	4 07.8	N21 08.9	52 00.5	N 3 58.7	313 50.4	N22 35.2	54 55.0	N 1 23.7
	15	78 38.5	19 07.1	N21 09.6	67 01.2	N 3 59.4	328 52.5	N22 35.1	69 57.2	N 1 23.8
	16	93 41.0	34 06.4	N21 10.3	82 01.9	N 4 00.2	343 54.7	N22 35.1	84 59.4	N 1 23.9
	17	108 43.5	49 05.7	N21 11.0	97 02.6	N 4 00.9	358 56.8	N22 35.0	100 01.6	N 1 24.0
	18	123 45.9	64 05.0	N21 11.8	112 03.3	N 4 01.7	13 58.9	N22 35.0	115 03.8	N 1 24.1
	19	138 48.4	79 04.3	N21 12.5	127 03.9	N 4 02.5	29 01.0	N22 35.0	130 06.0	N 1 24.2
	20	153 50.9	94 03.6	N21 13.2	142 04.6	N 4 03.2	44 03.1	N22 34.9	145 08.2	N 1 24.3
	21	168 53.3	109 02.9	N21 13.9	157 05.3	N 4 04.0	59 05.3	N22 34.9	160 10.4	N 1 24.5
	22	183 55.8	124 02.2	N21 14.6	172 06.0	N 4 04.8	74 07.4	N22 34.8	175 12.6	N 1 24.6
	23	198 58.2	139 01.5	N21 15.4	187 06.7	N 4 05.5	89 09.5	N22 34.8	190 14.8	N 1 24.7
26	0	214 00.7	154 00.8	N21 16.1	202 07.4	N 4 06.3	104 11.6	N22 34.7	205 17.0	N 1 24.8
	1	229 03.2	169 00.1	N21 16.8	217 08.1	N 4 07.1	119 13.7	N22 34.7	220 19.2	N 1 24.9
	2	244 05.6	183 59.4	N21 17.5	232 08.8	N 4 07.8	134 15.8	N22 34.7	235 21.4	N 1 25.0
	3	259 08.1	198 58.6	N21 18.2	247 09.5	N 4 08.6	149 18.0	N22 34.6	250 23.6	N 1 25.1
	4	274 10.6	213 57.9	N21 18.9	262 10.2	N 4 09.3	164 20.1	N22 34.6	265 25.8	N 1 25.2
S	5	289 13.0	228 57.2	N21 19.6	277 10.9	N 4 10.1	179 22.2	N22 34.5	280 28.0	N 1 25.3
U										
N	6	304 15.5	243 56.5	N21 20.3	292 11.6	N 4 10.9	194 24.3	N22 34.5	295 30.2	N 1 25.4
D	7	319 18.0	258 55.8	N21 21.0	307 12.3	N 4 11.6	209 26.4	N22 34.5	310 32.4	N 1 25.5
A	8	334 20.4	273 55.1	N21 21.8	322 13.0	N 4 12.4	224 28.5	N22 34.4	325 34.6	N 1 25.7
Y	9	349 22.9	288 54.4	N21 22.5	337 13.7	N 4 13.2	239 30.7	N22 34.4	340 36.8	N 1 25.8
	10	4 25.3	303 53.7	N21 23.2	352 14.4	N 4 13.9	254 32.8	N22 34.3	355 39.0	N 1 25.9
	11	19 27.8	318 53.0	N21 23.9	7 15.1	N 4 14.7	269 34.9	N22 34.3	10 41.2	N 1 26.0
	12	34 30.3	333 52.3	N21 24.6	22 15.7	N 4 15.4	284 37.0	N22 34.2	25 43.4	N 1 26.1
	13	49 32.7	348 51.6	N21 25.3	37 16.4	N 4 16.2	299 39.1	N22 34.2	40 45.6	N 1 26.2
	14	64 35.2	3 50.9	N21 26.0	52 17.1	N 4 17.0	314 41.2	N22 34.2	55 47.8	N 1 26.3
	15	79 37.7	18 50.1	N21 26.7	67 17.8	N 4 17.7	329 43.4	N22 34.1	70 50.0	N 1 26.4
	16	94 40.1	33 49.4	N21 27.4	82 18.5	N 4 18.5	344 45.5	N22 34.1	85 52.1	N 1 26.5
	17	109 42.6	48 48.7	N21 28.1	97 19.2	N 4 19.3	359 47.6	N22 34.0	100 54.3	N 1 26.6
	18	124 45.1	63 48.0	N21 28.8	112 19.9	N 4 20.0	14 49.7	N22 34.0	115 56.5	N 1 26.7
	19	139 47.5	78 47.3	N21 29.5	127 20.6	N 4 20.8	29 51.8	N22 33.9	130 58.7	N 1 26.9
	20	154 50.0	93 46.6	N21 30.2	142 21.3	N 4 21.5	44 53.9	N22 33.9	146 00.9	N 1 27.0
	21	169 52.5	108 45.9	N21 30.9	157 22.0	N 4 22.3	59 56.0	N22 33.9	161 03.1	N 1 27.1
	22	184 54.9	123 45.2	N21 31.6	172 22.7	N 4 23.1	74 58.1	N22 33.8	176 05.3	N 1 27.2
	23	199 57.4	138 44.4	N21 32.2	187 23.4	N 4 23.8	90 00.3	N22 33.8	191 07.5	N 1 27.3
27	0	214 59.8	153 43.7	N21 32.9	202 24.1	N 4 24.6	105 02.4	N22 33.7	206 09.7	N 1 27.4
	1	230 02.3	168 43.0	N21 33.6	217 24.8	N 4 25.4	120 04.5	N22 33.7	221 11.9	N 1 27.5
	2	245 04.8	183 42.3	N21 34.3	232 25.5	N 4 26.1	135 06.6	N22 33.6	236 14.1	N 1 27.6
	3	260 07.2	198 41.6	N21 35.0	247 26.2	N 4 26.9	150 08.7	N22 33.6	251 16.3	N 1 27.7
	4	275 09.7	213 40.9	N21 35.7	262 26.8	N 4 27.6	165 10.8	N22 33.6	266 18.5	N 1 27.8
M	5	290 12.2	228 40.1	N21 36.4	277 27.5	N 4 28.4	180 12.9	N22 33.5	281 20.7	N 1 27.9
O										
N	6	305 14.6	243 39.4	N21 37.1	292 28.2	N 4 29.2	195 15.0	N22 33.5	296 22.9	N 1 28.1
D	7	320 17.1	258 38.7	N21 37.7	307 28.9	N 4 29.9	210 17.2	N22 33.4	311 25.1	N 1 28.2
A	8	335 19.6	273 38.0	N21 38.4	322 29.6	N 4 30.7	225 19.3	N22 33.4	326 27.3	N 1 28.3
Y	9	350 22.0	288 37.3	N21 39.1	337 30.3	N 4 31.4	240 21.4	N22 33.3	341 29.5	N 1 28.4
	10	5 24.5	303 36.6	N21 39.8	352 31.0	N 4 32.2	255 23.5	N22 33.3	356 31.7	N 1 28.5
	11	20 27.0	318 35.8	N21 40.5	7 31.7	N 4 33.0	270 25.6	N22 33.3	11 33.9	N 1 28.6
	12	35 29.4	333 35.1	N21 41.2	22 32.4	N 4 33.7	285 27.7	N22 33.2	26 36.1	N 1 28.7
	13	50 31.9	348 34.4	N21 41.8	37 33.1	N 4 34.5	300 29.8	N22 33.2	41 38.3	N 1 28.8
	14	65 34.3	3 33.7	N21 42.5	52 33.8	N 4 35.2	315 31.9	N22 33.1	56 40.5	N 1 28.9
	15	80 36.8	18 33.0	N21 43.2	67 34.5	N 4 36.0	330 34.0	N22 33.1	71 42.7	N 1 29.0
	16	95 39.3	33 32.2	N21 43.9	82 35.2	N 4 36.8	345 36.1	N22 33.0	86 44.9	N 1 29.1
	17	110 41.7	48 31.5	N21 44.5	97 35.9	N 4 37.5	0 38.3	N22 33.0	101 47.1	N 1 29.2
	18	125 44.2	63 30.8	N21 45.2	112 36.6	N 4 38.3	15 40.4	N22 33.0	116 49.3	N 1 29.4
	19	140 46.7	78 30.1	N21 45.9	127 37.3	N 4 39.0	30 42.5	N22 32.9	131 51.5	N 1 29.5
	20	155 49.1	93 29.3	N21 46.5	142 38.0	N 4 39.8	45 44.6	N22 32.9	146 53.7	N 1 29.6
	21	170 51.6	108 28.6	N21 47.2	157 38.6	N 4 40.5	60 46.7	N22 32.8	161 55.9	N 1 29.7
	22	185 54.1	123 27.9	N21 47.9	172 39.3	N 4 41.3	75 48.8	N22 32.8	176 58.1	N 1 29.8
	23	200 56.5	138 27.2	N21 48.6	187 40.0	N 4 42.1	90 50.9	N22 32.7	192 00.3	N 1 29.9
			v -0.7	d 0.7	v 0.7	d 0.8	v 2.1	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
25	0	180 29.5	N13 07.5	73 52.8	10.6	N17 46.6	12.8	57.9
	1	195 29.6	N13 08.3	88 22.5	10.7	N17 33.8	12.8	57.8
	2	210 29.7	N13 09.1	102 52.4	10.8	N17 20.9	12.9	57.8
	3	225 29.8	N13 09.9	117 22.3	10.9	N17 07.9	13.0	57.8
	4	240 29.9	N13 10.7	131 52.4	11.1	N16 54.8	13.1	57.8
S	5	255 30.0	N13 11.6	146 22.5	11.2	N16 41.7	13.1	57.7
A								
T	6	270 30.1	N13 12.4	160 52.8	11.3	N16 28.5	13.2	57.7
U	7	285 30.2	N13 13.2	175 23.1	11.4	N16 15.2	13.3	57.7
R	8	300 30.3	N13 14.0	189 53.6	11.5	N16 01.9	13.3	57.7
D	9	315 30.5	N13 14.8	204 24.2	11.6	N15 48.5	13.4	57.6
A	10	330 30.6	N13 15.6	218 54.8	11.7	N15 35.0	13.5	57.6
Y	11	345 30.7	N13 16.4	233 25.6	11.8	N15 21.5	13.5	57.6
	12	0 30.8	N13 17.2	247 56.4	11.9	N15 07.9	13.6	57.5
	13	15 30.9	N13 18.1	262 27.4	12.0	N14 54.2	13.7	57.5
	14	30 31.0	N13 18.9	276 58.4	12.0	N14 40.5	13.7	57.5
	15	45 31.1	N13 19.7	291 29.6	12.1	N14 26.7	13.8	57.5
	16	60 31.2	N13 20.5	306 00.8	12.2	N14 12.9	13.8	57.4
	17	75 31.3	N13 21.3	320 32.1	12.3	N13 59.0	13.9	57.4
	18	90 31.4	N13 22.1	335 03.6	12.4	N13 45.1	13.9	57.4
	19	105 31.5	N13 22.9	349 35.1	12.5	N13 31.1	14.0	57.4
	20	120 31.6	N13 23.7	4 06.7	12.6	N13 17.0	14.0	57.3
	21	135 31.7	N13 24.5	18 38.3	12.7	N13 03.0	14.1	57.3
	22	150 31.8	N13 25.3	33 10.1	12.8	N12 48.8	14.1	57.3
	23	165 31.9	N13 26.2	47 41.9	12.8	N12 34.6	14.2	57.3
26	0	180 32.0	N13 27.0	62 13.9	12.9	N12 20.4	14.2	57.2
	1	195 32.1	N13 27.8	76 45.9	13.0	N12 06.1	14.3	57.2
	2	210 32.2	N13 28.6	91 18.0	13.1	N11 51.8	14.3	57.2
	3	225 32.3	N13 29.4	105 50.1	13.2	N11 37.4	14.4	57.2
	4	240 32.4	N13 30.2	120 22.4	13.2	N11 23.0	14.4	57.1
S	5	255 32.5	N13 31.0	134 54.7	13.3	N11 08.6	14.4	57.1
U								
N	6	270 32.6	N13 31.8	149 27.1	13.4	N10 54.1	14.5	57.1
D	7	285 32.8	N13 32.6	163 59.6	13.5	N10 39.6	14.5	57.0
A	8	300 32.9	N13 33.4	178 32.1	13.5	N10 25.1	14.5	57.0
Y	9	315 33.0	N13 34.2	193 04.7	13.6	N10 10.5	14.6	57.0
	10	330 33.1	N13 35.0	207 37.4	13.7	N 9 55.9	14.6	57.0
	11	345 33.2	N13 35.8	222 10.2	13.8	N 9 41.2	14.6	56.9
	12	0 33.3	N13 36.6	236 43.0	13.8	N 9 26.5	14.7	56.9
	13	15 33.4	N13 37.4	251 15.9	13.9	N 9 11.8	14.7	56.9
	14	30 33.5	N13 38.2	265 48.8	14.0	N 8 57.1	14.7	56.9
	15	45 33.6	N13 39.0	280 21.9	14.0	N 8 42.3	14.8	56.8
	16	60 33.7	N13 39.8	294 54.9	14.1	N 8 27.6	14.8	56.8
	17	75 33.8	N13 40.6	309 28.1	14.1	N 8 12.7	14.8	56.8
	18	90 33.9	N13 41.4	324 01.3	14.2	N 7 57.9	14.8	56.8
	19	105 34.0	N13 42.2	338 34.5	14.3	N 7 43.1	14.9	56.7
	20	120 34.1	N13 43.0	353 07.8	14.3	N 7 28.2	14.9	56.7
	21	135 34.2	N13 43.8	7 41.2	14.4	N 7 13.3	14.9	56.7
	22	150 34.3	N13 44.6	22 14.6	14.4	N 6 58.4	14.9	56.7
	23	165 34.4	N13 45.4	36 48.1	14.5	N 6 43.4	14.9	56.6
27	0	180 34.5	N13 46.2	51 21.7	14.5	N 6 28.5	15.0	56.6
	1	195 34.6	N13 47.0	65 55.2	14.6	N 6 13.5	15.0	56.6
	2	210 34.7	N13 47.8	80 28.9	14.6	N 5 58.5	15.0	56.6
	3	225 34.8	N13 48.6	95 02.5	14.7	N 5 43.5	15.0	56.6
	4	240 34.9	N13 49.4	109 36.3	14.7	N 5 28.5	15.0	56.5
M	5	255 34.9	N13 50.2	124 10.0	14.8	N 5 13.5	15.0	56.5
O								
N	6	270 35.0	N13 51.0	138 43.9	14.8	N 4 58.5	15.0	56.5
D	7	285 35.1	N13 51.8	153 17.7	14.9	N 4 43.5	15.0	56.5
A	8	300 35.2	N13 52.6	167 51.6	14.9	N 4 28.4	15.0	56.4
Y	9	315 35.3	N13 53.4	182 25.6	14.9	N 4 13.4	15.1	56.4
	10	330 35.4	N13 54.2	196 59.5	15.0	N 3 58.3	15.1	56.4
	11	345 35.5	N13 55.0	211 33.6	15.0	N 3 43.2	15.1	56.4
	12	0 35.6	N13 55.8	226 07.6	15.1	N 3 28.2	15.1	56.3
	13	15 35.7	N13 56.6	240 41.7	15.1	N 3 13.1	15.1	56.3
	14	30 35.8	N13 57.4	255 15.8	15.1	N 2 58.0	15.1	56.3
	15	45 35.9	N13 58.1	269 50.0	15.2	N 2 43.0	15.1	56.3
	16	60 36.0	N13 58.9	284 24.2	15.2	N 2 27.9	15.1	56.3
	17	75 36.1	N13 59.7	298 58.4	15.2	N 2 12.8	15.1	56.2
	18	90 36.2	N14 00.5	313 32.7	15.3	N 1 57.8	15.1	56.2
	19	105 36.3	N14 01.3	328 06.9	15.3	N 1 42.7	15.1	56.2
	20	120 36.4	N14 02.1	342 41.3	15.3	N 1 27.6	15.1	56.2
	21	135 36.5	N14 02.9	357 15.6	15.3	N 1 12.6	15.1	56.1
	22	150 36.6	N14 03.7	11 49.9	15.4	N 0 57.5	15.0	56.1
	23	165 36.7	N14 04.5	26 24.3	15.4	N 0 42.5	15.0	56.1
		S.D. 15.9	d 0.8	S.D. 15.7		15.5	15.4	

STARS Name	SHA	Dec
Acamar	315 11.3	S40 12.0
Achernar	335 19.9	S57 06.1
Acrux	172 58.4	S63 14.9
Adhara	255 05.2	S29 00.6
Albireo	67 03.1	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.1
Alkaid	152 50.7	N49 10.8
Al Na-ir	27 31.7	S46 49.9
Alnilam	275 36.9	S 1 11.2
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.5	N26 37.4
Alpheratz	357 34.0	N29 14.0
Altair	61 58.9	N 8 56.1
Ankaa	353 06.4	S42 09.7
Antares	112 14.2	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 07.2	S69 04.4
Avior	234 14.3	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.1	N 7 24.7
Canopus	263 52.2	S52 42.8
Capella	280 20.7	N46 01.6
Castor	245 55.8	N31 49.9
Deneb	49 25.1	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.6	S17 50.5
Dubhe	193 39.2	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.4	N51 28.7
Enif	33 37.8	N 9 59.6
Fomalhaut	15 13.5	S29 28.9
Gacrux	171 50.0	S57 15.9
Gienah	175 42.2	S17 41.5
Hadar	148 34.0	S60 30.1
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 30.9	S34 22.3
Kochab	137 18.7	N74 02.7
Markab	13 29.1	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.0	S36 30.2
Miaplacidus	221 37.9	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.3	S26 15.8
Peacock	53 03.9	S56 38.8
Polaris	316 29.0	N89 21.9
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.4	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.4	S60 56.7
Sabik	102 01.3	S15 45.6
Schedar	349 30.4	N56 40.7
Shaula	96 08.6	S37 07.4
Sirius	258 25.5	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.5	S43 32.6
Vega	80 32.3	N38 48.1
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
28	0	215 59.0	153 26.4	N21 49.2	202 40.7	N 4 42.8	105 53.0	N22 32.7	207 02.5	N 1 30.0
	1	231 01.4	168 25.7	N21 49.9	217 41.4	N 4 43.6	120 55.1	N22 32.6	222 04.7	N 1 30.1
	2	246 03.9	183 25.0	N21 50.6	232 42.1	N 4 44.3	135 57.2	N22 32.6	237 06.9	N 1 30.2
	3	261 06.4	198 24.3	N21 51.2	247 42.8	N 4 45.1	150 59.3	N22 32.6	252 09.1	N 1 30.3
	4	276 08.8	213 23.5	N21 51.9	262 43.5	N 4 45.9	166 01.4	N22 32.5	267 11.3	N 1 30.4
T	5	291 11.3	228 22.8	N21 52.5	277 44.2	N 4 46.6	181 03.5	N22 32.5	282 13.5	N 1 30.5
U										
E	6	306 13.8	243 22.1	N21 53.2	292 44.9	N 4 47.4	196 05.6	N22 32.4	297 15.7	N 1 30.6
S	7	321 16.2	258 21.4	N21 53.9	307 45.6	N 4 48.1	211 07.7	N22 32.4	312 17.9	N 1 30.8
D	8	336 18.7	273 20.6	N21 54.5	322 46.3	N 4 48.9	226 09.9	N22 32.3	327 20.1	N 1 30.9
A	9	351 21.2	288 19.9	N21 55.2	337 47.0	N 4 49.6	241 12.0	N22 32.3	342 22.3	N 1 31.0
Y	10	6 23.6	303 19.2	N21 55.8	352 47.7	N 4 50.4	256 14.1	N22 32.2	357 24.5	N 1 31.1
	11	21 26.1	318 18.5	N21 56.5	7 48.4	N 4 51.2	271 16.2	N22 32.2	12 26.7	N 1 31.2
	12	36 28.6	333 17.7	N21 57.1	22 49.1	N 4 51.9	286 18.3	N22 32.2	27 28.9	N 1 31.3
	13	51 31.0	348 17.0	N21 57.8	37 49.7	N 4 52.7	301 20.4	N22 32.1	42 31.1	N 1 31.4
	14	66 33.5	3 16.3	N21 58.5	52 50.4	N 4 53.4	316 22.5	N22 32.1	57 33.3	N 1 31.5
	15	81 35.9	18 15.5	N21 59.1	67 51.1	N 4 54.2	331 24.6	N22 32.0	72 35.5	N 1 31.6
	16	96 38.4	33 14.8	N21 59.8	82 51.8	N 4 54.9	346 26.7	N22 32.0	87 37.7	N 1 31.7
	17	111 40.9	48 14.1	N22 00.4	97 52.5	N 4 55.7	1 28.8	N22 31.9	102 39.9	N 1 31.8
	18	126 43.3	63 13.3	N22 01.0	112 53.2	N 4 56.5	16 30.9	N22 31.9	117 42.1	N 1 31.9
	19	141 45.8	78 12.6	N22 01.7	127 53.9	N 4 57.2	31 33.0	N22 31.8	132 44.3	N 1 32.0
	20	156 48.3	93 11.9	N22 02.3	142 54.6	N 4 58.0	46 35.1	N22 31.8	147 46.5	N 1 32.2
	21	171 50.7	108 11.1	N22 03.0	157 55.3	N 4 58.7	61 37.2	N22 31.8	162 48.7	N 1 32.3
	22	186 53.2	123 10.4	N22 03.6	172 56.0	N 4 59.5	76 39.3	N22 31.7	177 50.9	N 1 32.4
	23	201 55.7	138 09.7	N22 04.3	187 56.7	N 5 00.2	91 41.4	N22 31.7	192 53.1	N 1 32.5
29	0	216 58.1	153 08.9	N22 04.9	202 57.4	N 5 01.0	106 43.5	N22 31.6	207 55.3	N 1 32.6
	1	232 00.6	168 08.2	N22 05.6	217 58.1	N 5 01.8	121 45.6	N22 31.6	222 57.5	N 1 32.7
	2	247 03.0	183 07.5	N22 06.2	232 58.8	N 5 02.5	136 47.7	N22 31.5	237 59.7	N 1 32.8
	3	262 05.5	198 06.7	N22 06.8	247 59.5	N 5 03.3	151 49.8	N22 31.5	253 01.9	N 1 32.9
	4	277 08.0	213 06.0	N22 07.5	263 00.2	N 5 04.0	166 51.9	N22 31.4	268 04.1	N 1 33.0
W	5	292 10.4	228 05.3	N22 08.1	278 00.8	N 5 04.8	181 54.0	N22 31.4	283 06.3	N 1 33.1
E										
D	6	307 12.9	243 04.5	N22 08.7	293 01.5	N 5 05.5	196 56.1	N22 31.4	298 08.5	N 1 33.2
N	7	322 15.4	258 03.8	N22 09.4	308 02.2	N 5 06.3	211 58.2	N22 31.3	313 10.7	N 1 33.3
E	8	337 17.8	273 03.1	N22 10.0	323 02.9	N 5 07.0	227 00.3	N22 31.3	328 12.9	N 1 33.4
S	9	352 20.3	288 02.3	N22 10.6	338 03.6	N 5 07.8	242 02.4	N22 31.2	343 15.1	N 1 33.5
D	10	7 22.8	303 01.6	N22 11.3	353 04.3	N 5 08.6	257 04.5	N22 31.2	358 17.3	N 1 33.7
A	11	22 25.2	318 00.8	N22 11.9	8 05.0	N 5 09.3	272 06.6	N22 31.1	13 19.5	N 1 33.8
Y										
	12	37 27.7	333 00.1	N22 12.5	23 05.7	N 5 10.1	287 08.7	N22 31.1	28 21.7	N 1 33.9
	13	52 30.2	347 59.4	N22 13.2	38 06.4	N 5 10.8	302 10.8	N22 31.0	43 23.9	N 1 34.0
	14	67 32.6	2 58.6	N22 13.8	53 07.1	N 5 11.6	317 12.9	N22 31.0	58 26.1	N 1 34.1
	15	82 35.1	17 57.9	N22 14.4	68 07.8	N 5 12.3	332 15.0	N22 30.9	73 28.3	N 1 34.2
	16	97 37.5	32 57.1	N22 15.0	83 08.5	N 5 13.1	347 17.1	N22 30.9	88 30.5	N 1 34.3
	17	112 40.0	47 56.4	N22 15.7	98 09.2	N 5 13.8	2 19.2	N22 30.8	103 32.7	N 1 34.4
	18	127 42.5	62 55.7	N22 16.3	113 09.9	N 5 14.6	17 21.3	N22 30.8	118 34.9	N 1 34.5
	19	142 44.9	77 54.9	N22 16.9	128 10.6	N 5 15.3	32 23.4	N22 30.8	133 37.1	N 1 34.6
	20	157 47.4	92 54.2	N22 17.5	143 11.3	N 5 16.1	47 25.5	N22 30.7	148 39.3	N 1 34.7
	21	172 49.9	107 53.4	N22 18.2	158 11.9	N 5 16.8	62 27.6	N22 30.7	163 41.5	N 1 34.8
	22	187 52.3	122 52.7	N22 18.8	173 12.6	N 5 17.6	77 29.7	N22 30.6	178 43.7	N 1 34.9
	23	202 54.8	137 52.0	N22 19.4	188 13.3	N 5 18.4	92 31.8	N22 30.6	193 45.9	N 1 35.0
30	0	217 57.3	152 51.2	N22 20.0	203 14.0	N 5 19.1	107 33.9	N22 30.5	208 48.1	N 1 35.1
	1	232 59.7	167 50.5	N22 20.6	218 14.7	N 5 19.9	122 36.0	N22 30.5	223 50.3	N 1 35.2
	2	248 02.2	182 49.7	N22 21.2	233 15.4	N 5 20.6	137 38.1	N22 30.4	238 52.5	N 1 35.4
	3	263 04.6	197 49.0	N22 21.9	248 16.1	N 5 21.4	152 40.2	N22 30.4	253 54.7	N 1 35.5
	4	278 07.1	212 48.2	N22 22.5	263 16.8	N 5 22.1	167 42.2	N22 30.3	268 56.9	N 1 35.6
T	5	293 09.6	227 47.5	N22 23.1	278 17.5	N 5 22.9	182 44.3	N22 30.3	283 59.1	N 1 35.7
H										
U	6	308 12.0	242 46.7	N22 23.7	293 18.2	N 5 23.6	197 46.4	N22 30.3	299 01.3	N 1 35.8
R	7	323 14.5	257 46.0	N22 24.3	308 18.9	N 5 24.4	212 48.5	N22 30.2	314 03.5	N 1 35.9
S	8	338 17.0	272 45.2	N22 24.9	323 19.6	N 5 25.1	227 50.6	N22 30.2	329 05.7	N 1 36.0
D	9	353 19.4	287 44.5	N22 25.5	338 20.3	N 5 25.9	242 52.7	N22 30.1	344 07.9	N 1 36.1
A	10	8 21.9	302 43.8	N22 26.1	353 21.0	N 5 26.6	257 54.8	N22 30.1	359 10.1	N 1 36.2
Y	11	23 24.4	317 43.0	N22 26.7	8 21.7	N 5 27.4	272 56.9	N22 30.0	14 12.3	N 1 36.3
	12	38 26.8	332 42.3	N22 27.3	23 22.4	N 5 28.1	287 59.0	N22 30.0	29 14.5	N 1 36.4
	13	53 29.3	347 41.5	N22 27.9	38 23.0	N 5 28.9	303 01.1	N22 29.9	44 16.7	N 1 36.5
	14	68 31.8	2 40.8	N22 28.5	53 23.7	N 5 29.6	318 03.2	N22 29.9	59 18.9	N 1 36.6
	15	83 34.2	17 40.0	N22 29.1	68 24.4	N 5 30.4	333 05.3	N22 29.8	74 21.1	N 1 36.7
	16	98 36.7	32 39.3	N22 29.7	83 25.1	N 5 31.1	348 07.4	N22 29.8	89 23.3	N 1 36.8
	17	113 39.1	47 38.5	N22 30.3	98 25.8	N 5 31.9	3 09.5	N22 29.7	104 25.5	N 1 36.9
	18	128 41.6	62 37.8	N22 30.9	113 26.5	N 5 32.6	18 11.6	N22 29.7	119 27.7	N 1 37.1
	19	143 44.1	77 37.0	N22 31.5	128 27.2	N 5 33.4	33 13.6	N22 29.6	134 29.9	N 1 37.2
	20	158 46.5	92 36.3	N22 32.1	143 27.9	N 5 34.1	48 15.7	N22 29.6	149 32.1	N 1 37.3
	21	173 49.0	107 35.5	N22 32.7	158 28.6	N 5 34.9	63 17.8	N22 29.6	164 34.3	N 1 37.4
	22	188 51.5	122 34.8	N22 33.3	173 29.3	N 5 35.6	78 19.9	N22 29.5	179 36.5	N 1 37.5
	23	203 53.9	137 34.0	N22 33.9	188 30.0	N 5 36.4	93 22.0	N22 29.5	194 38.7	N 1 37.6
			v -0.7	d 0.6	v 0.7	d 0.8	v 2.1	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
28	0	180 36.8	N14 05.3	40 58.7	15.4	N 0 27.4	15.0	56.1
	1	195 36.9	N14 06.0	55 33.2	15.4	N 0 12.4	15.0	56.1
	2	210 37.0	N14 06.8	70 07.6	15.4	S 0 02.6	15.0	56.0
	3	225 37.0	N14 07.6	84 42.1	15.5	S 0 17.6	15.0	56.0
	4	240 37.1	N14 08.4	99 16.6	15.5	S 0 32.6	15.0	56.0
T	5	255 37.2	N14 09.2	113 51.1	15.5	S 0 47.6	15.0	56.0
U								
E	6	270 37.3	N14 10.0	128 25.6	15.5	S 1 02.6	15.0	55.9
S	7	285 37.4	N14 10.8	143 00.1	15.5	S 1 17.5	15.0	55.9
D	8	300 37.5	N14 11.6	157 34.6	15.5	S 1 32.4	14.9	55.9
A	9	315 37.6	N14 12.3	172 09.2	15.6	S 1 47.4	14.9	55.9
Y	10	330 37.7	N14 13.1	186 43.8	15.6	S 2 02.3	14.9	55.9
	11	345 37.8	N14 13.9	201 18.3	15.6	S 2 17.2	14.9	55.8
	12	0 37.9	N14 14.7	215 52.9	15.6	S 2 32.0	14.9	55.8
	13	15 38.0	N14 15.5	230 27.5	15.6	S 2 46.9	14.8	55.8
	14	30 38.1	N14 16.3	245 02.1	15.6	S 3 01.7	14.8	55.8
	15	45 38.1	N14 17.0	259 36.7	15.6	S 3 16.5	14.8	55.8
	16	60 38.2	N14 17.8	274 11.3	15.6	S 3 31.3	14.8	55.7
	17	75 38.3	N14 18.6	288 45.9	15.6	S 3 46.0	14.8	55.7
	18	90 38.4	N14 19.4	303 20.5	15.6	S 4 00.8	14.7	55.7
	19	105 38.5	N14 20.2	317 55.2	15.6	S 4 15.5	14.7	55.7
	20	120 38.6	N14 20.9	332 29.8	15.6	S 4 30.2	14.7	55.7
	21	135 38.7	N14 21.7	347 04.4	15.6	S 4 44.8	14.7	55.6
	22	150 38.8	N14 22.5	1 39.0	15.6	S 4 59.4	14.6	55.6
	23	165 38.9	N14 23.3	16 13.6	15.6	S 5 14.0	14.6	55.6
29	0	180 38.9	N14 24.1	30 48.2	15.6	S 5 28.6	14.6	55.6
	1	195 39.0	N14 24.8	45 22.8	15.6	S 5 43.1	14.5	55.6
	2	210 39.1	N14 25.6	59 57.4	15.6	S 5 57.6	14.5	55.5
	3	225 39.2	N14 26.4	74 32.0	15.6	S 6 12.1	14.5	55.5
	4	240 39.3	N14 27.2	89 06.5	15.6	S 6 26.6	14.4	55.5
W	5	255 39.4	N14 27.9	103 41.1	15.6	S 6 41.0	14.4	55.5
E								
D	6	270 39.5	N14 28.7	118 15.7	15.6	S 6 55.3	14.4	55.5
N	7	285 39.6	N14 29.5	132 50.2	15.5	S 7 09.7	14.3	55.5
E	8	300 39.6	N14 30.3	147 24.7	15.5	S 7 24.0	14.3	55.4
S	9	315 39.7	N14 31.0	161 59.3	15.5	S 7 38.2	14.3	55.4
D	10	330 39.8	N14 31.8	176 33.8	15.5	S 7 52.4	14.2	55.4
A	11	345 39.9	N14 32.6	191 08.2	15.5	S 8 06.6	14.2	55.4
Y								
	12	0 40.0	N14 33.4	205 42.7	15.5	S 8 20.8	14.1	55.4
	13	15 40.1	N14 34.1	220 17.2	15.5	S 8 34.9	14.1	55.3
	14	30 40.2	N14 34.9	234 51.6	15.4	S 8 48.9	14.1	55.3
	15	45 40.2	N14 35.7	249 26.0	15.4	S 9 02.9	14.0	55.3
	16	60 40.3	N14 36.5	264 00.4	15.4	S 9 16.9	14.0	55.3
	17	75 40.4	N14 37.2	278 34.8	15.4	S 9 30.8	13.9	55.3
	18	90 40.5	N14 38.0	293 09.1	15.4	S 9 44.7	13.9	55.3
	19	105 40.6	N14 38.8	307 43.5	15.3	S 9 58.5	13.8	55.2
	20	120 40.7	N14 39.5	322 17.8	15.3	S10 12.3	13.8	55.2
	21	135 40.8	N14 40.3	336 52.1	15.3	S10 26.0	13.7	55.2
	22	150 40.8	N14 41.1	351 26.3	15.3	S10 39.7	13.7	55.2
	23	165 40.9	N14 41.9	6 00.5	15.2	S10 53.4	13.6	55.2
30	0	180 41.0	N14 42.6	20 34.8	15.2	S11 06.9	13.6	55.2
	1	195 41.1	N14 43.4	35 08.9	15.2	S11 20.5	13.5	55.1
	2	210 41.2	N14 44.2	49 43.1	15.1	S11 34.0	13.5	55.1
	3	225 41.2	N14 44.9	64 17.2	15.1	S11 47.4	13.4	55.1
	4	240 41.3	N14 45.7	78 51.3	15.1	S12 00.7	13.4	55.1
T	5	255 41.4	N14 46.5	93 25.3	15.1	S12 14.1	13.3	55.1
H								
U	6	270 41.5	N14 47.2	107 59.3	15.0	S12 27.3	13.3	55.1
R	7	285 41.6	N14 48.0	122 33.3	15.0	S12 40.5	13.2	55.0
S	8	300 41.7	N14 48.8	137 07.3	15.0	S12 53.7	13.1	55.0
D	9	315 41.7	N14 49.5	151 41.2	14.9	S13 06.8	13.1	55.0
A	10	330 41.8	N14 50.3	166 15.1	14.9	S13 19.8	13.0	55.0
Y	11	345 41.9	N14 51.0	180 48.9	14.8	S13 32.7	13.0	55.0
	12	0 42.0	N14 51.8	195 22.7	14.8	S13 45.6	12.9	55.0
	13	15 42.1	N14 52.6	209 56.5	14.8	S13 58.5	12.8	54.9
	14	30 42.1	N14 53.3	224 30.3	14.7	S14 11.3	12.8	54.9
	15	45 42.2	N14 54.1	239 04.0	14.7	S14 24.0	12.7	54.9
	16	60 42.3	N14 54.9	253 37.6	14.7	S14 36.6	12.6	54.9
	17	75 42.4	N14 55.6	268 11.2	14.6	S14 49.2	12.6	54.9
	18	90 42.5	N14 56.4	282 44.8	14.6	S15 01.7	12.5	54.9
	19	105 42.5	N14 57.1	297 18.3	14.5	S15 14.2	12.4	54.8
	20	120 42.6	N14 57.9	311 51.8	14.5	S15 26.6	12.4	54.8
	21	135 42.7	N14 58.7	326 25.3	14.4	S15 38.9	12.3	54.8
	22	150 42.8	N14 59.4	340 58.7	14.4	S15 51.1	12.2	54.8
	23	165 42.8	N15 00.2	355 32.0	14.4	S16 03.3	12.2	54.8
		S.D. 15.9	d 0.8	S.D.	15.2	15.1	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.0
Achernar	335 19.9	S57 06.1
Acrux	172 58.4	S63 14.9
Adhara	255 05.2	S29 00.6
Albireo	67 03.1	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.4	N55 49.1
Alkaid	152 50.7	N49 10.8
Al Na-ir	27 31.7	S46 49.8
Alnilam	275 36.9	S 1 11.2
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.5	N26 37.4
Alpheratz	357 34.0	N29 14.0
Altair	61 58.8	N 8 56.1
Ankaa	353 06.4	S42 09.7
Antares	112 14.2	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 07.2	S69 04.4
Avior	234 14.4	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.2	S52 42.8
Capella	280 20.7	N46 01.6
Castor	245 55.8	N31 49.9
Deneb	49 25.1	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.5	S17 50.5
Dubhe	193 39.2	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.4	N51 28.8
Enif	33 37.8	N 9 59.6
Fomalhaut	15 13.5	S29 28.9
Gacrux	171 50.0	S57 15.9
Gienah	175 42.2	S17 41.5
Hadar	148 34.0	S60 30.1
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 30.9	S34 22.3
Kochab	137 18.7	N74 02.7
Markab	13 29.0	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.0	S36 30.2
Miaplacidus	221 37.9	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.3	S26 15.8
Peacock	53 03.9	S56 38.8
Polaris	316 28.9	N89 21.9
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.4	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.4	S60 56.7
Sabik	102 01.3	S15 45.6
Schedar	349 30.4	N56 40.7
Shaula	96 08.6	S37 07.4
Sirius	258 25.5	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.5	S43 32.6
Vega	80 32.3	N38 48.2
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
1	0	218 56.4	152 33.3	N22 34.5	203 30.7	N 5 37.2	108 24.1	N22 29.4	209 40.9	N 1 37.7
	1	233 58.9	167 32.5	N22 35.1	218 31.4	N 5 37.9	123 26.2	N22 29.4	224 43.1	N 1 37.8
	2	249 01.3	182 31.8	N22 35.7	233 32.1	N 5 38.7	138 28.3	N22 29.3	239 45.3	N 1 37.9
	3	264 03.8	197 31.0	N22 36.3	248 32.8	N 5 39.4	153 30.4	N22 29.3	254 47.5	N 1 38.0
	4	279 06.3	212 30.2	N22 36.8	263 33.4	N 5 40.2	168 32.5	N22 29.2	269 49.7	N 1 38.1
F	5	294 08.7	227 29.5	N22 37.4	278 34.1	N 5 40.9	183 34.6	N22 29.2	284 52.0	N 1 38.2
R										
I	6	309 11.2	242 28.7	N22 38.0	293 34.8	N 5 41.7	198 36.6	N22 29.1	299 54.2	N 1 38.3
D	7	324 13.6	257 28.0	N22 38.6	308 35.5	N 5 42.4	213 38.7	N22 29.1	314 56.4	N 1 38.4
A	8	339 16.1	272 27.2	N22 39.2	323 36.2	N 5 43.1	228 40.8	N22 29.0	329 58.6	N 1 38.5
Y	9	354 18.6	287 26.5	N22 39.8	338 36.9	N 5 43.9	243 42.9	N22 29.0	345 00.8	N 1 38.6
	10	9 21.0	302 25.7	N22 40.3	353 37.6	N 5 44.6	258 45.0	N22 28.9	0 03.0	N 1 38.7
	11	24 23.5	317 25.0	N22 40.9	8 38.3	N 5 45.4	273 47.1	N22 28.9	15 05.2	N 1 38.8
	12	39 26.0	332 24.2	N22 41.5	23 39.0	N 5 46.1	288 49.2	N22 28.8	30 07.4	N 1 39.0
	13	54 28.4	347 23.4	N22 42.1	38 39.7	N 5 46.9	303 51.3	N22 28.8	45 09.6	N 1 39.1
	14	69 30.9	2 22.7	N22 42.6	53 40.4	N 5 47.6	318 53.4	N22 28.7	60 11.8	N 1 39.2
	15	84 33.4	17 21.9	N22 43.2	68 41.1	N 5 48.4	333 55.4	N22 28.7	75 14.0	N 1 39.3
	16	99 35.8	32 21.2	N22 43.8	83 41.8	N 5 49.1	348 57.5	N22 28.7	90 16.2	N 1 39.4
	17	114 38.3	47 20.4	N22 44.4	98 42.5	N 5 49.9	3 59.6	N22 28.6	105 18.4	N 1 39.5
	18	129 40.7	62 19.7	N22 44.9	113 43.1	N 5 50.6	19 01.7	N22 28.6	120 20.6	N 1 39.6
	19	144 43.2	77 18.9	N22 45.5	128 43.8	N 5 51.4	34 03.8	N22 28.5	135 22.8	N 1 39.7
	20	159 45.7	92 18.1	N22 46.1	143 44.5	N 5 52.1	49 05.9	N22 28.5	150 25.0	N 1 39.8
	21	174 48.1	107 17.4	N22 46.6	158 45.2	N 5 52.9	64 08.0	N22 28.4	165 27.2	N 1 39.9
	22	189 50.6	122 16.6	N22 47.2	173 45.9	N 5 53.6	79 10.0	N22 28.4	180 29.4	N 1 40.0
	23	204 53.1	137 15.9	N22 47.8	188 46.6	N 5 54.4	94 12.1	N22 28.3	195 31.6	N 1 40.1
2	0	219 55.5	152 15.1	N22 48.3	203 47.3	N 5 55.1	109 14.2	N22 28.3	210 33.8	N 1 40.2
	1	234 58.0	167 14.3	N22 48.9	218 48.0	N 5 55.9	124 16.3	N22 28.2	225 36.0	N 1 40.3
	2	250 00.5	182 13.6	N22 49.5	233 48.7	N 5 56.6	139 18.4	N22 28.2	240 38.2	N 1 40.4
	3	265 02.9	197 12.8	N22 50.0	248 49.4	N 5 57.4	154 20.5	N22 28.1	255 40.4	N 1 40.5
	4	280 05.4	212 12.1	N22 50.6	263 50.1	N 5 58.1	169 22.6	N22 28.1	270 42.6	N 1 40.6
S	5	295 07.9	227 11.3	N22 51.2	278 50.8	N 5 58.9	184 24.6	N22 28.0	285 44.8	N 1 40.7
A										
T	6	310 10.3	242 10.5	N22 51.7	293 51.5	N 5 59.6	199 26.7	N22 28.0	300 47.0	N 1 40.8
U	7	325 12.8	257 09.8	N22 52.3	308 52.2	N 6 00.4	214 28.8	N22 27.9	315 49.3	N 1 40.9
R	8	340 15.2	272 09.0	N22 52.8	323 52.9	N 6 01.1	229 30.9	N22 27.9	330 51.5	N 1 41.1
D	9	355 17.7	287 08.2	N22 53.4	338 53.5	N 6 01.8	244 33.0	N22 27.8	345 53.7	N 1 41.2
A	10	10 20.2	302 07.5	N22 53.9	353 54.2	N 6 02.6	259 35.1	N22 27.8	0 55.9	N 1 41.3
Y	11	25 22.6	317 06.7	N22 54.5	8 54.9	N 6 03.3	274 37.1	N22 27.7	15 58.1	N 1 41.4
	12	40 25.1	332 05.9	N22 55.0	23 55.6	N 6 04.1	289 39.2	N22 27.7	31 00.3	N 1 41.5
	13	55 27.6	347 05.2	N22 55.6	38 56.3	N 6 04.8	304 41.3	N22 27.6	46 02.5	N 1 41.6
	14	70 30.0	2 04.4	N22 56.1	53 57.0	N 6 05.6	319 43.4	N22 27.6	61 04.7	N 1 41.7
	15	85 32.5	17 03.6	N22 56.7	68 57.7	N 6 06.3	334 45.5	N22 27.5	76 06.9	N 1 41.8
	16	100 35.0	32 02.9	N22 57.2	83 58.4	N 6 07.1	349 47.6	N22 27.5	91 09.1	N 1 41.9
	17	115 37.4	47 02.1	N22 57.8	98 59.1	N 6 07.8	4 49.6	N22 27.4	106 11.3	N 1 42.0
	18	130 39.9	62 01.3	N22 58.3	113 59.8	N 6 08.6	19 51.7	N22 27.4	121 13.5	N 1 42.1
	19	145 42.4	77 00.6	N22 58.9	129 00.5	N 6 09.3	34 53.8	N22 27.3	136 15.7	N 1 42.2
	20	160 44.8	91 59.8	N22 59.4	144 01.2	N 6 10.0	49 55.9	N22 27.3	151 17.9	N 1 42.3
	21	175 47.3	106 59.0	N22 60.0	159 01.9	N 6 10.8	64 58.0	N22 27.2	166 20.1	N 1 42.4
	22	190 49.7	121 58.3	N23 00.5	174 02.5	N 6 11.5	80 00.0	N22 27.2	181 22.3	N 1 42.5
	23	205 52.2	136 57.5	N23 01.0	189 03.2	N 6 12.3	95 02.1	N22 27.1	196 24.5	N 1 42.6
3	0	220 54.7	151 56.7	N23 01.6	204 03.9	N 6 13.0	110 04.2	N22 27.1	211 26.7	N 1 42.7
	1	235 57.1	166 56.0	N23 02.1	219 04.6	N 6 13.8	125 06.3	N22 27.1	226 28.9	N 1 42.8
	2	250 59.6	181 55.2	N23 02.6	234 05.3	N 6 14.5	140 08.4	N22 27.0	241 31.2	N 1 42.9
	3	266 02.1	196 54.4	N23 03.2	249 06.0	N 6 15.3	155 10.4	N22 27.0	256 33.4	N 1 43.0
	4	281 04.5	211 53.7	N23 03.7	264 06.7	N 6 16.0	170 12.5	N22 26.9	271 35.6	N 1 43.1
S	5	296 07.0	226 52.9	N23 04.2	279 07.4	N 6 16.7	185 14.6	N22 26.9	286 37.8	N 1 43.2
U										
N	6	311 09.5	241 52.1	N23 04.8	294 08.1	N 6 17.5	200 16.7	N22 26.8	301 40.0	N 1 43.3
D	7	326 11.9	256 51.3	N23 05.3	309 08.8	N 6 18.2	215 18.8	N22 26.8	316 42.2	N 1 43.4
A	8	341 14.4	271 50.6	N23 05.8	324 09.5	N 6 19.0	230 20.8	N22 26.7	331 44.4	N 1 43.6
Y	9	356 16.8	286 49.8	N23 06.4	339 10.2	N 6 19.7	245 22.9	N22 26.7	346 46.6	N 1 43.7
	10	11 19.3	301 49.0	N23 06.9	354 10.9	N 6 20.5	260 25.0	N22 26.6	1 48.8	N 1 43.8
	11	26 21.8	316 48.3	N23 07.4	9 11.6	N 6 21.2	275 27.1	N22 26.6	16 51.0	N 1 43.9
	12	41 24.2	331 47.5	N23 07.9	24 12.2	N 6 21.9	290 29.1	N22 26.5	31 53.2	N 1 44.0
	13	56 26.7	346 46.7	N23 08.5	39 12.9	N 6 22.7	305 31.2	N22 26.5	46 55.4	N 1 44.1
	14	71 29.2	1 45.9	N23 09.0	54 13.6	N 6 23.4	320 33.3	N22 26.4	61 57.6	N 1 44.2
	15	86 31.6	16 45.2	N23 09.5	69 14.3	N 6 24.2	335 35.4	N22 26.4	76 59.8	N 1 44.3
	16	101 34.1	31 44.4	N23 10.0	84 15.0	N 6 24.9	350 37.5	N22 26.3	92 02.0	N 1 44.4
	17	116 36.6	46 43.6	N23 10.6	99 15.7	N 6 25.7	5 39.5	N22 26.3	107 04.2	N 1 44.5
	18	131 39.0	61 42.8	N23 11.1	114 16.4	N 6 26.4	20 41.6	N22 26.2	122 06.5	N 1 44.6
	19	146 41.5	76 42.1	N23 11.6	129 17.1	N 6 27.1	35 43.7	N22 26.2	137 08.7	N 1 44.7
	20	161 44.0	91 41.3	N23 12.1	144 17.8	N 6 27.9	50 45.8	N22 26.1	152 10.9	N 1 44.8
	21	176 46.4	106 40.5	N23 12.6	159 18.5	N 6 28.6	65 47.8	N22 26.1	167 13.1	N 1 44.9
	22	191 48.9	121 39.7	N23 13.1	174 19.2	N 6 29.4	80 49.9	N22 26.0	182 15.3	N 1 45.0
	23	206 51.3	136 39.0	N23 13.7	189 19.9	N 6 30.1	95 52.0	N22 26.0	197 17.5	N 1 45.1
			v -0.8	d 0.6	v 0.7	d 0.7	v 2.1	d 0.0	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
1	0	180 42.9	N15 00.9	10 05.4	14.3	S16 15.4	12.1	54.8
	1	195 43.0	N15 01.7	24 38.6	14.3	S16 27.4	12.0	54.8
	2	210 43.1	N15 02.5	39 11.9	14.2	S16 39.3	11.9	54.7
	3	225 43.2	N15 03.2	53 45.0	14.2	S16 51.2	11.9	54.7
	4	240 43.2	N15 04.0	68 18.2	14.1	S17 03.0	11.8	54.7
F	5	255 43.3	N15 04.7	82 51.3	14.1	S17 14.7	11.7	54.7
R								
I	6	270 43.4	N15 05.5	97 24.3	14.0	S17 26.4	11.6	54.7
D	7	285 43.5	N15 06.2	111 57.3	14.0	S17 38.0	11.6	54.7
A	8	300 43.5	N15 07.0	126 30.2	13.9	S17 49.4	11.5	54.7
Y	9	315 43.6	N15 07.7	141 03.1	13.9	S18 00.9	11.4	54.7
	10	330 43.7	N15 08.5	155 35.9	13.8	S18 12.2	11.3	54.6
	11	345 43.8	N15 09.3	170 08.7	13.8	S18 23.4	11.2	54.6
	12	0 43.8	N15 10.0	184 41.5	13.7	S18 34.6	11.2	54.6
	13	15 43.9	N15 10.8	199 14.2	13.7	S18 45.7	11.1	54.6
	14	30 44.0	N15 11.5	213 46.8	13.6	S18 56.7	11.0	54.6
	15	45 44.1	N15 12.3	228 19.4	13.6	S19 07.6	10.9	54.6
	16	60 44.1	N15 13.0	242 51.9	13.5	S19 18.4	10.8	54.6
	17	75 44.2	N15 13.8	257 24.4	13.5	S19 29.1	10.7	54.5
	18	90 44.3	N15 14.5	271 56.8	13.4	S19 39.8	10.7	54.5
	19	105 44.4	N15 15.3	286 29.2	13.4	S19 50.4	10.6	54.5
	20	120 44.4	N15 16.0	301 01.5	13.3	S20 00.8	10.5	54.5
	21	135 44.5	N15 16.8	315 33.8	13.3	S20 11.2	10.4	54.5
	22	150 44.6	N15 17.5	330 06.0	13.2	S20 21.5	10.3	54.5
	23	165 44.6	N15 18.3	344 38.2	13.2	S20 31.7	10.2	54.5
2	0	180 44.7	N15 19.0	359 10.3	13.1	S20 41.8	10.1	54.5
	1	195 44.8	N15 19.8	13 42.3	13.1	S20 51.8	10.0	54.5
	2	210 44.9	N15 20.5	28 14.3	13.0	S21 01.8	9.9	54.4
	3	225 44.9	N15 21.3	42 46.3	12.9	S21 11.6	9.8	54.4
	4	240 45.0	N15 22.0	57 18.2	12.9	S21 21.3	9.7	54.4
S	5	255 45.1	N15 22.7	71 50.0	12.8	S21 30.9	9.6	54.4
A								
T	6	270 45.1	N15 23.5	86 21.8	12.8	S21 40.5	9.5	54.4
U	7	285 45.2	N15 24.2	100 53.5	12.7	S21 49.9	9.4	54.4
R	8	300 45.3	N15 25.0	115 25.2	12.7	S21 59.2	9.3	54.4
D	9	315 45.4	N15 25.7	129 56.8	12.6	S22 08.5	9.2	54.4
A	10	330 45.4	N15 26.5	144 28.4	12.6	S22 17.6	9.1	54.4
Y	11	345 45.5	N15 27.2	158 59.9	12.5	S22 26.7	9.0	54.3
	12	0 45.6	N15 28.0	173 31.3	12.5	S22 35.6	8.9	54.3
	13	15 45.6	N15 28.7	188 02.7	12.4	S22 44.4	8.8	54.3
	14	30 45.7	N15 29.4	202 34.0	12.3	S22 53.1	8.7	54.3
	15	45 45.8	N15 30.2	217 05.3	12.3	S23 01.8	8.6	54.3
	16	60 45.8	N15 30.9	231 36.6	12.2	S23 10.3	8.5	54.3
	17	75 45.9	N15 31.7	246 07.7	12.2	S23 18.7	8.4	54.3
	18	90 46.0	N15 32.4	260 38.9	12.1	S23 27.0	8.3	54.3
	19	105 46.0	N15 33.1	275 09.9	12.1	S23 35.2	8.2	54.3
	20	120 46.1	N15 33.9	289 41.0	12.0	S23 43.3	8.1	54.3
	21	135 46.2	N15 34.6	304 11.9	12.0	S23 51.2	8.0	54.3
	22	150 46.2	N15 35.4	318 42.8	11.9	S23 59.1	7.9	54.2
	23	165 46.3	N15 36.1	333 13.7	11.9	S24 06.8	7.8	54.2
3	0	180 46.4	N15 36.8	347 44.5	11.8	S24 14.5	7.6	54.2
	1	195 46.4	N15 37.6	2 15.2	11.8	S24 22.0	7.5	54.2
	2	210 46.5	N15 38.3	16 45.9	11.7	S24 29.4	7.4	54.2
	3	225 46.6	N15 39.0	31 16.6	11.6	S24 36.7	7.3	54.2
	4	240 46.6	N15 39.8	45 47.2	11.6	S24 43.9	7.2	54.2
S	5	255 46.7	N15 40.5	60 17.7	11.5	S24 51.0	7.1	54.2
U								
N	6	270 46.8	N15 41.2	74 48.2	11.5	S24 58.0	7.0	54.2
D	7	285 46.8	N15 42.0	89 18.7	11.4	S25 04.8	6.8	54.2
A	8	300 46.9	N15 42.7	103 49.1	11.4	S25 11.5	6.7	54.2
Y	9	315 47.0	N15 43.4	118 19.4	11.3	S25 18.1	6.6	54.2
	10	330 47.0	N15 44.2	132 49.7	11.3	S25 24.6	6.5	54.2
	11	345 47.1	N15 44.9	147 20.0	11.3	S25 31.0	6.4	54.1
	12	0 47.1	N15 45.6	161 50.2	11.2	S25 37.2	6.2	54.1
	13	15 47.2	N15 46.4	176 20.3	11.2	S25 43.4	6.1	54.1
	14	30 47.3	N15 47.1	190 50.4	11.1	S25 49.4	6.0	54.1
	15	45 47.3	N15 47.8	205 20.5	11.1	S25 55.2	5.9	54.1
	16	60 47.4	N15 48.6	219 50.5	11.0	S26 01.0	5.8	54.1
	17	75 47.5	N15 49.3	234 20.5	11.0	S26 06.6	5.6	54.1
	18	90 47.5	N15 50.0	248 50.4	10.9	S26 12.2	5.5	54.1
	19	105 47.6	N15 50.8	263 20.3	10.9	S26 17.6	5.4	54.1
	20	120 47.6	N15 51.5	277 50.2	10.9	S26 22.8	5.3	54.1
	21	135 47.7	N15 52.2	292 20.0	10.8	S26 28.0	5.1	54.1
	22	150 47.8	N15 52.9	306 49.8	10.8	S26 33.0	5.0	54.1
	23	165 47.8	N15 53.7	321 19.5	10.7	S26 37.9	4.9	54.1
		S.D. 15.9	d 0.7	S.D. 14.9		14.8		14.8

Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 12.0
Achernar	335 19.9	S57 06.1
Acrux	172 58.4	S63 14.9
Adhara	255 05.2	S29 00.6
Albireo	67 03.1	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.5	N55 49.1
Alkaid	152 50.7	N49 10.9
Al Na-ir	27 31.7	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.6	S 8 46.5
Alphecca	126 02.5	N26 37.4
Alpheratz	357 34.0	N29 14.0
Altair	61 58.8	N 8 56.1
Ankaa	353 06.4	S42 09.7
Antares	112 14.2	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 07.1	S69 04.4
Avior	234 14.4	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.2	S52 42.8
Capella	280 20.7	N46 01.6
Castor	245 55.8	N31 49.9
Deneb	49 25.0	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.5	S17 50.5
Dubhe	193 39.3	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.3	N51 28.8
Enif	33 37.8	N 9 59.6
Fomalhaut	15 13.5	S29 28.9
Gacrux	171 50.1	S57 15.9
Gienah	175 42.2	S17 41.5
Hadar	148 34.0	S60 30.2
Hamal	327 50.4	N23 35.2
Kaus Austr.	83 30.9	S34 22.3
Kochab	137 18.7	N74 02.7
Markab	13 29.0	N15 20.6
Menkar	314 05.3	N 4 11.5
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.0	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.3	S26 15.8
Peacock	53 03.9	S56 38.8
Polaris	316 28.6	N89 21.9
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.3	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.4	S60 56.8
Sabik	102 01.3	S15 45.6
Schedar	349 30.3	N56 40.7
Shaula	96 08.6	S37 07.4
Sirius	258 25.5	S16 45.3
Spica	158 20.9	S11 18.1
Suhail	222 45.5	S43 32.6
Vega	80 32.3	N38 48.2
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
4	0	221 53.8	151 38.2	N23 14.2	204 20.5	N 6 30.9	110 54.1	N22 25.9	212 19.7	N 1 45.2
	1	236 56.3	166 37.4	N23 14.7	219 21.2	N 6 31.6	125 56.1	N22 25.9	227 21.9	N 1 45.3
	2	251 58.7	181 36.6	N23 15.2	234 21.9	N 6 32.3	140 58.2	N22 25.8	242 24.1	N 1 45.4
	3	267 01.2	196 35.8	N23 15.7	249 22.6	N 6 33.1	156 00.3	N22 25.8	257 26.3	N 1 45.5
	4	282 03.7	211 35.1	N23 16.2	264 23.3	N 6 33.8	171 02.4	N22 25.7	272 28.5	N 1 45.6
M	5	297 06.1	226 34.3	N23 16.7	279 24.0	N 6 34.6	186 04.4	N22 25.7	287 30.7	N 1 45.7
O										
N	6	312 08.6	241 33.5	N23 17.2	294 24.7	N 6 35.3	201 06.5	N22 25.6	302 32.9	N 1 45.8
D	7	327 11.1	256 32.7	N23 17.7	309 25.4	N 6 36.0	216 08.6	N22 25.6	317 35.2	N 1 45.9
A	8	342 13.5	271 32.0	N23 18.2	324 26.1	N 6 36.8	231 10.7	N22 25.5	332 37.4	N 1 46.0
Y	9	357 16.0	286 31.2	N23 18.7	339 26.8	N 6 37.5	246 12.7	N22 25.5	347 39.6	N 1 46.1
	10	12 18.5	301 30.4	N23 19.2	354 27.5	N 6 38.3	261 14.8	N22 25.4	2 41.8	N 1 46.2
	11	27 20.9	316 29.6	N23 19.7	9 28.2	N 6 39.0	276 16.9	N22 25.4	17 44.0	N 1 46.3
	12	42 23.4	331 28.8	N23 20.2	24 28.9	N 6 39.7	291 18.9	N22 25.3	32 46.2	N 1 46.4
	13	57 25.8	346 28.1	N23 20.7	39 29.5	N 6 40.5	306 21.0	N22 25.3	47 48.4	N 1 46.5
	14	72 28.3	1 27.3	N23 21.2	54 30.2	N 6 41.2	321 23.1	N22 25.2	62 50.6	N 1 46.7
	15	87 30.8	16 26.5	N23 21.7	69 30.9	N 6 42.0	336 25.2	N22 25.2	77 52.8	N 1 46.8
	16	102 33.2	31 25.7	N23 22.2	84 31.6	N 6 42.7	351 27.2	N22 25.1	92 55.0	N 1 46.9
	17	117 35.7	46 24.9	N23 22.7	99 32.3	N 6 43.4	6 29.3	N22 25.0	107 57.2	N 1 47.0
	18	132 38.2	61 24.1	N23 23.2	114 33.0	N 6 44.2	21 31.4	N22 25.0	122 59.4	N 1 47.1
	19	147 40.6	76 23.4	N23 23.7	129 33.7	N 6 44.9	36 33.4	N22 24.9	138 01.6	N 1 47.2
	20	162 43.1	91 22.6	N23 24.2	144 34.4	N 6 45.6	51 35.5	N22 24.9	153 03.9	N 1 47.3
	21	177 45.6	106 21.8	N23 24.7	159 35.1	N 6 46.4	66 37.6	N22 24.8	168 06.1	N 1 47.4
	22	192 48.0	121 21.0	N23 25.1	174 35.8	N 6 47.1	81 39.7	N22 24.8	183 08.3	N 1 47.5
	23	207 50.5	136 20.2	N23 25.6	189 36.5	N 6 47.9	96 41.7	N22 24.7	198 10.5	N 1 47.6
5	0	222 53.0	151 19.4	N23 26.1	204 37.2	N 6 48.6	111 43.8	N22 24.7	213 12.7	N 1 47.7
	1	237 55.4	166 18.7	N23 26.6	219 37.8	N 6 49.3	126 45.9	N22 24.6	228 14.9	N 1 47.8
	2	252 57.9	181 17.9	N23 27.1	234 38.5	N 6 50.1	141 47.9	N22 24.6	243 17.1	N 1 47.9
	3	268 00.3	196 17.1	N23 27.6	249 39.2	N 6 50.8	156 50.0	N22 24.5	258 19.3	N 1 48.0
	4	283 02.8	211 16.3	N23 28.0	264 39.9	N 6 51.6	171 52.1	N22 24.5	273 21.5	N 1 48.1
T	5	298 05.3	226 15.5	N23 28.5	279 40.6	N 6 52.3	186 54.1	N22 24.4	288 23.7	N 1 48.2
U										
E	6	313 07.7	241 14.7	N23 29.0	294 41.3	N 6 53.0	201 56.2	N22 24.4	303 25.9	N 1 48.3
S	7	328 10.2	256 13.9	N23 29.5	309 42.0	N 6 53.8	216 58.3	N22 24.3	318 28.2	N 1 48.4
D	8	343 12.7	271 13.2	N23 29.9	324 42.7	N 6 54.5	232 00.4	N22 24.3	333 30.4	N 1 48.5
A	9	358 15.1	286 12.4	N23 30.4	339 43.4	N 6 55.2	247 02.4	N22 24.2	348 32.6	N 1 48.6
Y	10	13 17.6	301 11.6	N23 30.9	354 44.1	N 6 56.0	262 04.5	N22 24.2	3 34.8	N 1 48.7
	11	28 20.1	316 10.8	N23 31.4	9 44.8	N 6 56.7	277 06.6	N22 24.1	18 37.0	N 1 48.8
	12	43 22.5	331 10.0	N23 31.8	24 45.4	N 6 57.4	292 08.6	N22 24.1	33 39.2	N 1 48.9
	13	58 25.0	346 09.2	N23 32.3	39 46.1	N 6 58.2	307 10.7	N22 24.0	48 41.4	N 1 49.0
	14	73 27.5	1 08.4	N23 32.8	54 46.8	N 6 58.9	322 12.8	N22 24.0	63 43.6	N 1 49.1
	15	88 29.9	16 07.6	N23 33.2	69 47.5	N 6 59.7	337 14.8	N22 23.9	78 45.8	N 1 49.2
	16	103 32.4	31 06.9	N23 33.7	84 48.2	N 7 00.4	352 16.9	N22 23.9	93 48.0	N 1 49.3
	17	118 34.8	46 06.1	N23 34.2	99 48.9	N 7 01.1	7 19.0	N22 23.8	108 50.3	N 1 49.4
	18	133 37.3	61 05.3	N23 34.6	114 49.6	N 7 01.9	22 21.0	N22 23.8	123 52.5	N 1 49.5
	19	148 39.8	76 04.5	N23 35.1	129 50.3	N 7 02.6	37 23.1	N22 23.7	138 54.7	N 1 49.6
	20	163 42.2	91 03.7	N23 35.6	144 51.0	N 7 03.3	52 25.2	N22 23.7	153 56.9	N 1 49.7
	21	178 44.7	106 02.9	N23 36.0	159 51.7	N 7 04.1	67 27.2	N22 23.6	168 59.1	N 1 49.8
	22	193 47.2	121 02.1	N23 36.5	174 52.4	N 7 04.8	82 29.3	N22 23.6	184 01.3	N 1 49.9
	23	208 49.6	136 01.3	N23 36.9	189 53.0	N 7 05.5	97 31.4	N22 23.5	199 03.5	N 1 50.0
6	0	223 52.1	151 00.5	N23 37.4	204 53.7	N 7 06.3	112 33.4	N22 23.4	214 05.7	N 1 50.1
	1	238 54.6	165 59.7	N23 37.9	219 54.4	N 7 07.0	127 35.5	N22 23.4	229 07.9	N 1 50.2
	2	253 57.0	180 58.9	N23 38.3	234 55.1	N 7 07.7	142 37.6	N22 23.3	244 10.1	N 1 50.3
	3	268 59.5	195 58.2	N23 38.8	249 55.8	N 7 08.5	157 39.6	N22 23.3	259 12.4	N 1 50.4
	4	284 02.0	210 57.4	N23 39.2	264 56.5	N 7 09.2	172 41.7	N22 23.2	274 14.6	N 1 50.5
W	5	299 04.4	225 56.6	N23 39.7	279 57.2	N 7 09.9	187 43.7	N22 23.2	289 16.8	N 1 50.6
E										
D	6	314 06.9	240 55.8	N23 40.1	294 57.9	N 7 10.7	202 45.8	N22 23.1	304 19.0	N 1 50.7
N	7	329 09.3	255 55.0	N23 40.6	309 58.6	N 7 11.4	217 47.9	N22 23.1	319 21.2	N 1 50.8
E	8	344 11.8	270 54.2	N23 41.0	324 59.3	N 7 12.1	232 49.9	N22 23.0	334 23.4	N 1 50.9
S	9	359 14.3	285 53.4	N23 41.5	339 60.0	N 7 12.9	247 52.0	N22 23.0	349 25.6	N 1 51.0
D	10	14 16.7	300 52.6	N23 41.9	355 00.6	N 7 13.6	262 54.1	N22 22.9	4 27.8	N 1 51.1
A	11	29 19.2	315 51.8	N23 42.4	10 01.3	N 7 14.3	277 56.1	N22 22.9	19 30.0	N 1 51.2
Y										
	12	44 21.7	330 51.0	N23 42.8	25 02.0	N 7 15.1	292 58.2	N22 22.8	34 32.3	N 1 51.3
	13	59 24.1	345 50.2	N23 43.2	40 02.7	N 7 15.8	308 00.2	N22 22.8	49 34.5	N 1 51.4
	14	74 26.6	0 49.4	N23 43.7	55 03.4	N 7 16.5	323 02.3	N22 22.7	64 36.7	N 1 51.5
	15	89 29.1	15 48.6	N23 44.1	70 04.1	N 7 17.3	338 04.4	N22 22.7	79 38.9	N 1 51.6
	16	104 31.5	30 47.8	N23 44.6	85 04.8	N 7 18.0	353 06.4	N22 22.6	94 41.1	N 1 51.7
	17	119 34.0	45 47.0	N23 45.0	100 05.5	N 7 18.7	8 08.5	N22 22.6	109 43.3	N 1 51.8
	18	134 36.4	60 46.2	N23 45.4	115 06.2	N 7 19.5	23 10.6	N22 22.5	124 45.5	N 1 51.9
	19	149 38.9	75 45.4	N23 45.9	130 06.9	N 7 20.2	38 12.6	N22 22.4	139 47.7	N 1 52.1
	20	164 41.4	90 44.6	N23 46.3	145 07.5	N 7 20.9	53 14.7	N22 22.4	154 49.9	N 1 52.2
	21	179 43.8	105 43.8	N23 46.7	160 08.2	N 7 21.7	68 16.7	N22 22.3	169 52.2	N 1 52.3
	22	194 46.3	120 43.1	N23 47.2	175 08.9	N 7 22.4	83 18.8	N22 22.3	184 54.4	N 1 52.4
	23	209 48.8	135 42.3	N23 47.6	190 09.6	N 7 23.1	98 20.9	N22 22.2	199 56.6	N 1 52.5
			v -0.8	d 0.5	v 0.7	d 0.7	v 2.1	d 0.1	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
4 0	180 47.9	N15 54.4	335 49.2	10.7	S26 42.6	4.8	54.1	Acamar	315 11.3	S40 11.9
1	195 47.9	N15 55.1	350 18.8	10.7	S26 47.3	4.6	54.1	Achernar	335 19.9	S57 06.1
2	210 48.0	N15 55.8	4 48.5	10.6	S26 51.8	4.5	54.1	Acrux	172 58.4	S63 14.9
3	225 48.1	N15 56.6	19 18.0	10.6	S26 56.2	4.4	54.1	Adhara	255 05.2	S29 00.6
4	240 48.1	N15 57.3	33 47.6	10.5	S27 00.4	4.3	54.1	Albireo	67 03.0	N28 00.6
M 5	255 48.2	N15 58.0	48 17.1	10.5	S27 04.6	4.1	54.1			
O								Aldebaran	290 38.7	N16 33.7
N 6	270 48.2	N15 58.7	62 46.6	10.5	S27 08.6	4.0	54.1	Alioth	166 11.5	N55 49.1
D 7	285 48.3	N15 59.5	77 16.0	10.4	S27 12.4	3.9	54.1	Alkaid	152 50.7	N49 10.9
A 8	300 48.4	N16 00.2	91 45.4	10.4	S27 16.2	3.7	54.0	Al Na-ir	27 31.6	S46 49.8
Y 9	315 48.4	N16 00.9	106 14.8	10.4	S27 19.8	3.6	54.0	Alnilam	275 36.9	S 1 11.1
10	330 48.5	N16 01.6	120 44.2	10.4	S27 23.2	3.5	54.0			
11	345 48.5	N16 02.4	135 13.5	10.3	S27 26.6	3.3	54.0	Alphard	217 46.6	S 8 46.5
								Alphecca	126 02.5	N26 37.4
12	0 48.6	N16 03.1	149 42.8	10.3	S27 29.8	3.2	54.0	Alpheratz	357 33.9	N29 14.0
13	15 48.6	N16 03.8	164 12.1	10.3	S27 32.9	3.1	54.0	Altair	61 58.8	N 8 56.1
14	30 48.7	N16 04.5	178 41.3	10.2	S27 35.8	2.9	54.0	Ankaa	353 06.4	S42 09.7
15	45 48.8	N16 05.2	193 10.5	10.2	S27 38.6	2.8	54.0			
16	60 48.8	N16 06.0	207 39.7	10.2	S27 41.3	2.7	54.0	Antares	112 14.2	S26 29.5
17	75 48.9	N16 06.7	222 08.9	10.2	S27 43.9	2.5	54.0	Arcturus	145 46.6	N19 02.6
								Atria	107 07.1	S69 04.5
18	90 48.9	N16 07.4	236 38.0	10.2	S27 46.3	2.4	54.0	Avior	234 14.4	S59 35.9
19	105 49.0	N16 08.1	251 07.2	10.1	S27 48.6	2.3	54.0	Bellatrix	278 22.0	N 6 22.4
20	120 49.0	N16 08.8	265 36.3	10.1	S27 50.7	2.1	54.0			
21	135 49.1	N16 09.5	280 05.4	10.1	S27 52.7	2.0	54.0	Betelgeuse	270 51.2	N 7 24.7
22	150 49.2	N16 10.3	294 34.5	10.1	S27 54.6	1.9	54.0	Canopus	263 52.3	S52 42.8
23	165 49.2	N16 11.0	309 03.5	10.1	S27 56.4	1.7	54.0	Capella	280 20.7	N46 01.6
5 0	180 49.3	N16 11.7	323 32.6	10.0	S27 58.0	1.6	54.0	Castor	245 55.8	N31 49.9
1	195 49.3	N16 12.4	338 01.6	10.0	S27 59.4	1.5	54.0	Deneb	49 25.0	N45 22.1
2	210 49.4	N16 13.1	352 30.6	10.0	S28 00.8	1.3	54.0			
3	225 49.4	N16 13.8	6 59.6	10.0	S28 02.0	1.2	54.0	Denebola	182 23.6	N14 25.4
4	240 49.5	N16 14.6	21 28.6	10.0	S28 03.1	1.1	54.0	Diphda	348 46.5	S17 50.5
T 5	255 49.5	N16 15.3	35 57.6	10.0	S28 04.0	0.9	54.0	Dubhe	193 39.3	N61 36.7
U								Elnath	278 00.9	N28 37.8
E 6	270 49.6	N16 16.0	50 26.6	10.0	S28 04.8	0.8	54.0	Eltanin	90 41.3	N51 28.8
S 7	285 49.6	N16 16.7	64 55.6	10.0	S28 05.5	0.7	54.0	Enif	33 37.7	N 9 59.6
D 8	300 49.7	N16 17.4	79 24.6	10.0	S28 06.0	0.5	54.0	Fomalhaut	15 13.5	S29 28.9
A 9	315 49.7	N16 18.1	93 53.5	10.0	S28 06.4	0.4	54.0	Gacrux	171 50.1	S57 15.9
Y 10	330 49.8	N16 18.8	108 22.5	10.0	S28 06.6	0.3	54.0	Gienah	175 42.2	S17 41.5
11	345 49.8	N16 19.5	122 51.5	10.0	S28 06.7	0.1	54.0	Hadar	148 34.0	S60 30.2
12	0 49.9	N16 20.2	137 20.4	10.0	S28 06.7	0.0	54.0	Hamal	327 50.4	N23 35.2
13	15 49.9	N16 21.0	151 49.4	10.0	S28 06.6	0.2	54.1	Kaus Austr.	83 30.9	S34 22.3
14	30 50.0	N16 21.7	166 18.3	10.0	S28 06.3	0.3	54.1	Kochab	137 18.7	N74 02.7
15	45 50.1	N16 22.4	180 47.3	10.0	S28 05.9	0.4	54.1	Markab	13 29.0	N15 20.6
16	60 50.1	N16 23.1	195 16.3	10.0	S28 05.3	0.6	54.1	Menkar	314 05.3	N 4 11.5
17	75 50.2	N16 23.8	209 45.2	10.0	S28 04.6	0.7	54.1			
								Menkent	147 56.0	S36 30.2
18	90 50.2	N16 24.5	224 14.2	10.0	S28 03.8	0.8	54.1	Miaplacidus	221 38.0	S69 49.8
19	105 50.3	N16 25.2	238 43.2	10.0	S28 02.8	1.0	54.1	Mirfak	308 27.3	N49 57.3
20	120 50.3	N16 25.9	253 12.2	10.0	S28 01.7	1.1	54.1	Nunki	75 46.2	S26 15.8
21	135 50.3	N16 26.6	267 41.2	10.0	S28 00.5	1.2	54.1	Peacock	53 03.8	S56 38.8
22	150 50.4	N16 27.3	282 10.2	10.0	S27 59.1	1.4	54.1			
23	165 50.4	N16 28.0	296 39.2	10.0	S27 57.6	1.5	54.1	Polaris	316 28.2	N89 21.8
6 0	180 50.5	N16 28.7	311 08.3	10.0	S27 55.9	1.6	54.1	Pollux	243 16.1	N27 57.8
1	195 50.5	N16 29.4	325 37.3	10.1	S27 54.1	1.8	54.1	Procyon	244 49.8	N 5 09.4
2	210 50.6	N16 30.1	340 06.4	10.1	S27 52.2	1.9	54.1	Rasalhague	95 57.3	N12 32.3
3	225 50.6	N16 30.8	354 35.5	10.1	S27 50.2	2.1	54.1	Regulus	207 33.2	N11 50.3
4	240 50.7	N16 31.5	9 04.6	10.1	S27 48.0	2.2	54.1			
W 5	255 50.7	N16 32.2	23 33.7	10.1	S27 45.7	2.3	54.1	Rigel	281 03.1	S 8 10.3
E								Rigil Kent	139 38.4	S60 56.8
D 6	270 50.8	N16 32.9	38 02.8	10.1	S27 43.2	2.5	54.1	Sabik	102 01.3	S15 45.6
N 7	285 50.8	N16 33.6	52 32.0	10.2	S27 40.6	2.6	54.1	Schedar	349 30.3	N56 40.7
E 8	300 50.9	N16 34.3	67 01.2	10.2	S27 37.9	2.7	54.2	Shaula	96 08.6	S37 07.4
S 9	315 50.9	N16 35.0	81 30.4	10.2	S27 35.1	2.9	54.2	Sirius	258 25.5	S16 45.3
D 10	330 51.0	N16 35.7	95 59.6	10.2	S27 32.1	3.0	54.2	Spica	158 20.9	S11 18.1
A 11	345 51.0	N16 36.4	110 28.8	10.2	S27 29.0	3.1	54.2	Suhail	222 45.5	S43 32.6
Y								Vega	80 32.2	N38 48.2
12	0 51.1	N16 37.1	124 58.1	10.3	S27 25.7	3.3	54.2	Zuben-ubi	136 55.4	S16 09.2
13	15 51.1	N16 37.8	139 27.4	10.3	S27 22.3	3.4	54.2			
14	30 51.2	N16 38.5	153 56.7	10.3	S27 18.8	3.5	54.2			
15	45 51.2	N16 39.2	168 26.1	10.3	S27 15.2	3.6	54.2			
16	60 51.2	N16 39.9	182 55.4	10.4	S27 11.4	3.8	54.2			
17	75 51.3	N16 40.6	197 24.8	10.4	S27 07.5	3.9	54.2			
18	90 51.3	N16 41.3	211 54.3	10.4	S27 03.4	4.0	54.2			
19	105 51.4	N16 42.0	226 23.7	10.5	S26 59.3	4.2	54.2			
20	120 51.4	N16 42.7	240 53.2	10.5	S26 55.0	4.3	54.3			
21	135 51.5	N16 43.4	255 22.8	10.5	S26 50.5	4.4	54.3			
22	150 51.5	N16 44.1	269 52.3	10.6	S26 46.0	4.6	54.3			
23	165 51.5	N16 44.8	284 21.9	10.6	S26 41.3	4.7	54.3			
	S.D. 15.9	d 0.7	S.D.	14.7	14.7	14.8				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
7	0	224 51.2	150 41.5	N23 48.0	205 10.3	N 7 23.9	113 22.9	N22 22.2	214 58.8	N 1 52.6
	1	239 53.7	165 40.7	N23 48.5	220 11.0	N 7 24.6	128 25.0	N22 22.1	230 01.0	N 1 52.7
	2	254 56.2	180 39.9	N23 48.9	235 11.7	N 7 25.3	143 27.0	N22 22.1	245 03.2	N 1 52.8
	3	269 58.6	195 39.1	N23 49.3	250 12.4	N 7 26.1	158 29.1	N22 22.0	260 05.4	N 1 52.9
	4	285 01.1	210 38.3	N23 49.7	265 13.1	N 7 26.8	173 31.2	N22 22.0	275 07.6	N 1 53.0
T	5	300 03.6	225 37.5	N23 50.2	280 13.8	N 7 27.5	188 33.2	N22 21.9	290 09.9	N 1 53.1
H										
U	6	315 06.0	240 36.7	N23 50.6	295 14.5	N 7 28.2	203 35.3	N22 21.9	305 12.1	N 1 53.2
R	7	330 08.5	255 35.9	N23 51.0	310 15.1	N 7 29.0	218 37.3	N22 21.8	320 14.3	N 1 53.3
S	8	345 10.9	270 35.1	N23 51.4	325 15.8	N 7 29.7	233 39.4	N22 21.8	335 16.5	N 1 53.4
D	9	0 13.4	285 34.3	N23 51.9	340 16.5	N 7 30.4	248 41.5	N22 21.7	350 18.7	N 1 53.5
A	10	15 15.9	300 33.5	N23 52.3	355 17.2	N 7 31.2	263 43.5	N22 21.6	5 20.9	N 1 53.6
Y	11	30 18.3	315 32.7	N23 52.7	10 17.9	N 7 31.9	278 45.6	N22 21.6	20 23.1	N 1 53.7
	12	45 20.8	330 31.9	N23 53.1	25 18.6	N 7 32.6	293 47.6	N22 21.5	35 25.3	N 1 53.8
	13	60 23.3	345 31.1	N23 53.5	40 19.3	N 7 33.3	308 49.7	N22 21.5	50 27.6	N 1 53.9
	14	75 25.7	0 30.3	N23 53.9	55 20.0	N 7 34.1	323 51.7	N22 21.4	65 29.8	N 1 54.0
	15	90 28.2	15 29.5	N23 54.4	70 20.7	N 7 34.8	338 53.8	N22 21.4	80 32.0	N 1 54.1
	16	105 30.7	30 28.7	N23 54.8	85 21.3	N 7 35.5	353 55.9	N22 21.3	95 34.2	N 1 54.2
	17	120 33.1	45 27.9	N23 55.2	100 22.0	N 7 36.3	8 57.9	N22 21.3	110 36.4	N 1 54.3
	18	135 35.6	60 27.1	N23 55.6	115 22.7	N 7 37.0	23 60.0	N22 21.2	125 38.6	N 1 54.4
	19	150 38.1	75 26.2	N23 56.0	130 23.4	N 7 37.7	39 02.0	N22 21.2	140 40.8	N 1 54.5
	20	165 40.5	90 25.4	N23 56.4	145 24.1	N 7 38.4	54 04.1	N22 21.1	155 43.1	N 1 54.6
	21	180 43.0	105 24.6	N23 56.8	160 24.8	N 7 39.2	69 06.1	N22 21.1	170 45.3	N 1 54.7
	22	195 45.4	120 23.8	N23 57.2	175 25.5	N 7 39.9	84 08.2	N22 21.0	185 47.5	N 1 54.8
	23	210 47.9	135 23.0	N23 57.6	190 26.2	N 7 40.6	99 10.3	N22 20.9	200 49.7	N 1 54.9
8	0	225 50.4	150 22.2	N23 58.0	205 26.9	N 7 41.4	114 12.3	N22 20.9	215 51.9	N 1 55.0
	1	240 52.8	165 21.4	N23 58.4	220 27.6	N 7 42.1	129 14.4	N22 20.8	230 54.1	N 1 55.1
	2	255 55.3	180 20.6	N23 58.8	235 28.2	N 7 42.8	144 16.4	N22 20.8	245 56.3	N 1 55.2
	3	270 57.8	195 19.8	N23 59.2	250 28.9	N 7 43.5	159 18.5	N22 20.7	260 58.5	N 1 55.3
	4	286 00.2	210 19.0	N23 59.6	265 29.6	N 7 44.3	174 20.5	N22 20.7	276 00.8	N 1 55.4
F	5	301 02.7	225 18.2	N24 00.0	280 30.3	N 7 45.0	189 22.6	N22 20.6	291 03.0	N 1 55.5
R										
I	6	316 05.2	240 17.4	N24 00.4	295 31.0	N 7 45.7	204 24.6	N22 20.6	306 05.2	N 1 55.6
D	7	331 07.6	255 16.6	N24 00.8	310 31.7	N 7 46.4	219 26.7	N22 20.5	321 07.4	N 1 55.7
A	8	346 10.1	270 15.8	N24 01.2	325 32.4	N 7 47.2	234 28.7	N22 20.5	336 09.6	N 1 55.8
Y	9	1 12.6	285 15.0	N24 01.6	340 33.1	N 7 47.9	249 30.8	N22 20.4	351 11.8	N 1 55.9
	10	16 15.0	300 14.2	N24 02.0	355 33.8	N 7 48.6	264 32.9	N22 20.3	6 14.0	N 1 56.0
	11	31 17.5	315 13.4	N24 02.4	10 34.4	N 7 49.4	279 34.9	N22 20.3	21 16.3	N 1 56.1
	12	46 19.9	330 12.6	N24 02.7	25 35.1	N 7 50.1	294 37.0	N22 20.2	36 18.5	N 1 56.2
	13	61 22.4	345 11.8	N24 03.1	40 35.8	N 7 50.8	309 39.0	N22 20.2	51 20.7	N 1 56.3
	14	76 24.9	0 11.0	N24 03.5	55 36.5	N 7 51.5	324 41.1	N22 20.1	66 22.9	N 1 56.4
	15	91 27.3	15 10.1	N24 03.9	70 37.2	N 7 52.3	339 43.1	N22 20.1	81 25.1	N 1 56.5
	16	106 29.8	30 09.3	N24 04.3	85 37.9	N 7 53.0	354 45.2	N22 20.0	96 27.3	N 1 56.6
	17	121 32.3	45 08.5	N24 04.7	100 38.6	N 7 53.7	9 47.2	N22 20.0	111 29.6	N 1 56.7
	18	136 34.7	60 07.7	N24 05.0	115 39.3	N 7 54.4	24 49.3	N22 19.9	126 31.8	N 1 56.8
	19	151 37.2	75 06.9	N24 05.4	130 40.0	N 7 55.2	39 51.3	N22 19.8	141 34.0	N 1 56.9
	20	166 39.7	90 06.1	N24 05.8	145 40.6	N 7 55.9	54 53.4	N22 19.8	156 36.2	N 1 57.0
	21	181 42.1	105 05.3	N24 06.2	160 41.3	N 7 56.6	69 55.4	N22 19.7	171 38.4	N 1 57.1
	22	196 44.6	120 04.5	N24 06.6	175 42.0	N 7 57.3	84 57.5	N22 19.7	186 40.6	N 1 57.1
	23	211 47.0	135 03.7	N24 06.9	190 42.7	N 7 58.0	99 59.5	N22 19.6	201 42.8	N 1 57.2
9	0	226 49.5	150 02.9	N24 07.3	205 43.4	N 7 58.8	115 01.6	N22 19.6	216 45.1	N 1 57.3
	1	241 52.0	165 02.1	N24 07.7	220 44.1	N 7 59.5	130 03.6	N22 19.5	231 47.3	N 1 57.4
	2	256 54.4	180 01.2	N24 08.0	235 44.8	N 8 00.2	145 05.7	N22 19.5	246 49.5	N 1 57.5
	3	271 56.9	195 00.4	N24 08.4	250 45.5	N 8 00.9	160 07.7	N22 19.4	261 51.7	N 1 57.6
	4	286 59.4	209 59.6	N24 08.8	265 46.2	N 8 01.7	175 09.8	N22 19.3	276 53.9	N 1 57.7
S	5	302 01.8	224 58.8	N24 09.2	280 46.8	N 8 02.4	190 11.8	N22 19.3	291 56.1	N 1 57.8
A										
T	6	317 04.3	239 58.0	N24 09.5	295 47.5	N 8 03.1	205 13.9	N22 19.2	306 58.4	N 1 57.9
U	7	332 06.8	254 57.2	N24 09.9	310 48.2	N 8 03.8	220 15.9	N22 19.2	322 00.6	N 1 58.0
R	8	347 09.2	269 56.4	N24 10.3	325 48.9	N 8 04.6	235 18.0	N22 19.1	337 02.8	N 1 58.1
D	9	2 11.7	284 55.6	N24 10.6	340 49.6	N 8 05.3	250 20.0	N22 19.1	352 05.0	N 1 58.2
A	10	17 14.2	299 54.8	N24 11.0	355 50.3	N 8 06.0	265 22.1	N22 19.0	7 07.2	N 1 58.3
Y	11	32 16.6	314 53.9	N24 11.3	10 51.0	N 8 06.7	280 24.1	N22 19.0	22 09.4	N 1 58.4
	12	47 19.1	329 53.1	N24 11.7	25 51.7	N 8 07.4	295 26.2	N22 18.9	37 11.6	N 1 58.5
	13	62 21.5	344 52.3	N24 12.1	40 52.3	N 8 08.2	310 28.2	N22 18.8	52 13.9	N 1 58.6
	14	77 24.0	359 51.5	N24 12.4	55 53.0	N 8 08.9	325 30.3	N22 18.8	67 16.1	N 1 58.7
	15	92 26.5	14 50.7	N24 12.8	70 53.7	N 8 09.6	340 32.3	N22 18.7	82 18.3	N 1 58.8
	16	107 28.9	29 49.9	N24 13.1	85 54.4	N 8 10.3	355 34.4	N22 18.7	97 20.5	N 1 58.9
	17	122 31.4	44 49.1	N24 13.5	100 55.1	N 8 11.1	10 36.4	N22 18.6	112 22.7	N 1 59.0
	18	137 33.9	59 48.3	N24 13.8	115 55.8	N 8 11.8	25 38.5	N22 18.6	127 24.9	N 1 59.1
	19	152 36.3	74 47.4	N24 14.2	130 56.5	N 8 12.5	40 40.5	N22 18.5	142 27.2	N 1 59.2
	20	167 38.8	89 46.6	N24 14.5	145 57.2	N 8 13.2	55 42.6	N22 18.5	157 29.4	N 1 59.3
	21	182 41.3	104 45.8	N24 14.9	160 57.8	N 8 13.9	70 44.6	N22 18.4	172 31.6	N 1 59.4
	22	197 43.7	119 45.0	N24 15.2	175 58.5	N 8 14.7	85 46.7	N22 18.3	187 33.8	N 1 59.5
	23	212 46.2	134 44.2	N24 15.6	190 59.2	N 8 15.4	100 48.7	N22 18.3	202 36.0	N 1 59.6
			v -0.8	d 0.4	v 0.7	d 0.7	v 2.1	d 0.1	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
7 0	180 51.6	N16 45.5	298 51.6	10.6	S26 36.5	4.8	54.3	Acamar	315 11.3	S40 11.9
1	195 51.6	N16 46.2	313 21.2	10.7	S26 31.6	4.9	54.3	Achernar	335 19.9	S57 06.0
2	210 51.7	N16 46.9	327 50.9	10.7	S26 26.5	5.1	54.3	Acrux	172 58.4	S63 15.0
3	225 51.7	N16 47.6	342 20.7	10.7	S26 21.3	5.2	54.3	Adhara	255 05.2	S29 00.6
4	240 51.8	N16 48.3	356 50.4	10.8	S26 16.0	5.3	54.4	Albireo	67 03.0	N28 00.6
T 5	255 51.8	N16 48.9	11 20.3	10.8	S26 10.5	5.4	54.4			
H								Aldebaran	290 38.7	N16 33.7
U 6	270 51.8	N16 49.6	25 50.1	10.9	S26 05.0	5.6	54.4	Alioth	166 11.5	N55 49.1
R 7	285 51.9	N16 50.3	40 20.0	10.9	S25 59.3	5.7	54.4	Alkaid	152 50.7	N49 10.9
S 8	300 51.9	N16 51.0	54 49.9	10.9	S25 53.5	5.8	54.4	Al Na-ir	27 31.6	S46 49.8
D 9	315 52.0	N16 51.7	69 19.9	11.0	S25 47.5	5.9	54.4	Alnilam	275 36.9	S 1 11.1
A 10	330 52.0	N16 52.4	83 49.9	11.0	S25 41.5	6.1	54.4			
Y 11	345 52.0	N16 53.1	98 20.0	11.1	S25 35.3	6.2	54.4	Alphard	217 46.6	S 8 46.5
								Alphecca	126 02.5	N26 37.4
12	0 52.1	N16 53.8	112 50.1	11.1	S25 29.0	6.3	54.5	Alpheratz	357 33.9	N29 14.0
13	15 52.1	N16 54.5	127 20.2	11.1	S25 22.5	6.4	54.5	Altair	61 58.8	N 8 56.1
14	30 52.2	N16 55.1	141 50.4	11.2	S25 16.0	6.6	54.5	Ankaa	353 06.4	S42 09.7
15	45 52.2	N16 55.8	156 20.6	11.2	S25 09.3	6.7	54.5			
16	60 52.2	N16 56.5	170 50.9	11.3	S25 02.5	6.8	54.5	Antares	112 14.2	S26 29.5
17	75 52.3	N16 57.2	185 21.2	11.3	S24 55.6	6.9	54.5	Arcturus	145 46.6	N19 02.6
								Atria	107 07.0	S69 04.5
18	90 52.3	N16 57.9	199 51.5	11.4	S24 48.6	7.0	54.6	Avior	234 14.5	S59 35.9
19	105 52.3	N16 58.6	214 21.9	11.4	S24 41.4	7.1	54.6	Bellatrix	278 22.0	N 6 22.4
20	120 52.4	N16 59.2	228 52.4	11.4	S24 34.2	7.3	54.6			
21	135 52.4	N16 59.9	243 22.8	11.5	S24 26.8	7.4	54.6	Betelgeuse	270 51.2	N 7 24.7
22	150 52.5	N17 00.6	257 53.4	11.5	S24 19.3	7.5	54.6	Canopus	263 52.3	S52 42.8
23	165 52.5	N17 01.3	272 23.9	11.6	S24 11.7	7.6	54.6	Capella	280 20.7	N46 01.6
8 0	180 52.5	N17 02.0	286 54.6	11.6	S24 04.0	7.7	54.7	Castor	245 55.8	N31 49.9
1	195 52.6	N17 02.7	301 25.2	11.7	S23 56.1	7.8	54.7	Deneb	49 25.0	N45 22.1
2	210 52.6	N17 03.3	315 55.9	11.7	S23 48.2	8.0	54.7	Denebola	182 23.6	N14 25.4
3	225 52.6	N17 04.0	330 26.7	11.8	S23 40.1	8.1	54.7	Diphda	348 46.5	S17 50.5
4	240 52.7	N17 04.7	344 57.5	11.8	S23 31.9	8.2	54.7	Dubhe	193 39.3	N61 36.7
F 5	255 52.7	N17 05.4	359 28.3	11.8	S23 23.6	8.3	54.8	Elnath	278 00.9	N28 37.8
R								Eltanin	90 41.3	N51 28.8
I 6	270 52.7	N17 06.0	13 59.2	11.9	S23 15.2	8.4	54.8			
D 7	285 52.8	N17 06.7	28 30.2	11.9	S23 06.7	8.5	54.8	Enif	33 37.7	N 9 59.6
A 8	300 52.8	N17 07.4	43 01.1	12.0	S22 58.1	8.6	54.8	Fomalhaut	15 13.4	S29 28.9
Y 9	315 52.9	N17 08.1	57 32.2	12.0	S22 49.3	8.7	54.8	Gacrux	171 50.1	S57 15.9
10	330 52.9	N17 08.8	72 03.3	12.1	S22 40.5	8.8	54.8	Gienah	175 42.2	S17 41.5
11	345 52.9	N17 09.4	86 34.4	12.1	S22 31.5	9.0	54.9	Hadar	148 34.0	S60 30.2
12	0 53.0	N17 10.1	101 05.5	12.2	S22 22.5	9.1	54.9	Hamal	327 50.3	N23 35.2
13	15 53.0	N17 10.8	115 36.8	12.2	S22 13.3	9.2	54.9	Kaus Austr.	83 30.8	S34 22.3
14	30 53.0	N17 11.5	130 08.0	12.3	S22 04.0	9.3	54.9	Kochab	137 18.7	N74 02.8
15	45 53.1	N17 12.1	144 39.3	12.3	S21 54.7	9.4	55.0	Markab	13 29.0	N15 20.7
16	60 53.1	N17 12.8	159 10.7	12.3	S21 45.2	9.5	55.0	Menkar	314 05.3	N 4 11.5
17	75 53.1	N17 13.5	173 42.1	12.4	S21 35.6	9.6	55.0			
								Menkent	147 56.0	S36 30.2
18	90 53.1	N17 14.1	188 13.5	12.4	S21 25.9	9.7	55.0	Miaplacidus	221 38.0	S69 49.8
19	105 53.2	N17 14.8	202 45.0	12.5	S21 16.1	9.8	55.0	Mirfak	308 27.3	N49 57.3
20	120 53.2	N17 15.5	217 16.5	12.5	S21 06.2	9.9	55.1	Nunki	75 46.2	S26 15.8
21	135 53.2	N17 16.2	231 48.1	12.6	S20 56.2	10.0	55.1	Peacock	53 03.8	S56 38.8
22	150 53.3	N17 16.8	246 19.7	12.6	S20 46.1	10.1	55.1			
23	165 53.3	N17 17.5	260 51.3	12.7	S20 35.9	10.2	55.1	Polaris	316 27.8	N89 21.8
9 0	180 53.3	N17 18.2	275 23.1	12.7	S20 25.6	10.3	55.2	Pollux	243 16.1	N27 57.8
1	195 53.4	N17 18.8	289 54.8	12.7	S20 15.2	10.4	55.2	Procyon	244 49.8	N 5 09.4
2	210 53.4	N17 19.5	304 26.6	12.8	S20 04.7	10.5	55.2	Rasalhague	95 57.3	N12 32.3
3	225 53.4	N17 20.2	318 58.4	12.8	S19 54.1	10.6	55.2	Regulus	207 33.2	N11 50.3
4	240 53.5	N17 20.8	333 30.3	12.9	S19 43.4	10.7	55.3			
S 5	255 53.5	N17 21.5	348 02.2	12.9	S19 32.6	10.8	55.3	Rigel	281 03.1	S 8 10.3
A								Rigil Kent	139 38.3	S60 56.8
T 6	270 53.5	N17 22.2	2 34.1	13.0	S19 21.7	10.9	55.3	Sabik	102 01.3	S15 45.6
U 7	285 53.5	N17 22.8	17 06.1	13.0	S19 10.8	11.0	55.3	Schedar	349 30.3	N56 40.7
R 8	300 53.6	N17 23.5	31 38.2	13.0	S18 59.7	11.1	55.4	Shaula	96 08.6	S37 07.4
D 9	315 53.6	N17 24.2	46 10.2	13.1	S18 48.5	11.2	55.4			
A 10	330 53.6	N17 24.8	60 42.3	13.1	S18 37.3	11.3	55.4	Sirius	258 25.5	S16 45.2
Y 11	345 53.7	N17 25.5	75 14.5	13.1	S18 25.9	11.3	55.4	Spica	158 20.9	S11 18.1
								Suhail	222 45.5	S43 32.6
12	0 53.7	N17 26.2	89 46.7	13.2	S18 14.5	11.4	55.5	Vega	80 32.2	N38 48.2
13	15 53.7	N17 26.8	104 18.9	13.2	S18 03.0	11.5	55.5	Zuben-ubi	136 55.4	S16 09.2
14	30 53.7	N17 27.5	118 51.1	13.3	S17 51.3	11.6	55.5			
15	45 53.8	N17 28.1	133 23.4	13.3	S17 39.6	11.7	55.6			
16	60 53.8	N17 28.8	147 55.8	13.3	S17 27.8	11.8	55.6			
17	75 53.8	N17 29.5	162 28.1	13.4	S17 16.0	11.9	55.6			
18	90 53.8	N17 30.1	177 00.5	13.4	S17 04.0	12.0	55.6			
19	105 53.9	N17 30.8	191 33.0	13.4	S16 51.9	12.1	55.7			
20	120 53.9	N17 31.4	206 05.4	13.5	S16 39.8	12.1	55.7			
21	135 53.9	N17 32.1	220 37.9	13.5	S16 27.6	12.2	55.7			
22	150 53.9	N17 32.8	235 10.4	13.5	S16 15.2	12.3	55.8			
23	165 54.0	N17 33.4	249 43.0	13.6	S16 02.8	12.4	55.8			
	S.D. 15.8	d 0.7	S.D.	14.8	15.0		15.1			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
10	0	227 48.7	149 43.4	N24 15.9	205 59.9	N 8 16.1	115 50.7	N22 18.2	217 38.3	N 1 59.7
	1	242 51.1	164 42.6	N24 16.3	221 00.6	N 8 16.8	130 52.8	N22 18.2	232 40.5	N 1 59.8
	2	257 53.6	179 41.7	N24 16.6	236 01.3	N 8 17.5	145 54.8	N22 18.1	247 42.7	N 1 59.9
	3	272 56.0	194 40.9	N24 17.0	251 02.0	N 8 18.3	160 56.9	N22 18.1	262 44.9	N 2 00.0
	4	287 58.5	209 40.1	N24 17.3	266 02.7	N 8 19.0	175 58.9	N22 18.0	277 47.1	N 2 00.1
S	5	303 01.0	224 39.3	N24 17.6	281 03.3	N 8 19.7	191 01.0	N22 17.9	292 49.3	N 2 00.2
U										
N	6	318 03.4	239 38.5	N24 18.0	296 04.0	N 8 20.4	206 03.0	N22 17.9	307 51.6	N 2 00.3
D	7	333 05.9	254 37.7	N24 18.3	311 04.7	N 8 21.1	221 05.1	N22 17.8	322 53.8	N 2 00.4
A	8	348 08.4	269 36.8	N24 18.6	326 05.4	N 8 21.8	236 07.1	N22 17.8	337 56.0	N 2 00.5
Y	9	3 10.8	284 36.0	N24 19.0	341 06.1	N 8 22.6	251 09.2	N22 17.7	352 58.2	N 2 00.6
	10	18 13.3	299 35.2	N24 19.3	356 06.8	N 8 23.3	266 11.2	N22 17.7	8 00.4	N 2 00.7
	11	33 15.8	314 34.4	N24 19.6	11 07.5	N 8 24.0	281 13.2	N22 17.6	23 02.6	N 2 00.8
	12	48 18.2	329 33.6	N24 20.0	26 08.2	N 8 24.7	296 15.3	N22 17.5	38 04.9	N 2 00.9
	13	63 20.7	344 32.8	N24 20.3	41 08.8	N 8 25.4	311 17.3	N22 17.5	53 07.1	N 2 01.0
	14	78 23.2	359 31.9	N24 20.6	56 09.5	N 8 26.2	326 19.4	N22 17.4	68 09.3	N 2 01.1
	15	93 25.6	14 31.1	N24 21.0	71 10.2	N 8 26.9	341 21.4	N22 17.4	83 11.5	N 2 01.2
	16	108 28.1	29 30.3	N24 21.3	86 10.9	N 8 27.6	356 23.5	N22 17.3	98 13.7	N 2 01.3
	17	123 30.5	44 29.5	N24 21.6	101 11.6	N 8 28.3	11 25.5	N22 17.3	113 16.0	N 2 01.4
	18	138 33.0	59 28.7	N24 21.9	116 12.3	N 8 29.0	26 27.5	N22 17.2	128 18.2	N 2 01.5
	19	153 35.5	74 27.9	N24 22.3	131 13.0	N 8 29.7	41 29.6	N22 17.1	143 20.4	N 2 01.6
	20	168 37.9	89 27.0	N24 22.6	146 13.7	N 8 30.5	56 31.6	N22 17.1	158 22.6	N 2 01.7
	21	183 40.4	104 26.2	N24 22.9	161 14.3	N 8 31.2	71 33.7	N22 17.0	173 24.8	N 2 01.8
	22	198 42.9	119 25.4	N24 23.2	176 15.0	N 8 31.9	86 35.7	N22 17.0	188 27.0	N 2 01.9
	23	213 45.3	134 24.6	N24 23.5	191 15.7	N 8 32.6	101 37.8	N22 16.9	203 29.3	N 2 02.0
11	0	228 47.8	149 23.8	N24 23.9	206 16.4	N 8 33.3	116 39.8	N22 16.9	218 31.5	N 2 02.1
	1	243 50.3	164 22.9	N24 24.2	221 17.1	N 8 34.0	131 41.8	N22 16.8	233 33.7	N 2 02.1
	2	258 52.7	179 22.1	N24 24.5	236 17.8	N 8 34.8	146 43.9	N22 16.7	248 35.9	N 2 02.2
	3	273 55.2	194 21.3	N24 24.8	251 18.5	N 8 35.5	161 45.9	N22 16.7	263 38.1	N 2 02.3
	4	288 57.6	209 20.5	N24 25.1	266 19.1	N 8 36.2	176 48.0	N22 16.6	278 40.4	N 2 02.4
M	5	304 00.1	224 19.7	N24 25.4	281 19.8	N 8 36.9	191 50.0	N22 16.6	293 42.6	N 2 02.5
O										
N	6	319 02.6	239 18.8	N24 25.7	296 20.5	N 8 37.6	206 52.0	N22 16.5	308 44.8	N 2 02.6
D	7	334 05.0	254 18.0	N24 26.0	311 21.2	N 8 38.3	221 54.1	N22 16.5	323 47.0	N 2 02.7
A	8	349 07.5	269 17.2	N24 26.3	326 21.9	N 8 39.0	236 56.1	N22 16.4	338 49.2	N 2 02.8
Y	9	4 10.0	284 16.4	N24 26.6	341 22.6	N 8 39.8	251 58.2	N22 16.3	353 51.5	N 2 02.9
	10	19 12.4	299 15.6	N24 27.0	356 23.3	N 8 40.5	267 00.2	N22 16.3	8 53.7	N 2 03.0
	11	34 14.9	314 14.7	N24 27.3	11 24.0	N 8 41.2	282 02.2	N22 16.2	23 55.9	N 2 03.1
	12	49 17.4	329 13.9	N24 27.6	26 24.6	N 8 41.9	297 04.3	N22 16.2	38 58.1	N 2 03.2
	13	64 19.8	344 13.1	N24 27.9	41 25.3	N 8 42.6	312 06.3	N22 16.1	54 00.3	N 2 03.3
	14	79 22.3	359 12.3	N24 28.2	56 26.0	N 8 43.3	327 08.4	N22 16.0	69 02.6	N 2 03.4
	15	94 24.8	14 11.5	N24 28.5	71 26.7	N 8 44.0	342 10.4	N22 16.0	84 04.8	N 2 03.5
	16	109 27.2	29 10.6	N24 28.8	86 27.4	N 8 44.8	357 12.4	N22 15.9	99 07.0	N 2 03.6
	17	124 29.7	44 09.8	N24 29.1	101 28.1	N 8 45.5	12 14.5	N22 15.9	114 09.2	N 2 03.7
	18	139 32.1	59 09.0	N24 29.3	116 28.8	N 8 46.2	27 16.5	N22 15.8	129 11.4	N 2 03.8
	19	154 34.6	74 08.2	N24 29.6	131 29.4	N 8 46.9	42 18.5	N22 15.8	144 13.7	N 2 03.9
	20	169 37.1	89 07.3	N24 29.9	146 30.1	N 8 47.6	57 20.6	N22 15.7	159 15.9	N 2 04.0
	21	184 39.5	104 06.5	N24 30.2	161 30.8	N 8 48.3	72 22.6	N22 15.6	174 18.1	N 2 04.1
	22	199 42.0	119 05.7	N24 30.5	176 31.5	N 8 49.0	87 24.7	N22 15.6	189 20.3	N 2 04.2
	23	214 44.5	134 04.9	N24 30.8	191 32.2	N 8 49.7	102 26.7	N22 15.5	204 22.5	N 2 04.3
12	0	229 46.9	149 04.1	N24 31.1	206 32.9	N 8 50.4	117 28.7	N22 15.5	219 24.8	N 2 04.4
	1	244 49.4	164 03.2	N24 31.4	221 33.6	N 8 51.2	132 30.8	N22 15.4	234 27.0	N 2 04.5
	2	259 51.9	179 02.4	N24 31.7	236 34.2	N 8 51.9	147 32.8	N22 15.3	249 29.2	N 2 04.6
	3	274 54.3	194 01.6	N24 31.9	251 34.9	N 8 52.6	162 34.8	N22 15.3	264 31.4	N 2 04.7
	4	289 56.8	209 00.8	N24 32.2	266 35.6	N 8 53.3	177 36.9	N22 15.2	279 33.7	N 2 04.8
T	5	304 59.2	223 59.9	N24 32.5	281 36.3	N 8 54.0	192 38.9	N22 15.2	294 35.9	N 2 04.9
U										
E	6	320 01.7	238 59.1	N24 32.8	296 37.0	N 8 54.7	207 41.0	N22 15.1	309 38.1	N 2 04.9
S	7	335 04.2	253 58.3	N24 33.1	311 37.7	N 8 55.4	222 43.0	N22 15.1	324 40.3	N 2 05.0
D	8	350 06.6	268 57.5	N24 33.4	326 38.4	N 8 56.1	237 45.0	N22 15.0	339 42.5	N 2 05.1
A	9	5 09.1	283 56.6	N24 33.6	341 39.0	N 8 56.8	252 47.1	N22 14.9	354 44.8	N 2 05.2
Y	10	20 11.6	298 55.8	N24 33.9	356 39.7	N 8 57.6	267 49.1	N22 14.9	9 47.0	N 2 05.3
	11	35 14.0	313 55.0	N24 34.2	11 40.4	N 8 58.3	282 51.1	N22 14.8	24 49.2	N 2 05.4
	12	50 16.5	328 54.2	N24 34.5	26 41.1	N 8 59.0	297 53.2	N22 14.8	39 51.4	N 2 05.5
	13	65 19.0	343 53.3	N24 34.7	41 41.8	N 8 59.7	312 55.2	N22 14.7	54 53.6	N 2 05.6
	14	80 21.4	358 52.5	N24 35.0	56 42.5	N 9 00.4	327 57.2	N22 14.6	69 55.9	N 2 05.7
	15	95 23.9	13 51.7	N24 35.3	71 43.1	N 9 01.1	342 59.3	N22 14.6	84 58.1	N 2 05.8
	16	110 26.4	28 50.9	N24 35.5	86 43.8	N 9 01.8	358 01.3	N22 14.5	100 00.3	N 2 05.9
	17	125 28.8	43 50.0	N24 35.8	101 44.5	N 9 02.5	13 03.3	N22 14.5	115 02.5	N 2 06.0
	18	140 31.3	58 49.2	N24 36.1	116 45.2	N 9 03.2	28 05.4	N22 14.4	130 04.8	N 2 06.1
	19	155 33.7	73 48.4	N24 36.3	131 45.9	N 9 03.9	43 07.4	N22 14.3	145 07.0	N 2 06.2
	20	170 36.2	88 47.6	N24 36.6	146 46.6	N 9 04.6	58 09.4	N22 14.3	160 09.2	N 2 06.3
	21	185 38.7	103 46.7	N24 36.9	161 47.3	N 9 05.4	73 11.5	N22 14.2	175 11.4	N 2 06.4
	22	200 41.1	118 45.9	N24 37.1	176 47.9	N 9 06.1	88 13.5	N22 14.2	190 13.6	N 2 06.5
	23	215 43.6	133 45.1	N24 37.4	191 48.6	N 9 06.8	103 15.5	N22 14.1	205 15.9	N 2 06.6
			v -0.8	d 0.3	v 0.7	d 0.7	v 2.0	d 0.1	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
10	0	180 54.0	N17 34.1	264 15.6	13.6	S15 50.4	12.5	55.8
	1	195 54.0	N17 34.7	278 48.2	13.6	S15 37.8	12.6	55.9
	2	210 54.0	N17 35.4	293 20.8	13.6	S15 25.2	12.6	55.9
	3	225 54.1	N17 36.0	307 53.5	13.7	S15 12.5	12.7	55.9
	4	240 54.1	N17 36.7	322 26.2	13.7	S14 59.7	12.8	56.0
S	5	255 54.1	N17 37.4	336 58.9	13.7	S14 46.8	12.9	56.0
U								
N	6	270 54.1	N17 38.0	351 31.7	13.7	S14 33.8	13.0	56.0
D	7	285 54.2	N17 38.7	6 04.5	13.8	S14 20.8	13.0	56.0
A	8	300 54.2	N17 39.3	20 37.2	13.8	S14 07.7	13.1	56.1
Y	9	315 54.2	N17 40.0	35 10.1	13.8	S13 54.5	13.2	56.1
	10	330 54.2	N17 40.6	49 42.9	13.8	S13 41.2	13.3	56.1
	11	345 54.2	N17 41.3	64 15.8	13.9	S13 27.9	13.3	56.2
	12	0 54.3	N17 41.9	78 48.6	13.9	S13 14.5	13.4	56.2
	13	15 54.3	N17 42.6	93 21.5	13.9	S13 01.0	13.5	56.2
	14	30 54.3	N17 43.2	107 54.5	13.9	S12 47.4	13.6	56.3
	15	45 54.3	N17 43.9	122 27.4	13.9	S12 33.8	13.6	56.3
	16	60 54.3	N17 44.5	137 00.3	14.0	S12 20.1	13.7	56.3
	17	75 54.4	N17 45.2	151 33.3	14.0	S12 06.4	13.8	56.4
	18	90 54.4	N17 45.8	166 06.3	14.0	S11 52.5	13.8	56.4
	19	105 54.4	N17 46.5	180 39.3	14.0	S11 38.6	13.9	56.4
	20	120 54.4	N17 47.1	195 12.3	14.0	S11 24.6	14.0	56.5
	21	135 54.4	N17 47.8	209 45.3	14.0	S11 10.6	14.0	56.5
	22	150 54.5	N17 48.4	224 18.3	14.0	S10 56.5	14.1	56.6
	23	165 54.5	N17 49.1	238 51.4	14.0	S10 42.3	14.2	56.6
11	0	180 54.5	N17 49.7	253 24.4	14.0	S10 28.1	14.2	56.6
	1	195 54.5	N17 50.3	267 57.5	14.1	S10 13.8	14.3	56.7
	2	210 54.5	N17 51.0	282 30.5	14.1	S 9 59.4	14.4	56.7
	3	225 54.5	N17 51.6	297 03.6	14.1	S 9 45.0	14.4	56.7
	4	240 54.6	N17 52.3	311 36.6	14.1	S 9 30.5	14.5	56.8
M	5	255 54.6	N17 52.9	326 09.7	14.1	S 9 16.0	14.5	56.8
O								
N	6	270 54.6	N17 53.6	340 42.8	14.1	S 9 01.4	14.6	56.8
D	7	285 54.6	N17 54.2	355 15.9	14.1	S 8 46.8	14.7	56.9
A	8	300 54.6	N17 54.8	9 48.9	14.1	S 8 32.0	14.7	56.9
Y	9	315 54.6	N17 55.5	24 22.0	14.1	S 8 17.3	14.8	57.0
	10	330 54.7	N17 56.1	38 55.1	14.1	S 8 02.4	14.8	57.0
	11	345 54.7	N17 56.8	53 28.1	14.1	S 7 47.6	14.9	57.0
	12	0 54.7	N17 57.4	68 01.2	14.1	S 7 32.6	14.9	57.1
	13	15 54.7	N17 58.0	82 34.2	14.0	S 7 17.6	15.0	57.1
	14	30 54.7	N17 58.7	97 07.3	14.0	S 7 02.6	15.0	57.1
	15	45 54.7	N17 59.3	111 40.3	14.0	S 6 47.5	15.1	57.2
	16	60 54.7	N17 59.9	126 13.3	14.0	S 6 32.4	15.1	57.2
	17	75 54.8	N18 00.6	140 46.3	14.0	S 6 17.2	15.2	57.3
	18	90 54.8	N18 01.2	155 19.3	14.0	S 6 01.9	15.2	57.3
	19	105 54.8	N18 01.9	169 52.3	14.0	S 5 46.6	15.3	57.3
	20	120 54.8	N18 02.5	184 25.3	14.0	S 5 31.3	15.3	57.4
	21	135 54.8	N18 03.1	198 58.2	14.0	S 5 15.9	15.4	57.4
	22	150 54.8	N18 03.8	213 31.2	13.9	S 5 00.5	15.4	57.4
	23	165 54.8	N18 04.4	228 04.1	13.9	S 4 45.0	15.5	57.5
12	0	180 54.8	N18 05.0	242 37.0	13.9	S 4 29.5	15.5	57.5
	1	195 54.9	N18 05.6	257 09.9	13.9	S 4 13.9	15.6	57.6
	2	210 54.9	N18 06.3	271 42.7	13.9	S 3 58.4	15.6	57.6
	3	225 54.9	N18 06.9	286 15.6	13.8	S 3 42.7	15.6	57.6
	4	240 54.9	N18 07.5	300 48.4	13.8	S 3 27.0	15.7	57.7
T	5	255 54.9	N18 08.2	315 21.2	13.8	S 3 11.3	15.7	57.7
U								
E	6	270 54.9	N18 08.8	329 53.9	13.8	S 2 55.6	15.7	57.8
S	7	285 54.9	N18 09.4	344 26.6	13.7	S 2 39.8	15.8	57.8
D	8	300 54.9	N18 10.1	358 59.3	13.7	S 2 24.0	15.8	57.8
A	9	315 54.9	N18 10.7	13 32.0	13.7	S 2 08.1	15.9	57.9
Y	10	330 55.0	N18 11.3	28 04.6	13.6	S 1 52.3	15.9	57.9
	11	345 55.0	N18 11.9	42 37.2	13.6	S 1 36.3	15.9	58.0
	12	0 55.0	N18 12.6	57 09.8	13.6	S 1 20.4	15.9	58.0
	13	15 55.0	N18 13.2	71 42.3	13.5	S 1 04.4	16.0	58.0
	14	30 55.0	N18 13.8	86 14.8	13.5	S 0 48.4	16.0	58.1
	15	45 55.0	N18 14.4	100 47.3	13.4	S 0 32.4	16.0	58.1
	16	60 55.0	N18 15.1	115 19.7	13.4	S 0 16.3	16.1	58.2
	17	75 55.0	N18 15.7	129 52.0	13.4	S 0 00.3	16.1	58.2
	18	90 55.0	N18 16.3	144 24.4	13.3	N 0 15.8	16.1	58.2
	19	105 55.0	N18 16.9	158 56.6	13.3	N 0 32.0	16.1	58.3
	20	120 55.0	N18 17.6	173 28.9	13.2	N 0 48.1	16.1	58.3
	21	135 55.0	N18 18.2	188 01.1	13.2	N 1 04.3	16.2	58.4
	22	150 55.0	N18 18.8	202 33.2	13.1	N 1 20.4	16.2	58.4
	23	165 55.1	N18 19.4	217 05.3	13.1	N 1 36.6	16.2	58.4
		S.D. 15.8	d 0.6	S.D.	15.3	15.5	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.9
Achernar	335 19.9	S57 06.0
Acrux	172 58.5	S63 15.0
Adhara	255 05.2	S29 00.6
Albireo	67 03.0	N28 00.6
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.5	N55 49.1
Alkaid	152 50.7	N49 10.9
Al Na-ir	27 31.6	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.4
Alpheratz	357 33.9	N29 14.0
Altair	61 58.7	N 8 56.1
Ankaa	353 06.3	S42 09.7
Antares	112 14.2	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 07.0	S69 04.5
Avior	234 14.5	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.3	S52 42.7
Capella	280 20.7	N46 01.6
Castor	245 55.8	N31 49.9
Deneb	49 25.0	N45 22.1
Denebola	182 23.6	N14 25.4
Diphda	348 46.5	S17 50.5
Dubhe	193 39.3	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.3	N51 28.8
Enif	33 37.7	N 9 59.6
Fomalhaut	15 13.4	S29 28.9
Gacrux	171 50.1	S57 15.9
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.2
Hamal	327 50.3	N23 35.2
Kaus Austr.	83 30.8	S34 22.3
Kochab	137 18.7	N74 02.8
Markab	13 28.9	N15 20.7
Menkar	314 05.3	N 4 11.6
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.1	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.2	S26 15.8
Peacock	53 03.8	S56 38.8
Polaris	316 27.5	N89 21.8
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.4
Rasalhague	95 57.3	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.8
Sabik	102 01.2	S15 45.6
Schedar	349 30.3	N56 40.7
Shaula	96 08.5	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.6	S43 32.6
Vega	80 32.2	N38 48.2
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
13	0	230 46.1	148 44.3	N24 37.6	206 49.3	N 9 07.5	118 17.6	N22 14.0	220 18.1	N 2 06.7
	1	245 48.5	163 43.4	N24 37.9	221 50.0	N 9 08.2	133 19.6	N22 14.0	235 20.3	N 2 06.8
	2	260 51.0	178 42.6	N24 38.2	236 50.7	N 9 08.9	148 21.6	N22 13.9	250 22.5	N 2 06.9
	3	275 53.5	193 41.8	N24 38.4	251 51.4	N 9 09.6	163 23.7	N22 13.9	265 24.8	N 2 07.0
	4	290 55.9	208 41.0	N24 38.7	266 52.0	N 9 10.3	178 25.7	N22 13.8	280 27.0	N 2 07.0
W	5	305 58.4	223 40.1	N24 38.9	281 52.7	N 9 11.0	193 27.7	N22 13.7	295 29.2	N 2 07.1
E										
D	6	321 00.9	238 39.3	N24 39.2	296 53.4	N 9 11.7	208 29.8	N22 13.7	310 31.4	N 2 07.2
N	7	336 03.3	253 38.5	N24 39.4	311 54.1	N 9 12.4	223 31.8	N22 13.6	325 33.7	N 2 07.3
E	8	351 05.8	268 37.6	N24 39.7	326 54.8	N 9 13.1	238 33.8	N22 13.6	340 35.9	N 2 07.4
S	9	6 08.2	283 36.8	N24 39.9	341 55.5	N 9 13.8	253 35.9	N22 13.5	355 38.1	N 2 07.5
D	10	21 10.7	298 36.0	N24 40.2	356 56.2	N 9 14.5	268 37.9	N22 13.4	10 40.3	N 2 07.6
A	11	36 13.2	313 35.2	N24 40.4	11 56.8	N 9 15.3	283 39.9	N22 13.4	25 42.5	N 2 07.7
Y										
	12	51 15.6	328 34.3	N24 40.7	26 57.5	N 9 16.0	298 41.9	N22 13.3	40 44.8	N 2 07.8
	13	66 18.1	343 33.5	N24 40.9	41 58.2	N 9 16.7	313 44.0	N22 13.3	55 47.0	N 2 07.9
	14	81 20.6	358 32.7	N24 41.1	56 58.9	N 9 17.4	328 46.0	N22 13.2	70 49.2	N 2 08.0
	15	96 23.0	13 31.8	N24 41.4	71 59.6	N 9 18.1	343 48.0	N22 13.1	85 51.4	N 2 08.1
	16	111 25.5	28 31.0	N24 41.6	87 00.3	N 9 18.8	358 50.1	N22 13.1	100 53.7	N 2 08.2
	17	126 28.0	43 30.2	N24 41.9	102 00.9	N 9 19.5	13 52.1	N22 13.0	115 55.9	N 2 08.3
	18	141 30.4	58 29.4	N24 42.1	117 01.6	N 9 20.2	28 54.1	N22 13.0	130 58.1	N 2 08.4
	19	156 32.9	73 28.5	N24 42.3	132 02.3	N 9 20.9	43 56.2	N22 12.9	146 00.3	N 2 08.5
	20	171 35.3	88 27.7	N24 42.6	147 03.0	N 9 21.6	58 58.2	N22 12.8	161 02.6	N 2 08.6
	21	186 37.8	103 26.9	N24 42.8	162 03.7	N 9 22.3	74 00.2	N22 12.8	176 04.8	N 2 08.7
	22	201 40.3	118 26.0	N24 43.0	177 04.4	N 9 23.0	89 02.2	N22 12.7	191 07.0	N 2 08.8
	23	216 42.7	133 25.2	N24 43.3	192 05.0	N 9 23.7	104 04.3	N22 12.7	206 09.2	N 2 08.8
14	0	231 45.2	148 24.4	N24 43.5	207 05.7	N 9 24.4	119 06.3	N22 12.6	221 11.5	N 2 08.9
	1	246 47.7	163 23.6	N24 43.7	222 06.4	N 9 25.1	134 08.3	N22 12.5	236 13.7	N 2 09.0
	2	261 50.1	178 22.7	N24 43.9	237 07.1	N 9 25.8	149 10.4	N22 12.5	251 15.9	N 2 09.1
	3	276 52.6	193 21.9	N24 44.2	252 07.8	N 9 26.5	164 12.4	N22 12.4	266 18.1	N 2 09.2
	4	291 55.1	208 21.1	N24 44.4	267 08.5	N 9 27.2	179 14.4	N22 12.4	281 20.4	N 2 09.3
T	5	306 57.5	223 20.2	N24 44.6	282 09.1	N 9 27.9	194 16.4	N22 12.3	296 22.6	N 2 09.4
H										
U	6	321 60.0	238 19.4	N24 44.8	297 09.8	N 9 28.6	209 18.5	N22 12.2	311 24.8	N 2 09.5
R	7	337 02.5	253 18.6	N24 45.1	312 10.5	N 9 29.3	224 20.5	N22 12.2	326 27.0	N 2 09.6
S	8	352 04.9	268 17.7	N24 45.3	327 11.2	N 9 30.0	239 22.5	N22 12.1	341 29.3	N 2 09.7
D	9	7 07.4	283 16.9	N24 45.5	342 11.9	N 9 30.7	254 24.5	N22 12.0	356 31.5	N 2 09.8
A	10	22 09.8	298 16.1	N24 45.7	357 12.6	N 9 31.4	269 26.6	N22 12.0	11 33.7	N 2 09.9
Y	11	37 12.3	313 15.3	N24 45.9	12 13.2	N 9 32.1	284 28.6	N22 11.9	26 35.9	N 2 10.0
	12	52 14.8	328 14.4	N24 46.1	27 13.9	N 9 32.8	299 30.6	N22 11.9	41 38.2	N 2 10.1
	13	67 17.2	343 13.6	N24 46.4	42 14.6	N 9 33.5	314 32.7	N22 11.8	56 40.4	N 2 10.2
	14	82 19.7	358 12.8	N24 46.6	57 15.3	N 9 34.2	329 34.7	N22 11.7	71 42.6	N 2 10.3
	15	97 22.2	13 11.9	N24 46.8	72 16.0	N 9 34.9	344 36.7	N22 11.7	86 44.8	N 2 10.3
	16	112 24.6	28 11.1	N24 47.0	87 16.7	N 9 35.6	359 38.7	N22 11.6	101 47.1	N 2 10.4
	17	127 27.1	43 10.3	N24 47.2	102 17.3	N 9 36.3	14 40.8	N22 11.6	116 49.3	N 2 10.5
	18	142 29.6	58 09.4	N24 47.4	117 18.0	N 9 37.0	29 42.8	N22 11.5	131 51.5	N 2 10.6
	19	157 32.0	73 08.6	N24 47.6	132 18.7	N 9 37.7	44 44.8	N22 11.4	146 53.7	N 2 10.7
	20	172 34.5	88 07.8	N24 47.8	147 19.4	N 9 38.4	59 46.8	N22 11.4	161 56.0	N 2 10.8
	21	187 37.0	103 07.0	N24 48.0	162 20.1	N 9 39.1	74 48.9	N22 11.3	176 58.2	N 2 10.9
	22	202 39.4	118 06.1	N24 48.2	177 20.8	N 9 39.8	89 50.9	N22 11.2	192 00.4	N 2 11.0
	23	217 41.9	133 05.3	N24 48.4	192 21.4	N 9 40.5	104 52.9	N22 11.2	207 02.7	N 2 11.1
15	0	232 44.3	148 04.5	N24 48.6	207 22.1	N 9 41.2	119 54.9	N22 11.1	222 04.9	N 2 11.2
	1	247 46.8	163 03.6	N24 48.8	222 22.8	N 9 41.9	134 56.9	N22 11.1	237 07.1	N 2 11.3
	2	262 49.3	178 02.8	N24 49.0	237 23.5	N 9 42.6	149 59.0	N22 11.0	252 09.3	N 2 11.4
	3	277 51.7	193 02.0	N24 49.2	252 24.2	N 9 43.3	165 01.0	N22 10.9	267 11.6	N 2 11.5
	4	292 54.2	208 01.1	N24 49.4	267 24.8	N 9 44.0	180 03.0	N22 10.9	282 13.8	N 2 11.6
F	5	307 56.7	223 00.3	N24 49.6	282 25.5	N 9 44.7	195 05.0	N22 10.8	297 16.0	N 2 11.7
R										
I	6	322 59.1	237 59.5	N24 49.8	297 26.2	N 9 45.4	210 07.1	N22 10.7	312 18.2	N 2 11.7
D	7	338 01.6	252 58.6	N24 50.0	312 26.9	N 9 46.1	225 09.1	N22 10.7	327 20.5	N 2 11.8
A	8	353 04.1	267 57.8	N24 50.2	327 27.6	N 9 46.8	240 11.1	N22 10.6	342 22.7	N 2 11.9
Y	9	8 06.5	282 57.0	N24 50.4	342 28.3	N 9 47.5	255 13.1	N22 10.6	357 24.9	N 2 12.0
	10	23 09.0	297 56.1	N24 50.6	357 28.9	N 9 48.2	270 15.2	N22 10.5	12 27.1	N 2 12.1
	11	38 11.4	312 55.3	N24 50.8	12 29.6	N 9 48.9	285 17.2	N22 10.4	27 29.4	N 2 12.2
	12	53 13.9	327 54.5	N24 50.9	27 30.3	N 9 49.6	300 19.2	N22 10.4	42 31.6	N 2 12.3
	13	68 16.4	342 53.6	N24 51.1	42 31.0	N 9 50.3	315 21.2	N22 10.3	57 33.8	N 2 12.4
	14	83 18.8	357 52.8	N24 51.3	57 31.7	N 9 51.0	330 23.2	N22 10.2	72 36.1	N 2 12.5
	15	98 21.3	12 52.0	N24 51.5	72 32.4	N 9 51.7	345 25.3	N22 10.2	87 38.3	N 2 12.6
	16	113 23.8	27 51.1	N24 51.7	87 33.0	N 9 52.4	0 27.3	N22 10.1	102 40.5	N 2 12.7
	17	128 26.2	42 50.3	N24 51.8	102 33.7	N 9 53.1	15 29.3	N22 10.1	117 42.7	N 2 12.8
	18	143 28.7	57 49.5	N24 52.0	117 34.4	N 9 53.8	30 31.3	N22 10.0	132 45.0	N 2 12.9
	19	158 31.2	72 48.7	N24 52.2	132 35.1	N 9 54.5	45 33.3	N22 09.9	147 47.2	N 2 12.9
	20	173 33.6	87 47.8	N24 52.4	147 35.8	N 9 55.2	60 35.4	N22 09.9	162 49.4	N 2 13.0
	21	188 36.1	102 47.0	N24 52.6	162 36.4	N 9 55.9	75 37.4	N22 09.8	177 51.7	N 2 13.1
	22	203 38.6	117 46.2	N24 52.7	177 37.1	N 9 56.6	90 39.4	N22 09.7	192 53.9	N 2 13.2
	23	218 41.0	132 45.3	N24 52.9	192 37.8	N 9 57.2	105 41.4	N22 09.7	207 56.1	N 2 13.3
			v -0.8	d 0.2	v 0.7	d 0.7	v 2.0	d 0.1	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
13	0	180 55.1	N18 20.0	231 37.3	13.0	N 1 52.9	16.2	58.5
	1	195 55.1	N18 20.7	246 09.3	13.0	N 2 09.1	16.2	58.5
	2	210 55.1	N18 21.3	260 41.2	12.9	N 2 25.3	16.2	58.6
	3	225 55.1	N18 21.9	275 13.1	12.9	N 2 41.6	16.3	58.6
	4	240 55.1	N18 22.5	289 44.9	12.8	N 2 57.8	16.3	58.6
W	5	255 55.1	N18 23.1	304 16.6	12.8	N 3 14.1	16.3	58.7
E								
D	6	270 55.1	N18 23.7	318 48.3	12.7	N 3 30.4	16.3	58.7
N	7	285 55.1	N18 24.4	333 20.0	12.6	N 3 46.7	16.3	58.8
E	8	300 55.1	N18 25.0	347 51.5	12.6	N 4 02.9	16.3	58.8
S	9	315 55.1	N18 25.6	2 23.0	12.5	N 4 19.2	16.3	58.8
D	10	330 55.1	N18 26.2	16 54.5	12.4	N 4 35.5	16.3	58.9
A	11	345 55.1	N18 26.8	31 25.8	12.4	N 4 51.8	16.3	58.9
Y								
	12	0 55.1	N18 27.4	45 57.1	12.3	N 5 08.1	16.3	59.0
	13	15 55.1	N18 28.0	60 28.4	12.2	N 5 24.4	16.3	59.0
	14	30 55.1	N18 28.7	74 59.5	12.2	N 5 40.7	16.3	59.0
	15	45 55.1	N18 29.3	89 30.6	12.1	N 5 57.0	16.3	59.1
	16	60 55.1	N18 29.9	104 01.6	12.0	N 6 13.2	16.3	59.1
	17	75 55.1	N18 30.5	118 32.5	11.9	N 6 29.5	16.3	59.1
	18	90 55.1	N18 31.1	133 03.4	11.9	N 6 45.8	16.3	59.2
	19	105 55.1	N18 31.7	147 34.2	11.8	N 7 02.0	16.2	59.2
	20	120 55.1	N18 32.3	162 04.9	11.7	N 7 18.2	16.2	59.3
	21	135 55.1	N18 32.9	176 35.5	11.6	N 7 34.4	16.2	59.3
	22	150 55.1	N18 33.5	191 06.0	11.5	N 7 50.6	16.2	59.3
	23	165 55.1	N18 34.1	205 36.5	11.4	N 8 06.8	16.2	59.4
14	0	180 55.1	N18 34.7	220 06.8	11.4	N 8 23.0	16.2	59.4
	1	195 55.1	N18 35.3	234 37.1	11.3	N 8 39.1	16.1	59.4
	2	210 55.1	N18 36.0	249 07.3	11.2	N 8 55.2	16.1	59.5
	3	225 55.1	N18 36.6	263 37.4	11.1	N 9 11.3	16.1	59.5
	4	240 55.1	N18 37.2	278 07.4	11.0	N 9 27.3	16.1	59.6
T	5	255 55.1	N18 37.8	292 37.3	10.9	N 9 43.4	16.0	59.6
H								
U	6	270 55.1	N18 38.4	307 07.1	10.8	N 9 59.3	16.0	59.6
R	7	285 55.1	N18 39.0	321 36.9	10.7	N10 15.3	16.0	59.7
S	8	300 55.1	N18 39.6	336 06.5	10.6	N10 31.2	15.9	59.7
D	9	315 55.1	N18 40.2	350 36.0	10.5	N10 47.1	15.9	59.7
A	10	330 55.1	N18 40.8	5 05.5	10.4	N11 03.0	15.8	59.8
Y	11	345 55.1	N18 41.4	19 34.8	10.3	N11 18.8	15.8	59.8
	12	0 55.1	N18 42.0	34 04.0	10.2	N11 34.5	15.8	59.8
	13	15 55.1	N18 42.6	48 33.2	10.1	N11 50.3	15.7	59.9
	14	30 55.1	N18 43.2	63 02.2	10.0	N12 05.9	15.7	59.9
	15	45 55.1	N18 43.8	77 31.1	9.9	N12 21.6	15.6	59.9
	16	60 55.1	N18 44.4	91 59.9	9.8	N12 37.1	15.6	60.0
	17	75 55.1	N18 45.0	106 28.6	9.7	N12 52.7	15.5	60.0
	18	90 55.1	N18 45.6	120 57.2	9.6	N13 08.1	15.5	60.0
	19	105 55.1	N18 46.2	135 25.7	9.5	N13 23.5	15.4	60.1
	20	120 55.1	N18 46.8	149 54.1	9.4	N13 38.9	15.4	60.1
	21	135 55.1	N18 47.4	164 22.3	9.3	N13 54.2	15.3	60.1
	22	150 55.0	N18 47.9	178 50.5	9.1	N14 09.4	15.2	60.2
	23	165 55.0	N18 48.5	193 18.5	9.0	N14 24.6	15.2	60.2
15	0	180 55.0	N18 49.1	207 46.4	8.9	N14 39.7	15.1	60.2
	1	195 55.0	N18 49.7	222 14.2	8.8	N14 54.7	15.0	60.3
	2	210 55.0	N18 50.3	236 41.9	8.7	N15 09.6	15.0	60.3
	3	225 55.0	N18 50.9	251 09.5	8.6	N15 24.5	14.9	60.3
	4	240 55.0	N18 51.5	265 36.9	8.4	N15 39.3	14.8	60.3
F	5	255 55.0	N18 52.1	280 04.2	8.3	N15 54.1	14.7	60.4
R								
I	6	270 55.0	N18 52.7	294 31.4	8.2	N16 08.7	14.6	60.4
D	7	285 55.0	N18 53.3	308 58.5	8.1	N16 23.3	14.6	60.4
A	8	300 55.0	N18 53.9	323 25.5	8.0	N16 37.7	14.5	60.5
Y	9	315 55.0	N18 54.5	337 52.3	7.8	N16 52.1	14.4	60.5
	10	330 55.0	N18 55.0	352 19.0	7.7	N17 06.4	14.3	60.5
	11	345 54.9	N18 55.6	6 45.6	7.6	N17 20.6	14.2	60.5
	12	0 54.9	N18 56.2	21 12.1	7.5	N17 34.7	14.1	60.6
	13	15 54.9	N18 56.8	35 38.4	7.3	N17 48.8	14.0	60.6
	14	30 54.9	N18 57.4	50 04.6	7.2	N18 02.7	13.9	60.6
	15	45 54.9	N18 58.0	64 30.7	7.1	N18 16.5	13.8	60.6
	16	60 54.9	N18 58.6	78 56.7	7.0	N18 30.2	13.7	60.7
	17	75 54.9	N18 59.1	93 22.5	6.8	N18 43.8	13.6	60.7
	18	90 54.9	N18 59.7	107 48.2	6.7	N18 57.3	13.5	60.7
	19	105 54.9	N19 00.3	122 13.8	6.6	N19 10.7	13.4	60.7
	20	120 54.9	N19 00.9	136 39.2	6.4	N19 24.0	13.3	60.8
	21	135 54.8	N19 01.5	151 04.5	6.3	N19 37.1	13.2	60.8
	22	150 54.8	N19 02.1	165 29.7	6.2	N19 50.2	13.0	60.8
	23	165 54.8	N19 02.6	179 54.8	6.1	N20 03.1	12.9	60.8
		S.D. 15.8	d 0.6	S.D.	16.1	16.3	16.5	

Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.9
Achernar	335 19.9	S57 06.0
Acrux	172 58.5	S63 15.0
Adhara	255 05.3	S29 00.6
Albireo	67 03.0	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.5	N55 49.1
Alkaid	152 50.7	N49 10.9
Al Na-ir	27 31.5	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.4
Alpheratz	357 33.9	N29 14.0
Altair	61 58.7	N 8 56.1
Ankaa	353 06.3	S42 09.6
Antares	112 14.2	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 07.0	S69 04.5
Avior	234 14.5	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.3	S52 42.7
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.9	N45 22.2
Denebola	182 23.6	N14 25.4
Diphda	348 46.5	S17 50.5
Dubhe	193 39.4	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.3	N51 28.8
Enif	33 37.7	N 9 59.6
Fomalhaut	15 13.4	S29 28.8
Gacrux	171 50.1	S57 15.9
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.2
Hamal	327 50.3	N23 35.2
Kaus Austr.	83 30.8	S34 22.3
Kochab	137 18.8	N74 02.8
Markab	13 28.9	N15 20.7
Menkar	314 05.3	N 4 11.6
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.1	S69 49.8
Mirfak	308 27.3	N49 57.3
Nunki	75 46.2	S26 15.8
Peacock	53 03.7	S56 38.8
Polaris	316 27.1	N89 21.8
Pollux	243 16.1	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.3	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.8
Sabik	102 01.2	S15 45.6
Schedar	349 30.2	N56 40.7
Shaula	96 08.5	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.6	S43 32.6
Vega	80 32.2	N38 48.2
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
16	0	233 43.5	147 44.5	N24 53.1	207 38.5	N 9 57.9	120 43.4	N22 09.6	222 58.3	N 2 13.4
	1	248 45.9	162 43.7	N24 53.2	222 39.2	N 9 58.6	135 45.5	N22 09.6	238 00.6	N 2 13.5
	2	263 48.4	177 42.8	N24 53.4	237 39.8	N 9 59.3	150 47.5	N22 09.5	253 02.8	N 2 13.6
	3	278 50.9	192 42.0	N24 53.6	252 40.5	N10 00.0	165 49.5	N22 09.4	268 05.0	N 2 13.7
	4	293 53.3	207 41.2	N24 53.7	267 41.2	N10 00.7	180 51.5	N22 09.4	283 07.3	N 2 13.8
S	5	308 55.8	222 40.3	N24 53.9	282 41.9	N10 01.4	195 53.5	N22 09.3	298 09.5	N 2 13.9
A										
T	6	323 58.3	237 39.5	N24 54.1	297 42.6	N10 02.1	210 55.6	N22 09.2	313 11.7	N 2 14.0
U	7	339 00.7	252 38.7	N24 54.2	312 43.3	N10 02.8	225 57.6	N22 09.2	328 13.9	N 2 14.1
R	8	354 03.2	267 37.8	N24 54.4	327 43.9	N10 03.5	240 59.6	N22 09.1	343 16.2	N 2 14.1
D	9	9 05.7	282 37.0	N24 54.6	342 44.6	N10 04.2	256 01.6	N22 09.1	358 18.4	N 2 14.2
A	10	24 08.1	297 36.2	N24 54.7	357 45.3	N10 04.9	271 03.6	N22 09.0	13 20.6	N 2 14.3
Y	11	39 10.6	312 35.3	N24 54.9	12 46.0	N10 05.6	286 05.7	N22 08.9	28 22.9	N 2 14.4
	12	54 13.1	327 34.5	N24 55.0	27 46.7	N10 06.3	301 07.7	N22 08.9	43 25.1	N 2 14.5
	13	69 15.5	342 33.7	N24 55.2	42 47.3	N10 07.0	316 09.7	N22 08.8	58 27.3	N 2 14.6
	14	84 18.0	357 32.8	N24 55.3	57 48.0	N10 07.6	331 11.7	N22 08.7	73 29.6	N 2 14.7
	15	99 20.4	12 32.0	N24 55.5	72 48.7	N10 08.3	346 13.7	N22 08.7	88 31.8	N 2 14.8
	16	114 22.9	27 31.2	N24 55.6	87 49.4	N10 09.0	1 15.7	N22 08.6	103 34.0	N 2 14.9
	17	129 25.4	42 30.3	N24 55.8	102 50.1	N10 09.7	16 17.8	N22 08.5	118 36.2	N 2 15.0
	18	144 27.8	57 29.5	N24 55.9	117 50.7	N10 10.4	31 19.8	N22 08.5	133 38.5	N 2 15.1
	19	159 30.3	72 28.7	N24 56.1	132 51.4	N10 11.1	46 21.8	N22 08.4	148 40.7	N 2 15.2
	20	174 32.8	87 27.8	N24 56.2	147 52.1	N10 11.8	61 23.8	N22 08.4	163 42.9	N 2 15.2
	21	189 35.2	102 27.0	N24 56.4	162 52.8	N10 12.5	76 25.8	N22 08.3	178 45.2	N 2 15.3
	22	204 37.7	117 26.2	N24 56.5	177 53.5	N10 13.2	91 27.8	N22 08.2	193 47.4	N 2 15.4
	23	219 40.2	132 25.3	N24 56.7	192 54.1	N10 13.9	106 29.9	N22 08.2	208 49.6	N 2 15.5
17	0	234 42.6	147 24.5	N24 56.8	207 54.8	N10 14.5	121 31.9	N22 08.1	223 51.9	N 2 15.6
	1	249 45.1	162 23.7	N24 56.9	222 55.5	N10 15.2	136 33.9	N22 08.0	238 54.1	N 2 15.7
	2	264 47.5	177 22.8	N24 57.1	237 56.2	N10 15.9	151 35.9	N22 08.0	253 56.3	N 2 15.8
	3	279 50.0	192 22.0	N24 57.2	252 56.9	N10 16.6	166 37.9	N22 07.9	268 58.5	N 2 15.9
	4	294 52.5	207 21.2	N24 57.4	267 57.5	N10 17.3	181 39.9	N22 07.8	284 00.8	N 2 16.0
S	5	309 54.9	222 20.3	N24 57.5	282 58.2	N10 18.0	196 41.9	N22 07.8	299 03.0	N 2 16.1
U										
N	6	324 57.4	237 19.5	N24 57.6	297 58.9	N10 18.7	211 44.0	N22 07.7	314 05.2	N 2 16.2
D	7	339 59.9	252 18.7	N24 57.8	312 59.6	N10 19.4	226 46.0	N22 07.6	329 07.5	N 2 16.2
A	8	355 02.3	267 17.8	N24 57.9	328 00.3	N10 20.1	241 48.0	N22 07.6	344 09.7	N 2 16.3
Y	9	10 04.8	282 17.0	N24 58.0	343 00.9	N10 20.7	256 50.0	N22 07.5	359 11.9	N 2 16.4
	10	25 07.3	297 16.2	N24 58.1	358 01.6	N10 21.4	271 52.0	N22 07.4	14 14.2	N 2 16.5
	11	40 09.7	312 15.3	N24 58.3	13 02.3	N10 22.1	286 54.0	N22 07.4	29 16.4	N 2 16.6
	12	55 12.2	327 14.5	N24 58.4	28 03.0	N10 22.8	301 56.0	N22 07.3	44 18.6	N 2 16.7
	13	70 14.7	342 13.7	N24 58.5	43 03.7	N10 23.5	316 58.1	N22 07.3	59 20.9	N 2 16.8
	14	85 17.1	357 12.8	N24 58.6	58 04.3	N10 24.2	332 00.1	N22 07.2	74 23.1	N 2 16.9
	15	100 19.6	12 12.0	N24 58.8	73 05.0	N10 24.9	347 02.1	N22 07.1	89 25.3	N 2 17.0
	16	115 22.0	27 11.2	N24 58.9	88 05.7	N10 25.6	2 04.1	N22 07.1	104 27.6	N 2 17.1
	17	130 24.5	42 10.3	N24 59.0	103 06.4	N10 26.2	17 06.1	N22 07.0	119 29.8	N 2 17.2
	18	145 27.0	57 09.5	N24 59.1	118 07.1	N10 26.9	32 08.1	N22 06.9	134 32.0	N 2 17.2
	19	160 29.4	72 08.6	N24 59.2	133 07.7	N10 27.6	47 10.1	N22 06.9	149 34.3	N 2 17.3
	20	175 31.9	87 07.8	N24 59.4	148 08.4	N10 28.3	62 12.1	N22 06.8	164 36.5	N 2 17.4
	21	190 34.4	102 07.0	N24 59.5	163 09.1	N10 29.0	77 14.2	N22 06.7	179 38.7	N 2 17.5
	22	205 36.8	117 06.1	N24 59.6	178 09.8	N10 29.7	92 16.2	N22 06.7	194 41.0	N 2 17.6
	23	220 39.3	132 05.3	N24 59.7	193 10.4	N10 30.4	107 18.2	N22 06.6	209 43.2	N 2 17.7
18	0	235 41.8	147 04.5	N24 59.8	208 11.1	N10 31.0	122 20.2	N22 06.5	224 45.4	N 2 17.8
	1	250 44.2	162 03.6	N24 59.9	223 11.8	N10 31.7	137 22.2	N22 06.5	239 47.7	N 2 17.9
	2	265 46.7	177 02.8	N25 00.0	238 12.5	N10 32.4	152 24.2	N22 06.4	254 49.9	N 2 18.0
	3	280 49.2	192 02.0	N25 00.1	253 13.2	N10 33.1	167 26.2	N22 06.3	269 52.1	N 2 18.1
	4	295 51.6	207 01.1	N25 00.3	268 13.8	N10 33.8	182 28.2	N22 06.3	284 54.4	N 2 18.1
M	5	310 54.1	222 00.3	N25 00.4	283 14.5	N10 34.5	197 30.3	N22 06.2	299 56.6	N 2 18.2
O										
N	6	325 56.5	236 59.5	N25 00.5	298 15.2	N10 35.1	212 32.3	N22 06.1	314 58.8	N 2 18.3
D	7	340 59.0	251 58.6	N25 00.6	313 15.9	N10 35.8	227 34.3	N22 06.1	330 01.1	N 2 18.4
A	8	356 01.5	266 57.8	N25 00.7	328 16.6	N10 36.5	242 36.3	N22 06.0	345 03.3	N 2 18.5
Y	9	11 03.9	281 57.0	N25 00.8	343 17.2	N10 37.2	257 38.3	N22 06.0	0 05.5	N 2 18.6
	10	26 06.4	296 56.1	N25 00.9	358 17.9	N10 37.9	272 40.3	N22 05.9	15 07.8	N 2 18.7
	11	41 08.9	311 55.3	N25 01.0	13 18.6	N10 38.6	287 42.3	N22 05.8	30 10.0	N 2 18.8
	12	56 11.3	326 54.5	N25 01.1	28 19.3	N10 39.2	302 44.3	N22 05.8	45 12.2	N 2 18.9
	13	71 13.8	341 53.6	N25 01.2	43 20.0	N10 39.9	317 46.3	N22 05.7	60 14.5	N 2 19.0
	14	86 16.3	356 52.8	N25 01.3	58 20.6	N10 40.6	332 48.3	N22 05.6	75 16.7	N 2 19.0
	15	101 18.7	11 52.0	N25 01.3	73 21.3	N10 41.3	347 50.4	N22 05.6	90 18.9	N 2 19.1
	16	116 21.2	26 51.1	N25 01.4	88 22.0	N10 42.0	2 52.4	N22 05.5	105 21.2	N 2 19.2
	17	131 23.7	41 50.3	N25 01.5	103 22.7	N10 42.6	17 54.4	N22 05.4	120 23.4	N 2 19.3
	18	146 26.1	56 49.5	N25 01.6	118 23.3	N10 43.3	32 56.4	N22 05.4	135 25.6	N 2 19.4
	19	161 28.6	71 48.6	N25 01.7	133 24.0	N10 44.0	47 58.4	N22 05.3	150 27.9	N 2 19.5
	20	176 31.0	86 47.8	N25 01.8	148 24.7	N10 44.7	63 00.4	N22 05.2	165 30.1	N 2 19.6
	21	191 33.5	101 47.0	N25 01.9	163 25.4	N10 45.4	78 02.4	N22 05.2	180 32.3	N 2 19.7
	22	206 36.0	116 46.1	N25 02.0	178 26.1	N10 46.1	93 04.4	N22 05.1	195 34.6	N 2 19.8
	23	221 38.4	131 45.3	N25 02.0	193 26.7	N10 46.7	108 06.4	N22 05.0	210 36.8	N 2 19.8
			v -0.8	d 0.1	v 0.7	d 0.7	v 2.0	d 0.1	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
16	0	180 54.8	N19 03.2	194 19.7	5.9	N20 15.9	12.8	60.8
	1	195 54.8	N19 03.8	208 44.5	5.8	N20 28.5	12.7	60.9
	2	210 54.8	N19 04.4	223 09.2	5.7	N20 41.1	12.5	60.9
	3	225 54.8	N19 04.9	237 33.7	5.5	N20 53.5	12.4	60.9
	4	240 54.8	N19 05.5	251 58.1	5.4	N21 05.8	12.3	60.9
S	5	255 54.7	N19 06.1	266 22.4	5.3	N21 17.9	12.1	60.9
A								
T	6	270 54.7	N19 06.7	280 46.6	5.2	N21 29.9	12.0	61.0
U	7	285 54.7	N19 07.3	295 10.6	5.0	N21 41.8	11.9	61.0
R	8	300 54.7	N19 07.8	309 34.5	4.9	N21 53.5	11.7	61.0
D	9	315 54.7	N19 08.4	323 58.3	4.8	N22 05.1	11.6	61.0
A	10	330 54.7	N19 09.0	338 21.9	4.6	N22 16.5	11.4	61.0
Y	11	345 54.7	N19 09.6	352 45.4	4.5	N22 27.8	11.3	61.0
	12	0 54.6	N19 10.1	7 08.8	4.4	N22 39.0	11.1	61.1
	13	15 54.6	N19 10.7	21 32.1	4.3	N22 49.9	11.0	61.1
	14	30 54.6	N19 11.3	35 55.3	4.2	N23 00.8	10.8	61.1
	15	45 54.6	N19 11.8	50 18.3	4.0	N23 11.4	10.7	61.1
	16	60 54.6	N19 12.4	64 41.2	3.9	N23 21.9	10.5	61.1
	17	75 54.6	N19 13.0	79 04.0	3.8	N23 32.3	10.3	61.1
	18	90 54.5	N19 13.6	93 26.7	3.7	N23 42.5	10.2	61.1
	19	105 54.5	N19 14.1	107 49.2	3.6	N23 52.5	10.0	61.1
	20	120 54.5	N19 14.7	122 11.6	3.4	N24 02.3	9.8	61.1
	21	135 54.5	N19 15.3	136 34.0	3.3	N24 12.0	9.7	61.2
	22	150 54.5	N19 15.8	150 56.2	3.2	N24 21.5	9.5	61.2
	23	165 54.5	N19 16.4	165 18.3	3.1	N24 30.8	9.3	61.2
17	0	180 54.4	N19 17.0	179 40.3	3.0	N24 40.0	9.1	61.2
	1	195 54.4	N19 17.5	194 02.1	2.9	N24 49.0	9.0	61.2
	2	210 54.4	N19 18.1	208 23.9	2.8	N24 57.7	8.8	61.2
	3	225 54.4	N19 18.7	222 45.6	2.7	N25 06.3	8.6	61.2
	4	240 54.4	N19 19.2	237 07.1	2.6	N25 14.8	8.4	61.2
S	5	255 54.3	N19 19.8	251 28.6	2.5	N25 23.0	8.2	61.2
U								
N	6	270 54.3	N19 20.4	265 50.0	2.4	N25 31.0	8.0	61.2
D	7	285 54.3	N19 20.9	280 11.2	2.3	N25 38.9	7.9	61.2
A	8	300 54.3	N19 21.5	294 32.4	2.2	N25 46.5	7.7	61.2
Y	9	315 54.3	N19 22.0	308 53.5	2.1	N25 54.0	7.5	61.2
	10	330 54.2	N19 22.6	323 14.5	2.0	N26 01.3	7.3	61.2
	11	345 54.2	N19 23.2	337 35.4	1.9	N26 08.4	7.1	61.2
	12	0 54.2	N19 23.7	351 56.2	1.8	N26 15.2	6.9	61.2
	13	15 54.2	N19 24.3	6 17.0	1.7	N26 21.9	6.7	61.2
	14	30 54.2	N19 24.8	20 37.6	1.7	N26 28.4	6.5	61.2
	15	45 54.1	N19 25.4	34 58.2	1.6	N26 34.6	6.3	61.2
	16	60 54.1	N19 26.0	49 18.8	1.5	N26 40.7	6.1	61.2
	17	75 54.1	N19 26.5	63 39.2	1.4	N26 46.5	5.9	61.2
	18	90 54.1	N19 27.1	77 59.6	1.4	N26 52.2	5.6	61.2
	19	105 54.0	N19 27.6	92 19.9	1.3	N26 57.6	5.4	61.2
	20	120 54.0	N19 28.2	106 40.1	1.3	N27 02.9	5.2	61.2
	21	135 54.0	N19 28.7	121 00.3	1.2	N27 07.9	5.0	61.2
	22	150 54.0	N19 29.3	135 20.5	1.1	N27 12.7	4.8	61.2
	23	165 53.9	N19 29.8	149 40.6	1.1	N27 17.3	4.6	61.2
18	0	180 53.9	N19 30.4	164 00.6	1.0	N27 21.6	4.4	61.2
	1	195 53.9	N19 30.9	178 20.6	1.0	N27 25.8	4.2	61.2
	2	210 53.9	N19 31.5	192 40.5	1.0	N27 29.7	3.9	61.2
	3	225 53.9	N19 32.0	207 00.5	0.9	N27 33.5	3.7	61.2
	4	240 53.8	N19 32.6	221 20.3	0.9	N27 37.0	3.5	61.2
M	5	255 53.8	N19 33.1	235 40.2	0.8	N27 40.3	3.3	61.2
O								
N	6	270 53.8	N19 33.7	249 60.0	0.8	N27 43.3	3.1	61.2
D	7	285 53.7	N19 34.2	264 19.8	0.8	N27 46.2	2.9	61.2
A	8	300 53.7	N19 34.8	278 39.6	0.8	N27 48.8	2.6	61.1
Y	9	315 53.7	N19 35.3	292 59.3	0.8	N27 51.2	2.4	61.1
	10	330 53.7	N19 35.9	307 19.1	0.7	N27 53.4	2.2	61.1
	11	345 53.6	N19 36.4	321 38.8	0.7	N27 55.4	2.0	61.1
	12	0 53.6	N19 37.0	335 58.5	0.7	N27 57.2	1.8	61.1
	13	15 53.6	N19 37.5	350 18.2	0.7	N27 58.7	1.5	61.1
	14	30 53.6	N19 38.1	4 38.0	0.7	N27 60.0	1.3	61.1
	15	45 53.5	N19 38.6	18 57.7	0.7	N28 01.1	1.1	61.1
	16	60 53.5	N19 39.2	33 17.4	0.7	N28 01.9	0.9	61.0
	17	75 53.5	N19 39.7	47 37.2	0.7	N28 02.6	0.6	61.0
	18	90 53.4	N19 40.2	61 56.9	0.8	N28 03.0	0.4	61.0
	19	105 53.4	N19 40.8	76 16.7	0.8	N28 03.2	0.2	61.0
	20	120 53.4	N19 41.3	90 36.5	0.8	N28 03.2	0.0	61.0
	21	135 53.4	N19 41.9	104 56.4	0.8	N28 03.0	0.2	61.0
	22	150 53.3	N19 42.4	119 16.2	0.9	N28 02.5	0.5	61.0
	23	165 53.3	N19 42.9	133 36.1	0.9	N28 01.8	0.7	60.9
		S.D. 15.8	d 0.6	S.D.	16.6	16.7	16.6	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.9
Achernar	335 19.8	S57 06.0
Acrux	172 58.5	S63 15.0
Adhara	255 05.3	S29 00.6
Albireo	67 03.0	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.5	N55 49.1
Alkaid	152 50.7	N49 10.9
Al Na-ir	27 31.5	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.4
Alpheratz	357 33.9	N29 14.0
Altair	61 58.7	N 8 56.1
Ankaa	353 06.3	S42 09.6
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 06.9	S69 04.5
Avior	234 14.5	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.3	S52 42.7
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.9	N45 22.2
Denebola	182 23.7	N14 25.4
Diphda	348 46.4	S17 50.4
Dubhe	193 39.4	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.2	N51 28.8
Enif	33 37.6	N 9 59.6
Fomalhaut	15 13.4	S29 28.8
Gacrux	171 50.1	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.2
Hamal	327 50.3	N23 35.2
Kaus Austr.	83 30.8	S34 22.3
Kochab	137 18.8	N74 02.8
Markab	13 28.9	N15 20.7
Menkar	314 05.3	N 4 11.6
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.2	S69 49.8
Mirfak	308 27.2	N49 57.3
Nunki	75 46.1	S26 15.8
Peacock	53 03.7	S56 38.8
Polaris	316 26.4	N89 21.8
Pollux	243 16.1	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.3	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.8
Sabik	102 01.2	S15 45.6
Schedar	349 30.2	N56 40.7
Shaula	96 08.5	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.6	S43 32.6
Vega	80 32.2	N38 48.2
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
19	0	236 40.9	146 44.5	N25 02.1	208 27.4	N10 47.4	123 08.4	N22 05.0	225 39.0	N 2 19.9
	1	251 43.4	161 43.7	N25 02.2	223 28.1	N10 48.1	138 10.4	N22 04.9	240 41.3	N 2 20.0
	2	266 45.8	176 42.8	N25 02.3	238 28.8	N10 48.8	153 12.4	N22 04.8	255 43.5	N 2 20.1
	3	281 48.3	191 42.0	N25 02.4	253 29.4	N10 49.4	168 14.5	N22 04.8	270 45.7	N 2 20.2
	4	296 50.8	206 41.2	N25 02.4	268 30.1	N10 50.1	183 16.5	N22 04.7	285 48.0	N 2 20.3
T	5	311 53.2	221 40.3	N25 02.5	283 30.8	N10 50.8	198 18.5	N22 04.6	300 50.2	N 2 20.4
U										
E	6	326 55.7	236 39.5	N25 02.6	298 31.5	N10 51.5	213 20.5	N22 04.6	315 52.4	N 2 20.5
S	7	341 58.2	251 38.7	N25 02.7	313 32.2	N10 52.2	228 22.5	N22 04.5	330 54.7	N 2 20.6
D	8	357 00.6	266 37.8	N25 02.7	328 32.8	N10 52.8	243 24.5	N22 04.4	345 56.9	N 2 20.6
A	9	12 03.1	281 37.0	N25 02.8	343 33.5	N10 53.5	258 26.5	N22 04.4	0 59.2	N 2 20.7
Y	10	27 05.5	296 36.2	N25 02.9	358 34.2	N10 54.2	273 28.5	N22 04.3	16 01.4	N 2 20.8
	11	42 08.0	311 35.3	N25 02.9	13 34.9	N10 54.9	288 30.5	N22 04.2	31 03.6	N 2 20.9
	12	57 10.5	326 34.5	N25 03.0	28 35.5	N10 55.6	303 32.5	N22 04.2	46 05.9	N 2 21.0
	13	72 12.9	341 33.7	N25 03.1	43 36.2	N10 56.2	318 34.5	N22 04.1	61 08.1	N 2 21.1
	14	87 15.4	356 32.8	N25 03.1	58 36.9	N10 56.9	333 36.5	N22 04.0	76 10.3	N 2 21.2
	15	102 17.9	11 32.0	N25 03.2	73 37.6	N10 57.6	348 38.5	N22 04.0	91 12.6	N 2 21.3
	16	117 20.3	26 31.2	N25 03.3	88 38.2	N10 58.3	3 40.5	N22 03.9	106 14.8	N 2 21.4
	17	132 22.8	41 30.3	N25 03.3	103 38.9	N10 58.9	18 42.5	N22 03.8	121 17.0	N 2 21.4
	18	147 25.3	56 29.5	N25 03.4	118 39.6	N10 59.6	33 44.5	N22 03.8	136 19.3	N 2 21.5
	19	162 27.7	71 28.7	N25 03.4	133 40.3	N11 00.3	48 46.5	N22 03.7	151 21.5	N 2 21.6
	20	177 30.2	86 27.8	N25 03.5	148 41.0	N11 01.0	63 48.5	N22 03.6	166 23.8	N 2 21.7
	21	192 32.6	101 27.0	N25 03.6	163 41.6	N11 01.6	78 50.6	N22 03.6	181 26.0	N 2 21.8
	22	207 35.1	116 26.2	N25 03.6	178 42.3	N11 02.3	93 52.6	N22 03.5	196 28.2	N 2 21.9
	23	222 37.6	131 25.3	N25 03.7	193 43.0	N11 03.0	108 54.6	N22 03.4	211 30.5	N 2 22.0
20	0	237 40.0	146 24.5	N25 03.7	208 43.7	N11 03.7	123 56.6	N22 03.4	226 32.7	N 2 22.1
	1	252 42.5	161 23.7	N25 03.8	223 44.3	N11 04.3	138 58.6	N22 03.3	241 34.9	N 2 22.1
	2	267 45.0	176 22.8	N25 03.8	238 45.0	N11 05.0	154 00.6	N22 03.2	256 37.2	N 2 22.2
	3	282 47.4	191 22.0	N25 03.9	253 45.7	N11 05.7	169 02.6	N22 03.2	271 39.4	N 2 22.3
	4	297 49.9	206 21.2	N25 03.9	268 46.4	N11 06.4	184 04.6	N22 03.1	286 41.6	N 2 22.4
W	5	312 52.4	221 20.4	N25 04.0	283 47.0	N11 07.0	199 06.6	N22 03.0	301 43.9	N 2 22.5
E										
D	6	327 54.8	236 19.5	N25 04.0	298 47.7	N11 07.7	214 08.6	N22 03.0	316 46.1	N 2 22.6
N	7	342 57.3	251 18.7	N25 04.1	313 48.4	N11 08.4	229 10.6	N22 02.9	331 48.4	N 2 22.7
E	8	357 59.8	266 17.9	N25 04.1	328 49.1	N11 09.1	244 12.6	N22 02.8	346 50.6	N 2 22.8
S	9	13 02.2	281 17.0	N25 04.1	343 49.7	N11 09.7	259 14.6	N22 02.7	1 52.8	N 2 22.8
D	10	28 04.7	296 16.2	N25 04.2	358 50.4	N11 10.4	274 16.6	N22 02.7	16 55.1	N 2 22.9
A	11	43 07.1	311 15.4	N25 04.2	13 51.1	N11 11.1	289 18.6	N22 02.6	31 57.3	N 2 23.0
Y										
	12	58 09.6	326 14.5	N25 04.3	28 51.8	N11 11.7	304 20.6	N22 02.5	46 59.6	N 2 23.1
	13	73 12.1	341 13.7	N25 04.3	43 52.5	N11 12.4	319 22.6	N22 02.5	62 01.8	N 2 23.2
	14	88 14.5	356 12.9	N25 04.3	58 53.1	N11 13.1	334 24.6	N22 02.4	77 04.0	N 2 23.3
	15	103 17.0	11 12.0	N25 04.4	73 53.8	N11 13.8	349 26.6	N22 02.3	92 06.3	N 2 23.4
	16	118 19.5	26 11.2	N25 04.4	88 54.5	N11 14.4	4 28.6	N22 02.3	107 08.5	N 2 23.5
	17	133 21.9	41 10.4	N25 04.4	103 55.2	N11 15.1	19 30.6	N22 02.2	122 10.7	N 2 23.5
	18	148 24.4	56 09.6	N25 04.5	118 55.8	N11 15.8	34 32.6	N22 02.1	137 13.0	N 2 23.6
	19	163 26.9	71 08.7	N25 04.5	133 56.5	N11 16.5	49 34.6	N22 02.1	152 15.2	N 2 23.7
	20	178 29.3	86 07.9	N25 04.5	148 57.2	N11 17.1	64 36.6	N22 02.0	167 17.5	N 2 23.8
	21	193 31.8	101 07.1	N25 04.5	163 57.9	N11 17.8	79 38.6	N22 01.9	182 19.7	N 2 23.9
	22	208 34.3	116 06.2	N25 04.6	178 58.5	N11 18.5	94 40.6	N22 01.9	197 21.9	N 2 24.0
	23	223 36.7	131 05.4	N25 04.6	193 59.2	N11 19.1	109 42.6	N22 01.8	212 24.2	N 2 24.1
21	0	238 39.2	146 04.6	N25 04.6	208 59.9	N11 19.8	124 44.6	N22 01.7	227 26.4	N 2 24.2
	1	253 41.6	161 03.7	N25 04.6	224 00.6	N11 20.5	139 46.6	N22 01.7	242 28.7	N 2 24.2
	2	268 44.1	176 02.9	N25 04.6	239 01.2	N11 21.1	154 48.6	N22 01.6	257 30.9	N 2 24.3
	3	283 46.6	191 02.1	N25 04.7	254 01.9	N11 21.8	169 50.6	N22 01.5	272 33.1	N 2 24.4
	4	298 49.0	206 01.3	N25 04.7	269 02.6	N11 22.5	184 52.6	N22 01.5	287 35.4	N 2 24.5
T	5	313 51.5	221 00.4	N25 04.7	284 03.3	N11 23.1	199 54.6	N22 01.4	302 37.6	N 2 24.6
H										
U	6	328 54.0	235 59.6	N25 04.7	299 03.9	N11 23.8	214 56.6	N22 01.3	317 39.9	N 2 24.7
R	7	343 56.4	250 58.8	N25 04.7	314 04.6	N11 24.5	229 58.6	N22 01.2	332 42.1	N 2 24.8
S	8	358 58.9	265 57.9	N25 04.7	329 05.3	N11 25.2	245 00.6	N22 01.2	347 44.3	N 2 24.9
D	9	14 01.4	280 57.1	N25 04.8	344 06.0	N11 25.8	260 02.6	N22 01.1	2 46.6	N 2 24.9
A	10	29 03.8	295 56.3	N25 04.8	359 06.6	N11 26.5	275 04.6	N22 01.0	17 48.8	N 2 25.0
Y	11	44 06.3	310 55.5	N25 04.8	14 07.3	N11 27.2	290 06.6	N22 01.0	32 51.1	N 2 25.1
	12	59 08.8	325 54.6	N25 04.8	29 08.0	N11 27.8	305 08.6	N22 00.9	47 53.3	N 2 25.2
	13	74 11.2	340 53.8	N25 04.8	44 08.7	N11 28.5	320 10.6	N22 00.8	62 55.5	N 2 25.3
	14	89 13.7	355 53.0	N25 04.8	59 09.3	N11 29.2	335 12.6	N22 00.8	77 57.8	N 2 25.4
	15	104 16.1	10 52.1	N25 04.8	74 10.0	N11 29.8	350 14.6	N22 00.7	93 00.0	N 2 25.5
	16	119 18.6	25 51.3	N25 04.8	89 10.7	N11 30.5	5 16.6	N22 00.6	108 02.3	N 2 25.5
	17	134 21.1	40 50.5	N25 04.8	104 11.4	N11 31.2	20 18.6	N22 00.6	123 04.5	N 2 25.6
	18	149 23.5	55 49.7	N25 04.8	119 12.0	N11 31.8	35 20.6	N22 00.5	138 06.7	N 2 25.7
	19	164 26.0	70 48.8	N25 04.8	134 12.7	N11 32.5	50 22.6	N22 00.4	153 09.0	N 2 25.8
	20	179 28.5	85 48.0	N25 04.8	149 13.4	N11 33.2	65 24.6	N22 00.3	168 11.2	N 2 25.9
	21	194 30.9	100 47.2	N25 04.8	164 14.1	N11 33.8	80 26.6	N22 00.3	183 13.5	N 2 26.0
	22	209 33.4	115 46.4	N25 04.8	179 14.7	N11 34.5	95 28.6	N22 00.2	198 15.7	N 2 26.1
	23	224 35.9	130 45.5	N25 04.8	194 15.4	N11 35.1	110 30.6	N22 00.1	213 18.0	N 2 26.1
			v -0.8	d 0.0	v 0.7	d 0.7	v 2.0	d 0.1	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
19	0	180 53.3	N19 43.5	147 56.1	0.9	N28 00.9	0.9	60.9
	1	195 53.2	N19 44.0	162 16.0	1.0	N27 59.8	1.1	60.9
	2	210 53.2	N19 44.6	176 36.0	1.0	N27 58.5	1.3	60.9
	3	225 53.2	N19 45.1	190 56.1	1.1	N27 57.0	1.5	60.9
	4	240 53.2	N19 45.6	205 16.2	1.1	N27 55.2	1.8	60.8
T	5	255 53.1	N19 46.2	219 36.4	1.2	N27 53.2	2.0	60.8
U								
E	6	270 53.1	N19 46.7	233 56.6	1.2	N27 51.0	2.2	60.8
S	7	285 53.1	N19 47.2	248 16.9	1.3	N27 48.6	2.4	60.8
D	8	300 53.0	N19 47.8	262 37.3	1.4	N27 46.0	2.6	60.8
A	9	315 53.0	N19 48.3	276 57.7	1.4	N27 43.2	2.8	60.7
Y	10	330 53.0	N19 48.8	291 18.2	1.5	N27 40.2	3.0	60.7
	11	345 52.9	N19 49.4	305 38.7	1.6	N27 36.9	3.2	60.7
	12	0 52.9	N19 49.9	319 59.4	1.6	N27 33.5	3.4	60.7
	13	15 52.9	N19 50.4	334 20.1	1.7	N27 29.8	3.7	60.7
	14	30 52.8	N19 51.0	348 40.9	1.8	N27 26.0	3.9	60.6
	15	45 52.8	N19 51.5	3 01.8	1.9	N27 21.9	4.1	60.6
	16	60 52.8	N19 52.0	17 22.8	2.0	N27 17.6	4.3	60.6
	17	75 52.7	N19 52.6	31 43.8	2.1	N27 13.2	4.5	60.6
	18	90 52.7	N19 53.1	46 05.0	2.2	N27 08.5	4.7	60.5
	19	105 52.7	N19 53.6	60 26.2	2.3	N27 03.7	4.9	60.5
	20	120 52.6	N19 54.1	74 47.6	2.4	N26 58.6	5.1	60.5
	21	135 52.6	N19 54.7	89 09.0	2.5	N26 53.4	5.2	60.5
	22	150 52.6	N19 55.2	103 30.6	2.6	N26 47.9	5.4	60.4
	23	165 52.5	N19 55.7	117 52.3	2.7	N26 42.3	5.6	60.4
20	0	180 52.5	N19 56.2	132 14.0	2.8	N26 36.5	5.8	60.4
	1	195 52.5	N19 56.8	146 35.9	2.9	N26 30.5	6.0	60.3
	2	210 52.4	N19 57.3	160 57.9	3.0	N26 24.3	6.2	60.3
	3	225 52.4	N19 57.8	175 20.0	3.1	N26 17.9	6.4	60.3
	4	240 52.3	N19 58.3	189 42.2	3.2	N26 11.3	6.6	60.3
W	5	255 52.3	N19 58.9	204 04.6	3.3	N26 04.6	6.7	60.2
E								
D	6	270 52.3	N19 59.4	218 27.0	3.5	N25 57.7	6.9	60.2
N	7	285 52.2	N19 59.9	232 49.6	3.6	N25 50.6	7.1	60.2
E	8	300 52.2	N20 00.4	247 12.3	3.7	N25 43.3	7.3	60.1
S	9	315 52.2	N20 00.9	261 35.1	3.8	N25 35.9	7.4	60.1
D	10	330 52.1	N20 01.5	275 58.1	3.9	N25 28.3	7.6	60.1
A	11	345 52.1	N20 02.0	290 21.2	4.1	N25 20.5	7.8	60.1
Y								
	12	0 52.1	N20 02.5	304 44.4	4.2	N25 12.6	7.9	60.0
	13	15 52.0	N20 03.0	319 07.7	4.3	N25 04.5	8.1	60.0
	14	30 52.0	N20 03.5	333 31.2	4.5	N24 56.2	8.3	60.0
	15	45 51.9	N20 04.0	347 54.8	4.6	N24 47.8	8.4	59.9
	16	60 51.9	N20 04.6	2 18.5	4.7	N24 39.2	8.6	59.9
	17	75 51.9	N20 05.1	16 42.3	4.9	N24 30.5	8.7	59.9
	18	90 51.8	N20 05.6	31 06.3	5.0	N24 21.6	8.9	59.8
	19	105 51.8	N20 06.1	45 30.5	5.1	N24 12.6	9.0	59.8
	20	120 51.7	N20 06.6	59 54.7	5.3	N24 03.4	9.2	59.8
	21	135 51.7	N20 07.1	74 19.1	5.4	N23 54.0	9.3	59.7
	22	150 51.7	N20 07.6	88 43.7	5.5	N23 44.5	9.5	59.7
	23	165 51.6	N20 08.1	103 08.3	5.7	N23 34.9	9.6	59.7
21	0	180 51.6	N20 08.7	117 33.1	5.8	N23 25.2	9.8	59.6
	1	195 51.5	N20 09.2	131 58.1	5.9	N23 15.3	9.9	59.6
	2	210 51.5	N20 09.7	146 23.2	6.1	N23 05.2	10.0	59.6
	3	225 51.5	N20 10.2	160 48.4	6.2	N22 55.0	10.2	59.5
	4	240 51.4	N20 10.7	175 13.8	6.4	N22 44.7	10.3	59.5
T	5	255 51.4	N20 11.2	189 39.3	6.5	N22 34.3	10.4	59.5
H								
U	6	270 51.3	N20 11.7	204 04.9	6.6	N22 23.7	10.6	59.4
R	7	285 51.3	N20 12.2	218 30.7	6.8	N22 13.0	10.7	59.4
S	8	300 51.2	N20 12.7	232 56.6	6.9	N22 02.2	10.8	59.4
D	9	315 51.2	N20 13.2	247 22.7	7.1	N21 51.3	10.9	59.3
A	10	330 51.2	N20 13.7	261 48.8	7.2	N21 40.2	11.1	59.3
Y	11	345 51.1	N20 14.2	276 15.2	7.3	N21 29.1	11.2	59.3
	12	0 51.1	N20 14.7	290 41.6	7.5	N21 17.8	11.3	59.2
	13	15 51.0	N20 15.2	305 08.2	7.6	N21 06.4	11.4	59.2
	14	30 51.0	N20 15.7	319 35.0	7.7	N20 54.9	11.5	59.2
	15	45 50.9	N20 16.2	334 01.9	7.9	N20 43.3	11.6	59.1
	16	60 50.9	N20 16.7	348 28.9	8.0	N20 31.5	11.7	59.1
	17	75 50.9	N20 17.2	2 56.0	8.1	N20 19.7	11.8	59.1
	18	90 50.8	N20 17.7	17 23.3	8.3	N20 07.8	11.9	59.0
	19	105 50.8	N20 18.2	31 50.7	8.4	N19 55.7	12.0	59.0
	20	120 50.7	N20 18.7	46 18.3	8.5	N19 43.6	12.1	58.9
	21	135 50.7	N20 19.2	60 45.9	8.7	N19 31.4	12.2	58.9
	22	150 50.6	N20 19.7	75 13.8	8.8	N19 19.0	12.3	58.9
	23	165 50.6	N20 20.2	89 41.7	8.9	N19 06.6	12.4	58.8
		S.D. 15.8	d 0.5	S.D. 16.5		16.4		16.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.9
Achernar	335 19.8	S57 06.0
Acrux	172 58.5	S63 15.0
Adhara	255 05.3	S29 00.6
Albireo	67 02.9	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.5	N55 49.2
Alkaid	152 50.7	N49 10.9
Al Na-ir	27 31.5	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.4
Alpheratz	357 33.8	N29 14.0
Altair	61 58.7	N 8 56.1
Ankaa	353 06.3	S42 09.6
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 06.9	S69 04.5
Avior	234 14.6	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.3	S52 42.7
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.9	N45 22.2
Denebola	182 23.7	N14 25.4
Diphda	348 46.4	S17 50.4
Dubhe	193 39.4	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.2	N51 28.9
Enif	33 37.6	N 9 59.6
Fomalhaut	15 13.3	S29 28.8
Gacrux	171 50.1	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.2
Hamal	327 50.3	N23 35.2
Kaus Austr.	83 30.7	S34 22.3
Kochab	137 18.8	N74 02.8
Markab	13 28.9	N15 20.7
Menkar	314 05.3	N 4 11.6
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.2	S69 49.8
Mirfak	308 27.2	N49 57.3
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 38.8
Polaris	316 25.6	N89 21.8
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.8
Sabik	102 01.2	S15 45.6
Schedar	349 30.2	N56 40.7
Shaula	96 08.5	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.6	S43 32.6
Vega	80 32.1	N38 48.2
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
22	0	239 38.3	145 44.7	N25 04.8	209 16.1	N11 35.8	125 32.6	N22 00.1	228 20.2	N 2 26.2
	1	254 40.8	160 43.9	N25 04.8	224 16.8	N11 36.5	140 34.6	N21 60.0	243 22.4	N 2 26.3
	2	269 43.3	175 43.0	N25 04.8	239 17.4	N11 37.1	155 36.6	N21 59.9	258 24.7	N 2 26.4
	3	284 45.7	190 42.2	N25 04.7	254 18.1	N11 37.8	170 38.6	N21 59.9	273 26.9	N 2 26.5
	4	299 48.2	205 41.4	N25 04.7	269 18.8	N11 38.5	185 40.6	N21 59.8	288 29.2	N 2 26.6
F	5	314 50.6	220 40.6	N25 04.7	284 19.4	N11 39.1	200 42.5	N21 59.7	303 31.4	N 2 26.7
R										
I	6	329 53.1	235 39.7	N25 04.7	299 20.1	N11 39.8	215 44.5	N21 59.7	318 33.6	N 2 26.7
D	7	344 55.6	250 38.9	N25 04.7	314 20.8	N11 40.5	230 46.5	N21 59.6	333 35.9	N 2 26.8
A	8	359 58.0	265 38.1	N25 04.7	329 21.5	N11 41.1	245 48.5	N21 59.5	348 38.1	N 2 26.9
Y	9	15 00.5	280 37.3	N25 04.7	344 22.1	N11 41.8	260 50.5	N21 59.4	3 40.4	N 2 27.0
	10	30 03.0	295 36.4	N25 04.6	359 22.8	N11 42.4	275 52.5	N21 59.4	18 42.6	N 2 27.1
	11	45 05.4	310 35.6	N25 04.6	14 23.5	N11 43.1	290 54.5	N21 59.3	33 44.9	N 2 27.2
	12	60 07.9	325 34.8	N25 04.6	29 24.2	N11 43.8	305 56.5	N21 59.2	48 47.1	N 2 27.3
	13	75 10.4	340 34.0	N25 04.6	44 24.8	N11 44.4	320 58.5	N21 59.2	63 49.3	N 2 27.3
	14	90 12.8	355 33.1	N25 04.5	59 25.5	N11 45.1	336 00.5	N21 59.1	78 51.6	N 2 27.4
	15	105 15.3	10 32.3	N25 04.5	74 26.2	N11 45.8	351 02.5	N21 59.0	93 53.8	N 2 27.5
	16	120 17.7	25 31.5	N25 04.5	89 26.9	N11 46.4	6 04.5	N21 58.9	108 56.1	N 2 27.6
	17	135 20.2	40 30.7	N25 04.5	104 27.5	N11 47.1	21 06.5	N21 58.9	123 58.3	N 2 27.7
	18	150 22.7	55 29.8	N25 04.4	119 28.2	N11 47.7	36 08.5	N21 58.8	139 00.6	N 2 27.8
	19	165 25.1	70 29.0	N25 04.4	134 28.9	N11 48.4	51 10.5	N21 58.7	154 02.8	N 2 27.8
	20	180 27.6	85 28.2	N25 04.4	149 29.5	N11 49.1	66 12.5	N21 58.7	169 05.0	N 2 27.9
	21	195 30.1	100 27.4	N25 04.3	164 30.2	N11 49.7	81 14.5	N21 58.6	184 07.3	N 2 28.0
	22	210 32.5	115 26.5	N25 04.3	179 30.9	N11 50.4	96 16.4	N21 58.5	199 09.5	N 2 28.1
	23	225 35.0	130 25.7	N25 04.3	194 31.6	N11 51.0	111 18.4	N21 58.5	214 11.8	N 2 28.2
23	0	240 37.5	145 24.9	N25 04.2	209 32.2	N11 51.7	126 20.4	N21 58.4	229 14.0	N 2 28.3
	1	255 39.9	160 24.1	N25 04.2	224 32.9	N11 52.4	141 22.4	N21 58.3	244 16.3	N 2 28.4
	2	270 42.4	175 23.3	N25 04.2	239 33.6	N11 53.0	156 24.4	N21 58.2	259 18.5	N 2 28.4
	3	285 44.9	190 22.4	N25 04.1	254 34.3	N11 53.7	171 26.4	N21 58.2	274 20.8	N 2 28.5
	4	300 47.3	205 21.6	N25 04.1	269 34.9	N11 54.3	186 28.4	N21 58.1	289 23.0	N 2 28.6
S	5	315 49.8	220 20.8	N25 04.0	284 35.6	N11 55.0	201 30.4	N21 58.0	304 25.2	N 2 28.7
A										
T	6	330 52.2	235 20.0	N25 04.0	299 36.3	N11 55.6	216 32.4	N21 58.0	319 27.5	N 2 28.8
U	7	345 54.7	250 19.1	N25 03.9	314 36.9	N11 56.3	231 34.4	N21 57.9	334 29.7	N 2 28.9
R	8	0 57.2	265 18.3	N25 03.9	329 37.6	N11 57.0	246 36.4	N21 57.8	349 32.0	N 2 28.9
D	9	15 59.6	280 17.5	N25 03.8	344 38.3	N11 57.6	261 38.4	N21 57.7	4 34.2	N 2 29.0
A	10	31 02.1	295 16.7	N25 03.8	359 39.0	N11 58.3	276 40.4	N21 57.7	19 36.5	N 2 29.1
Y	11	46 04.6	310 15.9	N25 03.7	14 39.6	N11 58.9	291 42.3	N21 57.6	34 38.7	N 2 29.2
	12	61 07.0	325 15.0	N25 03.7	29 40.3	N11 59.6	306 44.3	N21 57.5	49 41.0	N 2 29.3
	13	76 09.5	340 14.2	N25 03.6	44 41.0	N12 00.2	321 46.3	N21 57.5	64 43.2	N 2 29.4
	14	91 12.0	355 13.4	N25 03.6	59 41.7	N12 00.9	336 48.3	N21 57.4	79 45.4	N 2 29.5
	15	106 14.4	10 12.6	N25 03.5	74 42.3	N12 01.6	351 50.3	N21 57.3	94 47.7	N 2 29.5
	16	121 16.9	25 11.8	N25 03.5	89 43.0	N12 02.2	6 52.3	N21 57.2	109 49.9	N 2 29.6
	17	136 19.4	40 10.9	N25 03.4	104 43.7	N12 02.9	21 54.3	N21 57.2	124 52.2	N 2 29.7
	18	151 21.8	55 10.1	N25 03.4	119 44.3	N12 03.5	36 56.3	N21 57.1	139 54.4	N 2 29.8
	19	166 24.3	70 09.3	N25 03.3	134 45.0	N12 04.2	51 58.3	N21 57.0	154 56.7	N 2 29.9
	20	181 26.7	85 08.5	N25 03.2	149 45.7	N12 04.8	67 00.3	N21 57.0	169 58.9	N 2 30.0
	21	196 29.2	100 07.7	N25 03.2	164 46.4	N12 05.5	82 02.3	N21 56.9	185 01.2	N 2 30.0
	22	211 31.7	115 06.8	N25 03.1	179 47.0	N12 06.1	97 04.2	N21 56.8	200 03.4	N 2 30.1
	23	226 34.1	130 06.0	N25 03.0	194 47.7	N12 06.8	112 06.2	N21 56.7	215 05.7	N 2 30.2
24	0	241 36.6	145 05.2	N25 03.0	209 48.4	N12 07.5	127 08.2	N21 56.7	230 07.9	N 2 30.3
	1	256 39.1	160 04.4	N25 02.9	224 49.0	N12 08.1	142 10.2	N21 56.6	245 10.2	N 2 30.4
	2	271 41.5	175 03.6	N25 02.8	239 49.7	N12 08.8	157 12.2	N21 56.5	260 12.4	N 2 30.5
	3	286 44.0	190 02.7	N25 02.8	254 50.4	N12 09.4	172 14.2	N21 56.5	275 14.6	N 2 30.5
	4	301 46.5	205 01.9	N25 02.7	269 51.1	N12 10.1	187 16.2	N21 56.4	290 16.9	N 2 30.6
S	5	316 48.9	220 01.1	N25 02.6	284 51.7	N12 10.7	202 18.2	N21 56.3	305 19.1	N 2 30.7
U										
N	6	331 51.4	235 00.3	N25 02.6	299 52.4	N12 11.4	217 20.2	N21 56.2	320 21.4	N 2 30.8
D	7	346 53.9	249 59.5	N25 02.5	314 53.1	N12 12.0	232 22.1	N21 56.2	335 23.6	N 2 30.9
A	8	1 56.3	264 58.7	N25 02.4	329 53.7	N12 12.7	247 24.1	N21 56.1	350 25.9	N 2 31.0
Y	9	16 58.8	279 57.8	N25 02.3	344 54.4	N12 13.3	262 26.1	N21 56.0	5 28.1	N 2 31.0
	10	32 01.2	294 57.0	N25 02.3	359 55.1	N12 14.0	277 28.1	N21 56.0	20 30.4	N 2 31.1
	11	47 03.7	309 56.2	N25 02.2	14 55.7	N12 14.6	292 30.1	N21 55.9	35 32.6	N 2 31.2
	12	62 06.2	324 55.4	N25 02.1	29 56.4	N12 15.3	307 32.1	N21 55.8	50 34.9	N 2 31.3
	13	77 08.6	339 54.6	N25 02.0	44 57.1	N12 15.9	322 34.1	N21 55.7	65 37.1	N 2 31.4
	14	92 11.1	354 53.8	N25 01.9	59 57.8	N12 16.6	337 36.1	N21 55.7	80 39.4	N 2 31.5
	15	107 13.6	9 52.9	N25 01.8	74 58.4	N12 17.2	352 38.0	N21 55.6	95 41.6	N 2 31.5
	16	122 16.0	24 52.1	N25 01.8	89 59.1	N12 17.9	7 40.0	N21 55.5	110 43.9	N 2 31.6
	17	137 18.5	39 51.3	N25 01.7	104 59.8	N12 18.5	22 42.0	N21 55.5	125 46.1	N 2 31.7
	18	152 21.0	54 50.5	N25 01.6	120 00.4	N12 19.2	37 44.0	N21 55.4	140 48.4	N 2 31.8
	19	167 23.4	69 49.7	N25 01.5	135 01.1	N12 19.8	52 46.0	N21 55.3	155 50.6	N 2 31.9
	20	182 25.9	84 48.9	N25 01.4	150 01.8	N12 20.5	67 48.0	N21 55.2	170 52.9	N 2 31.9
	21	197 28.3	99 48.1	N25 01.3	165 02.5	N12 21.1	82 50.0	N21 55.2	185 55.1	N 2 32.0
	22	212 30.8	114 47.2	N25 01.2	180 03.1	N12 21.8	97 51.9	N21 55.1	200 57.3	N 2 32.1
	23	227 33.3	129 46.4	N25 01.1	195 03.8	N12 22.4	112 53.9	N21 55.0	215 59.6	N 2 32.2
			v -0.8	d 0.1	v 0.7	d 0.7	v 2.0	d 0.1	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
22	0	180 50.5	N20 20.7	104 09.8	9.1	N18 54.1	12.5	58.8
	1	195 50.5	N20 21.2	118 38.0	9.2	N18 41.5	12.6	58.8
	2	210 50.4	N20 21.7	133 06.3	9.3	N18 28.8	12.7	58.7
	3	225 50.4	N20 22.2	147 34.8	9.5	N18 16.0	12.8	58.7
	4	240 50.3	N20 22.7	162 03.4	9.6	N18 03.2	12.9	58.7
F	5	255 50.3	N20 23.2	176 32.1	9.7	N17 50.2	12.9	58.6
R								
I	6	270 50.3	N20 23.7	191 00.9	9.8	N17 37.2	13.0	58.6
D	7	285 50.2	N20 24.2	205 29.9	10.0	N17 24.1	13.1	58.6
A	8	300 50.2	N20 24.7	219 58.9	10.1	N17 10.9	13.2	58.5
Y	9	315 50.1	N20 25.2	234 28.1	10.2	N16 57.7	13.2	58.5
	10	330 50.1	N20 25.6	248 57.5	10.3	N16 44.4	13.3	58.4
	11	345 50.0	N20 26.1	263 26.9	10.4	N16 31.0	13.4	58.4
	12	0 50.0	N20 26.6	277 56.5	10.6	N16 17.5	13.5	58.4
	13	15 49.9	N20 27.1	292 26.1	10.7	N16 04.0	13.5	58.3
	14	30 49.9	N20 27.6	306 55.9	10.8	N15 50.4	13.6	58.3
	15	45 49.8	N20 28.1	321 25.8	10.9	N15 36.7	13.7	58.3
	16	60 49.8	N20 28.6	335 55.9	11.0	N15 23.0	13.7	58.2
	17	75 49.7	N20 29.1	350 26.0	11.1	N15 09.2	13.8	58.2
	18	90 49.7	N20 29.5	4 56.2	11.2	N14 55.4	13.8	58.2
	19	105 49.6	N20 30.0	19 26.6	11.4	N14 41.5	13.9	58.1
	20	120 49.6	N20 30.5	33 57.1	11.5	N14 27.5	14.0	58.1
	21	135 49.5	N20 31.0	48 27.6	11.6	N14 13.5	14.0	58.0
	22	150 49.5	N20 31.5	62 58.3	11.7	N13 59.5	14.1	58.0
	23	165 49.4	N20 32.0	77 29.1	11.8	N13 45.3	14.1	58.0
23	0	180 49.4	N20 32.4	91 59.9	11.9	N13 31.2	14.2	57.9
	1	195 49.3	N20 32.9	106 30.9	12.0	N13 17.0	14.2	57.9
	2	210 49.3	N20 33.4	121 02.0	12.1	N13 02.7	14.3	57.9
	3	225 49.2	N20 33.9	135 33.2	12.2	N12 48.4	14.3	57.8
	4	240 49.2	N20 34.4	150 04.5	12.3	N12 34.1	14.3	57.8
S	5	255 49.1	N20 34.8	164 35.8	12.4	N12 19.7	14.4	57.8
A								
T	6	270 49.1	N20 35.3	179 07.3	12.5	N12 05.2	14.4	57.7
U	7	285 49.0	N20 35.8	193 38.9	12.6	N11 50.8	14.5	57.7
R	8	300 48.9	N20 36.3	208 10.5	12.7	N11 36.3	14.5	57.7
D	9	315 48.9	N20 36.7	222 42.3	12.7	N11 21.7	14.5	57.6
A	10	330 48.8	N20 37.2	237 14.1	12.8	N11 07.1	14.6	57.6
Y	11	345 48.8	N20 37.7	251 46.0	12.9	N10 52.5	14.6	57.6
	12	0 48.7	N20 38.2	266 18.0	13.0	N10 37.9	14.6	57.5
	13	15 48.7	N20 38.6	280 50.1	13.1	N10 23.2	14.7	57.5
	14	30 48.6	N20 39.1	295 22.3	13.2	N10 08.5	14.7	57.5
	15	45 48.6	N20 39.6	309 54.6	13.3	N 9 53.7	14.7	57.4
	16	60 48.5	N20 40.1	324 26.9	13.3	N 9 39.0	14.8	57.4
	17	75 48.5	N20 40.5	338 59.3	13.4	N 9 24.2	14.8	57.4
	18	90 48.4	N20 41.0	353 31.8	13.5	N 9 09.4	14.8	57.3
	19	105 48.3	N20 41.5	8 04.4	13.6	N 8 54.5	14.8	57.3
	20	120 48.3	N20 41.9	22 37.0	13.6	N 8 39.7	14.9	57.3
	21	135 48.2	N20 42.4	37 09.8	13.7	N 8 24.8	14.9	57.2
	22	150 48.2	N20 42.9	51 42.6	13.8	N 8 09.9	14.9	57.2
	23	165 48.1	N20 43.3	66 15.4	13.9	N 7 55.0	14.9	57.2
24	0	180 48.1	N20 43.8	80 48.4	13.9	N 7 40.0	14.9	57.1
	1	195 48.0	N20 44.3	95 21.4	14.0	N 7 25.1	15.0	57.1
	2	210 48.0	N20 44.7	109 54.4	14.1	N 7 10.1	15.0	57.1
	3	225 47.9	N20 45.2	124 27.6	14.1	N 6 55.1	15.0	57.0
	4	240 47.8	N20 45.7	139 00.8	14.2	N 6 40.1	15.0	57.0
S	5	255 47.8	N20 46.1	153 34.0	14.3	N 6 25.1	15.0	57.0
U								
N	6	270 47.7	N20 46.6	168 07.3	14.3	N 6 10.1	15.0	56.9
D	7	285 47.7	N20 47.1	182 40.7	14.4	N 5 55.1	15.0	56.9
A	8	300 47.6	N20 47.5	197 14.2	14.4	N 5 40.0	15.0	56.9
Y	9	315 47.6	N20 48.0	211 47.7	14.5	N 5 25.0	15.0	56.8
	10	330 47.5	N20 48.4	226 21.2	14.6	N 5 09.9	15.1	56.8
	11	345 47.4	N20 48.9	240 54.8	14.6	N 4 54.9	15.1	56.8
	12	0 47.4	N20 49.4	255 28.5	14.7	N 4 39.8	15.1	56.7
	13	15 47.3	N20 49.8	270 02.2	14.7	N 4 24.7	15.1	56.7
	14	30 47.3	N20 50.3	284 35.9	14.8	N 4 09.7	15.1	56.7
	15	45 47.2	N20 50.7	299 09.7	14.8	N 3 54.6	15.1	56.6
	16	60 47.1	N20 51.2	313 43.6	14.9	N 3 39.5	15.1	56.6
	17	75 47.1	N20 51.6	328 17.5	14.9	N 3 24.4	15.1	56.6
	18	90 47.0	N20 52.1	342 51.4	14.9	N 3 09.4	15.1	56.6
	19	105 47.0	N20 52.6	357 25.4	15.0	N 2 54.3	15.1	56.5
	20	120 46.9	N20 53.0	11 59.4	15.0	N 2 39.2	15.1	56.5
	21	135 46.8	N20 53.5	26 33.5	15.1	N 2 24.2	15.1	56.5
	22	150 46.8	N20 53.9	41 07.6	15.1	N 2 09.1	15.1	56.4
	23	165 46.7	N20 54.4	55 41.8	15.1	N 1 54.1	15.0	56.4
		S.D. 15.8	d 0.5	S.D. 15.9		15.7		15.5

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.8
Achernar	335 19.8	S57 06.0
Acrux	172 58.5	S63 15.0
Adhara	255 05.3	S29 00.6
Albireo	67 02.9	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.5	N55 49.2
Alkaid	152 50.7	N49 10.9
Al Na-ir	27 31.4	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.4
Alpheratz	357 33.8	N29 14.0
Altair	61 58.7	N 8 56.2
Ankaa	353 06.2	S42 09.6
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 06.9	S69 04.5
Avior	234 14.6	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.3	S52 42.7
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.8	N45 22.2
Denebola	182 23.7	N14 25.4
Diphda	348 46.4	S17 50.4
Dubhe	193 39.4	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.2	N51 28.9
Enif	33 37.6	N 9 59.7
Fomalhaut	15 13.3	S29 28.8
Gacrux	171 50.1	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.2
Hamal	327 50.3	N23 35.2
Kaus Austr.	83 30.7	S34 22.3
Kochab	137 18.8	N74 02.8
Markab	13 28.9	N15 20.7
Menkar	314 05.3	N 4 11.6
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.3	S69 49.8
Mirfak	308 27.2	N49 57.2
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 38.8
Polaris	316 25.0	N89 21.8
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.3
Regulus	207 33.2	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.9
Sabik	102 01.2	S15 45.6
Schedar	349 30.1	N56 40.7
Shaula	96 08.4	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.6	S43 32.6
Vega	80 32.1	N38 48.3
Zuben-ubi	136 55.3	S16 09.3

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
25	0	242 35.7	144 45.6	N25 01.0	210 04.5	N12 23.1	127 55.9	N21 54.9	231 01.8	N 2 32.3
	1	257 38.2	159 44.8	N25 00.9	225 05.1	N12 23.7	142 57.9	N21 54.9	246 04.1	N 2 32.4
	2	272 40.7	174 44.0	N25 00.8	240 05.8	N12 24.4	157 59.9	N21 54.8	261 06.3	N 2 32.4
	3	287 43.1	189 43.2	N25 00.7	255 06.5	N12 25.0	173 01.9	N21 54.7	276 08.6	N 2 32.5
	4	302 45.6	204 42.4	N25 00.6	270 07.1	N12 25.7	188 03.9	N21 54.7	291 10.8	N 2 32.6
M	5	317 48.1	219 41.5	N25 00.5	285 07.8	N12 26.3	203 05.8	N21 54.6	306 13.1	N 2 32.7
O										
N	6	332 50.5	234 40.7	N25 00.4	300 08.5	N12 27.0	218 07.8	N21 54.5	321 15.3	N 2 32.8
D	7	347 53.0	249 39.9	N25 00.3	315 09.2	N12 27.6	233 09.8	N21 54.4	336 17.6	N 2 32.9
A	8	2 55.5	264 39.1	N25 00.2	330 09.8	N12 28.3	248 11.8	N21 54.4	351 19.8	N 2 32.9
Y	9	17 57.9	279 38.3	N25 00.1	345 10.5	N12 28.9	263 13.8	N21 54.3	6 22.1	N 2 33.0
	10	33 00.4	294 37.5	N24 60.0	0 11.2	N12 29.5	278 15.8	N21 54.2	21 24.3	N 2 33.1
	11	48 02.8	309 36.7	N24 59.9	15 11.8	N12 30.2	293 17.8	N21 54.1	36 26.6	N 2 33.2
	12	63 05.3	324 35.9	N24 59.8	30 12.5	N12 30.8	308 19.7	N21 54.1	51 28.8	N 2 33.3
	13	78 07.8	339 35.0	N24 59.7	45 13.2	N12 31.5	323 21.7	N21 54.0	66 31.1	N 2 33.3
	14	93 10.2	354 34.2	N24 59.5	60 13.8	N12 32.1	338 23.7	N21 53.9	81 33.3	N 2 33.4
	15	108 12.7	9 33.4	N24 59.4	75 14.5	N12 32.8	353 25.7	N21 53.8	96 35.6	N 2 33.5
	16	123 15.2	24 32.6	N24 59.3	90 15.2	N12 33.4	8 27.7	N21 53.8	111 37.8	N 2 33.6
	17	138 17.6	39 31.8	N24 59.2	105 15.8	N12 34.1	23 29.7	N21 53.7	126 40.1	N 2 33.7
	18	153 20.1	54 31.0	N24 59.1	120 16.5	N12 34.7	38 31.6	N21 53.6	141 42.3	N 2 33.8
	19	168 22.6	69 30.2	N24 59.0	135 17.2	N12 35.4	53 33.6	N21 53.5	156 44.6	N 2 33.8
	20	183 25.0	84 29.4	N24 58.8	150 17.9	N12 36.0	68 35.6	N21 53.5	171 46.8	N 2 33.9
	21	198 27.5	99 28.6	N24 58.7	165 18.5	N12 36.6	83 37.6	N21 53.4	186 49.1	N 2 34.0
	22	213 30.0	114 27.8	N24 58.6	180 19.2	N12 37.3	98 39.6	N21 53.3	201 51.3	N 2 34.1
	23	228 32.4	129 26.9	N24 58.5	195 19.9	N12 37.9	113 41.6	N21 53.3	216 53.6	N 2 34.2
26	0	243 34.9	144 26.1	N24 58.4	210 20.5	N12 38.6	128 43.5	N21 53.2	231 55.8	N 2 34.2
	1	258 37.3	159 25.3	N24 58.2	225 21.2	N12 39.2	143 45.5	N21 53.1	246 58.1	N 2 34.3
	2	273 39.8	174 24.5	N24 58.1	240 21.9	N12 39.9	158 47.5	N21 53.0	262 00.3	N 2 34.4
	3	288 42.3	189 23.7	N24 58.0	255 22.5	N12 40.5	173 49.5	N21 53.0	277 02.6	N 2 34.5
	4	303 44.7	204 22.9	N24 57.8	270 23.2	N12 41.1	188 51.5	N21 52.9	292 04.8	N 2 34.6
T	5	318 47.2	219 22.1	N24 57.7	285 23.9	N12 41.8	203 53.5	N21 52.8	307 07.1	N 2 34.6
U										
E	6	333 49.7	234 21.3	N24 57.6	300 24.5	N12 42.4	218 55.4	N21 52.7	322 09.4	N 2 34.7
S	7	348 52.1	249 20.5	N24 57.4	315 25.2	N12 43.1	233 57.4	N21 52.7	337 11.6	N 2 34.8
D	8	3 54.6	264 19.7	N24 57.3	330 25.9	N12 43.7	248 59.4	N21 52.6	352 13.9	N 2 34.9
A	9	18 57.1	279 18.9	N24 57.2	345 26.5	N12 44.3	264 01.4	N21 52.5	7 16.1	N 2 35.0
Y	10	33 59.5	294 18.1	N24 57.0	0 27.2	N12 45.0	279 03.4	N21 52.4	22 18.4	N 2 35.0
	11	49 02.0	309 17.3	N24 56.9	15 27.9	N12 45.6	294 05.3	N21 52.4	37 20.6	N 2 35.1
	12	64 04.4	324 16.5	N24 56.8	30 28.5	N12 46.3	309 07.3	N21 52.3	52 22.9	N 2 35.2
	13	79 06.9	339 15.7	N24 56.6	45 29.2	N12 46.9	324 09.3	N21 52.2	67 25.1	N 2 35.3
	14	94 09.4	354 14.9	N24 56.5	60 29.9	N12 47.5	339 11.3	N21 52.1	82 27.4	N 2 35.4
	15	109 11.8	9 14.0	N24 56.3	75 30.5	N12 48.2	354 13.3	N21 52.1	97 29.6	N 2 35.5
	16	124 14.3	24 13.2	N24 56.2	90 31.2	N12 48.8	9 15.2	N21 52.0	112 31.9	N 2 35.5
	17	139 16.8	39 12.4	N24 56.0	105 31.9	N12 49.5	24 17.2	N21 51.9	127 34.1	N 2 35.6
	18	154 19.2	54 11.6	N24 55.9	120 32.5	N12 50.1	39 19.2	N21 51.8	142 36.4	N 2 35.7
	19	169 21.7	69 10.8	N24 55.7	135 33.2	N12 50.7	54 21.2	N21 51.8	157 38.6	N 2 35.8
	20	184 24.2	84 10.0	N24 55.6	150 33.9	N12 51.4	69 23.2	N21 51.7	172 40.9	N 2 35.9
	21	199 26.6	99 09.2	N24 55.4	165 34.5	N12 52.0	84 25.1	N21 51.6	187 43.1	N 2 35.9
	22	214 29.1	114 08.4	N24 55.3	180 35.2	N12 52.6	99 27.1	N21 51.5	202 45.4	N 2 36.0
	23	229 31.6	129 07.6	N24 55.1	195 35.9	N12 53.3	114 29.1	N21 51.5	217 47.6	N 2 36.1
27	0	244 34.0	144 06.8	N24 55.0	210 36.5	N12 53.9	129 31.1	N21 51.4	232 49.9	N 2 36.2
	1	259 36.5	159 06.0	N24 54.8	225 37.2	N12 54.6	144 33.1	N21 51.3	247 52.2	N 2 36.3
	2	274 38.9	174 05.2	N24 54.7	240 37.9	N12 55.2	159 35.0	N21 51.2	262 54.4	N 2 36.3
	3	289 41.4	189 04.4	N24 54.5	255 38.6	N12 55.8	174 37.0	N21 51.2	277 56.7	N 2 36.4
	4	304 43.9	204 03.6	N24 54.3	270 39.2	N12 56.5	189 39.0	N21 51.1	292 58.9	N 2 36.5
W	5	319 46.3	219 02.8	N24 54.2	285 39.9	N12 57.1	204 41.0	N21 51.0	308 01.2	N 2 36.6
E										
D	6	334 48.8	234 02.0	N24 54.0	300 40.6	N12 57.7	219 43.0	N21 50.9	323 03.4	N 2 36.7
N	7	349 51.3	249 01.2	N24 53.9	315 41.2	N12 58.4	234 44.9	N21 50.9	338 05.7	N 2 36.7
E	8	4 53.7	264 00.4	N24 53.7	330 41.9	N12 59.0	249 46.9	N21 50.8	353 07.9	N 2 36.8
S	9	19 56.2	278 59.6	N24 53.5	345 42.6	N12 59.6	264 48.9	N21 50.7	8 10.2	N 2 36.9
D	10	34 58.7	293 58.8	N24 53.4	0 43.2	N13 00.3	279 50.9	N21 50.6	23 12.4	N 2 37.0
A	11	50 01.1	308 58.0	N24 53.2	15 43.9	N13 00.9	294 52.8	N21 50.6	38 14.7	N 2 37.0
Y										
	12	65 03.6	323 57.2	N24 53.0	30 44.5	N13 01.6	309 54.8	N21 50.5	53 16.9	N 2 37.1
	13	80 06.0	338 56.4	N24 52.9	45 45.2	N13 02.2	324 56.8	N21 50.4	68 19.2	N 2 37.2
	14	95 08.5	353 55.6	N24 52.7	60 45.9	N13 02.8	339 58.8	N21 50.3	83 21.5	N 2 37.3
	15	110 11.0	8 54.8	N24 52.5	75 46.5	N13 03.5	355 00.8	N21 50.3	98 23.7	N 2 37.4
	16	125 13.4	23 54.0	N24 52.3	90 47.2	N13 04.1	10 02.7	N21 50.2	113 26.0	N 2 37.4
	17	140 15.9	38 53.2	N24 52.2	105 47.9	N13 04.7	25 04.7	N21 50.1	128 28.2	N 2 37.5
	18	155 18.4	53 52.4	N24 52.0	120 48.5	N13 05.4	40 06.7	N21 50.0	143 30.5	N 2 37.6
	19	170 20.8	68 51.6	N24 51.8	135 49.2	N13 06.0	55 08.7	N21 50.0	158 32.7	N 2 37.7
	20	185 23.3	83 50.8	N24 51.6	150 49.9	N13 06.6	70 10.6	N21 49.9	173 35.0	N 2 37.8
	21	200 25.8	98 50.0	N24 51.5	165 50.5	N13 07.2	85 12.6	N21 49.8	188 37.2	N 2 37.8
	22	215 28.2	113 49.2	N24 51.3	180 51.2	N13 07.9	100 14.6	N21 49.7	203 39.5	N 2 37.9
	23	230 30.7	128 48.4	N24 51.1	195 51.9	N13 08.5	115 16.6	N21 49.7	218 41.8	N 2 38.0
			v -0.8	d 0.1	v 0.7	d 0.6	v 2.0	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
25	0	180 46.7	N20 54.8	70 15.9	15.2	N 1 39.0	15.0	56.4
	1	195 46.6	N20 55.3	84 50.2	15.2	N 1 24.0	15.0	56.3
	2	210 46.5	N20 55.7	99 24.4	15.2	N 1 09.0	15.0	56.3
	3	225 46.5	N20 56.2	113 58.7	15.3	N 0 54.0	15.0	56.3
	4	240 46.4	N20 56.6	128 33.0	15.3	N 0 39.0	15.0	56.3
M	5	255 46.3	N20 57.1	143 07.3	15.3	N 0 24.0	15.0	56.2
O								
N	6	270 46.3	N20 57.5	157 41.7	15.4	N 0 09.0	15.0	56.2
D	7	285 46.2	N20 58.0	172 16.1	15.4	S 0 05.9	15.0	56.2
A	8	300 46.2	N20 58.4	186 50.5	15.4	S 0 20.9	14.9	56.1
Y	9	315 46.1	N20 58.8	201 25.0	15.4	S 0 35.8	14.9	56.1
	10	330 46.0	N20 59.3	215 59.5	15.5	S 0 50.7	14.9	56.1
	11	345 46.0	N20 59.7	230 33.9	15.5	S 1 05.6	14.9	56.1
	12	0 45.9	N21 00.2	245 08.5	15.5	S 1 20.5	14.9	56.0
	13	15 45.8	N21 00.6	259 43.0	15.5	S 1 35.4	14.9	56.0
	14	30 45.8	N21 01.1	274 17.5	15.6	S 1 50.2	14.8	56.0
	15	45 45.7	N21 01.5	288 52.1	15.6	S 2 05.1	14.8	56.0
	16	60 45.6	N21 02.0	303 26.7	15.6	S 2 19.9	14.8	55.9
	17	75 45.6	N21 02.4	318 01.3	15.6	S 2 34.6	14.8	55.9
	18	90 45.5	N21 02.8	332 35.9	15.6	S 2 49.4	14.8	55.9
	19	105 45.4	N21 03.3	347 10.5	15.6	S 3 04.1	14.7	55.9
	20	120 45.4	N21 03.7	1 45.2	15.6	S 3 18.8	14.7	55.8
	21	135 45.3	N21 04.1	16 19.8	15.6	S 3 33.5	14.7	55.8
	22	150 45.3	N21 04.6	30 54.5	15.7	S 3 48.2	14.7	55.8
	23	165 45.2	N21 05.0	45 29.1	15.7	S 4 02.8	14.6	55.7
26	0	180 45.1	N21 05.5	60 03.8	15.7	S 4 17.4	14.6	55.7
	1	195 45.1	N21 05.9	74 38.5	15.7	S 4 32.0	14.6	55.7
	2	210 45.0	N21 06.3	89 13.1	15.7	S 4 46.5	14.5	55.7
	3	225 44.9	N21 06.8	103 47.8	15.7	S 5 01.0	14.5	55.7
	4	240 44.9	N21 07.2	118 22.5	15.7	S 5 15.5	14.5	55.6
T	5	255 44.8	N21 07.6	132 57.2	15.7	S 5 29.9	14.4	55.6
U								
E	6	270 44.7	N21 08.1	147 31.9	15.7	S 5 44.3	14.4	55.6
S	7	285 44.6	N21 08.5	162 06.5	15.7	S 5 58.7	14.4	55.6
D	8	300 44.6	N21 08.9	176 41.2	15.7	S 6 13.1	14.3	55.5
A	9	315 44.5	N21 09.4	191 15.9	15.7	S 6 27.4	14.3	55.5
Y	10	330 44.4	N21 09.8	205 50.5	15.7	S 6 41.6	14.3	55.5
	11	345 44.4	N21 10.2	220 25.2	15.7	S 6 55.9	14.2	55.5
	12	0 44.3	N21 10.6	234 59.9	15.7	S 7 10.1	14.2	55.4
	13	15 44.2	N21 11.1	249 34.5	15.6	S 7 24.2	14.2	55.4
	14	30 44.2	N21 11.5	264 09.1	15.6	S 7 38.4	14.1	55.4
	15	45 44.1	N21 11.9	278 43.8	15.6	S 7 52.4	14.1	55.4
	16	60 44.0	N21 12.4	293 18.4	15.6	S 8 06.5	14.0	55.4
	17	75 44.0	N21 12.8	307 53.0	15.6	S 8 20.5	14.0	55.3
	18	90 43.9	N21 13.2	322 27.6	15.6	S 8 34.4	14.0	55.3
	19	105 43.8	N21 13.6	337 02.1	15.6	S 8 48.3	13.9	55.3
	20	120 43.8	N21 14.1	351 36.7	15.6	S 9 02.2	13.9	55.3
	21	135 43.7	N21 14.5	6 11.2	15.5	S 9 16.0	13.8	55.2
	22	150 43.6	N21 14.9	20 45.7	15.5	S 9 29.8	13.8	55.2
	23	165 43.5	N21 15.3	35 20.2	15.5	S 9 43.5	13.7	55.2
27	0	180 43.5	N21 15.7	49 54.7	15.5	S 9 57.2	13.7	55.2
	1	195 43.4	N21 16.2	64 29.2	15.5	S10 10.9	13.6	55.2
	2	210 43.3	N21 16.6	79 03.6	15.4	S10 24.4	13.6	55.1
	3	225 43.3	N21 17.0	93 38.0	15.4	S10 38.0	13.5	55.1
	4	240 43.2	N21 17.4	108 12.4	15.4	S10 51.5	13.5	55.1
W	5	255 43.1	N21 17.8	122 46.8	15.4	S11 04.9	13.4	55.1
E								
D	6	270 43.0	N21 18.3	137 21.1	15.3	S11 18.3	13.4	55.1
N	7	285 43.0	N21 18.7	151 55.5	15.3	S11 31.6	13.3	55.0
E	8	300 42.9	N21 19.1	166 29.7	15.3	S11 44.9	13.3	55.0
S	9	315 42.8	N21 19.5	181 04.0	15.3	S11 58.1	13.2	55.0
D	10	330 42.7	N21 19.9	195 38.2	15.2	S12 11.3	13.2	55.0
A	11	345 42.7	N21 20.3	210 12.4	15.2	S12 24.4	13.1	55.0
Y								
	12	0 42.6	N21 20.7	224 46.6	15.2	S12 37.4	13.1	55.0
	13	15 42.5	N21 21.2	239 20.7	15.1	S12 50.4	13.0	54.9
	14	30 42.4	N21 21.6	253 54.9	15.1	S13 03.4	12.9	54.9
	15	45 42.4	N21 22.0	268 28.9	15.1	S13 16.3	12.9	54.9
	16	60 42.3	N21 22.4	283 03.0	15.0	S13 29.1	12.8	54.9
	17	75 42.2	N21 22.8	297 37.0	15.0	S13 41.8	12.8	54.9
	18	90 42.2	N21 23.2	312 10.9	15.0	S13 54.5	12.7	54.8
	19	105 42.1	N21 23.6	326 44.9	14.9	S14 07.2	12.6	54.8
	20	120 42.0	N21 24.0	341 18.8	14.9	S14 19.7	12.6	54.8
	21	135 41.9	N21 24.4	355 52.6	14.9	S14 32.2	12.5	54.8
	22	150 41.9	N21 24.8	10 26.4	14.8	S14 44.7	12.4	54.8
	23	165 41.8	N21 25.2	25 00.2	14.8	S14 57.1	12.4	54.8
		S.D. 15.8	d 0.4	S.D.	15.3	15.1	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.8
Achernar	335 19.8	S57 05.9
Acrux	172 58.5	S63 15.0
Adhara	255 05.3	S29 00.6
Albireo	67 02.9	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.6	N55 49.2
Alkaid	152 50.7	N49 11.0
Al Na-ir	27 31.4	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.8	N29 14.0
Altair	61 58.6	N 8 56.2
Ankaa	353 06.2	S42 09.6
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 06.8	S69 04.5
Avior	234 14.6	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.4	S52 42.7
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.8	N45 22.2
Denebola	182 23.7	N14 25.5
Diphda	348 46.4	S17 50.4
Dubhe	193 39.5	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.2	N51 28.9
Enif	33 37.6	N 9 59.7
Fomalhaut	15 13.3	S29 28.8
Gacrux	171 50.1	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.3	N23 35.2
Kaus Austr.	83 30.7	S34 22.3
Kochab	137 18.8	N74 02.8
Markab	13 28.8	N15 20.7
Menkar	314 05.3	N 4 11.6
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.3	S69 49.8
Mirfak	308 27.2	N49 57.2
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 38.8
Polaris	316 24.5	N89 21.8
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.9
Sabik	102 01.2	S15 45.6
Schedar	349 30.1	N56 40.7
Shaula	96 08.4	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.6	S43 32.6
Vega	80 32.1	N38 48.3
Zuben-ubi	136 55.3	S16 09.3

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
28	0	245 33.2	143 47.7	N24 50.9	210 52.5	N13 09.1	130 18.5	N21 49.6	233 44.0	N 2 38.1
	1	260 35.6	158 46.9	N24 50.7	225 53.2	N13 09.8	145 20.5	N21 49.5	248 46.3	N 2 38.2
	2	275 38.1	173 46.1	N24 50.5	240 53.9	N13 10.4	160 22.5	N21 49.4	263 48.5	N 2 38.2
	3	290 40.5	188 45.3	N24 50.3	255 54.5	N13 11.0	175 24.5	N21 49.4	278 50.8	N 2 38.3
	4	305 43.0	203 44.5	N24 50.2	270 55.2	N13 11.7	190 26.4	N21 49.3	293 53.0	N 2 38.4
T	5	320 45.5	218 43.7	N24 50.0	285 55.9	N13 12.3	205 28.4	N21 49.2	308 55.3	N 2 38.5
H										
U	6	335 47.9	233 42.9	N24 49.8	300 56.5	N13 12.9	220 30.4	N21 49.1	323 57.5	N 2 38.5
R	7	350 50.4	248 42.1	N24 49.6	315 57.2	N13 13.6	235 32.4	N21 49.0	338 59.8	N 2 38.6
S	8	5 52.9	263 41.3	N24 49.4	330 57.9	N13 14.2	250 34.3	N21 49.0	354 02.1	N 2 38.7
D	9	20 55.3	278 40.5	N24 49.2	345 58.5	N13 14.8	265 36.3	N21 48.9	9 04.3	N 2 38.8
A	10	35 57.8	293 39.7	N24 49.0	0 59.2	N13 15.4	280 38.3	N21 48.8	24 06.6	N 2 38.9
Y	11	51 00.3	308 38.9	N24 48.8	15 59.9	N13 16.1	295 40.3	N21 48.7	39 08.8	N 2 38.9
	12	66 02.7	323 38.1	N24 48.6	31 00.5	N13 16.7	310 42.2	N21 48.7	54 11.1	N 2 39.0
	13	81 05.2	338 37.3	N24 48.4	46 01.2	N13 17.3	325 44.2	N21 48.6	69 13.3	N 2 39.1
	14	96 07.7	353 36.6	N24 48.2	61 01.8	N13 18.0	340 46.2	N21 48.5	84 15.6	N 2 39.2
	15	111 10.1	8 35.8	N24 48.0	76 02.5	N13 18.6	355 48.2	N21 48.4	99 17.9	N 2 39.3
	16	126 12.6	23 35.0	N24 47.8	91 03.2	N13 19.2	10 50.1	N21 48.4	114 20.1	N 2 39.3
	17	141 15.0	38 34.2	N24 47.6	106 03.8	N13 19.8	25 52.1	N21 48.3	129 22.4	N 2 39.4
	18	156 17.5	53 33.4	N24 47.4	121 04.5	N13 20.5	40 54.1	N21 48.2	144 24.6	N 2 39.5
	19	171 20.0	68 32.6	N24 47.2	136 05.2	N13 21.1	55 56.1	N21 48.1	159 26.9	N 2 39.6
	20	186 22.4	83 31.8	N24 47.0	151 05.8	N13 21.7	70 58.0	N21 48.0	174 29.2	N 2 39.6
	21	201 24.9	98 31.0	N24 46.8	166 06.5	N13 22.3	86 00.0	N21 48.0	189 31.4	N 2 39.7
	22	216 27.4	113 30.2	N24 46.6	181 07.2	N13 23.0	101 02.0	N21 47.9	204 33.7	N 2 39.8
	23	231 29.8	128 29.4	N24 46.4	196 07.8	N13 23.6	116 04.0	N21 47.8	219 35.9	N 2 39.9
29	0	246 32.3	143 28.7	N24 46.1	211 08.5	N13 24.2	131 05.9	N21 47.7	234 38.2	N 2 40.0
	1	261 34.8	158 27.9	N24 45.9	226 09.2	N13 24.8	146 07.9	N21 47.7	249 40.4	N 2 40.0
	2	276 37.2	173 27.1	N24 45.7	241 09.8	N13 25.5	161 09.9	N21 47.6	264 42.7	N 2 40.1
	3	291 39.7	188 26.3	N24 45.5	256 10.5	N13 26.1	176 11.8	N21 47.5	279 45.0	N 2 40.2
	4	306 42.1	203 25.5	N24 45.3	271 11.1	N13 26.7	191 13.8	N21 47.4	294 47.2	N 2 40.3
F	5	321 44.6	218 24.7	N24 45.1	286 11.8	N13 27.3	206 15.8	N21 47.4	309 49.5	N 2 40.3
R										
I	6	336 47.1	233 23.9	N24 44.8	301 12.5	N13 28.0	221 17.8	N21 47.3	324 51.7	N 2 40.4
D	7	351 49.5	248 23.2	N24 44.6	316 13.1	N13 28.6	236 19.7	N21 47.2	339 54.0	N 2 40.5
A	8	6 52.0	263 22.4	N24 44.4	331 13.8	N13 29.2	251 21.7	N21 47.1	354 56.3	N 2 40.6
Y	9	21 54.5	278 21.6	N24 44.2	346 14.5	N13 29.8	266 23.7	N21 47.0	9 58.5	N 2 40.6
	10	36 56.9	293 20.8	N24 43.9	1 15.1	N13 30.5	281 25.7	N21 47.0	25 00.8	N 2 40.7
	11	51 59.4	308 20.0	N24 43.7	16 15.8	N13 31.1	296 27.6	N21 46.9	40 03.0	N 2 40.8
	12	67 01.9	323 19.2	N24 43.5	31 16.5	N13 31.7	311 29.6	N21 46.8	55 05.3	N 2 40.9
	13	82 04.3	338 18.4	N24 43.3	46 17.1	N13 32.3	326 31.6	N21 46.7	70 07.6	N 2 41.0
	14	97 06.8	353 17.7	N24 43.0	61 17.8	N13 33.0	341 33.5	N21 46.7	85 09.8	N 2 41.0
	15	112 09.3	8 16.9	N24 42.8	76 18.4	N13 33.6	356 35.5	N21 46.6	100 12.1	N 2 41.1
	16	127 11.7	23 16.1	N24 42.6	91 19.1	N13 34.2	11 37.5	N21 46.5	115 14.3	N 2 41.2
	17	142 14.2	38 15.3	N24 42.3	106 19.8	N13 34.8	26 39.4	N21 46.4	130 16.6	N 2 41.3
	18	157 16.6	53 14.5	N24 42.1	121 20.4	N13 35.4	41 41.4	N21 46.3	145 18.9	N 2 41.3
	19	172 19.1	68 13.8	N24 41.9	136 21.1	N13 36.1	56 43.4	N21 46.3	160 21.1	N 2 41.4
	20	187 21.6	83 13.0	N24 41.6	151 21.8	N13 36.7	71 45.4	N21 46.2	175 23.4	N 2 41.5
	21	202 24.0	98 12.2	N24 41.4	166 22.4	N13 37.3	86 47.3	N21 46.1	190 25.6	N 2 41.6
	22	217 26.5	113 11.4	N24 41.2	181 23.1	N13 37.9	101 49.3	N21 46.0	205 27.9	N 2 41.6
	23	232 29.0	128 10.6	N24 40.9	196 23.7	N13 38.5	116 51.3	N21 45.9	220 30.2	N 2 41.7
30	0	247 31.4	143 09.9	N24 40.7	211 24.4	N13 39.2	131 53.2	N21 45.9	235 32.4	N 2 41.8
	1	262 33.9	158 09.1	N24 40.4	226 25.1	N13 39.8	146 55.2	N21 45.8	250 34.7	N 2 41.9
	2	277 36.4	173 08.3	N24 40.2	241 25.7	N13 40.4	161 57.2	N21 45.7	265 36.9	N 2 42.0
	3	292 38.8	188 07.5	N24 39.9	256 26.4	N13 41.0	176 59.1	N21 45.6	280 39.2	N 2 42.0
	4	307 41.3	203 06.7	N24 39.7	271 27.1	N13 41.6	192 01.1	N21 45.6	295 41.5	N 2 42.1
S	5	322 43.8	218 06.0	N24 39.5	286 27.7	N13 42.3	207 03.1	N21 45.5	310 43.7	N 2 42.2
A										
T	6	337 46.2	233 05.2	N24 39.2	301 28.4	N13 42.9	222 05.1	N21 45.4	325 46.0	N 2 42.3
U	7	352 48.7	248 04.4	N24 39.0	316 29.0	N13 43.5	237 07.0	N21 45.3	340 48.2	N 2 42.3
R	8	7 51.1	263 03.6	N24 38.7	331 29.7	N13 44.1	252 09.0	N21 45.2	355 50.5	N 2 42.4
D	9	22 53.6	278 02.9	N24 38.5	346 30.4	N13 44.7	267 11.0	N21 45.2	10 52.8	N 2 42.5
A	10	37 56.1	293 02.1	N24 38.2	1 31.0	N13 45.3	282 12.9	N21 45.1	25 55.0	N 2 42.6
Y	11	52 58.5	308 01.3	N24 37.9	16 31.7	N13 46.0	297 14.9	N21 45.0	40 57.3	N 2 42.6
	12	68 01.0	323 00.5	N24 37.7	31 32.3	N13 46.6	312 16.9	N21 44.9	55 59.6	N 2 42.7
	13	83 03.5	337 59.8	N24 37.4	46 33.0	N13 47.2	327 18.8	N21 44.8	71 01.8	N 2 42.8
	14	98 05.9	352 59.0	N24 37.2	61 33.7	N13 47.8	342 20.8	N21 44.8	86 04.1	N 2 42.9
	15	113 08.4	7 58.2	N24 36.9	76 34.3	N13 48.4	357 22.8	N21 44.7	101 06.3	N 2 42.9
	16	128 10.9	22 57.4	N24 36.7	91 35.0	N13 49.0	12 24.7	N21 44.6	116 08.6	N 2 43.0
	17	143 13.3	37 56.7	N24 36.4	106 35.7	N13 49.7	27 26.7	N21 44.5	131 10.9	N 2 43.1
	18	158 15.8	52 55.9	N24 36.1	121 36.3	N13 50.3	42 28.7	N21 44.5	146 13.1	N 2 43.2
	19	173 18.3	67 55.1	N24 35.9	136 37.0	N13 50.9	57 30.6	N21 44.4	161 15.4	N 2 43.2
	20	188 20.7	82 54.3	N24 35.6	151 37.6	N13 51.5	72 32.6	N21 44.3	176 17.7	N 2 43.3
	21	203 23.2	97 53.6	N24 35.3	166 38.3	N13 52.1	87 34.6	N21 44.2	191 19.9	N 2 43.4
	22	218 25.6	112 52.8	N24 35.1	181 39.0	N13 52.7	102 36.5	N21 44.1	206 22.2	N 2 43.5
	23	233 28.1	127 52.0	N24 34.8	196 39.6	N13 53.3	117 38.5	N21 44.1	221 24.5	N 2 43.5
			v -0.8	d 0.2	v 0.7	d 0.6	v 2.0	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
28	0	180 41.7	N21 25.7	39 33.9	14.7	S15 09.4	12.3	54.7
	1	195 41.6	N21 26.1	54 07.6	14.7	S15 21.6	12.2	54.7
	2	210 41.5	N21 26.5	68 41.3	14.7	S15 33.8	12.2	54.7
	3	225 41.5	N21 26.9	83 14.9	14.6	S15 45.9	12.1	54.7
	4	240 41.4	N21 27.3	97 48.4	14.6	S15 57.9	12.0	54.7
T	5	255 41.3	N21 27.7	112 22.0	14.5	S16 09.9	12.0	54.7
H								
U	6	270 41.2	N21 28.1	126 55.4	14.5	S16 21.8	11.9	54.7
R	7	285 41.2	N21 28.5	141 28.9	14.4	S16 33.6	11.8	54.6
S	8	300 41.1	N21 28.9	156 02.3	14.4	S16 45.4	11.8	54.6
D	9	315 41.0	N21 29.3	170 35.6	14.3	S16 57.1	11.7	54.6
A	10	330 40.9	N21 29.7	185 08.9	14.3	S17 08.7	11.6	54.6
Y	11	345 40.9	N21 30.1	199 42.1	14.2	S17 20.2	11.5	54.6
	12	0 40.8	N21 30.5	214 15.3	14.2	S17 31.6	11.5	54.6
	13	15 40.7	N21 30.9	228 48.5	14.1	S17 43.0	11.4	54.6
	14	30 40.6	N21 31.3	243 21.6	14.1	S17 54.3	11.3	54.5
	15	45 40.5	N21 31.7	257 54.6	14.0	S18 05.5	11.2	54.5
	16	60 40.5	N21 32.1	272 27.6	14.0	S18 16.7	11.1	54.5
	17	75 40.4	N21 32.5	287 00.6	13.9	S18 27.7	11.1	54.5
	18	90 40.3	N21 32.8	301 33.5	13.9	S18 38.7	11.0	54.5
	19	105 40.2	N21 33.2	316 06.3	13.8	S18 49.6	10.9	54.5
	20	120 40.1	N21 33.6	330 39.1	13.8	S19 00.4	10.8	54.5
	21	135 40.1	N21 34.0	345 11.8	13.7	S19 11.1	10.7	54.4
	22	150 40.0	N21 34.4	359 44.5	13.7	S19 21.8	10.6	54.4
	23	165 39.9	N21 34.8	14 17.2	13.6	S19 32.3	10.6	54.4
29	0	180 39.8	N21 35.2	28 49.7	13.6	S19 42.8	10.5	54.4
	1	195 39.7	N21 35.6	43 22.3	13.5	S19 53.2	10.4	54.4
	2	210 39.7	N21 36.0	57 54.7	13.5	S20 03.5	10.3	54.4
	3	225 39.6	N21 36.4	72 27.2	13.4	S20 13.7	10.2	54.4
	4	240 39.5	N21 36.7	86 59.5	13.4	S20 23.8	10.1	54.4
F	5	255 39.4	N21 37.1	101 31.8	13.3	S20 33.9	10.0	54.4
R								
I	6	270 39.3	N21 37.5	116 04.1	13.3	S20 43.8	9.9	54.3
D	7	285 39.3	N21 37.9	130 36.3	13.2	S20 53.6	9.8	54.3
A	8	300 39.2	N21 38.3	145 08.4	13.1	S21 03.4	9.8	54.3
Y	9	315 39.1	N21 38.7	159 40.5	13.1	S21 13.1	9.7	54.3
	10	330 39.0	N21 39.1	174 12.5	13.0	S21 22.6	9.6	54.3
	11	345 38.9	N21 39.4	188 44.5	13.0	S21 32.1	9.5	54.3
	12	0 38.8	N21 39.8	203 16.4	12.9	S21 41.5	9.4	54.3
	13	15 38.8	N21 40.2	217 48.3	12.9	S21 50.7	9.3	54.3
	14	30 38.7	N21 40.6	232 20.1	12.8	S21 59.9	9.2	54.3
	15	45 38.6	N21 41.0	246 51.8	12.7	S22 09.0	9.1	54.3
	16	60 38.5	N21 41.3	261 23.5	12.7	S22 18.0	9.0	54.2
	17	75 38.4	N21 41.7	275 55.1	12.6	S22 26.9	8.9	54.2
	18	90 38.3	N21 42.1	290 26.7	12.6	S22 35.7	8.8	54.2
	19	105 38.3	N21 42.5	304 58.2	12.5	S22 44.3	8.7	54.2
	20	120 38.2	N21 42.9	319 29.7	12.5	S22 52.9	8.6	54.2
	21	135 38.1	N21 43.2	334 01.1	12.4	S23 01.4	8.5	54.2
	22	150 38.0	N21 43.6	348 32.4	12.3	S23 09.8	8.4	54.2
	23	165 37.9	N21 44.0	3 03.7	12.3	S23 18.0	8.3	54.2
30	0	180 37.8	N21 44.4	17 34.9	12.2	S23 26.2	8.2	54.2
	1	195 37.7	N21 44.7	32 06.1	12.2	S23 34.3	8.1	54.2
	2	210 37.7	N21 45.1	46 37.2	12.1	S23 42.2	7.9	54.2
	3	225 37.6	N21 45.5	61 08.3	12.1	S23 50.0	7.8	54.1
	4	240 37.5	N21 45.9	75 39.3	12.0	S23 57.8	7.7	54.1
S	5	255 37.4	N21 46.2	90 10.3	12.0	S24 05.4	7.6	54.1
A								
T	6	270 37.3	N21 46.6	104 41.2	11.9	S24 12.9	7.5	54.1
U	7	285 37.2	N21 47.0	119 12.0	11.8	S24 20.3	7.4	54.1
R	8	300 37.1	N21 47.3	133 42.8	11.8	S24 27.6	7.3	54.1
D	9	315 37.1	N21 47.7	148 13.6	11.7	S24 34.8	7.2	54.1
A	10	330 37.0	N21 48.1	162 44.2	11.7	S24 41.9	7.1	54.1
Y	11	345 36.9	N21 48.4	177 14.9	11.6	S24 48.8	7.0	54.1
	12	0 36.8	N21 48.8	191 45.5	11.6	S24 55.6	6.8	54.1
	13	15 36.7	N21 49.2	206 16.0	11.5	S25 02.4	6.7	54.1
	14	30 36.6	N21 49.5	220 46.5	11.5	S25 09.0	6.6	54.1
	15	45 36.5	N21 49.9	235 16.9	11.4	S25 15.5	6.5	54.1
	16	60 36.4	N21 50.3	249 47.3	11.4	S25 21.8	6.4	54.1
	17	75 36.4	N21 50.6	264 17.6	11.3	S25 28.1	6.3	54.1
	18	90 36.3	N21 51.0	278 47.9	11.3	S25 34.2	6.1	54.1
	19	105 36.2	N21 51.4	293 18.1	11.2	S25 40.3	6.0	54.0
	20	120 36.1	N21 51.7	307 48.3	11.2	S25 46.2	5.9	54.0
	21	135 36.0	N21 52.1	322 18.4	11.1	S25 51.9	5.8	54.0
	22	150 35.9	N21 52.4	336 48.5	11.1	S25 57.6	5.7	54.0
	23	165 35.8	N21 52.8	351 18.5	11.0	S26 03.1	5.5	54.0
		S.D. 15.8	d 0.4	S.D. 14.9		14.8		14.7

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.8
Achernar	335 19.7	S57 05.9
Acrux	172 58.6	S63 15.0
Adhara	255 05.3	S29 00.6
Albireo	67 02.9	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.6	N55 49.2
Alkaid	152 50.7	N49 11.0
Al Na-ir	27 31.4	S46 49.8
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.8	N29 14.1
Altair	61 58.6	N 8 56.2
Ankaa	353 06.2	S42 09.6
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.6
Atria	107 06.8	S69 04.6
Avior	234 14.6	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.4	S52 42.7
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.8	N45 22.2
Denebola	182 23.7	N14 25.5
Diphda	348 46.4	S17 50.4
Dubhe	193 39.5	N61 36.7
Elnath	278 00.9	N28 37.8
Eltanin	90 41.2	N51 28.9
Enif	33 37.5	N 9 59.7
Fomalhaut	15 13.3	S29 28.8
Gacrux	171 50.2	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.2	N23 35.2
Kaus Austr.	83 30.7	S34 22.3
Kochab	137 18.9	N74 02.9
Markab	13 28.8	N15 20.7
Menkar	314 05.3	N 4 11.6
Menkent	147 56.0	S36 30.2
Miaplacidus	221 38.3	S69 49.8
Mirfak	308 27.2	N49 57.2
Nunki	75 46.0	S26 15.8
Peacock	53 03.5	S56 38.8
Polaris	316 23.6	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.9
Sabik	102 01.2	S15 45.6
Schedar	349 30.1	N56 40.7
Shaula	96 08.4	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.6
Vega	80 32.1	N38 48.3
Zuben-ubi	136 55.3	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
31	0	248 30.6	142 51.3	N24 34.5	211 40.3	N13 54.0	132 40.5	N21 44.0	236 26.7	N 2 43.6
	1	263 33.0	157 50.5	N24 34.3	226 40.9	N13 54.6	147 42.4	N21 43.9	251 29.0	N 2 43.7
	2	278 35.5	172 49.7	N24 34.0	241 41.6	N13 55.2	162 44.4	N21 43.8	266 31.2	N 2 43.8
	3	293 38.0	187 48.9	N24 33.7	256 42.3	N13 55.8	177 46.4	N21 43.7	281 33.5	N 2 43.8
	4	308 40.4	202 48.2	N24 33.4	271 42.9	N13 56.4	192 48.3	N21 43.7	296 35.8	N 2 43.9
S	5	323 42.9	217 47.4	N24 33.2	286 43.6	N13 57.0	207 50.3	N21 43.6	311 38.0	N 2 44.0
U										
N	6	338 45.4	232 46.6	N24 32.9	301 44.2	N13 57.6	222 52.3	N21 43.5	326 40.3	N 2 44.1
D	7	353 47.8	247 45.9	N24 32.6	316 44.9	N13 58.2	237 54.2	N21 43.4	341 42.6	N 2 44.1
A	8	8 50.3	262 45.1	N24 32.3	331 45.6	N13 58.9	252 56.2	N21 43.3	356 44.8	N 2 44.2
Y	9	23 52.8	277 44.3	N24 32.0	346 46.2	N13 59.5	267 58.2	N21 43.3	11 47.1	N 2 44.3
	10	38 55.2	292 43.6	N24 31.8	1 46.9	N14 00.1	283 00.1	N21 43.2	26 49.4	N 2 44.4
	11	53 57.7	307 42.8	N24 31.5	16 47.5	N14 00.7	298 02.1	N21 43.1	41 51.6	N 2 44.4
	12	69 00.1	322 42.0	N24 31.2	31 48.2	N14 01.3	313 04.1	N21 43.0	56 53.9	N 2 44.5
	13	84 02.6	337 41.3	N24 30.9	46 48.9	N14 01.9	328 06.0	N21 42.9	71 56.1	N 2 44.6
	14	99 05.1	352 40.5	N24 30.6	61 49.5	N14 02.5	343 08.0	N21 42.9	86 58.4	N 2 44.7
	15	114 07.5	7 39.7	N24 30.3	76 50.2	N14 03.1	358 10.0	N21 42.8	102 00.7	N 2 44.7
	16	129 10.0	22 39.0	N24 30.1	91 50.8	N14 03.7	13 11.9	N21 42.7	117 02.9	N 2 44.8
	17	144 12.5	37 38.2	N24 29.8	106 51.5	N14 04.4	28 13.9	N21 42.6	132 05.2	N 2 44.9
	18	159 14.9	52 37.4	N24 29.5	121 52.2	N14 05.0	43 15.9	N21 42.5	147 07.5	N 2 45.0
	19	174 17.4	67 36.7	N24 29.2	136 52.8	N14 05.6	58 17.8	N21 42.5	162 09.7	N 2 45.0
	20	189 19.9	82 35.9	N24 28.9	151 53.5	N14 06.2	73 19.8	N21 42.4	177 12.0	N 2 45.1
	21	204 22.3	97 35.2	N24 28.6	166 54.1	N14 06.8	88 21.8	N21 42.3	192 14.3	N 2 45.2
	22	219 24.8	112 34.4	N24 28.3	181 54.8	N14 07.4	103 23.7	N21 42.2	207 16.5	N 2 45.3
	23	234 27.2	127 33.6	N24 28.0	196 55.5	N14 08.0	118 25.7	N21 42.1	222 18.8	N 2 45.3
1	0	249 29.7	142 32.9	N24 27.7	211 56.1	N14 08.6	133 27.6	N21 42.1	237 21.1	N 2 45.4
	1	264 32.2	157 32.1	N24 27.4	226 56.8	N14 09.2	148 29.6	N21 42.0	252 23.3	N 2 45.5
	2	279 34.6	172 31.4	N24 27.1	241 57.4	N14 09.8	163 31.6	N21 41.9	267 25.6	N 2 45.6
	3	294 37.1	187 30.6	N24 26.8	256 58.1	N14 10.4	178 33.5	N21 41.8	282 27.9	N 2 45.6
	4	309 39.6	202 29.8	N24 26.5	271 58.8	N14 11.0	193 35.5	N21 41.7	297 30.1	N 2 45.7
M	5	324 42.0	217 29.1	N24 26.2	286 59.4	N14 11.6	208 37.5	N21 41.7	312 32.4	N 2 45.8
O										
N	6	339 44.5	232 28.3	N24 25.9	302 00.1	N14 12.2	223 39.4	N21 41.6	327 34.7	N 2 45.9
D	7	354 47.0	247 27.6	N24 25.6	317 00.7	N14 12.9	238 41.4	N21 41.5	342 36.9	N 2 45.9
A	8	9 49.4	262 26.8	N24 25.3	332 01.4	N14 13.5	253 43.4	N21 41.4	357 39.2	N 2 46.0
Y	9	24 51.9	277 26.0	N24 25.0	347 02.0	N14 14.1	268 45.3	N21 41.3	12 41.5	N 2 46.1
	10	39 54.4	292 25.3	N24 24.7	2 02.7	N14 14.7	283 47.3	N21 41.3	27 43.7	N 2 46.1
	11	54 56.8	307 24.5	N24 24.3	17 03.4	N14 15.3	298 49.2	N21 41.2	42 46.0	N 2 46.2
	12	69 59.3	322 23.8	N24 24.0	32 04.0	N14 15.9	313 51.2	N21 41.1	57 48.3	N 2 46.3
	13	85 01.7	337 23.0	N24 23.7	47 04.7	N14 16.5	328 53.2	N21 41.0	72 50.5	N 2 46.4
	14	100 04.2	352 22.3	N24 23.4	62 05.3	N14 17.1	343 55.1	N21 40.9	87 52.8	N 2 46.4
	15	115 06.7	7 21.5	N24 23.1	77 06.0	N14 17.7	358 57.1	N21 40.8	102 55.1	N 2 46.5
	16	130 09.1	22 20.7	N24 22.8	92 06.6	N14 18.3	13 59.1	N21 40.8	117 57.3	N 2 46.6
	17	145 11.6	37 20.0	N24 22.5	107 07.3	N14 18.9	29 01.0	N21 40.7	132 59.6	N 2 46.7
	18	160 14.1	52 19.2	N24 22.1	122 08.0	N14 19.5	44 03.0	N21 40.6	148 01.9	N 2 46.7
	19	175 16.5	67 18.5	N24 21.8	137 08.6	N14 20.1	59 04.9	N21 40.5	163 04.1	N 2 46.8
	20	190 19.0	82 17.7	N24 21.5	152 09.3	N14 20.7	74 06.9	N21 40.4	178 06.4	N 2 46.9
	21	205 21.5	97 17.0	N24 21.2	167 09.9	N14 21.3	89 08.9	N21 40.4	193 08.7	N 2 46.9
	22	220 23.9	112 16.2	N24 20.8	182 10.6	N14 21.9	104 10.8	N21 40.3	208 11.0	N 2 47.0
	23	235 26.4	127 15.5	N24 20.5	197 11.3	N14 22.5	119 12.8	N21 40.2	223 13.2	N 2 47.1
2	0	250 28.9	142 14.7	N24 20.2	212 11.9	N14 23.1	134 14.7	N21 40.1	238 15.5	N 2 47.2
	1	265 31.3	157 14.0	N24 19.9	227 12.6	N14 23.7	149 16.7	N21 40.0	253 17.8	N 2 47.2
	2	280 33.8	172 13.2	N24 19.5	242 13.2	N14 24.3	164 18.7	N21 40.0	268 20.0	N 2 47.3
	3	295 36.2	187 12.5	N24 19.2	257 13.9	N14 24.9	179 20.6	N21 39.9	283 22.3	N 2 47.4
	4	310 38.7	202 11.7	N24 18.9	272 14.5	N14 25.5	194 22.6	N21 39.8	298 24.6	N 2 47.5
T	5	325 41.2	217 11.0	N24 18.5	287 15.2	N14 26.1	209 24.5	N21 39.7	313 26.8	N 2 47.5
U										
E	6	340 43.6	232 10.2	N24 18.2	302 15.9	N14 26.7	224 26.5	N21 39.6	328 29.1	N 2 47.6
S	7	355 46.1	247 09.5	N24 17.9	317 16.5	N14 27.3	239 28.5	N21 39.5	343 31.4	N 2 47.7
D	8	10 48.6	262 08.7	N24 17.5	332 17.2	N14 27.9	254 30.4	N21 39.5	358 33.6	N 2 47.7
A	9	25 51.0	277 08.0	N24 17.2	347 17.8	N14 28.5	269 32.4	N21 39.4	13 35.9	N 2 47.8
Y	10	40 53.5	292 07.2	N24 16.9	2 18.5	N14 29.1	284 34.3	N21 39.3	28 38.2	N 2 47.9
	11	55 56.0	307 06.5	N24 16.5	17 19.1	N14 29.7	299 36.3	N21 39.2	43 40.5	N 2 48.0
	12	70 58.4	322 05.7	N24 16.2	32 19.8	N14 30.3	314 38.3	N21 39.1	58 42.7	N 2 48.0
	13	86 00.9	337 05.0	N24 15.9	47 20.4	N14 30.9	329 40.2	N21 39.1	73 45.0	N 2 48.1
	14	101 03.4	352 04.2	N24 15.5	62 21.1	N14 31.5	344 42.2	N21 39.0	88 47.3	N 2 48.2
	15	116 05.8	7 03.5	N24 15.2	77 21.8	N14 32.1	359 44.1	N21 38.9	103 49.5	N 2 48.3
	16	131 08.3	22 02.8	N24 14.8	92 22.4	N14 32.7	14 46.1	N21 38.8	118 51.8	N 2 48.3
	17	146 10.7	37 02.0	N24 14.5	107 23.1	N14 33.3	29 48.1	N21 38.7	133 54.1	N 2 48.4
	18	161 13.2	52 01.3	N24 14.1	122 23.7	N14 33.9	44 50.0	N21 38.6	148 56.3	N 2 48.5
	19	176 15.7	67 00.5	N24 13.8	137 24.4	N14 34.5	59 52.0	N21 38.6	163 58.6	N 2 48.5
	20	191 18.1	81 59.8	N24 13.4	152 25.0	N14 35.1	74 53.9	N21 38.5	179 00.9	N 2 48.6
	21	206 20.6	96 59.0	N24 13.1	167 25.7	N14 35.7	89 55.9	N21 38.4	194 03.2	N 2 48.7
	22	221 23.1	111 58.3	N24 12.7	182 26.4	N14 36.3	104 57.9	N21 38.3	209 05.4	N 2 48.8
	23	236 25.5	126 57.6	N24 12.4	197 27.0	N14 36.9	119 59.8	N21 38.2	224 07.7	N 2 48.8
			v -0.8	d 0.3	v 0.7	d 0.6	v 2.0	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
31	0	180 35.7	N21 53.2	5 48.5	11.0	S26 08.5	5.4	54.0
	1	195 35.6	N21 53.5	20 18.4	10.9	S26 13.8	5.3	54.0
	2	210 35.6	N21 53.9	34 48.4	10.9	S26 19.0	5.2	54.0
	3	225 35.5	N21 54.2	49 18.2	10.9	S26 24.1	5.0	54.0
	4	240 35.4	N21 54.6	63 48.0	10.8	S26 29.0	4.9	54.0
S	5	255 35.3	N21 54.9	78 17.8	10.8	S26 33.8	4.8	54.0
U								
N	6	270 35.2	N21 55.3	92 47.5	10.7	S26 38.4	4.7	54.0
D	7	285 35.1	N21 55.6	107 17.2	10.7	S26 43.0	4.5	54.0
A	8	300 35.0	N21 56.0	121 46.9	10.7	S26 47.4	4.4	54.0
Y	9	315 34.9	N21 56.4	136 16.5	10.6	S26 51.7	4.3	54.0
	10	330 34.8	N21 56.7	150 46.1	10.6	S26 55.9	4.2	54.0
	11	345 34.7	N21 57.1	165 15.6	10.5	S26 59.9	4.0	54.0
	12	0 34.7	N21 57.4	179 45.1	10.5	S27 03.8	3.9	54.0
	13	15 34.6	N21 57.8	194 14.6	10.5	S27 07.6	3.8	54.0
	14	30 34.5	N21 58.1	208 44.0	10.4	S27 11.2	3.6	54.0
	15	45 34.4	N21 58.5	223 13.5	10.4	S27 14.7	3.5	54.0
	16	60 34.3	N21 58.8	237 42.8	10.4	S27 18.1	3.4	54.0
	17	75 34.2	N21 59.1	252 12.2	10.3	S27 21.4	3.3	54.0
	18	90 34.1	N21 59.5	266 41.5	10.3	S27 24.5	3.1	54.0
	19	105 34.0	N21 59.8	281 10.8	10.3	S27 27.5	3.0	54.0
	20	120 33.9	N22 00.2	295 40.0	10.3	S27 30.4	2.9	54.0
	21	135 33.8	N22 00.5	310 09.3	10.2	S27 33.1	2.7	54.0
	22	150 33.7	N22 00.9	324 38.5	10.2	S27 35.7	2.6	54.0
	23	165 33.6	N22 01.2	339 07.7	10.2	S27 38.2	2.5	54.0
1	0	180 33.5	N22 01.6	353 36.8	10.2	S27 40.5	2.3	54.0
	1	195 33.4	N22 01.9	8 06.0	10.1	S27 42.7	2.2	54.0
	2	210 33.4	N22 02.2	22 35.1	10.1	S27 44.7	2.1	54.0
	3	225 33.3	N22 02.6	37 04.2	10.1	S27 46.7	1.9	54.0
	4	240 33.2	N22 02.9	51 33.3	10.1	S27 48.5	1.8	54.0
M	5	255 33.1	N22 03.3	66 02.3	10.1	S27 50.1	1.7	54.0
O								
N	6	270 33.0	N22 03.6	80 31.4	10.1	S27 51.7	1.5	54.0
D	7	285 32.9	N22 03.9	95 00.4	10.0	S27 53.1	1.4	54.0
A	8	300 32.8	N22 04.3	109 29.5	10.0	S27 54.3	1.3	54.0
Y	9	315 32.7	N22 04.6	123 58.5	10.0	S27 55.4	1.1	54.0
	10	330 32.6	N22 05.0	138 27.5	10.0	S27 56.4	1.0	54.0
	11	345 32.5	N22 05.3	152 56.5	10.0	S27 57.3	0.9	54.0
	12	0 32.4	N22 05.6	167 25.5	10.0	S27 58.0	0.7	54.0
	13	15 32.3	N22 06.0	181 54.4	10.0	S27 58.6	0.6	54.0
	14	30 32.2	N22 06.3	196 23.4	10.0	S27 59.0	0.4	54.0
	15	45 32.1	N22 06.6	210 52.4	10.0	S27 59.3	0.3	54.0
	16	60 32.0	N22 07.0	225 21.3	10.0	S27 59.5	0.2	54.0
	17	75 31.9	N22 07.3	239 50.3	10.0	S27 59.6	0.0	54.0
	18	90 31.8	N22 07.6	254 19.2	10.0	S27 59.5	0.1	54.0
	19	105 31.7	N22 08.0	268 48.2	10.0	S27 59.2	0.2	54.0
	20	120 31.6	N22 08.3	283 17.2	10.0	S27 58.9	0.4	54.0
	21	135 31.5	N22 08.6	297 46.1	10.0	S27 58.4	0.5	54.0
	22	150 31.4	N22 08.9	312 15.1	10.0	S27 57.7	0.6	54.0
	23	165 31.3	N22 09.3	326 44.1	10.0	S27 57.0	0.8	54.0
2	0	180 31.2	N22 09.6	341 13.1	10.0	S27 56.0	0.9	54.0
	1	195 31.1	N22 09.9	355 42.1	10.0	S27 55.0	1.0	54.0
	2	210 31.0	N22 10.2	10 11.1	10.0	S27 53.8	1.2	54.0
	3	225 30.9	N22 10.6	24 40.1	10.0	S27 52.5	1.3	54.0
	4	240 30.8	N22 10.9	39 09.1	10.0	S27 51.0	1.5	54.0
T	5	255 30.7	N22 11.2	53 38.1	10.0	S27 49.5	1.6	54.0
U								
E	6	270 30.7	N22 11.5	68 07.2	10.0	S27 47.7	1.7	54.0
S	7	285 30.6	N22 11.9	82 36.2	10.1	S27 45.9	1.9	54.0
D	8	300 30.5	N22 12.2	97 05.3	10.1	S27 43.9	2.0	54.0
A	9	315 30.4	N22 12.5	111 34.4	10.1	S27 41.8	2.1	54.0
Y	10	330 30.3	N22 12.8	126 03.5	10.1	S27 39.5	2.3	54.0
	11	345 30.2	N22 13.1	140 32.6	10.1	S27 37.1	2.4	54.0
	12	0 30.1	N22 13.5	155 01.8	10.2	S27 34.6	2.5	54.0
	13	15 30.0	N22 13.8	169 31.0	10.2	S27 31.9	2.7	54.0
	14	30 29.9	N22 14.1	184 00.2	10.2	S27 29.2	2.8	54.1
	15	45 29.8	N22 14.4	198 29.4	10.2	S27 26.2	2.9	54.1
	16	60 29.7	N22 14.7	212 58.6	10.2	S27 23.2	3.1	54.1
	17	75 29.6	N22 15.0	227 27.9	10.3	S27 20.0	3.2	54.1
	18	90 29.5	N22 15.4	241 57.2	10.3	S27 16.7	3.3	54.1
	19	105 29.4	N22 15.7	256 26.5	10.3	S27 13.2	3.4	54.1
	20	120 29.2	N22 16.0	270 55.9	10.4	S27 09.6	3.6	54.1
	21	135 29.1	N22 16.3	285 25.3	10.4	S27 05.9	3.7	54.1
	22	150 29.0	N22 16.6	299 54.7	10.4	S27 02.1	3.8	54.1
	23	165 28.9	N22 16.9	314 24.2	10.5	S26 58.1	4.0	54.1
		S.D. 15.8	d 0.3	S.D. 14.7		14.7	14.7	

Name	SHA ° '	Dec ° '
Acamar	315 11.3	S40 11.8
Achernar	335 19.7	S57 05.9
Acrux	172 58.6	S63 15.0
Adhara	255 05.3	S29 00.6
Albireo	67 02.8	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.6	N55 49.2
Alkaid	152 50.7	N49 11.0
Al Na-ir	27 31.3	S46 49.7
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.7	N29 14.1
Altair	61 58.6	N 8 56.2
Ankaa	353 06.2	S42 09.6
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.8	S69 04.6
Avior	234 14.7	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.4	S52 42.7
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.8	N45 22.2
Denebola	182 23.7	N14 25.5
Diphda	348 46.3	S17 50.4
Dubhe	193 39.5	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.2	N51 28.9
Enif	33 37.5	N 9 59.7
Fomalhaut	15 13.2	S29 28.8
Gacrux	171 50.2	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.2	N23 35.2
Kaus Austr.	83 30.7	S34 22.3
Kochab	137 18.9	N74 02.9
Markab	13 28.8	N15 20.7
Menkar	314 05.2	N 4 11.6
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.4	S69 49.8
Mirfak	308 27.2	N49 57.2
Nunki	75 46.0	S26 15.8
Peacock	53 03.5	S56 38.8
Polaris	316 22.6	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.9
Sabik	102 01.1	S15 45.5
Schedar	349 30.0	N56 40.7
Shaula	96 08.4	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.6
Vega	80 32.1	N38 48.3
Zuben-ubi	136 55.3	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
3	0	251 28.0	141 56.8	N24 12.0	212 27.7	N14 37.5	135 01.8	N21 38.1	239 10.0	N 2 48.9
	1	266 30.5	156 56.1	N24 11.7	227 28.3	N14 38.1	150 03.7	N21 38.1	254 12.2	N 2 49.0
	2	281 32.9	171 55.3	N24 11.3	242 29.0	N14 38.7	165 05.7	N21 38.0	269 14.5	N 2 49.0
	3	296 35.4	186 54.6	N24 11.0	257 29.6	N14 39.3	180 07.6	N21 37.9	284 16.8	N 2 49.1
	4	311 37.9	201 53.9	N24 10.6	272 30.3	N14 39.8	195 09.6	N21 37.8	299 19.1	N 2 49.2
W	5	326 40.3	216 53.1	N24 10.2	287 30.9	N14 40.4	210 11.6	N21 37.7	314 21.3	N 2 49.3
E										
D	6	341 42.8	231 52.4	N24 09.9	302 31.6	N14 41.0	225 13.5	N21 37.6	329 23.6	N 2 49.3
N	7	356 45.2	246 51.6	N24 09.5	317 32.3	N14 41.6	240 15.5	N21 37.6	344 25.9	N 2 49.4
E	8	11 47.7	261 50.9	N24 09.1	332 32.9	N14 42.2	255 17.4	N21 37.5	359 28.2	N 2 49.5
S	9	26 50.2	276 50.2	N24 08.8	347 33.6	N14 42.8	270 19.4	N21 37.4	14 30.4	N 2 49.5
D	10	41 52.6	291 49.4	N24 08.4	2 34.2	N14 43.4	285 21.3	N21 37.3	29 32.7	N 2 49.6
A	11	56 55.1	306 48.7	N24 08.1	17 34.9	N14 44.0	300 23.3	N21 37.2	44 35.0	N 2 49.7
Y										
	12	71 57.6	321 48.0	N24 07.7	32 35.5	N14 44.6	315 25.3	N21 37.2	59 37.2	N 2 49.8
	13	87 00.0	336 47.2	N24 07.3	47 36.2	N14 45.2	330 27.2	N21 37.1	74 39.5	N 2 49.8
	14	102 02.5	351 46.5	N24 06.9	62 36.8	N14 45.8	345 29.2	N21 37.0	89 41.8	N 2 49.9
	15	117 05.0	6 45.7	N24 06.6	77 37.5	N14 46.4	0 31.1	N21 36.9	104 44.1	N 2 50.0
	16	132 07.4	21 45.0	N24 06.2	92 38.1	N14 47.0	15 33.1	N21 36.8	119 46.3	N 2 50.0
	17	147 09.9	36 44.3	N24 05.8	107 38.8	N14 47.5	30 35.0	N21 36.7	134 48.6	N 2 50.1
	18	162 12.4	51 43.5	N24 05.5	122 39.5	N14 48.1	45 37.0	N21 36.7	149 50.9	N 2 50.2
	19	177 14.8	66 42.8	N24 05.1	137 40.1	N14 48.7	60 39.0	N21 36.6	164 53.2	N 2 50.2
	20	192 17.3	81 42.1	N24 04.7	152 40.8	N14 49.3	75 40.9	N21 36.5	179 55.4	N 2 50.3
	21	207 19.7	96 41.4	N24 04.3	167 41.4	N14 49.9	90 42.9	N21 36.4	194 57.7	N 2 50.4
	22	222 22.2	111 40.6	N24 03.9	182 42.1	N14 50.5	105 44.8	N21 36.3	209 60.0	N 2 50.5
	23	237 24.7	126 39.9	N24 03.6	197 42.7	N14 51.1	120 46.8	N21 36.2	225 02.2	N 2 50.5
4	0	252 27.1	141 39.2	N24 03.2	212 43.4	N14 51.7	135 48.7	N21 36.1	240 04.5	N 2 50.6
	1	267 29.6	156 38.4	N24 02.8	227 44.0	N14 52.3	150 50.7	N21 36.1	255 06.8	N 2 50.7
	2	282 32.1	171 37.7	N24 02.4	242 44.7	N14 52.8	165 52.6	N21 36.0	270 09.1	N 2 50.7
	3	297 34.5	186 37.0	N24 02.0	257 45.3	N14 53.4	180 54.6	N21 35.9	285 11.3	N 2 50.8
	4	312 37.0	201 36.2	N24 01.6	272 46.0	N14 54.0	195 56.6	N21 35.8	300 13.6	N 2 50.9
T	5	327 39.5	216 35.5	N24 01.3	287 46.6	N14 54.6	210 58.5	N21 35.7	315 15.9	N 2 50.9
H										
U	6	342 41.9	231 34.8	N24 00.9	302 47.3	N14 55.2	226 00.5	N21 35.6	330 18.2	N 2 51.0
R	7	357 44.4	246 34.1	N24 00.5	317 48.0	N14 55.8	241 02.4	N21 35.6	345 20.4	N 2 51.1
S	8	12 46.9	261 33.3	N24 00.1	332 48.6	N14 56.4	256 04.4	N21 35.5	0 22.7	N 2 51.2
D	9	27 49.3	276 32.6	N23 59.7	347 49.3	N14 57.0	271 06.3	N21 35.4	15 25.0	N 2 51.2
A	10	42 51.8	291 31.9	N23 59.3	2 49.9	N14 57.5	286 08.3	N21 35.3	30 27.3	N 2 51.3
Y	11	57 54.2	306 31.2	N23 58.9	17 50.6	N14 58.1	301 10.2	N21 35.2	45 29.5	N 2 51.4
	12	72 56.7	321 30.4	N23 58.5	32 51.2	N14 58.7	316 12.2	N21 35.1	60 31.8	N 2 51.4
	13	87 59.2	336 29.7	N23 58.1	47 51.9	N14 59.3	331 14.1	N21 35.1	75 34.1	N 2 51.5
	14	103 01.6	351 29.0	N23 57.7	62 52.5	N14 59.9	346 16.1	N21 35.0	90 36.4	N 2 51.6
	15	118 04.1	6 28.3	N23 57.3	77 53.2	N15 00.5	1 18.1	N21 34.9	105 38.7	N 2 51.6
	16	133 06.6	21 27.5	N23 56.9	92 53.8	N15 01.1	16 20.0	N21 34.8	120 40.9	N 2 51.7
	17	148 09.0	36 26.8	N23 56.5	107 54.5	N15 01.6	31 22.0	N21 34.7	135 43.2	N 2 51.8
	18	163 11.5	51 26.1	N23 56.1	122 55.1	N15 02.2	46 23.9	N21 34.6	150 45.5	N 2 51.9
	19	178 14.0	66 25.4	N23 55.7	137 55.8	N15 02.8	61 25.9	N21 34.6	165 47.8	N 2 51.9
	20	193 16.4	81 24.7	N23 55.3	152 56.4	N15 03.4	76 27.8	N21 34.5	180 50.0	N 2 52.0
	21	208 18.9	96 23.9	N23 54.9	167 57.1	N15 04.0	91 29.8	N21 34.4	195 52.3	N 2 52.1
	22	223 21.3	111 23.2	N23 54.5	182 57.7	N15 04.6	106 31.7	N21 34.3	210 54.6	N 2 52.1
	23	238 23.8	126 22.5	N23 54.1	197 58.4	N15 05.1	121 33.7	N21 34.2	225 56.9	N 2 52.2
5	0	253 26.3	141 21.8	N23 53.7	212 59.0	N15 05.7	136 35.6	N21 34.1	240 59.1	N 2 52.3
	1	268 28.7	156 21.1	N23 53.3	227 59.7	N15 06.3	151 37.6	N21 34.0	256 01.4	N 2 52.3
	2	283 31.2	171 20.3	N23 52.9	243 00.4	N15 06.9	166 39.5	N21 34.0	271 03.7	N 2 52.4
	3	298 33.7	186 19.6	N23 52.5	258 01.0	N15 07.5	181 41.5	N21 33.9	286 06.0	N 2 52.5
	4	313 36.1	201 18.9	N23 52.0	273 01.7	N15 08.0	196 43.4	N21 33.8	301 08.2	N 2 52.5
F	5	328 38.6	216 18.2	N23 51.6	288 02.3	N15 08.6	211 45.4	N21 33.7	316 10.5	N 2 52.6
R										
I	6	343 41.1	231 17.5	N23 51.2	303 03.0	N15 09.2	226 47.3	N21 33.6	331 12.8	N 2 52.7
D	7	358 43.5	246 16.8	N23 50.8	318 03.6	N15 09.8	241 49.3	N21 33.5	346 15.1	N 2 52.7
A	8	13 46.0	261 16.0	N23 50.4	333 04.3	N15 10.4	256 51.2	N21 33.4	1 17.4	N 2 52.8
Y	9	28 48.5	276 15.3	N23 50.0	348 04.9	N15 10.9	271 53.2	N21 33.4	16 19.6	N 2 52.9
	10	43 50.9	291 14.6	N23 49.5	3 05.6	N15 11.5	286 55.2	N21 33.3	31 21.9	N 2 53.0
	11	58 53.4	306 13.9	N23 49.1	18 06.2	N15 12.1	301 57.1	N21 33.2	46 24.2	N 2 53.0
	12	73 55.8	321 13.2	N23 48.7	33 06.9	N15 12.7	316 59.1	N21 33.1	61 26.5	N 2 53.1
	13	88 58.3	336 12.5	N23 48.3	48 07.5	N15 13.3	332 01.0	N21 33.0	76 28.7	N 2 53.2
	14	104 00.8	351 11.8	N23 47.8	63 08.2	N15 13.8	347 03.0	N21 32.9	91 31.0	N 2 53.2
	15	119 03.2	6 11.1	N23 47.4	78 08.8	N15 14.4	2 04.9	N21 32.9	106 33.3	N 2 53.3
	16	134 05.7	21 10.3	N23 47.0	93 09.5	N15 15.0	17 06.9	N21 32.8	121 35.6	N 2 53.4
	17	149 08.2	36 09.6	N23 46.6	108 10.1	N15 15.6	32 08.8	N21 32.7	136 37.9	N 2 53.4
	18	164 10.6	51 08.9	N23 46.1	123 10.8	N15 16.2	47 10.8	N21 32.6	151 40.1	N 2 53.5
	19	179 13.1	66 08.2	N23 45.7	138 11.4	N15 16.7	62 12.7	N21 32.5	166 42.4	N 2 53.6
	20	194 15.6	81 07.5	N23 45.3	153 12.1	N15 17.3	77 14.7	N21 32.4	181 44.7	N 2 53.6
	21	209 18.0	96 06.8	N23 44.8	168 12.7	N15 17.9	92 16.6	N21 32.3	196 47.0	N 2 53.7
	22	224 20.5	111 06.1	N23 44.4	183 13.4	N15 18.5	107 18.6	N21 32.3	211 49.3	N 2 53.8
	23	239 23.0	126 05.4	N23 44.0	198 14.0	N15 19.0	122 20.5	N21 32.2	226 51.5	N 2 53.8
			v -0.7	d 0.4	v 0.7	d 0.6	v 2.0	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
3	0	180 28.8	N22 17.2	328 53.6	10.5	S26 54.0	4.1	54.1
	1	195 28.7	N22 17.5	343 23.2	10.5	S26 49.8	4.2	54.1
	2	210 28.6	N22 17.9	357 52.7	10.6	S26 45.4	4.4	54.1
	3	225 28.5	N22 18.2	12 22.3	10.6	S26 41.0	4.5	54.1
	4	240 28.4	N22 18.5	26 51.9	10.6	S26 36.3	4.6	54.1
W	5	255 28.3	N22 18.8	41 21.6	10.7	S26 31.6	4.7	54.2
E								
D	6	270 28.2	N22 19.1	55 51.3	10.7	S26 26.7	4.9	54.2
N	7	285 28.1	N22 19.4	70 21.0	10.7	S26 21.7	5.0	54.2
E	8	300 28.0	N22 19.7	84 50.8	10.8	S26 16.6	5.1	54.2
S	9	315 27.9	N22 20.0	99 20.6	10.8	S26 11.4	5.2	54.2
D	10	330 27.8	N22 20.3	113 50.5	10.9	S26 06.0	5.4	54.2
A	11	345 27.7	N22 20.6	128 20.4	10.9	S26 00.5	5.5	54.2
Y								
	12	0 27.6	N22 20.9	142 50.3	10.9	S25 54.9	5.6	54.2
	13	15 27.5	N22 21.2	157 20.3	11.0	S25 49.2	5.7	54.2
	14	30 27.4	N22 21.5	171 50.3	11.0	S25 43.3	5.9	54.2
	15	45 27.3	N22 21.8	186 20.4	11.1	S25 37.4	6.0	54.2
	16	60 27.2	N22 22.1	200 50.5	11.1	S25 31.3	6.1	54.3
	17	75 27.1	N22 22.4	215 20.7	11.2	S25 25.0	6.2	54.3
	18	90 27.0	N22 22.7	229 50.9	11.2	S25 18.7	6.3	54.3
	19	105 26.9	N22 23.0	244 21.2	11.3	S25 12.2	6.5	54.3
	20	120 26.8	N22 23.3	258 51.5	11.3	S25 05.7	6.6	54.3
	21	135 26.7	N22 23.6	273 21.8	11.4	S24 59.0	6.7	54.3
	22	150 26.6	N22 23.9	287 52.2	11.4	S24 52.1	6.8	54.3
	23	165 26.5	N22 24.2	302 22.7	11.4	S24 45.2	6.9	54.3
4	0	180 26.4	N22 24.5	316 53.2	11.5	S24 38.2	7.0	54.3
	1	195 26.3	N22 24.8	331 23.7	11.5	S24 31.0	7.2	54.4
	2	210 26.1	N22 25.1	345 54.3	11.6	S24 23.7	7.3	54.4
	3	225 26.0	N22 25.4	0 25.0	11.6	S24 16.3	7.4	54.4
	4	240 25.9	N22 25.7	14 55.7	11.7	S24 08.8	7.5	54.4
T	5	255 25.8	N22 26.0	29 26.4	11.7	S24 01.2	7.6	54.4
H								
U	6	270 25.7	N22 26.2	43 57.2	11.8	S23 53.5	7.7	54.4
R	7	285 25.6	N22 26.5	58 28.1	11.8	S23 45.7	7.8	54.4
S	8	300 25.5	N22 26.8	72 59.0	11.9	S23 37.7	7.9	54.5
D	9	315 25.4	N22 27.1	87 29.9	11.9	S23 29.6	8.1	54.5
A	10	330 25.3	N22 27.4	102 00.9	12.0	S23 21.5	8.2	54.5
Y	11	345 25.2	N22 27.7	116 32.0	12.1	S23 13.2	8.3	54.5
	12	0 25.1	N22 28.0	131 03.1	12.1	S23 04.8	8.4	54.5
	13	15 25.0	N22 28.3	145 34.2	12.2	S22 56.3	8.5	54.5
	14	30 24.9	N22 28.5	160 05.4	12.2	S22 47.7	8.6	54.5
	15	45 24.8	N22 28.8	174 36.7	12.3	S22 39.0	8.7	54.6
	16	60 24.6	N22 29.1	189 08.0	12.3	S22 30.2	8.8	54.6
	17	75 24.5	N22 29.4	203 39.3	12.4	S22 21.3	8.9	54.6
	18	90 24.4	N22 29.7	218 10.8	12.4	S22 12.3	9.0	54.6
	19	105 24.3	N22 30.0	232 42.2	12.5	S22 03.2	9.1	54.6
	20	120 24.2	N22 30.2	247 13.7	12.5	S21 53.9	9.2	54.6
	21	135 24.1	N22 30.5	261 45.3	12.6	S21 44.6	9.3	54.6
	22	150 24.0	N22 30.8	276 16.9	12.6	S21 35.2	9.4	54.7
	23	165 23.9	N22 31.1	290 48.6	12.7	S21 25.7	9.5	54.7
5	0	180 23.8	N22 31.4	305 20.3	12.7	S21 16.0	9.6	54.7
	1	195 23.7	N22 31.6	319 52.1	12.8	S21 06.3	9.7	54.7
	2	210 23.6	N22 31.9	334 23.9	12.8	S20 56.5	9.8	54.7
	3	225 23.4	N22 32.2	348 55.8	12.9	S20 46.6	9.9	54.8
	4	240 23.3	N22 32.5	3 27.7	12.9	S20 36.6	10.0	54.8
F	5	255 23.2	N22 32.7	17 59.6	13.0	S20 26.5	10.1	54.8
R								
I	6	270 23.1	N22 33.0	32 31.7	13.0	S20 16.3	10.2	54.8
D	7	285 23.0	N22 33.3	47 03.7	13.1	S20 06.0	10.3	54.8
A	8	300 22.9	N22 33.6	61 35.8	13.1	S19 55.6	10.4	54.8
Y	9	315 22.8	N22 33.8	76 08.0	13.2	S19 45.1	10.5	54.9
	10	330 22.7	N22 34.1	90 40.2	13.2	S19 34.5	10.6	54.9
	11	345 22.6	N22 34.4	105 12.5	13.3	S19 23.9	10.7	54.9
	12	0 22.5	N22 34.6	119 44.8	13.3	S19 13.1	10.8	54.9
	13	15 22.3	N22 34.9	134 17.1	13.4	S19 02.3	10.8	54.9
	14	30 22.2	N22 35.2	148 49.5	13.4	S18 51.3	10.9	55.0
	15	45 22.1	N22 35.4	163 22.0	13.4	S18 40.3	11.0	55.0
	16	60 22.0	N22 35.7	177 54.5	13.5	S18 29.2	11.1	55.0
	17	75 21.9	N22 36.0	192 27.0	13.5	S18 18.0	11.2	55.0
	18	90 21.8	N22 36.2	206 59.6	13.6	S18 06.7	11.3	55.0
	19	105 21.7	N22 36.5	221 32.2	13.6	S17 55.4	11.4	55.1
	20	120 21.6	N22 36.8	236 04.9	13.7	S17 43.9	11.4	55.1
	21	135 21.4	N22 37.0	250 37.6	13.7	S17 32.4	11.5	55.1
	22	150 21.3	N22 37.3	265 10.3	13.7	S17 20.8	11.6	55.1
	23	165 21.2	N22 37.6	279 43.1	13.8	S17 09.1	11.7	55.2
		S.D. 15.8	d 0.3	S.D.	14.8	14.9	15.0	

STARS Name	SHA	Dec
Acamar	315 11.2	S40 11.8
Achernar	335 19.7	S57 05.9
Acrux	172 58.6	S63 15.0
Adhara	255 05.3	S29 00.5
Albireo	67 02.8	N28 00.7
Aldebaran	290 38.7	N16 33.7
Alioth	166 11.6	N55 49.2
Alkaid	152 50.7	N49 11.0
Al Na-ir	27 31.3	S46 49.7
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.7	N29 14.1
Altair	61 58.6	N 8 56.2
Ankaa	353 06.1	S42 09.5
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.8	S69 04.6
Avior	234 14.7	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.4	S52 42.6
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.7	N45 22.2
Denebola	182 23.7	N14 25.5
Diphda	348 46.3	S17 50.4
Dubhe	193 39.5	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.1	N51 28.9
Enif	33 37.5	N 9 59.7
Fomalhaut	15 13.2	S29 28.8
Gacrux	171 50.2	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.2	N23 35.2
Kaus Austr.	83 30.6	S34 22.3
Kochab	137 18.9	N74 02.9
Markab	13 28.8	N15 20.7
Menkar	314 05.2	N 4 11.6
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.4	S69 49.8
Mirfak	308 27.1	N49 57.2
Nunki	75 46.0	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	316 21.7	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.3
Rigil Kent	139 38.3	S60 56.9
Sabik	102 01.1	S15 45.5
Schedar	349 30.0	N56 40.7
Shaula	96 08.4	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.6
Vega	80 32.0	N38 48.3
Zuben-ubi	136 55.3	S16 09.3

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
6	0	254 25.4	141 04.7	N23 43.5	213 14.7	N15 19.6	137 22.5	N21 32.1	241 53.8	N 2 53.9
	1	269 27.9	156 04.0	N23 43.1	228 15.3	N15 20.2	152 24.4	N21 32.0	256 56.1	N 2 54.0
	2	284 30.3	171 03.3	N23 42.7	243 16.0	N15 20.8	167 26.4	N21 31.9	271 58.4	N 2 54.0
	3	299 32.8	186 02.6	N23 42.2	258 16.6	N15 21.3	182 28.3	N21 31.8	287 00.7	N 2 54.1
	4	314 35.3	201 01.9	N23 41.8	273 17.3	N15 21.9	197 30.3	N21 31.7	302 02.9	N 2 54.2
S	5	329 37.7	216 01.2	N23 41.4	288 17.9	N15 22.5	212 32.2	N21 31.7	317 05.2	N 2 54.2
A										
T	6	344 40.2	231 00.4	N23 40.9	303 18.6	N15 23.1	227 34.2	N21 31.6	332 07.5	N 2 54.3
U	7	359 42.7	245 59.7	N23 40.5	318 19.2	N15 23.6	242 36.1	N21 31.5	347 09.8	N 2 54.4
R	8	14 45.1	260 59.0	N23 40.0	333 19.9	N15 24.2	257 38.1	N21 31.4	2 12.1	N 2 54.4
D	9	29 47.6	275 58.3	N23 39.6	348 20.5	N15 24.8	272 40.0	N21 31.3	17 14.3	N 2 54.5
A	10	44 50.1	290 57.6	N23 39.1	3 21.2	N15 25.4	287 42.0	N21 31.2	32 16.6	N 2 54.6
Y	11	59 52.5	305 56.9	N23 38.7	18 21.8	N15 25.9	302 43.9	N21 31.1	47 18.9	N 2 54.6
	12	74 55.0	320 56.2	N23 38.2	33 22.5	N15 26.5	317 45.9	N21 31.0	62 21.2	N 2 54.7
	13	89 57.5	335 55.5	N23 37.8	48 23.1	N15 27.1	332 47.8	N21 31.0	77 23.5	N 2 54.8
	14	104 59.9	350 54.8	N23 37.3	63 23.8	N15 27.6	347 49.8	N21 30.9	92 25.7	N 2 54.8
	15	120 02.4	5 54.1	N23 36.9	78 24.4	N15 28.2	2 51.7	N21 30.8	107 28.0	N 2 54.9
	16	135 04.8	20 53.4	N23 36.4	93 25.1	N15 28.8	17 53.7	N21 30.7	122 30.3	N 2 55.0
	17	150 07.3	35 52.7	N23 36.0	108 25.7	N15 29.4	32 55.6	N21 30.6	137 32.6	N 2 55.0
	18	165 09.8	50 52.0	N23 35.5	123 26.4	N15 29.9	47 57.5	N21 30.5	152 34.9	N 2 55.1
	19	180 12.2	65 51.3	N23 35.1	138 27.0	N15 30.5	62 59.5	N21 30.4	167 37.2	N 2 55.2
	20	195 14.7	80 50.6	N23 34.6	153 27.7	N15 31.1	78 01.4	N21 30.4	182 39.4	N 2 55.2
	21	210 17.2	95 50.0	N23 34.1	168 28.3	N15 31.6	93 03.4	N21 30.3	197 41.7	N 2 55.3
	22	225 19.6	110 49.3	N23 33.7	183 29.0	N15 32.2	108 05.3	N21 30.2	212 44.0	N 2 55.4
	23	240 22.1	125 48.6	N23 33.2	198 29.6	N15 32.8	123 07.3	N21 30.1	227 46.3	N 2 55.4
7	0	255 24.6	140 47.9	N23 32.8	213 30.3	N15 33.3	138 09.2	N21 30.0	242 48.6	N 2 55.5
	1	270 27.0	155 47.2	N23 32.3	228 30.9	N15 33.9	153 11.2	N21 29.9	257 50.8	N 2 55.6
	2	285 29.5	170 46.5	N23 31.8	243 31.6	N15 34.5	168 13.1	N21 29.8	272 53.1	N 2 55.6
	3	300 31.9	185 45.8	N23 31.4	258 32.2	N15 35.1	183 15.1	N21 29.7	287 55.4	N 2 55.7
	4	315 34.4	200 45.1	N23 30.9	273 32.9	N15 35.6	198 17.0	N21 29.7	302 57.7	N 2 55.8
S	5	330 36.9	215 44.4	N23 30.4	288 33.5	N15 36.2	213 19.0	N21 29.6	317 60.0	N 2 55.8
U										
N	6	345 39.3	230 43.7	N23 30.0	303 34.2	N15 36.8	228 20.9	N21 29.5	333 02.3	N 2 55.9
D	7	0 41.8	245 43.0	N23 29.5	318 34.8	N15 37.3	243 22.9	N21 29.4	348 04.5	N 2 56.0
A	8	15 44.3	260 42.3	N23 29.0	333 35.5	N15 37.9	258 24.8	N21 29.3	3 06.8	N 2 56.0
Y	9	30 46.7	275 41.6	N23 28.6	348 36.1	N15 38.5	273 26.8	N21 29.2	18 09.1	N 2 56.1
	10	45 49.2	290 41.0	N23 28.1	3 36.7	N15 39.0	288 28.7	N21 29.1	33 11.4	N 2 56.2
	11	60 51.7	305 40.3	N23 27.6	18 37.4	N15 39.6	303 30.6	N21 29.0	48 13.7	N 2 56.2
	12	75 54.1	320 39.6	N23 27.1	33 38.0	N15 40.2	318 32.6	N21 29.0	63 16.0	N 2 56.3
	13	90 56.6	335 38.9	N23 26.7	48 38.7	N15 40.7	333 34.5	N21 28.9	78 18.3	N 2 56.4
	14	105 59.1	350 38.2	N23 26.2	63 39.3	N15 41.3	348 36.5	N21 28.8	93 20.5	N 2 56.4
	15	121 01.5	5 37.5	N23 25.7	78 40.0	N15 41.9	3 38.4	N21 28.7	108 22.8	N 2 56.5
	16	136 04.0	20 36.8	N23 25.2	93 40.6	N15 42.4	18 40.4	N21 28.6	123 25.1	N 2 56.6
	17	151 06.4	35 36.1	N23 24.7	108 41.3	N15 43.0	33 42.3	N21 28.5	138 27.4	N 2 56.6
	18	166 08.9	50 35.5	N23 24.3	123 41.9	N15 43.5	48 44.3	N21 28.4	153 29.7	N 2 56.7
	19	181 11.4	65 34.8	N23 23.8	138 42.6	N15 44.1	63 46.2	N21 28.3	168 32.0	N 2 56.8
	20	196 13.8	80 34.1	N23 23.3	153 43.2	N15 44.7	78 48.2	N21 28.3	183 34.2	N 2 56.8
	21	211 16.3	95 33.4	N23 22.8	168 43.9	N15 45.2	93 50.1	N21 28.2	198 36.5	N 2 56.9
	22	226 18.8	110 32.7	N23 22.3	183 44.5	N15 45.8	108 52.1	N21 28.1	213 38.8	N 2 57.0
	23	241 21.2	125 32.0	N23 21.8	198 45.2	N15 46.4	123 54.0	N21 28.0	228 41.1	N 2 57.0
8	0	256 23.7	140 31.4	N23 21.3	213 45.8	N15 46.9	138 55.9	N21 27.9	243 43.4	N 2 57.1
	1	271 26.2	155 30.7	N23 20.8	228 46.5	N15 47.5	153 57.9	N21 27.8	258 45.7	N 2 57.1
	2	286 28.6	170 30.0	N23 20.4	243 47.1	N15 48.0	168 59.8	N21 27.7	273 48.0	N 2 57.2
	3	301 31.1	185 29.3	N23 19.9	258 47.8	N15 48.6	184 01.8	N21 27.6	288 50.2	N 2 57.3
	4	316 33.6	200 28.6	N23 19.4	273 48.4	N15 49.2	199 03.7	N21 27.6	303 52.5	N 2 57.3
M	5	331 36.0	215 28.0	N23 18.9	288 49.0	N15 49.7	214 05.7	N21 27.5	318 54.8	N 2 57.4
O										
N	6	346 38.5	230 27.3	N23 18.4	303 49.7	N15 50.3	229 07.6	N21 27.4	333 57.1	N 2 57.5
D	7	1 40.9	245 26.6	N23 17.9	318 50.3	N15 50.9	244 09.6	N21 27.3	348 59.4	N 2 57.5
A	8	16 43.4	260 25.9	N23 17.4	333 51.0	N15 51.4	259 11.5	N21 27.2	4 01.7	N 2 57.6
Y	9	31 45.9	275 25.3	N23 16.9	348 51.6	N15 52.0	274 13.4	N21 27.1	19 04.0	N 2 57.7
	10	46 48.3	290 24.6	N23 16.4	3 52.3	N15 52.5	289 15.4	N21 27.0	34 06.2	N 2 57.7
	11	61 50.8	305 23.9	N23 15.9	18 52.9	N15 53.1	304 17.3	N21 26.9	49 08.5	N 2 57.8
	12	76 53.3	320 23.2	N23 15.4	33 53.6	N15 53.6	319 19.3	N21 26.8	64 10.8	N 2 57.9
	13	91 55.7	335 22.5	N23 14.9	48 54.2	N15 54.2	334 21.2	N21 26.8	79 13.1	N 2 57.9
	14	106 58.2	350 21.9	N23 14.4	63 54.9	N15 54.8	349 23.2	N21 26.7	94 15.4	N 2 58.0
	15	122 00.7	5 21.2	N23 13.9	78 55.5	N15 55.3	4 25.1	N21 26.6	109 17.7	N 2 58.0
	16	137 03.1	20 20.5	N23 13.4	93 56.2	N15 55.9	19 27.0	N21 26.5	124 20.0	N 2 58.1
	17	152 05.6	35 19.9	N23 12.9	108 56.8	N15 56.4	34 29.0	N21 26.4	139 22.3	N 2 58.2
	18	167 08.0	50 19.2	N23 12.4	123 57.4	N15 57.0	49 30.9	N21 26.3	154 24.5	N 2 58.2
	19	182 10.5	65 18.5	N23 11.9	138 58.1	N15 57.6	64 32.9	N21 26.2	169 26.8	N 2 58.3
	20	197 13.0	80 17.8	N23 11.3	153 58.7	N15 58.1	79 34.8	N21 26.1	184 29.1	N 2 58.4
	21	212 15.4	95 17.2	N23 10.8	168 59.4	N15 58.7	94 36.8	N21 26.0	199 31.4	N 2 58.4
	22	227 17.9	110 16.5	N23 10.3	184 00.0	N15 59.2	109 38.7	N21 26.0	214 33.7	N 2 58.5
	23	242 20.4	125 15.8	N23 09.8	199 00.7	N15 59.8	124 40.7	N21 25.9	229 36.0	N 2 58.6
			v -0.7	d 0.5	v 0.6	d 0.6	v 1.9	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
6	0	180 21.1	N22 37.8	294 15.9	13.8	S16 57.3	11.8	55.2
	1	195 21.0	N22 38.1	308 48.8	13.9	S16 45.5	11.9	55.2
	2	210 20.9	N22 38.3	323 21.7	13.9	S16 33.5	11.9	55.2
	3	225 20.8	N22 38.6	337 54.7	13.9	S16 21.5	12.0	55.2
	4	240 20.7	N22 38.9	352 27.7	14.0	S16 09.4	12.1	55.3
S	5	255 20.5	N22 39.1	7 00.7	14.0	S15 57.2	12.2	55.3
A								
T	6	270 20.4	N22 39.4	21 33.7	14.1	S15 45.0	12.2	55.3
U	7	285 20.3	N22 39.6	36 06.8	14.1	S15 32.7	12.3	55.3
R	8	300 20.2	N22 39.9	50 40.0	14.1	S15 20.3	12.4	55.4
D	9	315 20.1	N22 40.1	65 13.1	14.2	S15 07.8	12.5	55.4
A	10	330 20.0	N22 40.4	79 46.3	14.2	S14 55.3	12.5	55.4
Y	11	345 19.9	N22 40.7	94 19.6	14.2	S14 42.7	12.6	55.4
	12	0 19.7	N22 40.9	108 52.8	14.3	S14 30.0	12.7	55.5
	13	15 19.6	N22 41.2	123 26.1	14.3	S14 17.2	12.8	55.5
	14	30 19.5	N22 41.4	137 59.5	14.3	S14 04.4	12.8	55.5
	15	45 19.4	N22 41.7	152 32.8	14.4	S13 51.5	12.9	55.5
	16	60 19.3	N22 41.9	167 06.2	14.4	S13 38.5	13.0	55.6
	17	75 19.2	N22 42.2	181 39.6	14.4	S13 25.5	13.0	55.6
	18	90 19.1	N22 42.4	196 13.0	14.4	S13 12.4	13.1	55.6
	19	105 18.9	N22 42.7	210 46.5	14.5	S12 59.2	13.2	55.6
	20	120 18.8	N22 42.9	225 20.0	14.5	S12 46.0	13.2	55.7
	21	135 18.7	N22 43.2	239 53.5	14.5	S12 32.7	13.3	55.7
	22	150 18.6	N22 43.4	254 27.0	14.5	S12 19.3	13.4	55.7
	23	165 18.5	N22 43.6	269 00.6	14.6	S12 05.9	13.4	55.8
7	0	180 18.4	N22 43.9	283 34.2	14.6	S11 52.4	13.5	55.8
	1	195 18.2	N22 44.1	298 07.8	14.6	S11 38.8	13.6	55.8
	2	210 18.1	N22 44.4	312 41.4	14.6	S11 25.2	13.6	55.8
	3	225 18.0	N22 44.6	327 15.0	14.6	S11 11.6	13.7	55.9
	4	240 17.9	N22 44.9	341 48.7	14.7	S10 57.8	13.7	55.9
S	5	255 17.8	N22 45.1	356 22.3	14.7	S10 44.0	13.8	55.9
U								
N	6	270 17.7	N22 45.3	10 56.0	14.7	S10 30.2	13.8	56.0
D	7	285 17.5	N22 45.6	25 29.7	14.7	S10 16.3	13.9	56.0
A	8	300 17.4	N22 45.8	40 03.4	14.7	S10 02.3	14.0	56.0
Y	9	315 17.3	N22 46.1	54 37.1	14.7	S 9 48.3	14.0	56.0
	10	330 17.2	N22 46.3	69 10.9	14.7	S 9 34.2	14.1	56.1
	11	345 17.1	N22 46.5	83 44.6	14.7	S 9 20.1	14.1	56.1
	12	0 17.0	N22 46.8	98 18.4	14.8	S 9 05.9	14.2	56.1
	13	15 16.8	N22 47.0	112 52.1	14.8	S 8 51.7	14.2	56.2
	14	30 16.7	N22 47.3	127 25.9	14.8	S 8 37.4	14.3	56.2
	15	45 16.6	N22 47.5	141 59.7	14.8	S 8 23.0	14.3	56.2
	16	60 16.5	N22 47.7	156 33.4	14.8	S 8 08.7	14.4	56.3
	17	75 16.4	N22 48.0	171 07.2	14.8	S 7 54.2	14.4	56.3
	18	90 16.3	N22 48.2	185 41.0	14.8	S 7 39.7	14.5	56.3
	19	105 16.1	N22 48.4	200 14.8	14.8	S 7 25.2	14.5	56.4
	20	120 16.0	N22 48.6	214 48.6	14.8	S 7 10.6	14.6	56.4
	21	135 15.9	N22 48.9	229 22.3	14.8	S 6 56.0	14.6	56.4
	22	150 15.8	N22 49.1	243 56.1	14.8	S 6 41.3	14.7	56.5
	23	165 15.7	N22 49.3	258 29.9	14.8	S 6 26.6	14.7	56.5
8	0	180 15.5	N22 49.6	273 03.7	14.8	S 6 11.9	14.8	56.5
	1	195 15.4	N22 49.8	287 37.4	14.8	S 5 57.1	14.8	56.6
	2	210 15.3	N22 50.0	302 11.2	14.8	S 5 42.2	14.8	56.6
	3	225 15.2	N22 50.2	316 44.9	14.7	S 5 27.3	14.9	56.6
	4	240 15.1	N22 50.5	331 18.7	14.7	S 5 12.4	14.9	56.7
M	5	255 14.9	N22 50.7	345 52.4	14.7	S 4 57.4	15.0	56.7
O								
N	6	270 14.8	N22 50.9	0 26.1	14.7	S 4 42.4	15.0	56.7
D	7	285 14.7	N22 51.1	14 59.8	14.7	S 4 27.4	15.0	56.8
A	8	300 14.6	N22 51.4	29 33.5	14.7	S 4 12.3	15.1	56.8
Y	9	315 14.5	N22 51.6	44 07.1	14.7	S 3 57.2	15.1	56.8
	10	330 14.3	N22 51.8	58 40.8	14.7	S 3 42.1	15.1	56.9
	11	345 14.2	N22 52.0	73 14.4	14.6	S 3 26.9	15.2	56.9
	12	0 14.1	N22 52.3	87 48.0	14.6	S 3 11.7	15.2	56.9
	13	15 14.0	N22 52.5	102 21.6	14.6	S 2 56.4	15.2	57.0
	14	30 13.9	N22 52.7	116 55.2	14.6	S 2 41.1	15.3	57.0
	15	45 13.7	N22 52.9	131 28.7	14.5	S 2 25.8	15.3	57.0
	16	60 13.6	N22 53.1	146 02.3	14.5	S 2 10.5	15.3	57.1
	17	75 13.5	N22 53.3	160 35.8	14.5	S 1 55.1	15.4	57.1
	18	90 13.4	N22 53.6	175 09.2	14.5	S 1 39.7	15.4	57.1
	19	105 13.3	N22 53.8	189 42.6	14.4	S 1 24.3	15.4	57.2
	20	120 13.1	N22 54.0	204 16.1	14.4	S 1 08.9	15.4	57.2
	21	135 13.0	N22 54.2	218 49.4	14.4	S 0 53.4	15.5	57.2
	22	150 12.9	N22 54.4	233 22.8	14.3	S 0 37.9	15.5	57.3
	23	165 12.8	N22 54.6	247 56.1	14.3	S 0 22.4	15.5	57.3
		S.D. 15.8	d 0.2	S.D. 15.1		15.3	15.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.2	S40 11.8
Achernar	335 19.7	S57 05.9
Acrux	172 58.6	S63 15.0
Adhara	255 05.3	S29 00.5
Albireo	67 02.8	N28 00.8
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.6	N55 49.2
Alkaid	152 50.7	N49 11.0
Al Na-ir	27 31.3	S46 49.7
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.7	N29 14.1
Altair	61 58.6	N 8 56.2
Ankaa	353 06.1	S42 09.5
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.8	S69 04.6
Avior	234 14.7	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.4	S52 42.6
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.7	N45 22.3
Denebola	182 23.7	N14 25.5
Diphda	348 46.3	S17 50.4
Dubhe	193 39.6	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.1	N51 28.9
Enif	33 37.5	N 9 59.7
Fomalhaut	15 13.2	S29 28.8
Gacrux	171 50.2	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.2	N23 35.2
Kaus Austr.	83 30.6	S34 22.3
Kochab	137 18.9	N74 02.9
Markab	13 28.7	N15 20.7
Menkar	314 05.2	N 4 11.6
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.5	S69 49.8
Mirfak	308 27.1	N49 57.2
Nunki	75 46.0	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	316 20.9	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.2
Rigil Kent	139 38.3	S60 56.9
Sabik	102 01.1	S15 45.5
Schedar	349 30.0	N56 40.7
Shaula	96 08.4	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.6
Vega	80 32.0	N38 48.3
Zuben-ubi	136 55.3	S16 09.3

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
9	0	257 22.8	140 15.2	N23 09.3	214 01.3	N16 00.3	139 42.6	N21 25.8	244 38.3	N 2 58.6
	1	272 25.3	155 14.5	N23 08.8	229 02.0	N16 00.9	154 44.5	N21 25.7	259 40.6	N 2 58.7
	2	287 27.8	170 13.8	N23 08.3	244 02.6	N16 01.4	169 46.5	N21 25.6	274 42.8	N 2 58.7
	3	302 30.2	185 13.2	N23 07.7	259 03.2	N16 02.0	184 48.4	N21 25.5	289 45.1	N 2 58.8
	4	317 32.7	200 12.5	N23 07.2	274 03.9	N16 02.6	199 50.4	N21 25.4	304 47.4	N 2 58.9
T	5	332 35.2	215 11.8	N23 06.7	289 04.5	N16 03.1	214 52.3	N21 25.3	319 49.7	N 2 58.9
U										
E	6	347 37.6	230 11.2	N23 06.2	304 05.2	N16 03.7	229 54.2	N21 25.2	334 52.0	N 2 59.0
S	7	2 40.1	245 10.5	N23 05.7	319 05.8	N16 04.2	244 56.2	N21 25.2	349 54.3	N 2 59.1
D	8	17 42.5	260 09.8	N23 05.1	334 06.5	N16 04.8	259 58.1	N21 25.1	4 56.6	N 2 59.1
A	9	32 45.0	275 09.2	N23 04.6	349 07.1	N16 05.3	275 00.1	N21 25.0	19 58.9	N 2 59.2
Y	10	47 47.5	290 08.5	N23 04.1	4 07.8	N16 05.9	290 02.0	N21 24.9	35 01.2	N 2 59.3
	11	62 49.9	305 07.9	N23 03.6	19 08.4	N16 06.4	305 04.0	N21 24.8	50 03.4	N 2 59.3
	12	77 52.4	320 07.2	N23 03.0	34 09.0	N16 07.0	320 05.9	N21 24.7	65 05.7	N 2 59.4
	13	92 54.9	335 06.5	N23 02.5	49 09.7	N16 07.5	335 07.8	N21 24.6	80 08.0	N 2 59.4
	14	107 57.3	350 05.9	N23 02.0	64 10.3	N16 08.1	350 09.8	N21 24.5	95 10.3	N 2 59.5
	15	122 59.8	5 05.2	N23 01.4	79 11.0	N16 08.6	5 11.7	N21 24.4	110 12.6	N 2 59.6
	16	138 02.3	20 04.5	N23 00.9	94 11.6	N16 09.2	20 13.7	N21 24.4	125 14.9	N 2 59.6
	17	153 04.7	35 03.9	N23 00.4	109 12.3	N16 09.7	35 15.6	N21 24.3	140 17.2	N 2 59.7
	18	168 07.2	50 03.2	N22 59.9	124 12.9	N16 10.3	50 17.5	N21 24.2	155 19.5	N 2 59.8
	19	183 09.7	65 02.6	N22 59.3	139 13.6	N16 10.8	65 19.5	N21 24.1	170 21.8	N 2 59.8
	20	198 12.1	80 01.9	N22 58.8	154 14.2	N16 11.4	80 21.4	N21 24.0	185 24.1	N 2 59.9
	21	213 14.6	95 01.3	N22 58.2	169 14.8	N16 11.9	95 23.4	N21 23.9	200 26.3	N 2 59.9
	22	228 17.0	110 00.6	N22 57.7	184 15.5	N16 12.5	110 25.3	N21 23.8	215 28.6	N 3 00.0
	23	243 19.5	124 59.9	N22 57.2	199 16.1	N16 13.0	125 27.2	N21 23.7	230 30.9	N 3 00.1
10	0	258 22.0	139 59.3	N22 56.6	214 16.8	N16 13.6	140 29.2	N21 23.6	245 33.2	N 3 00.1
	1	273 24.4	154 58.6	N22 56.1	229 17.4	N16 14.1	155 31.1	N21 23.5	260 35.5	N 3 00.2
	2	288 26.9	169 58.0	N22 55.5	244 18.1	N16 14.7	170 33.1	N21 23.4	275 37.8	N 3 00.3
	3	303 29.4	184 57.3	N22 55.0	259 18.7	N16 15.2	185 35.0	N21 23.4	290 40.1	N 3 00.3
	4	318 31.8	199 56.7	N22 54.5	274 19.3	N16 15.8	200 36.9	N21 23.3	305 42.4	N 3 00.4
W	5	333 34.3	214 56.0	N22 53.9	289 20.0	N16 16.3	215 38.9	N21 23.2	320 44.7	N 3 00.4
E										
D	6	348 36.8	229 55.4	N22 53.4	304 20.6	N16 16.9	230 40.8	N21 23.1	335 47.0	N 3 00.5
N	7	3 39.2	244 54.7	N22 52.8	319 21.3	N16 17.4	245 42.8	N21 23.0	350 49.3	N 3 00.6
E	8	18 41.7	259 54.1	N22 52.3	334 21.9	N16 18.0	260 44.7	N21 22.9	5 51.6	N 3 00.6
S	9	33 44.1	274 53.4	N22 51.7	349 22.6	N16 18.5	275 46.6	N21 22.8	20 53.8	N 3 00.7
D	10	48 46.6	289 52.8	N22 51.2	4 23.2	N16 19.1	290 48.6	N21 22.7	35 56.1	N 3 00.8
A	11	63 49.1	304 52.1	N22 50.6	19 23.8	N16 19.6	305 50.5	N21 22.6	50 58.4	N 3 00.8
Y										
	12	78 51.5	319 51.5	N22 50.1	34 24.5	N16 20.1	320 52.5	N21 22.5	66 00.7	N 3 00.9
	13	93 54.0	334 50.8	N22 49.5	49 25.1	N16 20.7	335 54.4	N21 22.5	81 03.0	N 3 00.9
	14	108 56.5	349 50.2	N22 49.0	64 25.8	N16 21.2	350 56.3	N21 22.4	96 05.3	N 3 01.0
	15	123 58.9	4 49.5	N22 48.4	79 26.4	N16 21.8	5 58.3	N21 22.3	111 07.6	N 3 01.1
	16	139 01.4	19 48.9	N22 47.8	94 27.1	N16 22.3	21 00.2	N21 22.2	126 09.9	N 3 01.1
	17	154 03.9	34 48.3	N22 47.3	109 27.7	N16 22.9	36 02.2	N21 22.1	141 12.2	N 3 01.2
	18	169 06.3	49 47.6	N22 46.7	124 28.3	N16 23.4	51 04.1	N21 22.0	156 14.5	N 3 01.2
	19	184 08.8	64 47.0	N22 46.2	139 29.0	N16 24.0	66 06.0	N21 21.9	171 16.8	N 3 01.3
	20	199 11.3	79 46.3	N22 45.6	154 29.6	N16 24.5	81 08.0	N21 21.8	186 19.1	N 3 01.4
	21	214 13.7	94 45.7	N22 45.0	169 30.3	N16 25.0	96 09.9	N21 21.7	201 21.4	N 3 01.4
	22	229 16.2	109 45.0	N22 44.5	184 30.9	N16 25.6	111 11.8	N21 21.6	216 23.7	N 3 01.5
	23	244 18.6	124 44.4	N22 43.9	199 31.6	N16 26.1	126 13.8	N21 21.5	231 26.0	N 3 01.5
11	0	259 21.1	139 43.8	N22 43.4	214 32.2	N16 26.7	141 15.7	N21 21.5	246 28.2	N 3 01.6
	1	274 23.6	154 43.1	N22 42.8	229 32.8	N16 27.2	156 17.7	N21 21.4	261 30.5	N 3 01.7
	2	289 26.0	169 42.5	N22 42.2	244 33.5	N16 27.7	171 19.6	N21 21.3	276 32.8	N 3 01.7
	3	304 28.5	184 41.8	N22 41.7	259 34.1	N16 28.3	186 21.5	N21 21.2	291 35.1	N 3 01.8
	4	319 31.0	199 41.2	N22 41.1	274 34.8	N16 28.8	201 23.5	N21 21.1	306 37.4	N 3 01.9
T	5	334 33.4	214 40.6	N22 40.5	289 35.4	N16 29.4	216 25.4	N21 21.0	321 39.7	N 3 01.9
H										
U	6	349 35.9	229 39.9	N22 39.9	304 36.0	N16 29.9	231 27.3	N21 20.9	336 42.0	N 3 02.0
R	7	4 38.4	244 39.3	N22 39.4	319 36.7	N16 30.4	246 29.3	N21 20.8	351 44.3	N 3 02.0
S	8	19 40.8	259 38.6	N22 38.8	334 37.3	N16 31.0	261 31.2	N21 20.7	6 46.6	N 3 02.1
D	9	34 43.3	274 38.0	N22 38.2	349 38.0	N16 31.5	276 33.2	N21 20.6	21 48.9	N 3 02.2
A	10	49 45.8	289 37.4	N22 37.6	4 38.6	N16 32.1	291 35.1	N21 20.5	36 51.2	N 3 02.2
Y	11	64 48.2	304 36.7	N22 37.1	19 39.2	N16 32.6	306 37.0	N21 20.4	51 53.5	N 3 02.3
	12	79 50.7	319 36.1	N22 36.5	34 39.9	N16 33.1	321 39.0	N21 20.4	66 55.8	N 3 02.3
	13	94 53.1	334 35.5	N22 35.9	49 40.5	N16 33.7	336 40.9	N21 20.3	81 58.1	N 3 02.4
	14	109 55.6	349 34.8	N22 35.3	64 41.2	N16 34.2	351 42.8	N21 20.2	97 00.4	N 3 02.5
	15	124 58.1	4 34.2	N22 34.8	79 41.8	N16 34.8	6 44.8	N21 20.1	112 02.7	N 3 02.5
	16	140 00.5	19 33.6	N22 34.2	94 42.4	N16 35.3	21 46.7	N21 20.0	127 05.0	N 3 02.6
	17	155 03.0	34 32.9	N22 33.6	109 43.1	N16 35.8	36 48.6	N21 19.9	142 07.3	N 3 02.6
	18	170 05.5	49 32.3	N22 33.0	124 43.7	N16 36.4	51 50.6	N21 19.8	157 09.6	N 3 02.7
	19	185 07.9	64 31.7	N22 32.4	139 44.4	N16 36.9	66 52.5	N21 19.7	172 11.9	N 3 02.8
	20	200 10.4	79 31.1	N22 31.8	154 45.0	N16 37.4	81 54.5	N21 19.6	187 14.2	N 3 02.8
	21	215 12.9	94 30.4	N22 31.3	169 45.7	N16 38.0	96 56.4	N21 19.5	202 16.5	N 3 02.9
	22	230 15.3	109 29.8	N22 30.7	184 46.3	N16 38.5	111 58.3	N21 19.4	217 18.8	N 3 02.9
	23	245 17.8	124 29.2	N22 30.1	199 46.9	N16 39.0	127 00.3	N21 19.3	232 21.0	N 3 03.0
			v -0.6	d 0.6	v 0.6	d 0.5	v 1.9	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
9	0	180 12.6	N22 54.8	262 29.3	14.3	S 0 06.8	15.5	57.4
	1	195 12.5	N22 55.1	277 02.6	14.2	N 0 08.7	15.6	57.4
	2	210 12.4	N22 55.3	291 35.8	14.2	N 0 24.3	15.6	57.4
	3	225 12.3	N22 55.5	306 08.9	14.2	N 0 39.9	15.6	57.5
	4	240 12.2	N22 55.7	320 42.0	14.1	N 0 55.5	15.6	57.5
T	5	255 12.0	N22 55.9	335 15.1	14.1	N 1 11.1	15.6	57.5
U								
E	6	270 11.9	N22 56.1	349 48.1	14.0	N 1 26.8	15.6	57.6
S	7	285 11.8	N22 56.3	4 21.1	14.0	N 1 42.5	15.7	57.6
D	8	300 11.7	N22 56.5	18 54.0	13.9	N 1 58.1	15.7	57.7
A	9	315 11.5	N22 56.7	33 26.9	13.9	N 2 13.8	15.7	57.7
Y	10	330 11.4	N22 56.9	47 59.7	13.8	N 2 29.5	15.7	57.7
	11	345 11.3	N22 57.1	62 32.5	13.8	N 2 45.2	15.7	57.8
	12	0 11.2	N22 57.3	77 05.2	13.7	N 3 00.9	15.7	57.8
	13	15 11.0	N22 57.5	91 37.9	13.7	N 3 16.7	15.7	57.8
	14	30 10.9	N22 57.7	106 10.5	13.6	N 3 32.4	15.7	57.9
	15	45 10.8	N22 57.9	120 43.1	13.6	N 3 48.1	15.7	57.9
	16	60 10.7	N22 58.1	135 15.6	13.5	N 4 03.9	15.7	58.0
	17	75 10.5	N22 58.3	149 48.0	13.4	N 4 19.6	15.7	58.0
	18	90 10.4	N22 58.5	164 20.4	13.4	N 4 35.4	15.7	58.0
	19	105 10.3	N22 58.7	178 52.7	13.3	N 4 51.1	15.7	58.1
	20	120 10.2	N22 58.9	193 24.9	13.2	N 5 06.9	15.7	58.1
	21	135 10.1	N22 59.1	207 57.1	13.2	N 5 22.6	15.7	58.2
	22	150 09.9	N22 59.3	222 29.2	13.1	N 5 38.4	15.7	58.2
	23	165 09.8	N22 59.5	237 01.3	13.0	N 5 54.1	15.7	58.2
10	0	180 09.7	N22 59.7	251 33.2	13.0	N 6 09.8	15.7	58.3
	1	195 09.6	N22 59.9	266 05.1	12.9	N 6 25.5	15.7	58.3
	2	210 09.4	N23 00.1	280 37.0	12.8	N 6 41.3	15.7	58.3
	3	225 09.3	N23 00.3	295 08.7	12.8	N 6 57.0	15.7	58.4
	4	240 09.2	N23 00.5	309 40.4	12.7	N 7 12.6	15.7	58.4
W	5	255 09.1	N23 00.7	324 12.0	12.6	N 7 28.3	15.7	58.5
E								
D	6	270 08.9	N23 00.9	338 43.5	12.5	N 7 44.0	15.7	58.5
N	7	285 08.8	N23 01.1	353 14.9	12.4	N 7 59.6	15.6	58.5
E	8	300 08.7	N23 01.2	7 46.3	12.4	N 8 15.3	15.6	58.6
S	9	315 08.5	N23 01.4	22 17.5	12.3	N 8 30.9	15.6	58.6
D	10	330 08.4	N23 01.6	36 48.7	12.2	N 8 46.5	15.6	58.7
A	11	345 08.3	N23 01.8	51 19.8	12.1	N 9 02.0	15.6	58.7
Y								
	12	0 08.2	N23 02.0	65 50.8	12.0	N 9 17.6	15.5	58.7
	13	15 08.0	N23 02.2	80 21.7	11.9	N 9 33.1	15.5	58.8
	14	30 07.9	N23 02.4	94 52.6	11.8	N 9 48.6	15.5	58.8
	15	45 07.8	N23 02.5	109 23.3	11.7	N10 04.1	15.5	58.9
	16	60 07.7	N23 02.7	123 53.9	11.6	N10 19.5	15.4	58.9
	17	75 07.5	N23 02.9	138 24.5	11.5	N10 34.9	15.4	58.9
	18	90 07.4	N23 03.1	152 54.9	11.4	N10 50.3	15.4	59.0
	19	105 07.3	N23 03.3	167 25.3	11.3	N11 05.6	15.3	59.0
	20	120 07.2	N23 03.5	181 55.5	11.2	N11 21.0	15.3	59.0
	21	135 07.0	N23 03.6	196 25.7	11.1	N11 36.2	15.3	59.1
	22	150 06.9	N23 03.8	210 55.7	11.0	N11 51.4	15.2	59.1
	23	165 06.8	N23 04.0	225 25.6	10.9	N12 06.6	15.2	59.2
11	0	180 06.6	N23 04.2	239 55.5	10.8	N12 21.8	15.1	59.2
	1	195 06.5	N23 04.4	254 25.2	10.7	N12 36.9	15.1	59.2
	2	210 06.4	N23 04.5	268 54.8	10.6	N12 51.9	15.1	59.3
	3	225 06.3	N23 04.7	283 24.3	10.5	N13 06.9	15.0	59.3
	4	240 06.1	N23 04.9	297 53.7	10.4	N13 21.9	15.0	59.3
T	5	255 06.0	N23 05.1	312 23.0	10.3	N13 36.8	14.9	59.4
H								
U	6	270 05.9	N23 05.2	326 52.2	10.2	N13 51.6	14.8	59.4
R	7	285 05.8	N23 05.4	341 21.2	10.1	N14 06.4	14.8	59.5
S	8	300 05.6	N23 05.6	355 50.1	9.9	N14 21.1	14.7	59.5
D	9	315 05.5	N23 05.7	10 19.0	9.8	N14 35.8	14.7	59.5
A	10	330 05.4	N23 05.9	24 47.7	9.7	N14 50.4	14.6	59.6
Y	11	345 05.2	N23 06.1	39 16.2	9.6	N15 05.0	14.5	59.6
	12	0 05.1	N23 06.3	53 44.7	9.5	N15 19.5	14.5	59.6
	13	15 05.0	N23 06.4	68 13.0	9.3	N15 33.9	14.4	59.7
	14	30 04.9	N23 06.6	82 41.3	9.2	N15 48.2	14.3	59.7
	15	45 04.7	N23 06.8	97 09.4	9.1	N16 02.5	14.3	59.7
	16	60 04.6	N23 06.9	111 37.3	9.0	N16 16.7	14.2	59.8
	17	75 04.5	N23 07.1	126 05.2	8.8	N16 30.8	14.1	59.8
	18	90 04.3	N23 07.3	140 32.9	8.7	N16 44.9	14.0	59.9
	19	105 04.2	N23 07.4	155 00.4	8.6	N16 58.8	14.0	59.9
	20	120 04.1	N23 07.6	169 27.9	8.5	N17 12.7	13.9	59.9
	21	135 04.0	N23 07.7	183 55.2	8.3	N17 26.5	13.8	60.0
	22	150 03.8	N23 07.9	198 22.4	8.2	N17 40.2	13.7	60.0
	23	165 03.7	N23 08.1	212 49.5	8.1	N17 53.8	13.6	60.0
		S.D. 15.8	d 0.2	S.D.	15.8	16.0	16.2	

Name	SHA ° '	Dec ° '
Acamar	315 11.2	S40 11.8
Achernar	335 19.6	S57 05.9
Acrux	172 58.6	S63 15.0
Adhara	255 05.3	S29 00.5
Albireo	67 02.8	N28 00.8
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.7	N55 49.2
Alkaid	152 50.8	N49 11.0
Al Na-ir	27 31.2	S46 49.7
Alnilam	275 36.9	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.7	N29 14.1
Altair	61 58.5	N 8 56.2
Ankaa	353 06.1	S42 09.5
Antares	112 14.1	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.8	S69 04.6
Avior	234 14.7	S59 35.9
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.4	S52 42.6
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.7	N45 22.3
Denebola	182 23.7	N14 25.5
Diphda	348 46.3	S17 50.3
Dubhe	193 39.6	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.1	N51 29.0
Enif	33 37.5	N 9 59.7
Fomalhaut	15 13.2	S29 28.8
Gacrux	171 50.2	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.2	N23 35.2
Kaus Austr.	83 30.6	S34 22.3
Kochab	137 19.0	N74 02.9
Markab	13 28.7	N15 20.7
Menkar	314 05.2	N 4 11.6
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.5	S69 49.8
Mirfak	308 27.1	N49 57.2
Nunki	75 46.0	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	316 20.0	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.2	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.2
Rigil Kent	139 38.3	S60 56.9
Sabik	102 01.1	S15 45.5
Schedar	349 29.9	N56 40.7
Shaula	96 08.4	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.6
Vega	80 32.0	N38 48.3
Zuben-ubi	136 55.3	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
12	0	260 20.2	139 28.6	N22 29.5	214 47.6	N16 39.6	142 02.2	N21 19.2	247 23.3	N 3 03.1
	1	275 22.7	154 27.9	N22 28.9	229 48.2	N16 40.1	157 04.1	N21 19.2	262 25.6	N 3 03.1
	2	290 25.2	169 27.3	N22 28.3	244 48.9	N16 40.6	172 06.1	N21 19.1	277 27.9	N 3 03.2
	3	305 27.6	184 26.7	N22 27.7	259 49.5	N16 41.2	187 08.0	N21 19.0	292 30.2	N 3 03.2
	4	320 30.1	199 26.1	N22 27.1	274 50.1	N16 41.7	202 09.9	N21 18.9	307 32.5	N 3 03.3
F	5	335 32.6	214 25.4	N22 26.5	289 50.8	N16 42.2	217 11.9	N21 18.8	322 34.8	N 3 03.3
R										
I	6	350 35.0	229 24.8	N22 25.9	304 51.4	N16 42.8	232 13.8	N21 18.7	337 37.1	N 3 03.4
D	7	5 37.5	244 24.2	N22 25.3	319 52.0	N16 43.3	247 15.7	N21 18.6	352 39.4	N 3 03.5
A	8	20 40.0	259 23.6	N22 24.7	334 52.7	N16 43.8	262 17.7	N21 18.5	7 41.7	N 3 03.5
Y	9	35 42.4	274 22.9	N22 24.1	349 53.3	N16 44.4	277 19.6	N21 18.4	22 44.0	N 3 03.6
	10	50 44.9	289 22.3	N22 23.5	4 54.0	N16 44.9	292 21.5	N21 18.3	37 46.3	N 3 03.6
	11	65 47.4	304 21.7	N22 22.9	19 54.6	N16 45.4	307 23.5	N21 18.2	52 48.6	N 3 03.7
	12	80 49.8	319 21.1	N22 22.3	34 55.2	N16 46.0	322 25.4	N21 18.1	67 50.9	N 3 03.8
	13	95 52.3	334 20.5	N22 21.7	49 55.9	N16 46.5	337 27.4	N21 18.0	82 53.2	N 3 03.8
	14	110 54.7	349 19.8	N22 21.1	64 56.5	N16 47.0	352 29.3	N21 17.9	97 55.5	N 3 03.9
	15	125 57.2	4 19.2	N22 20.5	79 57.2	N16 47.6	7 31.2	N21 17.9	112 57.8	N 3 03.9
	16	140 59.7	19 18.6	N22 19.9	94 57.8	N16 48.1	22 33.2	N21 17.8	128 00.1	N 3 04.0
	17	156 02.1	34 18.0	N22 19.3	109 58.4	N16 48.6	37 35.1	N21 17.7	143 02.4	N 3 04.1
	18	171 04.6	49 17.4	N22 18.7	124 59.1	N16 49.2	52 37.0	N21 17.6	158 04.7	N 3 04.1
	19	186 07.1	64 16.8	N22 18.1	139 59.7	N16 49.7	67 39.0	N21 17.5	173 07.0	N 3 04.2
	20	201 09.5	79 16.1	N22 17.5	155 00.4	N16 50.2	82 40.9	N21 17.4	188 09.3	N 3 04.2
	21	216 12.0	94 15.5	N22 16.9	170 01.0	N16 50.7	97 42.8	N21 17.3	203 11.6	N 3 04.3
	22	231 14.5	109 14.9	N22 16.3	185 01.6	N16 51.3	112 44.8	N21 17.2	218 13.9	N 3 04.3
	23	246 16.9	124 14.3	N22 15.6	200 02.3	N16 51.8	127 46.7	N21 17.1	233 16.2	N 3 04.4
13	0	261 19.4	139 13.7	N22 15.0	215 02.9	N16 52.3	142 48.6	N21 17.0	248 18.5	N 3 04.5
	1	276 21.9	154 13.1	N22 14.4	230 03.5	N16 52.8	157 50.6	N21 16.9	263 20.8	N 3 04.5
	2	291 24.3	169 12.5	N22 13.8	245 04.2	N16 53.4	172 52.5	N21 16.8	278 23.1	N 3 04.6
	3	306 26.8	184 11.9	N22 13.2	260 04.8	N16 53.9	187 54.4	N21 16.7	293 25.4	N 3 04.6
	4	321 29.2	199 11.3	N22 12.6	275 05.5	N16 54.4	202 56.4	N21 16.6	308 27.7	N 3 04.7
S	5	336 31.7	214 10.6	N22 11.9	290 06.1	N16 55.0	217 58.3	N21 16.5	323 30.0	N 3 04.8
A										
T	6	351 34.2	229 10.0	N22 11.3	305 06.7	N16 55.5	233 00.2	N21 16.5	338 32.3	N 3 04.8
U	7	6 36.6	244 09.4	N22 10.7	320 07.4	N16 56.0	248 02.2	N21 16.4	353 34.6	N 3 04.9
R	8	21 39.1	259 08.8	N22 10.1	335 08.0	N16 56.5	263 04.1	N21 16.3	8 36.9	N 3 04.9
D	9	36 41.6	274 08.2	N22 09.4	350 08.7	N16 57.1	278 06.0	N21 16.2	23 39.2	N 3 05.0
A	10	51 44.0	289 07.6	N22 08.8	5 09.3	N16 57.6	293 08.0	N21 16.1	38 41.5	N 3 05.0
Y	11	66 46.5	304 07.0	N22 08.2	20 09.9	N16 58.1	308 09.9	N21 16.0	53 43.8	N 3 05.1
	12	81 49.0	319 06.4	N22 07.6	35 10.6	N16 58.6	323 11.8	N21 15.9	68 46.1	N 3 05.2
	13	96 51.4	334 05.8	N22 06.9	50 11.2	N16 59.2	338 13.7	N21 15.8	83 48.4	N 3 05.2
	14	111 53.9	349 05.2	N22 06.3	65 11.8	N16 59.7	353 15.7	N21 15.7	98 50.7	N 3 05.3
	15	126 56.3	4 04.6	N22 05.7	80 12.5	N17 00.2	8 17.6	N21 15.6	113 53.0	N 3 05.3
	16	141 58.8	19 04.0	N22 05.1	95 13.1	N17 00.7	23 19.5	N21 15.5	128 55.3	N 3 05.4
	17	157 01.3	34 03.4	N22 04.4	110 13.8	N17 01.2	38 21.5	N21 15.4	143 57.6	N 3 05.4
	18	172 03.7	49 02.8	N22 03.8	125 14.4	N17 01.8	53 23.4	N21 15.3	158 59.9	N 3 05.5
	19	187 06.2	64 02.2	N22 03.2	140 15.0	N17 02.3	68 25.3	N21 15.2	174 02.2	N 3 05.6
	20	202 08.7	79 01.6	N22 02.5	155 15.7	N17 02.8	83 27.3	N21 15.1	189 04.5	N 3 05.6
	21	217 11.1	94 01.0	N22 01.9	170 16.3	N17 03.3	98 29.2	N21 15.0	204 06.8	N 3 05.7
	22	232 13.6	109 00.4	N22 01.3	185 16.9	N17 03.9	113 31.1	N21 14.9	219 09.2	N 3 05.7
	23	247 16.1	123 59.8	N22 00.6	200 17.6	N17 04.4	128 33.1	N21 14.9	234 11.5	N 3 05.8
14	0	262 18.5	138 59.2	N21 60.0	215 18.2	N17 04.9	143 35.0	N21 14.8	249 13.8	N 3 05.8
	1	277 21.0	153 58.6	N21 59.3	230 18.8	N17 05.4	158 36.9	N21 14.7	264 16.1	N 3 05.9
	2	292 23.5	168 58.0	N21 58.7	245 19.5	N17 05.9	173 38.9	N21 14.6	279 18.4	N 3 06.0
	3	307 25.9	183 57.4	N21 58.1	260 20.1	N17 06.5	188 40.8	N21 14.5	294 20.7	N 3 06.0
	4	322 28.4	198 56.8	N21 57.4	275 20.8	N17 07.0	203 42.7	N21 14.4	309 23.0	N 3 06.1
S	5	337 30.8	213 56.2	N21 56.8	290 21.4	N17 07.5	218 44.7	N21 14.3	324 25.3	N 3 06.1
U										
N	6	352 33.3	228 55.6	N21 56.1	305 22.0	N17 08.0	233 46.6	N21 14.2	339 27.6	N 3 06.2
D	7	7 35.8	243 55.0	N21 55.5	320 22.7	N17 08.5	248 48.5	N21 14.1	354 29.9	N 3 06.2
A	8	22 38.2	258 54.4	N21 54.8	335 23.3	N17 09.0	263 50.4	N21 14.0	9 32.2	N 3 06.3
Y	9	37 40.7	273 53.9	N21 54.2	350 23.9	N17 09.6	278 52.4	N21 13.9	24 34.5	N 3 06.3
	10	52 43.2	288 53.3	N21 53.5	5 24.6	N17 10.1	293 54.3	N21 13.8	39 36.8	N 3 06.4
	11	67 45.6	303 52.7	N21 52.9	20 25.2	N17 10.6	308 56.2	N21 13.7	54 39.1	N 3 06.5
	12	82 48.1	318 52.1	N21 52.2	35 25.8	N17 11.1	323 58.2	N21 13.6	69 41.4	N 3 06.5
	13	97 50.6	333 51.5	N21 51.6	50 26.5	N17 11.6	339 00.1	N21 13.5	84 43.7	N 3 06.6
	14	112 53.0	348 50.9	N21 50.9	65 27.1	N17 12.1	354 02.0	N21 13.4	99 46.0	N 3 06.6
	15	127 55.5	3 50.3	N21 50.3	80 27.8	N17 12.7	9 04.0	N21 13.3	114 48.3	N 3 06.7
	16	142 58.0	18 49.7	N21 49.6	95 28.4	N17 13.2	24 05.9	N21 13.2	129 50.6	N 3 06.7
	17	158 00.4	33 49.2	N21 49.0	110 29.0	N17 13.7	39 07.8	N21 13.1	144 52.9	N 3 06.8
	18	173 02.9	48 48.6	N21 48.3	125 29.7	N17 14.2	54 09.7	N21 13.1	159 55.2	N 3 06.8
	19	188 05.3	63 48.0	N21 47.7	140 30.3	N17 14.7	69 11.7	N21 13.0	174 57.5	N 3 06.9
	20	203 07.8	78 47.4	N21 47.0	155 30.9	N17 15.2	84 13.6	N21 12.9	189 59.9	N 3 07.0
	21	218 10.3	93 46.8	N21 46.4	170 31.6	N17 15.7	99 15.5	N21 12.8	205 02.2	N 3 07.0
	22	233 12.7	108 46.2	N21 45.7	185 32.2	N17 16.3	114 17.5	N21 12.7	220 04.5	N 3 07.1
	23	248 15.2	123 45.6	N21 45.0	200 32.8	N17 16.8	129 19.4	N21 12.6	235 06.8	N 3 07.1
			v -0.6	d 0.6	v 0.6	d 0.5	v 1.9	d 0.1	v 2.3	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
12	0	180 03.6	N23 08.2	227 16.4	7.9	N18 07.3	13.5	60.1
	1	195 03.4	N23 08.4	241 43.2	7.8	N18 20.8	13.4	60.1
	2	210 03.3	N23 08.6	256 09.9	7.7	N18 34.1	13.3	60.1
	3	225 03.2	N23 08.7	270 36.4	7.5	N18 47.4	13.2	60.2
	4	240 03.0	N23 08.9	285 02.8	7.4	N19 00.5	13.1	60.2
F	5	255 02.9	N23 09.0	299 29.0	7.3	N19 13.5	13.0	60.2
R								
I	6	270 02.8	N23 09.2	313 55.1	7.1	N19 26.5	12.9	60.3
D	7	285 02.7	N23 09.3	328 21.1	7.0	N19 39.3	12.8	60.3
A	8	300 02.5	N23 09.5	342 47.0	6.8	N19 52.0	12.7	60.3
Y	9	315 02.4	N23 09.6	357 12.7	6.7	N20 04.6	12.6	60.3
	10	330 02.3	N23 09.8	11 38.2	6.6	N20 17.1	12.5	60.4
	11	345 02.1	N23 10.0	26 03.7	6.4	N20 29.5	12.4	60.4
	12	0 02.0	N23 10.1	40 28.9	6.3	N20 41.8	12.3	60.4
	13	15 01.9	N23 10.3	54 54.1	6.1	N20 53.9	12.1	60.5
	14	30 01.7	N23 10.4	69 19.1	6.0	N21 05.9	12.0	60.5
	15	45 01.6	N23 10.6	83 44.0	5.9	N21 17.8	11.9	60.5
	16	60 01.5	N23 10.7	98 08.7	5.7	N21 29.6	11.8	60.6
	17	75 01.3	N23 10.9	112 33.3	5.6	N21 41.2	11.6	60.6
	18	90 01.2	N23 11.0	126 57.8	5.5	N21 52.7	11.5	60.6
	19	105 01.1	N23 11.2	141 22.1	5.3	N22 04.1	11.4	60.6
	20	120 01.0	N23 11.3	155 46.2	5.2	N22 15.3	11.2	60.7
	21	135 00.8	N23 11.4	170 10.3	5.0	N22 26.4	11.1	60.7
	22	150 00.7	N23 11.6	184 34.2	4.9	N22 37.3	10.9	60.7
	23	165 00.6	N23 11.7	198 58.0	4.8	N22 48.1	10.8	60.7
13	0	180 00.4	N23 11.9	213 21.6	4.6	N22 58.8	10.7	60.8
	1	195 00.3	N23 12.0	227 45.1	4.5	N23 09.3	10.5	60.8
	2	210 00.2	N23 12.2	242 08.4	4.4	N23 19.6	10.3	60.8
	3	225 00.0	N23 12.3	256 31.7	4.2	N23 29.8	10.2	60.8
	4	239 59.9	N23 12.4	270 54.8	4.1	N23 39.8	10.0	60.9
S	5	254 59.8	N23 12.6	285 17.7	4.0	N23 49.7	9.9	60.9
A								
T	6	269 59.6	N23 12.7	299 40.5	3.8	N23 59.4	9.7	60.9
U	7	284 59.5	N23 12.9	314 03.2	3.7	N24 09.0	9.6	60.9
R	8	299 59.4	N23 13.0	328 25.8	3.6	N24 18.4	9.4	61.0
D	9	314 59.2	N23 13.1	342 48.2	3.4	N24 27.6	9.2	61.0
A	10	329 59.1	N23 13.3	357 10.5	3.3	N24 36.7	9.1	61.0
Y	11	344 59.0	N23 13.4	11 32.7	3.2	N24 45.5	8.9	61.0
	12	359 58.8	N23 13.6	25 54.8	3.1	N24 54.3	8.7	61.0
	13	14 58.7	N23 13.7	40 16.7	2.9	N25 02.8	8.5	61.1
	14	29 58.6	N23 13.8	54 38.6	2.8	N25 11.1	8.4	61.1
	15	44 58.4	N23 14.0	69 00.3	2.7	N25 19.3	8.2	61.1
	16	59 58.3	N23 14.1	83 21.8	2.6	N25 27.3	8.0	61.1
	17	74 58.2	N23 14.2	97 43.3	2.5	N25 35.1	7.8	61.1
	18	89 58.0	N23 14.3	112 04.7	2.4	N25 42.7	7.6	61.1
	19	104 57.9	N23 14.5	126 25.9	2.2	N25 50.2	7.4	61.2
	20	119 57.8	N23 14.6	140 47.1	2.1	N25 57.4	7.2	61.2
	21	134 57.6	N23 14.7	155 08.1	2.0	N26 04.4	7.0	61.2
	22	149 57.5	N23 14.9	169 29.0	1.9	N26 11.3	6.9	61.2
	23	164 57.4	N23 15.0	183 49.9	1.8	N26 17.9	6.7	61.2
14	0	179 57.3	N23 15.1	198 10.6	1.7	N26 24.4	6.5	61.2
	1	194 57.1	N23 15.2	212 31.2	1.6	N26 30.7	6.3	61.2
	2	209 57.0	N23 15.4	226 51.8	1.5	N26 36.7	6.1	61.3
	3	224 56.9	N23 15.5	241 12.2	1.4	N26 42.6	5.9	61.3
	4	239 56.7	N23 15.6	255 32.6	1.4	N26 48.2	5.6	61.3
S	5	254 56.6	N23 15.7	269 52.8	1.3	N26 53.7	5.4	61.3
U								
N	6	269 56.4	N23 15.9	284 13.0	1.2	N26 58.9	5.2	61.3
D	7	284 56.3	N23 16.0	298 33.1	1.1	N27 03.9	5.0	61.3
A	8	299 56.2	N23 16.1	312 53.2	1.0	N27 08.7	4.8	61.3
Y	9	314 56.0	N23 16.2	327 13.1	1.0	N27 13.3	4.6	61.3
	10	329 55.9	N23 16.3	341 33.0	0.9	N27 17.7	4.4	61.3
	11	344 55.8	N23 16.5	355 52.9	0.8	N27 21.9	4.2	61.3
	12	359 55.6	N23 16.6	10 12.6	0.8	N27 25.9	4.0	61.4
	13	14 55.5	N23 16.7	24 32.3	0.7	N27 29.6	3.7	61.4
	14	29 55.4	N23 16.8	38 52.0	0.6	N27 33.1	3.5	61.4
	15	44 55.2	N23 16.9	53 11.6	0.6	N27 36.4	3.3	61.4
	16	59 55.1	N23 17.1	67 31.1	0.5	N27 39.5	3.1	61.4
	17	74 55.0	N23 17.2	81 50.6	0.5	N27 42.4	2.9	61.4
	18	89 54.8	N23 17.3	96 10.1	0.5	N27 45.1	2.6	61.4
	19	104 54.7	N23 17.4	110 29.5	0.4	N27 47.5	2.4	61.4
	20	119 54.6	N23 17.5	124 48.9	0.4	N27 49.7	2.2	61.4
	21	134 54.4	N23 17.6	139 08.2	0.4	N27 51.7	2.0	61.4
	22	149 54.3	N23 17.7	153 27.6	0.3	N27 53.4	1.8	61.4
	23	164 54.2	N23 17.8	167 46.9	0.3	N27 54.9	1.5	61.4
		S.D. 15.7	d 0.1	S.D. 16.5		16.6	16.7	

Name	SHA	Dec
Acamar	315 11.2	S40 11.7
Achernar	335 19.6	S57 05.8
Acrux	172 58.7	S63 15.1
Adhara	255 05.3	S29 00.5
Albireo	67 02.8	N28 00.8
Aldebaran	290 38.6	N16 33.7
Alioth	166 11.7	N55 49.2
Alkaid	152 50.8	N49 11.0
Al Na-ir	27 31.2	S46 49.7
Alnilam	275 36.8	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.6	N29 14.1
Altair	61 58.5	N 8 56.2
Ankaa	353 06.1	S42 09.5
Antares	112 14.0	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.7	S69 04.6
Avior	234 14.7	S59 35.8
Bellatrix	278 22.0	N 6 22.4
Betelgeuse	270 51.2	N 7 24.7
Canopus	263 52.4	S52 42.6
Capella	280 20.7	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.7	N45 22.3
Denebola	182 23.7	N14 25.5
Diphda	348 46.2	S17 50.3
Dubhe	193 39.6	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.1	N51 29.0
Enif	33 37.4	N 9 59.7
Fomalhaut	15 13.1	S29 28.7
Gacrux	171 50.2	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.1	N23 35.2
Kaus Austr.	83 30.6	S34 22.3
Kochab	137 19.0	N74 02.9
Markab	13 28.7	N15 20.8
Menkar	314 05.2	N 4 11.6
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.5	S69 49.8
Mirfak	308 27.1	N49 57.2
Nunki	75 45.9	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	316 18.9	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.4
Rasalhague	95 57.1	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.2
Rigil Kent	139 38.4	S60 56.9
Sabik	102 01.1	S15 45.5
Schedar	349 29.9	N56 40.7
Shaula	96 08.3	S37 07.4
Sirius	258 25.5	S16 45.2
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.6
Vega	80 32.0	N38 48.4
Zuben-ubi	136 55.3	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
15	0	263 17.7	138 45.1	N21 44.4	215 33.5	N17 17.3	144 21.3	N21 12.5	250 09.1	N 3 07.2
	1	278 20.1	153 44.5	N21 43.7	230 34.1	N17 17.8	159 23.3	N21 12.4	265 11.4	N 3 07.2
	2	293 22.6	168 43.9	N21 43.0	245 34.7	N17 18.3	174 25.2	N21 12.3	280 13.7	N 3 07.3
	3	308 25.1	183 43.3	N21 42.4	260 35.4	N17 18.8	189 27.1	N21 12.2	295 16.0	N 3 07.3
	4	323 27.5	198 42.7	N21 41.7	275 36.0	N17 19.3	204 29.0	N21 12.1	310 18.3	N 3 07.4
M	5	338 30.0	213 42.2	N21 41.0	290 36.6	N17 19.8	219 31.0	N21 12.0	325 20.6	N 3 07.5
O										
N	6	353 32.5	228 41.6	N21 40.4	305 37.3	N17 20.4	234 32.9	N21 11.9	340 22.9	N 3 07.5
D	7	8 34.9	243 41.0	N21 39.7	320 37.9	N17 20.9	249 34.8	N21 11.8	355 25.2	N 3 07.6
A	8	23 37.4	258 40.4	N21 39.0	335 38.6	N17 21.4	264 36.8	N21 11.7	10 27.5	N 3 07.6
Y	9	38 39.8	273 39.9	N21 38.4	350 39.2	N17 21.9	279 38.7	N21 11.6	25 29.8	N 3 07.7
	10	53 42.3	288 39.3	N21 37.7	5 39.8	N17 22.4	294 40.6	N21 11.5	40 32.2	N 3 07.7
	11	68 44.8	303 38.7	N21 37.0	20 40.5	N17 22.9	309 42.5	N21 11.4	55 34.5	N 3 07.8
	12	83 47.2	318 38.1	N21 36.4	35 41.1	N17 23.4	324 44.5	N21 11.3	70 36.8	N 3 07.8
	13	98 49.7	333 37.6	N21 35.7	50 41.7	N17 23.9	339 46.4	N21 11.2	85 39.1	N 3 07.9
	14	113 52.2	348 37.0	N21 35.0	65 42.4	N17 24.4	354 48.3	N21 11.1	100 41.4	N 3 07.9
	15	128 54.6	3 36.4	N21 34.3	80 43.0	N17 24.9	9 50.2	N21 11.0	115 43.7	N 3 08.0
	16	143 57.1	18 35.9	N21 33.7	95 43.6	N17 25.5	24 52.2	N21 10.9	130 46.0	N 3 08.1
	17	158 59.6	33 35.3	N21 33.0	110 44.3	N17 26.0	39 54.1	N21 10.8	145 48.3	N 3 08.1
	18	174 02.0	48 34.7	N21 32.3	125 44.9	N17 26.5	54 56.0	N21 10.7	160 50.6	N 3 08.2
	19	189 04.5	63 34.1	N21 31.6	140 45.5	N17 27.0	69 58.0	N21 10.7	175 52.9	N 3 08.2
	20	204 07.0	78 33.6	N21 30.9	155 46.2	N17 27.5	84 59.9	N21 10.6	190 55.2	N 3 08.3
	21	219 09.4	93 33.0	N21 30.3	170 46.8	N17 28.0	100 01.8	N21 10.5	205 57.5	N 3 08.3
	22	234 11.9	108 32.4	N21 29.6	185 47.4	N17 28.5	115 03.7	N21 10.4	220 59.9	N 3 08.4
	23	249 14.3	123 31.9	N21 28.9	200 48.1	N17 29.0	130 05.7	N21 10.3	236 02.2	N 3 08.4
16	0	264 16.8	138 31.3	N21 28.2	215 48.7	N17 29.5	145 07.6	N21 10.2	251 04.5	N 3 08.5
	1	279 19.3	153 30.7	N21 27.5	230 49.3	N17 30.0	160 09.5	N21 10.1	266 06.8	N 3 08.5
	2	294 21.7	168 30.2	N21 26.8	245 50.0	N17 30.5	175 11.4	N21 10.0	281 09.1	N 3 08.6
	3	309 24.2	183 29.6	N21 26.1	260 50.6	N17 31.0	190 13.4	N21 09.9	296 11.4	N 3 08.6
	4	324 26.7	198 29.1	N21 25.5	275 51.2	N17 31.5	205 15.3	N21 09.8	311 13.7	N 3 08.7
T	5	339 29.1	213 28.5	N21 24.8	290 51.9	N17 32.0	220 17.2	N21 09.7	326 16.0	N 3 08.8
U										
E	6	354 31.6	228 27.9	N21 24.1	305 52.5	N17 32.5	235 19.2	N21 09.6	341 18.3	N 3 08.8
S	7	9 34.1	243 27.4	N21 23.4	320 53.1	N17 33.0	250 21.1	N21 09.5	356 20.6	N 3 08.9
D	8	24 36.5	258 26.8	N21 22.7	335 53.8	N17 33.5	265 23.0	N21 09.4	11 23.0	N 3 08.9
A	9	39 39.0	273 26.2	N21 22.0	350 54.4	N17 34.0	280 24.9	N21 09.3	26 25.3	N 3 09.0
Y	10	54 41.5	288 25.7	N21 21.3	5 55.0	N17 34.6	295 26.9	N21 09.2	41 27.6	N 3 09.0
	11	69 43.9	303 25.1	N21 20.6	20 55.7	N17 35.1	310 28.8	N21 09.1	56 29.9	N 3 09.1
	12	84 46.4	318 24.6	N21 19.9	35 56.3	N17 35.6	325 30.7	N21 09.0	71 32.2	N 3 09.1
	13	99 48.8	333 24.0	N21 19.2	50 56.9	N17 36.1	340 32.6	N21 08.9	86 34.5	N 3 09.2
	14	114 51.3	348 23.5	N21 18.5	65 57.6	N17 36.6	355 34.6	N21 08.8	101 36.8	N 3 09.2
	15	129 53.8	3 22.9	N21 17.8	80 58.2	N17 37.1	10 36.5	N21 08.7	116 39.1	N 3 09.3
	16	144 56.2	18 22.3	N21 17.1	95 58.8	N17 37.6	25 38.4	N21 08.6	131 41.4	N 3 09.3
	17	159 58.7	33 21.8	N21 16.4	110 59.5	N17 38.1	40 40.3	N21 08.5	146 43.8	N 3 09.4
	18	175 01.2	48 21.2	N21 15.7	126 00.1	N17 38.6	55 42.3	N21 08.4	161 46.1	N 3 09.4
	19	190 03.6	63 20.7	N21 15.0	141 00.7	N17 39.1	70 44.2	N21 08.3	176 48.4	N 3 09.5
	20	205 06.1	78 20.1	N21 14.3	156 01.4	N17 39.6	85 46.1	N21 08.2	191 50.7	N 3 09.6
	21	220 08.6	93 19.6	N21 13.6	171 02.0	N17 40.1	100 48.0	N21 08.1	206 53.0	N 3 09.6
	22	235 11.0	108 19.0	N21 12.9	186 02.6	N17 40.6	115 50.0	N21 08.0	221 55.3	N 3 09.7
	23	250 13.5	123 18.5	N21 12.2	201 03.3	N17 41.1	130 51.9	N21 07.9	236 57.6	N 3 09.7
17	0	265 16.0	138 17.9	N21 11.5	216 03.9	N17 41.6	145 53.8	N21 07.8	251 59.9	N 3 09.8
	1	280 18.4	153 17.4	N21 10.8	231 04.5	N17 42.1	160 55.7	N21 07.7	267 02.3	N 3 09.8
	2	295 20.9	168 16.8	N21 10.1	246 05.2	N17 42.5	175 57.7	N21 07.6	282 04.6	N 3 09.9
	3	310 23.3	183 16.3	N21 09.4	261 05.8	N17 43.0	190 59.6	N21 07.5	297 06.9	N 3 09.9
	4	325 25.8	198 15.7	N21 08.6	276 06.4	N17 43.5	206 01.5	N21 07.4	312 09.2	N 3 10.0
W	5	340 28.3	213 15.2	N21 07.9	291 07.1	N17 44.0	221 03.4	N21 07.3	327 11.5	N 3 10.0
E										
D	6	355 30.7	228 14.6	N21 07.2	306 07.7	N17 44.5	236 05.4	N21 07.3	342 13.8	N 3 10.1
N	7	10 33.2	243 14.1	N21 06.5	321 08.3	N17 45.0	251 07.3	N21 07.2	357 16.1	N 3 10.1
E	8	25 35.7	258 13.6	N21 05.8	336 08.9	N17 45.5	266 09.2	N21 07.1	12 18.5	N 3 10.2
S	9	40 38.1	273 13.0	N21 05.1	351 09.6	N17 46.0	281 11.1	N21 07.0	27 20.8	N 3 10.2
D	10	55 40.6	288 12.5	N21 04.4	6 10.2	N17 46.5	296 13.1	N21 06.9	42 23.1	N 3 10.3
A	11	70 43.1	303 11.9	N21 03.6	21 10.8	N17 47.0	311 15.0	N21 06.8	57 25.4	N 3 10.3
Y										
	12	85 45.5	318 11.4	N21 02.9	36 11.5	N17 47.5	326 16.9	N21 06.7	72 27.7	N 3 10.4
	13	100 48.0	333 10.8	N21 02.2	51 12.1	N17 48.0	341 18.8	N21 06.6	87 30.0	N 3 10.4
	14	115 50.5	348 10.3	N21 01.5	66 12.7	N17 48.5	356 20.8	N21 06.5	102 32.3	N 3 10.5
	15	130 52.9	3 09.8	N21 00.8	81 13.4	N17 49.0	11 22.7	N21 06.4	117 34.7	N 3 10.5
	16	145 55.4	18 09.2	N21 00.0	96 14.0	N17 49.5	26 24.6	N21 06.3	132 37.0	N 3 10.6
	17	160 57.8	33 08.7	N20 59.3	111 14.6	N17 50.0	41 26.5	N21 06.2	147 39.3	N 3 10.6
	18	176 00.3	48 08.1	N20 58.6	126 15.3	N17 50.5	56 28.5	N21 06.1	162 41.6	N 3 10.7
	19	191 02.8	63 07.6	N20 57.9	141 15.9	N17 51.0	71 30.4	N21 06.0	177 43.9	N 3 10.7
	20	206 05.2	78 07.1	N20 57.1	156 16.5	N17 51.5	86 32.3	N21 05.9	192 46.2	N 3 10.8
	21	221 07.7	93 06.5	N20 56.4	171 17.2	N17 51.9	101 34.2	N21 05.8	207 48.5	N 3 10.8
	22	236 10.2	108 06.0	N20 55.7	186 17.8	N17 52.4	116 36.2	N21 05.7	222 50.9	N 3 10.9
	23	251 12.6	123 05.5	N20 55.0	201 18.4	N17 52.9	131 38.1	N21 05.6	237 53.2	N 3 10.9
			v -0.6	d 0.7	v 0.6	d 0.5	v 1.9	d 0.1	v 2.3	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
15 0	179 54.0	N23 17.9	182 06.2	0.3	N27 56.2	1.3	61.4	Acamar	315 11.2	S40 11.7
1	194 53.9	N23 18.1	196 25.4	0.3	N27 57.3	1.1	61.4	Achernar	335 19.6	S57 05.8
2	209 53.8	N23 18.2	210 44.7	0.3	N27 58.2	0.9	61.4	Acrux	172 58.7	S63 15.1
3	224 53.6	N23 18.3	225 03.9	0.2	N27 58.8	0.6	61.4	Adhara	255 05.3	S29 00.5
4	239 53.5	N23 18.4	239 23.2	0.2	N27 59.2	0.4	61.4	Albireo	67 02.8	N28 00.8
M 5	254 53.4	N23 18.5	253 42.4	0.2	N27 59.4	0.2	61.4			
O								Aldebaran	290 38.6	N16 33.8
N 6	269 53.2	N23 18.6	268 01.7	0.2	N27 59.3	0.0	61.4	Alioth	166 11.7	N55 49.2
D 7	284 53.1	N23 18.7	282 20.9	0.3	N27 59.1	0.3	61.4	Alkaid	152 50.8	N49 11.0
A 8	299 53.0	N23 18.8	296 40.2	0.3	N27 58.6	0.5	61.4	Al Na-ir	27 31.2	S46 49.7
Y 9	314 52.8	N23 18.9	310 59.5	0.3	N27 57.9	0.7	61.4	Alnilam	275 36.8	S 1 11.1
10	329 52.7	N23 19.0	325 18.8	0.3	N27 56.9	0.9	61.4			
11	344 52.6	N23 19.1	339 38.1	0.3	N27 55.7	1.2	61.3	Alphard	217 46.7	S 8 46.5
								Alphecca	126 02.4	N26 37.5
12	359 52.4	N23 19.2	353 57.5	0.4	N27 54.3	1.4	61.3	Alpheratz	357 33.6	N29 14.1
13	14 52.3	N23 19.3	8 16.8	0.4	N27 52.7	1.6	61.3	Altair	61 58.5	N 8 56.2
14	29 52.1	N23 19.4	22 36.3	0.4	N27 50.9	1.8	61.3	Ankaa	353 06.0	S42 09.5
15	44 52.0	N23 19.5	36 55.7	0.5	N27 48.8	2.1	61.3			
16	59 51.9	N23 19.6	51 15.2	0.5	N27 46.5	2.3	61.3	Antares	112 14.0	S26 29.5
17	74 51.7	N23 19.7	65 34.8	0.5	N27 44.0	2.5	61.3	Arcturus	145 46.6	N19 02.7
								Atria	107 06.7	S69 04.6
18	89 51.6	N23 19.8	79 54.4	0.6	N27 41.3	2.7	61.3	Avior	234 14.8	S59 35.8
19	104 51.5	N23 19.9	94 14.0	0.6	N27 38.4	2.9	61.3	Bellatrix	278 21.9	N 6 22.4
20	119 51.3	N23 20.0	108 33.7	0.7	N27 35.2	3.2	61.3			
21	134 51.2	N23 20.1	122 53.5	0.8	N27 31.8	3.4	61.3	Betelgeuse	270 51.1	N 7 24.7
22	149 51.1	N23 20.2	137 13.3	0.8	N27 28.2	3.6	61.2	Canopus	263 52.4	S52 42.6
23	164 50.9	N23 20.3	151 33.2	0.9	N27 24.4	3.8	61.2	Capella	280 20.6	N46 01.5
								Castor	245 55.9	N31 49.9
16 0	179 50.8	N23 20.4	165 53.2	1.0	N27 20.4	4.0	61.2	Deneb	49 24.6	N45 22.3
1	194 50.7	N23 20.5	180 13.2	1.0	N27 16.1	4.2	61.2			
2	209 50.5	N23 20.5	194 33.3	1.1	N27 11.7	4.4	61.2	Denebola	182 23.7	N14 25.5
3	224 50.4	N23 20.6	208 53.5	1.2	N27 07.0	4.7	61.2	Diphda	348 46.2	S17 50.3
4	239 50.2	N23 20.7	223 13.8	1.3	N27 02.2	4.9	61.2	Dubhe	193 39.6	N61 36.7
T 5	254 50.1	N23 20.8	237 34.2	1.4	N26 57.1	5.1	61.1	Elnath	278 00.8	N28 37.8
U								Eltanin	90 41.1	N51 29.0
E 6	269 50.0	N23 20.9	251 54.6	1.5	N26 51.8	5.3	61.1			
S 7	284 49.8	N23 21.0	266 15.2	1.5	N26 46.3	5.5	61.1	Enif	33 37.4	N 9 59.7
D 8	299 49.7	N23 21.1	280 35.8	1.6	N26 40.6	5.7	61.1	Fomalhaut	15 13.1	S29 28.7
A 9	314 49.6	N23 21.2	294 56.5	1.7	N26 34.8	5.9	61.1	Gacrux	171 50.2	S57 16.0
Y 10	329 49.4	N23 21.3	309 17.4	1.8	N26 28.7	6.1	61.0	Gienah	175 42.3	S17 41.5
11	344 49.3	N23 21.3	323 38.3	1.9	N26 22.4	6.3	61.0	Hadar	148 34.0	S60 30.3
12	359 49.2	N23 21.4	337 59.4	2.0	N26 15.9	6.5	61.0	Hamal	327 50.1	N23 35.2
13	14 49.0	N23 21.5	352 20.5	2.2	N26 09.3	6.7	61.0	Kaus Austr.	83 30.6	S34 22.3
14	29 48.9	N23 21.6	6 41.8	2.3	N26 02.4	6.9	61.0	Kochab	137 19.1	N74 02.9
15	44 48.7	N23 21.7	21 03.1	2.4	N25 55.3	7.0	60.9	Markab	13 28.7	N15 20.8
16	59 48.6	N23 21.7	35 24.6	2.5	N25 48.1	7.2	60.9	Menkar	314 05.1	N 4 11.6
17	74 48.5	N23 21.8	49 46.2	2.6	N25 40.7	7.4	60.9			
								Menkent	147 56.0	S36 30.3
18	89 48.3	N23 21.9	64 07.9	2.7	N25 33.1	7.6	60.9	Miaplacidus	221 38.6	S69 49.8
19	104 48.2	N23 22.0	78 29.8	2.8	N25 25.3	7.8	60.9	Mirfak	308 27.0	N49 57.2
20	119 48.1	N23 22.1	92 51.8	3.0	N25 17.3	8.0	60.8	Nunki	75 45.9	S26 15.8
21	134 47.9	N23 22.1	107 13.8	3.1	N25 09.2	8.1	60.8	Peacock	53 03.3	S56 38.8
22	149 47.8	N23 22.2	121 36.1	3.2	N25 00.9	8.3	60.8			
23	164 47.7	N23 22.3	135 58.4	3.3	N24 52.4	8.5	60.8	Polaris	316 17.7	N89 21.7
								Pollux	243 16.2	N27 57.8
17 0	179 47.5	N23 22.4	150 20.9	3.5	N24 43.7	8.7	60.7	Procyon	244 49.9	N 5 09.4
1	194 47.4	N23 22.4	164 43.5	3.6	N24 34.9	8.8	60.7	Rasalhague	95 57.1	N12 32.4
2	209 47.3	N23 22.5	179 06.2	3.7	N24 25.9	9.0	60.7	Regulus	207 33.3	N11 50.3
3	224 47.1	N23 22.6	193 29.0	3.9	N24 16.7	9.2	60.6			
4	239 47.0	N23 22.7	207 52.0	4.0	N24 07.4	9.3	60.6	Rigel	281 03.1	S 8 10.2
W 5	254 46.8	N23 22.7	222 15.2	4.1	N23 57.9	9.5	60.6	Rigil Kent	139 38.4	S60 56.9
E								Sabik	102 01.1	S15 45.5
D 6	269 46.7	N23 22.8	236 38.4	4.3	N23 48.3	9.6	60.6	Schedar	349 29.8	N56 40.7
N 7	284 46.6	N23 22.9	251 01.8	4.4	N23 38.5	9.8	60.5	Shaula	96 08.3	S37 07.4
E 8	299 46.4	N23 22.9	265 25.4	4.5	N23 28.5	10.0	60.5			
S 9	314 46.3	N23 23.0	279 49.1	4.7	N23 18.4	10.1	60.5	Sirius	258 25.5	S16 45.1
D 10	329 46.2	N23 23.1	294 12.9	4.8	N23 08.2	10.2	60.4	Spica	158 20.9	S11 18.1
A 11	344 46.0	N23 23.1	308 36.8	5.0	N22 57.8	10.4	60.4	Suhail	222 45.7	S43 32.5
Y								Vega	80 32.0	N38 48.4
12	359 45.9	N23 23.2	323 00.9	5.1	N22 47.2	10.5	60.4	Zuben-ubi	136 55.3	S16 09.2
13	14 45.7	N23 23.3	337 25.2	5.2	N22 36.5	10.7	60.4			
14	29 45.6	N23 23.3	351 49.5	5.4	N22 25.7	10.8	60.3			
15	44 45.5	N23 23.4	6 14.1	5.5	N22 14.8	11.0	60.3			
16	59 45.3	N23 23.5	20 38.7	5.7	N22 03.7	11.1	60.3			
17	74 45.2	N23 23.5	35 03.5	5.8	N21 52.5	11.2	60.2			
18	89 45.1	N23 23.6	49 28.5	5.9	N21 41.1	11.4	60.2			
19	104 44.9	N23 23.7	63 53.5	6.1	N21 29.6	11.5	60.2			
20	119 44.8	N23 23.7	78 18.8	6.2	N21 18.0	11.6	60.1			
21	134 44.7	N23 23.8	92 44.1	6.4	N21 06.3	11.7	60.1			
22	149 44.5	N23 23.8	107 09.7	6.5	N20 54.4	11.8	60.1			
23	164 44.4	N23 23.9	121 35.3	6.7	N20 42.5	12.0	60.0			
	S.D. 15.7	d 0.1	S.D.	16.7	16.6		16.5			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
18	0	266 15.1	138 04.9	N20 54.2	216 19.0	N17 53.4	146 40.0	N21 05.5	252 55.5	N 3 11.0
	1	281 17.6	153 04.4	N20 53.5	231 19.7	N17 53.9	161 41.9	N21 05.4	267 57.8	N 3 11.1
	2	296 20.0	168 03.9	N20 52.8	246 20.3	N17 54.4	176 43.9	N21 05.3	283 00.1	N 3 11.1
	3	311 22.5	183 03.3	N20 52.0	261 20.9	N17 54.9	191 45.8	N21 05.2	298 02.4	N 3 11.2
	4	326 24.9	198 02.8	N20 51.3	276 21.6	N17 55.4	206 47.7	N21 05.1	313 04.8	N 3 11.2
T	5	341 27.4	213 02.3	N20 50.6	291 22.2	N17 55.9	221 49.6	N21 05.0	328 07.1	N 3 11.3
H										
U	6	356 29.9	228 01.7	N20 49.8	306 22.8	N17 56.4	236 51.5	N21 04.9	343 09.4	N 3 11.3
R	7	11 32.3	243 01.2	N20 49.1	321 23.5	N17 56.8	251 53.5	N21 04.8	358 11.7	N 3 11.4
S	8	26 34.8	258 00.7	N20 48.4	336 24.1	N17 57.3	266 55.4	N21 04.7	13 14.0	N 3 11.4
D	9	41 37.3	273 00.2	N20 47.6	351 24.7	N17 57.8	281 57.3	N21 04.6	28 16.3	N 3 11.5
A	10	56 39.7	287 59.6	N20 46.9	6 25.4	N17 58.3	296 59.2	N21 04.5	43 18.7	N 3 11.5
Y	11	71 42.2	302 59.1	N20 46.1	21 26.0	N17 58.8	312 01.2	N21 04.4	58 21.0	N 3 11.6
	12	86 44.7	317 58.6	N20 45.4	36 26.6	N17 59.3	327 03.1	N21 04.3	73 23.3	N 3 11.6
	13	101 47.1	332 58.1	N20 44.7	51 27.2	N17 59.8	342 05.0	N21 04.2	88 25.6	N 3 11.7
	14	116 49.6	347 57.5	N20 43.9	66 27.9	N18 00.3	357 06.9	N21 04.1	103 27.9	N 3 11.7
	15	131 52.1	2 57.0	N20 43.2	81 28.5	N18 00.7	12 08.8	N21 04.0	118 30.3	N 3 11.8
	16	146 54.5	17 56.5	N20 42.4	96 29.1	N18 01.2	27 10.8	N21 03.9	133 32.6	N 3 11.8
	17	161 57.0	32 56.0	N20 41.7	111 29.8	N18 01.7	42 12.7	N21 03.8	148 34.9	N 3 11.9
	18	176 59.4	47 55.4	N20 40.9	126 30.4	N18 02.2	57 14.6	N21 03.7	163 37.2	N 3 11.9
	19	192 01.9	62 54.9	N20 40.2	141 31.0	N18 02.7	72 16.5	N21 03.6	178 39.5	N 3 12.0
	20	207 04.4	77 54.4	N20 39.4	156 31.7	N18 03.2	87 18.5	N21 03.5	193 41.8	N 3 12.0
	21	222 06.8	92 53.9	N20 38.7	171 32.3	N18 03.7	102 20.4	N21 03.4	208 44.2	N 3 12.1
	22	237 09.3	107 53.4	N20 38.0	186 32.9	N18 04.1	117 22.3	N21 03.3	223 46.5	N 3 12.1
	23	252 11.8	122 52.8	N20 37.2	201 33.5	N18 04.6	132 24.2	N21 03.2	238 48.8	N 3 12.2
19	0	267 14.2	137 52.3	N20 36.4	216 34.2	N18 05.1	147 26.1	N21 03.1	253 51.1	N 3 12.2
	1	282 16.7	152 51.8	N20 35.7	231 34.8	N18 05.6	162 28.1	N21 03.0	268 53.4	N 3 12.3
	2	297 19.2	167 51.3	N20 34.9	246 35.4	N18 06.1	177 30.0	N21 02.9	283 55.8	N 3 12.3
	3	312 21.6	182 50.8	N20 34.2	261 36.1	N18 06.5	192 31.9	N21 02.8	298 58.1	N 3 12.4
	4	327 24.1	197 50.3	N20 33.4	276 36.7	N18 07.0	207 33.8	N21 02.7	314 00.4	N 3 12.4
F	5	342 26.6	212 49.7	N20 32.7	291 37.3	N18 07.5	222 35.7	N21 02.6	329 02.7	N 3 12.4
R										
I	6	357 29.0	227 49.2	N20 31.9	306 37.9	N18 08.0	237 37.7	N21 02.5	344 05.0	N 3 12.5
D	7	12 31.5	242 48.7	N20 31.2	321 38.6	N18 08.5	252 39.6	N21 02.4	359 07.4	N 3 12.5
A	8	27 33.9	257 48.2	N20 30.4	336 39.2	N18 09.0	267 41.5	N21 02.3	14 09.7	N 3 12.6
Y	9	42 36.4	272 47.7	N20 29.6	351 39.8	N18 09.4	282 43.4	N21 02.2	29 12.0	N 3 12.6
	10	57 38.9	287 47.2	N20 28.9	6 40.5	N18 09.9	297 45.4	N21 02.1	44 14.3	N 3 12.7
	11	72 41.3	302 46.7	N20 28.1	21 41.1	N18 10.4	312 47.3	N21 02.0	59 16.6	N 3 12.7
	12	87 43.8	317 46.2	N20 27.4	36 41.7	N18 10.9	327 49.2	N21 01.9	74 19.0	N 3 12.8
	13	102 46.3	332 45.7	N20 26.6	51 42.4	N18 11.4	342 51.1	N21 01.8	89 21.3	N 3 12.8
	14	117 48.7	347 45.2	N20 25.8	66 43.0	N18 11.8	357 53.0	N21 01.7	104 23.6	N 3 12.9
	15	132 51.2	2 44.6	N20 25.1	81 43.6	N18 12.3	12 55.0	N21 01.6	119 25.9	N 3 12.9
	16	147 53.7	17 44.1	N20 24.3	96 44.2	N18 12.8	27 56.9	N21 01.5	134 28.2	N 3 13.0
	17	162 56.1	32 43.6	N20 23.5	111 44.9	N18 13.3	42 58.8	N21 01.4	149 30.6	N 3 13.0
	18	177 58.6	47 43.1	N20 22.8	126 45.5	N18 13.7	58 00.7	N21 01.3	164 32.9	N 3 13.1
	19	193 01.1	62 42.6	N20 22.0	141 46.1	N18 14.2	73 02.6	N21 01.2	179 35.2	N 3 13.1
	20	208 03.5	77 42.1	N20 21.2	156 46.8	N18 14.7	88 04.6	N21 01.1	194 37.5	N 3 13.2
	21	223 06.0	92 41.6	N20 20.5	171 47.4	N18 15.2	103 06.5	N21 01.0	209 39.9	N 3 13.2
	22	238 08.4	107 41.1	N20 19.7	186 48.0	N18 15.7	118 08.4	N21 00.9	224 42.2	N 3 13.3
	23	253 10.9	122 40.6	N20 18.9	201 48.6	N18 16.1	133 10.3	N21 00.8	239 44.5	N 3 13.3
20	0	268 13.4	137 40.1	N20 18.2	216 49.3	N18 16.6	148 12.2	N21 00.7	254 46.8	N 3 13.4
	1	283 15.8	152 39.6	N20 17.4	231 49.9	N18 17.1	163 14.2	N21 00.6	269 49.1	N 3 13.4
	2	298 18.3	167 39.1	N20 16.6	246 50.5	N18 17.6	178 16.1	N21 00.5	284 51.5	N 3 13.5
	3	313 20.8	182 38.6	N20 15.8	261 51.1	N18 18.0	193 18.0	N21 00.4	299 53.8	N 3 13.5
	4	328 23.2	197 38.1	N20 15.1	276 51.8	N18 18.5	208 19.9	N21 00.3	314 56.1	N 3 13.6
S	5	343 25.7	212 37.6	N20 14.3	291 52.4	N18 19.0	223 21.8	N21 00.2	329 58.4	N 3 13.6
A										
T	6	358 28.2	227 37.1	N20 13.5	306 53.0	N18 19.4	238 23.8	N21 00.1	345 00.8	N 3 13.7
U	7	13 30.6	242 36.6	N20 12.7	321 53.7	N18 19.9	253 25.7	N20 60.0	0 03.1	N 3 13.7
R	8	28 33.1	257 36.1	N20 11.9	336 54.3	N18 20.4	268 27.6	N20 59.9	15 05.4	N 3 13.8
D	9	43 35.5	272 35.6	N20 11.2	351 54.9	N18 20.9	283 29.5	N20 59.8	30 07.7	N 3 13.8
A	10	58 38.0	287 35.1	N20 10.4	6 55.5	N18 21.3	298 31.4	N20 59.7	45 10.1	N 3 13.8
Y	11	73 40.5	302 34.7	N20 09.6	21 56.2	N18 21.8	313 33.4	N20 59.6	60 12.4	N 3 13.9
	12	88 42.9	317 34.2	N20 08.8	36 56.8	N18 22.3	328 35.3	N20 59.5	75 14.7	N 3 13.9
	13	103 45.4	332 33.7	N20 08.0	51 57.4	N18 22.8	343 37.2	N20 59.4	90 17.0	N 3 14.0
	14	118 47.9	347 33.2	N20 07.3	66 58.1	N18 23.2	358 39.1	N20 59.3	105 19.4	N 3 14.0
	15	133 50.3	2 32.7	N20 06.5	81 58.7	N18 23.7	13 41.0	N20 59.2	120 21.7	N 3 14.1
	16	148 52.8	17 32.2	N20 05.7	96 59.3	N18 24.2	28 42.9	N20 59.1	135 24.0	N 3 14.1
	17	163 55.3	32 31.7	N20 04.9	111 59.9	N18 24.6	43 44.9	N20 59.0	150 26.3	N 3 14.2
	18	178 57.7	47 31.2	N20 04.1	127 00.6	N18 25.1	58 46.8	N20 58.9	165 28.7	N 3 14.2
	19	194 00.2	62 30.7	N20 03.3	142 01.2	N18 25.6	73 48.7	N20 58.8	180 31.0	N 3 14.3
	20	209 02.7	77 30.2	N20 02.5	157 01.8	N18 26.0	88 50.6	N20 58.7	195 33.3	N 3 14.3
	21	224 05.1	92 29.8	N20 01.7	172 02.4	N18 26.5	103 52.5	N20 58.6	210 35.6	N 3 14.4
	22	239 07.6	107 29.3	N20 00.9	187 03.1	N18 27.0	118 54.5	N20 58.5	225 38.0	N 3 14.4
	23	254 10.0	122 28.8	N20 00.2	202 03.7	N18 27.5	133 56.4	N20 58.4	240 40.3	N 3 14.5
			v -0.5	d 0.8	v 0.6	d 0.5	v 1.9	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
18	0	179 44.2	N23 24.0	136 01.1	6.8	N20 30.4	12.1	60.0
	1	194 44.1	N23 24.0	150 27.0	6.9	N20 18.2	12.2	60.0
	2	209 44.0	N23 24.1	164 53.1	7.1	N20 05.9	12.3	59.9
	3	224 43.8	N23 24.1	179 19.3	7.2	N19 53.5	12.4	59.9
	4	239 43.7	N23 24.2	193 45.7	7.4	N19 41.0	12.5	59.9
T	5	254 43.6	N23 24.2	208 12.2	7.5	N19 28.3	12.6	59.8
H								
U	6	269 43.4	N23 24.3	222 38.8	7.6	N19 15.6	12.7	59.8
R	7	284 43.3	N23 24.3	237 05.6	7.8	N19 02.8	12.8	59.8
S	8	299 43.1	N23 24.4	251 32.5	7.9	N18 49.9	12.9	59.7
D	9	314 43.0	N23 24.5	265 59.6	8.0	N18 36.8	13.0	59.7
A	10	329 42.9	N23 24.5	280 26.7	8.2	N18 23.7	13.1	59.6
Y	11	344 42.7	N23 24.6	294 54.1	8.3	N18 10.5	13.2	59.6
	12	359 42.6	N23 24.6	309 21.5	8.5	N17 57.2	13.3	59.6
	13	14 42.5	N23 24.7	323 49.1	8.6	N17 43.8	13.4	59.5
	14	29 42.3	N23 24.7	338 16.8	8.7	N17 30.4	13.5	59.5
	15	44 42.2	N23 24.7	352 44.7	8.9	N17 16.8	13.5	59.5
	16	59 42.0	N23 24.8	7 12.7	9.0	N17 03.2	13.6	59.4
	17	74 41.9	N23 24.8	21 40.8	9.1	N16 49.5	13.7	59.4
	18	89 41.8	N23 24.9	36 09.0	9.2	N16 35.7	13.8	59.3
	19	104 41.6	N23 24.9	50 37.4	9.4	N16 21.8	13.9	59.3
	20	119 41.5	N23 25.0	65 05.9	9.5	N16 07.9	13.9	59.3
	21	134 41.4	N23 25.0	79 34.5	9.6	N15 53.9	14.0	59.2
	22	149 41.2	N23 25.1	94 03.3	9.8	N15 39.8	14.1	59.2
	23	164 41.1	N23 25.1	108 32.2	9.9	N15 25.7	14.1	59.2
19	0	179 41.0	N23 25.1	123 01.2	10.0	N15 11.5	14.2	59.1
	1	194 40.8	N23 25.2	137 30.3	10.1	N14 57.2	14.3	59.1
	2	209 40.7	N23 25.2	151 59.5	10.2	N14 42.9	14.3	59.0
	3	224 40.5	N23 25.3	166 28.9	10.4	N14 28.5	14.4	59.0
	4	239 40.4	N23 25.3	180 58.3	10.5	N14 14.1	14.4	59.0
F	5	254 40.3	N23 25.3	195 27.9	10.6	N13 59.6	14.5	58.9
R								
I	6	269 40.1	N23 25.4	209 57.6	10.7	N13 45.1	14.5	58.9
D	7	284 40.0	N23 25.4	224 27.5	10.8	N13 30.5	14.6	58.8
A	8	299 39.9	N23 25.4	238 57.4	10.9	N13 15.8	14.6	58.8
Y	9	314 39.7	N23 25.5	253 27.4	11.0	N13 01.1	14.7	58.8
	10	329 39.6	N23 25.5	267 57.6	11.2	N12 46.4	14.7	58.7
	11	344 39.4	N23 25.5	282 27.9	11.3	N12 31.6	14.8	58.7
	12	359 39.3	N23 25.6	296 58.2	11.4	N12 16.7	14.8	58.6
	13	14 39.2	N23 25.6	311 28.7	11.5	N12 01.9	14.9	58.6
	14	29 39.0	N23 25.6	325 59.3	11.6	N11 47.0	14.9	58.6
	15	44 38.9	N23 25.7	340 30.0	11.7	N11 32.0	15.0	58.5
	16	59 38.8	N23 25.7	355 00.7	11.8	N11 17.0	15.0	58.5
	17	74 38.6	N23 25.7	9 31.6	11.9	N11 02.0	15.0	58.4
	18	89 38.5	N23 25.8	24 02.6	12.0	N10 46.9	15.1	58.4
	19	104 38.3	N23 25.8	38 33.7	12.1	N10 31.9	15.1	58.4
	20	119 38.2	N23 25.8	53 04.9	12.2	N10 16.7	15.1	58.3
	21	134 38.1	N23 25.8	67 36.1	12.3	N10 01.6	15.1	58.3
	22	149 37.9	N23 25.9	82 07.5	12.4	N 9 46.4	15.2	58.2
	23	164 37.8	N23 25.9	96 38.9	12.5	N 9 31.2	15.2	58.2
20	0	179 37.7	N23 25.9	111 10.5	12.5	N 9 16.0	15.2	58.2
	1	194 37.5	N23 25.9	125 42.1	12.6	N 9 00.8	15.2	58.1
	2	209 37.4	N23 25.9	140 13.8	12.7	N 8 45.5	15.3	58.1
	3	224 37.2	N23 26.0	154 45.6	12.8	N 8 30.2	15.3	58.0
	4	239 37.1	N23 26.0	169 17.5	12.9	N 8 14.9	15.3	58.0
S	5	254 37.0	N23 26.0	183 49.5	13.0	N 7 59.6	15.3	58.0
A								
T	6	269 36.8	N23 26.0	198 21.5	13.1	N 7 44.3	15.3	57.9
U	7	284 36.7	N23 26.0	212 53.7	13.1	N 7 28.9	15.4	57.9
R	8	299 36.6	N23 26.1	227 25.9	13.2	N 7 13.5	15.4	57.9
D	9	314 36.4	N23 26.1	241 58.2	13.3	N 6 58.2	15.4	57.8
A	10	329 36.3	N23 26.1	256 30.5	13.4	N 6 42.8	15.4	57.8
Y	11	344 36.2	N23 26.1	271 03.0	13.4	N 6 27.4	15.4	57.7
	12	359 36.0	N23 26.1	285 35.5	13.5	N 6 12.0	15.4	57.7
	13	14 35.9	N23 26.1	300 08.0	13.6	N 5 56.6	15.4	57.7
	14	29 35.7	N23 26.2	314 40.7	13.6	N 5 41.2	15.4	57.6
	15	44 35.6	N23 26.2	329 13.4	13.7	N 5 25.7	15.4	57.6
	16	59 35.5	N23 26.2	343 46.2	13.8	N 5 10.3	15.4	57.5
	17	74 35.3	N23 26.2	358 19.0	13.8	N 4 54.9	15.4	57.5
	18	89 35.2	N23 26.2	12 51.9	13.9	N 4 39.5	15.4	57.5
	19	104 35.1	N23 26.2	27 24.9	14.0	N 4 24.0	15.4	57.4
	20	119 34.9	N23 26.2	41 57.9	14.0	N 4 08.6	15.4	57.4
	21	134 34.8	N23 26.2	56 31.0	14.1	N 3 53.2	15.4	57.3
	22	149 34.6	N23 26.2	71 04.2	14.1	N 3 37.8	15.4	57.3
	23	164 34.5	N23 26.2	85 37.4	14.2	N 3 22.4	15.4	57.3
		S.D. 15.7	d 0.0	S.D. 16.2		16.0	15.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.2	S40 11.7
Achernar	335 19.5	S57 05.8
Acrux	172 58.7	S63 15.1
Adhara	255 05.3	S29 00.5
Albireo	67 02.7	N28 00.8
Aldebaran	290 38.6	N16 33.8
Alioth	166 11.7	N55 49.2
Alkaid	152 50.8	N49 11.0
Al Na-ir	27 31.1	S46 49.7
Alnilam	275 36.8	S 1 11.1
Alphard	217 46.7	S 8 46.5
Alphecca	126 02.4	N26 37.5
Alpheratz	357 33.6	N29 14.1
Altair	61 58.5	N 8 56.2
Ankaa	353 06.0	S42 09.5
Antares	112 14.0	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.7	S69 04.6
Avior	234 14.8	S59 35.8
Bellatrix	278 21.9	N 6 22.4
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.6
Capella	280 20.6	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.6	N45 22.3
Denebola	182 23.7	N14 25.5
Diphda	348 46.2	S17 50.3
Dubhe	193 39.6	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.1	N51 29.0
Enif	33 37.4	N 9 59.7
Fomalhaut	15 13.1	S29 28.7
Gacrux	171 50.3	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.0	S60 30.3
Hamal	327 50.1	N23 35.2
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.1	N74 02.9
Markab	13 28.6	N15 20.8
Menkar	314 05.1	N 4 11.6
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 27.0	N49 57.2
Nunki	75 45.9	S26 15.8
Peacock	53 03.3	S56 38.8
Polaris	316 16.7	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.5
Rasalhague	95 57.1	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.1	S 8 10.2
Rigil Kent	139 38.4	S60 56.9
Sabik	102 01.1	S15 45.5
Schedar	349 29.8	N56 40.7
Shaula	96 08.3	S37 07.4
Sirius	258 25.5	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.5
Vega	80 32.0	N38 48.4
Zuben-ubi	136 55.3	S16 09.2

	ARIES	VENUS		MARS		JUPITER		SATURN	
G.M.T d h	GHA ° '	GHA ° '	Dec ° '	GHA ° '	Dec ° '	GHA ° '	Dec ° '	GHA ° '	Dec ° '
21 0	269 12.5	137 28.3	N19 59.4	217 04.3	N18 27.9	148 58.3	N20 58.3	255 42.6	N 3 14.5
1	284 15.0	152 27.8	N19 58.6	232 05.0	N18 28.4	164 00.2	N20 58.2	270 44.9	N 3 14.5
2	299 17.4	167 27.3	N19 57.8	247 05.6	N18 28.9	179 02.1	N20 58.1	285 47.3	N 3 14.6
3	314 19.9	182 26.9	N19 57.0	262 06.2	N18 29.3	194 04.1	N20 58.0	300 49.6	N 3 14.6
4	329 22.4	197 26.4	N19 56.2	277 06.8	N18 29.8	209 06.0	N20 57.9	315 51.9	N 3 14.7
S 5	344 24.8	212 25.9	N19 55.4	292 07.5	N18 30.3	224 07.9	N20 57.8	330 54.2	N 3 14.7
U									
N 6	359 27.3	227 25.4	N19 54.6	307 08.1	N18 30.7	239 09.8	N20 57.6	345 56.6	N 3 14.8
D 7	14 29.8	242 24.9	N19 53.8	322 08.7	N18 31.2	254 11.7	N20 57.5	0 58.9	N 3 14.8
A 8	29 32.2	257 24.5	N19 53.0	337 09.3	N18 31.6	269 13.6	N20 57.4	16 01.2	N 3 14.9
Y 9	44 34.7	272 24.0	N19 52.2	352 10.0	N18 32.1	284 15.6	N20 57.3	31 03.5	N 3 14.9
10	59 37.2	287 23.5	N19 51.4	7 10.6	N18 32.6	299 17.5	N20 57.2	46 05.9	N 3 15.0
11	74 39.6	302 23.0	N19 50.6	22 11.2	N18 33.0	314 19.4	N20 57.1	61 08.2	N 3 15.0
12	89 42.1	317 22.6	N19 49.8	37 11.8	N18 33.5	329 21.3	N20 57.0	76 10.5	N 3 15.1
13	104 44.5	332 22.1	N19 49.0	52 12.5	N18 34.0	344 23.2	N20 56.9	91 12.9	N 3 15.1
14	119 47.0	347 21.6	N19 48.2	67 13.1	N18 34.4	359 25.1	N20 56.8	106 15.2	N 3 15.1
15	134 49.5	2 21.1	N19 47.4	82 13.7	N18 34.9	14 27.1	N20 56.7	121 17.5	N 3 15.2
16	149 51.9	17 20.7	N19 46.6	97 14.3	N18 35.4	29 29.0	N20 56.6	136 19.8	N 3 15.2
17	164 54.4	32 20.2	N19 45.7	112 15.0	N18 35.8	44 30.9	N20 56.5	151 22.2	N 3 15.3
18	179 56.9	47 19.7	N19 44.9	127 15.6	N18 36.3	59 32.8	N20 56.4	166 24.5	N 3 15.3
19	194 59.3	62 19.2	N19 44.1	142 16.2	N18 36.7	74 34.7	N20 56.3	181 26.8	N 3 15.4
20	210 01.8	77 18.8	N19 43.3	157 16.9	N18 37.2	89 36.6	N20 56.2	196 29.2	N 3 15.4
21	225 04.3	92 18.3	N19 42.5	172 17.5	N18 37.7	104 38.6	N20 56.1	211 31.5	N 3 15.5
22	240 06.7	107 17.8	N19 41.7	187 18.1	N18 38.1	119 40.5	N20 56.0	226 33.8	N 3 15.5
23	255 09.2	122 17.4	N19 40.9	202 18.7	N18 38.6	134 42.4	N20 55.9	241 36.1	N 3 15.6
22 0	270 11.6	137 16.9	N19 40.1	217 19.4	N18 39.0	149 44.3	N20 55.8	256 38.5	N 3 15.6
1	285 14.1	152 16.4	N19 39.3	232 20.0	N18 39.5	164 46.2	N20 55.7	271 40.8	N 3 15.6
2	300 16.6	167 16.0	N19 38.4	247 20.6	N18 40.0	179 48.1	N20 55.6	286 43.1	N 3 15.7
3	315 19.0	182 15.5	N19 37.6	262 21.2	N18 40.4	194 50.1	N20 55.5	301 45.5	N 3 15.7
4	330 21.5	197 15.0	N19 36.8	277 21.9	N18 40.9	209 52.0	N20 55.4	316 47.8	N 3 15.8
M 5	345 24.0	212 14.6	N19 36.0	292 22.5	N18 41.3	224 53.9	N20 55.3	331 50.1	N 3 15.8
O									
N 6	0 26.4	227 14.1	N19 35.2	307 23.1	N18 41.8	239 55.8	N20 55.2	346 52.5	N 3 15.9
D 7	15 28.9	242 13.7	N19 34.4	322 23.7	N18 42.3	254 57.7	N20 55.1	1 54.8	N 3 15.9
A 8	30 31.4	257 13.2	N19 33.5	337 24.4	N18 42.7	269 59.6	N20 55.0	16 57.1	N 3 16.0
Y 9	45 33.8	272 12.7	N19 32.7	352 25.0	N18 43.2	285 01.6	N20 54.9	31 59.4	N 3 16.0
10	60 36.3	287 12.3	N19 31.9	7 25.6	N18 43.6	300 03.5	N20 54.8	47 01.8	N 3 16.0
11	75 38.8	302 11.8	N19 31.1	22 26.2	N18 44.1	315 05.4	N20 54.7	62 04.1	N 3 16.1
12	90 41.2	317 11.4	N19 30.2	37 26.9	N18 44.5	330 07.3	N20 54.6	77 06.4	N 3 16.1
13	105 43.7	332 10.9	N19 29.4	52 27.5	N18 45.0	345 09.2	N20 54.5	92 08.8	N 3 16.2
14	120 46.1	347 10.4	N19 28.6	67 28.1	N18 45.5	0 11.1	N20 54.4	107 11.1	N 3 16.2
15	135 48.6	2 10.0	N19 27.8	82 28.7	N18 45.9	15 13.1	N20 54.3	122 13.4	N 3 16.3
16	150 51.1	17 09.5	N19 26.9	97 29.4	N18 46.4	30 15.0	N20 54.2	137 15.8	N 3 16.3
17	165 53.5	32 09.1	N19 26.1	112 30.0	N18 46.8	45 16.9	N20 54.1	152 18.1	N 3 16.4
18	180 56.0	47 08.6	N19 25.3	127 30.6	N18 47.3	60 18.8	N20 53.9	167 20.4	N 3 16.4
19	195 58.5	62 08.2	N19 24.5	142 31.2	N18 47.7	75 20.7	N20 53.8	182 22.8	N 3 16.4
20	211 00.9	77 07.7	N19 23.6	157 31.9	N18 48.2	90 22.6	N20 53.7	197 25.1	N 3 16.5
21	226 03.4	92 07.3	N19 22.8	172 32.5	N18 48.6	105 24.5	N20 53.6	212 27.4	N 3 16.5
22	241 05.9	107 06.8	N19 22.0	187 33.1	N18 49.1	120 26.5	N20 53.5	227 29.8	N 3 16.6
23	256 08.3	122 06.4	N19 21.1	202 33.7	N18 49.5	135 28.4	N20 53.4	242 32.1	N 3 16.6
23 0	271 10.8	137 05.9	N19 20.3	217 34.4	N18 50.0	150 30.3	N20 53.3	257 34.4	N 3 16.7
1	286 13.3	152 05.5	N19 19.5	232 35.0	N18 50.4	165 32.2	N20 53.2	272 36.8	N 3 16.7
2	301 15.7	167 05.0	N19 18.6	247 35.6	N18 50.9	180 34.1	N20 53.1	287 39.1	N 3 16.7
3	316 18.2	182 04.6	N19 17.8	262 36.2	N18 51.3	195 36.0	N20 53.0	302 41.4	N 3 16.8
4	331 20.6	197 04.1	N19 17.0	277 36.8	N18 51.8	210 38.0	N20 52.9	317 43.8	N 3 16.8
T 5	346 23.1	212 03.7	N19 16.1	292 37.5	N18 52.2	225 39.9	N20 52.8	332 46.1	N 3 16.9
U									
E 6	1 25.6	227 03.2	N19 15.3	307 38.1	N18 52.7	240 41.8	N20 52.7	347 48.4	N 3 16.9
S 7	16 28.0	242 02.8	N19 14.5	322 38.7	N18 53.1	255 43.7	N20 52.6	2 50.8	N 3 17.0
D 8	31 30.5	257 02.3	N19 13.6	337 39.3	N18 53.6	270 45.6	N20 52.5	17 53.1	N 3 17.0
A 9	46 33.0	272 01.9	N19 12.8	352 40.0	N18 54.0	285 47.5	N20 52.4	32 55.4	N 3 17.0
Y 10	61 35.4	287 01.5	N19 11.9	7 40.6	N18 54.5	300 49.4	N20 52.3	47 57.8	N 3 17.1
11	76 37.9	302 01.0	N19 11.1	22 41.2	N18 54.9	315 51.4	N20 52.2	63 00.1	N 3 17.1
12	91 40.4	317 00.6	N19 10.2	37 41.8	N18 55.4	330 53.3	N20 52.1	78 02.4	N 3 17.2
13	106 42.8	332 00.1	N19 09.4	52 42.5	N18 55.8	345 55.2	N20 52.0	93 04.8	N 3 17.2
14	121 45.3	346 59.7	N19 08.6	67 43.1	N18 56.3	0 57.1	N20 51.9	108 07.1	N 3 17.3
15	136 47.7	1 59.3	N19 07.7	82 43.7	N18 56.7	15 59.0	N20 51.8	123 09.4	N 3 17.3
16	151 50.2	16 58.8	N19 06.9	97 44.3	N18 57.2	31 00.9	N20 51.7	138 11.8	N 3 17.3
17	166 52.7	31 58.4	N19 06.0	112 45.0	N18 57.6	46 02.8	N20 51.6	153 14.1	N 3 17.4
18	181 55.1	46 57.9	N19 05.2	127 45.6	N18 58.1	61 04.8	N20 51.4	168 16.4	N 3 17.4
19	196 57.6	61 57.5	N19 04.3	142 46.2	N18 58.5	76 06.7	N20 51.3	183 18.8	N 3 17.5
20	212 00.1	76 57.1	N19 03.5	157 46.8	N18 59.0	91 08.6	N20 51.2	198 21.1	N 3 17.5
21	227 02.5	91 56.6	N19 02.6	172 47.5	N18 59.4	106 10.5	N20 51.1	213 23.4	N 3 17.6
22	242 05.0	106 56.2	N19 01.8	187 48.1	N18 59.9	121 12.4	N20 51.0	228 25.8	N 3 17.6
23	257 07.5	121 55.8	N19 00.9	202 48.7	N19 00.3	136 14.3	N20 50.9	243 28.1	N 3 17.6
		v -0.5	d 0.8	v 0.6	d 0.5	v 1.9	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
21	0	179 34.4	N23 26.3	100 10.6	14.3	N 3 07.0	15.4	57.2
	1	194 34.2	N23 26.3	114 43.9	14.3	N 2 51.6	15.4	57.2
	2	209 34.1	N23 26.3	129 17.3	14.4	N 2 36.2	15.4	57.2
	3	224 34.0	N23 26.3	143 50.7	14.4	N 2 20.8	15.4	57.1
	4	239 33.8	N23 26.3	158 24.2	14.5	N 2 05.4	15.4	57.1
S	5	254 33.7	N23 26.3	172 57.7	14.5	N 1 50.1	15.4	57.1
U								
N	6	269 33.6	N23 26.3	187 31.2	14.6	N 1 34.7	15.3	57.0
D	7	284 33.4	N23 26.3	202 04.8	14.6	N 1 19.4	15.3	57.0
A	8	299 33.3	N23 26.3	216 38.5	14.6	N 1 04.1	15.3	56.9
Y	9	314 33.1	N23 26.3	231 12.2	14.7	N 0 48.8	15.3	56.9
	10	329 33.0	N23 26.3	245 45.9	14.7	N 0 33.5	15.3	56.9
	11	344 32.9	N23 26.3	260 19.7	14.8	N 0 18.2	15.3	56.8
	12	359 32.7	N23 26.3	274 53.5	14.8	N 0 02.9	15.3	56.8
	13	14 32.6	N23 26.3	289 27.3	14.8	S 0 12.3	15.2	56.8
	14	29 32.5	N23 26.3	304 01.2	14.9	S 0 27.5	15.2	56.7
	15	44 32.3	N23 26.3	318 35.1	14.9	S 0 42.7	15.2	56.7
	16	59 32.2	N23 26.3	333 09.0	14.9	S 0 57.9	15.2	56.7
	17	74 32.1	N23 26.2	347 43.0	15.0	S 1 13.0	15.1	56.6
	18	89 31.9	N23 26.2	2 17.0	15.0	S 1 28.1	15.1	56.6
	19	104 31.8	N23 26.2	16 51.0	15.0	S 1 43.2	15.1	56.6
	20	119 31.6	N23 26.2	31 25.1	15.1	S 1 58.3	15.1	56.5
	21	134 31.5	N23 26.2	45 59.2	15.1	S 2 13.4	15.0	56.5
	22	149 31.4	N23 26.2	60 33.3	15.1	S 2 28.4	15.0	56.5
	23	164 31.2	N23 26.2	75 07.4	15.1	S 2 43.4	15.0	56.4
22	0	179 31.1	N23 26.2	89 41.5	15.2	S 2 58.4	15.0	56.4
	1	194 31.0	N23 26.2	104 15.7	15.2	S 3 13.3	14.9	56.4
	2	209 30.8	N23 26.2	118 49.9	15.2	S 3 28.2	14.9	56.3
	3	224 30.7	N23 26.2	133 24.1	15.2	S 3 43.1	14.9	56.3
	4	239 30.6	N23 26.1	147 58.3	15.2	S 3 57.9	14.8	56.3
M	5	254 30.4	N23 26.1	162 32.6	15.2	S 4 12.7	14.8	56.2
O								
N	6	269 30.3	N23 26.1	177 06.8	15.3	S 4 27.5	14.8	56.2
D	7	284 30.1	N23 26.1	191 41.1	15.3	S 4 42.2	14.7	56.2
A	8	299 30.0	N23 26.1	206 15.4	15.3	S 4 56.9	14.7	56.1
Y	9	314 29.9	N23 26.1	220 49.7	15.3	S 5 11.6	14.7	56.1
	10	329 29.7	N23 26.0	235 24.0	15.3	S 5 26.2	14.6	56.1
	11	344 29.6	N23 26.0	249 58.3	15.3	S 5 40.8	14.6	56.0
	12	359 29.5	N23 26.0	264 32.6	15.3	S 5 55.4	14.6	56.0
	13	14 29.3	N23 26.0	279 06.9	15.3	S 6 09.9	14.5	56.0
	14	29 29.2	N23 26.0	293 41.3	15.3	S 6 24.4	14.5	55.9
	15	44 29.1	N23 25.9	308 15.6	15.3	S 6 38.8	14.4	55.9
	16	59 28.9	N23 25.9	322 49.9	15.3	S 6 53.2	14.4	55.9
	17	74 28.8	N23 25.9	337 24.3	15.3	S 7 07.6	14.4	55.8
	18	89 28.7	N23 25.9	351 58.6	15.3	S 7 21.9	14.3	55.8
	19	104 28.5	N23 25.8	6 32.9	15.3	S 7 36.1	14.3	55.8
	20	119 28.4	N23 25.8	21 07.2	15.3	S 7 50.4	14.2	55.8
	21	134 28.2	N23 25.8	35 41.6	15.3	S 8 04.5	14.2	55.7
	22	149 28.1	N23 25.8	50 15.9	15.3	S 8 18.7	14.1	55.7
	23	164 28.0	N23 25.7	64 50.2	15.3	S 8 32.7	14.1	55.7
23	0	179 27.8	N23 25.7	79 24.5	15.3	S 8 46.8	14.0	55.6
	1	194 27.7	N23 25.7	93 58.8	15.3	S 9 00.8	14.0	55.6
	2	209 27.6	N23 25.7	108 33.1	15.3	S 9 14.7	13.9	55.6
	3	224 27.4	N23 25.6	123 07.4	15.3	S 9 28.6	13.9	55.6
	4	239 27.3	N23 25.6	137 41.6	15.3	S 9 42.4	13.8	55.5
T	5	254 27.2	N23 25.6	152 15.9	15.3	S 9 56.2	13.8	55.5
U								
E	6	269 27.0	N23 25.5	166 50.1	15.2	S10 09.9	13.7	55.5
S	7	284 26.9	N23 25.5	181 24.4	15.2	S10 23.6	13.7	55.5
D	8	299 26.8	N23 25.5	195 58.6	15.2	S10 37.2	13.6	55.4
A	9	314 26.6	N23 25.4	210 32.8	15.2	S10 50.8	13.6	55.4
Y	10	329 26.5	N23 25.4	225 07.0	15.2	S11 04.3	13.5	55.4
	11	344 26.4	N23 25.4	239 41.1	15.2	S11 17.8	13.5	55.4
	12	359 26.2	N23 25.3	254 15.3	15.1	S11 31.2	13.4	55.3
	13	14 26.1	N23 25.3	268 49.4	15.1	S11 44.5	13.3	55.3
	14	29 26.0	N23 25.2	283 23.5	15.1	S11 57.8	13.3	55.3
	15	44 25.8	N23 25.2	297 57.5	15.1	S12 11.0	13.2	55.3
	16	59 25.7	N23 25.2	312 31.6	15.1	S12 24.2	13.2	55.2
	17	74 25.5	N23 25.1	327 05.6	15.0	S12 37.3	13.1	55.2
	18	89 25.4	N23 25.1	341 39.6	15.0	S12 50.4	13.0	55.2
	19	104 25.3	N23 25.0	356 13.6	15.0	S13 03.3	13.0	55.2
	20	119 25.1	N23 25.0	10 47.5	14.9	S13 16.3	12.9	55.1
	21	134 25.0	N23 25.0	25 21.5	14.9	S13 29.1	12.9	55.1
	22	149 24.9	N23 24.9	39 55.4	14.9	S13 41.9	12.8	55.1
	23	164 24.7	N23 24.9	54 29.2	14.9	S13 54.7	12.7	55.1
		S.D. 15.7	d 0.0	S.D. 15.5		15.3	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 11.7
Achernar	335 19.5	S57 05.8
Acrux	172 58.7	S63 15.1
Adhara	255 05.3	S29 00.5
Albireo	67 02.7	N28 00.8
Aldebaran	290 38.6	N16 33.8
Alioth	166 11.7	N55 49.2
Alkaid	152 50.8	N49 11.0
Al Na-ir	27 31.1	S46 49.7
Alnilam	275 36.8	S 1 11.0
Alphard	217 46.8	S 8 46.5
Alphecca	126 02.4	N26 37.6
Alpheratz	357 33.6	N29 14.1
Altair	61 58.5	N 8 56.3
Ankaa	353 06.0	S42 09.5
Antares	112 14.0	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.8	S59 35.8
Bellatrix	278 21.9	N 6 22.5
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.6
Capella	280 20.6	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.6	N45 22.3
Denebola	182 23.7	N14 25.5
Diphda	348 46.2	S17 50.3
Dubhe	193 39.7	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.1	N51 29.0
Enif	33 37.4	N 9 59.8
Fomalhaut	15 13.0	S29 28.7
Gacrux	171 50.3	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.1	S60 30.3
Hamal	327 50.1	N23 35.2
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.1	N74 03.0
Markab	13 28.6	N15 20.8
Menkar	314 05.1	N 4 11.7
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 27.0	N49 57.2
Nunki	75 45.9	S26 15.8
Peacock	53 03.2	S56 38.8
Polaris	316 15.8	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.5
Rasalhague	95 57.1	N12 32.4
Regulus	207 33.3	N11 50.3
Rigel	281 03.0	S 8 10.2
Rigil Kent	139 38.4	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.8	N56 40.7
Shaula	96 08.3	S37 07.4
Sirius	258 25.5	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 45.7	S43 32.5
Vega	80 32.0	N38 48.4
Zuben-ubi	136 55.3	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
24	0	272 09.9	136 55.3	N19 00.1	217 49.3	N19 00.7	151 16.2	N20 50.8	258 30.4	N 3 17.7
	1	287 12.4	151 54.9	N18 59.2	232 49.9	N19 01.2	166 18.2	N20 50.7	273 32.8	N 3 17.7
	2	302 14.9	166 54.5	N18 58.4	247 50.6	N19 01.6	181 20.1	N20 50.6	288 35.1	N 3 17.8
	3	317 17.3	181 54.0	N18 57.5	262 51.2	N19 02.1	196 22.0	N20 50.5	303 37.5	N 3 17.8
	4	332 19.8	196 53.6	N18 56.7	277 51.8	N19 02.5	211 23.9	N20 50.4	318 39.8	N 3 17.8
W	5	347 22.2	211 53.2	N18 55.8	292 52.4	N19 03.0	226 25.8	N20 50.3	333 42.1	N 3 17.9
E										
D	6	2 24.7	226 52.7	N18 54.9	307 53.1	N19 03.4	241 27.7	N20 50.2	348 44.5	N 3 17.9
N	7	17 27.2	241 52.3	N18 54.1	322 53.7	N19 03.8	256 29.6	N20 50.1	3 46.8	N 3 18.0
E	8	32 29.6	256 51.9	N18 53.2	337 54.3	N19 04.3	271 31.5	N20 50.0	18 49.1	N 3 18.0
S	9	47 32.1	271 51.5	N18 52.4	352 54.9	N19 04.7	286 33.5	N20 49.9	33 51.5	N 3 18.1
D	10	62 34.6	286 51.0	N18 51.5	7 55.5	N19 05.2	301 35.4	N20 49.8	48 53.8	N 3 18.1
A	11	77 37.0	301 50.6	N18 50.6	22 56.2	N19 05.6	316 37.3	N20 49.7	63 56.2	N 3 18.1
Y										
	12	92 39.5	316 50.2	N18 49.8	37 56.8	N19 06.1	331 39.2	N20 49.6	78 58.5	N 3 18.2
	13	107 42.0	331 49.8	N18 48.9	52 57.4	N19 06.5	346 41.1	N20 49.5	94 00.8	N 3 18.2
	14	122 44.4	346 49.3	N18 48.1	67 58.0	N19 06.9	1 43.0	N20 49.3	109 03.2	N 3 18.3
	15	137 46.9	1 48.9	N18 47.2	82 58.7	N19 07.4	16 44.9	N20 49.2	124 05.5	N 3 18.3
	16	152 49.4	16 48.5	N18 46.3	97 59.3	N19 07.8	31 46.9	N20 49.1	139 07.8	N 3 18.3
	17	167 51.8	31 48.1	N18 45.5	112 59.9	N19 08.3	46 48.8	N20 49.0	154 10.2	N 3 18.4
	18	182 54.3	46 47.7	N18 44.6	128 00.5	N19 08.7	61 50.7	N20 48.9	169 12.5	N 3 18.4
	19	197 56.7	61 47.2	N18 43.7	143 01.1	N19 09.1	76 52.6	N20 48.8	184 14.9	N 3 18.5
	20	212 59.2	76 46.8	N18 42.9	158 01.8	N19 09.6	91 54.5	N20 48.7	199 17.2	N 3 18.5
	21	228 01.7	91 46.4	N18 42.0	173 02.4	N19 10.0	106 56.4	N20 48.6	214 19.5	N 3 18.5
	22	243 04.1	106 46.0	N18 41.1	188 03.0	N19 10.4	121 58.3	N20 48.5	229 21.9	N 3 18.6
	23	258 06.6	121 45.6	N18 40.3	203 03.6	N19 10.9	137 00.2	N20 48.4	244 24.2	N 3 18.6
25	0	273 09.1	136 45.2	N18 39.4	218 04.3	N19 11.3	152 02.1	N20 48.3	259 26.6	N 3 18.7
	1	288 11.5	151 44.7	N18 38.5	233 04.9	N19 11.7	167 04.1	N20 48.2	274 28.9	N 3 18.7
	2	303 14.0	166 44.3	N18 37.6	248 05.5	N19 12.2	182 06.0	N20 48.1	289 31.2	N 3 18.7
	3	318 16.5	181 43.9	N18 36.8	263 06.1	N19 12.6	197 07.9	N20 48.0	304 33.6	N 3 18.8
	4	333 18.9	196 43.5	N18 35.9	278 06.7	N19 13.1	212 09.8	N20 47.9	319 35.9	N 3 18.8
T	5	348 21.4	211 43.1	N18 35.0	293 07.4	N19 13.5	227 11.7	N20 47.8	334 38.3	N 3 18.9
H										
U	6	3 23.8	226 42.7	N18 34.1	308 08.0	N19 13.9	242 13.6	N20 47.7	349 40.6	N 3 18.9
R	7	18 26.3	241 42.3	N18 33.3	323 08.6	N19 14.4	257 15.5	N20 47.5	4 42.9	N 3 19.0
S	8	33 28.8	256 41.9	N18 32.4	338 09.2	N19 14.8	272 17.4	N20 47.4	19 45.3	N 3 19.0
D	9	48 31.2	271 41.5	N18 31.5	353 09.9	N19 15.2	287 19.4	N20 47.3	34 47.6	N 3 19.0
A	10	63 33.7	286 41.0	N18 30.6	8 10.5	N19 15.7	302 21.3	N20 47.2	49 50.0	N 3 19.1
Y	11	78 36.2	301 40.6	N18 29.7	23 11.1	N19 16.1	317 23.2	N20 47.1	64 52.3	N 3 19.1
	12	93 38.6	316 40.2	N18 28.9	38 11.7	N19 16.5	332 25.1	N20 47.0	79 54.6	N 3 19.1
	13	108 41.1	331 39.8	N18 28.0	53 12.3	N19 17.0	347 27.0	N20 46.9	94 57.0	N 3 19.2
	14	123 43.6	346 39.4	N18 27.1	68 13.0	N19 17.4	2 28.9	N20 46.8	109 59.3	N 3 19.2
	15	138 46.0	1 39.0	N18 26.2	83 13.6	N19 17.8	17 30.8	N20 46.7	125 01.7	N 3 19.3
	16	153 48.5	16 38.6	N18 25.3	98 14.2	N19 18.3	32 32.7	N20 46.6	140 04.0	N 3 19.3
	17	168 51.0	31 38.2	N18 24.5	113 14.8	N19 18.7	47 34.6	N20 46.5	155 06.3	N 3 19.3
	18	183 53.4	46 37.8	N18 23.6	128 15.4	N19 19.1	62 36.6	N20 46.4	170 08.7	N 3 19.4
	19	198 55.9	61 37.4	N18 22.7	143 16.1	N19 19.5	77 38.5	N20 46.3	185 11.0	N 3 19.4
	20	213 58.3	76 37.0	N18 21.8	158 16.7	N19 20.0	92 40.4	N20 46.2	200 13.4	N 3 19.5
	21	229 00.8	91 36.6	N18 20.9	173 17.3	N19 20.4	107 42.3	N20 46.1	215 15.7	N 3 19.5
	22	244 03.3	106 36.2	N18 20.0	188 17.9	N19 20.8	122 44.2	N20 46.0	230 18.1	N 3 19.5
	23	259 05.7	121 35.8	N18 19.1	203 18.5	N19 21.3	137 46.1	N20 45.8	245 20.4	N 3 19.6
26	0	274 08.2	136 35.4	N18 18.2	218 19.2	N19 21.7	152 48.0	N20 45.7	260 22.7	N 3 19.6
	1	289 10.7	151 35.0	N18 17.4	233 19.8	N19 22.1	167 49.9	N20 45.6	275 25.1	N 3 19.7
	2	304 13.1	166 34.6	N18 16.5	248 20.4	N19 22.5	182 51.8	N20 45.5	290 27.4	N 3 19.7
	3	319 15.6	181 34.2	N18 15.6	263 21.0	N19 23.0	197 53.8	N20 45.4	305 29.8	N 3 19.7
	4	334 18.1	196 33.8	N18 14.7	278 21.7	N19 23.4	212 55.7	N20 45.3	320 32.1	N 3 19.8
F	5	349 20.5	211 33.4	N18 13.8	293 22.3	N19 23.8	227 57.6	N20 45.2	335 34.5	N 3 19.8
R										
I	6	4 23.0	226 33.0	N18 12.9	308 22.9	N19 24.3	242 59.5	N20 45.1	350 36.8	N 3 19.9
D	7	19 25.5	241 32.6	N18 12.0	323 23.5	N19 24.7	258 01.4	N20 45.0	5 39.1	N 3 19.9
A	8	34 27.9	256 32.3	N18 11.1	338 24.1	N19 25.1	273 03.3	N20 44.9	20 41.5	N 3 19.9
Y	9	49 30.4	271 31.9	N18 10.2	353 24.8	N19 25.5	288 05.2	N20 44.8	35 43.8	N 3 20.0
	10	64 32.8	286 31.5	N18 09.3	8 25.4	N19 26.0	303 07.1	N20 44.7	50 46.2	N 3 20.0
	11	79 35.3	301 31.1	N18 08.4	23 26.0	N19 26.4	318 09.0	N20 44.6	65 48.5	N 3 20.0
	12	94 37.8	316 30.7	N18 07.5	38 26.6	N19 26.8	333 11.0	N20 44.5	80 50.9	N 3 20.1
	13	109 40.2	331 30.3	N18 06.6	53 27.2	N19 27.2	348 12.9	N20 44.3	95 53.2	N 3 20.1
	14	124 42.7	346 29.9	N18 05.7	68 27.9	N19 27.7	3 14.8	N20 44.2	110 55.6	N 3 20.2
	15	139 45.2	1 29.5	N18 04.8	83 28.5	N19 28.1	18 16.7	N20 44.1	125 57.9	N 3 20.2
	16	154 47.6	16 29.1	N18 03.9	98 29.1	N19 28.5	33 18.6	N20 44.0	141 00.2	N 3 20.2
	17	169 50.1	31 28.8	N18 03.0	113 29.7	N19 28.9	48 20.5	N20 43.9	156 02.6	N 3 20.3
	18	184 52.6	46 28.4	N18 02.1	128 30.3	N19 29.3	63 22.4	N20 43.8	171 04.9	N 3 20.3
	19	199 55.0	61 28.0	N18 01.2	143 31.0	N19 29.8	78 24.3	N20 43.7	186 07.3	N 3 20.3
	20	214 57.5	76 27.6	N18 00.3	158 31.6	N19 30.2	93 26.2	N20 43.6	201 09.6	N 3 20.4
	21	229 60.0	91 27.2	N17 59.4	173 32.2	N19 30.6	108 28.1	N20 43.5	216 12.0	N 3 20.4
	22	245 02.4	106 26.8	N17 58.5	188 32.8	N19 31.0	123 30.1	N20 43.4	231 14.3	N 3 20.5
	23	260 04.9	121 26.5	N17 57.6	203 33.4	N19 31.5	138 32.0	N20 43.3	246 16.7	N 3 20.5
			v -0.4	d 0.9	v 0.6	d 0.4	v 1.9	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
24	0	179 24.6	N23 24.8	69 03.0	14.8	S14 07.3	12.7	55.0
	1	194 24.5	N23 24.8	83 36.8	14.8	S14 19.9	12.6	55.0
	2	209 24.3	N23 24.7	98 10.6	14.8	S14 32.5	12.5	55.0
	3	224 24.2	N23 24.7	112 44.3	14.7	S14 44.9	12.5	55.0
	4	239 24.1	N23 24.6	127 18.0	14.7	S14 57.3	12.4	55.0
W	5	254 23.9	N23 24.6	141 51.7	14.7	S15 09.7	12.3	54.9
E								
D	6	269 23.8	N23 24.5	156 25.3	14.6	S15 21.9	12.3	54.9
N	7	284 23.7	N23 24.5	170 58.9	14.6	S15 34.1	12.2	54.9
E	8	299 23.5	N23 24.4	185 32.5	14.6	S15 46.2	12.1	54.9
S	9	314 23.4	N23 24.4	200 06.0	14.5	S15 58.3	12.0	54.9
D	10	329 23.3	N23 24.3	214 39.5	14.5	S16 10.2	12.0	54.8
A	11	344 23.1	N23 24.3	229 12.9	14.4	S16 22.1	11.9	54.8
Y								
	12	359 23.0	N23 24.2	243 46.3	14.4	S16 34.0	11.8	54.8
	13	14 22.9	N23 24.2	258 19.6	14.4	S16 45.7	11.8	54.8
	14	29 22.7	N23 24.1	272 53.0	14.3	S16 57.4	11.7	54.8
	15	44 22.6	N23 24.1	287 26.2	14.3	S17 09.0	11.6	54.7
	16	59 22.5	N23 24.0	301 59.5	14.2	S17 20.5	11.5	54.7
	17	74 22.3	N23 23.9	316 32.6	14.2	S17 31.9	11.4	54.7
	18	89 22.2	N23 23.9	331 05.8	14.1	S17 43.3	11.4	54.7
	19	104 22.1	N23 23.8	345 38.9	14.1	S17 54.6	11.3	54.7
	20	119 21.9	N23 23.8	0 11.9	14.0	S18 05.8	11.2	54.6
	21	134 21.8	N23 23.7	14 44.9	14.0	S18 16.9	11.1	54.6
	22	149 21.7	N23 23.6	29 17.9	14.0	S18 28.0	11.0	54.6
	23	164 21.5	N23 23.6	43 50.8	13.9	S18 38.9	11.0	54.6
25	0	179 21.4	N23 23.5	58 23.6	13.9	S18 49.8	10.9	54.6
	1	194 21.3	N23 23.5	72 56.5	13.8	S19 00.6	10.8	54.6
	2	209 21.1	N23 23.4	87 29.2	13.8	S19 11.3	10.7	54.6
	3	224 21.0	N23 23.3	102 01.9	13.7	S19 21.9	10.6	54.5
	4	239 20.9	N23 23.3	116 34.6	13.7	S19 32.5	10.5	54.5
T	5	254 20.7	N23 23.2	131 07.2	13.6	S19 42.9	10.5	54.5
H								
U	6	269 20.6	N23 23.1	145 39.8	13.6	S19 53.3	10.4	54.5
R	7	284 20.5	N23 23.1	160 12.3	13.5	S20 03.6	10.3	54.5
S	8	299 20.3	N23 23.0	174 44.7	13.5	S20 13.7	10.2	54.5
D	9	314 20.2	N23 22.9	189 17.2	13.4	S20 23.8	10.1	54.4
A	10	329 20.1	N23 22.9	203 49.5	13.4	S20 33.8	10.0	54.4
Y	11	344 19.9	N23 22.8	218 21.8	13.3	S20 43.8	9.9	54.4
	12	359 19.8	N23 22.7	232 54.1	13.3	S20 53.6	9.8	54.4
	13	14 19.7	N23 22.6	247 26.3	13.2	S21 03.3	9.7	54.4
	14	29 19.5	N23 22.6	261 58.4	13.1	S21 12.9	9.6	54.4
	15	44 19.4	N23 22.5	276 30.5	13.1	S21 22.5	9.5	54.4
	16	59 19.3	N23 22.4	291 02.5	13.0	S21 31.9	9.4	54.4
	17	74 19.1	N23 22.3	305 34.5	13.0	S21 41.3	9.3	54.3
	18	89 19.0	N23 22.3	320 06.4	12.9	S21 50.5	9.3	54.3
	19	104 18.9	N23 22.2	334 38.3	12.9	S21 59.7	9.2	54.3
	20	119 18.8	N23 22.1	349 10.1	12.8	S22 08.7	9.1	54.3
	21	134 18.6	N23 22.0	3 41.9	12.8	S22 17.7	9.0	54.3
	22	149 18.5	N23 22.0	18 13.6	12.7	S22 26.6	8.9	54.3
	23	164 18.4	N23 21.9	32 45.3	12.7	S22 35.3	8.8	54.3
26	0	179 18.2	N23 21.8	47 16.9	12.6	S22 44.0	8.7	54.3
	1	194 18.1	N23 21.7	61 48.4	12.5	S22 52.5	8.6	54.2
	2	209 18.0	N23 21.6	76 19.9	12.5	S23 01.0	8.5	54.2
	3	224 17.8	N23 21.6	90 51.3	12.4	S23 09.3	8.3	54.2
	4	239 17.7	N23 21.5	105 22.7	12.4	S23 17.6	8.2	54.2
F	5	254 17.6	N23 21.4	119 54.0	12.3	S23 25.7	8.1	54.2
R								
I	6	269 17.4	N23 21.3	134 25.3	12.3	S23 33.8	8.0	54.2
D	7	284 17.3	N23 21.2	148 56.5	12.2	S23 41.7	7.9	54.2
A	8	299 17.2	N23 21.1	163 27.6	12.2	S23 49.5	7.8	54.2
Y	9	314 17.0	N23 21.1	177 58.8	12.1	S23 57.2	7.7	54.2
	10	329 16.9	N23 21.0	192 29.8	12.0	S24 04.8	7.6	54.2
	11	344 16.8	N23 20.9	207 00.8	12.0	S24 12.3	7.5	54.2
	12	359 16.7	N23 20.8	221 31.7	11.9	S24 19.7	7.4	54.1
	13	14 16.5	N23 20.7	236 02.6	11.9	S24 27.0	7.3	54.1
	14	29 16.4	N23 20.6	250 33.4	11.8	S24 34.1	7.2	54.1
	15	44 16.3	N23 20.5	265 04.2	11.8	S24 41.2	7.1	54.1
	16	59 16.1	N23 20.4	279 34.9	11.7	S24 48.1	6.9	54.1
	17	74 16.0	N23 20.3	294 05.6	11.7	S24 55.0	6.8	54.1
	18	89 15.9	N23 20.3	308 36.2	11.6	S25 01.7	6.7	54.1
	19	104 15.7	N23 20.2	323 06.8	11.6	S25 08.3	6.6	54.1
	20	119 15.6	N23 20.1	337 37.3	11.5	S25 14.8	6.5	54.1
	21	134 15.5	N23 20.0	352 07.8	11.5	S25 21.1	6.4	54.1
	22	149 15.4	N23 19.9	6 38.2	11.4	S25 27.4	6.2	54.1
	23	164 15.2	N23 19.8	21 08.6	11.4	S25 33.5	6.1	54.1
		S.D. 15.7	d 0.1	S.D.	14.9	14.8	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 11.7
Achernar	335 19.5	S57 05.8
Acrux	172 58.8	S63 15.1
Adhara	255 05.3	S29 00.5
Albireo	67 02.7	N28 00.8
Aldebaran	290 38.6	N16 33.8
Alioth	166 11.8	N55 49.2
Alkaid	152 50.8	N49 11.0
Al Na-ir	27 31.1	S46 49.7
Alnilam	275 36.8	S 1 11.0
Alphard	217 46.8	S 8 46.5
Alphecca	126 02.4	N26 37.6
Alpheratz	357 33.5	N29 14.1
Altair	61 58.5	N 8 56.3
Ankaa	353 05.9	S42 09.5
Antares	112 14.0	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.8	S59 35.8
Bellatrix	278 21.9	N 6 22.5
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.5
Capella	280 20.6	N46 01.5
Castor	245 55.9	N31 49.9
Deneb	49 24.6	N45 22.3
Denebola	182 23.7	N14 25.5
Diphda	348 46.2	S17 50.3
Dubhe	193 39.7	N61 36.7
Elnath	278 00.8	N28 37.8
Eltanin	90 41.1	N51 29.0
Enif	33 37.3	N 9 59.8
Fomalhaut	15 13.0	S29 28.7
Gacrux	171 50.3	S57 16.0
Gienah	175 42.3	S17 41.5
Hadar	148 34.1	S60 30.3
Hamal	327 50.0	N23 35.2
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.2	N74 03.0
Markab	13 28.6	N15 20.8
Menkar	314 05.1	N 4 11.7
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.7	S69 49.8
Mirfak	308 27.0	N49 57.2
Nunki	75 45.9	S26 15.8
Peacock	53 03.2	S56 38.8
Polaris	316 14.6	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 03.0	S 8 10.2
Rigil Kent	139 38.4	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.7	N56 40.7
Shaula	96 08.3	S37 07.4
Sirius	258 25.5	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 45.8	S43 32.5
Vega	80 32.0	N38 48.4
Zuben-ubi	136 55.3	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
27	0	275 07.3	136 26.1	N17 56.7	218 34.1	N19 31.9	153 33.9	N20 43.2	261 19.0	N 3 20.5
	1	290 09.8	151 25.7	N17 55.8	233 34.7	N19 32.3	168 35.8	N20 43.1	276 21.4	N 3 20.6
	2	305 12.3	166 25.3	N17 54.9	248 35.3	N19 32.7	183 37.7	N20 42.9	291 23.7	N 3 20.6
	3	320 14.7	181 24.9	N17 54.0	263 35.9	N19 33.1	198 39.6	N20 42.8	306 26.1	N 3 20.6
	4	335 17.2	196 24.6	N17 53.0	278 36.5	N19 33.5	213 41.5	N20 42.7	321 28.4	N 3 20.7
S	5	350 19.7	211 24.2	N17 52.1	293 37.2	N19 34.0	228 43.4	N20 42.6	336 30.7	N 3 20.7
A										
T	6	5 22.1	226 23.8	N17 51.2	308 37.8	N19 34.4	243 45.3	N20 42.5	351 33.1	N 3 20.8
U	7	20 24.6	241 23.4	N17 50.3	323 38.4	N19 34.8	258 47.2	N20 42.4	6 35.4	N 3 20.8
R	8	35 27.1	256 23.1	N17 49.4	338 39.0	N19 35.2	273 49.1	N20 42.3	21 37.8	N 3 20.8
D	9	50 29.5	271 22.7	N17 48.5	353 39.6	N19 35.6	288 51.1	N20 42.2	36 40.1	N 3 20.9
A	10	65 32.0	286 22.3	N17 47.6	8 40.2	N19 36.1	303 53.0	N20 42.1	51 42.5	N 3 20.9
Y	11	80 34.5	301 21.9	N17 46.7	23 40.9	N19 36.5	318 54.9	N20 42.0	66 44.8	N 3 20.9
	12	95 36.9	316 21.6	N17 45.7	38 41.5	N19 36.9	333 56.8	N20 41.9	81 47.2	N 3 21.0
	13	110 39.4	331 21.2	N17 44.8	53 42.1	N19 37.3	348 58.7	N20 41.8	96 49.5	N 3 21.0
	14	125 41.8	346 20.8	N17 43.9	68 42.7	N19 37.7	4 00.6	N20 41.6	111 51.9	N 3 21.1
	15	140 44.3	1 20.4	N17 43.0	83 43.3	N19 38.1	19 02.5	N20 41.5	126 54.2	N 3 21.1
	16	155 46.8	16 20.1	N17 42.1	98 44.0	N19 38.6	34 04.4	N20 41.4	141 56.6	N 3 21.1
	17	170 49.2	31 19.7	N17 41.2	113 44.6	N19 39.0	49 06.3	N20 41.3	156 58.9	N 3 21.2
	18	185 51.7	46 19.3	N17 40.2	128 45.2	N19 39.4	64 08.2	N20 41.2	172 01.3	N 3 21.2
	19	200 54.2	61 19.0	N17 39.3	143 45.8	N19 39.8	79 10.1	N20 41.1	187 03.6	N 3 21.2
	20	215 56.6	76 18.6	N17 38.4	158 46.4	N19 40.2	94 12.1	N20 41.0	202 06.0	N 3 21.3
	21	230 59.1	91 18.2	N17 37.5	173 47.1	N19 40.6	109 14.0	N20 40.9	217 08.3	N 3 21.3
	22	246 01.6	106 17.9	N17 36.5	188 47.7	N19 41.0	124 15.9	N20 40.8	232 10.7	N 3 21.3
	23	261 04.0	121 17.5	N17 35.6	203 48.3	N19 41.4	139 17.8	N20 40.7	247 13.0	N 3 21.4
28	0	276 06.5	136 17.1	N17 34.7	218 48.9	N19 41.9	154 19.7	N20 40.6	262 15.4	N 3 21.4
	1	291 08.9	151 16.8	N17 33.8	233 49.5	N19 42.3	169 21.6	N20 40.5	277 17.7	N 3 21.5
	2	306 11.4	166 16.4	N17 32.8	248 50.1	N19 42.7	184 23.5	N20 40.3	292 20.1	N 3 21.5
	3	321 13.9	181 16.1	N17 31.9	263 50.8	N19 43.1	199 25.4	N20 40.2	307 22.4	N 3 21.5
	4	336 16.3	196 15.7	N17 31.0	278 51.4	N19 43.5	214 27.3	N20 40.1	322 24.8	N 3 21.6
S	5	351 18.8	211 15.3	N17 30.1	293 52.0	N19 43.9	229 29.2	N20 40.0	337 27.1	N 3 21.6
U										
N	6	6 21.3	226 15.0	N17 29.1	308 52.6	N19 44.3	244 31.1	N20 39.9	352 29.5	N 3 21.6
D	7	21 23.7	241 14.6	N17 28.2	323 53.2	N19 44.7	259 33.0	N20 39.8	7 31.8	N 3 21.7
A	8	36 26.2	256 14.3	N17 27.3	338 53.9	N19 45.1	274 35.0	N20 39.7	22 34.2	N 3 21.7
Y	9	51 28.7	271 13.9	N17 26.3	353 54.5	N19 45.6	289 36.9	N20 39.6	37 36.5	N 3 21.7
	10	66 31.1	286 13.6	N17 25.4	8 55.1	N19 46.0	304 38.8	N20 39.5	52 38.9	N 3 21.8
	11	81 33.6	301 13.2	N17 24.5	23 55.7	N19 46.4	319 40.7	N20 39.4	67 41.2	N 3 21.8
	12	96 36.1	316 12.8	N17 23.5	38 56.3	N19 46.8	334 42.6	N20 39.3	82 43.6	N 3 21.8
	13	111 38.5	331 12.5	N17 22.6	53 56.9	N19 47.2	349 44.5	N20 39.1	97 45.9	N 3 21.9
	14	126 41.0	346 12.1	N17 21.7	68 57.6	N19 47.6	4 46.4	N20 39.0	112 48.3	N 3 21.9
	15	141 43.4	1 11.8	N17 20.7	83 58.2	N19 48.0	19 48.3	N20 38.9	127 50.6	N 3 21.9
	16	156 45.9	16 11.4	N17 19.8	98 58.8	N19 48.4	34 50.2	N20 38.8	142 53.0	N 3 22.0
	17	171 48.4	31 11.1	N17 18.9	113 59.4	N19 48.8	49 52.1	N20 38.7	157 55.3	N 3 22.0
	18	186 50.8	46 10.7	N17 17.9	129 00.0	N19 49.2	64 54.0	N20 38.6	172 57.7	N 3 22.0
	19	201 53.3	61 10.4	N17 17.0	144 00.7	N19 49.6	79 55.9	N20 38.5	188 00.0	N 3 22.1
	20	216 55.8	76 10.0	N17 16.1	159 01.3	N19 50.0	94 57.8	N20 38.4	203 02.4	N 3 22.1
	21	231 58.2	91 09.7	N17 15.1	174 01.9	N19 50.4	109 59.8	N20 38.3	218 04.8	N 3 22.2
	22	247 00.7	106 09.3	N17 14.2	189 02.5	N19 50.9	125 01.7	N20 38.2	233 07.1	N 3 22.2
	23	262 03.2	121 09.0	N17 13.2	204 03.1	N19 51.3	140 03.6	N20 38.0	248 09.5	N 3 22.2
29	0	277 05.6	136 08.6	N17 12.3	219 03.7	N19 51.7	155 05.5	N20 37.9	263 11.8	N 3 22.3
	1	292 08.1	151 08.3	N17 11.4	234 04.4	N19 52.1	170 07.4	N20 37.8	278 14.2	N 3 22.3
	2	307 10.6	166 08.0	N17 10.4	249 05.0	N19 52.5	185 09.3	N20 37.7	293 16.5	N 3 22.3
	3	322 13.0	181 07.6	N17 09.5	264 05.6	N19 52.9	200 11.2	N20 37.6	308 18.9	N 3 22.4
	4	337 15.5	196 07.3	N17 08.5	279 06.2	N19 53.3	215 13.1	N20 37.5	323 21.2	N 3 22.4
M	5	352 17.9	211 06.9	N17 07.6	294 06.8	N19 53.7	230 15.0	N20 37.4	338 23.6	N 3 22.4
O										
N	6	7 20.4	226 06.6	N17 06.6	309 07.4	N19 54.1	245 16.9	N20 37.3	353 25.9	N 3 22.5
D	7	22 22.9	241 06.2	N17 05.7	324 08.1	N19 54.5	260 18.8	N20 37.2	8 28.3	N 3 22.5
A	8	37 25.3	256 05.9	N17 04.8	339 08.7	N19 54.9	275 20.7	N20 37.1	23 30.6	N 3 22.5
Y	9	52 27.8	271 05.6	N17 03.8	354 09.3	N19 55.3	290 22.6	N20 36.9	38 33.0	N 3 22.6
	10	67 30.3	286 05.2	N17 02.9	9 09.9	N19 55.7	305 24.5	N20 36.8	53 35.4	N 3 22.6
	11	82 32.7	301 04.9	N17 01.9	24 10.5	N19 56.1	320 26.4	N20 36.7	68 37.7	N 3 22.6
	12	97 35.2	316 04.5	N17 01.0	39 11.1	N19 56.5	335 28.4	N20 36.6	83 40.1	N 3 22.7
	13	112 37.7	331 04.2	N17 00.0	54 11.8	N19 56.9	350 30.3	N20 36.5	98 42.4	N 3 22.7
	14	127 40.1	346 03.9	N16 59.1	69 12.4	N19 57.3	5 32.2	N20 36.4	113 44.8	N 3 22.7
	15	142 42.6	1 03.5	N16 58.1	84 13.0	N19 57.7	20 34.1	N20 36.3	128 47.1	N 3 22.8
	16	157 45.1	16 03.2	N16 57.2	99 13.6	N19 58.1	35 36.0	N20 36.2	143 49.5	N 3 22.8
	17	172 47.5	31 02.9	N16 56.2	114 14.2	N19 58.5	50 37.9	N20 36.1	158 51.8	N 3 22.8
	18	187 50.0	46 02.5	N16 55.2	129 14.8	N19 58.9	65 39.8	N20 36.0	173 54.2	N 3 22.9
	19	202 52.4	61 02.2	N16 54.3	144 15.5	N19 59.3	80 41.7	N20 35.8	188 56.6	N 3 22.9
	20	217 54.9	76 01.9	N16 53.3	159 16.1	N19 59.7	95 43.6	N20 35.7	203 58.9	N 3 22.9
	21	232 57.4	91 01.5	N16 52.4	174 16.7	N20 00.1	110 45.5	N20 35.6	219 01.3	N 3 23.0
	22	247 59.8	106 01.2	N16 51.4	189 17.3	N20 00.5	125 47.4	N20 35.5	234 03.6	N 3 23.0
	23	263 02.3	121 00.9	N16 50.5	204 17.9	N20 00.9	140 49.3	N20 35.4	249 06.0	N 3 23.0
			v -0.4	d 0.9	v 0.6	d 0.4	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
27	0	179 15.1	N23 19.7	35 38.9	11.3	S25 39.5	6.0	54.1
	1	194 15.0	N23 19.6	50 09.1	11.3	S25 45.4	5.9	54.1
	2	209 14.8	N23 19.5	64 39.4	11.2	S25 51.2	5.8	54.0
	3	224 14.7	N23 19.4	79 09.5	11.2	S25 56.8	5.7	54.0
	4	239 14.6	N23 19.3	93 39.6	11.1	S26 02.4	5.5	54.0
S	5	254 14.4	N23 19.2	108 09.7	11.1	S26 07.8	5.4	54.0
A								
T	6	269 14.3	N23 19.1	122 39.7	11.0	S26 13.1	5.3	54.0
U	7	284 14.2	N23 19.0	137 09.7	11.0	S26 18.3	5.2	54.0
R	8	299 14.1	N23 18.9	151 39.7	10.9	S26 23.3	5.0	54.0
D	9	314 13.9	N23 18.8	166 09.6	10.9	S26 28.2	4.9	54.0
A	10	329 13.8	N23 18.7	180 39.4	10.8	S26 33.0	4.8	54.0
Y	11	344 13.7	N23 18.6	195 09.2	10.8	S26 37.7	4.7	54.0
	12	359 13.5	N23 18.5	209 39.0	10.8	S26 42.2	4.6	54.0
	13	14 13.4	N23 18.4	224 08.7	10.7	S26 46.7	4.4	54.0
	14	29 13.3	N23 18.3	238 38.4	10.7	S26 51.0	4.3	54.0
	15	44 13.2	N23 18.1	253 08.0	10.6	S26 55.1	4.2	54.0
	16	59 13.0	N23 18.0	267 37.6	10.6	S26 59.2	4.0	54.0
	17	74 12.9	N23 17.9	282 07.2	10.6	S27 03.1	3.9	54.0
	18	89 12.8	N23 17.8	296 36.7	10.5	S27 06.9	3.8	54.0
	19	104 12.6	N23 17.7	311 06.2	10.5	S27 10.6	3.7	54.0
	20	119 12.5	N23 17.6	325 35.7	10.5	S27 14.1	3.5	54.0
	21	134 12.4	N23 17.5	340 05.1	10.4	S27 17.5	3.4	54.0
	22	149 12.3	N23 17.4	354 34.5	10.4	S27 20.8	3.3	54.0
	23	164 12.1	N23 17.3	9 03.8	10.4	S27 23.9	3.1	54.0
28	0	179 12.0	N23 17.1	23 33.2	10.3	S27 26.9	3.0	54.0
	1	194 11.9	N23 17.0	38 02.5	10.3	S27 29.8	2.9	54.0
	2	209 11.7	N23 16.9	52 31.7	10.3	S27 32.5	2.7	54.0
	3	224 11.6	N23 16.8	67 01.0	10.2	S27 35.2	2.6	54.0
	4	239 11.5	N23 16.7	81 30.2	10.2	S27 37.6	2.5	54.0
S	5	254 11.4	N23 16.6	95 59.4	10.2	S27 40.0	2.4	54.0
U								
N	6	269 11.2	N23 16.5	110 28.6	10.2	S27 42.2	2.2	54.0
D	7	284 11.1	N23 16.3	124 57.7	10.1	S27 44.3	2.1	54.0
A	8	299 11.0	N23 16.2	139 26.8	10.1	S27 46.3	2.0	54.0
Y	9	314 10.9	N23 16.1	153 55.9	10.1	S27 48.1	1.8	54.0
	10	329 10.7	N23 16.0	168 25.0	10.1	S27 49.8	1.7	54.0
	11	344 10.6	N23 15.9	182 54.1	10.1	S27 51.3	1.6	54.0
	12	359 10.5	N23 15.7	197 23.1	10.0	S27 52.7	1.4	54.0
	13	14 10.3	N23 15.6	211 52.1	10.0	S27 54.0	1.3	54.0
	14	29 10.2	N23 15.5	226 21.1	10.0	S27 55.2	1.1	54.0
	15	44 10.1	N23 15.4	240 50.1	10.0	S27 56.2	1.0	54.0
	16	59 10.0	N23 15.2	255 19.1	10.0	S27 57.1	0.9	54.0
	17	74 09.8	N23 15.1	269 48.1	10.0	S27 57.8	0.7	54.0
	18	89 09.7	N23 15.0	284 17.0	10.0	S27 58.4	0.6	54.0
	19	104 09.6	N23 14.9	298 46.0	10.0	S27 58.9	0.5	54.0
	20	119 09.5	N23 14.7	313 14.9	9.9	S27 59.2	0.3	54.0
	21	134 09.3	N23 14.6	327 43.9	9.9	S27 59.4	0.2	54.0
	22	149 09.2	N23 14.5	342 12.8	9.9	S27 59.5	0.1	54.0
	23	164 09.1	N23 14.3	356 41.7	9.9	S27 59.4	0.1	54.0
29	0	179 09.0	N23 14.2	11 10.7	9.9	S27 59.2	0.2	54.0
	1	194 08.8	N23 14.1	25 39.6	9.9	S27 58.8	0.3	54.0
	2	209 08.7	N23 13.9	40 08.5	9.9	S27 58.4	0.5	54.0
	3	224 08.6	N23 13.8	54 37.4	9.9	S27 57.8	0.6	54.0
	4	239 08.5	N23 13.7	69 06.4	9.9	S27 57.0	0.8	54.0
M	5	254 08.3	N23 13.5	83 35.3	9.9	S27 56.1	0.9	54.0
O								
N	6	269 08.2	N23 13.4	98 04.2	9.9	S27 55.1	1.0	54.0
D	7	284 08.1	N23 13.3	112 33.2	9.9	S27 53.9	1.2	54.0
A	8	299 08.0	N23 13.1	127 02.1	9.9	S27 52.6	1.3	54.0
Y	9	314 07.8	N23 13.0	141 31.1	10.0	S27 51.2	1.4	54.0
	10	329 07.7	N23 12.9	156 00.0	10.0	S27 49.6	1.6	54.0
	11	344 07.6	N23 12.7	170 29.0	10.0	S27 47.9	1.7	54.0
	12	359 07.5	N23 12.6	184 58.0	10.0	S27 46.1	1.8	54.0
	13	14 07.3	N23 12.4	199 27.0	10.0	S27 44.1	2.0	54.0
	14	29 07.2	N23 12.3	213 56.0	10.0	S27 42.0	2.1	54.1
	15	44 07.1	N23 12.2	228 25.1	10.0	S27 39.8	2.2	54.1
	16	59 07.0	N23 12.0	242 54.1	10.0	S27 37.4	2.4	54.1
	17	74 06.8	N23 11.9	257 23.2	10.1	S27 34.9	2.5	54.1
	18	89 06.7	N23 11.7	271 52.3	10.1	S27 32.2	2.6	54.1
	19	104 06.6	N23 11.6	286 21.4	10.1	S27 29.5	2.8	54.1
	20	119 06.5	N23 11.4	300 50.5	10.1	S27 26.6	2.9	54.1
	21	134 06.3	N23 11.3	315 19.6	10.2	S27 23.5	3.0	54.1
	22	149 06.2	N23 11.2	329 48.8	10.2	S27 20.3	3.2	54.1
	23	164 06.1	N23 11.0	344 18.0	10.2	S27 17.0	3.3	54.1
		S.D. 15.7	d 0.1	S.D.	14.7	14.7	14.7	

Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 11.7
Achernar	335 19.4	S57 05.8
Acrux	172 58.8	S63 15.1
Adhara	255 05.3	S29 00.5
Albireo	67 02.7	N28 00.9
Aldebaran	290 38.5	N16 33.8
Alioth	166 11.8	N55 49.2
Alkaid	152 50.9	N49 11.0
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 36.8	S 1 11.0
Alphard	217 46.8	S 8 46.5
Alphecca	126 02.4	N26 37.6
Alpheratz	357 33.5	N29 14.1
Altair	61 58.4	N 8 56.3
Ankaa	353 05.9	S42 09.5
Antares	112 14.0	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.8	S59 35.8
Bellatrix	278 21.9	N 6 22.5
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.5
Capella	280 20.6	N46 01.4
Castor	245 55.9	N31 49.9
Deneb	49 24.6	N45 22.4
Denebola	182 23.8	N14 25.5
Diphda	348 46.1	S17 50.3
Dubhe	193 39.7	N61 36.7
Elnath	278 00.7	N28 37.7
Eltanin	90 41.1	N51 29.1
Enif	33 37.3	N 9 59.8
Fomalhaut	15 13.0	S29 28.7
Gacrux	171 50.3	S57 16.0
Gienah	175 42.4	S17 41.5
Hadar	148 34.1	S60 30.4
Hamal	327 50.0	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.2	N74 03.0
Markab	13 28.6	N15 20.8
Menkar	314 05.1	N 4 11.7
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.7	S69 49.8
Mirfak	308 26.9	N49 57.2
Nunki	75 45.9	S26 15.8
Peacock	53 03.2	S56 38.8
Polaris	316 13.3	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 03.0	S 8 10.2
Rigil Kent	139 38.4	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.7	N56 40.7
Shaula	96 08.3	S37 07.4
Sirius	258 25.5	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 45.8	S43 32.5
Vega	80 32.0	N38 48.4
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
30	0	278 04.8	136 00.6	N16 49.5	219 18.5	N20 01.3	155 51.2	N20 35.3	264 08.3	N 3 23.1
	1	293 07.2	151 00.2	N16 48.6	234 19.2	N20 01.7	170 53.1	N20 35.2	279 10.7	N 3 23.1
	2	308 09.7	165 59.9	N16 47.6	249 19.8	N20 02.1	185 55.0	N20 35.1	294 13.1	N 3 23.1
	3	323 12.2	180 59.6	N16 46.6	264 20.4	N20 02.4	200 57.0	N20 35.0	309 15.4	N 3 23.2
	4	338 14.6	195 59.2	N16 45.7	279 21.0	N20 02.8	215 58.9	N20 34.8	324 17.8	N 3 23.2
T	5	353 17.1	210 58.9	N16 44.7	294 21.6	N20 03.2	231 00.8	N20 34.7	339 20.1	N 3 23.2
U										
E	6	8 19.6	225 58.6	N16 43.8	309 22.2	N20 03.6	246 02.7	N20 34.6	354 22.5	N 3 23.3
S	7	23 22.0	240 58.3	N16 42.8	324 22.9	N20 04.0	261 04.6	N20 34.5	9 24.8	N 3 23.3
D	8	38 24.5	255 57.9	N16 41.8	339 23.5	N20 04.4	276 06.5	N20 34.4	24 27.2	N 3 23.3
A	9	53 26.9	270 57.6	N16 40.9	354 24.1	N20 04.8	291 08.4	N20 34.3	39 29.6	N 3 23.4
Y	10	68 29.4	285 57.3	N16 39.9	9 24.7	N20 05.2	306 10.3	N20 34.2	54 31.9	N 3 23.4
	11	83 31.9	300 57.0	N16 38.9	24 25.3	N20 05.6	321 12.2	N20 34.1	69 34.3	N 3 23.4
	12	98 34.3	315 56.7	N16 38.0	39 25.9	N20 06.0	336 14.1	N20 34.0	84 36.6	N 3 23.4
	13	113 36.8	330 56.3	N16 37.0	54 26.6	N20 06.4	351 16.0	N20 33.8	99 39.0	N 3 23.5
	14	128 39.3	345 56.0	N16 36.0	69 27.2	N20 06.8	6 17.9	N20 33.7	114 41.3	N 3 23.5
	15	143 41.7	0 55.7	N16 35.1	84 27.8	N20 07.2	21 19.8	N20 33.6	129 43.7	N 3 23.5
	16	158 44.2	15 55.4	N16 34.1	99 28.4	N20 07.6	36 21.7	N20 33.5	144 46.1	N 3 23.6
	17	173 46.7	30 55.1	N16 33.1	114 29.0	N20 07.9	51 23.6	N20 33.4	159 48.4	N 3 23.6
	18	188 49.1	45 54.8	N16 32.2	129 29.6	N20 08.3	66 25.5	N20 33.3	174 50.8	N 3 23.6
	19	203 51.6	60 54.4	N16 31.2	144 30.3	N20 08.7	81 27.4	N20 33.2	189 53.1	N 3 23.7
	20	218 54.1	75 54.1	N16 30.2	159 30.9	N20 09.1	96 29.3	N20 33.1	204 55.5	N 3 23.7
	21	233 56.5	90 53.8	N16 29.3	174 31.5	N20 09.5	111 31.2	N20 33.0	219 57.9	N 3 23.7
	22	248 59.0	105 53.5	N16 28.3	189 32.1	N20 09.9	126 33.2	N20 32.8	235 00.2	N 3 23.8
	23	264 01.4	120 53.2	N16 27.3	204 32.7	N20 10.3	141 35.1	N20 32.7	250 02.6	N 3 23.8
1	0	279 03.9	135 52.9	N16 26.3	219 33.3	N20 10.7	156 37.0	N20 32.6	265 04.9	N 3 23.8
	1	294 06.4	150 52.6	N16 25.4	234 33.9	N20 11.1	171 38.9	N20 32.5	280 07.3	N 3 23.9
	2	309 08.8	165 52.3	N16 24.4	249 34.6	N20 11.4	186 40.8	N20 32.4	295 09.7	N 3 23.9
	3	324 11.3	180 51.9	N16 23.4	264 35.2	N20 11.8	201 42.7	N20 32.3	310 12.0	N 3 23.9
	4	339 13.8	195 51.6	N16 22.4	279 35.8	N20 12.2	216 44.6	N20 32.2	325 14.4	N 3 24.0
W	5	354 16.2	210 51.3	N16 21.5	294 36.4	N20 12.6	231 46.5	N20 32.1	340 16.8	N 3 24.0
E										
D	6	9 18.7	225 51.0	N16 20.5	309 37.0	N20 13.0	246 48.4	N20 31.9	355 19.1	N 3 24.0
N	7	24 21.2	240 50.7	N16 19.5	324 37.6	N20 13.4	261 50.3	N20 31.8	10 21.5	N 3 24.0
E	8	39 23.6	255 50.4	N16 18.5	339 38.3	N20 13.8	276 52.2	N20 31.7	25 23.8	N 3 24.1
S	9	54 26.1	270 50.1	N16 17.6	354 38.9	N20 14.1	291 54.1	N20 31.6	40 26.2	N 3 24.1
D	10	69 28.6	285 49.8	N16 16.6	9 39.5	N20 14.5	306 56.0	N20 31.5	55 28.6	N 3 24.1
A	11	84 31.0	300 49.5	N16 15.6	24 40.1	N20 14.9	321 57.9	N20 31.4	70 30.9	N 3 24.2
Y										
	12	99 33.5	315 49.2	N16 14.6	39 40.7	N20 15.3	336 59.8	N20 31.3	85 33.3	N 3 24.2
	13	114 35.9	330 48.9	N16 13.6	54 41.3	N20 15.7	352 01.7	N20 31.2	100 35.6	N 3 24.2
	14	129 38.4	345 48.6	N16 12.7	69 41.9	N20 16.1	7 03.6	N20 31.1	115 38.0	N 3 24.3
	15	144 40.9	0 48.3	N16 11.7	84 42.6	N20 16.4	22 05.5	N20 30.9	130 40.4	N 3 24.3
	16	159 43.3	15 48.0	N16 10.7	99 43.2	N20 16.8	37 07.4	N20 30.8	145 42.7	N 3 24.3
	17	174 45.8	30 47.7	N16 09.7	114 43.8	N20 17.2	52 09.3	N20 30.7	160 45.1	N 3 24.4
	18	189 48.3	45 47.4	N16 08.7	129 44.4	N20 17.6	67 11.2	N20 30.6	175 47.5	N 3 24.4
	19	204 50.7	60 47.1	N16 07.7	144 45.0	N20 18.0	82 13.1	N20 30.5	190 49.8	N 3 24.4
	20	219 53.2	75 46.8	N16 06.7	159 45.6	N20 18.4	97 15.1	N20 30.4	205 52.2	N 3 24.4
	21	234 55.7	90 46.5	N16 05.8	174 46.2	N20 18.7	112 17.0	N20 30.3	220 54.6	N 3 24.5
	22	249 58.1	105 46.2	N16 04.8	189 46.9	N20 19.1	127 18.9	N20 30.2	235 56.9	N 3 24.5
	23	265 00.6	120 45.9	N16 03.8	204 47.5	N20 19.5	142 20.8	N20 30.0	250 59.3	N 3 24.5
2	0	280 03.0	135 45.6	N16 02.8	219 48.1	N20 19.9	157 22.7	N20 29.9	266 01.6	N 3 24.6
	1	295 05.5	150 45.3	N16 01.8	234 48.7	N20 20.3	172 24.6	N20 29.8	281 04.0	N 3 24.6
	2	310 08.0	165 45.0	N16 00.8	249 49.3	N20 20.6	187 26.5	N20 29.7	296 06.4	N 3 24.6
	3	325 10.4	180 44.7	N15 59.8	264 49.9	N20 21.0	202 28.4	N20 29.6	311 08.7	N 3 24.6
	4	340 12.9	195 44.4	N15 58.8	279 50.5	N20 21.4	217 30.3	N20 29.5	326 11.1	N 3 24.7
T	5	355 15.4	210 44.1	N15 57.8	294 51.2	N20 21.8	232 32.2	N20 29.4	341 13.5	N 3 24.7
H										
U	6	10 17.8	225 43.9	N15 56.9	309 51.8	N20 22.2	247 34.1	N20 29.2	356 15.8	N 3 24.7
R	7	25 20.3	240 43.6	N15 55.9	324 52.4	N20 22.5	262 36.0	N20 29.1	11 18.2	N 3 24.8
S	8	40 22.8	255 43.3	N15 54.9	339 53.0	N20 22.9	277 37.9	N20 29.0	26 20.6	N 3 24.8
D	9	55 25.2	270 43.0	N15 53.9	354 53.6	N20 23.3	292 39.8	N20 28.9	41 22.9	N 3 24.8
A	10	70 27.7	285 42.7	N15 52.9	9 54.2	N20 23.7	307 41.7	N20 28.8	56 25.3	N 3 24.9
Y	11	85 30.2	300 42.4	N15 51.9	24 54.8	N20 24.0	322 43.6	N20 28.7	71 27.7	N 3 24.9
	12	100 32.6	315 42.1	N15 50.9	39 55.5	N20 24.4	337 45.5	N20 28.6	86 30.0	N 3 24.9
	13	115 35.1	330 41.8	N15 49.9	54 56.1	N20 24.8	352 47.4	N20 28.5	101 32.4	N 3 24.9
	14	130 37.5	345 41.6	N15 48.9	69 56.7	N20 25.2	7 49.3	N20 28.3	116 34.8	N 3 25.0
	15	145 40.0	0 41.3	N15 47.9	84 57.3	N20 25.5	22 51.2	N20 28.2	131 37.1	N 3 25.0
	16	160 42.5	15 41.0	N15 46.9	99 57.9	N20 25.9	37 53.1	N20 28.1	146 39.5	N 3 25.0
	17	175 44.9	30 40.7	N15 45.9	114 58.5	N20 26.3	52 55.0	N20 28.0	161 41.9	N 3 25.1
	18	190 47.4	45 40.4	N15 44.9	129 59.1	N20 26.7	67 56.9	N20 27.9	176 44.2	N 3 25.1
	19	205 49.9	60 40.1	N15 43.9	144 59.8	N20 27.0	82 58.8	N20 27.8	191 46.6	N 3 25.1
	20	220 52.3	75 39.9	N15 42.9	160 00.4	N20 27.4	98 00.7	N20 27.7	206 49.0	N 3 25.1
	21	235 54.8	90 39.6	N15 41.9	175 01.0	N20 27.8	113 02.6	N20 27.6	221 51.3	N 3 25.2
	22	250 57.3	105 39.3	N15 40.9	190 01.6	N20 28.1	128 04.5	N20 27.4	236 53.7	N 3 25.2
	23	265 59.7	120 39.0	N15 39.9	205 02.2	N20 28.5	143 06.4	N20 27.3	251 56.1	N 3 25.2
			v -0.3	d 1.0	v 0.6	d 0.4	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
30	0	179 06.0	N23 10.9	358 47.2	10.2	S27 13.6	3.4	54.1
	1	194 05.8	N23 10.7	13 16.5	10.3	S27 10.0	3.6	54.1
	2	209 05.7	N23 10.6	27 45.8	10.3	S27 06.3	3.7	54.1
	3	224 05.6	N23 10.4	42 15.1	10.3	S27 02.5	3.8	54.1
	4	239 05.5	N23 10.3	56 44.4	10.3	S26 58.5	4.0	54.1
T	5	254 05.4	N23 10.1	71 13.8	10.4	S26 54.4	4.1	54.1
U								
E	6	269 05.2	N23 10.0	85 43.2	10.4	S26 50.2	4.2	54.1
S	7	284 05.1	N23 09.8	100 12.6	10.4	S26 45.8	4.4	54.2
D	8	299 05.0	N23 09.7	114 42.1	10.5	S26 41.3	4.5	54.2
A	9	314 04.9	N23 09.5	129 11.6	10.5	S26 36.7	4.6	54.2
Y	10	329 04.7	N23 09.3	143 41.1	10.5	S26 32.0	4.7	54.2
	11	344 04.6	N23 09.2	158 10.7	10.6	S26 27.1	4.9	54.2
	12	359 04.5	N23 09.0	172 40.3	10.6	S26 22.1	5.0	54.2
	13	14 04.4	N23 08.9	187 10.0	10.7	S26 17.0	5.1	54.2
	14	29 04.3	N23 08.7	201 39.7	10.7	S26 11.7	5.3	54.2
	15	44 04.1	N23 08.6	216 09.4	10.7	S26 06.3	5.4	54.2
	16	59 04.0	N23 08.4	230 39.2	10.8	S26 00.8	5.5	54.2
	17	74 03.9	N23 08.2	245 09.0	10.8	S25 55.2	5.6	54.2
	18	89 03.8	N23 08.1	259 38.9	10.9	S25 49.5	5.7	54.2
	19	104 03.6	N23 07.9	274 08.8	10.9	S25 43.6	5.9	54.3
	20	119 03.5	N23 07.8	288 38.7	10.9	S25 37.6	6.0	54.3
	21	134 03.4	N23 07.6	303 08.7	11.0	S25 31.5	6.1	54.3
	22	149 03.3	N23 07.4	317 38.7	11.0	S25 25.2	6.2	54.3
	23	164 03.2	N23 07.3	332 08.8	11.1	S25 18.9	6.4	54.3
1	0	179 03.0	N23 07.1	346 39.0	11.1	S25 12.4	6.5	54.3
	1	194 02.9	N23 06.9	1 09.1	11.2	S25 05.8	6.6	54.3
	2	209 02.8	N23 06.8	15 39.4	11.2	S24 59.1	6.7	54.3
	3	224 02.7	N23 06.6	30 09.6	11.3	S24 52.3	6.8	54.3
	4	239 02.6	N23 06.4	44 39.9	11.3	S24 45.3	7.0	54.3
W	5	254 02.4	N23 06.3	59 10.3	11.4	S24 38.2	7.1	54.4
E								
D	6	269 02.3	N23 06.1	73 40.7	11.4	S24 31.0	7.2	54.4
N	7	284 02.2	N23 05.9	88 11.2	11.5	S24 23.7	7.3	54.4
E	8	299 02.1	N23 05.8	102 41.7	11.5	S24 16.3	7.4	54.4
S	9	314 02.0	N23 05.6	117 12.3	11.6	S24 08.8	7.5	54.4
D	10	329 01.8	N23 05.4	131 42.9	11.6	S24 01.1	7.6	54.4
A	11	344 01.7	N23 05.3	146 13.6	11.7	S23 53.4	7.8	54.4
Y								
	12	359 01.6	N23 05.1	160 44.3	11.7	S23 45.5	7.9	54.4
	13	14 01.5	N23 04.9	175 15.1	11.8	S23 37.5	8.0	54.4
	14	29 01.4	N23 04.7	189 45.9	11.8	S23 29.4	8.1	54.5
	15	44 01.2	N23 04.6	204 16.8	11.9	S23 21.2	8.2	54.5
	16	59 01.1	N23 04.4	218 47.7	11.9	S23 12.9	8.3	54.5
	17	74 01.0	N23 04.2	233 18.7	12.0	S23 04.5	8.4	54.5
	18	89 00.9	N23 04.0	247 49.8	12.0	S22 56.0	8.5	54.5
	19	104 00.8	N23 03.9	262 20.9	12.1	S22 47.4	8.6	54.5
	20	119 00.6	N23 03.7	276 52.0	12.1	S22 38.6	8.7	54.5
	21	134 00.5	N23 03.5	291 23.2	12.2	S22 29.8	8.8	54.5
	22	149 00.4	N23 03.3	305 54.5	12.3	S22 20.8	8.9	54.6
	23	164 00.3	N23 03.1	320 25.8	12.3	S22 11.8	9.1	54.6
2	0	179 00.2	N23 03.0	334 57.1	12.4	S22 02.6	9.2	54.6
	1	194 00.1	N23 02.8	349 28.6	12.4	S21 53.4	9.3	54.6
	2	208 59.9	N23 02.6	4 00.0	12.5	S21 44.0	9.4	54.6
	3	223 59.8	N23 02.4	18 31.6	12.5	S21 34.6	9.5	54.6
	4	238 59.7	N23 02.2	33 03.1	12.6	S21 25.0	9.6	54.6
T	5	253 59.6	N23 02.0	47 34.8	12.6	S21 15.3	9.7	54.7
H								
U	6	268 59.5	N23 01.9	62 06.5	12.7	S21 05.6	9.8	54.7
R	7	283 59.3	N23 01.7	76 38.2	12.7	S20 55.7	9.9	54.7
S	8	298 59.2	N23 01.5	91 10.0	12.8	S20 45.8	9.9	54.7
D	9	313 59.1	N23 01.3	105 41.9	12.8	S20 35.8	10.0	54.7
A	10	328 59.0	N23 01.1	120 13.8	12.9	S20 25.6	10.1	54.7
Y	11	343 58.9	N23 00.9	134 45.7	13.0	S20 15.4	10.2	54.7
	12	358 58.8	N23 00.7	149 17.7	13.0	S20 05.1	10.3	54.8
	13	13 58.6	N23 00.5	163 49.8	13.1	S19 54.6	10.4	54.8
	14	28 58.5	N23 00.3	178 21.9	13.1	S19 44.1	10.5	54.8
	15	43 58.4	N23 00.2	192 54.1	13.2	S19 33.5	10.6	54.8
	16	58 58.3	N22 60.0	207 26.3	13.2	S19 22.8	10.7	54.8
	17	73 58.2	N22 59.8	221 58.5	13.3	S19 12.1	10.8	54.8
	18	88 58.1	N22 59.6	236 30.9	13.3	S19 01.2	10.9	54.8
	19	103 57.9	N22 59.4	251 03.2	13.4	S18 50.3	11.0	54.9
	20	118 57.8	N22 59.2	265 35.6	13.4	S18 39.2	11.0	54.9
	21	133 57.7	N22 59.0	280 08.1	13.5	S18 28.1	11.1	54.9
	22	148 57.6	N22 58.8	294 40.6	13.5	S18 16.9	11.2	54.9
	23	163 57.5	N22 58.6	309 13.2	13.6	S18 05.6	11.3	54.9
		S.D. 15.7	d 0.2	S.D.	14.8	14.8	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.1	S40 11.6
Achernar	335 19.4	S57 05.8
Acrux	172 58.8	S63 15.1
Adhara	255 05.3	S29 00.4
Albireo	67 02.7	N28 00.9
Aldebaran	290 38.5	N16 33.8
Alioth	166 11.8	N55 49.2
Alkaid	152 50.9	N49 11.0
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 36.8	S 1 11.0
Alphard	217 46.8	S 8 46.5
Alphecca	126 02.4	N26 37.6
Alpheratz	357 33.5	N29 14.1
Altair	61 58.4	N 8 56.3
Ankaa	353 05.9	S42 09.5
Antares	112 14.0	S26 29.5
Arcturus	145 46.6	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.8	S59 35.8
Bellatrix	278 21.9	N 6 22.5
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.5
Capella	280 20.5	N46 01.4
Castor	245 55.9	N31 49.9
Deneb	49 24.5	N45 22.4
Denebola	182 23.8	N14 25.5
Diphda	348 46.1	S17 50.3
Dubhe	193 39.7	N61 36.7
Elnath	278 00.7	N28 37.7
Eltanin	90 41.1	N51 29.1
Enif	33 37.3	N 9 59.8
Fomalhaut	15 13.0	S29 28.7
Gacrux	171 50.3	S57 16.0
Gienah	175 42.4	S17 41.5
Hadar	148 34.1	S60 30.4
Hamal	327 50.0	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.3	N74 03.0
Markab	13 28.5	N15 20.8
Menkar	314 05.0	N 4 11.7
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.7	S69 49.7
Mirfak	308 26.9	N49 57.2
Nunki	75 45.9	S26 15.8
Peacock	53 03.2	S56 38.8
Polaris	316 12.0	N89 21.7
Pollux	243 16.2	N27 57.8
Procyon	244 49.9	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 03.0	S 8 10.2
Rigil Kent	139 38.4	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.6	N56 40.7
Shaula	96 08.3	S37 07.4
Sirius	258 25.5	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 45.8	S43 32.5
Vega	80 32.0	N38 48.5
Zuben-ubi	136 55.4	S16 09.2

G.M.T d h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
3 0	281 02.2	135 38.8	N15 38.9	220 02.8	N20 28.9	158 08.4	N20 27.2	266 58.4	N 3 25.3
1	296 04.7	150 38.5	N15 37.9	235 03.4	N20 29.3	173 10.3	N20 27.1	282 00.8	N 3 25.3
2	311 07.1	165 38.2	N15 36.9	250 04.1	N20 29.6	188 12.2	N20 27.0	297 03.2	N 3 25.3
3	326 09.6	180 37.9	N15 35.9	265 04.7	N20 30.0	203 14.1	N20 26.9	312 05.5	N 3 25.3
4	341 12.0	195 37.7	N15 34.9	280 05.3	N20 30.4	218 16.0	N20 26.8	327 07.9	N 3 25.4
F 5	356 14.5	210 37.4	N15 33.9	295 05.9	N20 30.7	233 17.9	N20 26.6	342 10.3	N 3 25.4
R									
I 6	11 17.0	225 37.1	N15 32.9	310 06.5	N20 31.1	248 19.8	N20 26.5	357 12.6	N 3 25.4
D 7	26 19.4	240 36.8	N15 31.9	325 07.1	N20 31.5	263 21.7	N20 26.4	12 15.0	N 3 25.4
A 8	41 21.9	255 36.6	N15 30.8	340 07.7	N20 31.9	278 23.6	N20 26.3	27 17.4	N 3 25.5
Y 9	56 24.4	270 36.3	N15 29.8	355 08.3	N20 32.2	293 25.5	N20 26.2	42 19.7	N 3 25.5
10	71 26.8	285 36.0	N15 28.8	10 09.0	N20 32.6	308 27.4	N20 26.1	57 22.1	N 3 25.5
11	86 29.3	300 35.8	N15 27.8	25 09.6	N20 33.0	323 29.3	N20 26.0	72 24.5	N 3 25.6
12	101 31.8	315 35.5	N15 26.8	40 10.2	N20 33.3	338 31.2	N20 25.8	87 26.9	N 3 25.6
13	116 34.2	330 35.2	N15 25.8	55 10.8	N20 33.7	353 33.1	N20 25.7	102 29.2	N 3 25.6
14	131 36.7	345 34.9	N15 24.8	70 11.4	N20 34.1	8 35.0	N20 25.6	117 31.6	N 3 25.6
15	146 39.2	0 34.7	N15 23.8	85 12.0	N20 34.4	23 36.9	N20 25.5	132 34.0	N 3 25.7
16	161 41.6	15 34.4	N15 22.8	100 12.6	N20 34.8	38 38.8	N20 25.4	147 36.3	N 3 25.7
17	176 44.1	30 34.1	N15 21.7	115 13.3	N20 35.2	53 40.7	N20 25.3	162 38.7	N 3 25.7
18	191 46.5	45 33.9	N15 20.7	130 13.9	N20 35.5	68 42.6	N20 25.2	177 41.1	N 3 25.7
19	206 49.0	60 33.6	N15 19.7	145 14.5	N20 35.9	83 44.5	N20 25.0	192 43.4	N 3 25.8
20	221 51.5	75 33.4	N15 18.7	160 15.1	N20 36.2	98 46.4	N20 24.9	207 45.8	N 3 25.8
21	236 53.9	90 33.1	N15 17.7	175 15.7	N20 36.6	113 48.3	N20 24.8	222 48.2	N 3 25.8
22	251 56.4	105 32.8	N15 16.7	190 16.3	N20 37.0	128 50.2	N20 24.7	237 50.6	N 3 25.9
23	266 58.9	120 32.6	N15 15.7	205 16.9	N20 37.3	143 52.1	N20 24.6	252 52.9	N 3 25.9
4 0	282 01.3	135 32.3	N15 14.6	220 17.5	N20 37.7	158 54.0	N20 24.5	267 55.3	N 3 25.9
1	297 03.8	150 32.0	N15 13.6	235 18.2	N20 38.1	173 55.9	N20 24.4	282 57.7	N 3 25.9
2	312 06.3	165 31.8	N15 12.6	250 18.8	N20 38.4	188 57.8	N20 24.2	298 00.0	N 3 26.0
3	327 08.7	180 31.5	N15 11.6	265 19.4	N20 38.8	203 59.7	N20 24.1	313 02.4	N 3 26.0
4	342 11.2	195 31.3	N15 10.6	280 20.0	N20 39.2	219 01.6	N20 24.0	328 04.8	N 3 26.0
S 5	357 13.6	210 31.0	N15 09.5	295 20.6	N20 39.5	234 03.5	N20 23.9	343 07.2	N 3 26.0
A									
T 6	12 16.1	225 30.8	N15 08.5	310 21.2	N20 39.9	249 05.4	N20 23.8	358 09.5	N 3 26.1
U 7	27 18.6	240 30.5	N15 07.5	325 21.8	N20 40.2	264 07.3	N20 23.7	13 11.9	N 3 26.1
R 8	42 21.0	255 30.3	N15 06.5	340 22.4	N20 40.6	279 09.2	N20 23.6	28 14.3	N 3 26.1
D 9	57 23.5	270 30.0	N15 05.5	355 23.1	N20 41.0	294 11.1	N20 23.4	43 16.6	N 3 26.1
A 10	72 26.0	285 29.7	N15 04.4	10 23.7	N20 41.3	309 13.0	N20 23.3	58 19.0	N 3 26.2
Y 11	87 28.4	300 29.5	N15 03.4	25 24.3	N20 41.7	324 14.9	N20 23.2	73 21.4	N 3 26.2
12	102 30.9	315 29.2	N15 02.4	40 24.9	N20 42.0	339 16.8	N20 23.1	88 23.8	N 3 26.2
13	117 33.4	330 29.0	N15 01.4	55 25.5	N20 42.4	354 18.7	N20 23.0	103 26.1	N 3 26.2
14	132 35.8	345 28.7	N15 00.3	70 26.1	N20 42.8	9 20.6	N20 22.9	118 28.5	N 3 26.3
15	147 38.3	0 28.5	N14 59.3	85 26.7	N20 43.1	24 22.5	N20 22.8	133 30.9	N 3 26.3
16	162 40.8	15 28.2	N14 58.3	100 27.3	N20 43.5	39 24.4	N20 22.6	148 33.3	N 3 26.3
17	177 43.2	30 28.0	N14 57.3	115 28.0	N20 43.8	54 26.3	N20 22.5	163 35.6	N 3 26.3
18	192 45.7	45 27.7	N14 56.2	130 28.6	N20 44.2	69 28.2	N20 22.4	178 38.0	N 3 26.4
19	207 48.1	60 27.5	N14 55.2	145 29.2	N20 44.5	84 30.1	N20 22.3	193 40.4	N 3 26.4
20	222 50.6	75 27.2	N14 54.2	160 29.8	N20 44.9	99 32.0	N20 22.2	208 42.8	N 3 26.4
21	237 53.1	90 27.0	N14 53.1	175 30.4	N20 45.2	114 33.9	N20 22.1	223 45.1	N 3 26.4
22	252 55.5	105 26.8	N14 52.1	190 31.0	N20 45.6	129 35.8	N20 21.9	238 47.5	N 3 26.5
23	267 58.0	120 26.5	N14 51.1	205 31.6	N20 46.0	144 37.7	N20 21.8	253 49.9	N 3 26.5
5 0	283 00.5	135 26.3	N14 50.0	220 32.2	N20 46.3	159 39.6	N20 21.7	268 52.3	N 3 26.5
1	298 02.9	150 26.0	N14 49.0	235 32.9	N20 46.7	174 41.5	N20 21.6	283 54.6	N 3 26.5
2	313 05.4	165 25.8	N14 48.0	250 33.5	N20 47.0	189 43.4	N20 21.5	298 57.0	N 3 26.6
3	328 07.9	180 25.5	N14 47.0	265 34.1	N20 47.4	204 45.3	N20 21.4	313 59.4	N 3 26.6
4	343 10.3	195 25.3	N14 45.9	280 34.7	N20 47.7	219 47.2	N20 21.3	329 01.8	N 3 26.6
S 5	358 12.8	210 25.1	N14 44.9	295 35.3	N20 48.1	234 49.2	N20 21.1	344 04.1	N 3 26.6
U									
N 6	13 15.3	225 24.8	N14 43.8	310 35.9	N20 48.4	249 51.1	N20 21.0	359 06.5	N 3 26.7
D 7	28 17.7	240 24.6	N14 42.8	325 36.5	N20 48.8	264 53.0	N20 20.9	14 08.9	N 3 26.7
A 8	43 20.2	255 24.3	N14 41.8	340 37.1	N20 49.1	279 54.9	N20 20.8	29 11.3	N 3 26.7
Y 9	58 22.6	270 24.1	N14 40.7	355 37.8	N20 49.5	294 56.8	N20 20.7	44 13.6	N 3 26.7
10	73 25.1	285 23.9	N14 39.7	10 38.4	N20 49.8	309 58.7	N20 20.6	59 16.0	N 3 26.8
11	88 27.6	300 23.6	N14 38.7	25 39.0	N20 50.2	325 00.6	N20 20.4	74 18.4	N 3 26.8
12	103 30.0	315 23.4	N14 37.6	40 39.6	N20 50.5	340 02.5	N20 20.3	89 20.8	N 3 26.8
13	118 32.5	330 23.2	N14 36.6	55 40.2	N20 50.9	355 04.4	N20 20.2	104 23.1	N 3 26.8
14	133 35.0	345 22.9	N14 35.6	70 40.8	N20 51.2	10 06.3	N20 20.1	119 25.5	N 3 26.9
15	148 37.4	0 22.7	N14 34.5	85 41.4	N20 51.6	25 08.2	N20 20.0	134 27.9	N 3 26.9
16	163 39.9	15 22.5	N14 33.5	100 42.0	N20 51.9	40 10.1	N20 19.9	149 30.3	N 3 26.9
17	178 42.4	30 22.2	N14 32.4	115 42.6	N20 52.3	55 12.0	N20 19.7	164 32.7	N 3 26.9
18	193 44.8	45 22.0	N14 31.4	130 43.3	N20 52.6	70 13.9	N20 19.6	179 35.0	N 3 27.0
19	208 47.3	60 21.8	N14 30.3	145 43.9	N20 53.0	85 15.8	N20 19.5	194 37.4	N 3 27.0
20	223 49.7	75 21.5	N14 29.3	160 44.5	N20 53.3	100 17.7	N20 19.4	209 39.8	N 3 27.0
21	238 52.2	90 21.3	N14 28.3	175 45.1	N20 53.7	115 19.6	N20 19.3	224 42.2	N 3 27.0
22	253 54.7	105 21.1	N14 27.2	190 45.7	N20 54.0	130 21.5	N20 19.2	239 44.5	N 3 27.1
23	268 57.1	120 20.9	N14 26.2	205 46.3	N20 54.4	145 23.4	N20 19.0	254 46.9	N 3 27.1
		v -0.3	d 1.0	v 0.6	d 0.4	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
3	0	178 57.4	N22 58.4	323 45.8	13.6	S17 54.2	11.4	54.9
	1	193 57.3	N22 58.2	338 18.5	13.7	S17 42.8	11.5	55.0
	2	208 57.1	N22 58.0	352 51.2	13.7	S17 31.2	11.5	55.0
	3	223 57.0	N22 57.8	7 23.9	13.8	S17 19.6	11.6	55.0
	4	238 56.9	N22 57.6	21 56.7	13.8	S17 07.9	11.7	55.0
F	5	253 56.8	N22 57.4	36 29.6	13.8	S16 56.1	11.8	55.0
R								
I	6	268 56.7	N22 57.2	51 02.5	13.9	S16 44.3	11.9	55.1
D	7	283 56.6	N22 57.0	65 35.4	13.9	S16 32.3	11.9	55.1
A	8	298 56.5	N22 56.8	80 08.4	14.0	S16 20.3	12.0	55.1
Y	9	313 56.3	N22 56.6	94 41.4	14.0	S16 08.2	12.1	55.1
	10	328 56.2	N22 56.4	109 14.5	14.1	S15 56.1	12.2	55.1
	11	343 56.1	N22 56.2	123 47.6	14.1	S15 43.8	12.2	55.1
	12	358 56.0	N22 56.0	138 20.8	14.2	S15 31.5	12.3	55.2
	13	13 55.9	N22 55.8	152 54.0	14.2	S15 19.2	12.4	55.2
	14	28 55.8	N22 55.6	167 27.2	14.2	S15 06.7	12.4	55.2
	15	43 55.7	N22 55.3	182 00.5	14.3	S14 54.2	12.5	55.2
	16	58 55.5	N22 55.1	196 33.8	14.3	S14 41.6	12.6	55.2
	17	73 55.4	N22 54.9	211 07.1	14.4	S14 28.9	12.7	55.3
	18	88 55.3	N22 54.7	225 40.5	14.4	S14 16.2	12.7	55.3
	19	103 55.2	N22 54.5	240 13.9	14.4	S14 03.4	12.8	55.3
	20	118 55.1	N22 54.3	254 47.4	14.5	S13 50.6	12.9	55.3
	21	133 55.0	N22 54.1	269 20.9	14.5	S13 37.6	12.9	55.3
	22	148 54.9	N22 53.9	283 54.4	14.5	S13 24.7	13.0	55.4
	23	163 54.8	N22 53.7	298 28.0	14.6	S13 11.6	13.1	55.4
4	0	178 54.6	N22 53.4	313 01.6	14.6	S12 58.5	13.1	55.4
	1	193 54.5	N22 53.2	327 35.2	14.6	S12 45.3	13.2	55.4
	2	208 54.4	N22 53.0	342 08.9	14.7	S12 32.1	13.2	55.4
	3	223 54.3	N22 52.8	356 42.5	14.7	S12 18.8	13.3	55.5
	4	238 54.2	N22 52.6	11 16.3	14.7	S12 05.4	13.4	55.5
S	5	253 54.1	N22 52.4	25 50.0	14.7	S11 52.0	13.4	55.5
A								
T	6	268 54.0	N22 52.1	40 23.8	14.8	S11 38.5	13.5	55.5
U	7	283 53.9	N22 51.9	54 57.6	14.8	S11 25.0	13.5	55.5
R	8	298 53.7	N22 51.7	69 31.4	14.8	S11 11.4	13.6	55.6
D	9	313 53.6	N22 51.5	84 05.3	14.8	S10 57.8	13.6	55.6
A	10	328 53.5	N22 51.3	98 39.1	14.9	S10 44.1	13.7	55.6
Y	11	343 53.4	N22 51.0	113 13.0	14.9	S10 30.3	13.8	55.6
	12	358 53.3	N22 50.8	127 46.9	14.9	S10 16.5	13.8	55.7
	13	13 53.2	N22 50.6	142 20.9	14.9	S10 02.7	13.9	55.7
	14	28 53.1	N22 50.4	156 54.8	15.0	S 9 48.8	13.9	55.7
	15	43 53.0	N22 50.1	171 28.8	15.0	S 9 34.8	14.0	55.7
	16	58 52.9	N22 49.9	186 02.8	15.0	S 9 20.8	14.0	55.8
	17	73 52.8	N22 49.7	200 36.8	15.0	S 9 06.8	14.1	55.8
	18	88 52.6	N22 49.5	215 10.9	15.0	S 8 52.6	14.1	55.8
	19	103 52.5	N22 49.2	229 44.9	15.0	S 8 38.5	14.1	55.8
	20	118 52.4	N22 49.0	244 18.9	15.1	S 8 24.3	14.2	55.8
	21	133 52.3	N22 48.8	258 53.0	15.1	S 8 10.1	14.2	55.9
	22	148 52.2	N22 48.5	273 27.1	15.1	S 7 55.8	14.3	55.9
	23	163 52.1	N22 48.3	288 01.2	15.1	S 7 41.5	14.3	55.9
5	0	178 52.0	N22 48.1	302 35.3	15.1	S 7 27.1	14.4	55.9
	1	193 51.9	N22 47.8	317 09.4	15.1	S 7 12.7	14.4	56.0
	2	208 51.8	N22 47.6	331 43.5	15.1	S 6 58.2	14.5	56.0
	3	223 51.7	N22 47.4	346 17.6	15.1	S 6 43.7	14.5	56.0
	4	238 51.6	N22 47.2	0 51.8	15.1	S 6 29.2	14.5	56.0
S	5	253 51.4	N22 46.9	15 25.9	15.1	S 6 14.6	14.6	56.1
U								
N	6	268 51.3	N22 46.7	30 00.0	15.1	S 6 00.0	14.6	56.1
D	7	283 51.2	N22 46.4	44 34.2	15.1	S 5 45.4	14.6	56.1
A	8	298 51.1	N22 46.2	59 08.3	15.1	S 5 30.7	14.7	56.1
Y	9	313 51.0	N22 46.0	73 42.4	15.1	S 5 16.0	14.7	56.2
	10	328 50.9	N22 45.7	88 16.6	15.1	S 5 01.2	14.7	56.2
	11	343 50.8	N22 45.5	102 50.7	15.1	S 4 46.4	14.8	56.2
	12	358 50.7	N22 45.3	117 24.8	15.1	S 4 31.6	14.8	56.2
	13	13 50.6	N22 45.0	131 59.0	15.1	S 4 16.8	14.8	56.3
	14	28 50.5	N22 44.8	146 33.1	15.1	S 4 01.9	14.9	56.3
	15	43 50.4	N22 44.5	161 07.2	15.1	S 3 47.0	14.9	56.3
	16	58 50.3	N22 44.3	175 41.3	15.1	S 3 32.1	14.9	56.4
	17	73 50.2	N22 44.0	190 15.4	15.1	S 3 17.1	15.0	56.4
	18	88 50.1	N22 43.8	204 49.5	15.1	S 3 02.1	15.0	56.4
	19	103 49.9	N22 43.6	219 23.5	15.1	S 2 47.1	15.0	56.4
	20	118 49.8	N22 43.3	233 57.6	15.1	S 2 32.1	15.0	56.5
	21	133 49.7	N22 43.1	248 31.6	15.0	S 2 17.0	15.1	56.5
	22	148 49.6	N22 42.8	263 05.6	15.0	S 2 01.9	15.1	56.5
	23	163 49.5	N22 42.6	277 39.6	15.0	S 1 46.8	15.1	56.5
		S.D. 15.7	d 0.2	S.D.	15.0	15.2	15.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.0	S40 11.6
Achernar	335 19.4	S57 05.8
Acrux	172 58.8	S63 15.1
Adhara	255 05.3	S29 00.4
Albireo	67 02.7	N28 00.9
Aldebaran	290 38.5	N16 33.8
Alioth	166 11.8	N55 49.2
Alkaid	152 50.9	N49 11.0
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 36.8	S 1 11.0
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.4	N26 37.6
Alpheratz	357 33.4	N29 14.2
Altair	61 58.4	N 8 56.3
Ankaa	353 05.9	S42 09.4
Antares	112 14.0	S26 29.6
Arcturus	145 46.6	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.8	S59 35.8
Bellatrix	278 21.9	N 6 22.5
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.5
Capella	280 20.5	N46 01.4
Castor	245 55.9	N31 49.9
Deneb	49 24.5	N45 22.4
Denebola	182 23.8	N14 25.5
Diphda	348 46.1	S17 50.3
Dubhe	193 39.7	N61 36.7
Elnath	278 00.7	N28 37.8
Eltanin	90 41.1	N51 29.1
Enif	33 37.3	N 9 59.8
Fomalhaut	15 12.9	S29 28.7
Gacrux	171 50.4	S57 16.0
Gienah	175 42.4	S17 41.5
Hadar	148 34.1	S60 30.4
Hamal	327 50.0	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.3	N74 03.0
Markab	13 28.5	N15 20.8
Menkar	314 05.0	N 4 11.7
Menkent	147 56.0	S36 30.3
Miaplacidus	221 38.7	S69 49.7
Mirfak	308 26.9	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.1	S56 38.8
Polaris	316 10.9	N89 21.7
Pollux	243 16.1	N27 57.8
Procyon	244 49.9	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 03.0	S 8 10.2
Rigil Kent	139 38.4	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.6	N56 40.7
Shaula	96 08.3	S37 07.5
Sirius	258 25.5	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 45.8	S43 32.5
Vega	80 31.9	N38 48.5
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
6	0	283 59.6	135 20.6	N14 25.1	220 46.9	N20 54.7	160 25.3	N20 18.9	269 49.3	N 3 27.1
	1	299 02.1	150 20.4	N14 24.1	235 47.5	N20 55.1	175 27.2	N20 18.8	284 51.7	N 3 27.1
	2	314 04.5	165 20.2	N14 23.0	250 48.2	N20 55.4	190 29.1	N20 18.7	299 54.1	N 3 27.1
	3	329 07.0	180 20.0	N14 22.0	265 48.8	N20 55.8	205 31.0	N20 18.6	314 56.4	N 3 27.2
	4	344 09.5	195 19.7	N14 20.9	280 49.4	N20 56.1	220 32.9	N20 18.5	329 58.8	N 3 27.2
M	5	359 11.9	210 19.5	N14 19.9	295 50.0	N20 56.5	235 34.8	N20 18.3	345 01.2	N 3 27.2
O										
N	6	14 14.4	225 19.3	N14 18.9	310 50.6	N20 56.8	250 36.7	N20 18.2	0 03.6	N 3 27.2
D	7	29 16.9	240 19.1	N14 17.8	325 51.2	N20 57.1	265 38.6	N20 18.1	15 06.0	N 3 27.3
A	8	44 19.3	255 18.8	N14 16.8	340 51.8	N20 57.5	280 40.5	N20 18.0	30 08.3	N 3 27.3
Y	9	59 21.8	270 18.6	N14 15.7	355 52.4	N20 57.8	295 42.4	N20 17.9	45 10.7	N 3 27.3
	10	74 24.2	285 18.4	N14 14.7	10 53.0	N20 58.2	310 44.3	N20 17.8	60 13.1	N 3 27.3
	11	89 26.7	300 18.2	N14 13.6	25 53.7	N20 58.5	325 46.2	N20 17.6	75 15.5	N 3 27.4
	12	104 29.2	315 18.0	N14 12.6	40 54.3	N20 58.9	340 48.1	N20 17.5	90 17.9	N 3 27.4
	13	119 31.6	330 17.7	N14 11.5	55 54.9	N20 59.2	355 50.0	N20 17.4	105 20.2	N 3 27.4
	14	134 34.1	345 17.5	N14 10.4	70 55.5	N20 59.5	10 51.9	N20 17.3	120 22.6	N 3 27.4
	15	149 36.6	0 17.3	N14 09.4	85 56.1	N20 59.9	25 53.8	N20 17.2	135 25.0	N 3 27.4
	16	164 39.0	15 17.1	N14 08.3	100 56.7	N21 00.2	40 55.7	N20 17.1	150 27.4	N 3 27.5
	17	179 41.5	30 16.9	N14 07.3	115 57.3	N21 00.6	55 57.6	N20 16.9	165 29.8	N 3 27.5
	18	194 44.0	45 16.7	N14 06.2	130 57.9	N21 00.9	70 59.5	N20 16.8	180 32.1	N 3 27.5
	19	209 46.4	60 16.4	N14 05.2	145 58.5	N21 01.2	86 01.4	N20 16.7	195 34.5	N 3 27.5
	20	224 48.9	75 16.2	N14 04.1	160 59.2	N21 01.6	101 03.3	N20 16.6	210 36.9	N 3 27.6
	21	239 51.4	90 16.0	N14 03.1	175 59.8	N21 01.9	116 05.2	N20 16.5	225 39.3	N 3 27.6
	22	254 53.8	105 15.8	N14 02.0	191 00.4	N21 02.3	131 07.1	N20 16.4	240 41.7	N 3 27.6
	23	269 56.3	120 15.6	N14 01.0	206 01.0	N21 02.6	146 09.0	N20 16.2	255 44.1	N 3 27.6
7	0	284 58.7	135 15.4	N13 59.9	221 01.6	N21 02.9	161 10.9	N20 16.1	270 46.4	N 3 27.6
	1	300 01.2	150 15.2	N13 58.8	236 02.2	N21 03.3	176 12.8	N20 16.0	285 48.8	N 3 27.7
	2	315 03.7	165 15.0	N13 57.8	251 02.8	N21 03.6	191 14.7	N20 15.9	300 51.2	N 3 27.7
	3	330 06.1	180 14.8	N13 56.7	266 03.4	N21 03.9	206 16.6	N20 15.8	315 53.6	N 3 27.7
	4	345 08.6	195 14.6	N13 55.7	281 04.0	N21 04.3	221 18.5	N20 15.7	330 56.0	N 3 27.7
T	5	0 11.1	210 14.3	N13 54.6	296 04.7	N21 04.6	236 20.4	N20 15.5	345 58.4	N 3 27.7
U										
E	6	15 13.5	225 14.1	N13 53.5	311 05.3	N21 05.0	251 22.3	N20 15.4	1 00.7	N 3 27.8
S	7	30 16.0	240 13.9	N13 52.5	326 05.9	N21 05.3	266 24.2	N20 15.3	16 03.1	N 3 27.8
D	8	45 18.5	255 13.7	N13 51.4	341 06.5	N21 05.6	281 26.1	N20 15.2	31 05.5	N 3 27.8
A	9	60 20.9	270 13.5	N13 50.4	356 07.1	N21 06.0	296 28.0	N20 15.1	46 07.9	N 3 27.8
Y	10	75 23.4	285 13.3	N13 49.3	11 07.7	N21 06.3	311 29.8	N20 15.0	61 10.3	N 3 27.9
	11	90 25.8	300 13.1	N13 48.2	26 08.3	N21 06.6	326 31.7	N20 14.8	76 12.7	N 3 27.9
	12	105 28.3	315 12.9	N13 47.2	41 08.9	N21 07.0	341 33.6	N20 14.7	91 15.0	N 3 27.9
	13	120 30.8	330 12.7	N13 46.1	56 09.5	N21 07.3	356 35.5	N20 14.6	106 17.4	N 3 27.9
	14	135 33.2	345 12.5	N13 45.0	71 10.1	N21 07.6	11 37.4	N20 14.5	121 19.8	N 3 27.9
	15	150 35.7	0 12.3	N13 44.0	86 10.8	N21 08.0	26 39.3	N20 14.4	136 22.2	N 3 28.0
	16	165 38.2	15 12.1	N13 42.9	101 11.4	N21 08.3	41 41.2	N20 14.2	151 24.6	N 3 28.0
	17	180 40.6	30 11.9	N13 41.8	116 12.0	N21 08.6	56 43.1	N20 14.1	166 27.0	N 3 28.0
	18	195 43.1	45 11.7	N13 40.8	131 12.6	N21 09.0	71 45.0	N20 14.0	181 29.4	N 3 28.0
	19	210 45.6	60 11.5	N13 39.7	146 13.2	N21 09.3	86 46.9	N20 13.9	196 31.7	N 3 28.0
	20	225 48.0	75 11.3	N13 38.6	161 13.8	N21 09.6	101 48.8	N20 13.8	211 34.1	N 3 28.1
	21	240 50.5	90 11.1	N13 37.6	176 14.4	N21 09.9	116 50.7	N20 13.7	226 36.5	N 3 28.1
	22	255 53.0	105 10.9	N13 36.5	191 15.0	N21 10.3	131 52.6	N20 13.5	241 38.9	N 3 28.1
	23	270 55.4	120 10.7	N13 35.4	206 15.6	N21 10.6	146 54.5	N20 13.4	256 41.3	N 3 28.1
8	0	285 57.9	135 10.5	N13 34.4	221 16.3	N21 10.9	161 56.4	N20 13.3	271 43.7	N 3 28.1
	1	301 00.3	150 10.4	N13 33.3	236 16.9	N21 11.3	176 58.3	N20 13.2	286 46.1	N 3 28.2
	2	316 02.8	165 10.2	N13 32.2	251 17.5	N21 11.6	192 00.2	N20 13.1	301 48.4	N 3 28.2
	3	331 05.3	180 10.0	N13 31.1	266 18.1	N21 11.9	207 02.1	N20 12.9	316 50.8	N 3 28.2
	4	346 07.7	195 09.8	N13 30.1	281 18.7	N21 12.3	222 04.0	N20 12.8	331 53.2	N 3 28.2
W	5	1 10.2	210 09.6	N13 29.0	296 19.3	N21 12.6	237 05.9	N20 12.7	346 55.6	N 3 28.2
E										
D	6	16 12.7	225 09.4	N13 27.9	311 19.9	N21 12.9	252 07.8	N20 12.6	1 58.0	N 3 28.3
N	7	31 15.1	240 09.2	N13 26.9	326 20.5	N21 13.2	267 09.7	N20 12.5	17 00.4	N 3 28.3
E	8	46 17.6	255 09.0	N13 25.8	341 21.1	N21 13.6	282 11.6	N20 12.4	32 02.8	N 3 28.3
S	9	61 20.1	270 08.8	N13 24.7	356 21.7	N21 13.9	297 13.5	N20 12.2	47 05.1	N 3 28.3
D	10	76 22.5	285 08.6	N13 23.6	11 22.4	N21 14.2	312 15.4	N20 12.1	62 07.5	N 3 28.3
A	11	91 25.0	300 08.5	N13 22.6	26 23.0	N21 14.5	327 17.3	N20 12.0	77 09.9	N 3 28.4
Y										
	12	106 27.5	315 08.3	N13 21.5	41 23.6	N21 14.9	342 19.2	N20 11.9	92 12.3	N 3 28.4
	13	121 29.9	330 08.1	N13 20.4	56 24.2	N21 15.2	357 21.1	N20 11.8	107 14.7	N 3 28.4
	14	136 32.4	345 07.9	N13 19.3	71 24.8	N21 15.5	12 23.0	N20 11.6	122 17.1	N 3 28.4
	15	151 34.8	0 07.7	N13 18.3	86 25.4	N21 15.8	27 24.9	N20 11.5	137 19.5	N 3 28.4
	16	166 37.3	15 07.5	N13 17.2	101 26.0	N21 16.2	42 26.8	N20 11.4	152 21.9	N 3 28.4
	17	181 39.8	30 07.4	N13 16.1	116 26.6	N21 16.5	57 28.7	N20 11.3	167 24.3	N 3 28.5
	18	196 42.2	45 07.2	N13 15.0	131 27.2	N21 16.8	72 30.6	N20 11.2	182 26.6	N 3 28.5
	19	211 44.7	60 07.0	N13 13.9	146 27.8	N21 17.1	87 32.5	N20 11.0	197 29.0	N 3 28.5
	20	226 47.2	75 06.8	N13 12.9	161 28.5	N21 17.5	102 34.4	N20 10.9	212 31.4	N 3 28.5
	21	241 49.6	90 06.6	N13 11.8	176 29.1	N21 17.8	117 36.3	N20 10.8	227 33.8	N 3 28.5
	22	256 52.1	105 06.4	N13 10.7	191 29.7	N21 18.1	132 38.2	N20 10.7	242 36.2	N 3 28.6
	23	271 54.6	120 06.3	N13 09.6	206 30.3	N21 18.4	147 40.1	N20 10.6	257 38.6	N 3 28.6
			v -0.2	d 1.1	v 0.6	d 0.3	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
6	0	178 49.4	N22 42.3	292 13.6	15.0 S 1	31.7	15.1	56.6
	1	193 49.3	N22 42.1	306 47.6	15.0 S 1	16.5	15.2	56.6
	2	208 49.2	N22 41.8	321 21.5	14.9 S 1	01.3	15.2	56.6
	3	223 49.1	N22 41.6	335 55.4	14.9 S 0	46.1	15.2	56.7
	4	238 49.0	N22 41.3	350 29.3	14.9 S 0	30.9	15.2	56.7
M	5	253 48.9	N22 41.1	5 03.2	14.9 S 0	15.7	15.2	56.7
O								
N	6	268 48.8	N22 40.8	19 37.1	14.8 S 0	00.5	15.2	56.7
D	7	283 48.7	N22 40.6	34 10.9	14.8 N 0	14.8	15.3	56.8
A	8	298 48.6	N22 40.3	48 44.7	14.8 N 0	30.1	15.3	56.8
Y	9	313 48.5	N22 40.1	63 18.4	14.8 N 0	45.4	15.3	56.8
	10	328 48.4	N22 39.8	77 52.2	14.7 N 1	00.7	15.3	56.9
	11	343 48.3	N22 39.6	92 25.8	14.7 N 1	16.0	15.3	56.9
	12	358 48.2	N22 39.3	106 59.5	14.7 N 1	31.3	15.3	56.9
	13	13 48.1	N22 39.0	121 33.1	14.6 N 1	46.6	15.3	57.0
	14	28 48.0	N22 38.8	136 06.7	14.6 N 2	01.9	15.3	57.0
	15	43 47.8	N22 38.5	150 40.3	14.5 N 2	17.3	15.3	57.0
	16	58 47.7	N22 38.3	165 13.8	14.5 N 2	32.6	15.3	57.0
	17	73 47.6	N22 38.0	179 47.2	14.5 N 2	48.0	15.4	57.1
	18	88 47.5	N22 37.8	194 20.7	14.4 N 3	03.3	15.4	57.1
	19	103 47.4	N22 37.5	208 54.0	14.4 N 3	18.7	15.4	57.1
	20	118 47.3	N22 37.2	223 27.4	14.3 N 3	34.1	15.4	57.2
	21	133 47.2	N22 37.0	238 00.7	14.3 N 3	49.4	15.4	57.2
	22	148 47.1	N22 36.7	252 33.9	14.2 N 4	04.8	15.4	57.2
	23	163 47.0	N22 36.4	267 07.1	14.2 N 4	20.2	15.4	57.3
7	0	178 46.9	N22 36.2	281 40.2	14.1 N 4	35.5	15.4	57.3
	1	193 46.8	N22 35.9	296 13.3	14.1 N 4	50.9	15.4	57.3
	2	208 46.7	N22 35.6	310 46.4	14.0 N 5	06.2	15.4	57.4
	3	223 46.6	N22 35.4	325 19.3	14.0 N 5	21.6	15.3	57.4
	4	238 46.5	N22 35.1	339 52.3	13.9 N 5	36.9	15.3	57.4
T	5	253 46.4	N22 34.8	354 25.1	13.9 N 5	52.2	15.3	57.4
U								
E	6	268 46.3	N22 34.6	8 57.9	13.8 N 6	07.6	15.3	57.5
S	7	283 46.2	N22 34.3	23 30.7	13.7 N 6	22.9	15.3	57.5
D	8	298 46.1	N22 34.0	38 03.3	13.7 N 6	38.2	15.3	57.5
A	9	313 46.0	N22 33.8	52 36.0	13.6 N 6	53.4	15.3	57.6
Y	10	328 45.9	N22 33.5	67 08.5	13.6 N 7	08.7	15.3	57.6
	11	343 45.8	N22 33.2	81 41.0	13.5 N 7	24.0	15.3	57.6
	12	358 45.7	N22 33.0	96 13.4	13.4 N 7	39.2	15.2	57.7
	13	13 45.6	N22 32.7	110 45.8	13.3 N 7	54.4	15.2	57.7
	14	28 45.5	N22 32.4	125 18.1	13.3 N 8	09.6	15.2	57.7
	15	43 45.4	N22 32.1	139 50.3	13.2 N 8	24.8	15.2	57.8
	16	58 45.3	N22 31.9	154 22.4	13.1 N 8	40.0	15.2	57.8
	17	73 45.2	N22 31.6	168 54.4	13.1 N 8	55.1	15.1	57.8
	18	88 45.1	N22 31.3	183 26.4	13.0 N 9	10.2	15.1	57.9
	19	103 45.0	N22 31.0	197 58.3	12.9 N 9	25.3	15.1	57.9
	20	118 44.9	N22 30.8	212 30.2	12.8 N 9	40.4	15.1	57.9
	21	133 44.8	N22 30.5	227 01.9	12.7 N 9	55.4	15.0	58.0
	22	148 44.7	N22 30.2	241 33.6	12.7 N10	10.4	15.0	58.0
	23	163 44.6	N22 29.9	256 05.1	12.6 N10	25.4	15.0	58.0
8	0	178 44.5	N22 29.6	270 36.6	12.5 N10	40.3	14.9	58.1
	1	193 44.4	N22 29.4	285 08.0	12.4 N10	55.2	14.9	58.1
	2	208 44.3	N22 29.1	299 39.4	12.3 N11	10.1	14.9	58.1
	3	223 44.2	N22 28.8	314 10.6	12.2 N11	24.9	14.8	58.2
	4	238 44.1	N22 28.5	328 41.7	12.1 N11	39.7	14.8	58.2
W	5	253 44.0	N22 28.2	343 12.8	12.0 N11	54.5	14.8	58.2
E								
D	6	268 43.9	N22 27.9	357 43.7	12.0 N12	09.2	14.7	58.3
N	7	283 43.8	N22 27.7	12 14.6	11.9 N12	23.9	14.7	58.3
E	8	298 43.7	N22 27.4	26 45.3	11.8 N12	38.5	14.6	58.3
S	9	313 43.6	N22 27.1	41 16.0	11.7 N12	53.1	14.6	58.4
D	10	328 43.5	N22 26.8	55 46.6	11.6 N13	07.6	14.5	58.4
A	11	343 43.5	N22 26.5	70 17.0	11.5 N13	22.1	14.5	58.4
Y								
	12	358 43.4	N22 26.2	84 47.4	11.4 N13	36.6	14.4	58.5
	13	13 43.3	N22 25.9	99 17.7	11.3 N13	50.9	14.4	58.5
	14	28 43.2	N22 25.6	113 47.8	11.2 N14	05.3	14.3	58.5
	15	43 43.1	N22 25.4	128 17.9	11.1 N14	19.6	14.3	58.6
	16	58 43.0	N22 25.1	142 47.8	10.9 N14	33.8	14.2	58.6
	17	73 42.9	N22 24.8	157 17.6	10.8 N14	47.9	14.2	58.6
	18	88 42.8	N22 24.5	171 47.4	10.7 N15	02.0	14.1	58.7
	19	103 42.7	N22 24.2	186 17.0	10.6 N15	16.1	14.0	58.7
	20	118 42.6	N22 23.9	200 46.5	10.5 N15	30.1	14.0	58.7
	21	133 42.5	N22 23.6	215 15.9	10.4 N15	44.0	13.9	58.8
	22	148 42.4	N22 23.3	229 45.2	10.3 N15	57.8	13.8	58.8
	23	163 42.3	N22 23.0	244 14.3	10.2 N16	11.6	13.8	58.8
		S.D. 15.7	d 0.3	S.D.	15.5	15.7	15.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.0	S40 11.6
Achernar	335 19.3	S57 05.8
Acrux	172 58.9	S63 15.1
Adhara	255 05.3	S29 00.4
Albireo	67 02.7	N28 00.9
Aldebaran	290 38.5	N16 33.8
Alioth	166 11.8	N55 49.2
Alkaid	152 50.9	N49 11.1
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 36.8	S 1 11.0
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.4	N26 37.6
Alpheratz	357 33.4	N29 14.2
Altair	61 58.4	N 8 56.3
Ankaa	353 05.8	S42 09.4
Antares	112 14.0	S26 29.6
Arcturus	145 46.7	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.8	S59 35.7
Bellatrix	278 21.9	N 6 22.5
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.5
Capella	280 20.5	N46 01.4
Castor	245 55.8	N31 49.9
Deneb	49 24.5	N45 22.4
Denebola	182 23.8	N14 25.5
Diphda	348 46.0	S17 50.2
Dubhe	193 39.8	N61 36.7
Elnath	278 00.7	N28 37.7
Eltanin	90 41.1	N51 29.1
Enif	33 37.3	N 9 59.8
Fomalhaut	15 12.9	S29 28.7
Gacrux	171 50.4	S57 16.0
Gienah	175 42.4	S17 41.5
Hadar	148 34.1	S60 30.4
Hamal	327 49.9	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.4	N74 03.0
Markab	13 28.5	N15 20.8
Menkar	314 05.0	N 4 11.7
Menkent	147 56.1	S36 30.3
Miaplacidus	221 38.8	S69 49.7
Mirfak	308 26.8	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.1	S56 38.9
Polaris	316 09.8	N89 21.7
Pollux	243 16.1	N27 57.8
Procyon	244 49.9	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 03.0	S 8 10.2
Rigil Kent	139 38.5	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.6	N56 40.7
Shaula	96 08.3	S37 07.5
Sirius	258 25.5	S16 45.1
Spica	158 21.0	S11 18.1
Suhail	222 45.8	S43 32.5
Vega	80 31.9	N38 48.5
Zuben-ubi	136 55.4	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
9 0	286 57.0	135 06.1	N13 08.5	221 30.9	N21 18.7	162 42.0	N20 10.4	272 41.0	N 3 28.6
1	301 59.5	150 05.9	N13 07.5	236 31.5	N21 19.1	177 43.9	N20 10.3	287 43.4	N 3 28.6
2	317 01.9	165 05.7	N13 06.4	251 32.1	N21 19.4	192 45.8	N20 10.2	302 45.8	N 3 28.6
3	332 04.4	180 05.6	N13 05.3	266 32.7	N21 19.7	207 47.7	N20 10.1	317 48.2	N 3 28.7
4	347 06.9	195 05.4	N13 04.2	281 33.3	N21 20.0	222 49.6	N20 10.0	332 50.5	N 3 28.7
T 5	2 09.3	210 05.2	N13 03.1	296 33.9	N21 20.3	237 51.5	N20 09.9	347 52.9	N 3 28.7
H									
U 6	17 11.8	225 05.0	N13 02.0	311 34.6	N21 20.7	252 53.4	N20 09.7	2 55.3	N 3 28.7
R 7	32 14.3	240 04.9	N13 00.9	326 35.2	N21 21.0	267 55.3	N20 09.6	17 57.7	N 3 28.7
S 8	47 16.7	255 04.7	N12 59.9	341 35.8	N21 21.3	282 57.2	N20 09.5	33 00.1	N 3 28.7
D 9	62 19.2	270 04.5	N12 58.8	356 36.4	N21 21.6	297 59.1	N20 09.4	48 02.5	N 3 28.8
A 10	77 21.7	285 04.4	N12 57.7	11 37.0	N21 21.9	313 01.0	N20 09.3	63 04.9	N 3 28.8
Y 11	92 24.1	300 04.2	N12 56.6	26 37.6	N21 22.2	328 02.9	N20 09.1	78 07.3	N 3 28.8
12	107 26.6	315 04.0	N12 55.5	41 38.2	N21 22.6	343 04.8	N20 09.0	93 09.7	N 3 28.8
13	122 29.1	330 03.8	N12 54.4	56 38.8	N21 22.9	358 06.7	N20 08.9	108 12.1	N 3 28.8
14	137 31.5	345 03.7	N12 53.3	71 39.4	N21 23.2	13 08.6	N20 08.8	123 14.5	N 3 28.9
15	152 34.0	0 03.5	N12 52.2	86 40.0	N21 23.5	28 10.5	N20 08.7	138 16.8	N 3 28.9
16	167 36.4	15 03.3	N12 51.2	101 40.7	N21 23.8	43 12.4	N20 08.5	153 19.2	N 3 28.9
17	182 38.9	30 03.2	N12 50.1	116 41.3	N21 24.1	58 14.3	N20 08.4	168 21.6	N 3 28.9
18	197 41.4	45 03.0	N12 49.0	131 41.9	N21 24.5	73 16.2	N20 08.3	183 24.0	N 3 28.9
19	212 43.8	60 02.8	N12 47.9	146 42.5	N21 24.8	88 18.0	N20 08.2	198 26.4	N 3 28.9
20	227 46.3	75 02.7	N12 46.8	161 43.1	N21 25.1	103 19.9	N20 08.1	213 28.8	N 3 29.0
21	242 48.8	90 02.5	N12 45.7	176 43.7	N21 25.4	118 21.8	N20 07.9	228 31.2	N 3 29.0
22	257 51.2	105 02.4	N12 44.6	191 44.3	N21 25.7	133 23.7	N20 07.8	243 33.6	N 3 29.0
23	272 53.7	120 02.2	N12 43.5	206 44.9	N21 26.0	148 25.6	N20 07.7	258 36.0	N 3 29.0
10 0	287 56.2	135 02.0	N12 42.4	221 45.5	N21 26.3	163 27.5	N20 07.6	273 38.4	N 3 29.0
1	302 58.6	150 01.9	N12 41.3	236 46.1	N21 26.6	178 29.4	N20 07.5	288 40.8	N 3 29.0
2	318 01.1	165 01.7	N12 40.2	251 46.7	N21 27.0	193 31.3	N20 07.3	303 43.2	N 3 29.1
3	333 03.6	180 01.5	N12 39.1	266 47.4	N21 27.3	208 33.2	N20 07.2	318 45.6	N 3 29.1
4	348 06.0	195 01.4	N12 38.0	281 48.0	N21 27.6	223 35.1	N20 07.1	333 48.0	N 3 29.1
F 5	3 08.5	210 01.2	N12 36.9	296 48.6	N21 27.9	238 37.0	N20 07.0	348 50.4	N 3 29.1
R									
I 6	18 10.9	225 01.1	N12 35.9	311 49.2	N21 28.2	253 38.9	N20 06.9	3 52.8	N 3 29.1
D 7	33 13.4	240 00.9	N12 34.8	326 49.8	N21 28.5	268 40.8	N20 06.7	18 55.1	N 3 29.1
A 8	48 15.9	255 00.8	N12 33.7	341 50.4	N21 28.8	283 42.7	N20 06.6	33 57.5	N 3 29.2
Y 9	63 18.3	270 00.6	N12 32.6	356 51.0	N21 29.1	298 44.6	N20 06.5	48 59.9	N 3 29.2
10	78 20.8	285 00.4	N12 31.5	11 51.6	N21 29.4	313 46.5	N20 06.4	64 02.3	N 3 29.2
11	93 23.3	300 00.3	N12 30.4	26 52.2	N21 29.7	328 48.4	N20 06.3	79 04.7	N 3 29.2
12	108 25.7	315 00.1	N12 29.3	41 52.8	N21 30.1	343 50.3	N20 06.1	94 07.1	N 3 29.2
13	123 28.2	329 60.0	N12 28.2	56 53.5	N21 30.4	358 52.2	N20 06.0	109 09.5	N 3 29.2
14	138 30.7	344 59.8	N12 27.1	71 54.1	N21 30.7	13 54.1	N20 05.9	124 11.9	N 3 29.3
15	153 33.1	359 59.7	N12 26.0	86 54.7	N21 31.0	28 56.0	N20 05.8	139 14.3	N 3 29.3
16	168 35.6	14 59.5	N12 24.9	101 55.3	N21 31.3	43 57.9	N20 05.7	154 16.7	N 3 29.3
17	183 38.1	29 59.4	N12 23.8	116 55.9	N21 31.6	58 59.8	N20 05.5	169 19.1	N 3 29.3
18	198 40.5	44 59.2	N12 22.7	131 56.5	N21 31.9	74 01.7	N20 05.4	184 21.5	N 3 29.3
19	213 43.0	59 59.1	N12 21.6	146 57.1	N21 32.2	89 03.6	N20 05.3	199 23.9	N 3 29.3
20	228 45.4	74 58.9	N12 20.5	161 57.7	N21 32.5	104 05.5	N20 05.2	214 26.3	N 3 29.3
21	243 47.9	89 58.8	N12 19.4	176 58.3	N21 32.8	119 07.4	N20 05.0	229 28.7	N 3 29.4
22	258 50.4	104 58.6	N12 18.3	191 58.9	N21 33.1	134 09.3	N20 04.9	244 31.1	N 3 29.4
23	273 52.8	119 58.5	N12 17.1	206 59.5	N21 33.4	149 11.2	N20 04.8	259 33.5	N 3 29.4
11 0	288 55.3	134 58.3	N12 16.0	222 00.2	N21 33.7	164 13.1	N20 04.7	274 35.9	N 3 29.4
1	303 57.8	149 58.2	N12 14.9	237 00.8	N21 34.0	179 15.0	N20 04.6	289 38.3	N 3 29.4
2	319 00.2	164 58.1	N12 13.8	252 01.4	N21 34.3	194 16.9	N20 04.4	304 40.7	N 3 29.4
3	334 02.7	179 57.9	N12 12.7	267 02.0	N21 34.6	209 18.8	N20 04.3	319 43.1	N 3 29.5
4	349 05.2	194 57.8	N12 11.6	282 02.6	N21 34.9	224 20.7	N20 04.2	334 45.5	N 3 29.5
S 5	4 07.6	209 57.6	N12 10.5	297 03.2	N21 35.2	239 22.5	N20 04.1	349 47.9	N 3 29.5
A									
T 6	19 10.1	224 57.5	N12 09.4	312 03.8	N21 35.5	254 24.4	N20 04.0	4 50.3	N 3 29.5
U 7	34 12.5	239 57.3	N12 08.3	327 04.4	N21 35.8	269 26.3	N20 03.8	19 52.7	N 3 29.5
R 8	49 15.0	254 57.2	N12 07.2	342 05.0	N21 36.1	284 28.2	N20 03.7	34 55.1	N 3 29.5
D 9	64 17.5	269 57.1	N12 06.1	357 05.6	N21 36.4	299 30.1	N20 03.6	49 57.5	N 3 29.5
A 10	79 19.9	284 56.9	N12 05.0	12 06.2	N21 36.7	314 32.0	N20 03.5	64 59.9	N 3 29.6
Y 11	94 22.4	299 56.8	N12 03.9	27 06.9	N21 37.0	329 33.9	N20 03.4	80 02.3	N 3 29.6
12	109 24.9	314 56.7	N12 02.8	42 07.5	N21 37.3	344 35.8	N20 03.2	95 04.7	N 3 29.6
13	124 27.3	329 56.5	N12 01.6	57 08.1	N21 37.6	359 37.7	N20 03.1	110 07.1	N 3 29.6
14	139 29.8	344 56.4	N12 00.5	72 08.7	N21 37.9	14 39.6	N20 03.0	125 09.5	N 3 29.6
15	154 32.3	359 56.2	N11 59.4	87 09.3	N21 38.2	29 41.5	N20 02.9	140 11.9	N 3 29.6
16	169 34.7	14 56.1	N11 58.3	102 09.9	N21 38.5	44 43.4	N20 02.7	155 14.3	N 3 29.6
17	184 37.2	29 56.0	N11 57.2	117 10.5	N21 38.8	59 45.3	N20 02.6	170 16.7	N 3 29.7
18	199 39.7	44 55.8	N11 56.1	132 11.1	N21 39.1	74 47.2	N20 02.5	185 19.1	N 3 29.7
19	214 42.1	59 55.7	N11 55.0	147 11.7	N21 39.4	89 49.1	N20 02.4	200 21.5	N 3 29.7
20	229 44.6	74 55.6	N11 53.9	162 12.3	N21 39.7	104 51.0	N20 02.3	215 23.9	N 3 29.7
21	244 47.0	89 55.4	N11 52.8	177 13.0	N21 40.0	119 52.9	N20 02.1	230 26.3	N 3 29.7
22	259 49.5	104 55.3	N11 51.6	192 13.6	N21 40.3	134 54.8	N20 02.0	245 28.7	N 3 29.7
23	274 52.0	119 55.2	N11 50.5	207 14.2	N21 40.6	149 56.7	N20 01.9	260 31.1	N 3 29.7
		v -0.2	d 1.1	v 0.6	d 0.3	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
9	0	178 42.2	N22 22.7	258 43.4	10.0	N16 25.3	13.7	58.9
	1	193 42.1	N22 22.4	273 12.3	9.9	N16 38.9	13.6	58.9
	2	208 42.0	N22 22.1	287 41.1	9.8	N16 52.5	13.6	58.9
	3	223 41.9	N22 21.8	302 09.8	9.7	N17 05.9	13.5	59.0
	4	238 41.8	N22 21.5	316 38.4	9.6	N17 19.3	13.4	59.0
T	5	253 41.7	N22 21.2	331 06.8	9.4	N17 32.7	13.3	59.0
H								
U	6	268 41.7	N22 20.9	345 35.1	9.3	N17 45.9	13.2	59.1
R	7	283 41.6	N22 20.6	0 03.3	9.2	N17 59.1	13.2	59.1
S	8	298 41.5	N22 20.3	14 31.4	9.1	N18 12.1	13.1	59.1
D	9	313 41.4	N22 20.0	28 59.4	9.0	N18 25.1	13.0	59.2
A	10	328 41.3	N22 19.7	43 27.2	8.8	N18 38.0	12.9	59.2
Y	11	343 41.2	N22 19.4	57 54.9	8.7	N18 50.8	12.8	59.2
	12	358 41.1	N22 19.1	72 22.5	8.6	N19 03.5	12.7	59.3
	13	13 41.0	N22 18.8	86 49.9	8.4	N19 16.1	12.6	59.3
	14	28 40.9	N22 18.5	101 17.2	8.3	N19 28.7	12.5	59.3
	15	43 40.8	N22 18.2	115 44.4	8.2	N19 41.1	12.4	59.4
	16	58 40.7	N22 17.9	130 11.4	8.0	N19 53.4	12.3	59.4
	17	73 40.6	N22 17.6	144 38.4	7.9	N20 05.6	12.2	59.4
	18	88 40.5	N22 17.3	159 05.2	7.8	N20 17.7	12.1	59.5
	19	103 40.5	N22 16.9	173 31.8	7.7	N20 29.7	12.0	59.5
	20	118 40.4	N22 16.6	187 58.3	7.5	N20 41.6	11.9	59.5
	21	133 40.3	N22 16.3	202 24.7	7.4	N20 53.4	11.8	59.5
	22	148 40.2	N22 16.0	216 51.0	7.3	N21 05.0	11.7	59.6
	23	163 40.1	N22 15.7	231 17.1	7.1	N21 16.6	11.5	59.6
10	0	178 40.0	N22 15.4	245 43.1	7.0	N21 28.0	11.4	59.6
	1	193 39.9	N22 15.1	260 08.9	6.8	N21 39.3	11.3	59.7
	2	208 39.8	N22 14.8	274 34.6	6.7	N21 50.5	11.2	59.7
	3	223 39.7	N22 14.4	289 00.2	6.6	N22 01.6	11.1	59.7
	4	238 39.6	N22 14.1	303 25.7	6.4	N22 12.5	10.9	59.8
F	5	253 39.6	N22 13.8	317 51.0	6.3	N22 23.3	10.8	59.8
R								
I	6	268 39.5	N22 13.5	332 16.1	6.2	N22 34.0	10.7	59.8
D	7	283 39.4	N22 13.2	346 41.2	6.0	N22 44.5	10.5	59.8
A	8	298 39.3	N22 12.9	1 06.1	5.9	N22 54.9	10.4	59.9
Y	9	313 39.2	N22 12.5	15 30.9	5.8	N23 05.2	10.3	59.9
	10	328 39.1	N22 12.2	29 55.5	5.6	N23 15.3	10.1	59.9
	11	343 39.0	N22 11.9	44 20.0	5.5	N23 25.3	10.0	60.0
	12	358 38.9	N22 11.6	58 44.4	5.4	N23 35.2	9.8	60.0
	13	13 38.8	N22 11.3	73 08.6	5.2	N23 44.9	9.7	60.0
	14	28 38.8	N22 10.9	87 32.7	5.1	N23 54.4	9.6	60.0
	15	43 38.7	N22 10.6	101 56.7	5.0	N24 03.8	9.4	60.1
	16	58 38.6	N22 10.3	116 20.5	4.8	N24 13.1	9.3	60.1
	17	73 38.5	N22 10.0	130 44.2	4.7	N24 22.2	9.1	60.1
	18	88 38.4	N22 09.6	145 07.8	4.6	N24 31.1	8.9	60.2
	19	103 38.3	N22 09.3	159 31.2	4.5	N24 39.9	8.8	60.2
	20	118 38.2	N22 09.0	173 54.6	4.3	N24 48.5	8.6	60.2
	21	133 38.2	N22 08.7	188 17.8	4.2	N24 57.0	8.5	60.2
	22	148 38.1	N22 08.3	202 40.8	4.1	N25 05.3	8.3	60.3
	23	163 38.0	N22 08.0	217 03.8	3.9	N25 13.4	8.1	60.3
11	0	178 37.9	N22 07.7	231 26.6	3.8	N25 21.4	8.0	60.3
	1	193 37.8	N22 07.4	245 49.3	3.7	N25 29.2	7.8	60.3
	2	208 37.7	N22 07.0	260 11.9	3.6	N25 36.8	7.6	60.4
	3	223 37.6	N22 06.7	274 34.4	3.5	N25 44.2	7.4	60.4
	4	238 37.6	N22 06.4	288 56.7	3.3	N25 51.5	7.3	60.4
S	5	253 37.5	N22 06.0	303 18.9	3.2	N25 58.6	7.1	60.4
A								
T	6	268 37.4	N22 05.7	317 41.1	3.1	N26 05.5	6.9	60.5
U	7	283 37.3	N22 05.4	332 03.1	3.0	N26 12.2	6.7	60.5
R	8	298 37.2	N22 05.0	346 25.0	2.9	N26 18.7	6.5	60.5
D	9	313 37.1	N22 04.7	0 46.8	2.8	N26 25.1	6.4	60.5
A	10	328 37.0	N22 04.4	15 08.4	2.7	N26 31.3	6.2	60.5
Y	11	343 37.0	N22 04.0	29 30.0	2.6	N26 37.2	6.0	60.6
	12	358 36.9	N22 03.7	43 51.5	2.5	N26 43.0	5.8	60.6
	13	13 36.8	N22 03.3	58 12.9	2.4	N26 48.6	5.6	60.6
	14	28 36.7	N22 03.0	72 34.2	2.3	N26 54.0	5.4	60.6
	15	43 36.6	N22 02.7	86 55.4	2.2	N26 59.2	5.2	60.6
	16	58 36.5	N22 02.3	101 16.5	2.1	N27 04.2	5.0	60.7
	17	73 36.5	N22 02.0	115 37.5	2.0	N27 09.0	4.8	60.7
	18	88 36.4	N22 01.7	129 58.4	1.9	N27 13.7	4.6	60.7
	19	103 36.3	N22 01.3	144 19.2	1.8	N27 18.1	4.4	60.7
	20	118 36.2	N22 01.0	158 40.0	1.8	N27 22.3	4.2	60.7
	21	133 36.1	N22 00.6	173 00.7	1.7	N27 26.3	4.0	60.8
	22	148 36.1	N22 00.3	187 21.3	1.6	N27 30.1	3.8	60.8
	23	163 36.0	N21 59.9	201 41.8	1.5	N27 33.6	3.6	60.8
		S.D. 15.7	d 0.3	S.D.	16.1	16.3	16.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 11.0	S40 11.6
Achernar	335 19.3	S57 05.7
Acrux	172 58.9	S63 15.1
Adhara	255 05.3	S29 00.4
Albireo	67 02.7	N28 00.9
Aldebaran	290 38.5	N16 33.8
Alioth	166 11.9	N55 49.2
Alkaid	152 50.9	N49 11.1
Al Na-ir	27 30.9	S46 49.7
Alnilam	275 36.7	S 1 11.0
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.5	N26 37.6
Alpheratz	357 33.4	N29 14.2
Altair	61 58.4	N 8 56.3
Ankaa	353 05.8	S42 09.4
Antares	112 14.0	S26 29.6
Arcturus	145 46.7	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.8	S59 35.7
Bellatrix	278 21.8	N 6 22.5
Betelgeuse	270 51.1	N 7 24.8
Canopus	263 52.4	S52 42.5
Capella	280 20.5	N46 01.4
Castor	245 55.8	N31 49.9
Deneb	49 24.5	N45 22.4
Denebola	182 23.8	N14 25.5
Diphda	348 46.0	S17 50.2
Dubhe	193 39.8	N61 36.7
Elnath	278 00.7	N28 37.7
Eltanin	90 41.1	N51 29.1
Enif	33 37.2	N 9 59.8
Fomalhaut	15 12.9	S29 28.7
Gacrux	171 50.4	S57 16.0
Gienah	175 42.4	S17 41.4
Hadar	148 34.2	S60 30.4
Hamal	327 49.9	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.4	N74 03.0
Markab	13 28.5	N15 20.9
Menkar	314 05.0	N 4 11.7
Menkent	147 56.1	S36 30.3
Miaplacidus	221 38.8	S69 49.7
Mirfak	308 26.8	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.1	S56 38.9
Polaris	316 08.4	N89 21.6
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 03.0	S 8 10.1
Rigil Kent	139 38.5	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.5	N56 40.7
Shaula	96 08.3	S37 07.5
Sirius	258 25.5	S16 45.1
Spica	158 21.0	S11 18.1
Suhail	222 45.8	S43 32.5
Vega	80 31.9	N38 48.5
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
12	0	289 54.4	134 55.0	N11 49.4	222 14.8	N21 40.9	164 58.6	N20 01.8	275 33.5	N 3 29.8
	1	304 56.9	149 54.9	N11 48.3	237 15.4	N21 41.2	180 00.5	N20 01.6	290 35.9	N 3 29.8
	2	319 59.4	164 54.8	N11 47.2	252 16.0	N21 41.5	195 02.4	N20 01.5	305 38.3	N 3 29.8
	3	335 01.8	179 54.7	N11 46.1	267 16.6	N21 41.8	210 04.3	N20 01.4	320 40.7	N 3 29.8
	4	350 04.3	194 54.5	N11 44.9	282 17.2	N21 42.1	225 06.2	N20 01.3	335 43.1	N 3 29.8
S	5	5 06.8	209 54.4	N11 43.8	297 17.8	N21 42.4	240 08.1	N20 01.2	350 45.5	N 3 29.8
U										
N	6	20 09.2	224 54.3	N11 42.7	312 18.4	N21 42.7	255 10.0	N20 01.0	5 47.9	N 3 29.8
D	7	35 11.7	239 54.2	N11 41.6	327 19.0	N21 43.0	270 11.9	N20 00.9	20 50.3	N 3 29.8
A	8	50 14.2	254 54.0	N11 40.5	342 19.7	N21 43.3	285 13.7	N20 00.8	35 52.7	N 3 29.9
Y	9	65 16.6	269 53.9	N11 39.4	357 20.3	N21 43.6	300 15.6	N20 00.7	50 55.1	N 3 29.9
	10	80 19.1	284 53.8	N11 38.2	12 20.9	N21 43.8	315 17.5	N20 00.6	65 57.5	N 3 29.9
	11	95 21.5	299 53.7	N11 37.1	27 21.5	N21 44.1	330 19.4	N20 00.4	80 59.9	N 3 29.9
	12	110 24.0	314 53.5	N11 36.0	42 22.1	N21 44.4	345 21.3	N20 00.3	96 02.3	N 3 29.9
	13	125 26.5	329 53.4	N11 34.9	57 22.7	N21 44.7	0 23.2	N20 00.2	111 04.7	N 3 29.9
	14	140 28.9	344 53.3	N11 33.8	72 23.3	N21 45.0	15 25.1	N20 00.1	126 07.1	N 3 29.9
	15	155 31.4	359 53.2	N11 32.6	87 23.9	N21 45.3	30 27.0	N19 59.9	141 09.5	N 3 29.9
	16	170 33.9	14 53.1	N11 31.5	102 24.5	N21 45.6	45 28.9	N19 59.8	156 11.9	N 3 30.0
	17	185 36.3	29 52.9	N11 30.4	117 25.1	N21 45.9	60 30.8	N19 59.7	171 14.3	N 3 30.0
	18	200 38.8	44 52.8	N11 29.3	132 25.7	N21 46.2	75 32.7	N19 59.6	186 16.7	N 3 30.0
	19	215 41.3	59 52.7	N11 28.1	147 26.4	N21 46.5	90 34.6	N19 59.4	201 19.1	N 3 30.0
	20	230 43.7	74 52.6	N11 27.0	162 27.0	N21 46.7	105 36.5	N19 59.3	216 21.5	N 3 30.0
	21	245 46.2	89 52.5	N11 25.9	177 27.6	N21 47.0	120 38.4	N19 59.2	231 23.9	N 3 30.0
	22	260 48.7	104 52.4	N11 24.8	192 28.2	N21 47.3	135 40.3	N19 59.1	246 26.3	N 3 30.0
	23	275 51.1	119 52.2	N11 23.7	207 28.8	N21 47.6	150 42.2	N19 59.0	261 28.8	N 3 30.0
13	0	290 53.6	134 52.1	N11 22.5	222 29.4	N21 47.9	165 44.1	N19 58.8	276 31.2	N 3 30.1
	1	305 56.0	149 52.0	N11 21.4	237 30.0	N21 48.2	180 46.0	N19 58.7	291 33.6	N 3 30.1
	2	320 58.5	164 51.9	N11 20.3	252 30.6	N21 48.5	195 47.9	N19 58.6	306 36.0	N 3 30.1
	3	336 01.0	179 51.8	N11 19.1	267 31.2	N21 48.8	210 49.8	N19 58.5	321 38.4	N 3 30.1
	4	351 03.4	194 51.7	N11 18.0	282 31.8	N21 49.0	225 51.7	N19 58.3	336 40.8	N 3 30.1
M	5	6 05.9	209 51.6	N11 16.9	297 32.5	N21 49.3	240 53.6	N19 58.2	351 43.2	N 3 30.1
O										
N	6	21 08.4	224 51.5	N11 15.8	312 33.1	N21 49.6	255 55.5	N19 58.1	6 45.6	N 3 30.1
D	7	36 10.8	239 51.3	N11 14.6	327 33.7	N21 49.9	270 57.3	N19 58.0	21 48.0	N 3 30.1
A	8	51 13.3	254 51.2	N11 13.5	342 34.3	N21 50.2	285 59.2	N19 57.9	36 50.4	N 3 30.2
Y	9	66 15.8	269 51.1	N11 12.4	357 34.9	N21 50.5	301 01.1	N19 57.7	51 52.8	N 3 30.2
	10	81 18.2	284 51.0	N11 11.3	12 35.5	N21 50.7	316 03.0	N19 57.6	66 55.2	N 3 30.2
	11	96 20.7	299 50.9	N11 10.1	27 36.1	N21 51.0	331 04.9	N19 57.5	81 57.6	N 3 30.2
	12	111 23.2	314 50.8	N11 09.0	42 36.7	N21 51.3	346 06.8	N19 57.4	97 00.0	N 3 30.2
	13	126 25.6	329 50.7	N11 07.9	57 37.3	N21 51.6	1 08.7	N19 57.2	112 02.4	N 3 30.2
	14	141 28.1	344 50.6	N11 06.7	72 37.9	N21 51.9	16 10.6	N19 57.1	127 04.8	N 3 30.2
	15	156 30.5	359 50.5	N11 05.6	87 38.5	N21 52.1	31 12.5	N19 57.0	142 07.3	N 3 30.2
	16	171 33.0	14 50.4	N11 04.5	102 39.2	N21 52.4	46 14.4	N19 56.9	157 09.7	N 3 30.2
	17	186 35.5	29 50.3	N11 03.3	117 39.8	N21 52.7	61 16.3	N19 56.7	172 12.1	N 3 30.3
	18	201 37.9	44 50.2	N11 02.2	132 40.4	N21 53.0	76 18.2	N19 56.6	187 14.5	N 3 30.3
	19	216 40.4	59 50.1	N11 01.1	147 41.0	N21 53.3	91 20.1	N19 56.5	202 16.9	N 3 30.3
	20	231 42.9	74 50.0	N10 59.9	162 41.6	N21 53.6	106 22.0	N19 56.4	217 19.3	N 3 30.3
	21	246 45.3	89 49.9	N10 58.8	177 42.2	N21 53.8	121 23.9	N19 56.3	232 21.7	N 3 30.3
	22	261 47.8	104 49.8	N10 57.7	192 42.8	N21 54.1	136 25.8	N19 56.1	247 24.1	N 3 30.3
	23	276 50.3	119 49.7	N10 56.5	207 43.4	N21 54.4	151 27.7	N19 56.0	262 26.5	N 3 30.3
14	0	291 52.7	134 49.6	N10 55.4	222 44.0	N21 54.7	166 29.6	N19 55.9	277 28.9	N 3 30.3
	1	306 55.2	149 49.5	N10 54.3	237 44.6	N21 54.9	181 31.5	N19 55.8	292 31.3	N 3 30.3
	2	321 57.7	164 49.4	N10 53.1	252 45.2	N21 55.2	196 33.4	N19 55.6	307 33.8	N 3 30.3
	3	337 00.1	179 49.3	N10 52.0	267 45.9	N21 55.5	211 35.3	N19 55.5	322 36.2	N 3 30.4
	4	352 02.6	194 49.2	N10 50.9	282 46.5	N21 55.8	226 37.2	N19 55.4	337 38.6	N 3 30.4
T	5	7 05.0	209 49.1	N10 49.7	297 47.1	N21 56.0	241 39.0	N19 55.3	352 41.0	N 3 30.4
U										
E	6	22 07.5	224 49.0	N10 48.6	312 47.7	N21 56.3	256 40.9	N19 55.1	7 43.4	N 3 30.4
S	7	37 10.0	239 48.9	N10 47.5	327 48.3	N21 56.6	271 42.8	N19 55.0	22 45.8	N 3 30.4
D	8	52 12.4	254 48.8	N10 46.3	342 48.9	N21 56.9	286 44.7	N19 54.9	37 48.2	N 3 30.4
A	9	67 14.9	269 48.7	N10 45.2	357 49.5	N21 57.2	301 46.6	N19 54.8	52 50.6	N 3 30.4
Y	10	82 17.4	284 48.6	N10 44.0	12 50.1	N21 57.4	316 48.5	N19 54.6	67 53.0	N 3 30.4
	11	97 19.8	299 48.5	N10 42.9	27 50.7	N21 57.7	331 50.4	N19 54.5	82 55.4	N 3 30.4
	12	112 22.3	314 48.4	N10 41.8	42 51.3	N21 58.0	346 52.3	N19 54.4	97 57.9	N 3 30.4
	13	127 24.8	329 48.4	N10 40.6	57 52.0	N21 58.2	1 54.2	N19 54.3	113 00.3	N 3 30.5
	14	142 27.2	344 48.3	N10 39.5	72 52.6	N21 58.5	16 56.1	N19 54.1	128 02.7	N 3 30.5
	15	157 29.7	359 48.2	N10 38.3	87 53.2	N21 58.8	31 58.0	N19 54.0	143 05.1	N 3 30.5
	16	172 32.1	14 48.1	N10 37.2	102 53.8	N21 59.1	46 59.9	N19 53.9	158 07.5	N 3 30.5
	17	187 34.6	29 48.0	N10 36.1	117 54.4	N21 59.3	62 01.8	N19 53.8	173 09.9	N 3 30.5
	18	202 37.1	44 47.9	N10 34.9	132 55.0	N21 59.6	77 03.7	N19 53.7	188 12.3	N 3 30.5
	19	217 39.5	59 47.8	N10 33.8	147 55.6	N21 59.9	92 05.6	N19 53.5	203 14.7	N 3 30.5
	20	232 42.0	74 47.7	N10 32.6	162 56.2	N22 00.2	107 07.5	N19 53.4	218 17.1	N 3 30.5
	21	247 44.5	89 47.7	N10 31.5	177 56.8	N22 00.4	122 09.4	N19 53.3	233 19.6	N 3 30.5
	22	262 46.9	104 47.6	N10 30.4	192 57.4	N22 00.7	137 11.3	N19 53.2	248 22.0	N 3 30.5
	23	277 49.4	119 47.5	N10 29.2	207 58.0	N22 01.0	152 13.2	N19 53.0	263 24.4	N 3 30.5
			v -0.1	d 1.1	v 0.6	d 0.3	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
12 0	178 35.9	N21 59.6	216 02.3	1.5	N27 37.0	3.4	60.8	Acamar	315 11.0 S40 11.6
1	193 35.8	N21 59.3	230 22.6	1.4	N27 40.2	3.2	60.8	Achernar	335 19.3 S57 05.7
2	208 35.7	N21 58.9	244 43.0	1.3	N27 43.1	3.0	60.8	Acrux	172 58.9 S63 15.1
3	223 35.6	N21 58.6	259 03.3	1.3	N27 45.9	2.7	60.8	Adhara	255 05.3 S29 00.4
4	238 35.6	N21 58.2	273 23.5	1.2	N27 48.4	2.5	60.9	Albireo	67 02.7 N28 00.9
S 5	253 35.5	N21 57.9	287 43.6	1.2	N27 50.7	2.3	60.9		
U								Aldebaran	290 38.4 N16 33.8
N 6	268 35.4	N21 57.5	302 03.7	1.1	N27 52.8	2.1	60.9	Alioth	166 11.9 N55 49.2
D 7	283 35.3	N21 57.2	316 23.8	1.1	N27 54.7	1.9	60.9	Alkaid	152 50.9 N49 11.1
A 8	298 35.2	N21 56.8	330 43.8	1.0	N27 56.4	1.7	60.9	Al Na-ir	27 30.9 S46 49.7
Y 9	313 35.2	N21 56.5	345 03.8	1.0	N27 57.9	1.5	60.9	Alnilam	275 36.7 S 1 11.0
10	328 35.1	N21 56.1	359 23.8	0.9	N27 59.1	1.2	60.9		
11	343 35.0	N21 55.8	13 43.7	0.9	N28 00.1	1.0	60.9	Alphard	217 46.8 S 8 46.4
								Alphecca	126 02.5 N26 37.6
12	358 34.9	N21 55.4	28 03.6	0.9	N28 00.9	0.8	61.0	Alpheratz	357 33.4 N29 14.2
13	13 34.9	N21 55.1	42 23.4	0.9	N28 01.5	0.6	61.0	Altair	61 58.4 N 8 56.3
14	28 34.8	N21 54.7	56 43.3	0.8	N28 01.9	0.4	61.0	Ankaa	353 05.8 S42 09.4
15	43 34.7	N21 54.4	71 03.1	0.8	N28 02.0	0.1	61.0		
16	58 34.6	N21 54.0	85 22.9	0.8	N28 01.9	0.1	61.0	Antares	112 14.0 S26 29.6
17	73 34.5	N21 53.6	99 42.7	0.8	N28 01.6	0.3	61.0	Arcturus	145 46.7 N19 02.7
								Atria	107 06.7 S69 04.7
18	88 34.5	N21 53.3	114 02.5	0.8	N28 01.1	0.5	61.0	Avior	234 14.8 S59 35.7
19	103 34.4	N21 52.9	128 22.2	0.8	N28 00.4	0.7	61.0	Bellatrix	278 21.8 N 6 22.5
20	118 34.3	N21 52.6	142 42.0	0.8	N27 59.4	1.0	61.0		
21	133 34.2	N21 52.2	157 01.8	0.8	N27 58.3	1.2	61.0	Betelgeuse	270 51.0 N 7 24.8
22	148 34.2	N21 51.9	171 21.6	0.8	N27 56.9	1.4	61.0	Canopus	263 52.4 S52 42.4
23	163 34.1	N21 51.5	185 41.4	0.8	N27 55.3	1.6	61.0	Capella	280 20.5 N46 01.4
								Castor	245 55.8 N31 49.9
13 0	178 34.0	N21 51.1	200 01.2	0.8	N27 53.4	1.8	61.0	Deneb	49 24.5 N45 22.4
1	193 33.9	N21 50.8	214 21.0	0.8	N27 51.4	2.1	61.0		
2	208 33.8	N21 50.4	228 40.9	0.9	N27 49.1	2.3	61.1	Denebola	182 23.8 N14 25.5
3	223 33.8	N21 50.0	243 00.8	0.9	N27 46.6	2.5	61.1	Diphda	348 46.0 S17 50.2
4	238 33.7	N21 49.7	257 20.7	0.9	N27 43.9	2.7	61.1	Dubhe	193 39.8 N61 36.7
M 5	253 33.6	N21 49.3	271 40.6	0.9	N27 41.0	2.9	61.1	Elnath	278 00.6 N28 37.7
O								Eltanin	90 41.1 N51 29.1
N 6	268 33.5	N21 49.0	286 00.6	1.0	N27 37.8	3.1	61.1		
D 7	283 33.5	N21 48.6	300 20.6	1.0	N27 34.5	3.4	61.1	Enif	33 37.2 N 9 59.8
A 8	298 33.4	N21 48.2	314 40.7	1.1	N27 30.9	3.6	61.1	Fomalhaut	15 12.9 S29 28.7
Y 9	313 33.3	N21 47.9	329 00.8	1.1	N27 27.1	3.8	61.1	Gacrux	171 50.4 S57 16.0
10	328 33.2	N21 47.5	343 20.9	1.2	N27 23.1	4.0	61.1	Gienah	175 42.4 S17 41.4
11	343 33.2	N21 47.1	357 41.2	1.2	N27 18.9	4.2	61.1	Hadar	148 34.2 S60 30.4
12	358 33.1	N21 46.8	12 01.4	1.3	N27 14.5	4.4	61.1	Hamal	327 49.9 N23 35.3
13	13 33.0	N21 46.4	26 21.7	1.3	N27 09.8	4.6	61.1	Kaus Austr.	83 30.5 S34 22.4
14	28 33.0	N21 46.0	40 42.1	1.4	N27 05.0	4.8	61.1	Kochab	137 19.5 N74 03.0
15	43 32.9	N21 45.7	55 02.6	1.4	N26 59.9	5.1	61.0	Markab	13 28.4 N15 20.9
16	58 32.8	N21 45.3	69 23.1	1.5	N26 54.7	5.3	61.0	Menkar	314 05.0 N 4 11.7
17	73 32.7	N21 44.9	83 43.7	1.6	N26 49.2	5.5	61.0		
								Menkent	147 56.1 S36 30.3
18	88 32.7	N21 44.5	98 04.3	1.7	N26 43.5	5.7	61.0	Miaplacidus	221 38.8 S69 49.7
19	103 32.6	N21 44.2	112 25.1	1.7	N26 37.7	5.9	61.0	Mirfak	308 26.8 N49 57.2
20	118 32.5	N21 43.8	126 45.9	1.8	N26 31.6	6.1	61.0	Nunki	75 45.8 S26 15.8
21	133 32.4	N21 43.4	141 06.8	1.9	N26 25.3	6.3	61.0	Peacock	53 03.1 S56 38.9
22	148 32.4	N21 43.0	155 27.8	2.0	N26 18.8	6.5	61.0		
23	163 32.3	N21 42.7	169 48.9	2.1	N26 12.2	6.7	61.0	Polaris	316 07.1 N89 21.6
								Pollux	243 16.1 N27 57.8
14 0	178 32.2	N21 42.3	184 10.0	2.2	N26 05.3	6.9	61.0	Procyon	244 49.8 N 5 09.5
1	193 32.2	N21 41.9	198 31.3	2.3	N25 58.2	7.1	61.0	Rasalhague	95 57.1 N12 32.5
2	208 32.1	N21 41.5	212 52.6	2.4	N25 51.0	7.3	61.0	Regulus	207 33.3 N11 50.3
3	223 32.0	N21 41.2	227 14.1	2.5	N25 43.5	7.4	61.0		
4	238 31.9	N21 40.8	241 35.6	2.6	N25 35.9	7.6	61.0	Rigel	281 02.9 S 8 10.1
T 5	253 31.9	N21 40.4	255 57.3	2.7	N25 28.1	7.8	60.9	Rigil Kent	139 38.5 S60 57.0
U								Sabik	102 01.1 S15 45.5
E 6	268 31.8	N21 40.0	270 19.1	2.8	N25 20.1	8.0	60.9	Schedar	349 29.5 N56 40.8
S 7	283 31.7	N21 39.6	284 40.9	2.9	N25 11.9	8.2	60.9	Shaula	96 08.3 S37 07.5
D 8	298 31.7	N21 39.3	299 02.9	3.0	N25 03.5	8.4	60.9		
A 9	313 31.6	N21 38.9	313 25.0	3.1	N24 55.0	8.6	60.9	Sirius	258 25.5 S16 45.1
Y 10	328 31.5	N21 38.5	327 47.2	3.2	N24 46.2	8.7	60.9	Spica	158 21.0 S11 18.1
11	343 31.5	N21 38.1	342 09.5	3.3	N24 37.3	8.9	60.9	Suhail	222 45.8 S43 32.5
								Vega	80 31.9 N38 48.5
12	358 31.4	N21 37.7	356 31.9	3.4	N24 28.2	9.1	60.9	Zuben-ubi	136 55.4 S16 09.2
13	13 31.3	N21 37.4	10 54.4	3.5	N24 19.0	9.2	60.8		
14	28 31.2	N21 37.0	25 17.1	3.7	N24 09.6	9.4	60.8		
15	43 31.2	N21 36.6	39 39.9	3.8	N23 60.0	9.6	60.8		
16	58 31.1	N21 36.2	54 02.8	3.9	N23 50.2	9.7	60.8		
17	73 31.0	N21 35.8	68 25.8	4.0	N23 40.3	9.9	60.8		
18	88 31.0	N21 35.4	82 48.9	4.1	N23 30.3	10.1	60.8		
19	103 30.9	N21 35.0	97 12.2	4.3	N23 20.0	10.2	60.7		
20	118 30.8	N21 34.6	111 35.6	4.4	N23 09.6	10.4	60.7		
21	133 30.8	N21 34.3	125 59.1	4.5	N22 59.1	10.5	60.7		
22	148 30.7	N21 33.9	140 22.7	4.6	N22 48.4	10.7	60.7		
23	163 30.6	N21 33.5	154 46.5	4.8	N22 37.6	10.8	60.7		
	S.D. 15.7	d 0.4	S.D.	16.6	16.6	16.6			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
15	0	292 51.9	134 47.4	N10 28.1	222 58.7	N22 01.2	167 15.1	N19 52.9	278 26.8	N 3 30.6
	1	307 54.3	149 47.3	N10 26.9	237 59.3	N22 01.5	182 16.9	N19 52.8	293 29.2	N 3 30.6
	2	322 56.8	164 47.2	N10 25.8	252 59.9	N22 01.8	197 18.8	N19 52.7	308 31.6	N 3 30.6
	3	337 59.3	179 47.2	N10 24.6	268 00.5	N22 02.0	212 20.7	N19 52.5	323 34.0	N 3 30.6
	4	353 01.7	194 47.1	N10 23.5	283 01.1	N22 02.3	227 22.6	N19 52.4	338 36.5	N 3 30.6
W	5	8 04.2	209 47.0	N10 22.3	298 01.7	N22 02.6	242 24.5	N19 52.3	353 38.9	N 3 30.6
E										
D	6	23 06.6	224 46.9	N10 21.2	313 02.3	N22 02.8	257 26.4	N19 52.2	8 41.3	N 3 30.6
N	7	38 09.1	239 46.8	N10 20.1	328 02.9	N22 03.1	272 28.3	N19 52.0	23 43.7	N 3 30.6
E	8	53 11.6	254 46.8	N10 18.9	343 03.5	N22 03.4	287 30.2	N19 51.9	38 46.1	N 3 30.6
S	9	68 14.0	269 46.7	N10 17.8	358 04.1	N22 03.6	302 32.1	N19 51.8	53 48.5	N 3 30.6
D	10	83 16.5	284 46.6	N10 16.6	13 04.8	N22 03.9	317 34.0	N19 51.7	68 50.9	N 3 30.6
A	11	98 19.0	299 46.5	N10 15.5	28 05.4	N22 04.2	332 35.9	N19 51.5	83 53.4	N 3 30.6
Y										
	12	113 21.4	314 46.5	N10 14.3	43 06.0	N22 04.4	347 37.8	N19 51.4	98 55.8	N 3 30.7
	13	128 23.9	329 46.4	N10 13.2	58 06.6	N22 04.7	2 39.7	N19 51.3	113 58.2	N 3 30.7
	14	143 26.4	344 46.3	N10 12.0	73 07.2	N22 05.0	17 41.6	N19 51.2	129 00.6	N 3 30.7
	15	158 28.8	359 46.2	N10 10.9	88 07.8	N22 05.2	32 43.5	N19 51.0	144 03.0	N 3 30.7
	16	173 31.3	14 46.2	N10 09.7	103 08.4	N22 05.5	47 45.4	N19 50.9	159 05.4	N 3 30.7
	17	188 33.8	29 46.1	N10 08.6	118 09.0	N22 05.8	62 47.3	N19 50.8	174 07.8	N 3 30.7
	18	203 36.2	44 46.0	N10 07.4	133 09.6	N22 06.0	77 49.2	N19 50.7	189 10.3	N 3 30.7
	19	218 38.7	59 45.9	N10 06.3	148 10.2	N22 06.3	92 51.1	N19 50.5	204 12.7	N 3 30.7
	20	233 41.1	74 45.9	N10 05.1	163 10.9	N22 06.5	107 52.9	N19 50.4	219 15.1	N 3 30.7
	21	248 43.6	89 45.8	N10 04.0	178 11.5	N22 06.8	122 54.8	N19 50.3	234 17.5	N 3 30.7
	22	263 46.1	104 45.7	N10 02.8	193 12.1	N22 07.1	137 56.7	N19 50.2	249 19.9	N 3 30.7
	23	278 48.5	119 45.7	N10 01.7	208 12.7	N22 07.3	152 58.6	N19 50.0	264 22.3	N 3 30.7
16	0	293 51.0	134 45.6	N10 00.5	223 13.3	N22 07.6	168 00.5	N19 49.9	279 24.8	N 3 30.7
	1	308 53.5	149 45.5	N 9 59.4	238 13.9	N22 07.8	183 02.4	N19 49.8	294 27.2	N 3 30.7
	2	323 55.9	164 45.5	N 9 58.2	253 14.5	N22 08.1	198 04.3	N19 49.7	309 29.6	N 3 30.8
	3	338 58.4	179 45.4	N 9 57.1	268 15.1	N22 08.4	213 06.2	N19 49.5	324 32.0	N 3 30.8
	4	354 00.9	194 45.3	N 9 55.9	283 15.7	N22 08.6	228 08.1	N19 49.4	339 34.4	N 3 30.8
T	5	9 03.3	209 45.3	N 9 54.8	298 16.4	N22 08.9	243 10.0	N19 49.3	354 36.9	N 3 30.8
H										
U	6	24 05.8	224 45.2	N 9 53.6	313 17.0	N22 09.1	258 11.9	N19 49.2	9 39.3	N 3 30.8
R	7	39 08.3	239 45.1	N 9 52.4	328 17.6	N22 09.4	273 13.8	N19 49.0	24 41.7	N 3 30.8
S	8	54 10.7	254 45.1	N 9 51.3	343 18.2	N22 09.7	288 15.7	N19 48.9	39 44.1	N 3 30.8
D	9	69 13.2	269 45.0	N 9 50.1	358 18.8	N22 09.9	303 17.6	N19 48.8	54 46.5	N 3 30.8
A	10	84 15.6	284 45.0	N 9 49.0	13 19.4	N22 10.2	318 19.5	N19 48.7	69 48.9	N 3 30.8
Y	11	99 18.1	299 44.9	N 9 47.8	28 20.0	N22 10.4	333 21.4	N19 48.5	84 51.4	N 3 30.8
	12	114 20.6	314 44.8	N 9 46.7	43 20.6	N22 10.7	348 23.3	N19 48.4	99 53.8	N 3 30.8
	13	129 23.0	329 44.8	N 9 45.5	58 21.2	N22 10.9	3 25.2	N19 48.3	114 56.2	N 3 30.8
	14	144 25.5	344 44.7	N 9 44.4	73 21.8	N22 11.2	18 27.1	N19 48.2	129 58.6	N 3 30.8
	15	159 28.0	359 44.7	N 9 43.2	88 22.5	N22 11.5	33 28.9	N19 48.0	145 01.0	N 3 30.8
	16	174 30.4	14 44.6	N 9 42.0	103 23.1	N22 11.7	48 30.8	N19 47.9	160 03.5	N 3 30.8
	17	189 32.9	29 44.5	N 9 40.9	118 23.7	N22 12.0	63 32.7	N19 47.8	175 05.9	N 3 30.8
	18	204 35.4	44 44.5	N 9 39.7	133 24.3	N22 12.2	78 34.6	N19 47.7	190 08.3	N 3 30.9
	19	219 37.8	59 44.4	N 9 38.6	148 24.9	N22 12.5	93 36.5	N19 47.5	205 10.7	N 3 30.9
	20	234 40.3	74 44.4	N 9 37.4	163 25.5	N22 12.7	108 38.4	N19 47.4	220 13.1	N 3 30.9
	21	249 42.8	89 44.3	N 9 36.3	178 26.1	N22 13.0	123 40.3	N19 47.3	235 15.6	N 3 30.9
	22	264 45.2	104 44.3	N 9 35.1	193 26.7	N22 13.2	138 42.2	N19 47.2	250 18.0	N 3 30.9
	23	279 47.7	119 44.2	N 9 33.9	208 27.3	N22 13.5	153 44.1	N19 47.0	265 20.4	N 3 30.9
17	0	294 50.1	134 44.2	N 9 32.8	223 27.9	N22 13.7	168 46.0	N19 46.9	280 22.8	N 3 30.9
	1	309 52.6	149 44.1	N 9 31.6	238 28.6	N22 14.0	183 47.9	N19 46.8	295 25.2	N 3 30.9
	2	324 55.1	164 44.1	N 9 30.5	253 29.2	N22 14.2	198 49.8	N19 46.6	310 27.7	N 3 30.9
	3	339 57.5	179 44.0	N 9 29.3	268 29.8	N22 14.5	213 51.7	N19 46.5	325 30.1	N 3 30.9
	4	355 00.0	194 44.0	N 9 28.1	283 30.4	N22 14.7	228 53.6	N19 46.4	340 32.5	N 3 30.9
F	5	10 02.5	209 43.9	N 9 27.0	298 31.0	N22 15.0	243 55.5	N19 46.3	355 34.9	N 3 30.9
R										
I	6	25 04.9	224 43.9	N 9 25.8	313 31.6	N22 15.2	258 57.4	N19 46.1	10 37.4	N 3 30.9
D	7	40 07.4	239 43.8	N 9 24.6	328 32.2	N22 15.5	273 59.3	N19 46.0	25 39.8	N 3 30.9
A	8	55 09.9	254 43.8	N 9 23.5	343 32.8	N22 15.7	289 01.2	N19 45.9	40 42.2	N 3 30.9
Y	9	70 12.3	269 43.7	N 9 22.3	358 33.4	N22 16.0	304 03.0	N19 45.8	55 44.6	N 3 30.9
	10	85 14.8	284 43.7	N 9 21.2	13 34.1	N22 16.2	319 04.9	N19 45.6	70 47.0	N 3 30.9
	11	100 17.2	299 43.6	N 9 20.0	28 34.7	N22 16.5	334 06.8	N19 45.5	85 49.5	N 3 30.9
	12	115 19.7	314 43.6	N 9 18.8	43 35.3	N22 16.7	349 08.7	N19 45.4	100 51.9	N 3 30.9
	13	130 22.2	329 43.5	N 9 17.7	58 35.9	N22 17.0	4 10.6	N19 45.3	115 54.3	N 3 30.9
	14	145 24.6	344 43.5	N 9 16.5	73 36.5	N22 17.2	19 12.5	N19 45.1	130 56.7	N 3 31.0
	15	160 27.1	359 43.4	N 9 15.3	88 37.1	N22 17.5	34 14.4	N19 45.0	145 59.2	N 3 31.0
	16	175 29.6	14 43.4	N 9 14.2	103 37.7	N22 17.7	49 16.3	N19 44.9	161 01.6	N 3 31.0
	17	190 32.0	29 43.4	N 9 13.0	118 38.3	N22 18.0	64 18.2	N19 44.8	176 04.0	N 3 31.0
	18	205 34.5	44 43.3	N 9 11.8	133 38.9	N22 18.2	79 20.1	N19 44.6	191 06.4	N 3 31.0
	19	220 37.0	59 43.3	N 9 10.7	148 39.6	N22 18.5	94 22.0	N19 44.5	206 08.8	N 3 31.0
	20	235 39.4	74 43.2	N 9 09.5	163 40.2	N22 18.7	109 23.9	N19 44.4	221 11.3	N 3 31.0
	21	250 41.9	89 43.2	N 9 08.3	178 40.8	N22 18.9	124 25.8	N19 44.2	236 13.7	N 3 31.0
	22	265 44.4	104 43.2	N 9 07.2	193 41.4	N22 19.2	139 27.7	N19 44.1	251 16.1	N 3 31.0
	23	280 46.8	119 43.1	N 9 06.0	208 42.0	N22 19.4	154 29.6	N19 44.0	266 18.5	N 3 31.0
			v -0.1	d 1.2	v 0.6	d 0.3	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
15	0	178 30.6	N21 33.1	169 10.4	4.9	N22 26.6	11.0	60.6
	1	193 30.5	N21 32.7	183 34.4	5.0	N22 15.5	11.1	60.6
	2	208 30.4	N21 32.3	197 58.6	5.2	N22 04.2	11.3	60.6
	3	223 30.4	N21 31.9	212 22.9	5.3	N21 52.8	11.4	60.6
	4	238 30.3	N21 31.5	226 47.3	5.4	N21 41.2	11.6	60.6
W	5	253 30.2	N21 31.1	241 11.9	5.6	N21 29.5	11.7	60.5
E								
D	6	268 30.2	N21 30.7	255 36.5	5.7	N21 17.7	11.8	60.5
N	7	283 30.1	N21 30.3	270 01.3	5.8	N21 05.8	12.0	60.5
E	8	298 30.1	N21 29.9	284 26.3	5.9	N20 53.7	12.1	60.5
S	9	313 30.0	N21 29.5	298 51.4	6.1	N20 41.5	12.2	60.4
D	10	328 29.9	N21 29.1	313 16.6	6.2	N20 29.1	12.3	60.4
A	11	343 29.9	N21 28.7	327 41.9	6.3	N20 16.7	12.5	60.4
Y								
	12	358 29.8	N21 28.3	342 07.4	6.5	N20 04.1	12.6	60.4
	13	13 29.7	N21 27.9	356 33.0	6.6	N19 51.4	12.7	60.3
	14	28 29.7	N21 27.5	10 58.7	6.7	N19 38.6	12.8	60.3
	15	43 29.6	N21 27.1	25 24.6	6.9	N19 25.7	12.9	60.3
	16	58 29.5	N21 26.7	39 50.6	7.0	N19 12.7	13.0	60.3
	17	73 29.5	N21 26.3	54 16.8	7.1	N18 59.5	13.1	60.2
	18	88 29.4	N21 25.9	68 43.0	7.3	N18 46.3	13.2	60.2
	19	103 29.4	N21 25.5	83 09.4	7.4	N18 33.0	13.3	60.2
	20	118 29.3	N21 25.1	97 35.9	7.5	N18 19.5	13.4	60.1
	21	133 29.2	N21 24.7	112 02.6	7.7	N18 06.0	13.5	60.1
	22	148 29.2	N21 24.3	126 29.4	7.8	N17 52.3	13.6	60.1
	23	163 29.1	N21 23.9	140 56.3	7.9	N17 38.6	13.7	60.1
16	0	178 29.1	N21 23.5	155 23.3	8.0	N17 24.8	13.8	60.0
	1	193 29.0	N21 23.1	169 50.5	8.2	N17 10.9	13.9	60.0
	2	208 28.9	N21 22.7	184 17.8	8.3	N16 56.9	14.0	60.0
	3	223 28.9	N21 22.3	198 45.2	8.4	N16 42.8	14.1	59.9
	4	238 28.8	N21 21.9	213 12.7	8.5	N16 28.6	14.2	59.9
T	5	253 28.7	N21 21.5	227 40.4	8.7	N16 14.4	14.2	59.9
H								
U	6	268 28.7	N21 21.1	242 08.2	8.8	N16 00.1	14.3	59.8
R	7	283 28.6	N21 20.6	256 36.1	8.9	N15 45.7	14.4	59.8
S	8	298 28.6	N21 20.2	271 04.1	9.0	N15 31.2	14.5	59.8
D	9	313 28.5	N21 19.8	285 32.3	9.2	N15 16.6	14.5	59.7
A	10	328 28.5	N21 19.4	300 00.5	9.3	N15 02.0	14.6	59.7
Y	11	343 28.4	N21 19.0	314 28.9	9.4	N14 47.3	14.7	59.7
	12	358 28.3	N21 18.6	328 57.4	9.5	N14 32.6	14.8	59.6
	13	13 28.3	N21 18.2	343 26.1	9.6	N14 17.7	14.8	59.6
	14	28 28.2	N21 17.8	357 54.8	9.7	N14 02.9	14.9	59.6
	15	43 28.2	N21 17.3	12 23.7	9.9	N13 47.9	14.9	59.5
	16	58 28.1	N21 16.9	26 52.6	10.0	N13 32.9	15.0	59.5
	17	73 28.0	N21 16.5	41 21.7	10.1	N13 17.9	15.1	59.5
	18	88 28.0	N21 16.1	55 50.9	10.2	N13 02.8	15.1	59.4
	19	103 27.9	N21 15.7	70 20.2	10.3	N12 47.6	15.2	59.4
	20	118 27.9	N21 15.3	84 49.6	10.4	N12 32.4	15.2	59.4
	21	133 27.8	N21 14.8	99 19.1	10.5	N12 17.2	15.3	59.3
	22	148 27.8	N21 14.4	113 48.7	10.6	N12 01.9	15.3	59.3
	23	163 27.7	N21 14.0	128 18.4	10.7	N11 46.5	15.3	59.3
17	0	178 27.7	N21 13.6	142 48.3	10.8	N11 31.1	15.4	59.2
	1	193 27.6	N21 13.1	157 18.2	10.9	N11 15.7	15.4	59.2
	2	208 27.5	N21 12.7	171 48.2	11.0	N11 00.2	15.5	59.1
	3	223 27.5	N21 12.3	186 18.3	11.1	N10 44.7	15.5	59.1
	4	238 27.4	N21 11.9	200 48.6	11.2	N10 29.2	15.5	59.1
F	5	253 27.4	N21 11.5	215 18.9	11.3	N10 13.6	15.6	59.0
R								
I	6	268 27.3	N21 11.0	229 49.3	11.4	N 9 58.0	15.6	59.0
D	7	283 27.3	N21 10.6	244 19.8	11.5	N 9 42.4	15.6	59.0
A	8	298 27.2	N21 10.2	258 50.4	11.6	N 9 26.7	15.7	58.9
Y	9	313 27.2	N21 09.7	273 21.1	11.7	N 9 11.0	15.7	58.9
	10	328 27.1	N21 09.3	287 51.9	11.8	N 8 55.3	15.7	58.8
	11	343 27.1	N21 08.9	302 22.8	11.9	N 8 39.6	15.7	58.8
	12	358 27.0	N21 08.5	316 53.7	12.0	N 8 23.8	15.8	58.8
	13	13 27.0	N21 08.0	331 24.8	12.0	N 8 08.0	15.8	58.7
	14	28 26.9	N21 07.6	345 55.9	12.1	N 7 52.2	15.8	58.7
	15	43 26.9	N21 07.2	0 27.1	12.2	N 7 36.4	15.8	58.7
	16	58 26.8	N21 06.7	14 58.4	12.3	N 7 20.6	15.8	58.6
	17	73 26.8	N21 06.3	29 29.8	12.4	N 7 04.7	15.8	58.6
	18	88 26.7	N21 05.9	44 01.3	12.5	N 6 48.9	15.9	58.5
	19	103 26.6	N21 05.4	58 32.8	12.5	N 6 33.0	15.9	58.5
	20	118 26.6	N21 05.0	73 04.4	12.6	N 6 17.1	15.9	58.5
	21	133 26.5	N21 04.6	87 36.1	12.7	N 6 01.2	15.9	58.4
	22	148 26.5	N21 04.1	102 07.8	12.8	N 5 45.3	15.9	58.4
	23	163 26.4	N21 03.7	116 39.7	12.8	N 5 29.4	15.9	58.3
		S.D. 15.7	d 0.4	S.D. 16.4	16.3	16.0		

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.9	S40 11.6
Achernar	335 19.2	S57 05.7
Acrux	172 58.9	S63 15.1
Adhara	255 05.2	S29 00.4
Albireo	67 02.7	N28 00.9
Aldebaran	290 38.4	N16 33.8
Alioth	166 11.9	N55 49.2
Alkaid	152 50.9	N49 11.1
Al Na-ir	27 30.9	S46 49.7
Alnilam	275 36.7	S 1 11.0
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.5	N26 37.6
Alpheratz	357 33.3	N29 14.2
Altair	61 58.4	N 8 56.3
Ankaa	353 05.7	S42 09.4
Antares	112 14.0	S26 29.6
Arcturus	145 46.7	N19 02.7
Atria	107 06.7	S69 04.7
Avior	234 14.9	S59 35.7
Bellatrix	278 21.8	N 6 22.5
Betelgeuse	270 51.0	N 7 24.8
Canopus	263 52.3	S52 42.4
Capella	280 20.4	N46 01.4
Castor	245 55.8	N31 49.9
Deneb	49 24.5	N45 22.5
Denebola	182 23.8	N14 25.5
Diphda	348 46.0	S17 50.2
Dubhe	193 39.8	N61 36.6
Elnath	278 00.6	N28 37.7
Eltanin	90 41.1	N51 29.2
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 50.4	S57 16.0
Gienah	175 42.4	S17 41.4
Hadar	148 34.2	S60 30.4
Hamal	327 49.8	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.5	N74 03.0
Markab	13 28.4	N15 20.9
Menkar	314 04.9	N 4 11.7
Menkent	147 56.1	S36 30.3
Miaplacidus	221 38.8	S69 49.7
Mirfak	308 26.7	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 38.9
Polaris	316 05.8	N89 21.7
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 02.9	S 8 10.1
Rigil Kent	139 38.5	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.5	N56 40.8
Shaula	96 08.3	S37 07.5
Sirius	258 25.5	S16 45.0
Spica	158 21.0	S11 18.1
Suhail	222 45.8	S43 32.4
Vega	80 31.9	N38 48.5
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
18	0	295 49.3	134 43.1	N 9 04.8	223 42.6	N22 19.7	169 31.5	N19 43.9	281 21.0	N 3 31.0
	1	310 51.7	149 43.0	N 9 03.7	238 43.2	N22 19.9	184 33.4	N19 43.7	296 23.4	N 3 31.0
	2	325 54.2	164 43.0	N 9 02.5	253 43.8	N22 20.2	199 35.2	N19 43.6	311 25.8	N 3 31.0
	3	340 56.7	179 43.0	N 9 01.3	268 44.4	N22 20.4	214 37.1	N19 43.5	326 28.2	N 3 31.0
	4	355 59.1	194 42.9	N 9 00.2	283 45.1	N22 20.6	229 39.0	N19 43.4	341 30.7	N 3 31.0
S	5	11 01.6	209 42.9	N 8 59.0	298 45.7	N22 20.9	244 40.9	N19 43.2	356 33.1	N 3 31.0
A										
T	6	26 04.1	224 42.9	N 8 57.8	313 46.3	N22 21.1	259 42.8	N19 43.1	11 35.5	N 3 31.0
U	7	41 06.5	239 42.8	N 8 56.7	328 46.9	N22 21.4	274 44.7	N19 43.0	26 38.0	N 3 31.0
R	8	56 09.0	254 42.8	N 8 55.5	343 47.5	N22 21.6	289 46.6	N19 42.9	41 40.4	N 3 31.0
D	9	71 11.5	269 42.8	N 8 54.3	358 48.1	N22 21.8	304 48.5	N19 42.7	56 42.8	N 3 31.0
A	10	86 13.9	284 42.7	N 8 53.1	13 48.7	N22 22.1	319 50.4	N19 42.6	71 45.2	N 3 31.0
Y	11	101 16.4	299 42.7	N 8 52.0	28 49.3	N22 22.3	334 52.3	N19 42.5	86 47.7	N 3 31.0
	12	116 18.9	314 42.7	N 8 50.8	43 49.9	N22 22.6	349 54.2	N19 42.3	101 50.1	N 3 31.0
	13	131 21.3	329 42.7	N 8 49.6	58 50.6	N22 22.8	4 56.1	N19 42.2	116 52.5	N 3 31.0
	14	146 23.8	344 42.6	N 8 48.5	73 51.2	N22 23.0	19 58.0	N19 42.1	131 54.9	N 3 31.0
	15	161 26.2	359 42.6	N 8 47.3	88 51.8	N22 23.3	34 59.9	N19 42.0	146 57.4	N 3 31.0
	16	176 28.7	14 42.6	N 8 46.1	103 52.4	N22 23.5	50 01.8	N19 41.8	161 59.8	N 3 31.0
	17	191 31.2	29 42.5	N 8 44.9	118 53.0	N22 23.8	65 03.7	N19 41.7	177 02.2	N 3 31.0
	18	206 33.6	44 42.5	N 8 43.8	133 53.6	N22 24.0	80 05.6	N19 41.6	192 04.6	N 3 31.0
	19	221 36.1	59 42.5	N 8 42.6	148 54.2	N22 24.2	95 07.4	N19 41.5	207 07.1	N 3 31.1
	20	236 38.6	74 42.5	N 8 41.4	163 54.8	N22 24.5	110 09.3	N19 41.3	222 09.5	N 3 31.1
	21	251 41.0	89 42.4	N 8 40.3	178 55.5	N22 24.7	125 11.2	N19 41.2	237 11.9	N 3 31.1
	22	266 43.5	104 42.4	N 8 39.1	193 56.1	N22 24.9	140 13.1	N19 41.1	252 14.4	N 3 31.1
	23	281 46.0	119 42.4	N 8 37.9	208 56.7	N22 25.2	155 15.0	N19 40.9	267 16.8	N 3 31.1
19	0	296 48.4	134 42.4	N 8 36.7	223 57.3	N22 25.4	170 16.9	N19 40.8	282 19.2	N 3 31.1
	1	311 50.9	149 42.3	N 8 35.6	238 57.9	N22 25.6	185 18.8	N19 40.7	297 21.6	N 3 31.1
	2	326 53.3	164 42.3	N 8 34.4	253 58.5	N22 25.9	200 20.7	N19 40.6	312 24.1	N 3 31.1
	3	341 55.8	179 42.3	N 8 33.2	268 59.1	N22 26.1	215 22.6	N19 40.4	327 26.5	N 3 31.1
	4	356 58.3	194 42.3	N 8 32.0	283 59.7	N22 26.3	230 24.5	N19 40.3	342 28.9	N 3 31.1
S	5	12 00.7	209 42.3	N 8 30.9	299 00.3	N22 26.6	245 26.4	N19 40.2	357 31.4	N 3 31.1
U										
N	6	27 03.2	224 42.2	N 8 29.7	314 01.0	N22 26.8	260 28.3	N19 40.0	12 33.8	N 3 31.1
D	7	42 05.7	239 42.2	N 8 28.5	329 01.6	N22 27.0	275 30.2	N19 39.9	27 36.2	N 3 31.1
A	8	57 08.1	254 42.2	N 8 27.3	344 02.2	N22 27.3	290 32.1	N19 39.8	42 38.7	N 3 31.1
Y	9	72 10.6	269 42.2	N 8 26.1	359 02.8	N22 27.5	305 34.0	N19 39.7	57 41.1	N 3 31.1
	10	87 13.1	284 42.2	N 8 25.0	14 03.4	N22 27.7	320 35.9	N19 39.5	72 43.5	N 3 31.1
	11	102 15.5	299 42.2	N 8 23.8	29 04.0	N22 28.0	335 37.8	N19 39.4	87 45.9	N 3 31.1
	12	117 18.0	314 42.1	N 8 22.6	44 04.6	N22 28.2	350 39.6	N19 39.3	102 48.4	N 3 31.1
	13	132 20.5	329 42.1	N 8 21.4	59 05.2	N22 28.4	5 41.5	N19 39.2	117 50.8	N 3 31.1
	14	147 22.9	344 42.1	N 8 20.3	74 05.9	N22 28.7	20 43.4	N19 39.0	132 53.2	N 3 31.1
	15	162 25.4	359 42.1	N 8 19.1	89 06.5	N22 28.9	35 45.3	N19 38.9	147 55.7	N 3 31.1
	16	177 27.8	14 42.1	N 8 17.9	104 07.1	N22 29.1	50 47.2	N19 38.8	162 58.1	N 3 31.1
	17	192 30.3	29 42.1	N 8 16.7	119 07.7	N22 29.3	65 49.1	N19 38.6	178 00.5	N 3 31.1
	18	207 32.8	44 42.1	N 8 15.5	134 08.3	N22 29.6	80 51.0	N19 38.5	193 03.0	N 3 31.1
	19	222 35.2	59 42.1	N 8 14.4	149 08.9	N22 29.8	95 52.9	N19 38.4	208 05.4	N 3 31.1
	20	237 37.7	74 42.0	N 8 13.2	164 09.5	N22 30.0	110 54.8	N19 38.3	223 07.8	N 3 31.1
	21	252 40.2	89 42.0	N 8 12.0	179 10.1	N22 30.2	125 56.7	N19 38.1	238 10.3	N 3 31.1
	22	267 42.6	104 42.0	N 8 10.8	194 10.8	N22 30.5	140 58.6	N19 38.0	253 12.7	N 3 31.1
	23	282 45.1	119 42.0	N 8 09.6	209 11.4	N22 30.7	156 00.5	N19 37.9	268 15.1	N 3 31.1
20	0	297 47.6	134 42.0	N 8 08.5	224 12.0	N22 30.9	171 02.4	N19 37.7	283 17.6	N 3 31.1
	1	312 50.0	149 42.0	N 8 07.3	239 12.6	N22 31.2	186 04.3	N19 37.6	298 20.0	N 3 31.1
	2	327 52.5	164 42.0	N 8 06.1	254 13.2	N22 31.4	201 06.2	N19 37.5	313 22.4	N 3 31.1
	3	342 55.0	179 42.0	N 8 04.9	269 13.8	N22 31.6	216 08.1	N19 37.4	328 24.9	N 3 31.1
	4	357 57.4	194 42.0	N 8 03.7	284 14.4	N22 31.8	231 10.0	N19 37.2	343 27.3	N 3 31.1
M	5	12 59.9	209 42.0	N 8 02.5	299 15.0	N22 32.1	246 11.8	N19 37.1	358 29.7	N 3 31.1
O										
N	6	28 02.3	224 42.0	N 8 01.4	314 15.7	N22 32.3	261 13.7	N19 37.0	13 32.2	N 3 31.1
D	7	43 04.8	239 42.0	N 8 00.2	329 16.3	N22 32.5	276 15.6	N19 36.8	28 34.6	N 3 31.1
A	8	58 07.3	254 42.0	N 7 59.0	344 16.9	N22 32.7	291 17.5	N19 36.7	43 37.0	N 3 31.1
Y	9	73 09.7	269 42.0	N 7 57.8	359 17.5	N22 32.9	306 19.4	N19 36.6	58 39.5	N 3 31.1
	10	88 12.2	284 42.0	N 7 56.6	14 18.1	N22 33.2	321 21.3	N19 36.5	73 41.9	N 3 31.1
	11	103 14.7	299 42.0	N 7 55.4	29 18.7	N22 33.4	336 23.2	N19 36.3	88 44.3	N 3 31.1
	12	118 17.1	314 42.0	N 7 54.3	44 19.3	N22 33.6	351 25.1	N19 36.2	103 46.8	N 3 31.1
	13	133 19.6	329 42.0	N 7 53.1	59 19.9	N22 33.8	6 27.0	N19 36.1	118 49.2	N 3 31.1
	14	148 22.1	344 42.0	N 7 51.9	74 20.6	N22 34.1	21 28.9	N19 35.9	133 51.6	N 3 31.1
	15	163 24.5	359 42.0	N 7 50.7	89 21.2	N22 34.3	36 30.8	N19 35.8	148 54.1	N 3 31.1
	16	178 27.0	14 42.0	N 7 49.5	104 21.8	N22 34.5	51 32.7	N19 35.7	163 56.5	N 3 31.1
	17	193 29.4	29 42.0	N 7 48.3	119 22.4	N22 34.7	66 34.6	N19 35.6	178 58.9	N 3 31.1
	18	208 31.9	44 42.0	N 7 47.2	134 23.0	N22 34.9	81 36.5	N19 35.4	194 01.4	N 3 31.1
	19	223 34.4	59 42.0	N 7 46.0	149 23.6	N22 35.2	96 38.4	N19 35.3	209 03.8	N 3 31.1
	20	238 36.8	74 42.0	N 7 44.8	164 24.2	N22 35.4	111 40.3	N19 35.2	224 06.2	N 3 31.1
	21	253 39.3	89 42.0	N 7 43.6	179 24.9	N22 35.6	126 42.2	N19 35.0	239 08.7	N 3 31.1
	22	268 41.8	104 42.0	N 7 42.4	194 25.5	N22 35.8	141 44.0	N19 34.9	254 11.1	N 3 31.1
	23	283 44.2	119 42.0	N 7 41.2	209 26.1	N22 36.0	156 45.9	N19 34.8	269 13.6	N 3 31.1
			v 0.0	d 1.2	v 0.6	d 0.2	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
18 0	178 26.4	N21 03.3	131 11.6	12.9 N	5 13.5	15.9	58.3	Acamar	315 10.9 S40 11.6
1	193 26.3	N21 02.8	145 43.5	13.0 N	4 57.6	15.9	58.3	Achernar	335 19.2 S57 05.7
2	208 26.3	N21 02.4	160 15.6	13.0 N	4 41.7	15.9	58.2	Acrux	172 59.0 S63 15.1
3	223 26.2	N21 02.0	174 47.7	13.1 N	4 25.8	15.9	58.2	Adhara	255 05.2 S29 00.4
4	238 26.2	N21 01.5	189 19.8	13.2 N	4 09.9	15.9	58.1	Albireo	67 02.6 N28 00.9
S 5	253 26.2	N21 01.1	203 52.1	13.2 N	3 54.0	15.9	58.1		
A								Aldebaran	290 38.4 N16 33.8
T 6	268 26.1	N21 00.6	218 24.4	13.3 N	3 38.1	15.9	58.1	Alioth	166 11.9 N55 49.2
U 7	283 26.1	N21 00.2	232 56.7	13.4 N	3 22.2	15.9	58.0	Alkaid	152 51.0 N49 11.1
R 8	298 26.0	N20 59.8	247 29.1	13.4 N	3 06.4	15.9	58.0	Al Na-ir	27 30.9 S46 49.7
D 9	313 26.0	N20 59.3	262 01.6	13.5 N	2 50.5	15.9	58.0	Alnilam	275 36.7 S 1 11.0
A 10	328 25.9	N20 58.9	276 34.1	13.5 N	2 34.6	15.9	57.9		
Y 11	343 25.9	N20 58.4	291 06.7	13.6 N	2 18.8	15.9	57.9	Alphard	217 46.8 S 8 46.4
								Alphecca	126 02.5 N26 37.6
12	358 25.8	N20 58.0	305 39.3	13.6 N	2 02.9	15.8	57.8	Alpheratz	357 33.3 N29 14.2
13	13 25.8	N20 57.5	320 12.0	13.7 N	1 47.1	15.8	57.8	Altair	61 58.4 N 8 56.3
14	28 25.7	N20 57.1	334 44.8	13.7 N	1 31.3	15.8	57.8	Ankaa	353 05.7 S42 09.4
15	43 25.7	N20 56.7	349 17.5	13.8 N	1 15.5	15.8	57.7		
16	58 25.6	N20 56.2	3 50.4	13.8 N	0 59.7	15.8	57.7	Antares	112 14.0 S26 29.6
17	73 25.6	N20 55.8	18 23.3	13.9 N	0 43.9	15.8	57.6	Arcturus	145 46.7 N19 02.7
								Atria	107 06.8 S69 04.8
18	88 25.5	N20 55.3	32 56.2	13.9 N	0 28.2	15.7	57.6	Avior	234 14.9 S59 35.7
19	103 25.5	N20 54.9	47 29.2	14.0 N	0 12.5	15.7	57.6	Bellatrix	278 21.8 N 6 22.5
20	118 25.5	N20 54.4	62 02.2	14.0 S	0 03.2	15.7	57.5		
21	133 25.4	N20 54.0	76 35.2	14.1 S	0 18.9	15.7	57.5	Betelgeuse	270 51.0 N 7 24.8
22	148 25.4	N20 53.5	91 08.3	14.1 S	0 34.6	15.7	57.4	Canopus	263 52.3 S52 42.4
23	163 25.3	N20 53.1	105 41.4	14.1 S	0 50.2	15.6	57.4	Capella	280 20.4 N46 01.4
19 0	178 25.3	N20 52.6	120 14.6	14.2 S	1 05.8	15.6	57.4	Castor	245 55.8 N31 49.9
1	193 25.2	N20 52.2	134 47.8	14.2 S	1 21.4	15.6	57.3	Deneb	49 24.5 N45 22.5
2	208 25.2	N20 51.7	149 21.1	14.2 S	1 36.9	15.6	57.3		
3	223 25.1	N20 51.3	163 54.3	14.3 S	1 52.5	15.5	57.3	Denebola	182 23.8 N14 25.5
4	238 25.1	N20 50.8	178 27.6	14.3 S	2 08.0	15.5	57.2	Diphda	348 45.9 S17 50.2
S 5	253 25.1	N20 50.4	193 01.0	14.3 S	2 23.4	15.5	57.2	Dubhe	193 39.8 N61 36.6
U								Elnath	278 00.6 N28 37.8
N 6	268 25.0	N20 49.9	207 34.3	14.4 S	2 38.9	15.4	57.1	Eltanin	90 41.1 N51 29.2
D 7	283 25.0	N20 49.4	222 07.7	14.4 S	2 54.3	15.4	57.1		
A 8	298 24.9	N20 49.0	236 41.1	14.4 S	3 09.6	15.4	57.1	Enif	33 37.2 N 9 59.9
Y 9	313 24.9	N20 48.5	251 14.6	14.4 S	3 25.0	15.3	57.0	Fomalhaut	15 12.8 S29 28.7
10	328 24.9	N20 48.1	265 48.1	14.5 S	3 40.3	15.3	57.0	Gacrux	171 50.5 S57 16.0
11	343 24.8	N20 47.6	280 21.5	14.5 S	3 55.5	15.3	57.0	Gienah	175 42.4 S17 41.4
								Hadar	148 34.2 S60 30.4
12	358 24.8	N20 47.2	294 55.1	14.5 S	4 10.8	15.2	56.9		
13	13 24.7	N20 46.7	309 28.6	14.5 S	4 26.0	15.2	56.9	Hamal	327 49.8 N23 35.3
14	28 24.7	N20 46.2	324 02.1	14.6 S	4 41.1	15.1	56.8	Kaus Austr.	83 30.5 S34 22.4
15	43 24.6	N20 45.8	338 35.7	14.6 S	4 56.2	15.1	56.8	Kochab	137 19.6 N74 03.0
16	58 24.6	N20 45.3	353 09.3	14.6 S	5 11.3	15.1	56.8	Markab	13 28.4 N15 20.9
17	73 24.6	N20 44.9	7 42.9	14.6 S	5 26.3	15.0	56.7	Menkar	314 04.9 N 4 11.7
								Menkent	147 56.1 S36 30.3
18	88 24.5	N20 44.4	22 16.5	14.6 S	5 41.3	15.0	56.7	Miaplacidus	221 38.8 S69 49.7
19	103 24.5	N20 43.9	36 50.2	14.6 S	5 56.2	14.9	56.7	Mirfak	308 26.7 N49 57.2
20	118 24.5	N20 43.5	51 23.8	14.6 S	6 11.1	14.9	56.6	Nunki	75 45.8 S26 15.8
21	133 24.4	N20 43.0	65 57.4	14.7 S	6 26.0	14.9	56.6	Peacock	53 03.0 S56 38.9
22	148 24.4	N20 42.5	80 31.1	14.7 S	6 40.8	14.8	56.6		
23	163 24.3	N20 42.1	95 04.8	14.7 S	6 55.5	14.8	56.5	Polaris	316 04.7 N89 21.7
20 0	178 24.3	N20 41.6	109 38.4	14.7 S	7 10.2	14.7	56.5	Pollux	243 16.1 N27 57.8
1	193 24.3	N20 41.1	124 12.1	14.7 S	7 24.9	14.7	56.5	Procyon	244 49.8 N 5 09.5
2	208 24.2	N20 40.7	138 45.8	14.7 S	7 39.5	14.6	56.4	Rasalhague	95 57.1 N12 32.5
3	223 24.2	N20 40.2	153 19.5	14.7 S	7 54.1	14.6	56.4	Regulus	207 33.3 N11 50.3
4	238 24.1	N20 39.7	167 53.2	14.7 S	8 08.6	14.5	56.4		
M 5	253 24.1	N20 39.3	182 26.9	14.7 S	8 23.1	14.5	56.3	Rigel	281 02.9 S 8 10.1
O								Rigil Kent	139 38.5 S60 57.0
N 6	268 24.1	N20 38.8	197 00.6	14.7 S	8 37.5	14.4	56.3	Sabik	102 01.1 S15 45.5
D 7	283 24.0	N20 38.3	211 34.3	14.7 S	8 51.8	14.4	56.2	Schedar	349 29.4 N56 40.8
A 8	298 24.0	N20 37.9	226 08.0	14.7 S	9 06.1	14.3	56.2	Shaula	96 08.3 S37 07.5
Y 9	313 24.0	N20 37.4	240 41.7	14.7 S	9 20.4	14.2	56.2	Sirius	258 25.5 S16 45.0
10	328 23.9	N20 36.9	255 15.3	14.7 S	9 34.5	14.2	56.1	Spica	158 21.0 S11 18.1
11	343 23.9	N20 36.4	269 49.0	14.7 S	9 48.7	14.1	56.1	Suhail	222 45.8 S43 32.4
								Vega	80 31.9 N38 48.5
12	358 23.9	N20 36.0	284 22.7	14.7 S10	02.8	14.1	56.1	Zuben-ubi	136 55.4 S16 09.2
13	13 23.8	N20 35.5	298 56.4	14.7 S10	16.8	14.0	56.1		
14	28 23.8	N20 35.0	313 30.0	14.7 S10	30.7	14.0	56.0		
15	43 23.8	N20 34.6	328 03.7	14.6 S10	44.6	13.9	56.0		
16	58 23.7	N20 34.1	342 37.3	14.6 S10	58.5	13.8	56.0		
17	73 23.7	N20 33.6	357 10.9	14.6 S11	12.2	13.8	55.9		
18	88 23.7	N20 33.1	11 44.5	14.6 S11	26.0	13.7	55.9		
19	103 23.6	N20 32.6	26 18.1	14.6 S11	39.6	13.7	55.9		
20	118 23.6	N20 32.2	40 51.7	14.6 S11	53.2	13.6	55.8		
21	133 23.6	N20 31.7	55 25.3	14.6 S12	06.7	13.5	55.8		
22	148 23.5	N20 31.2	69 58.8	14.6 S12	20.2	13.5	55.8		
23	163 23.5	N20 30.7	84 32.4	14.5 S12	33.6	13.4	55.7		
	S.D. 15.7	d 0.5	S.D.	15.8	15.5	15.3			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
21	0	298 46.7	134 42.0	N 7 40.0	224 26.7	N22 36.2	171 47.8	N19 34.7	284 16.0	N 3 31.1
	1	313 49.2	149 42.0	N 7 38.8	239 27.3	N22 36.5	186 49.7	N19 34.5	299 18.4	N 3 31.1
	2	328 51.6	164 42.0	N 7 37.7	254 27.9	N22 36.7	201 51.6	N19 34.4	314 20.9	N 3 31.1
	3	343 54.1	179 42.0	N 7 36.5	269 28.5	N22 36.9	216 53.5	N19 34.3	329 23.3	N 3 31.1
	4	358 56.6	194 42.1	N 7 35.3	284 29.1	N22 37.1	231 55.4	N19 34.1	344 25.7	N 3 31.1
T	5	13 59.0	209 42.1	N 7 34.1	299 29.8	N22 37.3	246 57.3	N19 34.0	359 28.2	N 3 31.1
U										
E	6	29 01.5	224 42.1	N 7 32.9	314 30.4	N22 37.5	261 59.2	N19 33.9	14 30.6	N 3 31.1
S	7	44 03.9	239 42.1	N 7 31.7	329 31.0	N22 37.8	277 01.1	N19 33.7	29 33.1	N 3 31.1
D	8	59 06.4	254 42.1	N 7 30.5	344 31.6	N22 38.0	292 03.0	N19 33.6	44 35.5	N 3 31.1
A	9	74 08.9	269 42.1	N 7 29.3	359 32.2	N22 38.2	307 04.9	N19 33.5	59 37.9	N 3 31.1
Y	10	89 11.3	284 42.1	N 7 28.1	14 32.8	N22 38.4	322 06.8	N19 33.4	74 40.4	N 3 31.1
	11	104 13.8	299 42.1	N 7 27.0	29 33.4	N22 38.6	337 08.7	N19 33.2	89 42.8	N 3 31.1
	12	119 16.3	314 42.1	N 7 25.8	44 34.1	N22 38.8	352 10.6	N19 33.1	104 45.2	N 3 31.1
	13	134 18.7	329 42.2	N 7 24.6	59 34.7	N22 39.0	7 12.5	N19 33.0	119 47.7	N 3 31.1
	14	149 21.2	344 42.2	N 7 23.4	74 35.3	N22 39.2	22 14.3	N19 32.8	134 50.1	N 3 31.1
	15	164 23.7	359 42.2	N 7 22.2	89 35.9	N22 39.5	37 16.2	N19 32.7	149 52.6	N 3 31.1
	16	179 26.1	14 42.2	N 7 21.0	104 36.5	N22 39.7	52 18.1	N19 32.6	164 55.0	N 3 31.0
	17	194 28.6	29 42.2	N 7 19.8	119 37.1	N22 39.9	67 20.0	N19 32.5	179 57.4	N 3 31.0
	18	209 31.1	44 42.2	N 7 18.6	134 37.7	N22 40.1	82 21.9	N19 32.3	194 59.9	N 3 31.0
	19	224 33.5	59 42.3	N 7 17.4	149 38.4	N22 40.3	97 23.8	N19 32.2	210 02.3	N 3 31.0
	20	239 36.0	74 42.3	N 7 16.2	164 39.0	N22 40.5	112 25.7	N19 32.1	225 04.8	N 3 31.0
	21	254 38.4	89 42.3	N 7 15.0	179 39.6	N22 40.7	127 27.6	N19 31.9	240 07.2	N 3 31.0
	22	269 40.9	104 42.3	N 7 13.9	194 40.2	N22 40.9	142 29.5	N19 31.8	255 09.6	N 3 31.0
	23	284 43.4	119 42.4	N 7 12.7	209 40.8	N22 41.1	157 31.4	N19 31.7	270 12.1	N 3 31.0
22	0	299 45.8	134 42.4	N 7 11.5	224 41.4	N22 41.3	172 33.3	N19 31.5	285 14.5	N 3 31.0
	1	314 48.3	149 42.4	N 7 10.3	239 42.0	N22 41.6	187 35.2	N19 31.4	300 17.0	N 3 31.0
	2	329 50.8	164 42.4	N 7 09.1	254 42.7	N22 41.8	202 37.1	N19 31.3	315 19.4	N 3 31.0
	3	344 53.2	179 42.4	N 7 07.9	269 43.3	N22 42.0	217 39.0	N19 31.2	330 21.8	N 3 31.0
	4	359 55.7	194 42.5	N 7 06.7	284 43.9	N22 42.2	232 40.9	N19 31.0	345 24.3	N 3 31.0
W	5	14 58.2	209 42.5	N 7 05.5	299 44.5	N22 42.4	247 42.8	N19 30.9	0 26.7	N 3 31.0
E										
D	6	30 00.6	224 42.5	N 7 04.3	314 45.1	N22 42.6	262 44.7	N19 30.8	15 29.2	N 3 31.0
N	7	45 03.1	239 42.5	N 7 03.1	329 45.7	N22 42.8	277 46.5	N19 30.6	30 31.6	N 3 31.0
E	8	60 05.5	254 42.6	N 7 01.9	344 46.3	N22 43.0	292 48.4	N19 30.5	45 34.0	N 3 31.0
S	9	75 08.0	269 42.6	N 7 00.7	359 47.0	N22 43.2	307 50.3	N19 30.4	60 36.5	N 3 31.0
D	10	90 10.5	284 42.6	N 6 59.5	14 47.6	N22 43.4	322 52.2	N19 30.2	75 38.9	N 3 31.0
A	11	105 12.9	299 42.7	N 6 58.3	29 48.2	N22 43.6	337 54.1	N19 30.1	90 41.4	N 3 31.0
Y										
	12	120 15.4	314 42.7	N 6 57.1	44 48.8	N22 43.8	352 56.0	N19 30.0	105 43.8	N 3 31.0
	13	135 17.9	329 42.7	N 6 55.9	59 49.4	N22 44.0	7 57.9	N19 29.9	120 46.3	N 3 31.0
	14	150 20.3	344 42.7	N 6 54.7	74 50.0	N22 44.2	22 59.8	N19 29.7	135 48.7	N 3 31.0
	15	165 22.8	359 42.8	N 6 53.5	89 50.7	N22 44.4	38 01.7	N19 29.6	150 51.1	N 3 31.0
	16	180 25.3	14 42.8	N 6 52.4	104 51.3	N22 44.6	53 03.6	N19 29.5	165 53.6	N 3 31.0
	17	195 27.7	29 42.8	N 6 51.2	119 51.9	N22 44.8	68 05.5	N19 29.3	180 56.0	N 3 31.0
	18	210 30.2	44 42.9	N 6 50.0	134 52.5	N22 45.0	83 07.4	N19 29.2	195 58.5	N 3 31.0
	19	225 32.7	59 42.9	N 6 48.8	149 53.1	N22 45.2	98 09.3	N19 29.1	211 00.9	N 3 31.0
	20	240 35.1	74 42.9	N 6 47.6	164 53.7	N22 45.4	113 11.2	N19 28.9	226 03.4	N 3 31.0
	21	255 37.6	89 43.0	N 6 46.4	179 54.3	N22 45.6	128 13.1	N19 28.8	241 05.8	N 3 31.0
	22	270 40.0	104 43.0	N 6 45.2	194 55.0	N22 45.8	143 15.0	N19 28.7	256 08.3	N 3 30.9
	23	285 42.5	119 43.0	N 6 44.0	209 55.6	N22 46.0	158 16.9	N19 28.6	271 10.7	N 3 30.9
23	0	300 45.0	134 43.1	N 6 42.8	224 56.2	N22 46.2	173 18.7	N19 28.4	286 13.1	N 3 30.9
	1	315 47.4	149 43.1	N 6 41.6	239 56.8	N22 46.4	188 20.6	N19 28.3	301 15.6	N 3 30.9
	2	330 49.9	164 43.2	N 6 40.4	254 57.4	N22 46.6	203 22.5	N19 28.2	316 18.0	N 3 30.9
	3	345 52.4	179 43.2	N 6 39.2	269 58.0	N22 46.8	218 24.4	N19 28.0	331 20.5	N 3 30.9
	4	0 54.8	194 43.2	N 6 38.0	284 58.6	N22 47.0	233 26.3	N19 27.9	346 22.9	N 3 30.9
T	5	15 57.3	209 43.3	N 6 36.8	299 59.3	N22 47.2	248 28.2	N19 27.8	1 25.4	N 3 30.9
H										
U	6	30 59.8	224 43.3	N 6 35.6	314 59.9	N22 47.4	263 30.1	N19 27.6	16 27.8	N 3 30.9
R	7	46 02.2	239 43.4	N 6 34.4	330 00.5	N22 47.6	278 32.0	N19 27.5	31 30.3	N 3 30.9
S	8	61 04.7	254 43.4	N 6 33.2	345 01.1	N22 47.8	293 33.9	N19 27.4	46 32.7	N 3 30.9
D	9	76 07.2	269 43.4	N 6 32.0	0 01.7	N22 48.0	308 35.8	N19 27.2	61 35.1	N 3 30.9
A	10	91 09.6	284 43.5	N 6 30.8	15 02.3	N22 48.2	323 37.7	N19 27.1	76 37.6	N 3 30.9
Y	11	106 12.1	299 43.5	N 6 29.6	30 03.0	N22 48.4	338 39.6	N19 27.0	91 40.0	N 3 30.9
	12	121 14.5	314 43.6	N 6 28.4	45 03.6	N22 48.6	353 41.5	N19 26.9	106 42.5	N 3 30.9
	13	136 17.0	329 43.6	N 6 27.2	60 04.2	N22 48.8	8 43.4	N19 26.7	121 44.9	N 3 30.9
	14	151 19.5	344 43.7	N 6 26.0	75 04.8	N22 49.0	23 45.3	N19 26.6	136 47.4	N 3 30.9
	15	166 21.9	359 43.7	N 6 24.8	90 05.4	N22 49.2	38 47.2	N19 26.5	151 49.8	N 3 30.9
	16	181 24.4	14 43.7	N 6 23.6	105 06.0	N22 49.4	53 49.1	N19 26.3	166 52.3	N 3 30.9
	17	196 26.9	29 43.8	N 6 22.4	120 06.7	N22 49.6	68 50.9	N19 26.2	181 54.7	N 3 30.9
	18	211 29.3	44 43.8	N 6 21.2	135 07.3	N22 49.8	83 52.8	N19 26.1	196 57.2	N 3 30.8
	19	226 31.8	59 43.9	N 6 20.0	150 07.9	N22 50.0	98 54.7	N19 25.9	211 59.6	N 3 30.8
	20	241 34.3	74 43.9	N 6 18.8	165 08.5	N22 50.2	113 56.6	N19 25.8	227 02.1	N 3 30.8
	21	256 36.7	89 44.0	N 6 17.6	180 09.1	N22 50.4	128 58.5	N19 25.7	242 04.5	N 3 30.8
	22	271 39.2	104 44.0	N 6 16.4	195 09.7	N22 50.5	144 00.4	N19 25.5	257 07.0	N 3 30.8
	23	286 41.6	119 44.1	N 6 15.2	210 10.4	N22 50.7	159 02.3	N19 25.4	272 09.4	N 3 30.8
			v 0.0	d 1.2	v 0.6	d 0.2	v 1.9	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
21	0	178 23.5	N20 30.3	99 05.9	14.5	S12 46.9	13.3	55.7
	1	193 23.4	N20 29.8	113 39.4	14.5	S13 00.2	13.3	55.7
	2	208 23.4	N20 29.3	128 12.8	14.5	S13 13.4	13.2	55.7
	3	223 23.4	N20 28.8	142 46.3	14.5	S13 26.5	13.1	55.6
	4	238 23.3	N20 28.3	157 19.7	14.4	S13 39.6	13.1	55.6
T	5	253 23.3	N20 27.8	171 53.1	14.4	S13 52.5	13.0	55.6
U								
E	6	268 23.3	N20 27.4	186 26.5	14.4	S14 05.5	12.9	55.5
S	7	283 23.2	N20 26.9	200 59.9	14.4	S14 18.3	12.8	55.5
D	8	298 23.2	N20 26.4	215 33.2	14.3	S14 31.1	12.8	55.5
A	9	313 23.2	N20 25.9	230 06.5	14.3	S14 43.8	12.7	55.5
Y	10	328 23.2	N20 25.4	244 39.8	14.3	S14 56.4	12.6	55.4
	11	343 23.1	N20 24.9	259 13.0	14.2	S15 09.0	12.6	55.4
	12	358 23.1	N20 24.4	273 46.3	14.2	S15 21.4	12.5	55.4
	13	13 23.1	N20 24.0	288 19.5	14.2	S15 33.8	12.4	55.3
	14	28 23.0	N20 23.5	302 52.6	14.2	S15 46.2	12.3	55.3
	15	43 23.0	N20 23.0	317 25.7	14.1	S15 58.4	12.2	55.3
	16	58 23.0	N20 22.5	331 58.8	14.1	S16 10.6	12.2	55.3
	17	73 23.0	N20 22.0	346 31.9	14.1	S16 22.7	12.1	55.2
	18	88 22.9	N20 21.5	1 04.9	14.0	S16 34.7	12.0	55.2
	19	103 22.9	N20 21.0	15 37.9	14.0	S16 46.6	11.9	55.2
	20	118 22.9	N20 20.5	30 10.9	14.0	S16 58.5	11.9	55.2
	21	133 22.9	N20 20.0	44 43.8	13.9	S17 10.3	11.8	55.1
	22	148 22.8	N20 19.5	59 16.7	13.9	S17 21.9	11.7	55.1
	23	163 22.8	N20 19.1	73 49.5	13.8	S17 33.6	11.6	55.1
22	0	178 22.8	N20 18.6	88 22.4	13.8	S17 45.1	11.5	55.1
	1	193 22.7	N20 18.1	102 55.1	13.8	S17 56.5	11.4	55.0
	2	208 22.7	N20 17.6	117 27.9	13.7	S18 07.9	11.4	55.0
	3	223 22.7	N20 17.1	132 00.5	13.7	S18 19.1	11.3	55.0
	4	238 22.7	N20 16.6	146 33.2	13.7	S18 30.3	11.2	55.0
W	5	253 22.6	N20 16.1	161 05.8	13.6	S18 41.4	11.1	55.0
E								
D	6	268 22.6	N20 15.6	175 38.4	13.6	S18 52.4	11.0	54.9
N	7	283 22.6	N20 15.1	190 10.9	13.5	S19 03.4	10.9	54.9
E	8	298 22.6	N20 14.6	204 43.4	13.5	S19 14.2	10.8	54.9
S	9	313 22.6	N20 14.1	219 15.8	13.4	S19 24.9	10.7	54.9
D	10	328 22.5	N20 13.6	233 48.2	13.4	S19 35.6	10.7	54.9
A	11	343 22.5	N20 13.1	248 20.6	13.4	S19 46.2	10.6	54.8
Y								
	12	358 22.5	N20 12.6	262 52.9	13.3	S19 56.6	10.5	54.8
	13	13 22.5	N20 12.1	277 25.2	13.3	S20 07.0	10.4	54.8
	14	28 22.4	N20 11.6	291 57.4	13.2	S20 17.3	10.3	54.8
	15	43 22.4	N20 11.1	306 29.5	13.2	S20 27.5	10.2	54.8
	16	58 22.4	N20 10.6	321 01.7	13.1	S20 37.6	10.1	54.7
	17	73 22.4	N20 10.1	335 33.7	13.1	S20 47.6	10.0	54.7
	18	88 22.4	N20 09.6	350 05.8	13.0	S20 57.5	9.9	54.7
	19	103 22.3	N20 09.1	4 37.8	13.0	S21 07.3	9.8	54.7
	20	118 22.3	N20 08.6	19 09.7	12.9	S21 17.0	9.7	54.7
	21	133 22.3	N20 08.0	33 41.6	12.9	S21 26.6	9.6	54.6
	22	148 22.3	N20 07.5	48 13.4	12.8	S21 36.1	9.5	54.6
	23	163 22.3	N20 07.0	62 45.2	12.8	S21 45.6	9.4	54.6
23	0	178 22.2	N20 06.5	77 16.9	12.7	S21 54.9	9.3	54.6
	1	193 22.2	N20 06.0	91 48.6	12.7	S22 04.1	9.2	54.6
	2	208 22.2	N20 05.5	106 20.3	12.6	S22 13.2	9.1	54.6
	3	223 22.2	N20 05.0	120 51.9	12.6	S22 22.2	9.0	54.5
	4	238 22.2	N20 04.5	135 23.4	12.5	S22 31.1	8.9	54.5
T	5	253 22.1	N20 04.0	149 54.9	12.5	S22 40.0	8.8	54.5
H								
U	6	268 22.1	N20 03.5	164 26.3	12.4	S22 48.7	8.7	54.5
R	7	283 22.1	N20 02.9	178 57.7	12.4	S22 57.3	8.6	54.5
S	8	298 22.1	N20 02.4	193 29.1	12.3	S23 05.8	8.5	54.5
D	9	313 22.1	N20 01.9	208 00.4	12.3	S23 14.1	8.4	54.5
A	10	328 22.0	N20 01.4	222 31.6	12.2	S23 22.4	8.3	54.4
Y	11	343 22.0	N20 00.9	237 02.8	12.2	S23 30.6	8.2	54.4
	12	358 22.0	N20 00.4	251 33.9	12.1	S23 38.7	8.1	54.4
	13	13 22.0	N19 59.9	266 05.0	12.1	S23 46.6	8.0	54.4
	14	28 22.0	N19 59.3	280 36.1	12.0	S23 54.5	7.8	54.4
	15	43 22.0	N19 58.8	295 07.1	12.0	S24 02.2	7.7	54.4
	16	58 22.0	N19 58.3	309 38.0	11.9	S24 09.8	7.6	54.4
	17	73 21.9	N19 57.8	324 08.9	11.9	S24 17.4	7.5	54.3
	18	88 21.9	N19 57.3	338 39.7	11.8	S24 24.8	7.4	54.3
	19	103 21.9	N19 56.8	353 10.5	11.8	S24 32.1	7.3	54.3
	20	118 21.9	N19 56.2	7 41.2	11.7	S24 39.2	7.2	54.3
	21	133 21.9	N19 55.7	22 11.9	11.7	S24 46.3	7.1	54.3
	22	148 21.9	N19 55.2	36 42.6	11.6	S24 53.2	7.0	54.3
	23	163 21.9	N19 54.7	51 13.2	11.6	S25 00.1	6.8	54.3
		S.D. 15.7	d 0.5	S.D.	15.1	14.9	14.8	

Name	SHA	Dec
Acamar	315 10.9	S40 11.6
Achernar	335 19.2	S57 05.7
Acrux	172 59.0	S63 15.0
Adhara	255 05.2	S29 00.4
Albireo	67 02.6	N28 01.0
Aldebaran	290 38.4	N16 33.8
Alioth	166 11.9	N55 49.2
Alkaid	152 51.0	N49 11.1
Al Na-ir	27 30.8	S46 49.7
Alnilam	275 36.7	S 1 11.0
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.5	N26 37.6
Alpheratz	357 33.3	N29 14.2
Altair	61 58.4	N 8 56.4
Ankaa	353 05.7	S42 09.4
Antares	112 14.0	S26 29.6
Arcturus	145 46.7	N19 02.7
Atria	107 06.8	S69 04.8
Avior	234 14.9	S59 35.7
Bellatrix	278 21.8	N 6 22.5
Betelgeuse	270 51.0	N 7 24.8
Canopus	263 52.3	S52 42.4
Capella	280 20.4	N46 01.4
Castor	245 55.8	N31 49.9
Deneb	49 24.5	N45 22.5
Denebola	182 23.8	N14 25.5
Diphda	348 45.9	S17 50.2
Dubhe	193 39.9	N61 36.6
Elnath	278 00.6	N28 37.7
Eltanin	90 41.1	N51 29.2
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 50.5	S57 16.0
Gienah	175 42.4	S17 41.4
Hadar	148 34.2	S60 30.4
Hamal	327 49.8	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.7	N74 03.0
Markab	13 28.4	N15 20.9
Menkar	314 04.9	N 4 11.7
Menkent	147 56.1	S36 30.3
Miaplacidus	221 38.8	S69 49.6
Mirfak	308 26.7	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 38.9
Polaris	316 03.4	N89 21.7
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 02.9	S 8 10.1
Rigil Kent	139 38.6	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.4	N56 40.8
Shaula	96 08.3	S37 07.5
Sirius	258 25.4	S16 45.0
Spica	158 21.0	S11 18.1
Suhail	222 45.8	S43 32.4
Vega	80 31.9	N38 48.6
Zuben-ubi	136 55.4	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
24	0	301 44.1	134 44.1	N 6 14.0	225 11.0	N22 50.9	174 04.2	N19 25.3	287 11.9	N 3 30.8
	1	316 46.6	149 44.2	N 6 12.8	240 11.6	N22 51.1	189 06.1	N19 25.1	302 14.3	N 3 30.8
	2	331 49.0	164 44.2	N 6 11.6	255 12.2	N22 51.3	204 08.0	N19 25.0	317 16.8	N 3 30.8
	3	346 51.5	179 44.3	N 6 10.4	270 12.8	N22 51.5	219 09.9	N19 24.9	332 19.2	N 3 30.8
	4	1 54.0	194 44.3	N 6 09.1	285 13.4	N22 51.7	234 11.8	N19 24.8	347 21.7	N 3 30.8
F	5	16 56.4	209 44.4	N 6 07.9	300 14.1	N22 51.9	249 13.7	N19 24.6	2 24.1	N 3 30.8
R										
I	6	31 58.9	224 44.5	N 6 06.7	315 14.7	N22 52.1	264 15.6	N19 24.5	17 26.6	N 3 30.8
D	7	47 01.4	239 44.5	N 6 05.5	330 15.3	N22 52.3	279 17.5	N19 24.4	32 29.0	N 3 30.8
A	8	62 03.8	254 44.6	N 6 04.3	345 15.9	N22 52.4	294 19.4	N19 24.2	47 31.5	N 3 30.8
Y	9	77 06.3	269 44.6	N 6 03.1	0 16.5	N22 52.6	309 21.3	N19 24.1	62 33.9	N 3 30.8
	10	92 08.8	284 44.7	N 6 01.9	15 17.1	N22 52.8	324 23.1	N19 24.0	77 36.4	N 3 30.7
	11	107 11.2	299 44.7	N 6 00.7	30 17.8	N22 53.0	339 25.0	N19 23.8	92 38.8	N 3 30.7
	12	122 13.7	314 44.8	N 5 59.5	45 18.4	N22 53.2	354 26.9	N19 23.7	107 41.3	N 3 30.7
	13	137 16.1	329 44.9	N 5 58.3	60 19.0	N22 53.4	9 28.8	N19 23.6	122 43.7	N 3 30.7
	14	152 18.6	344 44.9	N 5 57.1	75 19.6	N22 53.6	24 30.7	N19 23.4	137 46.2	N 3 30.7
	15	167 21.1	359 45.0	N 5 55.9	90 20.2	N22 53.8	39 32.6	N19 23.3	152 48.6	N 3 30.7
	16	182 23.5	14 45.0	N 5 54.7	105 20.8	N22 53.9	54 34.5	N19 23.2	167 51.1	N 3 30.7
	17	197 26.0	29 45.1	N 5 53.5	120 21.5	N22 54.1	69 36.4	N19 23.0	182 53.5	N 3 30.7
	18	212 28.5	44 45.2	N 5 52.3	135 22.1	N22 54.3	84 38.3	N19 22.9	197 56.0	N 3 30.7
	19	227 30.9	59 45.2	N 5 51.1	150 22.7	N22 54.5	99 40.2	N19 22.8	212 58.4	N 3 30.7
	20	242 33.4	74 45.3	N 5 49.9	165 23.3	N22 54.7	114 42.1	N19 22.6	228 00.9	N 3 30.7
	21	257 35.9	89 45.3	N 5 48.7	180 23.9	N22 54.9	129 44.0	N19 22.5	243 03.3	N 3 30.7
	22	272 38.3	104 45.4	N 5 47.5	195 24.5	N22 55.0	144 45.9	N19 22.4	258 05.8	N 3 30.7
	23	287 40.8	119 45.5	N 5 46.2	210 25.2	N22 55.2	159 47.8	N19 22.3	273 08.2	N 3 30.7
25	0	302 43.3	134 45.5	N 5 45.0	225 25.8	N22 55.4	174 49.7	N19 22.1	288 10.7	N 3 30.6
	1	317 45.7	149 45.6	N 5 43.8	240 26.4	N22 55.6	189 51.6	N19 22.0	303 13.1	N 3 30.6
	2	332 48.2	164 45.7	N 5 42.6	255 27.0	N22 55.8	204 53.5	N19 21.9	318 15.6	N 3 30.6
	3	347 50.6	179 45.7	N 5 41.4	270 27.6	N22 56.0	219 55.4	N19 21.7	333 18.0	N 3 30.6
	4	2 53.1	194 45.8	N 5 40.2	285 28.3	N22 56.1	234 57.2	N19 21.6	348 20.5	N 3 30.6
S	5	17 55.6	209 45.9	N 5 39.0	300 28.9	N22 56.3	249 59.1	N19 21.5	3 22.9	N 3 30.6
A										
T	6	32 58.0	224 45.9	N 5 37.8	315 29.5	N22 56.5	265 01.0	N19 21.3	18 25.4	N 3 30.6
U	7	48 00.5	239 46.0	N 5 36.6	330 30.1	N22 56.7	280 02.9	N19 21.2	33 27.8	N 3 30.6
R	8	63 03.0	254 46.1	N 5 35.4	345 30.7	N22 56.9	295 04.8	N19 21.1	48 30.3	N 3 30.6
D	9	78 05.4	269 46.2	N 5 34.2	0 31.3	N22 57.0	310 06.7	N19 20.9	63 32.8	N 3 30.6
A	10	93 07.9	284 46.2	N 5 33.0	15 32.0	N22 57.2	325 08.6	N19 20.8	78 35.2	N 3 30.6
Y	11	108 10.4	299 46.3	N 5 31.8	30 32.6	N22 57.4	340 10.5	N19 20.7	93 37.7	N 3 30.6
	12	123 12.8	314 46.4	N 5 30.5	45 33.2	N22 57.6	355 12.4	N19 20.5	108 40.1	N 3 30.5
	13	138 15.3	329 46.4	N 5 29.3	60 33.8	N22 57.7	10 14.3	N19 20.4	123 42.6	N 3 30.5
	14	153 17.8	344 46.5	N 5 28.1	75 34.4	N22 57.9	25 16.2	N19 20.3	138 45.0	N 3 30.5
	15	168 20.2	359 46.6	N 5 26.9	90 35.1	N22 58.1	40 18.1	N19 20.1	153 47.5	N 3 30.5
	16	183 22.7	14 46.7	N 5 25.7	105 35.7	N22 58.3	55 20.0	N19 20.0	168 49.9	N 3 30.5
	17	198 25.1	29 46.7	N 5 24.5	120 36.3	N22 58.5	70 21.9	N19 19.9	183 52.4	N 3 30.5
	18	213 27.6	44 46.8	N 5 23.3	135 36.9	N22 58.6	85 23.8	N19 19.7	198 54.8	N 3 30.5
	19	228 30.1	59 46.9	N 5 22.1	150 37.5	N22 58.8	100 25.7	N19 19.6	213 57.3	N 3 30.5
	20	243 32.5	74 47.0	N 5 20.9	165 38.1	N22 59.0	115 27.6	N19 19.5	228 59.8	N 3 30.5
	21	258 35.0	89 47.1	N 5 19.7	180 38.8	N22 59.2	130 29.5	N19 19.3	244 02.2	N 3 30.5
	22	273 37.5	104 47.1	N 5 18.4	195 39.4	N22 59.3	145 31.3	N19 19.2	259 04.7	N 3 30.5
	23	288 39.9	119 47.2	N 5 17.2	210 40.0	N22 59.5	160 33.2	N19 19.1	274 07.1	N 3 30.4
26	0	303 42.4	134 47.3	N 5 16.0	225 40.6	N22 59.7	175 35.1	N19 18.9	289 09.6	N 3 30.4
	1	318 44.9	149 47.4	N 5 14.8	240 41.2	N22 59.9	190 37.0	N19 18.8	304 12.0	N 3 30.4
	2	333 47.3	164 47.5	N 5 13.6	255 41.9	N23 00.0	205 38.9	N19 18.7	319 14.5	N 3 30.4
	3	348 49.8	179 47.5	N 5 12.4	270 42.5	N23 00.2	220 40.8	N19 18.5	334 16.9	N 3 30.4
	4	3 52.3	194 47.6	N 5 11.2	285 43.1	N23 00.4	235 42.7	N19 18.4	349 19.4	N 3 30.4
S	5	18 54.7	209 47.7	N 5 10.0	300 43.7	N23 00.5	250 44.6	N19 18.3	4 21.9	N 3 30.4
U										
N	6	33 57.2	224 47.8	N 5 08.8	315 44.3	N23 00.7	265 46.5	N19 18.1	19 24.3	N 3 30.4
D	7	48 59.6	239 47.9	N 5 07.5	330 45.0	N23 00.9	280 48.4	N19 18.0	34 26.8	N 3 30.4
A	8	64 02.1	254 47.9	N 5 06.3	345 45.6	N23 01.1	295 50.3	N19 17.9	49 29.2	N 3 30.4
Y	9	79 04.6	269 48.0	N 5 05.1	0 46.2	N23 01.2	310 52.2	N19 17.7	64 31.7	N 3 30.4
	10	94 07.0	284 48.1	N 5 03.9	15 46.8	N23 01.4	325 54.1	N19 17.6	79 34.2	N 3 30.3
	11	109 09.5	299 48.2	N 5 02.7	30 47.4	N23 01.6	340 56.0	N19 17.5	94 36.6	N 3 30.3
	12	124 12.0	314 48.3	N 5 01.5	45 48.1	N23 01.7	355 57.9	N19 17.3	109 39.1	N 3 30.3
	13	139 14.4	329 48.4	N 5 00.3	60 48.7	N23 01.9	10 59.8	N19 17.2	124 41.5	N 3 30.3
	14	154 16.9	344 48.5	N 4 59.1	75 49.3	N23 02.1	26 01.7	N19 17.1	139 44.0	N 3 30.3
	15	169 19.4	359 48.6	N 4 57.8	90 49.9	N23 02.2	41 03.6	N19 17.0	154 46.4	N 3 30.3
	16	184 21.8	14 48.6	N 4 56.6	105 50.5	N23 02.4	56 05.5	N19 16.8	169 48.9	N 3 30.3
	17	199 24.3	29 48.7	N 4 55.4	120 51.2	N23 02.6	71 07.3	N19 16.7	184 51.4	N 3 30.3
	18	214 26.7	44 48.8	N 4 54.2	135 51.8	N23 02.7	86 09.2	N19 16.6	199 53.8	N 3 30.3
	19	229 29.2	59 48.9	N 4 53.0	150 52.4	N23 02.9	101 11.1	N19 16.4	214 56.3	N 3 30.2
	20	244 31.7	74 49.0	N 4 51.8	165 53.0	N23 03.1	116 13.0	N19 16.3	229 58.7	N 3 30.2
	21	259 34.1	89 49.1	N 4 50.6	180 53.6	N23 03.2	131 14.9	N19 16.2	245 01.2	N 3 30.2
	22	274 36.6	104 49.2	N 4 49.4	195 54.3	N23 03.4	146 16.8	N19 16.0	260 03.7	N 3 30.2
	23	289 39.1	119 49.3	N 4 48.1	210 54.9	N23 03.6	161 18.7	N19 15.9	275 06.1	N 3 30.2
			v 0.1	d 1.2	v 0.6	d 0.2	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
24	0	178 21.8	N19 54.2	65 43.7	11.5	S25 06.8	6.7	54.3
	1	193 21.8	N19 53.6	80 14.2	11.5	S25 13.4	6.6	54.3
	2	208 21.8	N19 53.1	94 44.6	11.4	S25 19.9	6.5	54.2
	3	223 21.8	N19 52.6	109 15.0	11.4	S25 26.3	6.4	54.2
	4	238 21.8	N19 52.1	123 45.4	11.4	S25 32.5	6.3	54.2
F	5	253 21.8	N19 51.5	138 15.7	11.3	S25 38.7	6.1	54.2
R								
I	6	268 21.8	N19 51.0	152 45.9	11.3	S25 44.7	6.0	54.2
D	7	283 21.8	N19 50.5	167 16.2	11.2	S25 50.6	5.9	54.2
A	8	298 21.7	N19 50.0	181 46.3	11.2	S25 56.3	5.8	54.2
Y	9	313 21.7	N19 49.4	196 16.4	11.1	S26 02.0	5.7	54.2
	10	328 21.7	N19 48.9	210 46.5	11.1	S26 07.5	5.5	54.2
	11	343 21.7	N19 48.4	225 16.5	11.0	S26 12.9	5.4	54.2
	12	358 21.7	N19 47.8	239 46.5	11.0	S26 18.2	5.3	54.2
	13	13 21.7	N19 47.3	254 16.5	10.9	S26 23.4	5.2	54.2
	14	28 21.7	N19 46.8	268 46.4	10.9	S26 28.4	5.0	54.2
	15	43 21.7	N19 46.3	283 16.2	10.9	S26 33.4	4.9	54.1
	16	58 21.7	N19 45.7	297 46.1	10.8	S26 38.1	4.8	54.1
	17	73 21.7	N19 45.2	312 15.8	10.8	S26 42.8	4.7	54.1
	18	88 21.6	N19 44.7	326 45.6	10.7	S26 47.4	4.5	54.1
	19	103 21.6	N19 44.1	341 15.3	10.7	S26 51.8	4.4	54.1
	20	118 21.6	N19 43.6	355 44.9	10.7	S26 56.1	4.3	54.1
	21	133 21.6	N19 43.1	10 14.6	10.6	S27 00.2	4.2	54.1
	22	148 21.6	N19 42.5	24 44.1	10.6	S27 04.3	4.0	54.1
	23	163 21.6	N19 42.0	39 13.7	10.5	S27 08.2	3.9	54.1
25	0	178 21.6	N19 41.5	53 43.2	10.5	S27 11.9	3.8	54.1
	1	193 21.6	N19 40.9	68 12.7	10.5	S27 15.6	3.6	54.1
	2	208 21.6	N19 40.4	82 42.1	10.4	S27 19.1	3.5	54.1
	3	223 21.6	N19 39.8	97 11.5	10.4	S27 22.5	3.4	54.1
	4	238 21.6	N19 39.3	111 40.9	10.4	S27 25.8	3.3	54.1
S	5	253 21.6	N19 38.8	126 10.3	10.3	S27 28.9	3.1	54.1
A								
T	6	268 21.6	N19 38.2	140 39.6	10.3	S27 31.9	3.0	54.1
U	7	283 21.6	N19 37.7	155 08.9	10.3	S27 34.8	2.9	54.1
R	8	298 21.5	N19 37.1	169 38.1	10.3	S27 37.5	2.7	54.1
D	9	313 21.5	N19 36.6	184 07.4	10.2	S27 40.1	2.6	54.1
A	10	328 21.5	N19 36.1	198 36.6	10.2	S27 42.6	2.5	54.1
Y	11	343 21.5	N19 35.5	213 05.8	10.2	S27 44.9	2.3	54.1
	12	358 21.5	N19 35.0	227 34.9	10.2	S27 47.1	2.2	54.1
	13	13 21.5	N19 34.4	242 04.1	10.1	S27 49.2	2.1	54.1
	14	28 21.5	N19 33.9	256 33.2	10.1	S27 51.1	1.9	54.1
	15	43 21.5	N19 33.3	271 02.3	10.1	S27 52.9	1.8	54.1
	16	58 21.5	N19 32.8	285 31.3	10.1	S27 54.6	1.7	54.1
	17	73 21.5	N19 32.3	300 00.4	10.1	S27 56.1	1.5	54.1
	18	88 21.5	N19 31.7	314 29.4	10.0	S27 57.5	1.4	54.1
	19	103 21.5	N19 31.2	328 58.4	10.0	S27 58.8	1.3	54.1
	20	118 21.5	N19 30.6	343 27.4	10.0	S27 59.9	1.1	54.1
	21	133 21.5	N19 30.1	357 56.4	10.0	S28 00.9	1.0	54.1
	22	148 21.5	N19 29.5	12 25.4	10.0	S28 01.8	0.9	54.1
	23	163 21.5	N19 29.0	26 54.3	10.0	S28 02.5	0.7	54.1
26	0	178 21.5	N19 28.4	41 23.3	9.9	S28 03.1	0.6	54.1
	1	193 21.5	N19 27.9	55 52.2	9.9	S28 03.6	0.5	54.1
	2	208 21.5	N19 27.3	70 21.2	9.9	S28 03.9	0.3	54.1
	3	223 21.5	N19 26.8	84 50.1	9.9	S28 04.1	0.2	54.1
	4	238 21.5	N19 26.2	99 19.0	9.9	S28 04.1	0.0	54.1
S	5	253 21.5	N19 25.7	113 47.9	9.9	S28 04.0	0.1	54.1
U								
N	6	268 21.5	N19 25.1	128 16.8	9.9	S28 03.8	0.2	54.1
D	7	283 21.5	N19 24.6	142 45.7	9.9	S28 03.5	0.4	54.1
A	8	298 21.5	N19 24.0	157 14.6	9.9	S28 03.0	0.5	54.1
Y	9	313 21.5	N19 23.5	171 43.5	9.9	S28 02.3	0.6	54.1
	10	328 21.5	N19 22.9	186 12.4	9.9	S28 01.6	0.8	54.1
	11	343 21.5	N19 22.3	200 41.3	9.9	S28 00.7	0.9	54.1
	12	358 21.5	N19 21.8	215 10.2	9.9	S27 59.6	1.0	54.1
	13	13 21.5	N19 21.2	229 39.1	9.9	S27 58.4	1.2	54.1
	14	28 21.5	N19 20.7	244 08.0	9.9	S27 57.1	1.3	54.1
	15	43 21.5	N19 20.1	258 36.9	9.9	S27 55.7	1.5	54.1
	16	58 21.5	N19 19.6	273 05.9	9.9	S27 54.1	1.6	54.1
	17	73 21.5	N19 19.0	287 34.8	9.9	S27 52.4	1.7	54.1
	18	88 21.5	N19 18.4	302 03.7	9.9	S27 50.5	1.9	54.1
	19	103 21.5	N19 17.9	316 32.7	10.0	S27 48.5	2.0	54.1
	20	118 21.5	N19 17.3	331 01.7	10.0	S27 46.4	2.1	54.1
	21	133 21.6	N19 16.8	345 30.6	10.0	S27 44.1	2.3	54.2
	22	148 21.6	N19 16.2	359 59.6	10.0	S27 41.7	2.4	54.2
	23	163 21.6	N19 15.6	14 28.6	10.0	S27 39.2	2.5	54.2
		S.D. 15.7	d 0.5	S.D. 14.8		14.7	14.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.9	S40 11.6
Achernar	335 19.1	S57 05.7
Acrux	172 59.0	S63 15.0
Adhara	255 05.2	S29 00.3
Albireo	67 02.6	N28 01.0
Aldebaran	290 38.4	N16 33.8
Alioth	166 12.0	N55 49.2
Alkaid	152 51.0	N49 11.1
Al Na-ir	27 30.8	S46 49.7
Alnilam	275 36.7	S 1 11.0
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.5	N26 37.6
Alpheratz	357 33.3	N29 14.2
Altair	61 58.4	N 8 56.4
Ankaa	353 05.7	S42 09.4
Antares	112 14.0	S26 29.6
Arcturus	145 46.7	N19 02.7
Atria	107 06.8	S69 04.8
Avior	234 14.9	S59 35.7
Bellatrix	278 21.8	N 6 22.5
Betelgeuse	270 51.0	N 7 24.8
Canopus	263 52.3	S52 42.4
Capella	280 20.3	N46 01.4
Castor	245 55.8	N31 49.9
Deneb	49 24.5	N45 22.5
Denebola	182 23.8	N14 25.5
Diphda	348 45.9	S17 50.2
Dubhe	193 39.9	N61 36.6
Elnath	278 00.6	N28 37.7
Eltanin	90 41.1	N51 29.2
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 50.5	S57 16.0
Gienah	175 42.4	S17 41.4
Hadar	148 34.3	S60 30.4
Hamal	327 49.8	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.7	N74 03.0
Markab	13 28.4	N15 20.9
Menkar	314 04.9	N 4 11.7
Menkent	147 56.1	S36 30.3
Miaplacidus	221 38.9	S69 49.6
Mirfak	308 26.6	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 38.9
Polaris	316 02.0	N89 21.7
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.5
Rasalhague	95 57.1	N12 32.5
Regulus	207 33.3	N11 50.3
Rigel	281 02.9	S 8 10.1
Rigil Kent	139 38.6	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.4	N56 40.8
Shaula	96 08.3	S37 07.5
Sirius	258 25.4	S16 45.0
Spica	158 21.0	S11 18.1
Suhail	222 45.8	S43 32.4
Vega	80 31.9	N38 48.6
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
27	0	304 41.5	134 49.4	N 4 46.9	225 55.5	N23 03.7	176 20.6	N19 15.8	290 08.6	N 3 30.2
	1	319 44.0	149 49.5	N 4 45.7	240 56.1	N23 03.9	191 22.5	N19 15.6	305 11.0	N 3 30.2
	2	334 46.5	164 49.6	N 4 44.5	255 56.7	N23 04.1	206 24.4	N19 15.5	320 13.5	N 3 30.2
	3	349 48.9	179 49.7	N 4 43.3	270 57.4	N23 04.2	221 26.3	N19 15.4	335 16.0	N 3 30.2
	4	4 51.4	194 49.8	N 4 42.1	285 58.0	N23 04.4	236 28.2	N19 15.2	350 18.4	N 3 30.2
M	5	19 53.9	209 49.9	N 4 40.9	300 58.6	N23 04.6	251 30.1	N19 15.1	5 20.9	N 3 30.1
O										
N	6	34 56.3	224 50.0	N 4 39.6	315 59.2	N23 04.7	266 32.0	N19 15.0	20 23.3	N 3 30.1
D	7	49 58.8	239 50.1	N 4 38.4	330 59.8	N23 04.9	281 33.9	N19 14.8	35 25.8	N 3 30.1
A	8	65 01.2	254 50.2	N 4 37.2	346 00.5	N23 05.1	296 35.8	N19 14.7	50 28.3	N 3 30.1
Y	9	80 03.7	269 50.3	N 4 36.0	1 01.1	N23 05.2	311 37.7	N19 14.6	65 30.7	N 3 30.1
	10	95 06.2	284 50.4	N 4 34.8	16 01.7	N23 05.4	326 39.6	N19 14.4	80 33.2	N 3 30.1
	11	110 08.6	299 50.5	N 4 33.6	31 02.3	N23 05.5	341 41.5	N19 14.3	95 35.7	N 3 30.1
	12	125 11.1	314 50.6	N 4 32.4	46 02.9	N23 05.7	356 43.4	N19 14.1	110 38.1	N 3 30.1
	13	140 13.6	329 50.7	N 4 31.1	61 03.6	N23 05.9	11 45.2	N19 14.0	125 40.6	N 3 30.0
	14	155 16.0	344 50.8	N 4 29.9	76 04.2	N23 06.0	26 47.1	N19 13.9	140 43.0	N 3 30.0
	15	170 18.5	359 50.9	N 4 28.7	91 04.8	N23 06.2	41 49.0	N19 13.7	155 45.5	N 3 30.0
	16	185 21.0	14 51.0	N 4 27.5	106 05.4	N23 06.3	56 50.9	N19 13.6	170 48.0	N 3 30.0
	17	200 23.4	29 51.1	N 4 26.3	121 06.1	N23 06.5	71 52.8	N19 13.5	185 50.4	N 3 30.0
	18	215 25.9	44 51.2	N 4 25.1	136 06.7	N23 06.7	86 54.7	N19 13.3	200 52.9	N 3 30.0
	19	230 28.4	59 51.3	N 4 23.8	151 07.3	N23 06.8	101 56.6	N19 13.2	215 55.4	N 3 30.0
	20	245 30.8	74 51.4	N 4 22.6	166 07.9	N23 07.0	116 58.5	N19 13.1	230 57.8	N 3 30.0
	21	260 33.3	89 51.5	N 4 21.4	181 08.5	N23 07.1	132 00.4	N19 12.9	246 00.3	N 3 29.9
	22	275 35.7	104 51.6	N 4 20.2	196 09.2	N23 07.3	147 02.3	N19 12.8	261 02.7	N 3 29.9
	23	290 38.2	119 51.7	N 4 19.0	211 09.8	N23 07.4	162 04.2	N19 12.7	276 05.2	N 3 29.9
28	0	305 40.7	134 51.8	N 4 17.8	226 10.4	N23 07.6	177 06.1	N19 12.5	291 07.7	N 3 29.9
	1	320 43.1	149 51.9	N 4 16.5	241 11.0	N23 07.8	192 08.0	N19 12.4	306 10.1	N 3 29.9
	2	335 45.6	164 52.0	N 4 15.3	256 11.7	N23 07.9	207 09.9	N19 12.3	321 12.6	N 3 29.9
	3	350 48.1	179 52.1	N 4 14.1	271 12.3	N23 08.1	222 11.8	N19 12.1	336 15.1	N 3 29.9
	4	5 50.5	194 52.2	N 4 12.9	286 12.9	N23 08.2	237 13.7	N19 12.0	351 17.5	N 3 29.9
T	5	20 53.0	209 52.4	N 4 11.7	301 13.5	N23 08.4	252 15.6	N19 11.9	6 20.0	N 3 29.8
U										
E	6	35 55.5	224 52.5	N 4 10.5	316 14.1	N23 08.5	267 17.5	N19 11.7	21 22.5	N 3 29.8
S	7	50 57.9	239 52.6	N 4 09.2	331 14.8	N23 08.7	282 19.4	N19 11.6	36 24.9	N 3 29.8
D	8	66 00.4	254 52.7	N 4 08.0	346 15.4	N23 08.8	297 21.3	N19 11.5	51 27.4	N 3 29.8
A	9	81 02.9	269 52.8	N 4 06.8	1 16.0	N23 09.0	312 23.2	N19 11.3	66 29.9	N 3 29.8
Y	10	96 05.3	284 52.9	N 4 05.6	16 16.6	N23 09.1	327 25.0	N19 11.2	81 32.3	N 3 29.8
	11	111 07.8	299 53.0	N 4 04.4	31 17.3	N23 09.3	342 26.9	N19 11.1	96 34.8	N 3 29.8
	12	126 10.2	314 53.2	N 4 03.1	46 17.9	N23 09.5	357 28.8	N19 10.9	111 37.3	N 3 29.8
	13	141 12.7	329 53.3	N 4 01.9	61 18.5	N23 09.6	12 30.7	N19 10.8	126 39.7	N 3 29.7
	14	156 15.2	344 53.4	N 4 00.7	76 19.1	N23 09.8	27 32.6	N19 10.7	141 42.2	N 3 29.7
	15	171 17.6	359 53.5	N 3 59.5	91 19.7	N23 09.9	42 34.5	N19 10.5	156 44.7	N 3 29.7
	16	186 20.1	14 53.6	N 3 58.3	106 20.4	N23 10.1	57 36.4	N19 10.4	171 47.1	N 3 29.7
	17	201 22.6	29 53.7	N 3 57.1	121 21.0	N23 10.2	72 38.3	N19 10.3	186 49.6	N 3 29.7
	18	216 25.0	44 53.9	N 3 55.8	136 21.6	N23 10.4	87 40.2	N19 10.1	201 52.1	N 3 29.7
	19	231 27.5	59 54.0	N 3 54.6	151 22.2	N23 10.5	102 42.1	N19 10.0	216 54.5	N 3 29.7
	20	246 30.0	74 54.1	N 3 53.4	166 22.9	N23 10.7	117 44.0	N19 09.9	231 57.0	N 3 29.6
	21	261 32.4	89 54.2	N 3 52.2	181 23.5	N23 10.8	132 45.9	N19 09.7	246 59.5	N 3 29.6
	22	276 34.9	104 54.3	N 3 51.0	196 24.1	N23 11.0	147 47.8	N19 09.6	262 01.9	N 3 29.6
	23	291 37.4	119 54.5	N 3 49.7	211 24.7	N23 11.1	162 49.7	N19 09.5	277 04.4	N 3 29.6
29	0	306 39.8	134 54.6	N 3 48.5	226 25.4	N23 11.3	177 51.6	N19 09.3	292 06.9	N 3 29.6
	1	321 42.3	149 54.7	N 3 47.3	241 26.0	N23 11.4	192 53.5	N19 09.2	307 09.3	N 3 29.6
	2	336 44.7	164 54.8	N 3 46.1	256 26.6	N23 11.5	207 55.4	N19 09.1	322 11.8	N 3 29.6
	3	351 47.2	179 54.9	N 3 44.9	271 27.2	N23 11.7	222 57.3	N19 08.9	337 14.3	N 3 29.5
	4	6 49.7	194 55.1	N 3 43.6	286 27.8	N23 11.8	237 59.2	N19 08.8	352 16.7	N 3 29.5
W	5	21 52.1	209 55.2	N 3 42.4	301 28.5	N23 12.0	253 01.1	N19 08.6	7 19.2	N 3 29.5
E										
D	6	36 54.6	224 55.3	N 3 41.2	316 29.1	N23 12.1	268 03.0	N19 08.5	22 21.7	N 3 29.5
N	7	51 57.1	239 55.5	N 3 40.0	331 29.7	N23 12.3	283 04.9	N19 08.4	37 24.1	N 3 29.5
E	8	66 59.5	254 55.6	N 3 38.8	346 30.3	N23 12.4	298 06.8	N19 08.2	52 26.6	N 3 29.5
S	9	82 02.0	269 55.7	N 3 37.5	1 31.0	N23 12.6	313 08.6	N19 08.1	67 29.1	N 3 29.5
D	10	97 04.5	284 55.8	N 3 36.3	16 31.6	N23 12.7	328 10.5	N19 08.0	82 31.6	N 3 29.4
A	11	112 06.9	299 56.0	N 3 35.1	31 32.2	N23 12.9	343 12.4	N19 07.8	97 34.0	N 3 29.4
Y										
	12	127 09.4	314 56.1	N 3 33.9	46 32.8	N23 13.0	358 14.3	N19 07.7	112 36.5	N 3 29.4
	13	142 11.8	329 56.2	N 3 32.7	61 33.5	N23 13.1	13 16.2	N19 07.6	127 39.0	N 3 29.4
	14	157 14.3	344 56.3	N 3 31.4	76 34.1	N23 13.3	28 18.1	N19 07.4	142 41.4	N 3 29.4
	15	172 16.8	359 56.5	N 3 30.2	91 34.7	N23 13.4	43 20.0	N19 07.3	157 43.9	N 3 29.4
	16	187 19.2	14 56.6	N 3 29.0	106 35.3	N23 13.6	58 21.9	N19 07.2	172 46.4	N 3 29.4
	17	202 21.7	29 56.7	N 3 27.8	121 36.0	N23 13.7	73 23.8	N19 07.0	187 48.9	N 3 29.3
	18	217 24.2	44 56.9	N 3 26.6	136 36.6	N23 13.9	88 25.7	N19 06.9	202 51.3	N 3 29.3
	19	232 26.6	59 57.0	N 3 25.3	151 37.2	N23 14.0	103 27.6	N19 06.8	217 53.8	N 3 29.3
	20	247 29.1	74 57.1	N 3 24.1	166 37.8	N23 14.1	118 29.5	N19 06.6	232 56.3	N 3 29.3
	21	262 31.6	89 57.3	N 3 22.9	181 38.5	N23 14.3	133 31.4	N19 06.5	247 58.7	N 3 29.3
	22	277 34.0	104 57.4	N 3 21.7	196 39.1	N23 14.4	148 33.3	N19 06.4	263 01.2	N 3 29.3
	23	292 36.5	119 57.5	N 3 20.5	211 39.7	N23 14.6	163 35.2	N19 06.2	278 03.7	N 3 29.2
			v 0.1	d 1.2	v 0.6	d 0.2	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
27 0	178 21.6	N19 15.1	28 57.7	10.0	S27 36.5	2.7	54.2	Acamar	315 10.8	S40 11.5
1	193 21.6	N19 14.5	43 26.7	10.0	S27 33.7	2.8	54.2	Achernar	335 19.1	S57 05.7
2	208 21.6	N19 14.0	57 55.8	10.1	S27 30.8	2.9	54.2	Acrux	172 59.0	S63 15.0
3	223 21.6	N19 13.4	72 24.8	10.1	S27 27.7	3.1	54.2	Adhara	255 05.2	S29 00.3
4	238 21.6	N19 12.8	86 53.9	10.1	S27 24.5	3.2	54.2	Albireo	67 02.6	N28 01.0
M 5	253 21.6	N19 12.3	101 23.1	10.1	S27 21.2	3.3	54.2			
O								Aldebaran	290 38.3	N16 33.8
N 6	268 21.6	N19 11.7	115 52.2	10.1	S27 17.7	3.5	54.2	Alioth	166 12.0	N55 49.2
D 7	283 21.6	N19 11.1	130 21.4	10.2	S27 14.1	3.6	54.2	Alkaid	152 51.0	N49 11.1
A 8	298 21.6	N19 10.6	144 50.6	10.2	S27 10.3	3.7	54.2	Al Na-ir	27 30.8	S46 49.7
Y 9	313 21.6	N19 10.0	159 19.8	10.2	S27 06.5	3.9	54.2	Alnilam	275 36.6	S 1 11.0
10	328 21.6	N19 09.4	173 49.1	10.2	S27 02.5	4.0	54.2			
11	343 21.6	N19 08.9	188 18.3	10.3	S26 58.3	4.1	54.3	Alphard	217 46.8	S 8 46.4
								Alphecca	126 02.5	N26 37.6
12	358 21.7	N19 08.3	202 47.6	10.3	S26 54.1	4.3	54.3	Alpheratz	357 33.2	N29 14.3
13	13 21.7	N19 07.7	217 17.0	10.3	S26 49.7	4.4	54.3	Altair	61 58.3	N 8 56.4
14	28 21.7	N19 07.1	231 46.3	10.4	S26 45.1	4.5	54.3	Ankaa	353 05.6	S42 09.4
15	43 21.7	N19 06.6	246 15.7	10.4	S26 40.5	4.7	54.3			
16	58 21.7	N19 06.0	260 45.2	10.4	S26 35.7	4.8	54.3	Antares	112 14.0	S26 29.6
17	73 21.7	N19 05.4	275 14.6	10.5	S26 30.8	4.9	54.3	Arcturus	145 46.7	N19 02.7
								Atria	107 06.8	S69 04.8
18	88 21.7	N19 04.9	289 44.1	10.5	S26 25.8	5.0	54.3	Avior	234 14.8	S59 35.6
19	103 21.7	N19 04.3	304 13.7	10.5	S26 20.6	5.2	54.3	Bellatrix	278 21.7	N 6 22.5
20	118 21.7	N19 03.7	318 43.3	10.6	S26 15.3	5.3	54.3			
21	133 21.7	N19 03.1	333 12.9	10.6	S26 09.9	5.4	54.3	Betelgeuse	270 50.9	N 7 24.8
22	148 21.8	N19 02.6	347 42.5	10.6	S26 04.3	5.6	54.4	Canopus	263 52.3	S52 42.4
23	163 21.8	N19 02.0	2 12.2	10.7	S25 58.6	5.7	54.4	Capella	280 20.3	N46 01.4
								Castor	245 55.8	N31 49.9
28 0	178 21.8	N19 01.4	16 41.9	10.7	S25 52.8	5.8	54.4	Deneb	49 24.4	N45 22.5
1	193 21.8	N19 00.8	31 11.7	10.8	S25 46.9	5.9	54.4			
2	208 21.8	N19 00.3	45 41.5	10.8	S25 40.8	6.1	54.4	Denebola	182 23.8	N14 25.5
3	223 21.8	N18 59.7	60 11.4	10.8	S25 34.7	6.2	54.4	Diphda	348 45.9	S17 50.2
4	238 21.8	N18 59.1	74 41.2	10.9	S25 28.4	6.3	54.4	Dubhe	193 39.9	N61 36.6
T 5	253 21.8	N18 58.5	89 11.2	10.9	S25 21.9	6.4	54.4	Elnath	278 00.5	N28 37.7
U								Eltanin	90 41.2	N51 29.2
E 6	268 21.9	N18 58.0	103 41.2	11.0	S25 15.4	6.5	54.4			
S 7	283 21.9	N18 57.4	118 11.2	11.0	S25 08.7	6.7	54.4	Enif	33 37.1	N 9 59.9
D 8	298 21.9	N18 56.8	132 41.2	11.1	S25 01.9	6.8	54.5	Fomalhaut	15 12.8	S29 28.7
A 9	313 21.9	N18 56.2	147 11.4	11.1	S24 55.0	6.9	54.5	Gacrux	171 50.5	S57 16.0
Y 10	328 21.9	N18 55.6	161 41.5	11.2	S24 48.0	7.0	54.5	Gienah	175 42.4	S17 41.4
11	343 21.9	N18 55.0	176 11.7	11.2	S24 40.9	7.1	54.5	Hadar	148 34.3	S60 30.4
12	358 21.9	N18 54.5	190 42.0	11.3	S24 33.6	7.3	54.5	Hamal	327 49.7	N23 35.3
13	13 22.0	N18 53.9	205 12.3	11.3	S24 26.2	7.4	54.5	Kaus Austr.	83 30.5	S34 22.4
14	28 22.0	N18 53.3	219 42.6	11.3	S24 18.7	7.5	54.5	Kochab	137 19.8	N74 03.0
15	43 22.0	N18 52.7	234 13.0	11.4	S24 11.1	7.6	54.5	Markab	13 28.3	N15 20.9
16	58 22.0	N18 52.1	248 43.4	11.4	S24 03.4	7.7	54.6	Menkar	314 04.8	N 4 11.8
17	73 22.0	N18 51.5	263 13.9	11.5	S23 55.5	7.8	54.6			
								Menkent	147 56.1	S36 30.3
18	88 22.0	N18 51.0	277 44.5	11.5	S23 47.6	8.0	54.6	Miaplacidus	221 38.9	S69 49.6
19	103 22.1	N18 50.4	292 15.1	11.6	S23 39.5	8.1	54.6	Mirfak	308 26.6	N49 57.2
20	118 22.1	N18 49.8	306 45.7	11.6	S23 31.3	8.2	54.6	Nunki	75 45.8	S26 15.8
21	133 22.1	N18 49.2	321 16.4	11.7	S23 23.0	8.3	54.6	Peacock	53 03.0	S56 38.9
22	148 22.1	N18 48.6	335 47.1	11.7	S23 14.6	8.4	54.6			
23	163 22.1	N18 48.0	350 17.9	11.8	S23 06.1	8.5	54.6	Polaris	316 00.6	N89 21.7
								Pollux	243 16.1	N27 57.8
29 0	178 22.1	N18 47.4	4 48.8	11.8	S22 57.4	8.6	54.7	Procyon	244 49.8	N 5 09.5
1	193 22.2	N18 46.9	19 19.7	11.9	S22 48.7	8.7	54.7	Rasalhague	95 57.1	N12 32.5
2	208 22.2	N18 46.3	33 50.6	11.9	S22 39.9	8.8	54.7	Regulus	207 33.3	N11 50.3
3	223 22.2	N18 45.7	48 21.6	12.0	S22 30.9	9.0	54.7			
4	238 22.2	N18 45.1	62 52.7	12.1	S22 21.8	9.1	54.7	Rigel	281 02.8	S 8 10.1
W 5	253 22.2	N18 44.5	77 23.8	12.1	S22 12.7	9.2	54.7	Rigil Kent	139 38.6	S60 57.0
E								Sabik	102 01.1	S15 45.5
D 6	268 22.3	N18 43.9	91 54.9	12.2	S22 03.4	9.3	54.7	Schedar	349 29.3	N56 40.8
N 7	283 22.3	N18 43.3	106 26.2	12.2	S21 54.0	9.4	54.8	Shaula	96 08.3	S37 07.5
E 8	298 22.3	N18 42.7	120 57.4	12.3	S21 44.6	9.5	54.8			
S 9	313 22.3	N18 42.1	135 28.7	12.3	S21 35.0	9.6	54.8	Sirius	258 25.4	S16 45.0
D 10	328 22.3	N18 41.5	150 00.1	12.4	S21 25.3	9.7	54.8	Spica	158 21.0	S11 18.1
A 11	343 22.4	N18 40.9	164 31.5	12.4	S21 15.5	9.8	54.8	Suhail	222 45.8	S43 32.4
Y								Vega	80 32.0	N38 48.6
12	358 22.4	N18 40.3	179 03.0	12.5	S21 05.6	9.9	54.8	Zuben-ubi	136 55.4	S16 09.2
13	13 22.4	N18 39.7	193 34.5	12.5	S20 55.6	10.0	54.8			
14	28 22.4	N18 39.1	208 06.1	12.6	S20 45.6	10.1	54.9			
15	43 22.5	N18 38.5	222 37.7	12.6	S20 35.4	10.2	54.9			
16	58 22.5	N18 38.0	237 09.4	12.7	S20 25.1	10.3	54.9			
17	73 22.5	N18 37.4	251 41.1	12.7	S20 14.7	10.4	54.9			
18	88 22.5	N18 36.8	266 12.9	12.8	S20 04.3	10.5	54.9			
19	103 22.5	N18 36.2	280 44.7	12.8	S19 53.7	10.6	54.9			
20	118 22.6	N18 35.6	295 16.6	12.9	S19 43.0	10.7	55.0			
21	133 22.6	N18 35.0	309 48.5	12.9	S19 32.3	10.7	55.0			
22	148 22.6	N18 34.4	324 20.5	13.0	S19 21.5	10.8	55.0			
23	163 22.6	N18 33.8	338 52.5	13.0	S19 10.5	10.9	55.0			
	S.D. 15.8	d 0.6	S.D.	14.8	14.9	14.9				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
30	0	307 39.0	134 57.7	N 3 19.2	226 40.3	N23 14.7	178 37.1	N19 06.1	293 06.2	N 3 29.2
	1	322 41.4	149 57.8	N 3 18.0	241 41.0	N23 14.8	193 39.0	N19 05.9	308 08.6	N 3 29.2
	2	337 43.9	164 58.0	N 3 16.8	256 41.6	N23 15.0	208 40.9	N19 05.8	323 11.1	N 3 29.2
	3	352 46.3	179 58.1	N 3 15.6	271 42.2	N23 15.1	223 42.8	N19 05.7	338 13.6	N 3 29.2
	4	7 48.8	194 58.2	N 3 14.3	286 42.8	N23 15.3	238 44.7	N19 05.5	353 16.0	N 3 29.2
T	5	22 51.3	209 58.4	N 3 13.1	301 43.5	N23 15.4	253 46.6	N19 05.4	8 18.5	N 3 29.2
H										
U	6	37 53.7	224 58.5	N 3 11.9	316 44.1	N23 15.5	268 48.5	N19 05.3	23 21.0	N 3 29.1
R	7	52 56.2	239 58.7	N 3 10.7	331 44.7	N23 15.7	283 50.4	N19 05.1	38 23.5	N 3 29.1
S	8	67 58.7	254 58.8	N 3 09.5	346 45.3	N23 15.8	298 52.3	N19 05.0	53 25.9	N 3 29.1
D	9	83 01.1	269 58.9	N 3 08.2	1 46.0	N23 15.9	313 54.1	N19 04.9	68 28.4	N 3 29.1
A	10	98 03.6	284 59.1	N 3 07.0	16 46.6	N23 16.1	328 56.0	N19 04.7	83 30.9	N 3 29.1
Y	11	113 06.1	299 59.2	N 3 05.8	31 47.2	N23 16.2	343 57.9	N19 04.6	98 33.4	N 3 29.1
	12	128 08.5	314 59.4	N 3 04.6	46 47.8	N23 16.3	358 59.8	N19 04.5	113 35.8	N 3 29.0
	13	143 11.0	329 59.5	N 3 03.3	61 48.5	N23 16.5	14 01.7	N19 04.3	128 38.3	N 3 29.0
	14	158 13.5	344 59.6	N 3 02.1	76 49.1	N23 16.6	29 03.6	N19 04.2	143 40.8	N 3 29.0
	15	173 15.9	359 59.8	N 3 00.9	91 49.7	N23 16.7	44 05.5	N19 04.1	158 43.3	N 3 29.0
	16	188 18.4	14 59.9	N 2 59.7	106 50.3	N23 16.9	59 07.4	N19 03.9	173 45.7	N 3 29.0
	17	203 20.8	30 00.1	N 2 58.5	121 51.0	N23 17.0	74 09.3	N19 03.8	188 48.2	N 3 29.0
	18	218 23.3	45 00.2	N 2 57.2	136 51.6	N23 17.1	89 11.2	N19 03.6	203 50.7	N 3 28.9
	19	233 25.8	60 00.4	N 2 56.0	151 52.2	N23 17.3	104 13.1	N19 03.5	218 53.2	N 3 28.9
	20	248 28.2	75 00.5	N 2 54.8	166 52.9	N23 17.4	119 15.0	N19 03.4	233 55.6	N 3 28.9
	21	263 30.7	90 00.7	N 2 53.6	181 53.5	N23 17.5	134 16.9	N19 03.2	248 58.1	N 3 28.9
	22	278 33.2	105 00.8	N 2 52.3	196 54.1	N23 17.7	149 18.8	N19 03.1	264 00.6	N 3 28.9
	23	293 35.6	120 01.0	N 2 51.1	211 54.7	N23 17.8	164 20.7	N19 03.0	279 03.1	N 3 28.8
31	0	308 38.1	135 01.1	N 2 49.9	226 55.4	N23 17.9	179 22.6	N19 02.8	294 05.5	N 3 28.8
	1	323 40.6	150 01.3	N 2 48.7	241 56.0	N23 18.1	194 24.5	N19 02.7	309 08.0	N 3 28.8
	2	338 43.0	165 01.4	N 2 47.5	256 56.6	N23 18.2	209 26.4	N19 02.6	324 10.5	N 3 28.8
	3	353 45.5	180 01.6	N 2 46.2	271 57.2	N23 18.3	224 28.3	N19 02.4	339 13.0	N 3 28.8
	4	8 48.0	195 01.7	N 2 45.0	286 57.9	N23 18.5	239 30.2	N19 02.3	354 15.4	N 3 28.8
F	5	23 50.4	210 01.9	N 2 43.8	301 58.5	N23 18.6	254 32.1	N19 02.1	9 17.9	N 3 28.7
R										
I	6	38 52.9	225 02.0	N 2 42.6	316 59.1	N23 18.7	269 34.0	N19 02.0	24 20.4	N 3 28.7
D	7	53 55.3	240 02.2	N 2 41.3	331 59.7	N23 18.8	284 35.9	N19 01.9	39 22.9	N 3 28.7
A	8	68 57.8	255 02.3	N 2 40.1	347 00.4	N23 19.0	299 37.8	N19 01.7	54 25.3	N 3 28.7
Y	9	84 00.3	270 02.5	N 2 38.9	2 01.0	N23 19.1	314 39.7	N19 01.6	69 27.8	N 3 28.7
	10	99 02.7	285 02.7	N 2 37.7	17 01.6	N23 19.2	329 41.6	N19 01.5	84 30.3	N 3 28.7
	11	114 05.2	300 02.8	N 2 36.4	32 02.3	N23 19.3	344 43.5	N19 01.3	99 32.8	N 3 28.6
	12	129 07.7	315 03.0	N 2 35.2	47 02.9	N23 19.5	359 45.4	N19 01.2	114 35.3	N 3 28.6
	13	144 10.1	330 03.1	N 2 34.0	62 03.5	N23 19.6	14 47.2	N19 01.1	129 37.7	N 3 28.6
	14	159 12.6	345 03.3	N 2 32.8	77 04.1	N23 19.7	29 49.1	N19 00.9	144 40.2	N 3 28.6
	15	174 15.1	0 03.4	N 2 31.6	92 04.8	N23 19.9	44 51.0	N19 00.8	159 42.7	N 3 28.6
	16	189 17.5	15 03.6	N 2 30.3	107 05.4	N23 20.0	59 52.9	N19 00.7	174 45.2	N 3 28.5
	17	204 20.0	30 03.8	N 2 29.1	122 06.0	N23 20.1	74 54.8	N19 00.5	189 47.7	N 3 28.5
	18	219 22.4	45 03.9	N 2 27.9	137 06.7	N23 20.2	89 56.7	N19 00.4	204 50.1	N 3 28.5
	19	234 24.9	60 04.1	N 2 26.7	152 07.3	N23 20.4	104 58.6	N19 00.2	219 52.6	N 3 28.5
	20	249 27.4	75 04.2	N 2 25.4	167 07.9	N23 20.5	120 00.5	N19 00.1	234 55.1	N 3 28.5
	21	264 29.8	90 04.4	N 2 24.2	182 08.5	N23 20.6	135 02.4	N18 60.0	249 57.6	N 3 28.5
	22	279 32.3	105 04.6	N 2 23.0	197 09.2	N23 20.7	150 04.3	N18 59.8	265 00.0	N 3 28.4
	23	294 34.8	120 04.7	N 2 21.8	212 09.8	N23 20.8	165 06.2	N18 59.7	280 02.5	N 3 28.4
1	0	309 37.2	135 04.9	N 2 20.5	227 10.4	N23 21.0	180 08.1	N18 59.6	295 05.0	N 3 28.4
	1	324 39.7	150 05.1	N 2 19.3	242 11.1	N23 21.1	195 10.0	N18 59.4	310 07.5	N 3 28.4
	2	339 42.2	165 05.2	N 2 18.1	257 11.7	N23 21.2	210 11.9	N18 59.3	325 10.0	N 3 28.4
	3	354 44.6	180 05.4	N 2 16.9	272 12.3	N23 21.3	225 13.8	N18 59.2	340 12.4	N 3 28.3
	4	9 47.1	195 05.5	N 2 15.6	287 12.9	N23 21.5	240 15.7	N18 59.0	355 14.9	N 3 28.3
S	5	24 49.6	210 05.7	N 2 14.4	302 13.6	N23 21.6	255 17.6	N18 58.9	10 17.4	N 3 28.3
A										
T	6	39 52.0	225 05.9	N 2 13.2	317 14.2	N23 21.7	270 19.5	N18 58.7	25 19.9	N 3 28.3
U	7	54 54.5	240 06.1	N 2 12.0	332 14.8	N23 21.8	285 21.4	N18 58.6	40 22.4	N 3 28.3
R	8	69 56.9	255 06.2	N 2 10.7	347 15.5	N23 21.9	300 23.3	N18 58.5	55 24.9	N 3 28.2
D	9	84 59.4	270 06.4	N 2 09.5	2 16.1	N23 22.0	315 25.2	N18 58.3	70 27.3	N 3 28.2
A	10	100 01.9	285 06.6	N 2 08.3	17 16.7	N23 22.2	330 27.1	N18 58.2	85 29.8	N 3 28.2
Y	11	115 04.3	300 06.7	N 2 07.1	32 17.3	N23 22.3	345 29.0	N18 58.1	100 32.3	N 3 28.2
	12	130 06.8	315 06.9	N 2 05.8	47 18.0	N23 22.4	0 30.9	N18 57.9	115 34.8	N 3 28.2
	13	145 09.3	330 07.1	N 2 04.6	62 18.6	N23 22.5	15 32.8	N18 57.8	130 37.3	N 3 28.1
	14	160 11.7	345 07.2	N 2 03.4	77 19.2	N23 22.6	30 34.7	N18 57.6	145 39.7	N 3 28.1
	15	175 14.2	0 07.4	N 2 02.2	92 19.9	N23 22.8	45 36.6	N18 57.5	160 42.2	N 3 28.1
	16	190 16.7	15 07.6	N 2 01.0	107 20.5	N23 22.9	60 38.5	N18 57.4	175 44.7	N 3 28.1
	17	205 19.1	30 07.8	N 1 59.7	122 21.1	N23 23.0	75 40.4	N18 57.2	190 47.2	N 3 28.1
	18	220 21.6	45 07.9	N 1 58.5	137 21.8	N23 23.1	90 42.3	N18 57.1	205 49.7	N 3 28.0
	19	235 24.1	60 08.1	N 1 57.3	152 22.4	N23 23.2	105 44.2	N18 57.0	220 52.2	N 3 28.0
	20	250 26.5	75 08.3	N 1 56.1	167 23.0	N23 23.3	120 46.1	N18 56.8	235 54.6	N 3 28.0
	21	265 29.0	90 08.5	N 1 54.8	182 23.6	N23 23.4	135 48.0	N18 56.7	250 57.1	N 3 28.0
	22	280 31.4	105 08.6	N 1 53.6	197 24.3	N23 23.6	150 49.9	N18 56.6	265 59.6	N 3 28.0
	23	295 33.9	120 08.8	N 1 52.4	212 24.9	N23 23.7	165 51.7	N18 56.4	281 02.1	N 3 27.9
			v 0.2	d 1.2	v 0.6	d 0.1	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
30	0	178 22.7	N18 33.2	353 24.6	13.1	S18 59.5	11.0	55.0
	1	193 22.7	N18 32.6	7 56.8	13.1	S18 48.4	11.1	55.0
	2	208 22.7	N18 32.0	22 28.9	13.2	S18 37.2	11.2	55.1
	3	223 22.7	N18 31.3	37 01.2	13.2	S18 25.9	11.3	55.1
	4	238 22.8	N18 30.7	51 33.5	13.3	S18 14.5	11.4	55.1
T	5	253 22.8	N18 30.1	66 05.8	13.3	S18 03.1	11.5	55.1
H								
U	6	268 22.8	N18 29.5	80 38.2	13.4	S17 51.5	11.5	55.1
R	7	283 22.8	N18 28.9	95 10.6	13.4	S17 39.9	11.6	55.1
S	8	298 22.9	N18 28.3	109 43.1	13.5	S17 28.2	11.7	55.1
D	9	313 22.9	N18 27.7	124 15.6	13.5	S17 16.4	11.8	55.2
A	10	328 22.9	N18 27.1	138 48.2	13.6	S17 04.6	11.9	55.2
Y	11	343 23.0	N18 26.5	153 20.8	13.6	S16 52.6	11.9	55.2
	12	358 23.0	N18 25.9	167 53.4	13.7	S16 40.6	12.0	55.2
	13	13 23.0	N18 25.3	182 26.1	13.7	S16 28.5	12.1	55.2
	14	28 23.0	N18 24.7	196 58.9	13.7	S16 16.3	12.2	55.3
	15	43 23.1	N18 24.1	211 31.7	13.8	S16 04.0	12.3	55.3
	16	58 23.1	N18 23.5	226 04.5	13.8	S15 51.7	12.3	55.3
	17	73 23.1	N18 22.9	240 37.4	13.9	S15 39.3	12.4	55.3
	18	88 23.2	N18 22.2	255 10.3	13.9	S15 26.8	12.5	55.3
	19	103 23.2	N18 21.6	269 43.3	14.0	S15 14.2	12.6	55.3
	20	118 23.2	N18 21.0	284 16.3	14.0	S15 01.6	12.6	55.4
	21	133 23.2	N18 20.4	298 49.3	14.0	S14 48.9	12.7	55.4
	22	148 23.3	N18 19.8	313 22.4	14.1	S14 36.1	12.8	55.4
	23	163 23.3	N18 19.2	327 55.5	14.1	S14 23.3	12.8	55.4
31	0	178 23.3	N18 18.6	342 28.7	14.2	S14 10.4	12.9	55.4
	1	193 23.4	N18 18.0	357 01.9	14.2	S13 57.4	13.0	55.4
	2	208 23.4	N18 17.3	11 35.1	14.2	S13 44.4	13.0	55.5
	3	223 23.4	N18 16.7	26 08.4	14.3	S13 31.3	13.1	55.5
	4	238 23.5	N18 16.1	40 41.7	14.3	S13 18.1	13.2	55.5
F	5	253 23.5	N18 15.5	55 15.0	14.3	S13 04.9	13.2	55.5
R								
I	6	268 23.5	N18 14.9	69 48.4	14.4	S12 51.6	13.3	55.5
D	7	283 23.6	N18 14.3	84 21.8	14.4	S12 38.2	13.4	55.6
A	8	298 23.6	N18 13.6	98 55.2	14.4	S12 24.8	13.4	55.6
Y	9	313 23.6	N18 13.0	113 28.7	14.5	S12 11.3	13.5	55.6
	10	328 23.7	N18 12.4	128 02.2	14.5	S11 57.8	13.5	55.6
	11	343 23.7	N18 11.8	142 35.7	14.5	S11 44.2	13.6	55.6
	12	358 23.7	N18 11.2	157 09.3	14.6	S11 30.5	13.7	55.7
	13	13 23.8	N18 10.5	171 42.9	14.6	S11 16.8	13.7	55.7
	14	28 23.8	N18 09.9	186 16.5	14.6	S11 03.0	13.8	55.7
	15	43 23.8	N18 09.3	200 50.2	14.6	S10 49.2	13.8	55.7
	16	58 23.9	N18 08.7	215 23.8	14.7	S10 35.3	13.9	55.7
	17	73 23.9	N18 08.1	229 57.5	14.7	S10 21.4	13.9	55.8
	18	88 23.9	N18 07.4	244 31.3	14.7	S10 07.4	14.0	55.8
	19	103 24.0	N18 06.8	259 05.0	14.7	S 9 53.4	14.0	55.8
	20	118 24.0	N18 06.2	273 38.8	14.8	S 9 39.3	14.1	55.8
	21	133 24.0	N18 05.6	288 12.6	14.8	S 9 25.2	14.1	55.8
	22	148 24.1	N18 04.9	302 46.4	14.8	S 9 11.0	14.2	55.8
	23	163 24.1	N18 04.3	317 20.2	14.8	S 8 56.8	14.2	55.9
1	0	178 24.2	N18 03.7	331 54.1	14.8	S 8 42.5	14.3	55.9
	1	193 24.2	N18 03.1	346 27.9	14.9	S 8 28.2	14.3	55.9
	2	208 24.2	N18 02.4	1 01.8	14.9	S 8 13.9	14.4	55.9
	3	223 24.3	N18 01.8	15 35.7	14.9	S 7 59.5	14.4	55.9
	4	238 24.3	N18 01.2	30 09.6	14.9	S 7 45.0	14.4	56.0
S	5	253 24.3	N18 00.5	44 43.6	14.9	S 7 30.5	14.5	56.0
A								
T	6	268 24.4	N17 59.9	59 17.5	14.9	S 7 16.0	14.5	56.0
U	7	283 24.4	N17 59.3	73 51.5	15.0	S 7 01.4	14.6	56.0
R	8	298 24.5	N17 58.7	88 25.4	15.0	S 6 46.8	14.6	56.1
D	9	313 24.5	N17 58.0	102 59.4	15.0	S 6 32.2	14.6	56.1
A	10	328 24.5	N17 57.4	117 33.4	15.0	S 6 17.5	14.7	56.1
Y	11	343 24.6	N17 56.8	132 07.4	15.0	S 6 02.8	14.7	56.1
	12	358 24.6	N17 56.1	146 41.4	15.0	S 5 48.1	14.7	56.1
	13	13 24.7	N17 55.5	161 15.4	15.0	S 5 33.3	14.8	56.2
	14	28 24.7	N17 54.9	175 49.4	15.0	S 5 18.5	14.8	56.2
	15	43 24.7	N17 54.2	190 23.4	15.0	S 5 03.6	14.8	56.2
	16	58 24.8	N17 53.6	204 57.4	15.0	S 4 48.7	14.9	56.2
	17	73 24.8	N17 53.0	219 31.4	15.0	S 4 33.8	14.9	56.2
	18	88 24.9	N17 52.3	234 05.5	15.0	S 4 18.9	14.9	56.3
	19	103 24.9	N17 51.7	248 39.5	15.0	S 4 03.9	15.0	56.3
	20	118 25.0	N17 51.0	263 13.5	15.0	S 3 49.0	15.0	56.3
	21	133 25.0	N17 50.4	277 47.5	15.0	S 3 33.9	15.0	56.3
	22	148 25.0	N17 49.8	292 21.5	15.0	S 3 18.9	15.0	56.3
	23	163 25.1	N17 49.1	306 55.5	15.0	S 3 03.8	15.1	56.4
		S.D. 15.8	d 0.6	S.D.	15.0	15.2	15.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.8	S40 11.5
Achernar	335 19.0	S57 05.7
Acrux	172 59.1	S63 15.0
Adhara	255 05.2	S29 00.3
Albireo	67 02.6	N28 01.0
Aldebaran	290 38.3	N16 33.8
Alioth	166 12.0	N55 49.2
Alkaid	152 51.0	N49 11.1
Al Na-ir	27 30.8	S46 49.7
Alnilam	275 36.6	S 1 11.0
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.5	N26 37.6
Alpheratz	357 33.2	N29 14.3
Altair	61 58.3	N 8 56.4
Ankaa	353 05.6	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.7	N19 02.7
Atria	107 06.8	S69 04.8
Avior	234 14.8	S59 35.6
Bellatrix	278 21.7	N 6 22.5
Betelgeuse	270 50.9	N 7 24.8
Canopus	263 52.3	S52 42.3
Capella	280 20.3	N46 01.4
Castor	245 55.7	N31 49.8
Deneb	49 24.4	N45 22.5
Denebola	182 23.8	N14 25.5
Diphda	348 45.9	S17 50.2
Dubhe	193 39.9	N61 36.6
Elnath	278 00.5	N28 37.8
Eltanin	90 41.2	N51 29.2
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.7	S29 28.7
Gacrux	171 50.5	S57 16.0
Gienah	175 42.4	S17 41.4
Hadar	148 34.3	S60 30.4
Hamal	327 49.7	N23 35.3
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.8	N74 03.0
Markab	13 28.3	N15 20.9
Menkar	314 04.8	N 4 11.8
Menkent	147 56.1	S36 30.3
Miaplacidus	221 38.9	S69 49.6
Mirfak	308 26.6	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 38.9
Polaris	315 59.4	N89 21.7
Pollux	243 16.1	N27 57.8
Procyon	244 49.8	N 5 09.5
Rasalhague	95 57.1	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.8	S 8 10.1
Rigil Kent	139 38.6	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.3	N56 40.8
Shaula	96 08.3	S37 07.5
Sirius	258 25.4	S16 45.0
Spica	158 21.0	S11 18.1
Suhail	222 45.8	S43 32.4
Vega	80 32.0	N38 48.6
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
2	0	310 36.4	135 09.0	N 1 51.2	227 25.5	N23 23.8	180 53.6	N18 56.3	296 04.6	N 3 27.9
	1	325 38.8	150 09.2	N 1 49.9	242 26.2	N23 23.9	195 55.5	N18 56.1	311 07.1	N 3 27.9
	2	340 41.3	165 09.3	N 1 48.7	257 26.8	N23 24.0	210 57.4	N18 56.0	326 09.5	N 3 27.9
	3	355 43.8	180 09.5	N 1 47.5	272 27.4	N23 24.1	225 59.3	N18 55.9	341 12.0	N 3 27.9
	4	10 46.2	195 09.7	N 1 46.3	287 28.1	N23 24.2	241 01.2	N18 55.7	356 14.5	N 3 27.8
S	5	25 48.7	210 09.9	N 1 45.0	302 28.7	N23 24.4	256 03.1	N18 55.6	11 17.0	N 3 27.8
U										
N	6	40 51.2	225 10.1	N 1 43.8	317 29.3	N23 24.5	271 05.0	N18 55.5	26 19.5	N 3 27.8
D	7	55 53.6	240 10.2	N 1 42.6	332 30.0	N23 24.6	286 06.9	N18 55.3	41 22.0	N 3 27.8
A	8	70 56.1	255 10.4	N 1 41.4	347 30.6	N23 24.7	301 08.8	N18 55.2	56 24.5	N 3 27.7
Y	9	85 58.5	270 10.6	N 1 40.1	2 31.2	N23 24.8	316 10.7	N18 55.0	71 26.9	N 3 27.7
	10	101 01.0	285 10.8	N 1 38.9	17 31.8	N23 24.9	331 12.6	N18 54.9	86 29.4	N 3 27.7
	11	116 03.5	300 11.0	N 1 37.7	32 32.5	N23 25.0	346 14.5	N18 54.8	101 31.9	N 3 27.7
	12	131 05.9	315 11.2	N 1 36.5	47 33.1	N23 25.1	1 16.4	N18 54.6	116 34.4	N 3 27.7
	13	146 08.4	330 11.3	N 1 35.2	62 33.7	N23 25.2	16 18.3	N18 54.5	131 36.9	N 3 27.6
	14	161 10.9	345 11.5	N 1 34.0	77 34.4	N23 25.3	31 20.2	N18 54.4	146 39.4	N 3 27.6
	15	176 13.3	0 11.7	N 1 32.8	92 35.0	N23 25.5	46 22.1	N18 54.2	161 41.9	N 3 27.6
	16	191 15.8	15 11.9	N 1 31.6	107 35.6	N23 25.6	61 24.0	N18 54.1	176 44.3	N 3 27.6
	17	206 18.3	30 12.1	N 1 30.3	122 36.3	N23 25.7	76 25.9	N18 53.9	191 46.8	N 3 27.6
	18	221 20.7	45 12.3	N 1 29.1	137 36.9	N23 25.8	91 27.8	N18 53.8	206 49.3	N 3 27.5
	19	236 23.2	60 12.5	N 1 27.9	152 37.5	N23 25.9	106 29.7	N18 53.7	221 51.8	N 3 27.5
	20	251 25.7	75 12.7	N 1 26.7	167 38.2	N23 26.0	121 31.6	N18 53.5	236 54.3	N 3 27.5
	21	266 28.1	90 12.8	N 1 25.4	182 38.8	N23 26.1	136 33.5	N18 53.4	251 56.8	N 3 27.5
	22	281 30.6	105 13.0	N 1 24.2	197 39.4	N23 26.2	151 35.4	N18 53.3	266 59.3	N 3 27.4
	23	296 33.0	120 13.2	N 1 23.0	212 40.1	N23 26.3	166 37.3	N18 53.1	282 01.8	N 3 27.4
3	0	311 35.5	135 13.4	N 1 21.8	227 40.7	N23 26.4	181 39.2	N18 53.0	297 04.2	N 3 27.4
	1	326 38.0	150 13.6	N 1 20.5	242 41.3	N23 26.5	196 41.1	N18 52.8	312 06.7	N 3 27.4
	2	341 40.4	165 13.8	N 1 19.3	257 42.0	N23 26.6	211 43.0	N18 52.7	327 09.2	N 3 27.4
	3	356 42.9	180 14.0	N 1 18.1	272 42.6	N23 26.7	226 44.9	N18 52.6	342 11.7	N 3 27.3
	4	11 45.4	195 14.2	N 1 16.9	287 43.2	N23 26.8	241 46.8	N18 52.4	357 14.2	N 3 27.3
M	5	26 47.8	210 14.4	N 1 15.6	302 43.9	N23 26.9	256 48.7	N18 52.3	12 16.7	N 3 27.3
O										
N	6	41 50.3	225 14.6	N 1 14.4	317 44.5	N23 27.0	271 50.6	N18 52.2	27 19.2	N 3 27.3
D	7	56 52.8	240 14.8	N 1 13.2	332 45.1	N23 27.1	286 52.5	N18 52.0	42 21.7	N 3 27.2
A	8	71 55.2	255 15.0	N 1 12.0	347 45.8	N23 27.2	301 54.4	N18 51.9	57 24.1	N 3 27.2
Y	9	86 57.7	270 15.2	N 1 10.7	2 46.4	N23 27.3	316 56.3	N18 51.7	72 26.6	N 3 27.2
	10	102 00.1	285 15.4	N 1 09.5	17 47.0	N23 27.4	331 58.2	N18 51.6	87 29.1	N 3 27.2
	11	117 02.6	300 15.6	N 1 08.3	32 47.7	N23 27.5	347 00.1	N18 51.5	102 31.6	N 3 27.2
	12	132 05.1	315 15.8	N 1 07.1	47 48.3	N23 27.6	2 02.0	N18 51.3	117 34.1	N 3 27.1
	13	147 07.5	330 16.0	N 1 05.8	62 48.9	N23 27.7	17 03.9	N18 51.2	132 36.6	N 3 27.1
	14	162 10.0	345 16.2	N 1 04.6	77 49.6	N23 27.8	32 05.8	N18 51.1	147 39.1	N 3 27.1
	15	177 12.5	0 16.4	N 1 03.4	92 50.2	N23 27.9	47 07.7	N18 50.9	162 41.6	N 3 27.1
	16	192 14.9	15 16.6	N 1 02.2	107 50.8	N23 28.0	62 09.6	N18 50.8	177 44.1	N 3 27.0
	17	207 17.4	30 16.8	N 1 00.9	122 51.5	N23 28.1	77 11.5	N18 50.6	192 46.6	N 3 27.0
	18	222 19.9	45 17.0	N 0 59.7	137 52.1	N23 28.2	92 13.4	N18 50.5	207 49.0	N 3 27.0
	19	237 22.3	60 17.2	N 0 58.5	152 52.7	N23 28.3	107 15.3	N18 50.4	222 51.5	N 3 27.0
	20	252 24.8	75 17.4	N 0 57.3	167 53.4	N23 28.4	122 17.2	N18 50.2	237 54.0	N 3 26.9
	21	267 27.3	90 17.6	N 0 56.0	182 54.0	N23 28.5	137 19.1	N18 50.1	252 56.5	N 3 26.9
	22	282 29.7	105 17.8	N 0 54.8	197 54.6	N23 28.6	152 21.0	N18 49.9	267 59.0	N 3 26.9
	23	297 32.2	120 18.0	N 0 53.6	212 55.3	N23 28.7	167 22.9	N18 49.8	283 01.5	N 3 26.9
4	0	312 34.6	135 18.2	N 0 52.4	227 55.9	N23 28.8	182 24.7	N18 49.7	298 04.0	N 3 26.9
	1	327 37.1	150 18.4	N 0 51.1	242 56.5	N23 28.9	197 26.6	N18 49.5	313 06.5	N 3 26.8
	2	342 39.6	165 18.6	N 0 49.9	257 57.2	N23 29.0	212 28.5	N18 49.4	328 09.0	N 3 26.8
	3	357 42.0	180 18.8	N 0 48.7	272 57.8	N23 29.1	227 30.4	N18 49.3	343 11.5	N 3 26.8
	4	12 44.5	195 19.0	N 0 47.5	287 58.4	N23 29.2	242 32.3	N18 49.1	358 14.0	N 3 26.8
T	5	27 47.0	210 19.2	N 0 46.2	302 59.1	N23 29.3	257 34.2	N18 49.0	13 16.5	N 3 26.7
U										
E	6	42 49.4	225 19.4	N 0 45.0	317 59.7	N23 29.4	272 36.1	N18 48.8	28 18.9	N 3 26.7
S	7	57 51.9	240 19.6	N 0 43.8	333 00.4	N23 29.5	287 38.0	N18 48.7	43 21.4	N 3 26.7
D	8	72 54.4	255 19.8	N 0 42.6	348 01.0	N23 29.6	302 39.9	N18 48.6	58 23.9	N 3 26.7
A	9	87 56.8	270 20.0	N 0 41.3	3 01.6	N23 29.7	317 41.8	N18 48.4	73 26.4	N 3 26.6
Y	10	102 59.3	285 20.3	N 0 40.1	18 02.3	N23 29.8	332 43.7	N18 48.3	88 28.9	N 3 26.6
	11	118 01.8	300 20.5	N 0 38.9	33 02.9	N23 29.9	347 45.6	N18 48.1	103 31.4	N 3 26.6
	12	133 04.2	315 20.7	N 0 37.7	48 03.5	N23 30.0	2 47.5	N18 48.0	118 33.9	N 3 26.6
	13	148 06.7	330 20.9	N 0 36.4	63 04.2	N23 30.0	17 49.4	N18 47.9	133 36.4	N 3 26.5
	14	163 09.1	345 21.1	N 0 35.2	78 04.8	N23 30.1	32 51.3	N18 47.7	148 38.9	N 3 26.5
	15	178 11.6	0 21.3	N 0 34.0	93 05.4	N23 30.2	47 53.2	N18 47.6	163 41.4	N 3 26.5
	16	193 14.1	15 21.5	N 0 32.8	108 06.1	N23 30.3	62 55.1	N18 47.5	178 43.9	N 3 26.5
	17	208 16.5	30 21.7	N 0 31.5	123 06.7	N23 30.4	77 57.0	N18 47.3	193 46.4	N 3 26.4
	18	223 19.0	45 22.0	N 0 30.3	138 07.3	N23 30.5	92 58.9	N18 47.2	208 48.9	N 3 26.4
	19	238 21.5	60 22.2	N 0 29.1	153 08.0	N23 30.6	108 00.8	N18 47.0	223 51.4	N 3 26.4
	20	253 23.9	75 22.4	N 0 27.9	168 08.6	N23 30.7	123 02.7	N18 46.9	238 53.9	N 3 26.4
	21	268 26.4	90 22.6	N 0 26.6	183 09.3	N23 30.8	138 04.6	N18 46.8	253 56.4	N 3 26.3
	22	283 28.9	105 22.8	N 0 25.4	198 09.9	N23 30.9	153 06.5	N18 46.6	268 58.9	N 3 26.3
	23	298 31.3	120 23.0	N 0 24.2	213 10.5	N23 30.9	168 08.4	N18 46.5	284 01.4	N 3 26.3
			v 0.2	d 1.2	v 0.6	d 0.1	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
2	0	178 25.1	N17 48.5	321 29.5	15.0	S 2 48.7	15.1	56.4
	1	193 25.2	N17 47.9	336 03.5	15.0	S 2 33.6	15.1	56.4
	2	208 25.2	N17 47.2	350 37.5	15.0	S 2 18.5	15.1	56.4
	3	223 25.3	N17 46.6	5 11.5	15.0	S 2 03.4	15.2	56.5
	4	238 25.3	N17 45.9	19 45.4	15.0	S 1 48.2	15.2	56.5
S	5	253 25.4	N17 45.3	34 19.4	15.0	S 1 33.0	15.2	56.5
U								
N	6	268 25.4	N17 44.7	48 53.3	14.9	S 1 17.8	15.2	56.5
D	7	283 25.4	N17 44.0	63 27.3	14.9	S 1 02.6	15.2	56.5
A	8	298 25.5	N17 43.4	78 01.2	14.9	S 0 47.3	15.2	56.6
Y	9	313 25.5	N17 42.7	92 35.1	14.9	S 0 32.1	15.3	56.6
	10	328 25.6	N17 42.1	107 08.9	14.9	S 0 16.8	15.3	56.6
	11	343 25.6	N17 41.4	121 42.8	14.9	S 0 01.6	15.3	56.6
	12	358 25.7	N17 40.8	136 16.6	14.8	N 0 13.7	15.3	56.7
	13	13 25.7	N17 40.2	150 50.4	14.8	N 0 29.0	15.3	56.7
	14	28 25.8	N17 39.5	165 24.2	14.8	N 0 44.3	15.3	56.7
	15	43 25.8	N17 38.9	179 58.0	14.8	N 0 59.6	15.3	56.7
	16	58 25.9	N17 38.2	194 31.7	14.7	N 1 15.0	15.3	56.7
	17	73 25.9	N17 37.6	209 05.5	14.7	N 1 30.3	15.3	56.8
	18	88 26.0	N17 36.9	223 39.2	14.7	N 1 45.6	15.3	56.8
	19	103 26.0	N17 36.3	238 12.8	14.7	N 2 01.0	15.3	56.8
	20	118 26.1	N17 35.6	252 46.5	14.6	N 2 16.3	15.3	56.8
	21	133 26.1	N17 35.0	267 20.1	14.6	N 2 31.6	15.3	56.9
	22	148 26.2	N17 34.3	281 53.6	14.6	N 2 47.0	15.3	56.9
	23	163 26.2	N17 33.7	296 27.2	14.5	N 3 02.3	15.3	56.9
3	0	178 26.2	N17 33.0	311 00.7	14.5	N 3 17.7	15.3	56.9
	1	193 26.3	N17 32.4	325 34.1	14.5	N 3 33.0	15.3	56.9
	2	208 26.3	N17 31.7	340 07.5	14.4	N 3 48.3	15.3	57.0
	3	223 26.4	N17 31.1	354 40.9	14.4	N 4 03.6	15.3	57.0
	4	238 26.5	N17 30.4	9 14.3	14.3	N 4 19.0	15.3	57.0
M	5	253 26.5	N17 29.8	23 47.6	14.3	N 4 34.3	15.3	57.0
O								
N	6	268 26.6	N17 29.1	38 20.9	14.3	N 4 49.6	15.3	57.1
D	7	283 26.6	N17 28.5	52 54.1	14.2	N 5 04.9	15.3	57.1
A	8	298 26.7	N17 27.8	67 27.3	14.2	N 5 20.2	15.3	57.1
Y	9	313 26.7	N17 27.1	82 00.4	14.1	N 5 35.4	15.3	57.1
	10	328 26.8	N17 26.5	96 33.5	14.1	N 5 50.7	15.3	57.2
	11	343 26.8	N17 25.8	111 06.5	14.0	N 6 05.9	15.2	57.2
	12	358 26.9	N17 25.2	125 39.5	14.0	N 6 21.2	15.2	57.2
	13	13 26.9	N17 24.5	140 12.4	13.9	N 6 36.4	15.2	57.2
	14	28 27.0	N17 23.9	154 45.3	13.9	N 6 51.6	15.2	57.2
	15	43 27.0	N17 23.2	169 18.1	13.8	N 7 06.8	15.2	57.3
	16	58 27.1	N17 22.6	183 50.9	13.8	N 7 21.9	15.2	57.3
	17	73 27.1	N17 21.9	198 23.6	13.7	N 7 37.1	15.1	57.3
	18	88 27.2	N17 21.2	212 56.3	13.7	N 7 52.2	15.1	57.3
	19	103 27.2	N17 20.6	227 28.9	13.6	N 8 07.3	15.1	57.4
	20	118 27.3	N17 19.9	242 01.4	13.5	N 8 22.3	15.1	57.4
	21	133 27.4	N17 19.3	256 33.9	13.5	N 8 37.4	15.0	57.4
	22	148 27.4	N17 18.6	271 06.3	13.4	N 8 52.4	15.0	57.4
	23	163 27.5	N17 17.9	285 38.6	13.3	N 9 07.4	15.0	57.5
4	0	178 27.5	N17 17.3	300 10.9	13.3	N 9 22.3	15.0	57.5
	1	193 27.6	N17 16.6	314 43.1	13.2	N 9 37.3	14.9	57.5
	2	208 27.6	N17 15.9	329 15.3	13.1	N 9 52.2	14.9	57.5
	3	223 27.7	N17 15.3	343 47.4	13.1	N10 07.0	14.9	57.6
	4	238 27.7	N17 14.6	358 19.4	13.0	N10 21.9	14.8	57.6
T	5	253 27.8	N17 13.9	12 51.3	12.9	N10 36.6	14.8	57.6
U								
E	6	268 27.9	N17 13.3	27 23.2	12.9	N10 51.4	14.8	57.6
S	7	283 27.9	N17 12.6	41 55.0	12.8	N11 06.1	14.7	57.7
D	8	298 28.0	N17 11.9	56 26.7	12.7	N11 20.8	14.7	57.7
A	9	313 28.0	N17 11.3	70 58.3	12.6	N11 35.4	14.6	57.7
Y	10	328 28.1	N17 10.6	85 29.9	12.6	N11 50.0	14.6	57.7
	11	343 28.1	N17 09.9	100 01.3	12.5	N12 04.5	14.5	57.8
	12	358 28.2	N17 09.3	114 32.7	12.4	N12 19.0	14.5	57.8
	13	13 28.3	N17 08.6	129 04.0	12.3	N12 33.5	14.5	57.8
	14	28 28.3	N17 07.9	143 35.3	12.2	N12 47.9	14.4	57.8
	15	43 28.4	N17 07.3	158 06.4	12.1	N13 02.2	14.4	57.9
	16	58 28.4	N17 06.6	172 37.5	12.1	N13 16.6	14.3	57.9
	17	73 28.5	N17 05.9	187 08.5	12.0	N13 30.8	14.2	57.9
	18	88 28.6	N17 05.3	201 39.3	11.9	N13 45.0	14.2	57.9
	19	103 28.6	N17 04.6	216 10.1	11.8	N13 59.1	14.1	58.0
	20	118 28.7	N17 03.9	230 40.8	11.7	N14 13.2	14.1	58.0
	21	133 28.7	N17 03.2	245 11.4	11.6	N14 27.2	14.0	58.0
	22	148 28.8	N17 02.6	259 42.0	11.5	N14 41.2	14.0	58.0
	23	163 28.9	N17 01.9	274 12.4	11.4	N14 55.1	13.9	58.1
		S.D. 15.8	d 0.7	S.D. 15.4		15.6	15.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.8	S40 11.5
Achernar	335 19.0	S57 05.7
Acrux	172 59.1	S63 15.0
Adhara	255 05.2	S29 00.3
Albireo	67 02.6	N28 01.0
Aldebaran	290 38.3	N16 33.8
Alioth	166 12.0	N55 49.2
Alkaid	152 51.1	N49 11.1
Al Na-ir	27 30.8	S46 49.7
Alnilam	275 36.6	S 1 10.9
Alphard	217 46.8	S 8 46.4
Alphecca	126 02.5	N26 37.6
Alpheratz	357 33.2	N29 14.3
Altair	61 58.3	N 8 56.4
Ankaa	353 05.6	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.7	N19 02.7
Atria	107 06.9	S69 04.8
Avior	234 14.8	S59 35.6
Bellatrix	278 21.7	N 6 22.5
Betelgeuse	270 50.9	N 7 24.8
Canopus	263 52.2	S52 42.3
Capella	280 20.3	N46 01.4
Castor	245 55.7	N31 49.8
Deneb	49 24.4	N45 22.6
Denebola	182 23.8	N14 25.5
Diphda	348 45.8	S17 50.2
Dubhe	193 39.9	N61 36.6
Elnath	278 00.5	N28 37.8
Eltanin	90 41.2	N51 29.2
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.7	S29 28.7
Gacrux	171 50.6	S57 16.0
Gienah	175 42.4	S17 41.4
Hadar	148 34.3	S60 30.4
Hamal	327 49.7	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 19.9	N74 03.0
Markab	13 28.3	N15 21.0
Menkar	314 04.8	N 4 11.8
Menkent	147 56.2	S36 30.3
Miaplacidus	221 38.9	S69 49.6
Mirfak	308 26.5	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 38.9
Polaris	315 58.3	N89 21.7
Pollux	243 16.0	N27 57.8
Procyon	244 49.8	N 5 09.5
Rasalhague	95 57.1	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.8	S 8 10.1
Rigil Kent	139 38.7	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.3	N56 40.8
Shaula	96 08.3	S37 07.5
Sirius	258 25.4	S16 45.0
Spica	158 21.0	S11 18.0
Suhail	222 45.8	S43 32.4
Vega	80 32.0	N38 48.6
Zuben-ubi	136 55.4	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
5	0	313 33.8	135 23.3	N 0 23.0	228 11.2	N23 31.0	183 10.3	N18 46.3	299 03.8	N 3 26.3
	1	328 36.2	150 23.5	N 0 21.7	243 11.8	N23 31.1	198 12.2	N18 46.2	314 06.3	N 3 26.2
	2	343 38.7	165 23.7	N 0 20.5	258 12.4	N23 31.2	213 14.1	N18 46.1	329 08.8	N 3 26.2
	3	358 41.2	180 23.9	N 0 19.3	273 13.1	N23 31.3	228 16.0	N18 45.9	344 11.3	N 3 26.2
	4	13 43.6	195 24.1	N 0 18.1	288 13.7	N23 31.4	243 17.9	N18 45.8	359 13.8	N 3 26.2
W	5	28 46.1	210 24.4	N 0 16.8	303 14.4	N23 31.5	258 19.8	N18 45.7	14 16.3	N 3 26.1
E										
D	6	43 48.6	225 24.6	N 0 15.6	318 15.0	N23 31.6	273 21.7	N18 45.5	29 18.8	N 3 26.1
N	7	58 51.0	240 24.8	N 0 14.4	333 15.6	N23 31.6	288 23.6	N18 45.4	44 21.3	N 3 26.1
E	8	73 53.5	255 25.0	N 0 13.2	348 16.3	N23 31.7	303 25.5	N18 45.2	59 23.8	N 3 26.1
S	9	88 56.0	270 25.2	N 0 12.0	3 16.9	N23 31.8	318 27.4	N18 45.1	74 26.3	N 3 26.0
D	10	103 58.4	285 25.5	N 0 10.7	18 17.5	N23 31.9	333 29.3	N18 45.0	89 28.8	N 3 26.0
A	11	119 00.9	300 25.7	N 0 09.5	33 18.2	N23 32.0	348 31.2	N18 44.8	104 31.3	N 3 26.0
Y										
	12	134 03.4	315 25.9	N 0 08.3	48 18.8	N23 32.1	3 33.1	N18 44.7	119 33.8	N 3 26.0
	13	149 05.8	330 26.1	N 0 07.1	63 19.5	N23 32.2	18 35.0	N18 44.5	134 36.3	N 3 25.9
	14	164 08.3	345 26.4	N 0 05.8	78 20.1	N23 32.2	33 36.9	N18 44.4	149 38.8	N 3 25.9
	15	179 10.7	0 26.6	N 0 04.6	93 20.7	N23 32.3	48 38.8	N18 44.3	164 41.3	N 3 25.9
	16	194 13.2	15 26.8	N 0 03.4	108 21.4	N23 32.4	63 40.7	N18 44.1	179 43.8	N 3 25.8
	17	209 15.7	30 27.1	N 0 02.2	123 22.0	N23 32.5	78 42.6	N18 44.0	194 46.3	N 3 25.8
	18	224 18.1	45 27.3	N 0 00.9	138 22.7	N23 32.6	93 44.5	N18 43.8	209 48.8	N 3 25.8
	19	239 20.6	60 27.5	S 0 00.3	153 23.3	N23 32.6	108 46.4	N18 43.7	224 51.3	N 3 25.8
	20	254 23.1	75 27.7	S 0 01.5	168 23.9	N23 32.7	123 48.3	N18 43.6	239 53.8	N 3 25.7
	21	269 25.5	90 28.0	S 0 02.7	183 24.6	N23 32.8	138 50.2	N18 43.4	254 56.3	N 3 25.7
	22	284 28.0	105 28.2	S 0 04.0	198 25.2	N23 32.9	153 52.1	N18 43.3	269 58.8	N 3 25.7
	23	299 30.5	120 28.4	S 0 05.2	213 25.8	N23 33.0	168 54.0	N18 43.1	285 01.3	N 3 25.7
6	0	314 32.9	135 28.7	S 0 06.4	228 26.5	N23 33.0	183 55.9	N18 43.0	300 03.8	N 3 25.6
	1	329 35.4	150 28.9	S 0 07.6	243 27.1	N23 33.1	198 57.8	N18 42.9	315 06.3	N 3 25.6
	2	344 37.9	165 29.1	S 0 08.8	258 27.8	N23 33.2	213 59.7	N18 42.7	330 08.8	N 3 25.6
	3	359 40.3	180 29.4	S 0 10.1	273 28.4	N23 33.3	229 01.6	N18 42.6	345 11.3	N 3 25.6
	4	14 42.8	195 29.6	S 0 11.3	288 29.0	N23 33.4	244 03.5	N18 42.4	0 13.8	N 3 25.5
T	5	29 45.2	210 29.8	S 0 12.5	303 29.7	N23 33.4	259 05.4	N18 42.3	15 16.3	N 3 25.5
H										
U	6	44 47.7	225 30.1	S 0 13.7	318 30.3	N23 33.5	274 07.3	N18 42.2	30 18.8	N 3 25.5
R	7	59 50.2	240 30.3	S 0 15.0	333 31.0	N23 33.6	289 09.2	N18 42.0	45 21.3	N 3 25.4
S	8	74 52.6	255 30.5	S 0 16.2	348 31.6	N23 33.7	304 11.1	N18 41.9	60 23.8	N 3 25.4
D	9	89 55.1	270 30.8	S 0 17.4	3 32.2	N23 33.7	319 13.0	N18 41.8	75 26.3	N 3 25.4
A	10	104 57.6	285 31.0	S 0 18.6	18 32.9	N23 33.8	334 14.9	N18 41.6	90 28.8	N 3 25.4
Y	11	120 00.0	300 31.3	S 0 19.9	33 33.5	N23 33.9	349 16.8	N18 41.5	105 31.3	N 3 25.3
	12	135 02.5	315 31.5	S 0 21.1	48 34.2	N23 34.0	4 18.7	N18 41.3	120 33.8	N 3 25.3
	13	150 05.0	330 31.7	S 0 22.3	63 34.8	N23 34.0	19 20.6	N18 41.2	135 36.3	N 3 25.3
	14	165 07.4	345 32.0	S 0 23.5	78 35.4	N23 34.1	34 22.5	N18 41.1	150 38.8	N 3 25.2
	15	180 09.9	0 32.2	S 0 24.7	93 36.1	N23 34.2	49 24.4	N18 40.9	165 41.3	N 3 25.2
	16	195 12.3	15 32.5	S 0 26.0	108 36.7	N23 34.3	64 26.3	N18 40.8	180 43.8	N 3 25.2
	17	210 14.8	30 32.7	S 0 27.2	123 37.4	N23 34.3	79 28.2	N18 40.6	195 46.3	N 3 25.2
	18	225 17.3	45 32.9	S 0 28.4	138 38.0	N23 34.4	94 30.1	N18 40.5	210 48.8	N 3 25.1
	19	240 19.7	60 33.2	S 0 29.6	153 38.7	N23 34.5	109 32.0	N18 40.4	225 51.3	N 3 25.1
	20	255 22.2	75 33.4	S 0 30.9	168 39.3	N23 34.6	124 33.9	N18 40.2	240 53.8	N 3 25.1
	21	270 24.7	90 33.7	S 0 32.1	183 39.9	N23 34.6	139 35.8	N18 40.1	255 56.3	N 3 25.1
	22	285 27.1	105 33.9	S 0 33.3	198 40.6	N23 34.7	154 37.7	N18 39.9	270 58.8	N 3 25.0
	23	300 29.6	120 34.2	S 0 34.5	213 41.2	N23 34.8	169 39.6	N18 39.8	286 01.3	N 3 25.0
7	0	315 32.1	135 34.4	S 0 35.7	228 41.9	N23 34.9	184 41.5	N18 39.7	301 03.8	N 3 25.0
	1	330 34.5	150 34.6	S 0 37.0	243 42.5	N23 34.9	199 43.4	N18 39.5	316 06.3	N 3 24.9
	2	345 37.0	165 34.9	S 0 38.2	258 43.1	N23 35.0	214 45.3	N18 39.4	331 08.8	N 3 24.9
	3	0 39.5	180 35.1	S 0 39.4	273 43.8	N23 35.1	229 47.2	N18 39.2	346 11.3	N 3 24.9
	4	15 41.9	195 35.4	S 0 40.6	288 44.4	N23 35.1	244 49.1	N18 39.1	1 13.8	N 3 24.9
F	5	30 44.4	210 35.6	S 0 41.9	303 45.1	N23 35.2	259 51.0	N18 39.0	16 16.3	N 3 24.8
R										
I	6	45 46.8	225 35.9	S 0 43.1	318 45.7	N23 35.3	274 52.9	N18 38.8	31 18.9	N 3 24.8
D	7	60 49.3	240 36.1	S 0 44.3	333 46.4	N23 35.3	289 54.8	N18 38.7	46 21.4	N 3 24.8
A	8	75 51.8	255 36.4	S 0 45.5	348 47.0	N23 35.4	304 56.7	N18 38.5	61 23.9	N 3 24.7
Y	9	90 54.2	270 36.6	S 0 46.7	3 47.6	N23 35.5	319 58.6	N18 38.4	76 26.4	N 3 24.7
	10	105 56.7	285 36.9	S 0 48.0	18 48.3	N23 35.5	335 00.5	N18 38.3	91 28.9	N 3 24.7
	11	120 59.2	300 37.1	S 0 49.2	33 48.9	N23 35.6	350 02.4	N18 38.1	106 31.4	N 3 24.7
	12	136 01.6	315 37.4	S 0 50.4	48 49.6	N23 35.7	5 04.3	N18 38.0	121 33.9	N 3 24.6
	13	151 04.1	330 37.6	S 0 51.6	63 50.2	N23 35.7	20 06.2	N18 37.8	136 36.4	N 3 24.6
	14	166 06.6	345 37.9	S 0 52.9	78 50.9	N23 35.8	35 08.1	N18 37.7	151 38.9	N 3 24.6
	15	181 09.0	0 38.1	S 0 54.1	93 51.5	N23 35.9	50 10.0	N18 37.6	166 41.4	N 3 24.5
	16	196 11.5	15 38.4	S 0 55.3	108 52.1	N23 35.9	65 11.9	N18 37.4	181 43.9	N 3 24.5
	17	211 14.0	30 38.7	S 0 56.5	123 52.8	N23 36.0	80 13.8	N18 37.3	196 46.4	N 3 24.5
	18	226 16.4	45 38.9	S 0 57.7	138 53.4	N23 36.1	95 15.7	N18 37.1	211 48.9	N 3 24.4
	19	241 18.9	60 39.2	S 0 59.0	153 54.1	N23 36.1	110 17.6	N18 37.0	226 51.4	N 3 24.4
	20	256 21.3	75 39.4	S 1 00.2	168 54.7	N23 36.2	125 19.5	N18 36.9	241 53.9	N 3 24.4
	21	271 23.8	90 39.7	S 1 01.4	183 55.4	N23 36.3	140 21.4	N18 36.7	256 56.4	N 3 24.4
	22	286 26.3	105 39.9	S 1 02.6	198 56.0	N23 36.3	155 23.3	N18 36.6	271 58.9	N 3 24.3
	23	301 28.7	120 40.2	S 1 03.8	213 56.7	N23 36.4	170 25.2	N18 36.4	287 01.5	N 3 24.3
			v 0.2	d 1.2	v 0.6	d 0.1	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
5 0	178 28.9	N17 01.2	288 42.7	11.3	N15 08.9	13.8	58.1	Acamar	315 10.8 S40 11.5
1	193 29.0	N17 00.5	303 13.0	11.2	N15 22.7	13.8	58.1	Achernar	335 19.0 S57 05.7
2	208 29.1	N16 59.9	317 43.1	11.1	N15 36.4	13.7	58.1	Acrux	172 59.1 S63 15.0
3	223 29.1	N16 59.2	332 13.1	11.0	N15 50.1	13.6	58.2	Adhara	255 05.2 S29 00.3
4	238 29.2	N16 58.5	346 43.1	10.9	N16 03.6	13.6	58.2	Albireo	67 02.6 N28 01.0
W 5	253 29.2	N16 57.8	1 12.9	10.8	N16 17.1	13.5	58.2		
E								Aldebaran	290 38.3 N16 33.8
D 6	268 29.3	N16 57.2	15 42.6	10.7	N16 30.6	13.4	58.2	Alioth	166 12.0 N55 49.2
N 7	283 29.4	N16 56.5	30 12.3	10.6	N16 43.9	13.4	58.3	Alkaid	152 51.1 N49 11.0
E 8	298 29.4	N16 55.8	44 41.8	10.5	N16 57.2	13.3	58.3	Al Na-ir	27 30.7 S46 49.7
S 9	313 29.5	N16 55.1	59 11.2	10.4	N17 10.4	13.2	58.3	Alnilam	275 36.6 S 1 10.9
D 10	328 29.6	N16 54.5	73 40.5	10.3	N17 23.5	13.1	58.3		
A 11	343 29.6	N16 53.8	88 09.7	10.2	N17 36.6	13.0	58.4	Alphard	217 46.7 S 8 46.4
Y								Alphecca	126 02.5 N26 37.7
12	358 29.7	N16 53.1	102 38.9	10.1	N17 49.5	13.0	58.4	Alpheratz	357 33.2 N29 14.3
13	13 29.8	N16 52.4	117 07.8	10.0	N18 02.4	12.9	58.4	Altair	61 58.3 N 8 56.4
14	28 29.8	N16 51.7	131 36.7	9.9	N18 15.2	12.8	58.4	Ankaa	353 05.6 S42 09.4
15	43 29.9	N16 51.1	146 05.5	9.8	N18 27.9	12.7	58.5		
16	58 30.0	N16 50.4	160 34.2	9.7	N18 40.5	12.6	58.5	Antares	112 14.1 S26 29.6
17	73 30.0	N16 49.7	175 02.7	9.6	N18 53.0	12.5	58.5	Arcturus	145 46.7 N19 02.7
								Atria	107 06.9 S69 04.8
18	88 30.1	N16 49.0	189 31.2	9.4	N19 05.5	12.4	58.5	Avior	234 14.8 S59 35.6
19	103 30.2	N16 48.3	203 59.5	9.3	N19 17.8	12.3	58.6	Bellatrix	278 21.7 N 6 22.5
20	118 30.2	N16 47.6	218 27.7	9.2	N19 30.0	12.2	58.6		
21	133 30.3	N16 47.0	232 55.8	9.1	N19 42.2	12.1	58.6	Betelgeuse	270 50.9 N 7 24.8
22	148 30.4	N16 46.3	247 23.8	9.0	N19 54.2	12.0	58.6	Canopus	263 52.2 S52 42.3
23	163 30.4	N16 45.6	261 51.7	8.9	N20 06.2	11.9	58.6	Capella	280 20.2 N46 01.4
6 0	178 30.5	N16 44.9	276 19.4	8.7	N20 18.0	11.8	58.7	Castor	245 55.7 N31 49.8
1	193 30.6	N16 44.2	290 47.0	8.6	N20 29.7	11.7	58.7	Deneb	49 24.4 N45 22.6
2	208 30.6	N16 43.5	305 14.5	8.5	N20 41.4	11.6	58.7		
3	223 30.7	N16 42.8	319 41.9	8.4	N20 52.9	11.5	58.7	Denebola	182 23.8 N14 25.5
4	238 30.8	N16 42.2	334 09.2	8.3	N21 04.3	11.4	58.8	Diphda	348 45.8 S17 50.2
T 5	253 30.8	N16 41.5	348 36.4	8.2	N21 15.6	11.3	58.8	Dubhe	193 39.9 N61 36.6
H								Elnath	278 00.5 N28 37.8
U 6	268 30.9	N16 40.8	3 03.4	8.0	N21 26.8	11.2	58.8	Eltanin	90 41.2 N51 29.2
R 7	283 31.0	N16 40.1	17 30.3	7.9	N21 37.8	11.1	58.8		
S 8	298 31.0	N16 39.4	31 57.1	7.8	N21 48.8	11.0	58.9	Enif	33 37.1 N 9 59.9
D 9	313 31.1	N16 38.7	46 23.8	7.7	N21 59.6	10.8	58.9	Fomalhaut	15 12.7 S29 28.7
A 10	328 31.2	N16 38.0	60 50.4	7.6	N22 10.3	10.7	58.9	Gacrux	171 50.6 S57 16.0
Y 11	343 31.3	N16 37.3	75 16.8	7.4	N22 20.9	10.6	58.9	Gienah	175 42.4 S17 41.4
								Hadar	148 34.4 S60 30.4
12	358 31.3	N16 36.6	89 43.1	7.3	N22 31.4	10.5	59.0		
13	13 31.4	N16 36.0	104 09.3	7.2	N22 41.7	10.3	59.0	Hamal	327 49.7 N23 35.4
14	28 31.5	N16 35.3	118 35.4	7.1	N22 51.9	10.2	59.0	Kaus Austr.	83 30.5 S34 22.4
15	43 31.5	N16 34.6	133 01.4	7.0	N23 02.0	10.1	59.0	Kochab	137 19.9 N74 03.0
16	58 31.6	N16 33.9	147 27.2	6.8	N23 12.0	9.9	59.1	Markab	13 28.3 N15 21.0
17	73 31.7	N16 33.2	161 52.9	6.7	N23 21.8	9.8	59.1	Menkar	314 04.8 N 4 11.8
								Menkent	147 56.2 S36 30.3
18	88 31.8	N16 32.5	176 18.5	6.6	N23 31.4	9.7	59.1	Miaplacidus	221 38.9 S69 49.6
19	103 31.8	N16 31.8	190 44.0	6.5	N23 41.0	9.5	59.1	Mirfak	308 26.5 N49 57.2
20	118 31.9	N16 31.1	205 09.4	6.4	N23 50.4	9.4	59.2	Nunki	75 45.8 S26 15.8
21	133 32.0	N16 30.4	219 34.6	6.2	N23 59.6	9.3	59.2	Peacock	53 03.0 S56 38.9
22	148 32.0	N16 29.7	233 59.7	6.1	N24 08.8	9.1	59.2		
23	163 32.1	N16 29.0	248 24.7	6.0	N24 17.7	9.0	59.2	Polaris	315 56.9 N89 21.7
7 0	178 32.2	N16 28.3	262 49.6	5.9	N24 26.6	8.8	59.2	Pollux	243 16.0 N27 57.7
1	193 32.3	N16 27.6	277 14.4	5.8	N24 35.2	8.7	59.3	Procyon	244 49.8 N 5 09.5
2	208 32.3	N16 26.9	291 39.0	5.7	N24 43.8	8.5	59.3	Rasalhague	95 57.1 N12 32.6
3	223 32.4	N16 26.2	306 03.6	5.5	N24 52.1	8.4	59.3	Regulus	207 33.3 N11 50.3
4	238 32.5	N16 25.5	320 28.0	5.4	N25 00.4	8.2	59.3		
F 5	253 32.6	N16 24.8	334 52.3	5.3	N25 08.4	8.1	59.4	Rigel	281 02.8 S 8 10.1
R								Rigil Kent	139 38.7 S60 57.0
I 6	268 32.6	N16 24.1	349 16.5	5.2	N25 16.3	7.9	59.4	Sabik	102 01.1 S15 45.5
D 7	283 32.7	N16 23.4	3 40.6	5.1	N25 24.1	7.8	59.4	Schedar	349 29.2 N56 40.9
A 8	298 32.8	N16 22.7	18 04.6	5.0	N25 31.7	7.6	59.4	Shaula	96 08.3 S37 07.5
Y 9	313 32.9	N16 22.0	32 28.4	4.9	N25 39.1	7.4	59.4		
10	328 32.9	N16 21.3	46 52.2	4.8	N25 46.4	7.3	59.5	Sirius	258 25.4 S16 45.0
11	343 33.0	N16 20.6	61 15.8	4.6	N25 53.5	7.1	59.5	Spica	158 21.0 S11 18.0
								Suhail	222 45.8 S43 32.3
12	358 33.1	N16 19.9	75 39.4	4.5	N26 00.4	6.9	59.5	Vega	80 32.0 N38 48.6
13	13 33.2	N16 19.2	90 02.8	4.4	N26 07.2	6.8	59.5	Zuben-ubi	136 55.4 S16 09.2
14	28 33.3	N16 18.5	104 26.1	4.3	N26 13.8	6.6	59.5		
15	43 33.3	N16 17.8	118 49.3	4.2	N26 20.2	6.4	59.6		
16	58 33.4	N16 17.1	133 12.5	4.1	N26 26.4	6.2	59.6		
17	73 33.5	N16 16.4	147 35.5	4.0	N26 32.5	6.1	59.6		
18	88 33.6	N16 15.7	161 58.4	3.9	N26 38.4	5.9	59.6		
19	103 33.6	N16 15.0	176 21.3	3.8	N26 44.1	5.7	59.6		
20	118 33.7	N16 14.3	190 44.0	3.7	N26 49.6	5.5	59.7		
21	133 33.8	N16 13.6	205 06.7	3.7	N26 55.0	5.4	59.7		
22	148 33.9	N16 12.9	219 29.2	3.6	N27 00.1	5.2	59.7		
23	163 34.0	N16 12.2	233 51.7	3.5	N27 05.1	5.0	59.7		
	S.D. 15.8	d 0.7	S.D.	15.9	16.1	16.2			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
8	0	316 31.2	135 40.5	S 1 05.1	228 57.3	N23 36.5	185 27.1	N18 36.3	302 04.0	N 3 24.3
	1	331 33.7	150 40.7	S 1 06.3	243 57.9	N23 36.5	200 29.0	N18 36.2	317 06.5	N 3 24.2
	2	346 36.1	165 41.0	S 1 07.5	258 58.6	N23 36.6	215 30.9	N18 36.0	332 09.0	N 3 24.2
	3	1 38.6	180 41.2	S 1 08.7	273 59.2	N23 36.6	230 32.9	N18 35.9	347 11.5	N 3 24.2
	4	16 41.1	195 41.5	S 1 09.9	288 59.9	N23 36.7	245 34.8	N18 35.7	2 14.0	N 3 24.1
S	5	31 43.5	210 41.8	S 1 11.2	304 00.5	N23 36.8	260 36.7	N18 35.6	17 16.5	N 3 24.1
A										
T	6	46 46.0	225 42.0	S 1 12.4	319 01.2	N23 36.8	275 38.6	N18 35.4	32 19.0	N 3 24.1
U	7	61 48.5	240 42.3	S 1 13.6	334 01.8	N23 36.9	290 40.5	N18 35.3	47 21.5	N 3 24.1
R	8	76 50.9	255 42.6	S 1 14.8	349 02.5	N23 36.9	305 42.4	N18 35.2	62 24.0	N 3 24.0
D	9	91 53.4	270 42.8	S 1 16.0	4 03.1	N23 37.0	320 44.3	N18 35.0	77 26.5	N 3 24.0
A	10	106 55.8	285 43.1	S 1 17.3	19 03.8	N23 37.1	335 46.2	N18 34.9	92 29.0	N 3 24.0
Y	11	121 58.3	300 43.3	S 1 18.5	34 04.4	N23 37.1	350 48.1	N18 34.7	107 31.6	N 3 23.9
	12	137 00.8	315 43.6	S 1 19.7	49 05.0	N23 37.2	5 50.0	N18 34.6	122 34.1	N 3 23.9
	13	152 03.2	330 43.9	S 1 20.9	64 05.7	N23 37.2	20 51.9	N18 34.5	137 36.6	N 3 23.9
	14	167 05.7	345 44.1	S 1 22.1	79 06.3	N23 37.3	35 53.8	N18 34.3	152 39.1	N 3 23.8
	15	182 08.2	0 44.4	S 1 23.4	94 07.0	N23 37.4	50 55.7	N18 34.2	167 41.6	N 3 23.8
	16	197 10.6	15 44.7	S 1 24.6	109 07.6	N23 37.4	65 57.6	N18 34.0	182 44.1	N 3 23.8
	17	212 13.1	30 45.0	S 1 25.8	124 08.3	N23 37.5	80 59.5	N18 33.9	197 46.6	N 3 23.7
	18	227 15.6	45 45.2	S 1 27.0	139 08.9	N23 37.5	96 01.4	N18 33.8	212 49.1	N 3 23.7
	19	242 18.0	60 45.5	S 1 28.2	154 09.6	N23 37.6	111 03.3	N18 33.6	227 51.6	N 3 23.7
	20	257 20.5	75 45.8	S 1 29.4	169 10.2	N23 37.6	126 05.2	N18 33.5	242 54.1	N 3 23.7
	21	272 22.9	90 46.0	S 1 30.7	184 10.9	N23 37.7	141 07.1	N18 33.3	257 56.7	N 3 23.6
	22	287 25.4	105 46.3	S 1 31.9	199 11.5	N23 37.8	156 09.0	N18 33.2	272 59.2	N 3 23.6
	23	302 27.9	120 46.6	S 1 33.1	214 12.2	N23 37.8	171 10.9	N18 33.1	288 01.7	N 3 23.6
9	0	317 30.3	135 46.8	S 1 34.3	229 12.8	N23 37.9	186 12.8	N18 32.9	303 04.2	N 3 23.5
	1	332 32.8	150 47.1	S 1 35.5	244 13.5	N23 37.9	201 14.7	N18 32.8	318 06.7	N 3 23.5
	2	347 35.3	165 47.4	S 1 36.8	259 14.1	N23 38.0	216 16.6	N18 32.6	333 09.2	N 3 23.5
	3	2 37.7	180 47.7	S 1 38.0	274 14.7	N23 38.0	231 18.5	N18 32.5	348 11.7	N 3 23.4
	4	17 40.2	195 47.9	S 1 39.2	289 15.4	N23 38.1	246 20.4	N18 32.4	3 14.2	N 3 23.4
S	5	32 42.7	210 48.2	S 1 40.4	304 16.0	N23 38.1	261 22.3	N18 32.2	18 16.7	N 3 23.4
U										
N	6	47 45.1	225 48.5	S 1 41.6	319 16.7	N23 38.2	276 24.2	N18 32.1	33 19.3	N 3 23.3
D	7	62 47.6	240 48.8	S 1 42.8	334 17.3	N23 38.2	291 26.1	N18 31.9	48 21.8	N 3 23.3
A	8	77 50.1	255 49.1	S 1 44.1	349 18.0	N23 38.3	306 28.0	N18 31.8	63 24.3	N 3 23.3
Y	9	92 52.5	270 49.3	S 1 45.3	4 18.6	N23 38.3	321 29.9	N18 31.6	78 26.8	N 3 23.2
	10	107 55.0	285 49.6	S 1 46.5	19 19.3	N23 38.4	336 31.8	N18 31.5	93 29.3	N 3 23.2
	11	122 57.4	300 49.9	S 1 47.7	34 19.9	N23 38.4	351 33.7	N18 31.4	108 31.8	N 3 23.2
	12	137 59.9	315 50.2	S 1 48.9	49 20.6	N23 38.5	6 35.6	N18 31.2	123 34.3	N 3 23.1
	13	153 02.4	330 50.4	S 1 50.1	64 21.2	N23 38.5	21 37.5	N18 31.1	138 36.8	N 3 23.1
	14	168 04.8	345 50.7	S 1 51.4	79 21.9	N23 38.6	36 39.4	N18 30.9	153 39.4	N 3 23.1
	15	183 07.3	0 51.0	S 1 52.6	94 22.5	N23 38.6	51 41.3	N18 30.8	168 41.9	N 3 23.0
	16	198 09.8	15 51.3	S 1 53.8	109 23.2	N23 38.7	66 43.2	N18 30.7	183 44.4	N 3 23.0
	17	213 12.2	30 51.6	S 1 55.0	124 23.8	N23 38.7	81 45.1	N18 30.5	198 46.9	N 3 23.0
	18	228 14.7	45 51.9	S 1 56.2	139 24.5	N23 38.8	96 47.0	N18 30.4	213 49.4	N 3 22.9
	19	243 17.2	60 52.1	S 1 57.4	154 25.1	N23 38.8	111 48.9	N18 30.2	228 51.9	N 3 22.9
	20	258 19.6	75 52.4	S 1 58.7	169 25.8	N23 38.9	126 50.8	N18 30.1	243 54.4	N 3 22.9
	21	273 22.1	90 52.7	S 1 59.9	184 26.4	N23 38.9	141 52.7	N18 30.0	258 57.0	N 3 22.9
	22	288 24.6	105 53.0	S 2 01.1	199 27.1	N23 39.0	156 54.7	N18 29.8	273 59.5	N 3 22.8
	23	303 27.0	120 53.3	S 2 02.3	214 27.7	N23 39.0	171 56.6	N18 29.7	289 02.0	N 3 22.8
10	0	318 29.5	135 53.6	S 2 03.5	229 28.4	N23 39.1	186 58.5	N18 29.5	304 04.5	N 3 22.8
	1	333 31.9	150 53.9	S 2 04.7	244 29.0	N23 39.1	202 00.4	N18 29.4	319 07.0	N 3 22.7
	2	348 34.4	165 54.1	S 2 06.0	259 29.7	N23 39.2	217 02.3	N18 29.2	334 09.5	N 3 22.7
	3	3 36.9	180 54.4	S 2 07.2	274 30.3	N23 39.2	232 04.2	N18 29.1	349 12.0	N 3 22.7
	4	18 39.3	195 54.7	S 2 08.4	289 31.0	N23 39.2	247 06.1	N18 29.0	4 14.6	N 3 22.6
M	5	33 41.8	210 55.0	S 2 09.6	304 31.6	N23 39.3	262 08.0	N18 28.8	19 17.1	N 3 22.6
O										
N	6	48 44.3	225 55.3	S 2 10.8	319 32.3	N23 39.3	277 09.9	N18 28.7	34 19.6	N 3 22.6
D	7	63 46.7	240 55.6	S 2 12.0	334 32.9	N23 39.4	292 11.8	N18 28.5	49 22.1	N 3 22.5
A	8	78 49.2	255 55.9	S 2 13.2	349 33.6	N23 39.4	307 13.7	N18 28.4	64 24.6	N 3 22.5
Y	9	93 51.7	270 56.2	S 2 14.5	4 34.2	N23 39.5	322 15.6	N18 28.3	79 27.1	N 3 22.5
	10	108 54.1	285 56.5	S 2 15.7	19 34.9	N23 39.5	337 17.5	N18 28.1	94 29.7	N 3 22.4
	11	123 56.6	300 56.8	S 2 16.9	34 35.5	N23 39.6	352 19.4	N18 28.0	109 32.2	N 3 22.4
	12	138 59.1	315 57.1	S 2 18.1	49 36.2	N23 39.6	7 21.3	N18 27.8	124 34.7	N 3 22.4
	13	154 01.5	330 57.3	S 2 19.3	64 36.8	N23 39.6	22 23.2	N18 27.7	139 37.2	N 3 22.3
	14	169 04.0	345 57.6	S 2 20.5	79 37.5	N23 39.7	37 25.1	N18 27.5	154 39.7	N 3 22.3
	15	184 06.4	0 57.9	S 2 21.7	94 38.1	N23 39.7	52 27.0	N18 27.4	169 42.2	N 3 22.2
	16	199 08.9	15 58.2	S 2 23.0	109 38.8	N23 39.8	67 28.9	N18 27.3	184 44.8	N 3 22.2
	17	214 11.4	30 58.5	S 2 24.2	124 39.5	N23 39.8	82 30.8	N18 27.1	199 47.3	N 3 22.2
	18	229 13.8	45 58.8	S 2 25.4	139 40.1	N23 39.8	97 32.7	N18 27.0	214 49.8	N 3 22.1
	19	244 16.3	60 59.1	S 2 26.6	154 40.8	N23 39.9	112 34.6	N18 26.8	229 52.3	N 3 22.1
	20	259 18.8	75 59.4	S 2 27.8	169 41.4	N23 39.9	127 36.5	N18 26.7	244 54.8	N 3 22.1
	21	274 21.2	90 59.7	S 2 29.0	184 42.1	N23 40.0	142 38.4	N18 26.6	259 57.4	N 3 22.0
	22	289 23.7	106 00.0	S 2 30.2	199 42.7	N23 40.0	157 40.3	N18 26.4	274 59.9	N 3 22.0
	23	304 26.2	121 00.3	S 2 31.4	214 43.4	N23 40.0	172 42.2	N18 26.3	290 02.4	N 3 22.0
			v 0.3	d 1.2	v 0.6	d 0.1	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
8	0	178 34.0	N16 11.5	248 14.1	3.4	N27 09.9	4.8	59.7
	1	193 34.1	N16 10.7	262 36.4	3.3	N27 14.5	4.6	59.8
	2	208 34.2	N16 10.0	276 58.6	3.2	N27 19.0	4.4	59.8
	3	223 34.3	N16 09.3	291 20.8	3.1	N27 23.2	4.2	59.8
	4	238 34.4	N16 08.6	305 42.8	3.1	N27 27.2	4.0	59.8
S	5	253 34.4	N16 07.9	320 04.8	3.0	N27 31.1	3.9	59.8
A								
T	6	268 34.5	N16 07.2	334 26.7	2.9	N27 34.7	3.7	59.9
U	7	283 34.6	N16 06.5	348 48.6	2.8	N27 38.2	3.5	59.9
R	8	298 34.7	N16 05.8	3 10.4	2.8	N27 41.5	3.3	59.9
D	9	313 34.8	N16 05.1	17 32.1	2.7	N27 44.5	3.1	59.9
A	10	328 34.9	N16 04.4	31 53.7	2.7	N27 47.4	2.9	59.9
Y	11	343 34.9	N16 03.6	46 15.3	2.6	N27 50.1	2.7	59.9
	12	358 35.0	N16 02.9	60 36.9	2.5	N27 52.6	2.5	60.0
	13	13 35.1	N16 02.2	74 58.4	2.5	N27 54.9	2.3	60.0
	14	28 35.2	N16 01.5	89 19.8	2.4	N27 56.9	2.1	60.0
	15	43 35.3	N16 00.8	103 41.2	2.4	N27 58.8	1.9	60.0
	16	58 35.4	N16 00.1	118 02.5	2.3	N28 00.5	1.7	60.0
	17	73 35.4	N15 59.4	132 23.8	2.3	N28 01.9	1.5	60.0
	18	88 35.5	N15 58.6	146 45.1	2.3	N28 03.2	1.3	60.0
	19	103 35.6	N15 57.9	161 06.3	2.2	N28 04.3	1.1	60.1
	20	118 35.7	N15 57.2	175 27.5	2.2	N28 05.1	0.9	60.1
	21	133 35.8	N15 56.5	189 48.6	2.2	N28 05.8	0.6	60.1
	22	148 35.9	N15 55.8	204 09.7	2.1	N28 06.2	0.4	60.1
	23	163 35.9	N15 55.1	218 30.8	2.1	N28 06.4	0.2	60.1
9	0	178 36.0	N15 54.3	232 51.9	2.1	N28 06.5	0.0	60.1
	1	193 36.1	N15 53.6	247 13.0	2.1	N28 06.3	0.2	60.1
	2	208 36.2	N15 52.9	261 34.0	2.0	N28 05.9	0.4	60.2
	3	223 36.3	N15 52.2	275 55.0	2.0	N28 05.3	0.6	60.2
	4	238 36.4	N15 51.5	290 16.0	2.0	N28 04.5	0.8	60.2
S	5	253 36.5	N15 50.7	304 37.0	2.0	N28 03.5	1.0	60.2
U								
N	6	268 36.5	N15 50.0	318 58.1	2.0	N28 02.3	1.2	60.2
D	7	283 36.6	N15 49.3	333 19.1	2.0	N28 00.8	1.4	60.2
A	8	298 36.7	N15 48.6	347 40.1	2.0	N27 59.2	1.6	60.2
Y	9	313 36.8	N15 47.8	2 01.1	2.0	N27 57.4	1.8	60.2
	10	328 36.9	N15 47.1	16 22.1	2.0	N27 55.3	2.1	60.2
	11	343 37.0	N15 46.4	30 43.1	2.0	N27 53.1	2.3	60.2
	12	358 37.1	N15 45.7	45 04.2	2.0	N27 50.6	2.5	60.3
	13	13 37.2	N15 45.0	59 25.2	2.1	N27 47.9	2.7	60.3
	14	28 37.3	N15 44.2	73 46.3	2.1	N27 45.0	2.9	60.3
	15	43 37.3	N15 43.5	88 07.4	2.1	N27 42.0	3.1	60.3
	16	58 37.4	N15 42.8	102 28.6	2.1	N27 38.7	3.3	60.3
	17	73 37.5	N15 42.1	116 49.7	2.2	N27 35.2	3.5	60.3
	18	88 37.6	N15 41.3	131 10.9	2.2	N27 31.5	3.7	60.3
	19	103 37.7	N15 40.6	145 32.2	2.2	N27 27.6	3.9	60.3
	20	118 37.8	N15 39.9	159 53.4	2.3	N27 23.5	4.1	60.3
	21	133 37.9	N15 39.1	174 14.8	2.3	N27 19.1	4.3	60.3
	22	148 38.0	N15 38.4	188 36.1	2.4	N27 14.6	4.5	60.3
	23	163 38.1	N15 37.7	202 57.5	2.4	N27 09.9	4.7	60.3
10	0	178 38.2	N15 37.0	217 19.0	2.5	N27 05.0	4.9	60.3
	1	193 38.3	N15 36.2	231 40.5	2.5	N26 59.9	5.1	60.3
	2	208 38.3	N15 35.5	246 02.0	2.6	N26 54.6	5.3	60.3
	3	223 38.4	N15 34.8	260 23.7	2.6	N26 49.1	5.5	60.3
	4	238 38.5	N15 34.0	274 45.3	2.7	N26 43.4	5.7	60.3
M	5	253 38.6	N15 33.3	289 07.1	2.7	N26 37.5	5.9	60.4
O								
N	6	268 38.7	N15 32.6	303 28.9	2.8	N26 31.4	6.1	60.4
D	7	283 38.8	N15 31.8	317 50.8	2.9	N26 25.1	6.3	60.4
A	8	298 38.9	N15 31.1	332 12.7	2.9	N26 18.6	6.5	60.4
Y	9	313 39.0	N15 30.4	346 34.7	3.0	N26 11.9	6.7	60.4
	10	328 39.1	N15 29.6	0 56.8	3.1	N26 05.1	6.9	60.4
	11	343 39.2	N15 28.9	15 19.0	3.2	N25 58.0	7.0	60.4
	12	358 39.3	N15 28.2	29 41.2	3.2	N25 50.8	7.2	60.4
	13	13 39.4	N15 27.4	44 03.6	3.3	N25 43.4	7.4	60.4
	14	28 39.5	N15 26.7	58 26.0	3.4	N25 35.8	7.6	60.4
	15	43 39.6	N15 26.0	72 48.5	3.5	N25 28.0	7.8	60.4
	16	58 39.7	N15 25.2	87 11.1	3.6	N25 20.1	8.0	60.4
	17	73 39.8	N15 24.5	101 33.7	3.7	N25 11.9	8.1	60.4
	18	88 39.9	N15 23.8	115 56.5	3.8	N25 03.6	8.3	60.3
	19	103 39.9	N15 23.0	130 19.3	3.9	N24 55.1	8.5	60.3
	20	118 40.0	N15 22.3	144 42.3	3.9	N24 46.5	8.7	60.3
	21	133 40.1	N15 21.5	159 05.3	4.0	N24 37.6	8.8	60.3
	22	148 40.2	N15 20.8	173 28.5	4.1	N24 28.6	9.0	60.3
	23	163 40.3	N15 20.1	187 51.7	4.2	N24 19.4	9.2	60.3
		S.D. 15.8	d 0.7	S.D.	16.3	16.4	16.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.5
Achernar	335 19.0	S57 05.7
Acrux	172 59.1	S63 15.0
Adhara	255 05.1	S29 00.3
Albireo	67 02.6	N28 01.0
Aldebaran	290 38.2	N16 33.8
Alioth	166 12.0	N55 49.2
Alkaid	152 51.1	N49 11.0
Al Na-ir	27 30.7	S46 49.7
Alnilam	275 36.6	S 1 10.9
Alphard	217 46.7	S 8 46.4
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.2	N29 14.3
Altair	61 58.3	N 8 56.4
Ankaa	353 05.5	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 06.9	S69 04.8
Avior	234 14.8	S59 35.6
Bellatrix	278 21.6	N 6 22.5
Betelgeuse	270 50.9	N 7 24.8
Canopus	263 52.2	S52 42.3
Capella	280 20.2	N46 01.4
Castor	245 55.7	N31 49.8
Deneb	49 24.4	N45 22.6
Denebola	182 23.8	N14 25.5
Diphda	348 45.8	S17 50.2
Dubhe	193 39.9	N61 36.6
Elnath	278 00.4	N28 37.8
Eltanin	90 41.2	N51 29.3
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.7	S29 28.7
Gacrux	171 50.6	S57 16.0
Gienah	175 42.4	S17 41.4
Hadar	148 34.4	S60 30.4
Hamal	327 49.6	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.0	N74 03.0
Markab	13 28.3	N15 21.0
Menkar	314 04.7	N 4 11.8
Menkent	147 56.2	S36 30.3
Miaplacidus	221 38.9	S69 49.6
Mirfak	308 26.5	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 38.9
Polaris	315 55.5	N89 21.7
Pollux	243 16.0	N27 57.7
Procyon	244 49.7	N 5 09.5
Rasalhague	95 57.1	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.8	S 8 10.1
Rigil Kent	139 38.7	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.2	N56 40.9
Shaula	96 08.3	S37 07.5
Sirius	258 25.4	S16 45.0
Spica	158 21.0	S11 18.0
Suhail	222 45.8	S43 32.3
Vega	80 32.0	N38 48.6
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
11	0	319 28.6	136 00.6	S 2 32.7	229 44.0	N23 40.1	187 44.1	N18 26.1	305 04.9	N 3 21.9
	1	334 31.1	151 00.9	S 2 33.9	244 44.7	N23 40.1	202 46.1	N18 26.0	320 07.4	N 3 21.9
	2	349 33.6	166 01.2	S 2 35.1	259 45.3	N23 40.1	217 48.0	N18 25.8	335 09.9	N 3 21.9
	3	4 36.0	181 01.5	S 2 36.3	274 46.0	N23 40.2	232 49.9	N18 25.7	350 12.5	N 3 21.8
	4	19 38.5	196 01.8	S 2 37.5	289 46.6	N23 40.2	247 51.8	N18 25.6	5 15.0	N 3 21.8
T	5	34 40.9	211 02.1	S 2 38.7	304 47.3	N23 40.3	262 53.7	N18 25.4	20 17.5	N 3 21.8
U										
E	6	49 43.4	226 02.4	S 2 39.9	319 47.9	N23 40.3	277 55.6	N18 25.3	35 20.0	N 3 21.7
S	7	64 45.9	241 02.7	S 2 41.1	334 48.6	N23 40.3	292 57.5	N18 25.1	50 22.5	N 3 21.7
D	8	79 48.3	256 03.0	S 2 42.4	349 49.3	N23 40.4	307 59.4	N18 25.0	65 25.1	N 3 21.7
A	9	94 50.8	271 03.4	S 2 43.6	4 49.9	N23 40.4	323 01.3	N18 24.9	80 27.6	N 3 21.6
Y	10	109 53.3	286 03.7	S 2 44.8	19 50.6	N23 40.4	338 03.2	N18 24.7	95 30.1	N 3 21.6
	11	124 55.7	301 04.0	S 2 46.0	34 51.2	N23 40.5	353 05.1	N18 24.6	110 32.6	N 3 21.6
	12	139 58.2	316 04.3	S 2 47.2	49 51.9	N23 40.5	8 07.0	N18 24.4	125 35.1	N 3 21.5
	13	155 00.7	331 04.6	S 2 48.4	64 52.5	N23 40.5	23 08.9	N18 24.3	140 37.7	N 3 21.5
	14	170 03.1	346 04.9	S 2 49.6	79 53.2	N23 40.6	38 10.8	N18 24.1	155 40.2	N 3 21.4
	15	185 05.6	1 05.2	S 2 50.8	94 53.8	N23 40.6	53 12.7	N18 24.0	170 42.7	N 3 21.4
	16	200 08.0	16 05.5	S 2 52.0	109 54.5	N23 40.6	68 14.6	N18 23.9	185 45.2	N 3 21.4
	17	215 10.5	31 05.8	S 2 53.2	124 55.2	N23 40.7	83 16.5	N18 23.7	200 47.8	N 3 21.3
	18	230 13.0	46 06.1	S 2 54.5	139 55.8	N23 40.7	98 18.4	N18 23.6	215 50.3	N 3 21.3
	19	245 15.4	61 06.4	S 2 55.7	154 56.5	N23 40.7	113 20.3	N18 23.4	230 52.8	N 3 21.3
	20	260 17.9	76 06.8	S 2 56.9	169 57.1	N23 40.8	128 22.2	N18 23.3	245 55.3	N 3 21.2
	21	275 20.4	91 07.1	S 2 58.1	184 57.8	N23 40.8	143 24.1	N18 23.2	260 57.8	N 3 21.2
	22	290 22.8	106 07.4	S 2 59.3	199 58.4	N23 40.8	158 26.0	N18 23.0	276 00.4	N 3 21.2
	23	305 25.3	121 07.7	S 3 00.5	214 59.1	N23 40.9	173 28.0	N18 22.9	291 02.9	N 3 21.1
12	0	320 27.8	136 08.0	S 3 01.7	229 59.7	N23 40.9	188 29.9	N18 22.7	306 05.4	N 3 21.1
	1	335 30.2	151 08.3	S 3 02.9	245 00.4	N23 40.9	203 31.8	N18 22.6	321 07.9	N 3 21.1
	2	350 32.7	166 08.6	S 3 04.1	260 01.1	N23 40.9	218 33.7	N18 22.4	336 10.5	N 3 21.0
	3	5 35.2	181 09.0	S 3 05.3	275 01.7	N23 41.0	233 35.6	N18 22.3	351 13.0	N 3 21.0
	4	20 37.6	196 09.3	S 3 06.5	290 02.4	N23 41.0	248 37.5	N18 22.2	6 15.5	N 3 20.9
W	5	35 40.1	211 09.6	S 3 07.8	305 03.0	N23 41.0	263 39.4	N18 22.0	21 18.0	N 3 20.9
E										
D	6	50 42.5	226 09.9	S 3 09.0	320 03.7	N23 41.1	278 41.3	N18 21.9	36 20.6	N 3 20.9
N	7	65 45.0	241 10.2	S 3 10.2	335 04.3	N23 41.1	293 43.2	N18 21.7	51 23.1	N 3 20.8
E	8	80 47.5	256 10.6	S 3 11.4	350 05.0	N23 41.1	308 45.1	N18 21.6	66 25.6	N 3 20.8
S	9	95 49.9	271 10.9	S 3 12.6	5 05.7	N23 41.1	323 47.0	N18 21.4	81 28.1	N 3 20.8
D	10	110 52.4	286 11.2	S 3 13.8	20 06.3	N23 41.2	338 48.9	N18 21.3	96 30.6	N 3 20.7
A	11	125 54.9	301 11.5	S 3 15.0	35 07.0	N23 41.2	353 50.8	N18 21.2	111 33.2	N 3 20.7
Y										
	12	140 57.3	316 11.8	S 3 16.2	50 07.6	N23 41.2	8 52.7	N18 21.0	126 35.7	N 3 20.7
	13	155 59.8	331 12.2	S 3 17.4	65 08.3	N23 41.2	23 54.6	N18 20.9	141 38.2	N 3 20.6
	14	171 02.3	346 12.5	S 3 18.6	80 09.0	N23 41.3	38 56.5	N18 20.7	156 40.7	N 3 20.6
	15	186 04.7	1 12.8	S 3 19.8	95 09.6	N23 41.3	53 58.4	N18 20.6	171 43.3	N 3 20.5
	16	201 07.2	16 13.1	S 3 21.0	110 10.3	N23 41.3	69 00.3	N18 20.4	186 45.8	N 3 20.5
	17	216 09.7	31 13.5	S 3 22.2	125 10.9	N23 41.3	84 02.3	N18 20.3	201 48.3	N 3 20.5
	18	231 12.1	46 13.8	S 3 23.4	140 11.6	N23 41.4	99 04.2	N18 20.2	216 50.8	N 3 20.4
	19	246 14.6	61 14.1	S 3 24.7	155 12.2	N23 41.4	114 06.1	N18 20.0	231 53.4	N 3 20.4
	20	261 17.0	76 14.4	S 3 25.9	170 12.9	N23 41.4	129 08.0	N18 19.9	246 55.9	N 3 20.4
	21	276 19.5	91 14.8	S 3 27.1	185 13.6	N23 41.4	144 09.9	N18 19.7	261 58.4	N 3 20.3
	22	291 22.0	106 15.1	S 3 28.3	200 14.2	N23 41.5	159 11.8	N18 19.6	277 01.0	N 3 20.3
	23	306 24.4	121 15.4	S 3 29.5	215 14.9	N23 41.5	174 13.7	N18 19.4	292 03.5	N 3 20.2
13	0	321 26.9	136 15.7	S 3 30.7	230 15.5	N23 41.5	189 15.6	N18 19.3	307 06.0	N 3 20.2
	1	336 29.4	151 16.1	S 3 31.9	245 16.2	N23 41.5	204 17.5	N18 19.2	322 08.5	N 3 20.2
	2	351 31.8	166 16.4	S 3 33.1	260 16.9	N23 41.5	219 19.4	N18 19.0	337 11.1	N 3 20.1
	3	6 34.3	181 16.7	S 3 34.3	275 17.5	N23 41.6	234 21.3	N18 18.9	352 13.6	N 3 20.1
	4	21 36.8	196 17.1	S 3 35.5	290 18.2	N23 41.6	249 23.2	N18 18.7	7 16.1	N 3 20.1
T	5	36 39.2	211 17.4	S 3 36.7	305 18.8	N23 41.6	264 25.1	N18 18.6	22 18.6	N 3 20.0
H										
U	6	51 41.7	226 17.7	S 3 37.9	320 19.5	N23 41.6	279 27.0	N18 18.5	37 21.2	N 3 20.0
R	7	66 44.2	241 18.1	S 3 39.1	335 20.2	N23 41.6	294 28.9	N18 18.3	52 23.7	N 3 19.9
S	8	81 46.6	256 18.4	S 3 40.3	350 20.8	N23 41.7	309 30.8	N18 18.2	67 26.2	N 3 19.9
D	9	96 49.1	271 18.7	S 3 41.5	5 21.5	N23 41.7	324 32.8	N18 18.0	82 28.7	N 3 19.9
A	10	111 51.5	286 19.1	S 3 42.7	20 22.2	N23 41.7	339 34.7	N18 17.9	97 31.3	N 3 19.8
Y	11	126 54.0	301 19.4	S 3 43.9	35 22.8	N23 41.7	354 36.6	N18 17.7	112 33.8	N 3 19.8
	12	141 56.5	316 19.7	S 3 45.1	50 23.5	N23 41.7	9 38.5	N18 17.6	127 36.3	N 3 19.8
	13	156 58.9	331 20.1	S 3 46.3	65 24.1	N23 41.7	24 40.4	N18 17.5	142 38.9	N 3 19.7
	14	172 01.4	346 20.4	S 3 47.5	80 24.8	N23 41.8	39 42.3	N18 17.3	157 41.4	N 3 19.7
	15	187 03.9	1 20.8	S 3 48.7	95 25.5	N23 41.8	54 44.2	N18 17.2	172 43.9	N 3 19.6
	16	202 06.3	16 21.1	S 3 49.9	110 26.1	N23 41.8	69 46.1	N18 17.0	187 46.4	N 3 19.6
	17	217 08.8	31 21.4	S 3 51.1	125 26.8	N23 41.8	84 48.0	N18 16.9	202 49.0	N 3 19.6
	18	232 11.3	46 21.8	S 3 52.3	140 27.5	N23 41.8	99 49.9	N18 16.7	217 51.5	N 3 19.5
	19	247 13.7	61 22.1	S 3 53.5	155 28.1	N23 41.8	114 51.8	N18 16.6	232 54.0	N 3 19.5
	20	262 16.2	76 22.5	S 3 54.7	170 28.8	N23 41.9	129 53.7	N18 16.5	247 56.6	N 3 19.4
	21	277 18.6	91 22.8	S 3 55.9	185 29.4	N23 41.9	144 55.6	N18 16.3	262 59.1	N 3 19.4
	22	292 21.1	106 23.1	S 3 57.1	200 30.1	N23 41.9	159 57.5	N18 16.2	278 01.6	N 3 19.4
	23	307 23.6	121 23.5	S 3 58.3	215 30.8	N23 41.9	174 59.5	N18 16.0	293 04.2	N 3 19.3
			v 0.3	d 1.2	v 0.7	d 0.0	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
11	0	178 40.4	N15 19.3	202 15.0	4.3	N24 10.1	9.3	60.3
	1	193 40.5	N15 18.6	216 38.5	4.4	N24 00.6	9.5	60.3
	2	208 40.6	N15 17.9	231 02.0	4.5	N23 50.9	9.7	60.3
	3	223 40.7	N15 17.1	245 25.7	4.6	N23 41.1	9.8	60.3
	4	238 40.8	N15 16.4	259 49.4	4.7	N23 31.1	10.0	60.3
T	5	253 40.9	N15 15.6	274 13.3	4.9	N23 21.0	10.1	60.3
U								
E	6	268 41.0	N15 14.9	288 37.2	5.0	N23 10.7	10.3	60.3
S	7	283 41.1	N15 14.1	303 01.3	5.1	N23 00.2	10.5	60.3
D	8	298 41.2	N15 13.4	317 25.5	5.2	N22 49.6	10.6	60.3
A	9	313 41.3	N15 12.7	331 49.8	5.3	N22 38.8	10.8	60.3
Y	10	328 41.4	N15 11.9	346 14.1	5.4	N22 27.9	10.9	60.3
	11	343 41.5	N15 11.2	0 38.7	5.5	N22 16.9	11.1	60.2
	12	358 41.6	N15 10.4	15 03.3	5.6	N22 05.7	11.2	60.2
	13	13 41.7	N15 09.7	29 28.0	5.7	N21 54.3	11.3	60.2
	14	28 41.8	N15 08.9	43 52.8	5.8	N21 42.9	11.5	60.2
	15	43 41.9	N15 08.2	58 17.8	6.0	N21 31.3	11.6	60.2
	16	58 42.0	N15 07.4	72 42.9	6.1	N21 19.5	11.7	60.2
	17	73 42.1	N15 06.7	87 08.0	6.2	N21 07.6	11.9	60.2
	18	88 42.2	N15 05.9	101 33.3	6.3	N20 55.6	12.0	60.2
	19	103 42.3	N15 05.2	115 58.8	6.4	N20 43.5	12.1	60.2
	20	118 42.4	N15 04.5	130 24.3	6.5	N20 31.2	12.3	60.1
	21	133 42.5	N15 03.7	144 49.9	6.6	N20 18.8	12.4	60.1
	22	148 42.6	N15 03.0	159 15.7	6.8	N20 06.3	12.5	60.1
	23	163 42.7	N15 02.2	173 41.5	6.9	N19 53.7	12.6	60.1
12	0	178 42.8	N15 01.5	188 07.5	7.0	N19 40.9	12.8	60.1
	1	193 42.9	N15 00.7	202 33.6	7.1	N19 28.0	12.9	60.1
	2	208 43.1	N14 60.0	216 59.8	7.2	N19 15.1	13.0	60.1
	3	223 43.2	N14 59.2	231 26.2	7.3	N19 02.0	13.1	60.0
	4	238 43.3	N14 58.5	245 52.6	7.4	N18 48.8	13.2	60.0
W	5	253 43.4	N14 57.7	260 19.2	7.6	N18 35.4	13.3	60.0
E								
D	6	268 43.5	N14 57.0	274 45.8	7.7	N18 22.0	13.4	60.0
N	7	283 43.6	N14 56.2	289 12.6	7.8	N18 08.5	13.5	60.0
E	8	298 43.7	N14 55.4	303 39.5	7.9	N17 54.9	13.6	59.9
S	9	313 43.8	N14 54.7	318 06.5	8.0	N17 41.1	13.7	59.9
D	10	328 43.9	N14 53.9	332 33.6	8.1	N17 27.3	13.8	59.9
A	11	343 44.0	N14 53.2	347 00.9	8.2	N17 13.4	13.9	59.9
Y								
	12	358 44.1	N14 52.4	1 28.2	8.3	N16 59.4	14.0	59.9
	13	13 44.2	N14 51.7	15 55.7	8.5	N16 45.3	14.1	59.9
	14	28 44.3	N14 50.9	30 23.2	8.6	N16 31.1	14.2	59.8
	15	43 44.4	N14 50.2	44 50.9	8.7	N16 16.8	14.3	59.8
	16	58 44.5	N14 49.4	59 18.7	8.8	N16 02.5	14.4	59.8
	17	73 44.6	N14 48.7	73 46.6	8.9	N15 48.0	14.4	59.8
	18	88 44.7	N14 47.9	88 14.6	9.0	N15 33.5	14.5	59.7
	19	103 44.9	N14 47.1	102 42.7	9.1	N15 18.9	14.6	59.7
	20	118 45.0	N14 46.4	117 10.9	9.2	N15 04.2	14.7	59.7
	21	133 45.1	N14 45.6	131 39.2	9.3	N14 49.5	14.8	59.7
	22	148 45.2	N14 44.9	146 07.6	9.4	N14 34.6	14.8	59.7
	23	163 45.3	N14 44.1	160 36.1	9.5	N14 19.7	14.9	59.6
13	0	178 45.4	N14 43.3	175 04.7	9.6	N14 04.8	15.0	59.6
	1	193 45.5	N14 42.6	189 33.5	9.7	N13 49.8	15.0	59.6
	2	208 45.6	N14 41.8	204 02.3	9.8	N13 34.7	15.1	59.6
	3	223 45.7	N14 41.1	218 31.2	9.9	N13 19.5	15.2	59.5
	4	238 45.8	N14 40.3	233 00.3	10.0	N13 04.3	15.2	59.5
T	5	253 45.9	N14 39.5	247 29.4	10.1	N12 49.0	15.3	59.5
H								
U	6	268 46.1	N14 38.8	261 58.6	10.2	N12 33.7	15.3	59.5
R	7	283 46.2	N14 38.0	276 27.9	10.3	N12 18.3	15.4	59.4
S	8	298 46.3	N14 37.3	290 57.3	10.4	N12 02.9	15.4	59.4
D	9	313 46.4	N14 36.5	305 26.8	10.5	N11 47.4	15.5	59.4
A	10	328 46.5	N14 35.7	319 56.4	10.6	N11 31.8	15.5	59.4
Y	11	343 46.6	N14 35.0	334 26.1	10.7	N11 16.2	15.6	59.3
	12	358 46.7	N14 34.2	348 55.9	10.8	N11 00.6	15.6	59.3
	13	13 46.8	N14 33.4	3 25.7	10.9	N10 44.9	15.7	59.3
	14	28 47.0	N14 32.7	17 55.7	11.0	N10 29.2	15.7	59.2
	15	43 47.1	N14 31.9	32 25.7	11.0	N10 13.5	15.8	59.2
	16	58 47.2	N14 31.1	46 55.9	11.1	N 9 57.7	15.8	59.2
	17	73 47.3	N14 30.4	61 26.1	11.2	N 9 41.9	15.8	59.2
	18	88 47.4	N14 29.6	75 56.4	11.3	N 9 26.0	15.9	59.1
	19	103 47.5	N14 28.8	90 26.7	11.4	N 9 10.1	15.9	59.1
	20	118 47.6	N14 28.1	104 57.2	11.5	N 8 54.2	15.9	59.1
	21	133 47.7	N14 27.3	119 27.7	11.5	N 8 38.2	16.0	59.0
	22	148 47.9	N14 26.5	133 58.4	11.6	N 8 22.2	16.0	59.0
	23	163 48.0	N14 25.8	148 29.1	11.7	N 8 06.2	16.0	59.0
		S.D. 15.8	d 0.8	S.D.	16.4	16.3	16.2	

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.5
Achernar	335 18.9	S57 05.7
Acrux	172 59.1	S63 15.0
Adhara	255 05.1	S29 00.3
Albireo	67 02.6	N28 01.1
Aldebaran	290 38.2	N16 33.8
Alioth	166 12.1	N55 49.2
Alkaid	152 51.1	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.5	S 1 10.9
Alphard	217 46.7	S 8 46.4
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.1	N29 14.3
Altair	61 58.3	N 8 56.4
Ankaa	353 05.5	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.0	S69 04.8
Avior	234 14.8	S59 35.6
Bellatrix	278 21.6	N 6 22.5
Betelgeuse	270 50.8	N 7 24.8
Canopus	263 52.2	S52 42.3
Capella	280 20.2	N46 01.4
Castor	245 55.7	N31 49.8
Deneb	49 24.4	N45 22.6
Denebola	182 23.8	N14 25.5
Diphda	348 45.8	S17 50.2
Dubhe	193 39.9	N61 36.5
Elnath	278 00.4	N28 37.8
Eltanin	90 41.2	N51 29.3
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.7	S29 28.7
Gacrux	171 50.6	S57 16.0
Gienah	175 42.5	S17 41.4
Hadar	148 34.4	S60 30.4
Hamal	327 49.6	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.1	N74 03.0
Markab	13 28.3	N15 21.0
Menkar	314 04.7	N 4 11.8
Menkent	147 56.2	S36 30.3
Miaplacidus	221 38.9	S69 49.5
Mirfak	308 26.4	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 54.3	N89 21.7
Pollux	243 16.0	N27 57.7
Procyon	244 49.7	N 5 09.5
Rasalhague	95 57.1	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.7	S 8 10.1
Rigil Kent	139 38.7	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.2	N56 40.9
Shaula	96 08.3	S37 07.5
Sirius	258 25.3	S16 45.0
Spica	158 21.0	S11 18.0
Suhail	222 45.8	S43 32.3
Vega	80 32.0	N38 48.6
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
14	0	322 26.0	136 23.8	S 3 59.5	230 31.4	N23 41.9	190 01.4	N18 15.9	308 06.7	N 3 19.3
	1	337 28.5	151 24.2	S 4 00.7	245 32.1	N23 41.9	205 03.3	N18 15.7	323 09.2	N 3 19.2
	2	352 31.0	166 24.5	S 4 01.9	260 32.8	N23 41.9	220 05.2	N18 15.6	338 11.7	N 3 19.2
	3	7 33.4	181 24.9	S 4 03.1	275 33.4	N23 42.0	235 07.1	N18 15.5	353 14.3	N 3 19.2
	4	22 35.9	196 25.2	S 4 04.3	290 34.1	N23 42.0	250 09.0	N18 15.3	8 16.8	N 3 19.1
F	5	37 38.4	211 25.6	S 4 05.5	305 34.8	N23 42.0	265 10.9	N18 15.2	23 19.3	N 3 19.1
R										
I	6	52 40.8	226 25.9	S 4 06.7	320 35.4	N23 42.0	280 12.8	N18 15.0	38 21.9	N 3 19.1
D	7	67 43.3	241 26.3	S 4 07.9	335 36.1	N23 42.0	295 14.7	N18 14.9	53 24.4	N 3 19.0
A	8	82 45.8	256 26.6	S 4 09.1	350 36.7	N23 42.0	310 16.6	N18 14.7	68 26.9	N 3 19.0
Y	9	97 48.2	271 26.9	S 4 10.3	5 37.4	N23 42.0	325 18.5	N18 14.6	83 29.5	N 3 18.9
	10	112 50.7	286 27.3	S 4 11.5	20 38.1	N23 42.0	340 20.4	N18 14.4	98 32.0	N 3 18.9
	11	127 53.1	301 27.7	S 4 12.7	35 38.7	N23 42.0	355 22.3	N18 14.3	113 34.5	N 3 18.9
	12	142 55.6	316 28.0	S 4 13.9	50 39.4	N23 42.1	10 24.3	N18 14.2	128 37.1	N 3 18.8
	13	157 58.1	331 28.4	S 4 15.1	65 40.1	N23 42.1	25 26.2	N18 14.0	143 39.6	N 3 18.8
	14	173 00.5	346 28.7	S 4 16.3	80 40.7	N23 42.1	40 28.1	N18 13.9	158 42.1	N 3 18.7
	15	188 03.0	1 29.1	S 4 17.5	95 41.4	N23 42.1	55 30.0	N18 13.7	173 44.7	N 3 18.7
	16	203 05.5	16 29.4	S 4 18.7	110 42.1	N23 42.1	70 31.9	N18 13.6	188 47.2	N 3 18.7
	17	218 07.9	31 29.8	S 4 19.9	125 42.7	N23 42.1	85 33.8	N18 13.4	203 49.7	N 3 18.6
	18	233 10.4	46 30.1	S 4 21.1	140 43.4	N23 42.1	100 35.7	N18 13.3	218 52.3	N 3 18.6
	19	248 12.9	61 30.5	S 4 22.3	155 44.1	N23 42.1	115 37.6	N18 13.2	233 54.8	N 3 18.5
	20	263 15.3	76 30.8	S 4 23.5	170 44.7	N23 42.1	130 39.5	N18 13.0	248 57.3	N 3 18.5
	21	278 17.8	91 31.2	S 4 24.7	185 45.4	N23 42.1	145 41.4	N18 12.9	263 59.9	N 3 18.5
	22	293 20.3	106 31.5	S 4 25.9	200 46.1	N23 42.1	160 43.3	N18 12.7	279 02.4	N 3 18.4
	23	308 22.7	121 31.9	S 4 27.1	215 46.7	N23 42.1	175 45.2	N18 12.6	294 04.9	N 3 18.4
15	0	323 25.2	136 32.3	S 4 28.3	230 47.4	N23 42.1	190 47.2	N18 12.4	309 07.5	N 3 18.3
	1	338 27.6	151 32.6	S 4 29.5	245 48.1	N23 42.1	205 49.1	N18 12.3	324 10.0	N 3 18.3
	2	353 30.1	166 33.0	S 4 30.7	260 48.7	N23 42.1	220 51.0	N18 12.2	339 12.5	N 3 18.3
	3	8 32.6	181 33.3	S 4 31.9	275 49.4	N23 42.2	235 52.9	N18 12.0	354 15.1	N 3 18.2
	4	23 35.0	196 33.7	S 4 33.1	290 50.1	N23 42.2	250 54.8	N18 11.9	9 17.6	N 3 18.2
S	5	38 37.5	211 34.1	S 4 34.3	305 50.7	N23 42.2	265 56.7	N18 11.7	24 20.1	N 3 18.1
A										
T	6	53 40.0	226 34.4	S 4 35.5	320 51.4	N23 42.2	280 58.6	N18 11.6	39 22.7	N 3 18.1
U	7	68 42.4	241 34.8	S 4 36.7	335 52.1	N23 42.2	296 00.5	N18 11.4	54 25.2	N 3 18.0
R	8	83 44.9	256 35.2	S 4 37.9	350 52.7	N23 42.2	311 02.4	N18 11.3	69 27.7	N 3 18.0
D	9	98 47.4	271 35.5	S 4 39.1	5 53.4	N23 42.2	326 04.3	N18 11.2	84 30.3	N 3 18.0
A	10	113 49.8	286 35.9	S 4 40.2	20 54.1	N23 42.2	341 06.2	N18 11.0	99 32.8	N 3 17.9
Y	11	128 52.3	301 36.3	S 4 41.4	35 54.7	N23 42.2	356 08.2	N18 10.9	114 35.3	N 3 17.9
	12	143 54.7	316 36.6	S 4 42.6	50 55.4	N23 42.2	11 10.1	N18 10.7	129 37.9	N 3 17.8
	13	158 57.2	331 37.0	S 4 43.8	65 56.1	N23 42.2	26 12.0	N18 10.6	144 40.4	N 3 17.8
	14	173 59.7	346 37.4	S 4 45.0	80 56.8	N23 42.2	41 13.9	N18 10.4	159 43.0	N 3 17.8
	15	189 02.1	1 37.7	S 4 46.2	95 57.4	N23 42.2	56 15.8	N18 10.3	174 45.5	N 3 17.7
	16	204 04.6	16 38.1	S 4 47.4	110 58.1	N23 42.2	71 17.7	N18 10.1	189 48.0	N 3 17.7
	17	219 07.1	31 38.5	S 4 48.6	125 58.8	N23 42.2	86 19.6	N18 10.0	204 50.6	N 3 17.6
	18	234 09.5	46 38.8	S 4 49.8	140 59.4	N23 42.2	101 21.5	N18 09.9	219 53.1	N 3 17.6
	19	249 12.0	61 39.2	S 4 51.0	156 00.1	N23 42.2	116 23.4	N18 09.7	234 55.6	N 3 17.6
	20	264 14.5	76 39.6	S 4 52.2	171 00.8	N23 42.2	131 25.3	N18 09.6	249 58.2	N 3 17.5
	21	279 16.9	91 39.9	S 4 53.4	186 01.4	N23 42.2	146 27.2	N18 09.4	265 00.7	N 3 17.5
	22	294 19.4	106 40.3	S 4 54.6	201 02.1	N23 42.2	161 29.2	N18 09.3	280 03.2	N 3 17.4
	23	309 21.9	121 40.7	S 4 55.7	216 02.8	N23 42.2	176 31.1	N18 09.1	295 05.8	N 3 17.4
16	0	324 24.3	136 41.1	S 4 56.9	231 03.5	N23 42.2	191 33.0	N18 09.0	310 08.3	N 3 17.3
	1	339 26.8	151 41.4	S 4 58.1	246 04.1	N23 42.2	206 34.9	N18 08.9	325 10.9	N 3 17.3
	2	354 29.2	166 41.8	S 4 59.3	261 04.8	N23 42.2	221 36.8	N18 08.7	340 13.4	N 3 17.3
	3	9 31.7	181 42.2	S 5 00.5	276 05.5	N23 42.2	236 38.7	N18 08.6	355 15.9	N 3 17.2
	4	24 34.2	196 42.6	S 5 01.7	291 06.1	N23 42.2	251 40.6	N18 08.4	10 18.5	N 3 17.2
S	5	39 36.6	211 42.9	S 5 02.9	306 06.8	N23 42.2	266 42.5	N18 08.3	25 21.0	N 3 17.1
U										
N	6	54 39.1	226 43.3	S 5 04.1	321 07.5	N23 42.1	281 44.4	N18 08.1	40 23.5	N 3 17.1
D	7	69 41.6	241 43.7	S 5 05.3	336 08.2	N23 42.1	296 46.3	N18 08.0	55 26.1	N 3 17.0
A	8	84 44.0	256 44.1	S 5 06.4	351 08.8	N23 42.1	311 48.3	N18 07.9	70 28.6	N 3 17.0
Y	9	99 46.5	271 44.5	S 5 07.6	6 09.5	N23 42.1	326 50.2	N18 07.7	85 31.2	N 3 17.0
	10	114 49.0	286 44.8	S 5 08.8	21 10.2	N23 42.1	341 52.1	N18 07.6	100 33.7	N 3 16.9
	11	129 51.4	301 45.2	S 5 10.0	36 10.8	N23 42.1	356 54.0	N18 07.4	115 36.2	N 3 16.9
	12	144 53.9	316 45.6	S 5 11.2	51 11.5	N23 42.1	11 55.9	N18 07.3	130 38.8	N 3 16.8
	13	159 56.3	331 46.0	S 5 12.4	66 12.2	N23 42.1	26 57.8	N18 07.1	145 41.3	N 3 16.8
	14	174 58.8	346 46.4	S 5 13.6	81 12.9	N23 42.1	41 59.7	N18 07.0	160 43.9	N 3 16.7
	15	190 01.3	1 46.8	S 5 14.8	96 13.5	N23 42.1	57 01.6	N18 06.8	175 46.4	N 3 16.7
	16	205 03.7	16 47.1	S 5 15.9	111 14.2	N23 42.1	72 03.5	N18 06.7	190 48.9	N 3 16.7
	17	220 06.2	31 47.5	S 5 17.1	126 14.9	N23 42.1	87 05.5	N18 06.6	205 51.5	N 3 16.6
	18	235 08.7	46 47.9	S 5 18.3	141 15.6	N23 42.1	102 07.4	N18 06.4	220 54.0	N 3 16.6
	19	250 11.1	61 48.3	S 5 19.5	156 16.2	N23 42.1	117 09.3	N18 06.3	235 56.6	N 3 16.5
	20	265 13.6	76 48.7	S 5 20.7	171 16.9	N23 42.1	132 11.2	N18 06.1	250 59.1	N 3 16.5
	21	280 16.1	91 49.1	S 5 21.9	186 17.6	N23 42.0	147 13.1	N18 06.0	266 01.6	N 3 16.4
	22	295 18.5	106 49.5	S 5 23.1	201 18.3	N23 42.0	162 15.0	N18 05.8	281 04.2	N 3 16.4
	23	310 21.0	121 49.9	S 5 24.2	216 18.9	N23 42.0	177 16.9	N18 05.7	296 06.7	N 3 16.4
			v 0.4	d 1.2	v 0.7	d 0.0	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
14	0	178 48.1	N14 25.0	162 59.8	11.8	N 7 50.2	16.0	58.9
	1	193 48.2	N14 24.2	177 30.7	11.8	N 7 34.2	16.1	58.9
	2	208 48.3	N14 23.5	192 01.6	11.9	N 7 18.1	16.1	58.9
	3	223 48.4	N14 22.7	206 32.6	12.0	N 7 02.0	16.1	58.9
	4	238 48.6	N14 21.9	221 03.6	12.1	N 6 45.9	16.1	58.8
F	5	253 48.7	N14 21.1	235 34.8	12.1	N 6 29.8	16.1	58.8
R								
I	6	268 48.8	N14 20.4	250 06.0	12.2	N 6 13.6	16.1	58.8
D	7	283 48.9	N14 19.6	264 37.2	12.3	N 5 57.5	16.2	58.7
A	8	298 49.0	N14 18.8	279 08.6	12.3	N 5 41.3	16.2	58.7
Y	9	313 49.1	N14 18.1	293 40.0	12.4	N 5 25.1	16.2	58.7
	10	328 49.3	N14 17.3	308 11.4	12.5	N 5 09.0	16.2	58.6
	11	343 49.4	N14 16.5	322 43.0	12.5	N 4 52.8	16.2	58.6
	12	358 49.5	N14 15.7	337 14.5	12.6	N 4 36.6	16.2	58.6
	13	13 49.6	N14 15.0	351 46.2	12.6	N 4 20.4	16.2	58.5
	14	28 49.7	N14 14.2	6 17.9	12.7	N 4 04.2	16.2	58.5
	15	43 49.8	N14 13.4	20 49.7	12.8	N 3 48.0	16.2	58.5
	16	58 50.0	N14 12.6	35 21.5	12.8	N 3 31.8	16.2	58.4
	17	73 50.1	N14 11.9	49 53.3	12.9	N 3 15.6	16.2	58.4
	18	88 50.2	N14 11.1	64 25.3	12.9	N 2 59.4	16.2	58.4
	19	103 50.3	N14 10.3	78 57.2	13.0	N 2 43.3	16.2	58.3
	20	118 50.4	N14 09.5	93 29.3	13.0	N 2 27.1	16.2	58.3
	21	133 50.6	N14 08.8	108 01.3	13.1	N 2 10.9	16.2	58.3
	22	148 50.7	N14 08.0	122 33.5	13.1	N 1 54.8	16.2	58.2
	23	163 50.8	N14 07.2	137 05.6	13.2	N 1 38.6	16.1	58.2
15	0	178 50.9	N14 06.4	151 37.9	13.2	N 1 22.5	16.1	58.2
	1	193 51.0	N14 05.6	166 10.1	13.3	N 1 06.4	16.1	58.1
	2	208 51.2	N14 04.9	180 42.4	13.3	N 0 50.3	16.1	58.1
	3	223 51.3	N14 04.1	195 14.8	13.3	N 0 34.2	16.1	58.1
	4	238 51.4	N14 03.3	209 47.2	13.4	N 0 18.1	16.1	58.0
S	5	253 51.5	N14 02.5	224 19.6	13.4	N 0 02.1	16.1	58.0
A								
T	6	268 51.6	N14 01.7	238 52.1	13.5	S 0 14.0	16.0	58.0
U	7	283 51.8	N14 01.0	253 24.6	13.5	S 0 30.0	16.0	57.9
R	8	298 51.9	N14 00.2	267 57.1	13.5	S 0 46.0	16.0	57.9
D	9	313 52.0	N13 59.4	282 29.7	13.6	S 1 01.9	16.0	57.8
A	10	328 52.1	N13 58.6	297 02.3	13.6	S 1 17.9	15.9	57.8
Y	11	343 52.3	N13 57.8	311 34.9	13.6	S 1 33.8	15.9	57.8
	12	358 52.4	N13 57.0	326 07.6	13.7	S 1 49.7	15.9	57.7
	13	13 52.5	N13 56.3	340 40.3	13.7	S 2 05.5	15.9	57.7
	14	28 52.6	N13 55.5	355 13.0	13.7	S 2 21.3	15.8	57.7
	15	43 52.8	N13 54.7	9 45.8	13.8	S 2 37.1	15.8	57.6
	16	58 52.9	N13 53.9	24 18.6	13.8	S 2 52.9	15.8	57.6
	17	73 53.0	N13 53.1	38 51.4	13.8	S 3 08.6	15.7	57.6
	18	88 53.1	N13 52.3	53 24.2	13.8	S 3 24.3	15.7	57.5
	19	103 53.3	N13 51.6	67 57.1	13.9	S 3 40.0	15.7	57.5
	20	118 53.4	N13 50.8	82 29.9	13.9	S 3 55.6	15.6	57.5
	21	133 53.5	N13 50.0	97 02.8	13.9	S 4 11.2	15.6	57.4
	22	148 53.6	N13 49.2	111 35.7	13.9	S 4 26.7	15.5	57.4
	23	163 53.8	N13 48.4	126 08.7	13.9	S 4 42.2	15.5	57.4
16	0	178 53.9	N13 47.6	140 41.6	13.9	S 4 57.7	15.5	57.3
	1	193 54.0	N13 46.8	155 14.6	14.0	S 5 13.1	15.4	57.3
	2	208 54.1	N13 46.0	169 47.5	14.0	S 5 28.5	15.4	57.3
	3	223 54.3	N13 45.3	184 20.5	14.0	S 5 43.8	15.3	57.2
	4	238 54.4	N13 44.5	198 53.5	14.0	S 5 59.1	15.3	57.2
S	5	253 54.5	N13 43.7	213 26.5	14.0	S 6 14.4	15.2	57.1
U								
N	6	268 54.6	N13 42.9	227 59.6	14.0	S 6 29.6	15.2	57.1
D	7	283 54.8	N13 42.1	242 32.6	14.0	S 6 44.7	15.2	57.1
A	8	298 54.9	N13 41.3	257 05.6	14.0	S 6 59.8	15.1	57.0
Y	9	313 55.0	N13 40.5	271 38.7	14.0	S 7 14.9	15.1	57.0
	10	328 55.2	N13 39.7	286 11.7	14.0	S 7 29.9	15.0	57.0
	11	343 55.3	N13 38.9	300 44.8	14.1	S 7 44.8	14.9	56.9
	12	358 55.4	N13 38.1	315 17.8	14.1	S 7 59.7	14.9	56.9
	13	13 55.5	N13 37.3	329 50.9	14.1	S 8 14.6	14.8	56.9
	14	28 55.7	N13 36.6	344 23.9	14.1	S 8 29.4	14.8	56.8
	15	43 55.8	N13 35.8	358 57.0	14.1	S 8 44.1	14.7	56.8
	16	58 55.9	N13 35.0	13 30.1	14.1	S 8 58.8	14.7	56.8
	17	73 56.1	N13 34.2	28 03.1	14.1	S 9 13.4	14.6	56.7
	18	88 56.2	N13 33.4	42 36.2	14.1	S 9 28.0	14.6	56.7
	19	103 56.3	N13 32.6	57 09.2	14.0	S 9 42.5	14.5	56.7
	20	118 56.5	N13 31.8	71 42.3	14.0	S 9 56.9	14.4	56.6
	21	133 56.6	N13 31.0	86 15.3	14.0	S10 11.3	14.4	56.6
	22	148 56.7	N13 30.2	100 48.3	14.0	S10 25.6	14.3	56.6
	23	163 56.8	N13 29.4	115 21.3	14.0	S10 39.9	14.3	56.5
		S.D. 15.8	d 0.8	S.D.	16.0	15.7	15.5	

Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.5
Achernar	335 18.9	S57 05.7
Acrux	172 59.2	S63 15.0
Adhara	255 05.1	S29 00.3
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.2	N16 33.8
Alioth	166 12.1	N55 49.2
Alkaid	152 51.1	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.5	S 1 10.9
Alphard	217 46.7	S 8 46.4
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.1	N29 14.3
Altair	61 58.3	N 8 56.4
Ankaa	353 05.5	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.0	S69 04.8
Avior	234 14.8	S59 35.6
Bellatrix	278 21.6	N 6 22.6
Betelgeuse	270 50.8	N 7 24.8
Canopus	263 52.2	S52 42.3
Capella	280 20.1	N46 01.4
Castor	245 55.7	N31 49.8
Deneb	49 24.4	N45 22.6
Denebola	182 23.8	N14 25.5
Diphda	348 45.7	S17 50.2
Dubhe	193 39.9	N61 36.5
Elnath	278 00.4	N28 37.8
Eltanin	90 41.3	N51 29.3
Enif	33 37.1	N 9 60.0
Fomalhaut	15 12.7	S29 28.7
Gacrux	171 50.6	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.4	S60 30.4
Hamal	327 49.6	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.1	N74 03.0
Markab	13 28.3	N15 21.0
Menkar	314 04.7	N 4 11.8
Menkent	147 56.2	S36 30.3
Miaplacidus	221 38.9	S69 49.5
Mirfak	308 26.4	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 53.2	N89 21.7
Pollux	243 16.0	N27 57.7
Procyon	244 49.7	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.7	S 8 10.0
Rigil Kent	139 38.8	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.1	N56 40.9
Shaula	96 08.3	S37 07.5
Sirius	258 25.3	S16 45.0
Spica	158 21.1	S11 18.0
Suhail	222 45.8	S43 32.3
Vega	80 32.0	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
17	0	325 23.5	136 50.2	S 5 25.4	231 19.6	N23 42.0	192 18.8	N18 05.5	311 09.3	N 3 16.3
	1	340 25.9	151 50.6	S 5 26.6	246 20.3	N23 42.0	207 20.7	N18 05.4	326 11.8	N 3 16.3
	2	355 28.4	166 51.0	S 5 27.8	261 21.0	N23 42.0	222 22.6	N18 05.3	341 14.4	N 3 16.2
	3	10 30.8	181 51.4	S 5 29.0	276 21.6	N23 42.0	237 24.6	N18 05.1	356 16.9	N 3 16.2
	4	25 33.3	196 51.8	S 5 30.2	291 22.3	N23 42.0	252 26.5	N18 05.0	11 19.4	N 3 16.1
M	5	40 35.8	211 52.2	S 5 31.3	306 23.0	N23 42.0	267 28.4	N18 04.8	26 22.0	N 3 16.1
O										
N	6	55 38.2	226 52.6	S 5 32.5	321 23.7	N23 41.9	282 30.3	N18 04.7	41 24.5	N 3 16.1
D	7	70 40.7	241 53.0	S 5 33.7	336 24.3	N23 41.9	297 32.2	N18 04.5	56 27.1	N 3 16.0
A	8	85 43.2	256 53.4	S 5 34.9	351 25.0	N23 41.9	312 34.1	N18 04.4	71 29.6	N 3 16.0
Y	9	100 45.6	271 53.8	S 5 36.1	6 25.7	N23 41.9	327 36.0	N18 04.3	86 32.1	N 3 15.9
	10	115 48.1	286 54.2	S 5 37.3	21 26.4	N23 41.9	342 37.9	N18 04.1	101 34.7	N 3 15.9
	11	130 50.6	301 54.6	S 5 38.4	36 27.0	N23 41.9	357 39.9	N18 04.0	116 37.2	N 3 15.8
	12	145 53.0	316 55.0	S 5 39.6	51 27.7	N23 41.9	12 41.8	N18 03.8	131 39.8	N 3 15.8
	13	160 55.5	331 55.4	S 5 40.8	66 28.4	N23 41.8	27 43.7	N18 03.7	146 42.3	N 3 15.7
	14	175 58.0	346 55.8	S 5 42.0	81 29.1	N23 41.8	42 45.6	N18 03.5	161 44.9	N 3 15.7
	15	191 00.4	1 56.2	S 5 43.2	96 29.7	N23 41.8	57 47.5	N18 03.4	176 47.4	N 3 15.7
	16	206 02.9	16 56.6	S 5 44.3	111 30.4	N23 41.8	72 49.4	N18 03.2	191 49.9	N 3 15.6
	17	221 05.3	31 57.0	S 5 45.5	126 31.1	N23 41.8	87 51.3	N18 03.1	206 52.5	N 3 15.6
	18	236 07.8	46 57.4	S 5 46.7	141 31.8	N23 41.8	102 53.2	N18 03.0	221 55.0	N 3 15.5
	19	251 10.3	61 57.8	S 5 47.9	156 32.4	N23 41.8	117 55.1	N18 02.8	236 57.6	N 3 15.5
	20	266 12.7	76 58.2	S 5 49.1	171 33.1	N23 41.7	132 57.1	N18 02.7	252 00.1	N 3 15.4
	21	281 15.2	91 58.6	S 5 50.2	186 33.8	N23 41.7	147 59.0	N18 02.5	267 02.7	N 3 15.4
	22	296 17.7	106 59.0	S 5 51.4	201 34.5	N23 41.7	163 00.9	N18 02.4	282 05.2	N 3 15.3
	23	311 20.1	121 59.4	S 5 52.6	216 35.2	N23 41.7	178 02.8	N18 02.2	297 07.8	N 3 15.3
18	0	326 22.6	136 59.8	S 5 53.8	231 35.8	N23 41.7	193 04.7	N18 02.1	312 10.3	N 3 15.3
	1	341 25.1	152 00.2	S 5 55.0	246 36.5	N23 41.6	208 06.6	N18 01.9	327 12.8	N 3 15.2
	2	356 27.5	167 00.6	S 5 56.1	261 37.2	N23 41.6	223 08.5	N18 01.8	342 15.4	N 3 15.2
	3	11 30.0	182 01.0	S 5 57.3	276 37.9	N23 41.6	238 10.4	N18 01.7	357 17.9	N 3 15.1
	4	26 32.4	197 01.4	S 5 58.5	291 38.6	N23 41.6	253 12.4	N18 01.5	12 20.5	N 3 15.1
T	5	41 34.9	212 01.8	S 5 59.7	306 39.2	N23 41.6	268 14.3	N18 01.4	27 23.0	N 3 15.0
U										
E	6	56 37.4	227 02.2	S 6 00.8	321 39.9	N23 41.5	283 16.2	N18 01.2	42 25.6	N 3 15.0
S	7	71 39.8	242 02.7	S 6 02.0	336 40.6	N23 41.5	298 18.1	N18 01.1	57 28.1	N 3 14.9
D	8	86 42.3	257 03.1	S 6 03.2	351 41.3	N23 41.5	313 20.0	N18 00.9	72 30.7	N 3 14.9
A	9	101 44.8	272 03.5	S 6 04.4	6 42.0	N23 41.5	328 21.9	N18 00.8	87 33.2	N 3 14.9
Y	10	116 47.2	287 03.9	S 6 05.5	21 42.6	N23 41.5	343 23.8	N18 00.6	102 35.8	N 3 14.8
	11	131 49.7	302 04.3	S 6 06.7	36 43.3	N23 41.4	358 25.8	N18 00.5	117 38.3	N 3 14.8
	12	146 52.2	317 04.7	S 6 07.9	51 44.0	N23 41.4	13 27.7	N18 00.4	132 40.9	N 3 14.7
	13	161 54.6	332 05.1	S 6 09.1	66 44.7	N23 41.4	28 29.6	N18 00.2	147 43.4	N 3 14.7
	14	176 57.1	347 05.5	S 6 10.2	81 45.4	N23 41.4	43 31.5	N18 00.1	162 45.9	N 3 14.6
	15	191 59.6	2 06.0	S 6 11.4	96 46.0	N23 41.3	58 33.4	N17 59.9	177 48.5	N 3 14.6
	16	207 02.0	17 06.4	S 6 12.6	111 46.7	N23 41.3	73 35.3	N17 59.8	192 51.0	N 3 14.5
	17	222 04.5	32 06.8	S 6 13.8	126 47.4	N23 41.3	88 37.2	N17 59.6	207 53.6	N 3 14.5
	18	237 06.9	47 07.2	S 6 14.9	141 48.1	N23 41.3	103 39.1	N17 59.5	222 56.1	N 3 14.4
	19	252 09.4	62 07.6	S 6 16.1	156 48.8	N23 41.3	118 41.1	N17 59.3	237 58.7	N 3 14.4
	20	267 11.9	77 08.1	S 6 17.3	171 49.4	N23 41.2	133 43.0	N17 59.2	253 01.2	N 3 14.4
	21	282 14.3	92 08.5	S 6 18.5	186 50.1	N23 41.2	148 44.9	N17 59.1	268 03.8	N 3 14.3
	22	297 16.8	107 08.9	S 6 19.6	201 50.8	N23 41.2	163 46.8	N17 58.9	283 06.3	N 3 14.3
	23	312 19.3	122 09.3	S 6 20.8	216 51.5	N23 41.2	178 48.7	N17 58.8	298 08.9	N 3 14.2
19	0	327 21.7	137 09.7	S 6 22.0	231 52.2	N23 41.1	193 50.6	N17 58.6	313 11.4	N 3 14.2
	1	342 24.2	152 10.2	S 6 23.1	246 52.9	N23 41.1	208 52.5	N17 58.5	328 14.0	N 3 14.1
	2	357 26.7	167 10.6	S 6 24.3	261 53.5	N23 41.1	223 54.5	N17 58.3	343 16.5	N 3 14.1
	3	12 29.1	182 11.0	S 6 25.5	276 54.2	N23 41.0	238 56.4	N17 58.2	358 19.1	N 3 14.0
	4	27 31.6	197 11.4	S 6 26.7	291 54.9	N23 41.0	253 58.3	N17 58.0	13 21.6	N 3 14.0
W	5	42 34.0	212 11.9	S 6 27.8	306 55.6	N23 41.0	269 00.2	N17 57.9	28 24.2	N 3 13.9
E										
D	6	57 36.5	227 12.3	S 6 29.0	321 56.3	N23 41.0	284 02.1	N17 57.8	43 26.7	N 3 13.9
N	7	72 39.0	242 12.7	S 6 30.2	336 57.0	N23 40.9	299 04.0	N17 57.6	58 29.3	N 3 13.8
E	8	87 41.4	257 13.1	S 6 31.3	351 57.6	N23 40.9	314 05.9	N17 57.5	73 31.8	N 3 13.8
S	9	102 43.9	272 13.6	S 6 32.5	6 58.3	N23 40.9	329 07.9	N17 57.3	88 34.4	N 3 13.8
D	10	117 46.4	287 14.0	S 6 33.7	21 59.0	N23 40.8	344 09.8	N17 57.2	103 36.9	N 3 13.7
A	11	132 48.8	302 14.4	S 6 34.8	36 59.7	N23 40.8	359 11.7	N17 57.0	118 39.5	N 3 13.7
Y										
	12	147 51.3	317 14.9	S 6 36.0	52 00.4	N23 40.8	14 13.6	N17 56.9	133 42.0	N 3 13.6
	13	162 53.8	332 15.3	S 6 37.2	67 01.1	N23 40.8	29 15.5	N17 56.7	148 44.6	N 3 13.6
	14	177 56.2	347 15.7	S 6 38.3	82 01.7	N23 40.7	44 17.4	N17 56.6	163 47.1	N 3 13.5
	15	192 58.7	2 16.2	S 6 39.5	97 02.4	N23 40.7	59 19.3	N17 56.5	178 49.7	N 3 13.5
	16	208 01.2	17 16.6	S 6 40.7	112 03.1	N23 40.7	74 21.3	N17 56.3	193 52.2	N 3 13.4
	17	223 03.6	32 17.0	S 6 41.8	127 03.8	N23 40.6	89 23.2	N17 56.2	208 54.8	N 3 13.4
	18	238 06.1	47 17.5	S 6 43.0	142 04.5	N23 40.6	104 25.1	N17 56.0	223 57.3	N 3 13.3
	19	253 08.5	62 17.9	S 6 44.2	157 05.2	N23 40.6	119 27.0	N17 55.9	238 59.9	N 3 13.3
	20	268 11.0	77 18.3	S 6 45.3	172 05.9	N23 40.5	134 28.9	N17 55.7	254 02.4	N 3 13.2
	21	283 13.5	92 18.8	S 6 46.5	187 06.5	N23 40.5	149 30.8	N17 55.6	269 05.0	N 3 13.2
	22	298 15.9	107 19.2	S 6 47.7	202 07.2	N23 40.5	164 32.7	N17 55.4	284 07.5	N 3 13.1
	23	313 18.4	122 19.7	S 6 48.8	217 07.9	N23 40.4	179 34.7	N17 55.3	299 10.1	N 3 13.1
			v 0.4	d 1.2	v 0.7	d 0.0	v 1.9	d 0.1	v 2.5	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
17	0	178 57.0	N13 28.6	129 54.4	14.0	S10 54.0	14.2	56.5
	1	193 57.1	N13 27.8	144 27.4	14.0	S11 08.2	14.1	56.5
	2	208 57.2	N13 27.0	159 00.3	14.0	S11 22.2	14.1	56.4
	3	223 57.4	N13 26.2	173 33.3	14.0	S11 36.2	14.0	56.4
	4	238 57.5	N13 25.4	188 06.3	14.0	S11 50.2	13.9	56.4
M	5	253 57.6	N13 24.6	202 39.2	14.0	S12 04.0	13.9	56.3
O								
N	6	268 57.8	N13 23.8	217 12.2	13.9	S12 17.8	13.8	56.3
D	7	283 57.9	N13 23.0	231 45.1	13.9	S12 31.5	13.7	56.3
A	8	298 58.0	N13 22.2	246 18.0	13.9	S12 45.2	13.7	56.2
Y	9	313 58.2	N13 21.4	260 50.9	13.9	S12 58.8	13.6	56.2
	10	328 58.3	N13 20.6	275 23.8	13.9	S13 12.3	13.5	56.2
	11	343 58.4	N13 19.8	289 56.6	13.9	S13 25.7	13.4	56.1
	12	358 58.6	N13 19.0	304 29.4	13.8	S13 39.1	13.4	56.1
	13	13 58.7	N13 18.2	319 02.3	13.8	S13 52.4	13.3	56.1
	14	28 58.8	N13 17.4	333 35.0	13.8	S14 05.6	13.2	56.1
	15	43 59.0	N13 16.6	348 07.8	13.8	S14 18.7	13.1	56.0
	16	58 59.1	N13 15.8	2 40.6	13.7	S14 31.8	13.1	56.0
	17	73 59.3	N13 15.0	17 13.3	13.7	S14 44.8	13.0	56.0
	18	88 59.4	N13 14.2	31 46.0	13.7	S14 57.7	12.9	55.9
	19	103 59.5	N13 13.4	46 18.6	13.7	S15 10.5	12.8	55.9
	20	118 59.7	N13 12.6	60 51.3	13.6	S15 23.2	12.7	55.9
	21	133 59.8	N13 11.8	75 23.9	13.6	S15 35.9	12.7	55.8
	22	148 59.9	N13 11.0	89 56.5	13.6	S15 48.5	12.6	55.8
	23	164 00.1	N13 10.2	104 29.0	13.6	S16 01.0	12.5	55.8
18	0	179 00.2	N13 09.4	119 01.6	13.5	S16 13.4	12.4	55.8
	1	194 00.3	N13 08.6	133 34.1	13.5	S16 25.8	12.3	55.7
	2	209 00.5	N13 07.8	148 06.5	13.5	S16 38.0	12.3	55.7
	3	224 00.6	N13 07.0	162 39.0	13.4	S16 50.2	12.2	55.7
	4	239 00.8	N13 06.1	177 11.4	13.4	S17 02.3	12.1	55.6
T	5	254 00.9	N13 05.3	191 43.7	13.4	S17 14.3	12.0	55.6
U								
E	6	269 01.0	N13 04.5	206 16.1	13.3	S17 26.2	11.9	55.6
S	7	284 01.2	N13 03.7	220 48.4	13.3	S17 38.0	11.8	55.6
D	8	299 01.3	N13 02.9	235 20.7	13.3	S17 49.7	11.7	55.5
A	9	314 01.5	N13 02.1	249 52.9	13.2	S18 01.4	11.6	55.5
Y	10	329 01.6	N13 01.3	264 25.1	13.2	S18 12.9	11.6	55.5
	11	344 01.7	N13 00.5	278 57.3	13.2	S18 24.4	11.5	55.4
	12	359 01.9	N12 59.7	293 29.4	13.1	S18 35.7	11.4	55.4
	13	14 02.0	N12 58.9	308 01.5	13.1	S18 47.0	11.3	55.4
	14	29 02.2	N12 58.1	322 33.5	13.1	S18 58.2	11.2	55.4
	15	44 02.3	N12 57.3	337 05.6	13.0	S19 09.3	11.1	55.3
	16	59 02.4	N12 56.4	351 37.5	13.0	S19 20.3	11.0	55.3
	17	74 02.6	N12 55.6	6 09.5	12.9	S19 31.2	10.9	55.3
	18	89 02.7	N12 54.8	20 41.4	12.9	S19 42.0	10.8	55.3
	19	104 02.9	N12 54.0	35 13.2	12.9	S19 52.7	10.7	55.2
	20	119 03.0	N12 53.2	49 45.0	12.8	S20 03.3	10.6	55.2
	21	134 03.1	N12 52.4	64 16.8	12.8	S20 13.8	10.5	55.2
	22	149 03.3	N12 51.6	78 48.6	12.7	S20 24.3	10.4	55.2
	23	164 03.4	N12 50.8	93 20.3	12.7	S20 34.6	10.3	55.1
19	0	179 03.6	N12 49.9	107 51.9	12.7	S20 44.8	10.2	55.1
	1	194 03.7	N12 49.1	122 23.5	12.6	S20 54.9	10.1	55.1
	2	209 03.9	N12 48.3	136 55.1	12.6	S21 04.9	10.0	55.1
	3	224 04.0	N12 47.5	151 26.6	12.5	S21 14.8	9.9	55.1
	4	239 04.1	N12 46.7	165 58.1	12.5	S21 24.6	9.8	55.0
W	5	254 04.3	N12 45.9	180 29.5	12.4	S21 34.4	9.7	55.0
E								
D	6	269 04.4	N12 45.0	195 00.9	12.4	S21 44.0	9.6	55.0
N	7	284 04.6	N12 44.2	209 32.3	12.4	S21 53.5	9.5	55.0
E	8	299 04.7	N12 43.4	224 03.6	12.3	S22 02.8	9.4	54.9
S	9	314 04.9	N12 42.6	238 34.9	12.3	S22 12.1	9.3	54.9
D	10	329 05.0	N12 41.8	253 06.1	12.2	S22 21.3	9.2	54.9
A	11	344 05.2	N12 41.0	267 37.3	12.2	S22 30.4	9.1	54.9
Y								
	12	359 05.3	N12 40.1	282 08.4	12.1	S22 39.4	9.0	54.9
	13	14 05.4	N12 39.3	296 39.5	12.1	S22 48.2	8.9	54.8
	14	29 05.6	N12 38.5	311 10.5	12.0	S22 57.0	8.8	54.8
	15	44 05.7	N12 37.7	325 41.5	12.0	S23 05.6	8.6	54.8
	16	59 05.9	N12 36.9	340 12.5	12.0	S23 14.1	8.5	54.8
	17	74 06.0	N12 36.0	354 43.4	11.9	S23 22.6	8.4	54.8
	18	89 06.2	N12 35.2	9 14.2	11.9	S23 30.9	8.3	54.8
	19	104 06.3	N12 34.4	23 45.1	11.8	S23 39.1	8.2	54.7
	20	119 06.5	N12 33.6	38 15.8	11.8	S23 47.2	8.1	54.7
	21	134 06.6	N12 32.8	52 46.6	11.7	S23 55.1	8.0	54.7
	22	149 06.8	N12 31.9	67 17.3	11.7	S24 03.0	7.9	54.7
	23	164 06.9	N12 31.1	81 47.9	11.6	S24 10.7	7.7	54.7
		S.D. 15.8	d 0.8	S.D.	15.3	15.1	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 18.9	S57 05.7
Acrux	172 59.2	S63 15.0
Adhara	255 05.1	S29 00.3
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.2	N16 33.8
Alioth	166 12.1	N55 49.1
Alkaid	152 51.1	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.5	S 1 10.9
Alphard	217 46.7	S 8 46.4
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.1	N29 14.3
Altair	61 58.3	N 8 56.4
Ankaa	353 05.5	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.0	S69 04.8
Avior	234 14.8	S59 35.5
Bellatrix	278 21.6	N 6 22.6
Betelgeuse	270 50.8	N 7 24.8
Canopus	263 52.1	S52 42.3
Capella	280 20.1	N46 01.4
Castor	245 55.7	N31 49.8
Deneb	49 24.4	N45 22.6
Denebola	182 23.8	N14 25.5
Diphda	348 45.7	S17 50.2
Dubhe	193 39.9	N61 36.5
Elnath	278 00.4	N28 37.8
Eltanin	90 41.3	N51 29.3
Enif	33 37.1	N 9 60.0
Fomalhaut	15 12.7	S29 28.7
Gacrux	171 50.6	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.5	S60 30.3
Hamal	327 49.6	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.2	N74 03.0
Markab	13 28.3	N15 21.0
Menkar	314 04.7	N 4 11.8
Menkent	147 56.2	S36 30.3
Miaplacidus	221 38.9	S69 49.5
Mirfak	308 26.4	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 52.0	N89 21.7
Pollux	243 16.0	N27 57.7
Procyon	244 49.7	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.7	S 8 10.0
Rigil Kent	139 38.8	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.1	N56 40.9
Shaula	96 08.3	S37 07.5
Sirius	258 25.3	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.8	S43 32.3
Vega	80 32.0	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
20	0	328 20.9	137 20.1	S 6 50.0	232 08.6	N23 40.4	194 36.6	N17 55.1	314 12.6	N 3 13.0
	1	343 23.3	152 20.5	S 6 51.2	247 09.3	N23 40.4	209 38.5	N17 55.0	329 15.2	N 3 13.0
	2	358 25.8	167 21.0	S 6 52.3	262 10.0	N23 40.3	224 40.4	N17 54.9	344 17.7	N 3 13.0
	3	13 28.3	182 21.4	S 6 53.5	277 10.7	N23 40.3	239 42.3	N17 54.7	359 20.3	N 3 12.9
	4	28 30.7	197 21.9	S 6 54.6	292 11.4	N23 40.3	254 44.2	N17 54.6	14 22.8	N 3 12.9
T	5	43 33.2	212 22.3	S 6 55.8	307 12.0	N23 40.2	269 46.2	N17 54.4	29 25.4	N 3 12.8
H										
U	6	58 35.7	227 22.7	S 6 57.0	322 12.7	N23 40.2	284 48.1	N17 54.3	44 27.9	N 3 12.8
R	7	73 38.1	242 23.2	S 6 58.1	337 13.4	N23 40.2	299 50.0	N17 54.1	59 30.5	N 3 12.7
S	8	88 40.6	257 23.6	S 6 59.3	352 14.1	N23 40.1	314 51.9	N17 54.0	74 33.1	N 3 12.7
D	9	103 43.0	272 24.1	S 7 00.5	7 14.8	N23 40.1	329 53.8	N17 53.8	89 35.6	N 3 12.6
A	10	118 45.5	287 24.5	S 7 01.6	22 15.5	N23 40.0	344 55.7	N17 53.7	104 38.2	N 3 12.6
Y	11	133 48.0	302 25.0	S 7 02.8	37 16.2	N23 40.0	359 57.6	N17 53.6	119 40.7	N 3 12.5
	12	148 50.4	317 25.4	S 7 03.9	52 16.9	N23 40.0	14 59.6	N17 53.4	134 43.3	N 3 12.5
	13	163 52.9	332 25.9	S 7 05.1	67 17.5	N23 39.9	30 01.5	N17 53.3	149 45.8	N 3 12.4
	14	178 55.4	347 26.3	S 7 06.3	82 18.2	N23 39.9	45 03.4	N17 53.1	164 48.4	N 3 12.4
	15	193 57.8	2 26.8	S 7 07.4	97 18.9	N23 39.9	60 05.3	N17 53.0	179 50.9	N 3 12.3
	16	209 00.3	17 27.2	S 7 08.6	112 19.6	N23 39.8	75 07.2	N17 52.8	194 53.5	N 3 12.3
	17	224 02.8	32 27.7	S 7 09.7	127 20.3	N23 39.8	90 09.1	N17 52.7	209 56.0	N 3 12.2
	18	239 05.2	47 28.1	S 7 10.9	142 21.0	N23 39.7	105 11.1	N17 52.5	224 58.6	N 3 12.2
	19	254 07.7	62 28.6	S 7 12.1	157 21.7	N23 39.7	120 13.0	N17 52.4	240 01.1	N 3 12.1
	20	269 10.2	77 29.0	S 7 13.2	172 22.4	N23 39.7	135 14.9	N17 52.2	255 03.7	N 3 12.1
	21	284 12.6	92 29.5	S 7 14.4	187 23.1	N23 39.6	150 16.8	N17 52.1	270 06.3	N 3 12.0
	22	299 15.1	107 29.9	S 7 15.5	202 23.8	N23 39.6	165 18.7	N17 52.0	285 08.8	N 3 12.0
	23	314 17.5	122 30.4	S 7 16.7	217 24.4	N23 39.5	180 20.6	N17 51.8	300 11.4	N 3 11.9
21	0	329 20.0	137 30.9	S 7 17.8	232 25.1	N23 39.5	195 22.6	N17 51.7	315 13.9	N 3 11.9
	1	344 22.5	152 31.3	S 7 19.0	247 25.8	N23 39.4	210 24.5	N17 51.5	330 16.5	N 3 11.8
	2	359 24.9	167 31.8	S 7 20.1	262 26.5	N23 39.4	225 26.4	N17 51.4	345 19.0	N 3 11.8
	3	14 27.4	182 32.2	S 7 21.3	277 27.2	N23 39.4	240 28.3	N17 51.2	0 21.6	N 3 11.7
	4	29 29.9	197 32.7	S 7 22.5	292 27.9	N23 39.3	255 30.2	N17 51.1	15 24.1	N 3 11.7
F	5	44 32.3	212 33.2	S 7 23.6	307 28.6	N23 39.3	270 32.1	N17 50.9	30 26.7	N 3 11.6
R										
I	6	59 34.8	227 33.6	S 7 24.8	322 29.3	N23 39.2	285 34.1	N17 50.8	45 29.3	N 3 11.6
D	7	74 37.3	242 34.1	S 7 25.9	337 30.0	N23 39.2	300 36.0	N17 50.7	60 31.8	N 3 11.5
A	8	89 39.7	257 34.5	S 7 27.1	352 30.7	N23 39.1	315 37.9	N17 50.5	75 34.4	N 3 11.5
Y	9	104 42.2	272 35.0	S 7 28.2	7 31.4	N23 39.1	330 39.8	N17 50.4	90 36.9	N 3 11.4
	10	119 44.6	287 35.5	S 7 29.4	22 32.1	N23 39.1	345 41.7	N17 50.2	105 39.5	N 3 11.4
	11	134 47.1	302 35.9	S 7 30.5	37 32.7	N23 39.0	0 43.7	N17 50.1	120 42.0	N 3 11.4
	12	149 49.6	317 36.4	S 7 31.7	52 33.4	N23 39.0	15 45.6	N17 49.9	135 44.6	N 3 11.3
	13	164 52.0	332 36.9	S 7 32.8	67 34.1	N23 38.9	30 47.5	N17 49.8	150 47.2	N 3 11.3
	14	179 54.5	347 37.3	S 7 34.0	82 34.8	N23 38.9	45 49.4	N17 49.6	165 49.7	N 3 11.2
	15	194 57.0	2 37.8	S 7 35.1	97 35.5	N23 38.8	60 51.3	N17 49.5	180 52.3	N 3 11.2
	16	209 59.4	17 38.3	S 7 36.3	112 36.2	N23 38.8	75 53.2	N17 49.3	195 54.8	N 3 11.1
	17	225 01.9	32 38.7	S 7 37.4	127 36.9	N23 38.7	90 55.2	N17 49.2	210 57.4	N 3 11.1
	18	240 04.4	47 39.2	S 7 38.6	142 37.6	N23 38.7	105 57.1	N17 49.1	225 59.9	N 3 11.0
	19	255 06.8	62 39.7	S 7 39.7	157 38.3	N23 38.6	120 59.0	N17 48.9	241 02.5	N 3 11.0
	20	270 09.3	77 40.2	S 7 40.9	172 39.0	N23 38.6	136 00.9	N17 48.8	256 05.1	N 3 10.9
	21	285 11.8	92 40.6	S 7 42.0	187 39.7	N23 38.5	151 02.8	N17 48.6	271 07.6	N 3 10.9
	22	300 14.2	107 41.1	S 7 43.2	202 40.4	N23 38.5	166 04.7	N17 48.5	286 10.2	N 3 10.8
	23	315 16.7	122 41.6	S 7 44.3	217 41.1	N23 38.4	181 06.7	N17 48.3	301 12.7	N 3 10.8
22	0	330 19.1	137 42.1	S 7 45.5	232 41.8	N23 38.4	196 08.6	N17 48.2	316 15.3	N 3 10.7
	1	345 21.6	152 42.5	S 7 46.6	247 42.5	N23 38.3	211 10.5	N17 48.0	331 17.9	N 3 10.7
	2	0 24.1	167 43.0	S 7 47.8	262 43.2	N23 38.3	226 12.4	N17 47.9	346 20.4	N 3 10.6
	3	15 26.5	182 43.5	S 7 48.9	277 43.9	N23 38.2	241 14.3	N17 47.7	1 23.0	N 3 10.6
	4	30 29.0	197 44.0	S 7 50.1	292 44.6	N23 38.2	256 16.3	N17 47.6	16 25.5	N 3 10.5
S	5	45 31.5	212 44.4	S 7 51.2	307 45.2	N23 38.1	271 18.2	N17 47.5	31 28.1	N 3 10.5
A										
T	6	60 33.9	227 44.9	S 7 52.4	322 45.9	N23 38.1	286 20.1	N17 47.3	46 30.6	N 3 10.4
U	7	75 36.4	242 45.4	S 7 53.5	337 46.6	N23 38.0	301 22.0	N17 47.2	61 33.2	N 3 10.4
R	8	90 38.9	257 45.9	S 7 54.7	352 47.3	N23 38.0	316 23.9	N17 47.0	76 35.8	N 3 10.3
D	9	105 41.3	272 46.4	S 7 55.8	7 48.0	N23 37.9	331 25.9	N17 46.9	91 38.3	N 3 10.3
A	10	120 43.8	287 46.9	S 7 57.0	22 48.7	N23 37.9	346 27.8	N17 46.7	106 40.9	N 3 10.2
Y	11	135 46.3	302 47.3	S 7 58.1	37 49.4	N23 37.8	1 29.7	N17 46.6	121 43.4	N 3 10.2
	12	150 48.7	317 47.8	S 7 59.2	52 50.1	N23 37.8	16 31.6	N17 46.4	136 46.0	N 3 10.1
	13	165 51.2	332 48.3	S 8 00.4	67 50.8	N23 37.7	31 33.5	N17 46.3	151 48.6	N 3 10.0
	14	180 53.6	347 48.8	S 8 01.5	82 51.5	N23 37.7	46 35.4	N17 46.1	166 51.1	N 3 10.0
	15	195 56.1	2 49.3	S 8 02.7	97 52.2	N23 37.6	61 37.4	N17 46.0	181 53.7	N 3 09.9
	16	210 58.6	17 49.8	S 8 03.8	112 52.9	N23 37.6	76 39.3	N17 45.9	196 56.3	N 3 09.9
	17	226 01.0	32 50.3	S 8 05.0	127 53.6	N23 37.5	91 41.2	N17 45.7	211 58.8	N 3 09.8
	18	241 03.5	47 50.7	S 8 06.1	142 54.3	N23 37.5	106 43.1	N17 45.6	227 01.4	N 3 09.8
	19	256 06.0	62 51.2	S 8 07.2	157 55.0	N23 37.4	121 45.0	N17 45.4	242 03.9	N 3 09.7
	20	271 08.4	77 51.7	S 8 08.4	172 55.7	N23 37.4	136 47.0	N17 45.3	257 06.5	N 3 09.7
	21	286 10.9	92 52.2	S 8 09.5	187 56.4	N23 37.3	151 48.9	N17 45.1	272 09.1	N 3 09.6
	22	301 13.4	107 52.7	S 8 10.7	202 57.1	N23 37.2	166 50.8	N17 45.0	287 11.6	N 3 09.6
	23	316 15.8	122 53.2	S 8 11.8	217 57.8	N23 37.2	181 52.7	N17 44.8	302 14.2	N 3 09.5
			v 0.5	d 1.2	v 0.7	d 0.0	v 1.9	d 0.1	v 2.6	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
20	0	179 07.1	N12 30.3	96 18.5	11.6	S24 18.4	7.6	54.6
	1	194 07.2	N12 29.5	110 49.0	11.6	S24 25.9	7.5	54.6
	2	209 07.4	N12 28.7	125 19.6	11.5	S24 33.3	7.4	54.6
	3	224 07.5	N12 27.8	139 50.0	11.5	S24 40.5	7.3	54.6
	4	239 07.7	N12 27.0	154 20.4	11.4	S24 47.7	7.2	54.6
T	5	254 07.8	N12 26.2	168 50.8	11.4	S24 54.7	7.0	54.6
H								
U	6	269 08.0	N12 25.4	183 21.2	11.3	S25 01.7	6.9	54.6
R	7	284 08.1	N12 24.5	197 51.4	11.3	S25 08.5	6.8	54.5
S	8	299 08.3	N12 23.7	212 21.7	11.3	S25 15.2	6.7	54.5
D	9	314 08.4	N12 22.9	226 51.9	11.2	S25 21.7	6.6	54.5
A	10	329 08.5	N12 22.1	241 22.1	11.2	S25 28.2	6.4	54.5
Y	11	344 08.7	N12 21.2	255 52.2	11.1	S25 34.5	6.3	54.5
	12	359 08.9	N12 20.4	270 22.3	11.1	S25 40.7	6.2	54.5
	13	14 09.0	N12 19.6	284 52.3	11.0	S25 46.8	6.1	54.5
	14	29 09.2	N12 18.8	299 22.3	11.0	S25 52.7	6.0	54.4
	15	44 09.3	N12 17.9	313 52.3	11.0	S25 58.6	5.8	54.4
	16	59 09.5	N12 17.1	328 22.2	10.9	S26 04.3	5.7	54.4
	17	74 09.6	N12 16.3	342 52.1	10.9	S26 09.9	5.6	54.4
	18	89 09.8	N12 15.4	357 21.9	10.8	S26 15.3	5.5	54.4
	19	104 09.9	N12 14.6	11 51.7	10.8	S26 20.7	5.3	54.4
	20	119 10.1	N12 13.8	26 21.5	10.8	S26 25.9	5.2	54.4
	21	134 10.2	N12 13.0	40 51.3	10.7	S26 31.0	5.1	54.4
	22	149 10.4	N12 12.1	55 21.0	10.7	S26 35.9	5.0	54.4
	23	164 10.5	N12 11.3	69 50.6	10.7	S26 40.8	4.8	54.3
21	0	179 10.7	N12 10.5	84 20.2	10.6	S26 45.5	4.7	54.3
	1	194 10.8	N12 09.6	98 49.8	10.6	S26 50.1	4.6	54.3
	2	209 11.0	N12 08.8	113 19.4	10.6	S26 54.5	4.5	54.3
	3	224 11.1	N12 08.0	127 48.9	10.5	S26 58.8	4.3	54.3
	4	239 11.3	N12 07.1	142 18.4	10.5	S27 03.0	4.2	54.3
F	5	254 11.4	N12 06.3	156 47.9	10.5	S27 07.1	4.1	54.3
R								
I	6	269 11.6	N12 05.5	171 17.3	10.4	S27 11.0	3.9	54.3
D	7	284 11.7	N12 04.6	185 46.7	10.4	S27 14.8	3.8	54.3
A	8	299 11.9	N12 03.8	200 16.1	10.4	S27 18.5	3.7	54.3
Y	9	314 12.1	N12 03.0	214 45.4	10.3	S27 22.1	3.5	54.3
	10	329 12.2	N12 02.1	229 14.7	10.3	S27 25.5	3.4	54.3
	11	344 12.4	N12 01.3	243 44.0	10.3	S27 28.8	3.3	54.3
	12	359 12.5	N12 00.5	258 13.3	10.3	S27 31.9	3.1	54.2
	13	14 12.7	N11 59.6	272 42.5	10.2	S27 34.9	3.0	54.2
	14	29 12.8	N11 58.8	287 11.7	10.2	S27 37.8	2.9	54.2
	15	44 13.0	N11 58.0	301 40.9	10.2	S27 40.6	2.8	54.2
	16	59 13.1	N11 57.1	316 10.1	10.2	S27 43.2	2.6	54.2
	17	74 13.3	N11 56.3	330 39.2	10.1	S27 45.7	2.5	54.2
	18	89 13.5	N11 55.5	345 08.4	10.1	S27 48.0	2.4	54.2
	19	104 13.6	N11 54.6	359 37.5	10.1	S27 50.2	2.2	54.2
	20	119 13.8	N11 53.8	14 06.5	10.1	S27 52.3	2.1	54.2
	21	134 13.9	N11 53.0	28 35.6	10.1	S27 54.3	2.0	54.2
	22	149 14.1	N11 52.1	43 04.7	10.0	S27 56.1	1.8	54.2
	23	164 14.2	N11 51.3	57 33.7	10.0	S27 57.8	1.7	54.2
22	0	179 14.4	N11 50.4	72 02.7	10.0	S27 59.3	1.5	54.2
	1	194 14.6	N11 49.6	86 31.7	10.0	S28 00.7	1.4	54.2
	2	209 14.7	N11 48.8	101 00.7	10.0	S28 02.0	1.3	54.2
	3	224 14.9	N11 47.9	115 29.7	10.0	S28 03.1	1.1	54.2
	4	239 15.0	N11 47.1	129 58.6	10.0	S28 04.1	1.0	54.2
S	5	254 15.2	N11 46.2	144 27.6	10.0	S28 05.0	0.9	54.2
A								
T	6	269 15.4	N11 45.4	158 56.5	9.9	S28 05.8	0.7	54.2
U	7	284 15.5	N11 44.6	173 25.5	9.9	S28 06.4	0.6	54.2
R	8	299 15.7	N11 43.7	187 54.4	9.9	S28 06.8	0.5	54.2
D	9	314 15.8	N11 42.9	202 23.3	9.9	S28 07.1	0.3	54.2
A	10	329 16.0	N11 42.0	216 52.2	9.9	S28 07.3	0.2	54.2
Y	11	344 16.2	N11 41.2	231 21.2	9.9	S28 07.4	0.1	54.2
	12	359 16.3	N11 40.4	245 50.1	9.9	S28 07.3	0.1	54.2
	13	14 16.5	N11 39.5	260 19.0	9.9	S28 07.1	0.2	54.2
	14	29 16.6	N11 38.7	274 47.9	9.9	S28 06.7	0.4	54.2
	15	44 16.8	N11 37.8	289 16.8	9.9	S28 06.3	0.5	54.2
	16	59 17.0	N11 37.0	303 45.7	9.9	S28 05.6	0.6	54.2
	17	74 17.1	N11 36.1	318 14.6	9.9	S28 04.9	0.8	54.2
	18	89 17.3	N11 35.3	332 43.5	9.9	S28 04.0	0.9	54.2
	19	104 17.4	N11 34.5	347 12.5	9.9	S28 02.9	1.0	54.2
	20	119 17.6	N11 33.6	1 41.4	9.9	S28 01.8	1.2	54.2
	21	134 17.8	N11 32.8	16 10.3	9.9	S28 00.5	1.3	54.2
	22	149 17.9	N11 31.9	30 39.3	9.9	S27 59.0	1.4	54.2
	23	164 18.1	N11 31.1	45 08.2	9.9	S27 57.4	1.6	54.2
		S.D. 15.8	d 0.8	S.D.	14.8	14.8	14.8	

Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 18.8	S57 05.7
Acrux	172 59.2	S63 15.0
Adhara	255 05.1	S29 00.2
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.1	N16 33.8
Alioth	166 12.1	N55 49.1
Alkaid	152 51.2	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.5	S 1 10.9
Alphard	217 46.7	S 8 46.4
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.1	N29 14.4
Altair	61 58.3	N 8 56.4
Ankaa	353 05.4	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.1	S69 04.8
Avior	234 14.8	S59 35.5
Bellatrix	278 21.6	N 6 22.6
Betelgeuse	270 50.8	N 7 24.8
Canopus	263 52.1	S52 42.3
Capella	280 20.1	N46 01.4
Castor	245 55.6	N31 49.8
Deneb	49 24.4	N45 22.7
Denebola	182 23.8	N14 25.5
Diphda	348 45.7	S17 50.2
Dubhe	193 39.9	N61 36.5
Elnath	278 00.4	N28 37.8
Eltanin	90 41.3	N51 29.3
Enif	33 37.1	N 9 60.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.6	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.5	S60 30.3
Hamal	327 49.6	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.2	N74 03.0
Markab	13 28.2	N15 21.0
Menkar	314 04.7	N 4 11.8
Menkent	147 56.2	S36 30.3
Miaplacidus	221 38.9	S69 49.5
Mirfak	308 26.3	N49 57.2
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 50.6	N89 21.7
Pollux	243 16.0	N27 57.7
Procyon	244 49.7	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.7	S 8 10.0
Rigil Kent	139 38.8	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.1	N56 40.9
Shaula	96 08.3	S37 07.5
Sirius	258 25.3	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.7	S43 32.3
Vega	80 32.0	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
23	0	331 18.3	137 53.7	S 8 12.9	232 58.5	N23 37.1	196 54.6	N17 44.7	317 16.7	N 3 09.5
	1	346 20.8	152 54.2	S 8 14.1	247 59.2	N23 37.1	211 56.6	N17 44.5	332 19.3	N 3 09.4
	2	1 23.2	167 54.7	S 8 15.2	262 59.9	N23 37.0	226 58.5	N17 44.4	347 21.9	N 3 09.4
	3	16 25.7	182 55.2	S 8 16.4	278 00.6	N23 37.0	242 00.4	N17 44.3	2 24.4	N 3 09.3
	4	31 28.1	197 55.7	S 8 17.5	293 01.3	N23 36.9	257 02.3	N17 44.1	17 27.0	N 3 09.3
S	5	46 30.6	212 56.2	S 8 18.6	308 02.0	N23 36.8	272 04.2	N17 44.0	32 29.6	N 3 09.2
U										
N	6	61 33.1	227 56.7	S 8 19.8	323 02.7	N23 36.8	287 06.2	N17 43.8	47 32.1	N 3 09.2
D	7	76 35.5	242 57.2	S 8 20.9	338 03.4	N23 36.7	302 08.1	N17 43.7	62 34.7	N 3 09.1
A	8	91 38.0	257 57.7	S 8 22.0	353 04.1	N23 36.7	317 10.0	N17 43.5	77 37.3	N 3 09.1
Y	9	106 40.5	272 58.2	S 8 23.2	8 04.8	N23 36.6	332 11.9	N17 43.4	92 39.8	N 3 09.0
	10	121 42.9	287 58.7	S 8 24.3	23 05.5	N23 36.5	347 13.8	N17 43.2	107 42.4	N 3 09.0
	11	136 45.4	302 59.2	S 8 25.5	38 06.2	N23 36.5	2 15.8	N17 43.1	122 44.9	N 3 08.9
	12	151 47.9	317 59.7	S 8 26.6	53 06.9	N23 36.4	17 17.7	N17 42.9	137 47.5	N 3 08.9
	13	166 50.3	333 00.2	S 8 27.7	68 07.6	N23 36.4	32 19.6	N17 42.8	152 50.1	N 3 08.8
	14	181 52.8	348 00.7	S 8 28.9	83 08.3	N23 36.3	47 21.5	N17 42.7	167 52.6	N 3 08.8
	15	196 55.2	3 01.2	S 8 30.0	98 09.0	N23 36.2	62 23.4	N17 42.5	182 55.2	N 3 08.7
	16	211 57.7	18 01.7	S 8 31.1	113 09.7	N23 36.2	77 25.4	N17 42.4	197 57.8	N 3 08.7
	17	227 00.2	33 02.2	S 8 32.3	128 10.4	N23 36.1	92 27.3	N17 42.2	213 00.3	N 3 08.6
	18	242 02.6	48 02.7	S 8 33.4	143 11.1	N23 36.1	107 29.2	N17 42.1	228 02.9	N 3 08.6
	19	257 05.1	63 03.2	S 8 34.5	158 11.8	N23 36.0	122 31.1	N17 41.9	243 05.5	N 3 08.5
	20	272 07.6	78 03.7	S 8 35.7	173 12.5	N23 35.9	137 33.1	N17 41.8	258 08.0	N 3 08.5
	21	287 10.0	93 04.3	S 8 36.8	188 13.2	N23 35.9	152 35.0	N17 41.6	273 10.6	N 3 08.4
	22	302 12.5	108 04.8	S 8 37.9	203 13.9	N23 35.8	167 36.9	N17 41.5	288 13.2	N 3 08.3
	23	317 15.0	123 05.3	S 8 39.0	218 14.6	N23 35.7	182 38.8	N17 41.3	303 15.7	N 3 08.3
24	0	332 17.4	138 05.8	S 8 40.2	233 15.3	N23 35.7	197 40.7	N17 41.2	318 18.3	N 3 08.2
	1	347 19.9	153 06.3	S 8 41.3	248 16.0	N23 35.6	212 42.7	N17 41.1	333 20.9	N 3 08.2
	2	2 22.4	168 06.8	S 8 42.4	263 16.8	N23 35.5	227 44.6	N17 40.9	348 23.4	N 3 08.1
	3	17 24.8	183 07.3	S 8 43.6	278 17.5	N23 35.5	242 46.5	N17 40.8	3 26.0	N 3 08.1
	4	32 27.3	198 07.9	S 8 44.7	293 18.2	N23 35.4	257 48.4	N17 40.6	18 28.5	N 3 08.0
M	5	47 29.7	213 08.4	S 8 45.8	308 18.9	N23 35.3	272 50.3	N17 40.5	33 31.1	N 3 08.0
O										
N	6	62 32.2	228 08.9	S 8 47.0	323 19.6	N23 35.3	287 52.3	N17 40.3	48 33.7	N 3 07.9
D	7	77 34.7	243 09.4	S 8 48.1	338 20.3	N23 35.2	302 54.2	N17 40.2	63 36.2	N 3 07.9
A	8	92 37.1	258 09.9	S 8 49.2	353 21.0	N23 35.1	317 56.1	N17 40.0	78 38.8	N 3 07.8
Y	9	107 39.6	273 10.4	S 8 50.3	8 21.7	N23 35.1	332 58.0	N17 39.9	93 41.4	N 3 07.8
	10	122 42.1	288 11.0	S 8 51.5	23 22.4	N23 35.0	347 60.0	N17 39.7	108 43.9	N 3 07.7
	11	137 44.5	303 11.5	S 8 52.6	38 23.1	N23 34.9	3 01.9	N17 39.6	123 46.5	N 3 07.7
	12	152 47.0	318 12.0	S 8 53.7	53 23.8	N23 34.9	18 03.8	N17 39.4	138 49.1	N 3 07.6
	13	167 49.5	333 12.5	S 8 54.8	68 24.5	N23 34.8	33 05.7	N17 39.3	153 51.6	N 3 07.6
	14	182 51.9	348 13.1	S 8 56.0	83 25.2	N23 34.7	48 07.6	N17 39.2	168 54.2	N 3 07.5
	15	197 54.4	3 13.6	S 8 57.1	98 25.9	N23 34.7	63 09.6	N17 39.0	183 56.8	N 3 07.4
	16	212 56.9	18 14.1	S 8 58.2	113 26.6	N23 34.6	78 11.5	N17 38.9	198 59.4	N 3 07.4
	17	227 59.3	33 14.6	S 8 59.3	128 27.3	N23 34.5	93 13.4	N17 38.7	214 01.9	N 3 07.3
	18	243 01.8	48 15.2	S 9 00.5	143 28.0	N23 34.5	108 15.3	N17 38.6	229 04.5	N 3 07.3
	19	258 04.2	63 15.7	S 9 01.6	158 28.8	N23 34.4	123 17.3	N17 38.4	244 07.1	N 3 07.2
	20	273 06.7	78 16.2	S 9 02.7	173 29.5	N23 34.3	138 19.2	N17 38.3	259 09.6	N 3 07.2
	21	288 09.2	93 16.8	S 9 03.8	188 30.2	N23 34.3	153 21.1	N17 38.1	274 12.2	N 3 07.1
	22	303 11.6	108 17.3	S 9 04.9	203 30.9	N23 34.2	168 23.0	N17 38.0	289 14.8	N 3 07.1
	23	318 14.1	123 17.8	S 9 06.1	218 31.6	N23 34.1	183 25.0	N17 37.8	304 17.3	N 3 07.0
25	0	333 16.6	138 18.4	S 9 07.2	233 32.3	N23 34.0	198 26.9	N17 37.7	319 19.9	N 3 07.0
	1	348 19.0	153 18.9	S 9 08.3	248 33.0	N23 34.0	213 28.8	N17 37.6	334 22.5	N 3 06.9
	2	3 21.5	168 19.4	S 9 09.4	263 33.7	N23 33.9	228 30.7	N17 37.4	349 25.0	N 3 06.9
	3	18 24.0	183 20.0	S 9 10.6	278 34.4	N23 33.8	243 32.6	N17 37.3	4 27.6	N 3 06.8
	4	33 26.4	198 20.5	S 9 11.7	293 35.1	N23 33.8	258 34.6	N17 37.1	19 30.2	N 3 06.7
T	5	48 28.9	213 21.0	S 9 12.8	308 35.8	N23 33.7	273 36.5	N17 37.0	34 32.7	N 3 06.7
U										
E	6	63 31.4	228 21.6	S 9 13.9	323 36.5	N23 33.6	288 38.4	N17 36.8	49 35.3	N 3 06.6
S	7	78 33.8	243 22.1	S 9 15.0	338 37.3	N23 33.5	303 40.3	N17 36.7	64 37.9	N 3 06.6
D	8	93 36.3	258 22.7	S 9 16.1	353 38.0	N23 33.5	318 42.3	N17 36.5	79 40.5	N 3 06.5
A	9	108 38.7	273 23.2	S 9 17.3	8 38.7	N23 33.4	333 44.2	N17 36.4	94 43.0	N 3 06.5
Y	10	123 41.2	288 23.7	S 9 18.4	23 39.4	N23 33.3	348 46.1	N17 36.2	109 45.6	N 3 06.4
	11	138 43.7	303 24.3	S 9 19.5	38 40.1	N23 33.2	3 48.0	N17 36.1	124 48.2	N 3 06.4
	12	153 46.1	318 24.8	S 9 20.6	53 40.8	N23 33.2	18 50.0	N17 35.9	139 50.7	N 3 06.3
	13	168 48.6	333 25.4	S 9 21.7	68 41.5	N23 33.1	33 51.9	N17 35.8	154 53.3	N 3 06.3
	14	183 51.1	348 25.9	S 9 22.8	83 42.2	N23 33.0	48 53.8	N17 35.7	169 55.9	N 3 06.2
	15	198 53.5	3 26.5	S 9 24.0	98 42.9	N23 32.9	63 55.7	N17 35.5	184 58.4	N 3 06.2
	16	213 56.0	18 27.0	S 9 25.1	113 43.7	N23 32.9	78 57.7	N17 35.4	200 01.0	N 3 06.1
	17	228 58.5	33 27.6	S 9 26.2	128 44.4	N23 32.8	93 59.6	N17 35.2	215 03.6	N 3 06.0
	18	244 00.9	48 28.1	S 9 27.3	143 45.1	N23 32.7	109 01.5	N17 35.1	230 06.2	N 3 06.0
	19	259 03.4	63 28.7	S 9 28.4	158 45.8	N23 32.6	124 03.4	N17 34.9	245 08.7	N 3 05.9
	20	274 05.8	78 29.2	S 9 29.5	173 46.5	N23 32.5	139 05.4	N17 34.8	260 11.3	N 3 05.9
	21	289 08.3	93 29.8	S 9 30.6	188 47.2	N23 32.5	154 07.3	N17 34.6	275 13.9	N 3 05.8
	22	304 10.8	108 30.3	S 9 31.7	203 47.9	N23 32.4	169 09.2	N17 34.5	290 16.5	N 3 05.8
	23	319 13.2	123 30.9	S 9 32.9	218 48.6	N23 32.3	184 11.1	N17 34.3	305 19.0	N 3 05.7
			v 0.5	d 1.1	v 0.7	d 0.1	v 1.9	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
23	0	179 18.3	N11 30.2	59 37.2	10.0	S27 55.7	1.7	54.2
	1	194 18.4	N11 29.4	74 06.1	10.0	S27 53.9	1.8	54.2
	2	209 18.6	N11 28.5	88 35.1	10.0	S27 51.9	2.0	54.2
	3	224 18.7	N11 27.7	103 04.1	10.0	S27 49.8	2.1	54.2
	4	239 18.9	N11 26.8	117 33.1	10.0	S27 47.5	2.3	54.2
S	5	254 19.1	N11 26.0	132 02.1	10.0	S27 45.1	2.4	54.2
U								
N	6	269 19.2	N11 25.2	146 31.2	10.0	S27 42.6	2.5	54.3
D	7	284 19.4	N11 24.3	161 00.2	10.1	S27 40.0	2.7	54.3
A	8	299 19.6	N11 23.5	175 29.3	10.1	S27 37.2	2.8	54.3
Y	9	314 19.7	N11 22.6	189 58.4	10.1	S27 34.2	2.9	54.3
	10	329 19.9	N11 21.8	204 27.5	10.1	S27 31.2	3.1	54.3
	11	344 20.1	N11 20.9	218 56.6	10.1	S27 28.0	3.2	54.3
	12	359 20.2	N11 20.1	233 25.8	10.2	S27 24.7	3.3	54.3
	13	14 20.4	N11 19.2	247 54.9	10.2	S27 21.2	3.5	54.3
	14	29 20.6	N11 18.4	262 24.1	10.2	S27 17.6	3.6	54.3
	15	44 20.7	N11 17.5	276 53.4	10.2	S27 13.9	3.7	54.3
	16	59 20.9	N11 16.7	291 22.6	10.2	S27 10.0	3.9	54.3
	17	74 21.0	N11 15.8	305 51.9	10.3	S27 06.0	4.0	54.3
	18	89 21.2	N11 15.0	320 21.2	10.3	S27 01.9	4.1	54.3
	19	104 21.4	N11 14.1	334 50.5	10.3	S26 57.7	4.3	54.3
	20	119 21.5	N11 13.3	349 19.9	10.4	S26 53.3	4.4	54.4
	21	134 21.7	N11 12.4	3 49.3	10.4	S26 48.8	4.5	54.4
	22	149 21.9	N11 11.5	18 18.7	10.4	S26 44.1	4.6	54.4
	23	164 22.0	N11 10.7	32 48.1	10.4	S26 39.4	4.8	54.4
24	0	179 22.2	N11 09.8	47 17.6	10.5	S26 34.5	4.9	54.4
	1	194 22.4	N11 09.0	61 47.1	10.5	S26 29.4	5.0	54.4
	2	209 22.6	N11 08.1	76 16.7	10.5	S26 24.3	5.2	54.4
	3	224 22.7	N11 07.3	90 46.2	10.6	S26 19.0	5.3	54.4
	4	239 22.9	N11 06.4	105 15.9	10.6	S26 13.6	5.4	54.4
M	5	254 23.1	N11 05.6	119 45.5	10.7	S26 08.0	5.5	54.4
O								
N	6	269 23.2	N11 04.7	134 15.2	10.7	S26 02.4	5.7	54.5
D	7	284 23.4	N11 03.9	148 44.9	10.7	S25 56.6	5.8	54.5
A	8	299 23.6	N11 03.0	163 14.7	10.8	S25 50.6	5.9	54.5
Y	9	314 23.7	N11 02.2	177 44.5	10.8	S25 44.6	6.0	54.5
	10	329 23.9	N11 01.3	192 14.3	10.8	S25 38.4	6.2	54.5
	11	344 24.1	N11 00.4	206 44.2	10.9	S25 32.1	6.3	54.5
	12	359 24.2	N10 59.6	221 14.1	10.9	S25 25.7	6.4	54.5
	13	14 24.4	N10 58.7	235 44.1	11.0	S25 19.2	6.5	54.5
	14	29 24.6	N10 57.9	250 14.1	11.0	S25 12.5	6.7	54.6
	15	44 24.7	N10 57.0	264 44.1	11.0	S25 05.8	6.8	54.6
	16	59 24.9	N10 56.2	279 14.2	11.1	S24 58.8	6.9	54.6
	17	74 25.1	N10 55.3	293 44.3	11.1	S24 51.8	7.0	54.6
	18	89 25.3	N10 54.4	308 14.5	11.2	S24 44.7	7.1	54.6
	19	104 25.4	N10 53.6	322 44.7	11.2	S24 37.4	7.3	54.6
	20	119 25.6	N10 52.7	337 15.0	11.3	S24 30.0	7.4	54.6
	21	134 25.8	N10 51.9	351 45.3	11.3	S24 22.5	7.5	54.6
	22	149 25.9	N10 51.0	6 15.6	11.3	S24 14.9	7.6	54.7
	23	164 26.1	N10 50.1	20 46.0	11.4	S24 07.2	7.7	54.7
25	0	179 26.3	N10 49.3	35 16.5	11.4	S23 59.3	7.9	54.7
	1	194 26.5	N10 48.4	49 46.9	11.5	S23 51.4	8.0	54.7
	2	209 26.6	N10 47.6	64 17.5	11.5	S23 43.3	8.1	54.7
	3	224 26.8	N10 46.7	78 48.0	11.6	S23 35.1	8.2	54.7
	4	239 27.0	N10 45.8	93 18.7	11.6	S23 26.8	8.3	54.8
T	5	254 27.1	N10 45.0	107 49.3	11.7	S23 18.4	8.4	54.8
U								
E	6	269 27.3	N10 44.1	122 20.0	11.7	S23 09.8	8.5	54.8
S	7	284 27.5	N10 43.2	136 50.8	11.8	S23 01.2	8.6	54.8
D	8	299 27.7	N10 42.4	151 21.6	11.8	S22 52.4	8.8	54.8
A	9	314 27.8	N10 41.5	165 52.5	11.9	S22 43.6	8.9	54.8
Y	10	329 28.0	N10 40.7	180 23.4	11.9	S22 34.6	9.0	54.8
	11	344 28.2	N10 39.8	194 54.3	12.0	S22 25.5	9.1	54.9
	12	359 28.4	N10 38.9	209 25.3	12.0	S22 16.3	9.2	54.9
	13	14 28.5	N10 38.1	223 56.4	12.0	S22 07.0	9.3	54.9
	14	29 28.7	N10 37.2	238 27.5	12.1	S21 57.6	9.4	54.9
	15	44 28.9	N10 36.3	252 58.6	12.1	S21 48.1	9.5	54.9
	16	59 29.1	N10 35.5	267 29.8	12.2	S21 38.5	9.6	55.0
	17	74 29.2	N10 34.6	282 01.1	12.2	S21 28.8	9.7	55.0
	18	89 29.4	N10 33.7	296 32.3	12.3	S21 18.9	9.8	55.0
	19	104 29.6	N10 32.9	311 03.7	12.3	S21 09.0	9.9	55.0
	20	119 29.8	N10 32.0	325 35.1	12.4	S20 59.0	10.0	55.0
	21	134 29.9	N10 31.1	340 06.5	12.4	S20 48.9	10.1	55.0
	22	149 30.1	N10 30.3	354 38.0	12.5	S20 38.6	10.2	55.1
	23	164 30.3	N10 29.4	9 09.5	12.5	S20 28.3	10.3	55.1
		S.D. 15.8	d 0.9	S.D.	14.8	14.9	15.0	

Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 18.8	S57 05.7
Acrux	172 59.2	S63 15.0
Adhara	255 05.1	S29 00.2
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.1	N16 33.9
Alioth	166 12.1	N55 49.1
Alkaid	152 51.2	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.4	S 1 10.9
Alphard	217 46.7	S 8 46.4
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.1	N29 14.4
Altair	61 58.3	N 8 56.4
Ankaa	353 05.4	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.1	S69 04.8
Avior	234 14.8	S59 35.5
Bellatrix	278 21.5	N 6 22.6
Betelgeuse	270 50.8	N 7 24.8
Canopus	263 52.1	S52 42.3
Capella	280 20.0	N46 01.4
Castor	245 55.6	N31 49.8
Deneb	49 24.4	N45 22.7
Denebola	182 23.8	N14 25.5
Diphda	348 45.7	S17 50.2
Dubhe	193 39.9	N61 36.5
Elnath	278 00.3	N28 37.8
Eltanin	90 41.3	N51 29.3
Enif	33 37.1	N 9 60.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.5	S60 30.3
Hamal	327 49.5	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.3	N74 03.0
Markab	13 28.2	N15 21.0
Menkar	314 04.6	N 4 11.8
Menkent	147 56.2	S36 30.2
Miaplacidus	221 38.8	S69 49.5
Mirfak	308 26.3	N49 57.3
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 49.3	N89 21.7
Pollux	243 15.9	N27 57.7
Procyon	244 49.7	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.7	S 8 10.0
Rigil Kent	139 38.8	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.1	N56 40.9
Shaula	96 08.4	S37 07.5
Sirius	258 25.3	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.7	S43 32.3
Vega	80 32.0	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
26	0	334 15.7	138 31.4	S 9 34.0	233 49.4	N23 32.2	199 13.1	N17 34.2	320 21.6	N 3 05.7
	1	349 18.2	153 32.0	S 9 35.1	248 50.1	N23 32.2	214 15.0	N17 34.1	335 24.2	N 3 05.6
	2	4 20.6	168 32.5	S 9 36.2	263 50.8	N23 32.1	229 16.9	N17 33.9	350 26.7	N 3 05.5
	3	19 23.1	183 33.1	S 9 37.3	278 51.5	N23 32.0	244 18.8	N17 33.8	5 29.3	N 3 05.5
	4	34 25.6	198 33.6	S 9 38.4	293 52.2	N23 31.9	259 20.8	N17 33.6	20 31.9	N 3 05.4
W	5	49 28.0	213 34.2	S 9 39.5	308 52.9	N23 31.8	274 22.7	N17 33.5	35 34.5	N 3 05.4
E										
D	6	64 30.5	228 34.8	S 9 40.6	323 53.6	N23 31.8	289 24.6	N17 33.3	50 37.0	N 3 05.3
N	7	79 33.0	243 35.3	S 9 41.7	338 54.3	N23 31.7	304 26.5	N17 33.2	65 39.6	N 3 05.3
E	8	94 35.4	258 35.9	S 9 42.8	353 55.1	N23 31.6	319 28.5	N17 33.0	80 42.2	N 3 05.2
S	9	109 37.9	273 36.4	S 9 43.9	8 55.8	N23 31.5	334 30.4	N17 32.9	95 44.8	N 3 05.2
D	10	124 40.3	288 37.0	S 9 45.0	23 56.5	N23 31.4	349 32.3	N17 32.7	110 47.3	N 3 05.1
A	11	139 42.8	303 37.6	S 9 46.2	38 57.2	N23 31.3	4 34.2	N17 32.6	125 49.9	N 3 05.0
Y										
	12	154 45.3	318 38.1	S 9 47.3	53 57.9	N23 31.3	19 36.2	N17 32.4	140 52.5	N 3 05.0
	13	169 47.7	333 38.7	S 9 48.4	68 58.6	N23 31.2	34 38.1	N17 32.3	155 55.0	N 3 04.9
	14	184 50.2	348 39.3	S 9 49.5	83 59.4	N23 31.1	49 40.0	N17 32.2	170 57.6	N 3 04.9
	15	199 52.7	3 39.8	S 9 50.6	99 00.1	N23 31.0	64 41.9	N17 32.0	186 00.2	N 3 04.8
	16	214 55.1	18 40.4	S 9 51.7	114 00.8	N23 30.9	79 43.9	N17 31.9	201 02.8	N 3 04.8
	17	229 57.6	33 41.0	S 9 52.8	129 01.5	N23 30.8	94 45.8	N17 31.7	216 05.3	N 3 04.7
	18	245 00.1	48 41.5	S 9 53.9	144 02.2	N23 30.8	109 47.7	N17 31.6	231 07.9	N 3 04.7
	19	260 02.5	63 42.1	S 9 55.0	159 02.9	N23 30.7	124 49.6	N17 31.4	246 10.5	N 3 04.6
	20	275 05.0	78 42.7	S 9 56.1	174 03.7	N23 30.6	139 51.6	N17 31.3	261 13.1	N 3 04.5
	21	290 07.5	93 43.3	S 9 57.2	189 04.4	N23 30.5	154 53.5	N17 31.1	276 15.6	N 3 04.5
	22	305 09.9	108 43.8	S 9 58.3	204 05.1	N23 30.4	169 55.4	N17 31.0	291 18.2	N 3 04.4
	23	320 12.4	123 44.4	S 9 59.4	219 05.8	N23 30.3	184 57.3	N17 30.8	306 20.8	N 3 04.4
27	0	335 14.8	138 45.0	S10 00.5	234 06.5	N23 30.2	199 59.3	N17 30.7	321 23.4	N 3 04.3
	1	350 17.3	153 45.6	S10 01.6	249 07.2	N23 30.2	215 01.2	N17 30.5	336 25.9	N 3 04.3
	2	5 19.8	168 46.1	S10 02.7	264 08.0	N23 30.1	230 03.1	N17 30.4	351 28.5	N 3 04.2
	3	20 22.2	183 46.7	S10 03.8	279 08.7	N23 30.0	245 05.1	N17 30.3	6 31.1	N 3 04.2
	4	35 24.7	198 47.3	S10 04.9	294 09.4	N23 29.9	260 07.0	N17 30.1	21 33.7	N 3 04.1
T	5	50 27.2	213 47.9	S10 06.0	309 10.1	N23 29.8	275 08.9	N17 30.0	36 36.2	N 3 04.0
H										
U	6	65 29.6	228 48.4	S10 07.1	324 10.8	N23 29.7	290 10.8	N17 29.8	51 38.8	N 3 04.0
R	7	80 32.1	243 49.0	S10 08.2	339 11.5	N23 29.6	305 12.8	N17 29.7	66 41.4	N 3 03.9
S	8	95 34.6	258 49.6	S10 09.3	354 12.3	N23 29.5	320 14.7	N17 29.5	81 44.0	N 3 03.9
D	9	110 37.0	273 50.2	S10 10.4	9 13.0	N23 29.5	335 16.6	N17 29.4	96 46.6	N 3 03.8
A	10	125 39.5	288 50.8	S10 11.5	24 13.7	N23 29.4	350 18.5	N17 29.2	111 49.1	N 3 03.8
Y	11	140 42.0	303 51.4	S10 12.6	39 14.4	N23 29.3	5 20.5	N17 29.1	126 51.7	N 3 03.7
	12	155 44.4	318 52.0	S10 13.7	54 15.1	N23 29.2	20 22.4	N17 28.9	141 54.3	N 3 03.6
	13	170 46.9	333 52.5	S10 14.8	69 15.9	N23 29.1	35 24.3	N17 28.8	156 56.9	N 3 03.6
	14	185 49.3	348 53.1	S10 15.8	84 16.6	N23 29.0	50 26.3	N17 28.6	171 59.4	N 3 03.5
	15	200 51.8	3 53.7	S10 16.9	99 17.3	N23 28.9	65 28.2	N17 28.5	187 02.0	N 3 03.5
	16	215 54.3	18 54.3	S10 18.0	114 18.0	N23 28.8	80 30.1	N17 28.4	202 04.6	N 3 03.4
	17	230 56.7	33 54.9	S10 19.1	129 18.8	N23 28.7	95 32.0	N17 28.2	217 07.2	N 3 03.4
	18	245 59.2	48 55.5	S10 20.2	144 19.5	N23 28.6	110 34.0	N17 28.1	232 09.7	N 3 03.3
	19	261 01.7	63 56.1	S10 21.3	159 20.2	N23 28.6	125 35.9	N17 27.9	247 12.3	N 3 03.2
	20	276 04.1	78 56.7	S10 22.4	174 20.9	N23 28.5	140 37.8	N17 27.8	262 14.9	N 3 03.2
	21	291 06.6	93 57.3	S10 23.5	189 21.6	N23 28.4	155 39.8	N17 27.6	277 17.5	N 3 03.1
	22	306 09.1	108 57.9	S10 24.6	204 22.4	N23 28.3	170 41.7	N17 27.5	292 20.1	N 3 03.1
	23	321 11.5	123 58.5	S10 25.7	219 23.1	N23 28.2	185 43.6	N17 27.3	307 22.6	N 3 03.0
28	0	336 14.0	138 59.1	S10 26.8	234 23.8	N23 28.1	200 45.5	N17 27.2	322 25.2	N 3 03.0
	1	351 16.4	153 59.7	S10 27.8	249 24.5	N23 28.0	215 47.5	N17 27.0	337 27.8	N 3 02.9
	2	6 18.9	169 00.3	S10 28.9	264 25.2	N23 27.9	230 49.4	N17 26.9	352 30.4	N 3 02.8
	3	21 21.4	184 00.9	S10 30.0	279 26.0	N23 27.8	245 51.3	N17 26.7	7 33.0	N 3 02.8
	4	36 23.8	199 01.5	S10 31.1	294 26.7	N23 27.7	260 53.2	N17 26.6	22 35.5	N 3 02.7
F	5	51 26.3	214 02.1	S10 32.2	309 27.4	N23 27.6	275 55.2	N17 26.5	37 38.1	N 3 02.7
R										
I	6	66 28.8	229 02.7	S10 33.3	324 28.1	N23 27.5	290 57.1	N17 26.3	52 40.7	N 3 02.6
D	7	81 31.2	244 03.3	S10 34.4	339 28.9	N23 27.4	305 59.0	N17 26.2	67 43.3	N 3 02.6
A	8	96 33.7	259 03.9	S10 35.5	354 29.6	N23 27.3	321 01.0	N17 26.0	82 45.8	N 3 02.5
Y	9	111 36.2	274 04.5	S10 36.5	9 30.3	N23 27.2	336 02.9	N17 25.9	97 48.4	N 3 02.4
	10	126 38.6	289 05.1	S10 37.6	24 31.0	N23 27.1	351 04.8	N17 25.7	112 51.0	N 3 02.4
	11	141 41.1	304 05.7	S10 38.7	39 31.8	N23 27.0	6 06.8	N17 25.6	127 53.6	N 3 02.3
	12	156 43.6	319 06.3	S10 39.8	54 32.5	N23 26.9	21 08.7	N17 25.4	142 56.2	N 3 02.3
	13	171 46.0	334 06.9	S10 40.9	69 33.2	N23 26.8	36 10.6	N17 25.3	157 58.7	N 3 02.2
	14	186 48.5	349 07.5	S10 42.0	84 33.9	N23 26.7	51 12.5	N17 25.1	173 01.3	N 3 02.1
	15	201 50.9	4 08.2	S10 43.0	99 34.7	N23 26.7	66 14.5	N17 25.0	188 03.9	N 3 02.1
	16	216 53.4	19 08.8	S10 44.1	114 35.4	N23 26.6	81 16.4	N17 24.8	203 06.5	N 3 02.0
	17	231 55.9	34 09.4	S10 45.2	129 36.1	N23 26.5	96 18.3	N17 24.7	218 09.1	N 3 02.0
	18	246 58.3	49 10.0	S10 46.3	144 36.8	N23 26.4	111 20.3	N17 24.6	233 11.7	N 3 01.9
	19	262 00.8	64 10.6	S10 47.4	159 37.6	N23 26.3	126 22.2	N17 24.4	248 14.2	N 3 01.9
	20	277 03.3	79 11.2	S10 48.4	174 38.3	N23 26.2	141 24.1	N17 24.3	263 16.8	N 3 01.8
	21	292 05.7	94 11.8	S10 49.5	189 39.0	N23 26.1	156 26.1	N17 24.1	278 19.4	N 3 01.7
	22	307 08.2	109 12.5	S10 50.6	204 39.7	N23 26.0	171 28.0	N17 24.0	293 22.0	N 3 01.7
	23	322 10.7	124 13.1	S10 51.7	219 40.5	N23 25.9	186 29.9	N17 23.8	308 24.6	N 3 01.6
			v 0.6	d 1.1	v 0.7	d 0.1	v 1.9	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
26	0	179 30.5	N10 28.5	23 41.1	12.6	S20 17.9	10.4	55.1
	1	194 30.6	N10 27.7	38 12.7	12.6	S20 07.3	10.5	55.1
	2	209 30.8	N10 26.8	52 44.4	12.7	S19 56.7	10.6	55.1
	3	224 31.0	N10 25.9	67 16.1	12.7	S19 46.0	10.7	55.1
	4	239 31.2	N10 25.1	81 47.8	12.8	S19 35.2	10.8	55.2
W	5	254 31.3	N10 24.2	96 19.6	12.8	S19 24.3	10.9	55.2
E								
D	6	269 31.5	N10 23.3	110 51.5	12.9	S19 13.3	11.0	55.2
N	7	284 31.7	N10 22.5	125 23.4	12.9	S19 02.2	11.1	55.2
E	8	299 31.9	N10 21.6	139 55.3	12.9	S18 51.0	11.2	55.2
S	9	314 32.1	N10 20.7	154 27.3	13.0	S18 39.7	11.3	55.3
D	10	329 32.2	N10 19.9	168 59.4	13.0	S18 28.4	11.4	55.3
A	11	344 32.4	N10 19.0	183 31.4	13.1	S18 16.9	11.5	55.3
Y								
	12	359 32.6	N10 18.1	198 03.6	13.1	S18 05.3	11.5	55.3
	13	14 32.8	N10 17.2	212 35.7	13.2	S17 53.7	11.6	55.3
	14	29 32.9	N10 16.4	227 07.9	13.2	S17 42.0	11.7	55.4
	15	44 33.1	N10 15.5	241 40.2	13.3	S17 30.2	11.8	55.4
	16	59 33.3	N10 14.6	256 12.5	13.3	S17 18.3	11.9	55.4
	17	74 33.5	N10 13.8	270 44.8	13.3	S17 06.3	12.0	55.4
	18	89 33.7	N10 12.9	285 17.2	13.4	S16 54.3	12.1	55.4
	19	104 33.8	N10 12.0	299 49.6	13.4	S16 42.1	12.1	55.5
	20	119 34.0	N10 11.1	314 22.1	13.5	S16 29.9	12.2	55.5
	21	134 34.2	N10 10.3	328 54.6	13.5	S16 17.6	12.3	55.5
	22	149 34.4	N10 09.4	343 27.1	13.5	S16 05.2	12.4	55.5
	23	164 34.6	N10 08.5	357 59.7	13.6	S15 52.7	12.5	55.5
27	0	179 34.7	N10 07.6	12 32.3	13.6	S15 40.2	12.5	55.6
	1	194 34.9	N10 06.8	27 04.9	13.7	S15 27.6	12.6	55.6
	2	209 35.1	N10 05.9	41 37.6	13.7	S15 14.9	12.7	55.6
	3	224 35.3	N10 05.0	56 10.4	13.7	S15 02.1	12.8	55.6
	4	239 35.5	N10 04.1	70 43.1	13.8	S14 49.3	12.8	55.6
T	5	254 35.6	N10 03.3	85 15.9	13.8	S14 36.4	12.9	55.7
H								
U	6	269 35.8	N10 02.4	99 48.8	13.8	S14 23.4	13.0	55.7
R	7	284 36.0	N10 01.5	114 21.6	13.9	S14 10.3	13.1	55.7
S	8	299 36.2	N10 00.6	128 54.5	13.9	S13 57.2	13.1	55.7
D	9	314 36.4	N 9 59.8	143 27.5	13.9	S13 44.0	13.2	55.8
A	10	329 36.6	N 9 58.9	158 00.4	14.0	S13 30.7	13.3	55.8
Y	11	344 36.7	N 9 58.0	172 33.4	14.0	S13 17.4	13.3	55.8
	12	359 36.9	N 9 57.1	187 06.5	14.0	S13 04.0	13.4	55.8
	13	14 37.1	N 9 56.3	201 39.5	14.1	S12 50.5	13.5	55.8
	14	29 37.3	N 9 55.4	216 12.6	14.1	S12 36.9	13.5	55.9
	15	44 37.5	N 9 54.5	230 45.7	14.1	S12 23.3	13.6	55.9
	16	59 37.7	N 9 53.6	245 18.9	14.1	S12 09.7	13.7	55.9
	17	74 37.8	N 9 52.7	259 52.1	14.2	S11 56.0	13.7	55.9
	18	89 38.0	N 9 51.9	274 25.3	14.2	S11 42.2	13.8	55.9
	19	104 38.2	N 9 51.0	288 58.5	14.2	S11 28.3	13.8	56.0
	20	119 38.4	N 9 50.1	303 31.7	14.3	S11 14.4	13.9	56.0
	21	134 38.6	N 9 49.2	318 05.0	14.3	S11 00.5	14.0	56.0
	22	149 38.8	N 9 48.4	332 38.3	14.3	S10 46.4	14.0	56.0
	23	164 38.9	N 9 47.5	347 11.6	14.3	S10 32.4	14.1	56.1
28	0	179 39.1	N 9 46.6	1 45.0	14.3	S10 18.2	14.1	56.1
	1	194 39.3	N 9 45.7	16 18.3	14.4	S10 04.0	14.2	56.1
	2	209 39.5	N 9 44.8	30 51.7	14.4	S 9 49.8	14.2	56.1
	3	224 39.7	N 9 43.9	45 25.1	14.4	S 9 35.5	14.3	56.1
	4	239 39.9	N 9 43.1	59 58.5	14.4	S 9 21.1	14.3	56.2
F	5	254 40.0	N 9 42.2	74 32.0	14.4	S 9 06.8	14.4	56.2
R								
I	6	269 40.2	N 9 41.3	89 05.4	14.5	S 8 52.3	14.4	56.2
D	7	284 40.4	N 9 40.4	103 38.9	14.5	S 8 37.8	14.5	56.2
A	8	299 40.6	N 9 39.5	118 12.4	14.5	S 8 23.3	14.5	56.2
Y	9	314 40.8	N 9 38.7	132 45.9	14.5	S 8 08.7	14.6	56.3
	10	329 41.0	N 9 37.8	147 19.4	14.5	S 7 54.1	14.6	56.3
	11	344 41.2	N 9 36.9	161 52.9	14.5	S 7 39.4	14.7	56.3
	12	359 41.3	N 9 36.0	176 26.4	14.5	S 7 24.7	14.7	56.3
	13	14 41.5	N 9 35.1	190 60.0	14.5	S 7 09.9	14.8	56.4
	14	29 41.7	N 9 34.2	205 33.5	14.6	S 6 55.1	14.8	56.4
	15	44 41.9	N 9 33.3	220 07.1	14.6	S 6 40.2	14.8	56.4
	16	59 42.1	N 9 32.5	234 40.7	14.6	S 6 25.4	14.9	56.4
	17	74 42.3	N 9 31.6	249 14.2	14.6	S 6 10.4	14.9	56.4
	18	89 42.5	N 9 30.7	263 47.8	14.6	S 5 55.5	15.0	56.5
	19	104 42.7	N 9 29.8	278 21.4	14.6	S 5 40.5	15.0	56.5
	20	119 42.8	N 9 28.9	292 55.0	14.6	S 5 25.4	15.0	56.5
	21	134 43.0	N 9 28.0	307 28.6	14.6	S 5 10.4	15.1	56.5
	22	149 43.2	N 9 27.2	322 02.2	14.6	S 4 55.3	15.1	56.6
	23	164 43.4	N 9 26.3	336 35.8	14.6	S 4 40.2	15.1	56.6
		S.D. 15.8	d 0.9	S.D.	15.1	15.2	15.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 18.8	S57 05.7
Acrux	172 59.2	S63 14.9
Adhara	255 05.0	S29 00.2
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.1	N16 33.9
Alioth	166 12.1	N55 49.1
Alkaid	152 51.2	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.4	S 1 10.9
Alphard	217 46.7	S 8 46.4
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.1	N29 14.4
Altair	61 58.4	N 8 56.5
Ankaa	353 05.4	S42 09.4
Antares	112 14.1	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.1	S69 04.8
Avior	234 14.7	S59 35.5
Bellatrix	278 21.5	N 6 22.6
Betelgeuse	270 50.7	N 7 24.9
Canopus	263 52.1	S52 42.2
Capella	280 20.0	N46 01.4
Castor	245 55.6	N31 49.8
Deneb	49 24.5	N45 22.7
Denebola	182 23.8	N14 25.5
Diphda	348 45.7	S17 50.2
Dubhe	193 39.9	N61 36.5
Elnath	278 00.3	N28 37.8
Eltanin	90 41.3	N51 29.3
Enif	33 37.1	N 9 60.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.5	S60 30.3
Hamal	327 49.5	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.3	N74 03.0
Markab	13 28.2	N15 21.0
Menkar	314 04.6	N 4 11.8
Menkent	147 56.2	S36 30.2
Miaplacidus	221 38.8	S69 49.5
Mirfak	308 26.3	N49 57.3
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 48.3	N89 21.7
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.6	S 8 10.0
Rigil Kent	139 38.8	S60 57.0
Sabik	102 01.1	S15 45.5
Schedar	349 29.0	N56 41.0
Shaula	96 08.4	S37 07.5
Sirius	258 25.2	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.7	S43 32.3
Vega	80 32.1	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
29	0	337 13.1	139 13.7	S10 52.8	234 41.2	N23 25.8	201 31.8	N17 23.7	323 27.1	N 3 01.6
	1	352 15.6	154 14.3	S10 53.8	249 41.9	N23 25.7	216 33.8	N17 23.5	338 29.7	N 3 01.5
	2	7 18.0	169 14.9	S10 54.9	264 42.7	N23 25.6	231 35.7	N17 23.4	353 32.3	N 3 01.4
	3	22 20.5	184 15.6	S10 56.0	279 43.4	N23 25.5	246 37.6	N17 23.2	8 34.9	N 3 01.4
	4	37 23.0	199 16.2	S10 57.1	294 44.1	N23 25.4	261 39.6	N17 23.1	23 37.5	N 3 01.3
S	5	52 25.4	214 16.8	S10 58.1	309 44.8	N23 25.3	276 41.5	N17 22.9	38 40.0	N 3 01.3
A										
T	6	67 27.9	229 17.4	S10 59.2	324 45.6	N23 25.1	291 43.4	N17 22.8	53 42.6	N 3 01.2
U	7	82 30.4	244 18.1	S11 00.3	339 46.3	N23 25.0	306 45.4	N17 22.7	68 45.2	N 3 01.2
R	8	97 32.8	259 18.7	S11 01.4	354 47.0	N23 24.9	321 47.3	N17 22.5	83 47.8	N 3 01.1
D	9	112 35.3	274 19.3	S11 02.4	9 47.8	N23 24.8	336 49.2	N17 22.4	98 50.4	N 3 01.0
A	10	127 37.8	289 20.0	S11 03.5	24 48.5	N23 24.7	351 51.1	N17 22.2	113 53.0	N 3 01.0
Y	11	142 40.2	304 20.6	S11 04.6	39 49.2	N23 24.6	6 53.1	N17 22.1	128 55.5	N 3 00.9
	12	157 42.7	319 21.2	S11 05.6	54 49.9	N23 24.5	21 55.0	N17 21.9	143 58.1	N 3 00.9
	13	172 45.2	334 21.9	S11 06.7	69 50.7	N23 24.4	36 56.9	N17 21.8	159 00.7	N 3 00.8
	14	187 47.6	349 22.5	S11 07.8	84 51.4	N23 24.3	51 58.9	N17 21.6	174 03.3	N 3 00.7
	15	202 50.1	4 23.1	S11 08.9	99 52.1	N23 24.2	67 00.8	N17 21.5	189 05.9	N 3 00.7
	16	217 52.5	19 23.8	S11 09.9	114 52.9	N23 24.1	82 02.7	N17 21.3	204 08.5	N 3 00.6
	17	232 55.0	34 24.4	S11 11.0	129 53.6	N23 24.0	97 04.7	N17 21.2	219 11.0	N 3 00.6
	18	247 57.5	49 25.1	S11 12.1	144 54.3	N23 23.9	112 06.6	N17 21.0	234 13.6	N 3 00.5
	19	262 59.9	64 25.7	S11 13.1	159 55.1	N23 23.8	127 08.5	N17 20.9	249 16.2	N 3 00.4
	20	278 02.4	79 26.3	S11 14.2	174 55.8	N23 23.7	142 10.5	N17 20.8	264 18.8	N 3 00.4
	21	293 04.9	94 27.0	S11 15.3	189 56.5	N23 23.6	157 12.4	N17 20.6	279 21.4	N 3 00.3
	22	308 07.3	109 27.6	S11 16.3	204 57.3	N23 23.5	172 14.3	N17 20.5	294 24.0	N 3 00.3
	23	323 09.8	124 28.3	S11 17.4	219 58.0	N23 23.4	187 16.3	N17 20.3	309 26.6	N 3 00.2
30	0	338 12.3	139 28.9	S11 18.5	234 58.7	N23 23.3	202 18.2	N17 20.2	324 29.1	N 3 00.1
	1	353 14.7	154 29.6	S11 19.5	249 59.4	N23 23.1	217 20.1	N17 20.0	339 31.7	N 3 00.1
	2	8 17.2	169 30.2	S11 20.6	265 00.2	N23 23.0	232 22.1	N17 19.9	354 34.3	N 3 00.0
	3	23 19.6	184 30.8	S11 21.7	280 00.9	N23 22.9	247 24.0	N17 19.7	9 36.9	N 2 60.0
	4	38 22.1	199 31.5	S11 22.7	295 01.6	N23 22.8	262 25.9	N17 19.6	24 39.5	N 2 59.9
S	5	53 24.6	214 32.1	S11 23.8	310 02.4	N23 22.7	277 27.9	N17 19.4	39 42.1	N 2 59.8
U										
N	6	68 27.0	229 32.8	S11 24.8	325 03.1	N23 22.6	292 29.8	N17 19.3	54 44.6	N 2 59.8
D	7	83 29.5	244 33.4	S11 25.9	340 03.8	N23 22.5	307 31.7	N17 19.1	69 47.2	N 2 59.7
A	8	98 32.0	259 34.1	S11 27.0	355 04.6	N23 22.4	322 33.7	N17 19.0	84 49.8	N 2 59.7
Y	9	113 34.4	274 34.8	S11 28.0	10 05.3	N23 22.3	337 35.6	N17 18.8	99 52.4	N 2 59.6
	10	128 36.9	289 35.4	S11 29.1	25 06.0	N23 22.2	352 37.5	N17 18.7	114 55.0	N 2 59.5
	11	143 39.4	304 36.1	S11 30.2	40 06.8	N23 22.1	7 39.5	N17 18.6	129 57.6	N 2 59.5
	12	158 41.8	319 36.7	S11 31.2	55 07.5	N23 21.9	22 41.4	N17 18.4	145 00.2	N 2 59.4
	13	173 44.3	334 37.4	S11 32.3	70 08.3	N23 21.8	37 43.3	N17 18.3	160 02.7	N 2 59.4
	14	188 46.8	349 38.0	S11 33.3	85 09.0	N23 21.7	52 45.2	N17 18.1	175 05.3	N 2 59.3
	15	203 49.2	4 38.7	S11 34.4	100 09.7	N23 21.6	67 47.2	N17 18.0	190 07.9	N 2 59.2
	16	218 51.7	19 39.4	S11 35.4	115 10.5	N23 21.5	82 49.1	N17 17.8	205 10.5	N 2 59.2
	17	233 54.1	34 40.0	S11 36.5	130 11.2	N23 21.4	97 51.1	N17 17.7	220 13.1	N 2 59.1
	18	248 56.6	49 40.7	S11 37.6	145 11.9	N23 21.3	112 53.0	N17 17.5	235 15.7	N 2 59.1
	19	263 59.1	64 41.4	S11 38.6	160 12.7	N23 21.2	127 54.9	N17 17.4	250 18.3	N 2 59.0
	20	279 01.5	79 42.0	S11 39.7	175 13.4	N23 21.0	142 56.9	N17 17.2	265 20.9	N 2 58.9
	21	294 04.0	94 42.7	S11 40.7	190 14.1	N23 20.9	157 58.8	N17 17.1	280 23.4	N 2 58.9
	22	309 06.5	109 43.4	S11 41.8	205 14.9	N23 20.8	173 00.7	N17 16.9	295 26.0	N 2 58.8
	23	324 08.9	124 44.0	S11 42.8	220 15.6	N23 20.7	188 02.7	N17 16.8	310 28.6	N 2 58.8
31	0	339 11.4	139 44.7	S11 43.9	235 16.3	N23 20.6	203 04.6	N17 16.7	325 31.2	N 2 58.7
	1	354 13.9	154 45.4	S11 44.9	250 17.1	N23 20.5	218 06.5	N17 16.5	340 33.8	N 2 58.6
	2	9 16.3	169 46.0	S11 46.0	265 17.8	N23 20.4	233 08.5	N17 16.4	355 36.4	N 2 58.6
	3	24 18.8	184 46.7	S11 47.0	280 18.6	N23 20.2	248 10.4	N17 16.2	10 39.0	N 2 58.5
	4	39 21.3	199 47.4	S11 48.1	295 19.3	N23 20.1	263 12.3	N17 16.1	25 41.6	N 2 58.5
M	5	54 23.7	214 48.1	S11 49.1	310 20.0	N23 20.0	278 14.3	N17 15.9	40 44.1	N 2 58.4
O										
N	6	69 26.2	229 48.7	S11 50.2	325 20.8	N23 19.9	293 16.2	N17 15.8	55 46.7	N 2 58.3
D	7	84 28.6	244 49.4	S11 51.2	340 21.5	N23 19.8	308 18.1	N17 15.6	70 49.3	N 2 58.3
A	8	99 31.1	259 50.1	S11 52.3	355 22.3	N23 19.7	323 20.1	N17 15.5	85 51.9	N 2 58.2
Y	9	114 33.6	274 50.8	S11 53.3	10 23.0	N23 19.5	338 22.0	N17 15.3	100 54.5	N 2 58.1
	10	129 36.0	289 51.5	S11 54.4	25 23.7	N23 19.4	353 23.9	N17 15.2	115 57.1	N 2 58.1
	11	144 38.5	304 52.1	S11 55.4	40 24.5	N23 19.3	8 25.9	N17 15.0	130 59.7	N 2 58.0
	12	159 41.0	319 52.8	S11 56.5	55 25.2	N23 19.2	23 27.8	N17 14.9	146 02.3	N 2 58.0
	13	174 43.4	334 53.5	S11 57.5	70 25.9	N23 19.1	38 29.7	N17 14.8	161 04.9	N 2 57.9
	14	189 45.9	349 54.2	S11 58.6	85 26.7	N23 19.0	53 31.7	N17 14.6	176 07.4	N 2 57.8
	15	204 48.4	4 54.9	S11 59.6	100 27.4	N23 18.8	68 33.6	N17 14.5	191 10.0	N 2 57.8
	16	219 50.8	19 55.6	S12 00.7	115 28.2	N23 18.7	83 35.5	N17 14.3	206 12.6	N 2 57.7
	17	234 53.3	34 56.3	S12 01.7	130 28.9	N23 18.6	98 37.5	N17 14.2	221 15.2	N 2 57.7
	18	249 55.7	49 56.9	S12 02.7	145 29.7	N23 18.5	113 39.4	N17 14.0	236 17.8	N 2 57.6
	19	264 58.2	64 57.6	S12 03.8	160 30.4	N23 18.4	128 41.4	N17 13.9	251 20.4	N 2 57.5
	20	280 00.7	79 58.3	S12 04.8	175 31.1	N23 18.2	143 43.3	N17 13.7	266 23.0	N 2 57.5
	21	295 03.1	94 59.0	S12 05.9	190 31.9	N23 18.1	158 45.2	N17 13.6	281 25.6	N 2 57.4
	22	310 05.6	109 59.7	S12 06.9	205 32.6	N23 18.0	173 47.2	N17 13.4	296 28.2	N 2 57.3
	23	325 08.1	125 00.4	S12 08.0	220 33.4	N23 17.9	188 49.1	N17 13.3	311 30.8	N 2 57.3
			v 0.7	d 1.1	v 0.7	d 0.1	v 1.9	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
29	0	179 43.6	N 9 25.4	351 09.3	14.6	S 4 25.0	15.2	56.6
	1	194 43.8	N 9 24.5	5 42.9	14.6	S 4 09.8	15.2	56.6
	2	209 44.0	N 9 23.6	20 16.5	14.6	S 3 54.6	15.2	56.6
	3	224 44.2	N 9 22.7	34 50.1	14.6	S 3 39.3	15.2	56.7
	4	239 44.3	N 9 21.8	49 23.7	14.6	S 3 24.1	15.3	56.7
S	5	254 44.5	N 9 20.9	63 57.3	14.6	S 3 08.8	15.3	56.7
A								
T	6	269 44.7	N 9 20.0	78 30.8	14.6	S 2 53.4	15.3	56.7
U	7	284 44.9	N 9 19.2	93 04.4	14.6	S 2 38.1	15.3	56.7
R	8	299 45.1	N 9 18.3	107 37.9	14.5	S 2 22.7	15.4	56.8
D	9	314 45.3	N 9 17.4	122 11.5	14.5	S 2 07.3	15.4	56.8
A	10	329 45.5	N 9 16.5	136 45.0	14.5	S 1 51.9	15.4	56.8
Y	11	344 45.7	N 9 15.6	151 18.5	14.5	S 1 36.5	15.4	56.8
	12	359 45.9	N 9 14.7	165 52.0	14.5	S 1 21.0	15.4	56.9
	13	14 46.0	N 9 13.8	180 25.5	14.5	S 1 05.6	15.5	56.9
	14	29 46.2	N 9 12.9	194 59.0	14.5	S 0 50.1	15.5	56.9
	15	44 46.4	N 9 12.0	209 32.4	14.5	S 0 34.6	15.5	56.9
	16	59 46.6	N 9 11.2	224 05.8	14.4	S 0 19.1	15.5	56.9
	17	74 46.8	N 9 10.3	238 39.3	14.4	S 0 03.6	15.5	57.0
	18	89 47.0	N 9 09.4	253 12.7	14.4	N 0 12.0	15.5	57.0
	19	104 47.2	N 9 08.5	267 46.0	14.4	N 0 27.5	15.5	57.0
	20	119 47.4	N 9 07.6	282 19.4	14.4	N 0 43.0	15.5	57.0
	21	134 47.6	N 9 06.7	296 52.7	14.3	N 0 58.6	15.6	57.0
	22	149 47.8	N 9 05.8	311 26.0	14.3	N 1 14.2	15.6	57.1
	23	164 48.0	N 9 04.9	325 59.3	14.3	N 1 29.7	15.6	57.1
30	0	179 48.1	N 9 04.0	340 32.6	14.3	N 1 45.3	15.6	57.1
	1	194 48.3	N 9 03.1	355 05.8	14.2	N 2 00.9	15.6	57.1
	2	209 48.5	N 9 02.2	9 39.0	14.2	N 2 16.5	15.6	57.2
	3	224 48.7	N 9 01.3	24 12.1	14.2	N 2 32.0	15.6	57.2
	4	239 48.9	N 9 00.4	38 45.3	14.1	N 2 47.6	15.6	57.2
S	5	254 49.1	N 8 59.5	53 18.4	14.1	N 3 03.2	15.6	57.2
U								
N	6	269 49.3	N 8 58.6	67 51.5	14.1	N 3 18.8	15.6	57.2
D	7	284 49.5	N 8 57.8	82 24.5	14.0	N 3 34.3	15.6	57.3
A	8	299 49.7	N 8 56.9	96 57.5	14.0	N 3 49.9	15.6	57.3
Y	9	314 49.9	N 8 56.0	111 30.4	14.0	N 4 05.4	15.6	57.3
	10	329 50.1	N 8 55.1	126 03.4	13.9	N 4 21.0	15.5	57.3
	11	344 50.3	N 8 54.2	140 36.3	13.9	N 4 36.5	15.5	57.3
	12	359 50.5	N 8 53.3	155 09.1	13.8	N 4 52.1	15.5	57.4
	13	14 50.6	N 8 52.4	169 41.9	13.8	N 5 07.6	15.5	57.4
	14	29 50.8	N 8 51.5	184 14.7	13.8	N 5 23.1	15.5	57.4
	15	44 51.0	N 8 50.6	198 47.4	13.7	N 5 38.6	15.5	57.4
	16	59 51.2	N 8 49.7	213 20.0	13.7	N 5 54.0	15.5	57.4
	17	74 51.4	N 8 48.8	227 52.7	13.6	N 6 09.5	15.5	57.5
	18	89 51.6	N 8 47.9	242 25.2	13.6	N 6 24.9	15.4	57.5
	19	104 51.8	N 8 47.0	256 57.8	13.5	N 6 40.4	15.4	57.5
	20	119 52.0	N 8 46.1	271 30.2	13.5	N 6 55.8	15.4	57.5
	21	134 52.2	N 8 45.2	286 02.7	13.4	N 7 11.1	15.4	57.5
	22	149 52.4	N 8 44.3	300 35.0	13.4	N 7 26.5	15.4	57.6
	23	164 52.6	N 8 43.4	315 07.4	13.3	N 7 41.8	15.3	57.6
31	0	179 52.8	N 8 42.5	329 39.6	13.3	N 7 57.1	15.3	57.6
	1	194 53.0	N 8 41.6	344 11.8	13.2	N 8 12.4	15.3	57.6
	2	209 53.2	N 8 40.7	358 44.0	13.2	N 8 27.6	15.2	57.6
	3	224 53.4	N 8 39.8	13 16.1	13.1	N 8 42.9	15.2	57.7
	4	239 53.6	N 8 38.9	27 48.1	13.0	N 8 58.1	15.2	57.7
M	5	254 53.8	N 8 38.0	42 20.1	13.0	N 9 13.2	15.2	57.7
O								
N	6	269 54.0	N 8 37.1	56 52.0	12.9	N 9 28.3	15.1	57.7
D	7	284 54.1	N 8 36.2	71 23.8	12.8	N 9 43.4	15.1	57.7
A	8	299 54.3	N 8 35.3	85 55.6	12.8	N 9 58.5	15.0	57.7
Y	9	314 54.5	N 8 34.4	100 27.3	12.7	N10 13.5	15.0	57.8
	10	329 54.7	N 8 33.5	114 59.0	12.7	N10 28.4	15.0	57.8
	11	344 54.9	N 8 32.6	129 30.6	12.6	N10 43.4	14.9	57.8
	12	359 55.1	N 8 31.7	144 02.1	12.5	N10 58.3	14.9	57.8
	13	14 55.3	N 8 30.8	158 33.6	12.4	N11 13.1	14.8	57.8
	14	29 55.5	N 8 29.9	173 04.9	12.4	N11 27.9	14.8	57.9
	15	44 55.7	N 8 29.0	187 36.2	12.3	N11 42.6	14.8	57.9
	16	59 55.9	N 8 28.1	202 07.5	12.2	N11 57.4	14.7	57.9
	17	74 56.1	N 8 27.2	216 38.6	12.2	N12 12.0	14.7	57.9
	18	89 56.3	N 8 26.3	231 09.7	12.1	N12 26.6	14.6	57.9
	19	104 56.5	N 8 25.4	245 40.7	12.0	N12 41.2	14.6	58.0
	20	119 56.7	N 8 24.5	260 11.7	11.9	N12 55.7	14.5	58.0
	21	134 56.9	N 8 23.6	274 42.5	11.9	N13 10.1	14.4	58.0
	22	149 57.1	N 8 22.7	289 13.3	11.8	N13 24.5	14.4	58.0
	23	164 57.3	N 8 21.8	303 44.0	11.7	N13 38.8	14.3	58.0
		S.D. 15.8	d 0.9	S.D.	15.5	15.6	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 11.5
Achernar	335 18.7	S57 05.7
Acrux	172 59.2	S63 14.9
Adhara	255 05.0	S29 00.2
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.1	N16 33.9
Alioth	166 12.1	N55 49.1
Alkaid	152 51.2	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.4	S 1 10.9
Alphard	217 46.7	S 8 46.3
Alphecca	126 02.6	N26 37.7
Alpheratz	357 33.1	N29 14.4
Altair	61 58.4	N 8 56.5
Ankaa	353 05.4	S42 09.4
Antares	112 14.2	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.2	S69 04.8
Avior	234 14.7	S59 35.5
Bellatrix	278 21.5	N 6 22.6
Betelgeuse	270 50.7	N 7 24.9
Canopus	263 52.0	S52 42.2
Capella	280 20.0	N46 01.4
Castor	245 55.6	N31 49.8
Deneb	49 24.5	N45 22.7
Denebola	182 23.8	N14 25.5
Diphda	348 45.7	S17 50.2
Dubhe	193 39.9	N61 36.5
Elnath	278 00.3	N28 37.8
Eltanin	90 41.4	N51 29.3
Enif	33 37.1	N 9 60.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.5	S60 30.3
Hamal	327 49.5	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.4	N74 03.0
Markab	13 28.2	N15 21.0
Menkar	314 04.6	N 4 11.8
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.8	S69 49.5
Mirfak	308 26.2	N49 57.3
Nunki	75 45.8	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 47.3	N89 21.7
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.6	S 8 10.0
Rigil Kent	139 38.9	S60 57.0
Sabik	102 01.2	S15 45.5
Schedar	349 29.0	N56 41.0
Shaula	96 08.4	S37 07.5
Sirius	258 25.2	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.7	S43 32.2
Vega	80 32.1	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
1	0	340 10.5	140 01.1	S12 09.0	235 34.1	N23 17.8	203 51.0	N17 13.1	326 33.3	N 2 57.2
	1	355 13.0	155 01.8	S12 10.0	250 34.8	N23 17.6	218 53.0	N17 13.0	341 35.9	N 2 57.2
	2	10 15.5	170 02.5	S12 11.1	265 35.6	N23 17.5	233 54.9	N17 12.8	356 38.5	N 2 57.1
	3	25 17.9	185 03.2	S12 12.1	280 36.3	N23 17.4	248 56.8	N17 12.7	11 41.1	N 2 57.0
	4	40 20.4	200 03.9	S12 13.1	295 37.1	N23 17.3	263 58.8	N17 12.6	26 43.7	N 2 57.0
T	5	55 22.9	215 04.6	S12 14.2	310 37.8	N23 17.1	279 00.7	N17 12.4	41 46.3	N 2 56.9
U										
E	6	70 25.3	230 05.3	S12 15.2	325 38.6	N23 17.0	294 02.6	N17 12.3	56 48.9	N 2 56.9
S	7	85 27.8	245 06.0	S12 16.3	340 39.3	N23 16.9	309 04.6	N17 12.1	71 51.5	N 2 56.8
D	8	100 30.2	260 06.7	S12 17.3	355 40.0	N23 16.8	324 06.5	N17 12.0	86 54.1	N 2 56.7
A	9	115 32.7	275 07.4	S12 18.3	10 40.8	N23 16.6	339 08.5	N17 11.8	101 56.7	N 2 56.7
Y	10	130 35.2	290 08.1	S12 19.4	25 41.5	N23 16.5	354 10.4	N17 11.7	116 59.3	N 2 56.6
	11	145 37.6	305 08.8	S12 20.4	40 42.3	N23 16.4	9 12.3	N17 11.5	132 01.8	N 2 56.5
	12	160 40.1	320 09.5	S12 21.4	55 43.0	N23 16.3	24 14.3	N17 11.4	147 04.4	N 2 56.5
	13	175 42.6	335 10.2	S12 22.5	70 43.8	N23 16.1	39 16.2	N17 11.2	162 07.0	N 2 56.4
	14	190 45.0	350 11.0	S12 23.5	85 44.5	N23 16.0	54 18.1	N17 11.1	177 09.6	N 2 56.4
	15	205 47.5	5 11.7	S12 24.5	100 45.3	N23 15.9	69 20.1	N17 10.9	192 12.2	N 2 56.3
	16	220 50.0	20 12.4	S12 25.6	115 46.0	N23 15.8	84 22.0	N17 10.8	207 14.8	N 2 56.2
	17	235 52.4	35 13.1	S12 26.6	130 46.8	N23 15.6	99 24.0	N17 10.7	222 17.4	N 2 56.2
	18	250 54.9	50 13.8	S12 27.6	145 47.5	N23 15.5	114 25.9	N17 10.5	237 20.0	N 2 56.1
	19	265 57.3	65 14.5	S12 28.6	160 48.2	N23 15.4	129 27.8	N17 10.4	252 22.6	N 2 56.0
	20	280 59.8	80 15.3	S12 29.7	175 49.0	N23 15.3	144 29.8	N17 10.2	267 25.2	N 2 56.0
	21	296 02.3	95 16.0	S12 30.7	190 49.7	N23 15.1	159 31.7	N17 10.1	282 27.8	N 2 55.9
	22	311 04.7	110 16.7	S12 31.7	205 50.5	N23 15.0	174 33.6	N17 09.9	297 30.4	N 2 55.9
	23	326 07.2	125 17.4	S12 32.8	220 51.2	N23 14.9	189 35.6	N17 09.8	312 33.0	N 2 55.8
2	0	341 09.7	140 18.1	S12 33.8	235 52.0	N23 14.8	204 37.5	N17 09.6	327 35.6	N 2 55.7
	1	356 12.1	155 18.9	S12 34.8	250 52.7	N23 14.6	219 39.5	N17 09.5	342 38.1	N 2 55.7
	2	11 14.6	170 19.6	S12 35.8	265 53.5	N23 14.5	234 41.4	N17 09.3	357 40.7	N 2 55.6
	3	26 17.1	185 20.3	S12 36.9	280 54.2	N23 14.4	249 43.3	N17 09.2	12 43.3	N 2 55.5
	4	41 19.5	200 21.0	S12 37.9	295 55.0	N23 14.2	264 45.3	N17 09.0	27 45.9	N 2 55.5
W	5	56 22.0	215 21.8	S12 38.9	310 55.7	N23 14.1	279 47.2	N17 08.9	42 48.5	N 2 55.4
E										
D	6	71 24.5	230 22.5	S12 39.9	325 56.5	N23 14.0	294 49.1	N17 08.7	57 51.1	N 2 55.4
N	7	86 26.9	245 23.2	S12 41.0	340 57.2	N23 13.8	309 51.1	N17 08.6	72 53.7	N 2 55.3
E	8	101 29.4	260 24.0	S12 42.0	355 58.0	N23 13.7	324 53.0	N17 08.5	87 56.3	N 2 55.2
S	9	116 31.8	275 24.7	S12 43.0	10 58.7	N23 13.6	339 55.0	N17 08.3	102 58.9	N 2 55.2
D	10	131 34.3	290 25.4	S12 44.0	25 59.5	N23 13.5	354 56.9	N17 08.2	118 01.5	N 2 55.1
A	11	146 36.8	305 26.2	S12 45.0	41 00.2	N23 13.3	9 58.8	N17 08.0	133 04.1	N 2 55.0
Y										
	12	161 39.2	320 26.9	S12 46.1	56 01.0	N23 13.2	25 00.8	N17 07.9	148 06.7	N 2 55.0
	13	176 41.7	335 27.6	S12 47.1	71 01.7	N23 13.1	40 02.7	N17 07.7	163 09.3	N 2 54.9
	14	191 44.2	350 28.4	S12 48.1	86 02.5	N23 12.9	55 04.7	N17 07.6	178 11.9	N 2 54.8
	15	206 46.6	5 29.1	S12 49.1	101 03.2	N23 12.8	70 06.6	N17 07.4	193 14.5	N 2 54.8
	16	221 49.1	20 29.9	S12 50.1	116 04.0	N23 12.7	85 08.5	N17 07.3	208 17.1	N 2 54.7
	17	236 51.6	35 30.6	S12 51.1	131 04.7	N23 12.5	100 10.5	N17 07.1	223 19.7	N 2 54.7
	18	251 54.0	50 31.4	S12 52.2	146 05.5	N23 12.4	115 12.4	N17 07.0	238 22.3	N 2 54.6
	19	266 56.5	65 32.1	S12 53.2	161 06.2	N23 12.3	130 14.4	N17 06.8	253 24.9	N 2 54.5
	20	281 59.0	80 32.8	S12 54.2	176 07.0	N23 12.1	145 16.3	N17 06.7	268 27.4	N 2 54.5
	21	297 01.4	95 33.6	S12 55.2	191 07.7	N23 12.0	160 18.2	N17 06.6	283 30.0	N 2 54.4
	22	312 03.9	110 34.3	S12 56.2	206 08.5	N23 11.9	175 20.2	N17 06.4	298 32.6	N 2 54.3
	23	327 06.3	125 35.1	S12 57.2	221 09.2	N23 11.7	190 22.1	N17 06.3	313 35.2	N 2 54.3
3	0	342 08.8	140 35.8	S12 58.2	236 10.0	N23 11.6	205 24.1	N17 06.1	328 37.8	N 2 54.2
	1	357 11.3	155 36.6	S12 59.3	251 10.7	N23 11.5	220 26.0	N17 06.0	343 40.4	N 2 54.1
	2	12 13.7	170 37.3	S13 00.3	266 11.5	N23 11.3	235 27.9	N17 05.8	358 43.0	N 2 54.1
	3	27 16.2	185 38.1	S13 01.3	281 12.2	N23 11.2	250 29.9	N17 05.7	13 45.6	N 2 54.0
	4	42 18.7	200 38.9	S13 02.3	296 13.0	N23 11.0	265 31.8	N17 05.5	28 48.2	N 2 54.0
T	5	57 21.1	215 39.6	S13 03.3	311 13.7	N23 10.9	280 33.8	N17 05.4	43 50.8	N 2 53.9
H										
U	6	72 23.6	230 40.4	S13 04.3	326 14.5	N23 10.8	295 35.7	N17 05.2	58 53.4	N 2 53.8
R	7	87 26.1	245 41.1	S13 05.3	341 15.3	N23 10.6	310 37.6	N17 05.1	73 56.0	N 2 53.8
S	8	102 28.5	260 41.9	S13 06.3	356 16.0	N23 10.5	325 39.6	N17 04.9	88 58.6	N 2 53.7
D	9	117 31.0	275 42.7	S13 07.3	11 16.8	N23 10.4	340 41.5	N17 04.8	104 01.2	N 2 53.6
A	10	132 33.4	290 43.4	S13 08.3	26 17.5	N23 10.2	355 43.5	N17 04.6	119 03.8	N 2 53.6
Y	11	147 35.9	305 44.2	S13 09.3	41 18.3	N23 10.1	10 45.4	N17 04.5	134 06.4	N 2 53.5
	12	162 38.4	320 44.9	S13 10.4	56 19.0	N23 09.9	25 47.3	N17 04.4	149 09.0	N 2 53.4
	13	177 40.8	335 45.7	S13 11.4	71 19.8	N23 09.8	40 49.3	N17 04.2	164 11.6	N 2 53.4
	14	192 43.3	350 46.5	S13 12.4	86 20.5	N23 09.7	55 51.2	N17 04.1	179 14.2	N 2 53.3
	15	207 45.8	5 47.2	S13 13.4	101 21.3	N23 09.5	70 53.2	N17 03.9	194 16.8	N 2 53.2
	16	222 48.2	20 48.0	S13 14.4	116 22.0	N23 09.4	85 55.1	N17 03.8	209 19.4	N 2 53.2
	17	237 50.7	35 48.8	S13 15.4	131 22.8	N23 09.2	100 57.1	N17 03.6	224 22.0	N 2 53.1
	18	252 53.2	50 49.6	S13 16.4	146 23.6	N23 09.1	115 59.0	N17 03.5	239 24.6	N 2 53.1
	19	267 55.6	65 50.3	S13 17.4	161 24.3	N23 09.0	131 00.9	N17 03.3	254 27.2	N 2 53.0
	20	282 58.1	80 51.1	S13 18.4	176 25.1	N23 08.8	146 02.9	N17 03.2	269 29.8	N 2 52.9
	21	298 00.6	95 51.9	S13 19.4	191 25.8	N23 08.7	161 04.8	N17 03.0	284 32.4	N 2 52.9
	22	313 03.0	110 52.7	S13 20.4	206 26.6	N23 08.5	176 06.8	N17 02.9	299 35.0	N 2 52.8
	23	328 05.5	125 53.4	S13 21.4	221 27.3	N23 08.4	191 08.7	N17 02.7	314 37.6	N 2 52.7
			v 0.7	d 1.0	v 0.8	d 0.1	v 1.9	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
1	0	179 57.5	N 8 20.9	318 14.6	11.6	N13 53.1	14.3	58.0
	1	194 57.7	N 8 20.0	332 45.1	11.5	N14 07.3	14.2	58.1
	2	209 57.9	N 8 19.0	347 15.6	11.4	N14 21.4	14.1	58.1
	3	224 58.1	N 8 18.1	1 45.9	11.4	N14 35.5	14.1	58.1
	4	239 58.3	N 8 17.2	16 16.2	11.3	N14 49.5	14.0	58.1
T	5	254 58.5	N 8 16.3	30 46.4	11.2	N15 03.5	13.9	58.1
U								
E	6	269 58.7	N 8 15.4	45 16.5	11.1	N15 17.3	13.9	58.1
S	7	284 58.9	N 8 14.5	59 46.5	11.0	N15 31.1	13.8	58.2
D	8	299 59.1	N 8 13.6	74 16.4	10.9	N15 44.9	13.7	58.2
A	9	314 59.3	N 8 12.7	88 46.3	10.8	N15 58.5	13.7	58.2
Y	10	329 59.5	N 8 11.8	103 16.0	10.7	N16 12.1	13.6	58.2
	11	344 59.7	N 8 10.9	117 45.7	10.7	N16 25.6	13.5	58.2
	12	359 59.9	N 8 10.0	132 15.2	10.6	N16 39.0	13.4	58.2
	13	15 00.1	N 8 09.1	146 44.7	10.5	N16 52.4	13.3	58.3
	14	30 00.3	N 8 08.2	161 14.0	10.4	N17 05.7	13.3	58.3
	15	45 00.5	N 8 07.3	175 43.3	10.3	N17 18.9	13.2	58.3
	16	60 00.7	N 8 06.3	190 12.5	10.2	N17 31.9	13.1	58.3
	17	75 00.9	N 8 05.4	204 41.6	10.1	N17 45.0	13.0	58.3
	18	90 01.1	N 8 04.5	219 10.6	10.0	N17 57.9	12.9	58.3
	19	105 01.3	N 8 03.6	233 39.5	9.9	N18 10.7	12.8	58.4
	20	120 01.5	N 8 02.7	248 08.3	9.8	N18 23.5	12.7	58.4
	21	135 01.7	N 8 01.8	262 36.9	9.7	N18 36.1	12.7	58.4
	22	150 01.9	N 8 00.9	277 05.5	9.6	N18 48.7	12.6	58.4
	23	165 02.1	N 7 60.0	291 34.0	9.5	N19 01.1	12.5	58.4
2	0	180 02.3	N 7 59.1	306 02.4	9.4	N19 13.5	12.4	58.4
	1	195 02.5	N 7 58.2	320 30.7	9.3	N19 25.8	12.3	58.5
	2	210 02.7	N 7 57.2	334 58.9	9.2	N19 37.9	12.2	58.5
	3	225 02.9	N 7 56.3	349 27.0	9.1	N19 50.0	12.1	58.5
	4	240 03.1	N 7 55.4	3 54.9	9.0	N20 01.9	12.0	58.5
W	5	255 03.3	N 7 54.5	18 22.8	8.9	N20 13.8	11.8	58.5
E								
D	6	270 03.5	N 7 53.6	32 50.6	8.8	N20 25.5	11.7	58.5
N	7	285 03.7	N 7 52.7	47 18.3	8.7	N20 37.2	11.6	58.6
E	8	300 03.9	N 7 51.8	61 45.8	8.6	N20 48.7	11.5	58.6
S	9	315 04.1	N 7 50.9	76 13.3	8.5	N21 00.1	11.4	58.6
D	10	330 04.3	N 7 50.0	90 40.6	8.4	N21 11.4	11.3	58.6
A	11	345 04.5	N 7 49.0	105 07.9	8.2	N21 22.6	11.2	58.6
Y								
	12	0 04.7	N 7 48.1	119 35.0	8.1	N21 33.6	11.1	58.6
	13	15 04.9	N 7 47.2	134 02.1	8.0	N21 44.6	10.9	58.6
	14	30 05.1	N 7 46.3	148 29.0	7.9	N21 55.4	10.8	58.7
	15	45 05.3	N 7 45.4	162 55.8	7.8	N22 06.1	10.7	58.7
	16	60 05.5	N 7 44.5	177 22.6	7.7	N22 16.6	10.6	58.7
	17	75 05.7	N 7 43.6	191 49.2	7.6	N22 27.1	10.4	58.7
	18	90 05.9	N 7 42.6	206 15.7	7.5	N22 37.4	10.3	58.7
	19	105 06.1	N 7 41.7	220 42.1	7.4	N22 47.6	10.2	58.7
	20	120 06.3	N 7 40.8	235 08.4	7.3	N22 57.7	10.1	58.7
	21	135 06.5	N 7 39.9	249 34.6	7.2	N23 07.6	9.9	58.8
	22	150 06.7	N 7 39.0	264 00.7	7.1	N23 17.4	9.8	58.8
	23	165 06.9	N 7 38.1	278 26.6	7.0	N23 27.0	9.7	58.8
3	0	180 07.1	N 7 37.2	292 52.5	6.9	N23 36.5	9.5	58.8
	1	195 07.3	N 7 36.2	307 18.3	6.8	N23 45.9	9.4	58.8
	2	210 07.5	N 7 35.3	321 44.0	6.7	N23 55.1	9.2	58.8
	3	225 07.7	N 7 34.4	336 09.6	6.6	N24 04.2	9.1	58.8
	4	240 07.9	N 7 33.5	350 35.0	6.5	N24 13.2	8.9	58.9
T	5	255 08.2	N 7 32.6	5 00.4	6.4	N24 22.0	8.8	58.9
H								
U	6	270 08.4	N 7 31.7	19 25.7	6.3	N24 30.7	8.7	58.9
R	7	285 08.6	N 7 30.7	33 50.8	6.2	N24 39.2	8.5	58.9
S	8	300 08.8	N 7 29.8	48 15.9	6.1	N24 47.5	8.4	58.9
D	9	315 09.0	N 7 28.9	62 40.9	6.0	N24 55.7	8.2	58.9
A	10	330 09.2	N 7 28.0	77 05.7	5.9	N25 03.8	8.1	58.9
Y	11	345 09.4	N 7 27.1	91 30.5	5.8	N25 11.7	7.9	59.0
	12	0 09.6	N 7 26.1	105 55.2	5.7	N25 19.4	7.7	59.0
	13	15 09.8	N 7 25.2	120 19.8	5.6	N25 27.0	7.6	59.0
	14	30 10.0	N 7 24.3	134 44.2	5.5	N25 34.4	7.4	59.0
	15	45 10.2	N 7 23.4	149 08.6	5.4	N25 41.7	7.3	59.0
	16	60 10.4	N 7 22.5	163 32.9	5.3	N25 48.8	7.1	59.0
	17	75 10.6	N 7 21.6	177 57.1	5.2	N25 55.7	6.9	59.0
	18	90 10.8	N 7 20.6	192 21.3	5.1	N26 02.5	6.8	59.0
	19	105 11.0	N 7 19.7	206 45.3	5.0	N26 09.1	6.6	59.0
	20	120 11.2	N 7 18.8	221 09.3	4.9	N26 15.5	6.4	59.1
	21	135 11.4	N 7 17.9	235 33.1	4.9	N26 21.8	6.3	59.1
	22	150 11.6	N 7 17.0	249 56.9	4.8	N26 27.9	6.1	59.1
	23	165 11.8	N 7 16.0	264 20.6	4.7	N26 33.8	5.9	59.1
		S.D. 15.9	d 0.9	S.D.	15.9	16.0	16.1	

Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 11.5
Achernar	335 18.7	S57 05.7
Acrux	172 59.3	S63 14.9
Adhara	255 05.0	S29 00.2
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.1	N16 33.9
Alioth	166 12.2	N55 49.1
Alkaid	152 51.2	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.4	S 1 10.9
Alphard	217 46.7	S 8 46.3
Alphecca	126 02.7	N26 37.7
Alpheratz	357 33.0	N29 14.4
Altair	61 58.4	N 8 56.5
Ankaa	353 05.4	S42 09.4
Antares	112 14.2	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.2	S69 04.8
Avior	234 14.7	S59 35.5
Bellatrix	278 21.5	N 6 22.6
Betelgeuse	270 50.7	N 7 24.9
Canopus	263 52.0	S52 42.2
Capella	280 20.0	N46 01.4
Castor	245 55.6	N31 49.8
Deneb	49 24.5	N45 22.7
Denebola	182 23.8	N14 25.5
Diphda	348 45.7	S17 50.2
Dubhe	193 39.9	N61 36.4
Elnath	278 00.3	N28 37.8
Eltanin	90 41.4	N51 29.3
Enif	33 37.1	N 9 60.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.6	S60 30.3
Hamal	327 49.5	N23 35.4
Kaus Austr.	83 30.5	S34 22.4
Kochab	137 20.5	N74 03.0
Markab	13 28.2	N15 21.1
Menkar	314 04.6	N 4 11.8
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.8	S69 49.4
Mirfak	308 26.2	N49 57.3
Nunki	75 45.9	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 46.1	N89 21.8
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.6	S 8 10.0
Rigil Kent	139 38.9	S60 57.0
Sabik	102 01.2	S15 45.5
Schedar	349 29.0	N56 41.0
Shaula	96 08.4	S37 07.5
Sirius	258 25.2	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.7	S43 32.2
Vega	80 32.1	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
4	0	343 07.9	140 54.2	S13 22.4	236 28.1	N23 08.3	206 10.6	N17 02.6	329 40.2	N 2 52.7
	1	358 10.4	155 55.0	S13 23.4	251 28.9	N23 08.1	221 12.6	N17 02.5	344 42.8	N 2 52.6
	2	13 12.9	170 55.8	S13 24.4	266 29.6	N23 08.0	236 14.5	N17 02.3	359 45.4	N 2 52.5
	3	28 15.3	185 56.6	S13 25.4	281 30.4	N23 07.8	251 16.5	N17 02.2	14 48.0	N 2 52.5
	4	43 17.8	200 57.4	S13 26.4	296 31.1	N23 07.7	266 18.4	N17 02.0	29 50.6	N 2 52.4
F	5	58 20.3	215 58.1	S13 27.4	311 31.9	N23 07.5	281 20.4	N17 01.9	44 53.2	N 2 52.3
R										
I	6	73 22.7	230 58.9	S13 28.3	326 32.7	N23 07.4	296 22.3	N17 01.7	59 55.8	N 2 52.3
D	7	88 25.2	245 59.7	S13 29.3	341 33.4	N23 07.3	311 24.2	N17 01.6	74 58.4	N 2 52.2
A	8	103 27.7	261 00.5	S13 30.3	356 34.2	N23 07.1	326 26.2	N17 01.4	90 01.0	N 2 52.1
Y	9	118 30.1	276 01.3	S13 31.3	11 34.9	N23 07.0	341 28.1	N17 01.3	105 03.6	N 2 52.1
	10	133 32.6	291 02.1	S13 32.3	26 35.7	N23 06.8	356 30.1	N17 01.1	120 06.2	N 2 52.0
	11	148 35.1	306 02.9	S13 33.3	41 36.5	N23 06.7	11 32.0	N17 01.0	135 08.8	N 2 51.9
	12	163 37.5	321 03.7	S13 34.3	56 37.2	N23 06.5	26 34.0	N17 00.8	150 11.4	N 2 51.9
	13	178 40.0	336 04.5	S13 35.3	71 38.0	N23 06.4	41 35.9	N17 00.7	165 14.0	N 2 51.8
	14	193 42.4	351 05.3	S13 36.3	86 38.7	N23 06.2	56 37.8	N17 00.6	180 16.6	N 2 51.7
	15	208 44.9	6 06.1	S13 37.3	101 39.5	N23 06.1	71 39.8	N17 00.4	195 19.2	N 2 51.7
	16	223 47.4	21 06.9	S13 38.3	116 40.3	N23 06.0	86 41.7	N17 00.3	210 21.8	N 2 51.6
	17	238 49.8	36 07.7	S13 39.2	131 41.0	N23 05.8	101 43.7	N17 00.1	225 24.4	N 2 51.6
	18	253 52.3	51 08.5	S13 40.2	146 41.8	N23 05.7	116 45.6	N16 60.0	240 27.0	N 2 51.5
	19	268 54.8	66 09.3	S13 41.2	161 42.6	N23 05.5	131 47.6	N16 59.8	255 29.6	N 2 51.4
	20	283 57.2	81 10.1	S13 42.2	176 43.3	N23 05.4	146 49.5	N16 59.7	270 32.2	N 2 51.4
	21	298 59.7	96 10.9	S13 43.2	191 44.1	N23 05.2	161 51.5	N16 59.5	285 34.8	N 2 51.3
	22	314 02.2	111 11.7	S13 44.2	206 44.8	N23 05.1	176 53.4	N16 59.4	300 37.4	N 2 51.2
	23	329 04.6	126 12.5	S13 45.2	221 45.6	N23 04.9	191 55.3	N16 59.2	315 40.0	N 2 51.2
5	0	344 07.1	141 13.3	S13 46.1	236 46.4	N23 04.8	206 57.3	N16 59.1	330 42.6	N 2 51.1
	1	359 09.6	156 14.1	S13 47.1	251 47.1	N23 04.6	221 59.2	N16 58.9	345 45.2	N 2 51.0
	2	14 12.0	171 15.0	S13 48.1	266 47.9	N23 04.5	237 01.2	N16 58.8	0 47.8	N 2 51.0
	3	29 14.5	186 15.8	S13 49.1	281 48.7	N23 04.3	252 03.1	N16 58.7	15 50.4	N 2 50.9
	4	44 16.9	201 16.6	S13 50.1	296 49.4	N23 04.2	267 05.1	N16 58.5	30 53.0	N 2 50.8
S	5	59 19.4	216 17.4	S13 51.0	311 50.2	N23 04.0	282 07.0	N16 58.4	45 55.6	N 2 50.8
A										
T	6	74 21.9	231 18.2	S13 52.0	326 51.0	N23 03.9	297 09.0	N16 58.2	60 58.2	N 2 50.7
U	7	89 24.3	246 19.0	S13 53.0	341 51.7	N23 03.7	312 10.9	N16 58.1	76 00.8	N 2 50.6
R	8	104 26.8	261 19.9	S13 54.0	356 52.5	N23 03.6	327 12.8	N16 57.9	91 03.4	N 2 50.6
D	9	119 29.3	276 20.7	S13 55.0	11 53.2	N23 03.4	342 14.8	N16 57.8	106 06.0	N 2 50.5
A	10	134 31.7	291 21.5	S13 55.9	26 54.0	N23 03.3	357 16.7	N16 57.6	121 08.6	N 2 50.4
Y	11	149 34.2	306 22.3	S13 56.9	41 54.8	N23 03.1	12 18.7	N16 57.5	136 11.2	N 2 50.4
	12	164 36.7	321 23.2	S13 57.9	56 55.5	N23 03.0	27 20.6	N16 57.3	151 13.8	N 2 50.3
	13	179 39.1	336 24.0	S13 58.9	71 56.3	N23 02.8	42 22.6	N16 57.2	166 16.4	N 2 50.2
	14	194 41.6	351 24.8	S13 59.8	86 57.1	N23 02.7	57 24.5	N16 57.0	181 19.0	N 2 50.2
	15	209 44.0	6 25.7	S14 00.8	101 57.8	N23 02.5	72 26.5	N16 56.9	196 21.6	N 2 50.1
	16	224 46.5	21 26.5	S14 01.8	116 58.6	N23 02.4	87 28.4	N16 56.7	211 24.2	N 2 50.0
	17	239 49.0	36 27.3	S14 02.7	131 59.4	N23 02.2	102 30.4	N16 56.6	226 26.8	N 2 50.0
	18	254 51.4	51 28.2	S14 03.7	147 00.1	N23 02.1	117 32.3	N16 56.5	241 29.4	N 2 49.9
	19	269 53.9	66 29.0	S14 04.7	162 00.9	N23 01.9	132 34.2	N16 56.3	256 32.0	N 2 49.8
	20	284 56.4	81 29.8	S14 05.7	177 01.7	N23 01.8	147 36.2	N16 56.2	271 34.7	N 2 49.8
	21	299 58.8	96 30.7	S14 06.6	192 02.5	N23 01.6	162 38.1	N16 56.0	286 37.3	N 2 49.7
	22	315 01.3	111 31.5	S14 07.6	207 03.2	N23 01.4	177 40.1	N16 55.9	301 39.9	N 2 49.6
	23	330 03.8	126 32.3	S14 08.6	222 04.0	N23 01.3	192 42.0	N16 55.7	316 42.5	N 2 49.6
6	0	345 06.2	141 33.2	S14 09.5	237 04.8	N23 01.1	207 44.0	N16 55.6	331 45.1	N 2 49.5
	1	0 08.7	156 34.0	S14 10.5	252 05.5	N23 01.0	222 45.9	N16 55.4	346 47.7	N 2 49.4
	2	15 11.2	171 34.9	S14 11.5	267 06.3	N23 00.8	237 47.9	N16 55.3	1 50.3	N 2 49.4
	3	30 13.6	186 35.7	S14 12.4	282 07.1	N23 00.7	252 49.8	N16 55.1	16 52.9	N 2 49.3
	4	45 16.1	201 36.6	S14 13.4	297 07.8	N23 00.5	267 51.8	N16 55.0	31 55.5	N 2 49.2
S	5	60 18.5	216 37.4	S14 14.4	312 08.6	N23 00.4	282 53.7	N16 54.8	46 58.1	N 2 49.2
U										
N	6	75 21.0	231 38.3	S14 15.3	327 09.4	N23 00.2	297 55.7	N16 54.7	62 00.7	N 2 49.1
D	7	90 23.5	246 39.1	S14 16.3	342 10.1	N23 00.0	312 57.6	N16 54.6	77 03.3	N 2 49.0
A	8	105 25.9	261 40.0	S14 17.2	357 10.9	N22 59.9	327 59.6	N16 54.4	92 05.9	N 2 49.0
Y	9	120 28.4	276 40.8	S14 18.2	12 11.7	N22 59.7	343 01.5	N16 54.3	107 08.5	N 2 48.9
	10	135 30.9	291 41.7	S14 19.2	27 12.5	N22 59.6	358 03.5	N16 54.1	122 11.1	N 2 48.8
	11	150 33.3	306 42.6	S14 20.1	42 13.2	N22 59.4	13 05.4	N16 54.0	137 13.7	N 2 48.8
	12	165 35.8	321 43.4	S14 21.1	57 14.0	N22 59.3	28 07.3	N16 53.8	152 16.3	N 2 48.7
	13	180 38.3	336 44.3	S14 22.0	72 14.8	N22 59.1	43 09.3	N16 53.7	167 18.9	N 2 48.6
	14	195 40.7	351 45.1	S14 23.0	87 15.5	N22 58.9	58 11.2	N16 53.5	182 21.5	N 2 48.6
	15	210 43.2	6 46.0	S14 24.0	102 16.3	N22 58.8	73 13.2	N16 53.4	197 24.1	N 2 48.5
	16	225 45.7	21 46.9	S14 24.9	117 17.1	N22 58.6	88 15.1	N16 53.2	212 26.8	N 2 48.4
	17	240 48.1	36 47.7	S14 25.9	132 17.9	N22 58.5	103 17.1	N16 53.1	227 29.4	N 2 48.4
	18	255 50.6	51 48.6	S14 26.8	147 18.6	N22 58.3	118 19.0	N16 52.9	242 32.0	N 2 48.3
	19	270 53.0	66 49.5	S14 27.8	162 19.4	N22 58.1	133 21.0	N16 52.8	257 34.6	N 2 48.2
	20	285 55.5	81 50.3	S14 28.7	177 20.2	N22 58.0	148 22.9	N16 52.7	272 37.2	N 2 48.2
	21	300 58.0	96 51.2	S14 29.7	192 21.0	N22 57.8	163 24.9	N16 52.5	287 39.8	N 2 48.1
	22	316 00.4	111 52.1	S14 30.6	207 21.7	N22 57.7	178 26.8	N16 52.4	302 42.4	N 2 48.0
	23	331 02.9	126 53.0	S14 31.6	222 22.5	N22 57.5	193 28.8	N16 52.2	317 45.0	N 2 48.0
			v 0.8	d 1.0	v 0.8	d 0.2	v 1.9	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
4	0	180 12.1	N 7 15.1	278 44.2	4.6	N26 39.6	5.8	59.1
	1	195 12.3	N 7 14.2	293 07.8	4.5	N26 45.2	5.6	59.1
	2	210 12.5	N 7 13.3	307 31.2	4.5	N26 50.6	5.4	59.1
	3	225 12.7	N 7 12.3	321 54.6	4.4	N26 55.8	5.2	59.1
	4	240 12.9	N 7 11.4	336 17.9	4.3	N27 00.8	5.0	59.2
F	5	255 13.1	N 7 10.5	350 41.1	4.2	N27 05.7	4.9	59.2
R								
I	6	270 13.3	N 7 09.6	5 04.3	4.2	N27 10.4	4.7	59.2
D	7	285 13.5	N 7 08.7	19 27.4	4.1	N27 14.9	4.5	59.2
A	8	300 13.7	N 7 07.7	33 50.5	4.0	N27 19.2	4.3	59.2
Y	9	315 13.9	N 7 06.8	48 13.4	4.0	N27 23.4	4.1	59.2
	10	330 14.1	N 7 05.9	62 36.3	3.9	N27 27.3	4.0	59.2
	11	345 14.3	N 7 05.0	76 59.2	3.8	N27 31.1	3.8	59.2
	12	0 14.5	N 7 04.0	91 22.0	3.8	N27 34.7	3.6	59.2
	13	15 14.7	N 7 03.1	105 44.7	3.7	N27 38.1	3.4	59.2
	14	30 14.9	N 7 02.2	120 07.4	3.7	N27 41.3	3.2	59.3
	15	45 15.2	N 7 01.3	134 30.0	3.6	N27 44.3	3.0	59.3
	16	60 15.4	N 7 00.4	148 52.6	3.6	N27 47.2	2.8	59.3
	17	75 15.6	N 6 59.4	163 15.1	3.5	N27 49.8	2.6	59.3
	18	90 15.8	N 6 58.5	177 37.6	3.5	N27 52.3	2.5	59.3
	19	105 16.0	N 6 57.6	192 00.1	3.4	N27 54.5	2.3	59.3
	20	120 16.2	N 6 56.7	206 22.5	3.4	N27 56.6	2.1	59.3
	21	135 16.4	N 6 55.7	220 44.9	3.4	N27 58.5	1.9	59.3
	22	150 16.6	N 6 54.8	235 07.2	3.3	N28 00.2	1.7	59.3
	23	165 16.8	N 6 53.9	249 29.5	3.3	N28 01.6	1.5	59.3
5	0	180 17.0	N 6 53.0	263 51.8	3.3	N28 02.9	1.3	59.3
	1	195 17.2	N 6 52.0	278 14.0	3.2	N28 04.0	1.1	59.4
	2	210 17.4	N 6 51.1	292 36.2	3.2	N28 04.9	0.9	59.4
	3	225 17.6	N 6 50.2	306 58.5	3.2	N28 05.7	0.7	59.4
	4	240 17.9	N 6 49.2	321 20.6	3.2	N28 06.2	0.5	59.4
S	5	255 18.1	N 6 48.3	335 42.8	3.2	N28 06.5	0.3	59.4
A								
T	6	270 18.3	N 6 47.4	350 05.0	3.2	N28 06.6	0.1	59.4
U	7	285 18.5	N 6 46.5	4 27.1	3.1	N28 06.5	0.1	59.4
R	8	300 18.7	N 6 45.5	18 49.2	3.1	N28 06.3	0.3	59.4
D	9	315 18.9	N 6 44.6	33 11.3	3.1	N28 05.8	0.5	59.4
A	10	330 19.1	N 6 43.7	47 33.5	3.1	N28 05.1	0.7	59.4
Y	11	345 19.3	N 6 42.8	61 55.6	3.1	N28 04.3	0.9	59.4
	12	0 19.5	N 6 41.8	76 17.7	3.1	N28 03.2	1.1	59.4
	13	15 19.7	N 6 40.9	90 39.8	3.1	N28 02.0	1.3	59.4
	14	30 19.9	N 6 40.0	105 02.0	3.1	N28 00.5	1.5	59.4
	15	45 20.2	N 6 39.0	119 24.1	3.1	N27 58.9	1.6	59.5
	16	60 20.4	N 6 38.1	133 46.3	3.2	N27 57.0	1.8	59.5
	17	75 20.6	N 6 37.2	148 08.4	3.2	N27 55.0	2.0	59.5
	18	90 20.8	N 6 36.3	162 30.6	3.2	N27 52.7	2.2	59.5
	19	105 21.0	N 6 35.3	176 52.8	3.2	N27 50.3	2.4	59.5
	20	120 21.2	N 6 34.4	191 15.1	3.2	N27 47.7	2.6	59.5
	21	135 21.4	N 6 33.5	205 37.3	3.3	N27 44.9	2.8	59.5
	22	150 21.6	N 6 32.5	219 59.6	3.3	N27 41.9	3.0	59.5
	23	165 21.8	N 6 31.6	234 21.9	3.3	N27 38.6	3.2	59.5
6	0	180 22.1	N 6 30.7	248 44.3	3.3	N27 35.2	3.4	59.5
	1	195 22.3	N 6 29.7	263 06.6	3.4	N27 31.6	3.6	59.5
	2	210 22.5	N 6 28.8	277 29.0	3.4	N27 27.9	3.8	59.5
	3	225 22.7	N 6 27.9	291 51.5	3.5	N27 23.9	4.0	59.5
	4	240 22.9	N 6 27.0	306 14.0	3.5	N27 19.7	4.2	59.5
S	5	255 23.1	N 6 26.0	320 36.5	3.5	N27 15.4	4.4	59.5
U								
N	6	270 23.3	N 6 25.1	334 59.1	3.6	N27 10.8	4.5	59.5
D	7	285 23.5	N 6 24.2	349 21.8	3.6	N27 06.1	4.7	59.5
A	8	300 23.7	N 6 23.2	3 44.5	3.7	N27 01.1	4.9	59.5
Y	9	315 23.9	N 6 22.3	18 07.2	3.7	N26 56.0	5.1	59.5
	10	330 24.2	N 6 21.4	32 30.0	3.8	N26 50.7	5.3	59.5
	11	345 24.4	N 6 20.4	46 52.8	3.9	N26 45.3	5.5	59.5
	12	0 24.6	N 6 19.5	61 15.8	3.9	N26 39.6	5.7	59.5
	13	15 24.8	N 6 18.6	75 38.7	4.0	N26 33.7	5.8	59.5
	14	30 25.0	N 6 17.6	90 01.8	4.0	N26 27.7	6.0	59.5
	15	45 25.2	N 6 16.7	104 24.9	4.1	N26 21.5	6.2	59.5
	16	60 25.4	N 6 15.8	118 48.0	4.2	N26 15.1	6.4	59.5
	17	75 25.6	N 6 14.8	133 11.3	4.2	N26 08.5	6.6	59.5
	18	90 25.9	N 6 13.9	147 34.6	4.3	N26 01.8	6.7	59.5
	19	105 26.1	N 6 13.0	161 58.0	4.4	N25 54.9	6.9	59.5
	20	120 26.3	N 6 12.0	176 21.4	4.5	N25 47.8	7.1	59.5
	21	135 26.5	N 6 11.1	190 45.0	4.5	N25 40.5	7.3	59.5
	22	150 26.7	N 6 10.2	205 08.6	4.6	N25 33.1	7.4	59.5
	23	165 26.9	N 6 09.2	219 32.3	4.7	N25 25.5	7.6	59.5
		S.D. 15.9	d 0.9	S.D.	16.1	16.2	16.2	

Name	SHA	Dec
Acamar	315 10.5	S40 11.5
Achernar	335 18.7	S57 05.7
Acrux	172 59.3	S63 14.9
Adhara	255 05.0	S29 00.2
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.0	N16 33.9
Alioth	166 12.2	N55 49.1
Alkaid	152 51.2	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.4	S 1 10.9
Alphard	217 46.7	S 8 46.3
Alphecca	126 02.7	N26 37.7
Alpheratz	357 33.0	N29 14.4
Altair	61 58.4	N 8 56.5
Ankaa	353 05.4	S42 09.4
Antares	112 14.2	S26 29.6
Arcturus	145 46.8	N19 02.7
Atria	107 07.2	S69 04.8
Avior	234 14.7	S59 35.5
Bellatrix	278 21.5	N 6 22.6
Betelgeuse	270 50.7	N 7 24.9
Canopus	263 52.0	S52 42.2
Capella	280 19.9	N46 01.4
Castor	245 55.5	N31 49.8
Deneb	49 24.5	N45 22.7
Denebola	182 23.8	N14 25.5
Diphda	348 45.6	S17 50.2
Dubhe	193 39.9	N61 36.4
Elnath	278 00.2	N28 37.8
Eltanin	90 41.4	N51 29.3
Enif	33 37.1	N10 00.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.9
Gienah	175 42.5	S17 41.4
Hadar	148 34.6	S60 30.3
Hamal	327 49.5	N23 35.4
Kaus Austr.	83 30.6	S34 22.4
Kochab	137 20.5	N74 02.9
Markab	13 28.2	N15 21.1
Menkar	314 04.5	N 4 11.8
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.8	S69 49.4
Mirfak	308 26.2	N49 57.3
Nunki	75 45.9	S26 15.8
Peacock	53 03.0	S56 39.0
Polaris	315 44.8	N89 21.8
Pollux	243 15.9	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 57.2	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.6	S 8 10.0
Rigil Kent	139 38.9	S60 57.0
Sabik	102 01.2	S15 45.5
Schedar	349 29.0	N56 41.0
Shaula	96 08.4	S37 07.5
Sirius	258 25.2	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.7	S43 32.2
Vega	80 32.1	N38 48.7
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
7	0	346 05.4	141 53.8	S14 32.5	237 23.3	N22 57.3	208 30.7	N16 52.1	332 47.6	N 2 47.9
	1	1 07.8	156 54.7	S14 33.5	252 24.1	N22 57.2	223 32.7	N16 51.9	347 50.2	N 2 47.8
	2	16 10.3	171 55.6	S14 34.4	267 24.8	N22 57.0	238 34.6	N16 51.8	2 52.8	N 2 47.8
	3	31 12.8	186 56.5	S14 35.4	282 25.6	N22 56.9	253 36.6	N16 51.6	17 55.4	N 2 47.7
	4	46 15.2	201 57.4	S14 36.3	297 26.4	N22 56.7	268 38.5	N16 51.5	32 58.0	N 2 47.6
M	5	61 17.7	216 58.2	S14 37.3	312 27.2	N22 56.5	283 40.5	N16 51.3	48 00.6	N 2 47.6
O										
N	6	76 20.2	231 59.1	S14 38.2	327 27.9	N22 56.4	298 42.4	N16 51.2	63 03.3	N 2 47.5
D	7	91 22.6	247 00.0	S14 39.2	342 28.7	N22 56.2	313 44.4	N16 51.1	78 05.9	N 2 47.4
A	8	106 25.1	262 00.9	S14 40.1	357 29.5	N22 56.0	328 46.3	N16 50.9	93 08.5	N 2 47.3
Y	9	121 27.5	277 01.8	S14 41.1	12 30.3	N22 55.9	343 48.3	N16 50.8	108 11.1	N 2 47.3
	10	136 30.0	292 02.7	S14 42.0	27 31.0	N22 55.7	358 50.2	N16 50.6	123 13.7	N 2 47.2
	11	151 32.5	307 03.6	S14 43.0	42 31.8	N22 55.6	13 52.2	N16 50.5	138 16.3	N 2 47.1
	12	166 34.9	322 04.5	S14 43.9	57 32.6	N22 55.4	28 54.1	N16 50.3	153 18.9	N 2 47.1
	13	181 37.4	337 05.4	S14 44.8	72 33.4	N22 55.2	43 56.1	N16 50.2	168 21.5	N 2 47.0
	14	196 39.9	352 06.2	S14 45.8	87 34.2	N22 55.1	58 58.0	N16 50.0	183 24.1	N 2 46.9
	15	211 42.3	7 07.1	S14 46.7	102 34.9	N22 54.9	73 60.0	N16 49.9	198 26.7	N 2 46.9
	16	226 44.8	22 08.0	S14 47.7	117 35.7	N22 54.7	89 01.9	N16 49.7	213 29.3	N 2 46.8
	17	241 47.3	37 08.9	S14 48.6	132 36.5	N22 54.6	104 03.9	N16 49.6	228 31.9	N 2 46.7
	18	256 49.7	52 09.8	S14 49.5	147 37.3	N22 54.4	119 05.8	N16 49.4	243 34.6	N 2 46.7
	19	271 52.2	67 10.7	S14 50.5	162 38.1	N22 54.2	134 07.8	N16 49.3	258 37.2	N 2 46.6
	20	286 54.6	82 11.7	S14 51.4	177 38.8	N22 54.1	149 09.7	N16 49.2	273 39.8	N 2 46.5
	21	301 57.1	97 12.6	S14 52.4	192 39.6	N22 53.9	164 11.7	N16 49.0	288 42.4	N 2 46.5
	22	316 59.6	112 13.5	S14 53.3	207 40.4	N22 53.7	179 13.6	N16 48.9	303 45.0	N 2 46.4
	23	332 02.0	127 14.4	S14 54.2	222 41.2	N22 53.6	194 15.6	N16 48.7	318 47.6	N 2 46.3
8	0	347 04.5	142 15.3	S14 55.2	237 42.0	N22 53.4	209 17.5	N16 48.6	333 50.2	N 2 46.3
	1	2 07.0	157 16.2	S14 56.1	252 42.7	N22 53.2	224 19.5	N16 48.4	348 52.8	N 2 46.2
	2	17 09.4	172 17.1	S14 57.0	267 43.5	N22 53.1	239 21.4	N16 48.3	3 55.4	N 2 46.1
	3	32 11.9	187 18.0	S14 58.0	282 44.3	N22 52.9	254 23.4	N16 48.1	18 58.0	N 2 46.0
	4	47 14.4	202 18.9	S14 58.9	297 45.1	N22 52.7	269 25.3	N16 48.0	34 00.6	N 2 46.0
T	5	62 16.8	217 19.9	S14 59.8	312 45.9	N22 52.6	284 27.3	N16 47.8	49 03.3	N 2 45.9
U										
E	6	77 19.3	232 20.8	S15 00.7	327 46.6	N22 52.4	299 29.2	N16 47.7	64 05.9	N 2 45.8
S	7	92 21.8	247 21.7	S15 01.7	342 47.4	N22 52.2	314 31.2	N16 47.6	79 08.5	N 2 45.8
D	8	107 24.2	262 22.6	S15 02.6	357 48.2	N22 52.1	329 33.1	N16 47.4	94 11.1	N 2 45.7
A	9	122 26.7	277 23.6	S15 03.5	12 49.0	N22 51.9	344 35.1	N16 47.3	109 13.7	N 2 45.6
Y	10	137 29.1	292 24.5	S15 04.5	27 49.8	N22 51.7	359 37.1	N16 47.1	124 16.3	N 2 45.6
	11	152 31.6	307 25.4	S15 05.4	42 50.6	N22 51.5	14 39.0	N16 47.0	139 18.9	N 2 45.5
	12	167 34.1	322 26.3	S15 06.3	57 51.3	N22 51.4	29 41.0	N16 46.8	154 21.5	N 2 45.4
	13	182 36.5	337 27.3	S15 07.2	72 52.1	N22 51.2	44 42.9	N16 46.7	169 24.1	N 2 45.4
	14	197 39.0	352 28.2	S15 08.2	87 52.9	N22 51.0	59 44.9	N16 46.5	184 26.8	N 2 45.3
	15	212 41.5	7 29.1	S15 09.1	102 53.7	N22 50.9	74 46.8	N16 46.4	199 29.4	N 2 45.2
	16	227 43.9	22 30.1	S15 10.0	117 54.5	N22 50.7	89 48.8	N16 46.2	214 32.0	N 2 45.2
	17	242 46.4	37 31.0	S15 10.9	132 55.3	N22 50.5	104 50.7	N16 46.1	229 34.6	N 2 45.1
	18	257 48.9	52 31.9	S15 11.8	147 56.0	N22 50.3	119 52.7	N16 45.9	244 37.2	N 2 45.0
	19	272 51.3	67 32.9	S15 12.8	162 56.8	N22 50.2	134 54.6	N16 45.8	259 39.8	N 2 44.9
	20	287 53.8	82 33.8	S15 13.7	177 57.6	N22 50.0	149 56.6	N16 45.7	274 42.4	N 2 44.9
	21	302 56.3	97 34.8	S15 14.6	192 58.4	N22 49.8	164 58.5	N16 45.5	289 45.0	N 2 44.8
	22	317 58.7	112 35.7	S15 15.5	207 59.2	N22 49.7	180 00.5	N16 45.4	304 47.6	N 2 44.7
	23	333 01.2	127 36.7	S15 16.4	222 60.0	N22 49.5	195 02.4	N16 45.2	319 50.3	N 2 44.7
9	0	348 03.6	142 37.6	S15 17.4	238 00.8	N22 49.3	210 04.4	N16 45.1	334 52.9	N 2 44.6
	1	3 06.1	157 38.6	S15 18.3	253 01.5	N22 49.1	225 06.3	N16 44.9	349 55.5	N 2 44.5
	2	18 08.6	172 39.5	S15 19.2	268 02.3	N22 49.0	240 08.3	N16 44.8	4 58.1	N 2 44.5
	3	33 11.0	187 40.5	S15 20.1	283 03.1	N22 48.8	255 10.3	N16 44.6	20 00.7	N 2 44.4
	4	48 13.5	202 41.4	S15 21.0	298 03.9	N22 48.6	270 12.2	N16 44.5	35 03.3	N 2 44.3
W	5	63 16.0	217 42.4	S15 21.9	313 04.7	N22 48.4	285 14.2	N16 44.3	50 05.9	N 2 44.3
E										
D	6	78 18.4	232 43.3	S15 22.8	328 05.5	N22 48.3	300 16.1	N16 44.2	65 08.5	N 2 44.2
N	7	93 20.9	247 44.3	S15 23.8	343 06.3	N22 48.1	315 18.1	N16 44.1	80 11.2	N 2 44.1
E	8	108 23.4	262 45.2	S15 24.7	358 07.1	N22 47.9	330 20.0	N16 43.9	95 13.8	N 2 44.0
S	9	123 25.8	277 46.2	S15 25.6	13 07.9	N22 47.7	345 22.0	N16 43.8	110 16.4	N 2 44.0
D	10	138 28.3	292 47.2	S15 26.5	28 08.6	N22 47.6	0 23.9	N16 43.6	125 19.0	N 2 43.9
A	11	153 30.8	307 48.1	S15 27.4	43 09.4	N22 47.4	15 25.9	N16 43.5	140 21.6	N 2 43.8
Y										
	12	168 33.2	322 49.1	S15 28.3	58 10.2	N22 47.2	30 27.8	N16 43.3	155 24.2	N 2 43.8
	13	183 35.7	337 50.1	S15 29.2	73 11.0	N22 47.0	45 29.8	N16 43.2	170 26.8	N 2 43.7
	14	198 38.1	352 51.0	S15 30.1	88 11.8	N22 46.9	60 31.8	N16 43.0	185 29.4	N 2 43.6
	15	213 40.6	7 52.0	S15 31.0	103 12.6	N22 46.7	75 33.7	N16 42.9	200 32.1	N 2 43.6
	16	228 43.1	22 53.0	S15 31.9	118 13.4	N22 46.5	90 35.7	N16 42.7	215 34.7	N 2 43.5
	17	243 45.5	37 53.9	S15 32.8	133 14.2	N22 46.3	105 37.6	N16 42.6	230 37.3	N 2 43.4
	18	258 48.0	52 54.9	S15 33.7	148 15.0	N22 46.1	120 39.6	N16 42.5	245 39.9	N 2 43.3
	19	273 50.5	67 55.9	S15 34.6	163 15.8	N22 46.0	135 41.5	N16 42.3	260 42.5	N 2 43.3
	20	288 52.9	82 56.9	S15 35.5	178 16.5	N22 45.8	150 43.5	N16 42.2	275 45.1	N 2 43.2
	21	303 55.4	97 57.9	S15 36.4	193 17.3	N22 45.6	165 45.4	N16 42.0	290 47.7	N 2 43.1
	22	318 57.9	112 58.8	S15 37.3	208 18.1	N22 45.4	180 47.4	N16 41.9	305 50.4	N 2 43.1
	23	334 00.3	127 59.8	S15 38.2	223 18.9	N22 45.2	195 49.4	N16 41.7	320 53.0	N 2 43.0
			v 0.9	d 0.9	v 0.8	d 0.2	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
7 0	180 27.1	N 6 08.3	233 56.0	4.8	N25 17.7	7.8	59.5	Acamar	315 10.5 S40 11.5
1	195 27.3	N 6 07.4	248 19.9	4.9	N25 09.7	8.0	59.5	Achernar	335 18.7 S57 05.7
2	210 27.6	N 6 06.4	262 43.8	4.9	N25 01.6	8.1	59.5	Acrux	172 59.3 S63 14.9
3	225 27.8	N 6 05.5	277 07.9	5.0	N24 53.3	8.3	59.5	Adhara	255 04.9 S29 00.2
4	240 28.0	N 6 04.5	291 32.0	5.1	N24 44.9	8.4	59.5	Albireo	67 02.7 N28 01.1
M 5	255 28.2	N 6 03.6	305 56.1	5.2	N24 36.3	8.6	59.5		
O								Aldebaran	290 38.0 N16 33.9
N 6	270 28.4	N 6 02.7	320 20.4	5.3	N24 27.5	8.8	59.5	Alioth	166 12.2 N55 49.1
D 7	285 28.6	N 6 01.7	334 44.8	5.4	N24 18.6	8.9	59.5	Alkaid	152 51.2 N49 11.0
A 8	300 28.8	N 6 00.8	349 09.3	5.5	N24 09.5	9.1	59.5	Al Na-ir	27 30.6 S46 49.8
Y 9	315 29.0	N 5 59.9	3 33.8	5.6	N24 00.2	9.2	59.5	Alnilam	275 36.3 S 1 10.9
10	330 29.3	N 5 58.9	17 58.5	5.6	N23 50.8	9.4	59.5		
11	345 29.5	N 5 58.0	32 23.2	5.7	N23 41.3	9.6	59.5	Alphard	217 46.6 S 8 46.3
								Alphecca	126 02.7 N26 37.7
12	0 29.7	N 5 57.1	46 48.0	5.8	N23 31.6	9.7	59.5	Alpheratz	357 33.0 N29 14.4
13	15 29.9	N 5 56.1	61 13.0	5.9	N23 21.7	9.9	59.5	Altair	61 58.4 N 8 56.5
14	30 30.1	N 5 55.2	75 38.0	6.0	N23 11.7	10.0	59.5	Ankaa	353 05.3 S42 09.5
15	45 30.3	N 5 54.2	90 03.1	6.1	N23 01.6	10.1	59.5		
16	60 30.5	N 5 53.3	104 28.3	6.2	N22 51.3	10.3	59.5	Antares	112 14.2 S26 29.6
17	75 30.8	N 5 52.4	118 53.6	6.3	N22 40.9	10.4	59.5	Arcturus	145 46.9 N19 02.7
								Atria	107 07.3 S69 04.8
18	90 31.0	N 5 51.4	133 19.0	6.4	N22 30.3	10.6	59.5	Avior	234 14.7 S59 35.4
19	105 31.2	N 5 50.5	147 44.6	6.5	N22 19.6	10.7	59.5	Bellatrix	278 21.4 N 6 22.6
20	120 31.4	N 5 49.6	162 10.2	6.6	N22 08.7	10.9	59.5		
21	135 31.6	N 5 48.6	176 35.9	6.7	N21 57.7	11.0	59.5	Betelgeuse	270 50.7 N 7 24.9
22	150 31.8	N 5 47.7	191 01.7	6.8	N21 46.6	11.1	59.5	Canopus	263 51.9 S52 42.2
23	165 32.0	N 5 46.7	205 27.6	6.9	N21 35.3	11.3	59.5	Capella	280 19.9 N46 01.4
8 0	180 32.2	N 5 45.8	219 53.6	7.0	N21 23.9	11.4	59.5	Castor	245 55.5 N31 49.8
1	195 32.5	N 5 44.9	234 19.7	7.1	N21 12.4	11.5	59.4	Deneb	49 24.5 N45 22.7
2	210 32.7	N 5 43.9	248 45.9	7.2	N21 00.8	11.6	59.4		
3	225 32.9	N 5 43.0	263 12.2	7.3	N20 49.0	11.8	59.4	Denebola	182 23.8 N14 25.5
4	240 33.1	N 5 42.0	277 38.6	7.4	N20 37.1	11.9	59.4	Diphda	348 45.6 S17 50.2
T 5	255 33.3	N 5 41.1	292 05.2	7.5	N20 25.1	12.0	59.4	Dubhe	193 39.9 N61 36.4
U								Elnath	278 00.2 N28 37.8
E 6	270 33.5	N 5 40.2	306 31.8	7.6	N20 13.0	12.1	59.4	Eltanin	90 41.4 N51 29.3
S 7	285 33.8	N 5 39.2	320 58.5	7.7	N20 00.7	12.3	59.4	Enif	33 37.1 N10 00.0
D 8	300 34.0	N 5 38.3	335 25.3	7.8	N19 48.3	12.4	59.4	Fomalhaut	15 12.6 S29 28.7
A 9	315 34.2	N 5 37.3	349 52.2	7.9	N19 35.9	12.5	59.4	Gacrux	171 50.7 S57 15.9
Y 10	330 34.4	N 5 36.4	4 19.2	8.0	N19 23.3	12.6	59.4	Gienah	175 42.5 S17 41.4
11	345 34.6	N 5 35.5	18 46.4	8.1	N19 10.5	12.7	59.4	Hadar	148 34.6 S60 30.3
12	0 34.8	N 5 34.5	33 13.6	8.2	N18 57.7	12.8	59.4	Hamal	327 49.4 N23 35.5
13	15 35.0	N 5 33.6	47 40.9	8.3	N18 44.8	12.9	59.3	Kaus Austr.	83 30.6 S34 22.4
14	30 35.3	N 5 32.6	62 08.3	8.4	N18 31.8	13.0	59.3	Kochab	137 20.6 N74 02.9
15	45 35.5	N 5 31.7	76 35.8	8.5	N18 18.6	13.1	59.3	Markab	13 28.2 N15 21.1
16	60 35.7	N 5 30.8	91 03.4	8.6	N18 05.4	13.2	59.3	Menkar	314 04.5 N 4 11.8
17	75 35.9	N 5 29.8	105 31.2	8.7	N17 52.1	13.3	59.3		
								Menkent	147 56.3 S36 30.2
18	90 36.1	N 5 28.9	119 59.0	8.8	N17 38.6	13.4	59.3	Miaplacidus	221 38.8 S69 49.4
19	105 36.3	N 5 27.9	134 26.9	8.9	N17 25.1	13.5	59.3	Mirfak	308 26.1 N49 57.3
20	120 36.5	N 5 27.0	148 54.9	9.0	N17 11.5	13.6	59.3	Nunki	75 45.9 S26 15.8
21	135 36.8	N 5 26.0	163 23.0	9.1	N16 57.8	13.7	59.3	Peacock	53 03.0 S56 39.0
22	150 37.0	N 5 25.1	177 51.2	9.2	N16 44.0	13.8	59.2		
23	165 37.2	N 5 24.2	192 19.5	9.3	N16 30.1	13.9	59.2	Polaris	315 43.8 N89 21.8
9 0	180 37.4	N 5 23.2	206 47.9	9.4	N16 16.1	14.0	59.2	Pollux	243 15.8 N27 57.7
1	195 37.6	N 5 22.3	221 16.3	9.5	N16 02.0	14.1	59.2	Procyon	244 49.6 N 5 09.5
2	210 37.8	N 5 21.3	235 44.9	9.6	N15 47.9	14.2	59.2	Rasalhague	95 57.2 N12 32.6
3	225 38.1	N 5 20.4	250 13.6	9.7	N15 33.6	14.2	59.2	Regulus	207 33.3 N11 50.3
4	240 38.3	N 5 19.4	264 42.4	9.8	N15 19.3	14.3	59.2		
W 5	255 38.5	N 5 18.5	279 11.2	9.9	N15 04.9	14.4	59.1	Rigel	281 02.6 S 8 10.0
E								Rigil Kent	139 38.9 S60 57.0
D 6	270 38.7	N 5 17.6	293 40.1	9.9	N14 50.5	14.5	59.1	Sabik	102 01.2 S15 45.5
N 7	285 38.9	N 5 16.6	308 09.2	10.0	N14 35.9	14.5	59.1	Schedar	349 29.0 N56 41.0
E 8	300 39.1	N 5 15.7	322 38.3	10.1	N14 21.3	14.6	59.1	Shaula	96 08.4 S37 07.5
S 9	315 39.4	N 5 14.7	337 07.5	10.2	N14 06.6	14.7	59.1	Sirius	258 25.2 S16 44.9
D 10	330 39.6	N 5 13.8	351 36.8	10.3	N13 51.9	14.8	59.1	Spica	158 21.1 S11 18.0
A 11	345 39.8	N 5 12.8	6 06.2	10.4	N13 37.0	14.8	59.1	Suhail	222 45.7 S43 32.2
Y								Vega	80 32.1 N38 48.7
12	0 40.0	N 5 11.9	20 35.6	10.5	N13 22.2	14.9	59.0	Zuben-ubi	136 55.6 S16 09.2
13	15 40.2	N 5 10.9	35 05.2	10.6	N13 07.2	14.9	59.0		
14	30 40.4	N 5 10.0	49 34.8	10.6	N12 52.2	15.0	59.0		
15	45 40.7	N 5 09.1	64 04.5	10.7	N12 37.1	15.1	59.0		
16	60 40.9	N 5 08.1	78 34.3	10.8	N12 22.0	15.1	59.0		
17	75 41.1	N 5 07.2	93 04.2	10.9	N12 06.8	15.2	59.0		
18	90 41.3	N 5 06.2	107 34.2	11.0	N11 51.6	15.2	58.9		
19	105 41.5	N 5 05.3	122 04.2	11.0	N11 36.3	15.3	58.9		
20	120 41.7	N 5 04.3	136 34.3	11.1	N11 20.9	15.3	58.9		
21	135 42.0	N 5 03.4	151 04.5	11.2	N11 05.5	15.4	58.9		
22	150 42.2	N 5 02.4	165 34.8	11.3	N10 50.1	15.4	58.9		
23	165 42.4	N 5 01.5	180 05.1	11.3	N10 34.6	15.5	58.8		
	S.D. 15.9	d 0.9	S.D.	16.2		16.2	16.1		

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
10 0	349 02.8	143 00.8	S15 39.1	238 19.7	N22 45.1	210 51.3	N16 41.6	335 55.6	N 2 42.9
1	4 05.2	158 01.8	S15 40.0	253 20.5	N22 44.9	225 53.3	N16 41.4	350 58.2	N 2 42.9
2	19 07.7	173 02.8	S15 40.9	268 21.3	N22 44.7	240 55.2	N16 41.3	6 00.8	N 2 42.8
3	34 10.2	188 03.8	S15 41.8	283 22.1	N22 44.5	255 57.2	N16 41.1	21 03.4	N 2 42.7
4	49 12.6	203 04.8	S15 42.7	298 22.9	N22 44.3	270 59.1	N16 41.0	36 06.0	N 2 42.6
T 5	64 15.1	218 05.8	S15 43.6	313 23.7	N22 44.2	286 01.1	N16 40.9	51 08.7	N 2 42.6
H									
U 6	79 17.6	233 06.8	S15 44.5	328 24.5	N22 44.0	301 03.1	N16 40.7	66 11.3	N 2 42.5
R 7	94 20.0	248 07.8	S15 45.4	343 25.3	N22 43.8	316 05.0	N16 40.6	81 13.9	N 2 42.4
S 8	109 22.5	263 08.8	S15 46.3	358 26.1	N22 43.6	331 07.0	N16 40.4	96 16.5	N 2 42.4
D 9	124 25.0	278 09.8	S15 47.2	13 26.9	N22 43.4	346 08.9	N16 40.3	111 19.1	N 2 42.3
A 10	139 27.4	293 10.8	S15 48.1	28 27.7	N22 43.3	1 10.9	N16 40.1	126 21.7	N 2 42.2
Y 11	154 29.9	308 11.8	S15 49.0	43 28.4	N22 43.1	16 12.8	N16 40.0	141 24.4	N 2 42.2
12	169 32.4	323 12.8	S15 49.8	58 29.2	N22 42.9	31 14.8	N16 39.8	156 27.0	N 2 42.1
13	184 34.8	338 13.8	S15 50.7	73 30.0	N22 42.7	46 16.8	N16 39.7	171 29.6	N 2 42.0
14	199 37.3	353 14.8	S15 51.6	88 30.8	N22 42.5	61 18.7	N16 39.5	186 32.2	N 2 41.9
15	214 39.7	8 15.8	S15 52.5	103 31.6	N22 42.3	76 20.7	N16 39.4	201 34.8	N 2 41.9
16	229 42.2	23 16.8	S15 53.4	118 32.4	N22 42.2	91 22.6	N16 39.3	216 37.4	N 2 41.8
17	244 44.7	38 17.8	S15 54.3	133 33.2	N22 42.0	106 24.6	N16 39.1	231 40.0	N 2 41.7
18	259 47.1	53 18.8	S15 55.2	148 34.0	N22 41.8	121 26.5	N16 39.0	246 42.7	N 2 41.7
19	274 49.6	68 19.9	S15 56.1	163 34.8	N22 41.6	136 28.5	N16 38.8	261 45.3	N 2 41.6
20	289 52.1	83 20.9	S15 56.9	178 35.6	N22 41.4	151 30.5	N16 38.7	276 47.9	N 2 41.5
21	304 54.5	98 21.9	S15 57.8	193 36.4	N22 41.2	166 32.4	N16 38.5	291 50.5	N 2 41.4
22	319 57.0	113 22.9	S15 58.7	208 37.2	N22 41.1	181 34.4	N16 38.4	306 53.1	N 2 41.4
23	334 59.5	128 23.9	S15 59.6	223 38.0	N22 40.9	196 36.3	N16 38.2	321 55.7	N 2 41.3
11 0	350 01.9	143 25.0	S16 00.5	238 38.8	N22 40.7	211 38.3	N16 38.1	336 58.4	N 2 41.2
1	5 04.4	158 26.0	S16 01.3	253 39.6	N22 40.5	226 40.3	N16 37.9	352 01.0	N 2 41.2
2	20 06.8	173 27.0	S16 02.2	268 40.4	N22 40.3	241 42.2	N16 37.8	7 03.6	N 2 41.1
3	35 09.3	188 28.1	S16 03.1	283 41.2	N22 40.1	256 44.2	N16 37.7	22 06.2	N 2 41.0
4	50 11.8	203 29.1	S16 04.0	298 42.0	N22 39.9	271 46.1	N16 37.5	37 08.8	N 2 40.9
F 5	65 14.2	218 30.1	S16 04.8	313 42.8	N22 39.7	286 48.1	N16 37.4	52 11.4	N 2 40.9
R									
I 6	80 16.7	233 31.2	S16 05.7	328 43.6	N22 39.6	301 50.0	N16 37.2	67 14.1	N 2 40.8
D 7	95 19.2	248 32.2	S16 06.6	343 44.4	N22 39.4	316 52.0	N16 37.1	82 16.7	N 2 40.7
A 8	110 21.6	263 33.2	S16 07.5	358 45.2	N22 39.2	331 54.0	N16 36.9	97 19.3	N 2 40.7
Y 9	125 24.1	278 34.3	S16 08.3	13 46.0	N22 39.0	346 55.9	N16 36.8	112 21.9	N 2 40.6
10	140 26.6	293 35.3	S16 09.2	28 46.8	N22 38.8	1 57.9	N16 36.6	127 24.5	N 2 40.5
11	155 29.0	308 36.4	S16 10.1	43 47.6	N22 38.6	16 59.8	N16 36.5	142 27.1	N 2 40.4
12	170 31.5	323 37.4	S16 10.9	58 48.4	N22 38.4	32 01.8	N16 36.4	157 29.8	N 2 40.4
13	185 34.0	338 38.5	S16 11.8	73 49.2	N22 38.2	47 03.8	N16 36.2	172 32.4	N 2 40.3
14	200 36.4	353 39.5	S16 12.7	88 50.0	N22 38.1	62 05.7	N16 36.1	187 35.0	N 2 40.2
15	215 38.9	8 40.6	S16 13.5	103 50.8	N22 37.9	77 07.7	N16 35.9	202 37.6	N 2 40.2
16	230 41.3	23 41.6	S16 14.4	118 51.6	N22 37.7	92 09.6	N16 35.8	217 40.2	N 2 40.1
17	245 43.8	38 42.7	S16 15.3	133 52.4	N22 37.5	107 11.6	N16 35.6	232 42.9	N 2 40.0
18	260 46.3	53 43.7	S16 16.1	148 53.2	N22 37.3	122 13.6	N16 35.5	247 45.5	N 2 40.0
19	275 48.7	68 44.8	S16 17.0	163 54.0	N22 37.1	137 15.5	N16 35.3	262 48.1	N 2 39.9
20	290 51.2	83 45.8	S16 17.9	178 54.8	N22 36.9	152 17.5	N16 35.2	277 50.7	N 2 39.8
21	305 53.7	98 46.9	S16 18.7	193 55.6	N22 36.7	167 19.5	N16 35.0	292 53.3	N 2 39.7
22	320 56.1	113 48.0	S16 19.6	208 56.5	N22 36.5	182 21.4	N16 34.9	307 56.0	N 2 39.7
23	335 58.6	128 49.0	S16 20.5	223 57.3	N22 36.3	197 23.4	N16 34.8	322 58.6	N 2 39.6
12 0	351 01.1	143 50.1	S16 21.3	238 58.1	N22 36.2	212 25.3	N16 34.6	338 01.2	N 2 39.5
1	6 03.5	158 51.2	S16 22.2	253 58.9	N22 36.0	227 27.3	N16 34.5	353 03.8	N 2 39.4
2	21 06.0	173 52.2	S16 23.0	268 59.7	N22 35.8	242 29.3	N16 34.3	8 06.4	N 2 39.4
3	36 08.5	188 53.3	S16 23.9	284 00.5	N22 35.6	257 31.2	N16 34.2	23 09.0	N 2 39.3
4	51 10.9	203 54.4	S16 24.7	299 01.3	N22 35.4	272 33.2	N16 34.0	38 11.7	N 2 39.2
S 5	66 13.4	218 55.5	S16 25.6	314 02.1	N22 35.2	287 35.1	N16 33.9	53 14.3	N 2 39.2
A									
T 6	81 15.8	233 56.5	S16 26.5	329 02.9	N22 35.0	302 37.1	N16 33.7	68 16.9	N 2 39.1
U 7	96 18.3	248 57.6	S16 27.3	344 03.7	N22 34.8	317 39.1	N16 33.6	83 19.5	N 2 39.0
R 8	111 20.8	263 58.7	S16 28.2	359 04.5	N22 34.6	332 41.0	N16 33.5	98 22.1	N 2 38.9
D 9	126 23.2	278 59.8	S16 29.0	14 05.3	N22 34.4	347 43.0	N16 33.3	113 24.8	N 2 38.9
A 10	141 25.7	294 00.9	S16 29.9	29 06.1	N22 34.2	2 45.0	N16 33.2	128 27.4	N 2 38.8
Y 11	156 28.2	309 02.0	S16 30.7	44 06.9	N22 34.0	17 46.9	N16 33.0	143 30.0	N 2 38.7
12	171 30.6	324 03.1	S16 31.6	59 07.7	N22 33.8	32 48.9	N16 32.9	158 32.6	N 2 38.7
13	186 33.1	339 04.1	S16 32.4	74 08.6	N22 33.6	47 50.8	N16 32.7	173 35.2	N 2 38.6
14	201 35.6	354 05.2	S16 33.3	89 09.4	N22 33.4	62 52.8	N16 32.6	188 37.9	N 2 38.5
15	216 38.0	9 06.3	S16 34.1	104 10.2	N22 33.3	77 54.8	N16 32.4	203 40.5	N 2 38.4
16	231 40.5	24 07.4	S16 35.0	119 11.0	N22 33.1	92 56.7	N16 32.3	218 43.1	N 2 38.4
17	246 42.9	39 08.5	S16 35.8	134 11.8	N22 32.9	107 58.7	N16 32.1	233 45.7	N 2 38.3
18	261 45.4	54 09.6	S16 36.6	149 12.6	N22 32.7	123 00.7	N16 32.0	248 48.3	N 2 38.2
19	276 47.9	69 10.7	S16 37.5	164 13.4	N22 32.5	138 02.6	N16 31.9	263 51.0	N 2 38.2
20	291 50.3	84 11.8	S16 38.3	179 14.2	N22 32.3	153 04.6	N16 31.7	278 53.6	N 2 38.1
21	306 52.8	99 12.9	S16 39.2	194 15.0	N22 32.1	168 06.5	N16 31.6	293 56.2	N 2 38.0
22	321 55.3	114 14.1	S16 40.0	209 15.8	N22 31.9	183 08.5	N16 31.4	308 58.8	N 2 37.9
23	336 57.7	129 15.2	S16 40.9	224 16.7	N22 31.7	198 10.5	N16 31.3	324 01.4	N 2 37.9
		v 1.0	d 0.9	v 0.8	d 0.2	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
10	0	180 42.6	N 5 00.5	194 35.6	11.4	N10 19.1	15.5	58.8
	1	195 42.8	N 4 59.6	209 06.0	11.5	N10 03.5	15.6	58.8
	2	210 43.0	N 4 58.6	223 36.6	11.6	N 9 47.9	15.6	58.8
	3	225 43.3	N 4 57.7	238 07.2	11.6	N 9 32.2	15.7	58.8
	4	240 43.5	N 4 56.8	252 37.9	11.7	N 9 16.6	15.7	58.7
T	5	255 43.7	N 4 55.8	267 08.7	11.8	N 9 00.8	15.7	58.7
H								
U	6	270 43.9	N 4 54.9	281 39.5	11.8	N 8 45.1	15.8	58.7
R	7	285 44.1	N 4 53.9	296 10.4	11.9	N 8 29.3	15.8	58.7
S	8	300 44.4	N 4 53.0	310 41.4	12.0	N 8 13.4	15.8	58.7
D	9	315 44.6	N 4 52.0	325 12.4	12.0	N 7 57.6	15.9	58.6
A	10	330 44.8	N 4 51.1	339 43.5	12.1	N 7 41.7	15.9	58.6
Y	11	345 45.0	N 4 50.1	354 14.7	12.2	N 7 25.8	15.9	58.6
	12	0 45.2	N 4 49.2	8 45.9	12.2	N 7 09.8	15.9	58.6
	13	15 45.4	N 4 48.2	23 17.2	12.3	N 6 53.9	16.0	58.6
	14	30 45.7	N 4 47.3	37 48.5	12.3	N 6 37.9	16.0	58.5
	15	45 45.9	N 4 46.3	52 19.9	12.4	N 6 21.9	16.0	58.5
	16	60 46.1	N 4 45.4	66 51.3	12.4	N 6 05.9	16.0	58.5
	17	75 46.3	N 4 44.4	81 22.8	12.5	N 5 49.8	16.0	58.5
	18	90 46.5	N 4 43.5	95 54.4	12.6	N 5 33.8	16.1	58.4
	19	105 46.8	N 4 42.5	110 26.0	12.6	N 5 17.7	16.1	58.4
	20	120 47.0	N 4 41.6	124 57.6	12.7	N 5 01.6	16.1	58.4
	21	135 47.2	N 4 40.6	139 29.3	12.7	N 4 45.6	16.1	58.4
	22	150 47.4	N 4 39.7	154 01.1	12.8	N 4 29.5	16.1	58.4
	23	165 47.6	N 4 38.7	168 32.9	12.8	N 4 13.3	16.1	58.3
11	0	180 47.8	N 4 37.8	183 04.7	12.8	N 3 57.2	16.1	58.3
	1	195 48.1	N 4 36.8	197 36.6	12.9	N 3 41.1	16.1	58.3
	2	210 48.3	N 4 35.9	212 08.6	12.9	N 3 25.0	16.1	58.3
	3	225 48.5	N 4 34.9	226 40.5	13.0	N 3 08.9	16.1	58.2
	4	240 48.7	N 4 34.0	241 12.6	13.0	N 2 52.7	16.1	58.2
F	5	255 48.9	N 4 33.0	255 44.6	13.1	N 2 36.6	16.1	58.2
R								
I	6	270 49.2	N 4 32.1	270 16.7	13.1	N 2 20.5	16.1	58.2
D	7	285 49.4	N 4 31.1	284 48.9	13.1	N 2 04.4	16.1	58.1
A	8	300 49.6	N 4 30.2	299 21.1	13.2	N 1 48.2	16.1	58.1
Y	9	315 49.8	N 4 29.2	313 53.3	13.2	N 1 32.1	16.1	58.1
	10	330 50.0	N 4 28.3	328 25.5	13.2	N 1 16.0	16.1	58.0
	11	345 50.3	N 4 27.3	342 57.8	13.3	N 0 59.9	16.1	58.0
	12	0 50.5	N 4 26.4	357 30.1	13.3	N 0 43.9	16.1	58.0
	13	15 50.7	N 4 25.4	12 02.5	13.3	N 0 27.8	16.1	58.0
	14	30 50.9	N 4 24.5	26 34.8	13.4	N 0 11.7	16.1	57.9
	15	45 51.1	N 4 23.5	41 07.2	13.4	S 0 04.3	16.0	57.9
	16	60 51.4	N 4 22.6	55 39.7	13.4	S 0 20.3	16.0	57.9
	17	75 51.6	N 4 21.6	70 12.1	13.5	S 0 36.4	16.0	57.9
	18	90 51.8	N 4 20.7	84 44.6	13.5	S 0 52.3	16.0	57.8
	19	105 52.0	N 4 19.7	99 17.1	13.5	S 1 08.3	16.0	57.8
	20	120 52.2	N 4 18.7	113 49.7	13.5	S 1 24.3	16.0	57.8
	21	135 52.5	N 4 17.8	128 22.2	13.6	S 1 40.2	15.9	57.8
	22	150 52.7	N 4 16.8	142 54.8	13.6	S 1 56.1	15.9	57.7
	23	165 52.9	N 4 15.9	157 27.4	13.6	S 2 12.0	15.9	57.7
12	0	180 53.1	N 4 14.9	172 00.0	13.6	S 2 27.9	15.9	57.7
	1	195 53.3	N 4 14.0	186 32.6	13.6	S 2 43.7	15.8	57.6
	2	210 53.6	N 4 13.0	201 05.3	13.7	S 2 59.5	15.8	57.6
	3	225 53.8	N 4 12.1	215 38.0	13.7	S 3 15.3	15.8	57.6
	4	240 54.0	N 4 11.1	230 10.6	13.7	S 3 31.0	15.7	57.6
S	5	255 54.2	N 4 10.2	244 43.3	13.7	S 3 46.7	15.7	57.5
A								
T	6	270 54.4	N 4 09.2	259 16.0	13.7	S 4 02.4	15.7	57.5
U	7	285 54.7	N 4 08.3	273 48.8	13.7	S 4 18.0	15.6	57.5
R	8	300 54.9	N 4 07.3	288 21.5	13.7	S 4 33.6	15.6	57.4
D	9	315 55.1	N 4 06.3	302 54.2	13.7	S 4 49.2	15.6	57.4
A	10	330 55.3	N 4 05.4	317 27.0	13.7	S 5 04.7	15.5	57.4
Y	11	345 55.5	N 4 04.4	331 59.7	13.8	S 5 20.2	15.5	57.4
	12	0 55.8	N 4 03.5	346 32.5	13.8	S 5 35.7	15.5	57.3
	13	15 56.0	N 4 02.5	1 05.2	13.8	S 5 51.1	15.4	57.3
	14	30 56.2	N 4 01.6	15 38.0	13.8	S 6 06.5	15.4	57.3
	15	45 56.4	N 4 00.6	30 10.8	13.8	S 6 21.8	15.3	57.2
	16	60 56.6	N 3 59.7	44 43.6	13.8	S 6 37.1	15.3	57.2
	17	75 56.9	N 3 58.7	59 16.3	13.8	S 6 52.3	15.2	57.2
	18	90 57.1	N 3 57.8	73 49.1	13.8	S 7 07.5	15.2	57.2
	19	105 57.3	N 3 56.8	88 21.9	13.8	S 7 22.6	15.1	57.1
	20	120 57.5	N 3 55.8	102 54.7	13.8	S 7 37.7	15.1	57.1
	21	135 57.7	N 3 54.9	117 27.4	13.8	S 7 52.8	15.0	57.1
	22	150 58.0	N 3 53.9	132 00.2	13.8	S 8 07.8	15.0	57.0
	23	165 58.2	N 3 53.0	146 32.9	13.8	S 8 22.7	14.9	57.0
		S.D. 15.9	d 1.0	S.D.	16.0	15.8	15.6	

STARS Name	SHA	Dec
Acamar	315 10.4	S40 11.5
Achernar	335 18.6	S57 05.8
Acrux	172 59.3	S63 14.9
Adhara	255 04.9	S29 00.2
Albireo	67 02.7	N28 01.1
Aldebaran	290 38.0	N16 33.9
Alioth	166 12.2	N55 49.0
Alkaid	152 51.3	N49 11.0
Al Na-ir	27 30.7	S46 49.8
Alnilam	275 36.3	S 1 10.9
Alphard	217 46.6	S 8 46.3
Alphecca	126 02.7	N26 37.6
Alpheratz	357 33.0	N29 14.4
Altair	61 58.4	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.2	S26 29.6
Arcturus	145 46.9	N19 02.7
Atria	107 07.3	S69 04.8
Avior	234 14.6	S59 35.4
Bellatrix	278 21.4	N 6 22.6
Betelgeuse	270 50.6	N 7 24.9
Canopus	263 51.9	S52 42.2
Capella	280 19.9	N46 01.4
Castor	245 55.5	N31 49.8
Deneb	49 24.5	N45 22.8
Denebola	182 23.8	N14 25.5
Diphda	348 45.6	S17 50.2
Dubhe	193 39.9	N61 36.4
Elnath	278 00.2	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 37.1	N10 00.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.8
Gienah	175 42.5	S17 41.4
Hadar	148 34.6	S60 30.3
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 30.6	S34 22.4
Kochab	137 20.6	N74 02.9
Markab	13 28.2	N15 21.1
Menkar	314 04.5	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.7	S69 49.4
Mirfak	308 26.1	N49 57.3
Nunki	75 45.9	S26 15.8
Peacock	53 03.0	S56 39.1
Polaris	315 42.9	N89 21.8
Pollux	243 15.8	N27 57.7
Procyon	244 49.6	N 5 09.5
Rasalhague	95 57.3	N12 32.6
Regulus	207 33.3	N11 50.3
Rigel	281 02.5	S 8 10.0
Rigil Kent	139 39.0	S60 56.9
Sabik	102 01.2	S15 45.5
Schedar	349 28.9	N56 41.0
Shaula	96 08.4	S37 07.5
Sirius	258 25.1	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.7	S43 32.2
Vega	80 32.1	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
13	0	352 00.2	144 16.3	S16 41.7	239 17.5	N22 31.5	213 12.4	N16 31.1	339 04.1	N 2 37.8
	1	7 02.7	159 17.4	S16 42.5	254 18.3	N22 31.3	228 14.4	N16 31.0	354 06.7	N 2 37.7
	2	22 05.1	174 18.5	S16 43.4	269 19.1	N22 31.1	243 16.4	N16 30.8	9 09.3	N 2 37.6
	3	37 07.6	189 19.6	S16 44.2	284 19.9	N22 30.9	258 18.3	N16 30.7	24 11.9	N 2 37.6
	4	52 10.1	204 20.7	S16 45.0	299 20.7	N22 30.7	273 20.3	N16 30.6	39 14.5	N 2 37.5
S	5	67 12.5	219 21.9	S16 45.9	314 21.5	N22 30.5	288 22.3	N16 30.4	54 17.2	N 2 37.4
U										
N	6	82 15.0	234 23.0	S16 46.7	329 22.3	N22 30.3	303 24.2	N16 30.3	69 19.8	N 2 37.4
D	7	97 17.4	249 24.1	S16 47.5	344 23.1	N22 30.1	318 26.2	N16 30.1	84 22.4	N 2 37.3
A	8	112 19.9	264 25.2	S16 48.4	359 24.0	N22 29.9	333 28.2	N16 30.0	99 25.0	N 2 37.2
Y	9	127 22.4	279 26.4	S16 49.2	14 24.8	N22 29.7	348 30.1	N16 29.8	114 27.7	N 2 37.1
	10	142 24.8	294 27.5	S16 50.0	29 25.6	N22 29.5	3 32.1	N16 29.7	129 30.3	N 2 37.1
	11	157 27.3	309 28.6	S16 50.9	44 26.4	N22 29.3	18 34.1	N16 29.5	144 32.9	N 2 37.0
	12	172 29.8	324 29.8	S16 51.7	59 27.2	N22 29.1	33 36.0	N16 29.4	159 35.5	N 2 36.9
	13	187 32.2	339 30.9	S16 52.5	74 28.0	N22 28.9	48 38.0	N16 29.3	174 38.1	N 2 36.9
	14	202 34.7	354 32.0	S16 53.3	89 28.8	N22 28.7	63 39.9	N16 29.1	189 40.8	N 2 36.8
	15	217 37.2	9 33.2	S16 54.2	104 29.7	N22 28.5	78 41.9	N16 29.0	204 43.4	N 2 36.7
	16	232 39.6	24 34.3	S16 55.0	119 30.5	N22 28.3	93 43.9	N16 28.8	219 46.0	N 2 36.6
	17	247 42.1	39 35.5	S16 55.8	134 31.3	N22 28.1	108 45.8	N16 28.7	234 48.6	N 2 36.6
	18	262 44.5	54 36.6	S16 56.6	149 32.1	N22 27.9	123 47.8	N16 28.5	249 51.3	N 2 36.5
	19	277 47.0	69 37.8	S16 57.5	164 32.9	N22 27.7	138 49.8	N16 28.4	264 53.9	N 2 36.4
	20	292 49.5	84 38.9	S16 58.3	179 33.7	N22 27.5	153 51.7	N16 28.2	279 56.5	N 2 36.3
	21	307 51.9	99 40.1	S16 59.1	194 34.6	N22 27.3	168 53.7	N16 28.1	294 59.1	N 2 36.3
	22	322 54.4	114 41.2	S16 59.9	209 35.4	N22 27.1	183 55.7	N16 28.0	310 01.7	N 2 36.2
	23	337 56.9	129 42.4	S17 00.7	224 36.2	N22 26.9	198 57.6	N16 27.8	325 04.4	N 2 36.1
14	0	352 59.3	144 43.5	S17 01.6	239 37.0	N22 26.7	213 59.6	N16 27.7	340 07.0	N 2 36.0
	1	8 01.8	159 44.7	S17 02.4	254 37.8	N22 26.5	229 01.6	N16 27.5	355 09.6	N 2 36.0
	2	23 04.3	174 45.9	S17 03.2	269 38.6	N22 26.3	244 03.5	N16 27.4	10 12.2	N 2 35.9
	3	38 06.7	189 47.0	S17 04.0	284 39.5	N22 26.1	259 05.5	N16 27.2	25 14.9	N 2 35.8
	4	53 09.2	204 48.2	S17 04.8	299 40.3	N22 25.9	274 07.5	N16 27.1	40 17.5	N 2 35.8
M	5	68 11.7	219 49.4	S17 05.6	314 41.1	N22 25.7	289 09.4	N16 26.9	55 20.1	N 2 35.7
O										
N	6	83 14.1	234 50.5	S17 06.5	329 41.9	N22 25.5	304 11.4	N16 26.8	70 22.7	N 2 35.6
D	7	98 16.6	249 51.7	S17 07.3	344 42.7	N22 25.3	319 13.4	N16 26.7	85 25.4	N 2 35.5
A	8	113 19.0	264 52.9	S17 08.1	359 43.6	N22 25.0	334 15.3	N16 26.5	100 28.0	N 2 35.5
Y	9	128 21.5	279 54.0	S17 08.9	14 44.4	N22 24.8	349 17.3	N16 26.4	115 30.6	N 2 35.4
	10	143 24.0	294 55.2	S17 09.7	29 45.2	N22 24.6	4 19.3	N16 26.2	130 33.2	N 2 35.3
	11	158 26.4	309 56.4	S17 10.5	44 46.0	N22 24.4	19 21.2	N16 26.1	145 35.9	N 2 35.2
	12	173 28.9	324 57.6	S17 11.3	59 46.8	N22 24.2	34 23.2	N16 25.9	160 38.5	N 2 35.2
	13	188 31.4	339 58.8	S17 12.1	74 47.7	N22 24.0	49 25.2	N16 25.8	175 41.1	N 2 35.1
	14	203 33.8	354 60.0	S17 12.9	89 48.5	N22 23.8	64 27.2	N16 25.7	190 43.7	N 2 35.0
	15	218 36.3	10 01.1	S17 13.7	104 49.3	N22 23.6	79 29.1	N16 25.5	205 46.3	N 2 35.0
	16	233 38.8	25 02.3	S17 14.5	119 50.1	N22 23.4	94 31.1	N16 25.4	220 49.0	N 2 34.9
	17	248 41.2	40 03.5	S17 15.3	134 51.0	N22 23.2	109 33.1	N16 25.2	235 51.6	N 2 34.8
	18	263 43.7	55 04.7	S17 16.1	149 51.8	N22 23.0	124 35.0	N16 25.1	250 54.2	N 2 34.7
	19	278 46.2	70 05.9	S17 16.9	164 52.6	N22 22.8	139 37.0	N16 24.9	265 56.8	N 2 34.7
	20	293 48.6	85 07.1	S17 17.7	179 53.4	N22 22.6	154 39.0	N16 24.8	280 59.5	N 2 34.6
	21	308 51.1	100 08.3	S17 18.5	194 54.2	N22 22.4	169 40.9	N16 24.6	296 02.1	N 2 34.5
	22	323 53.5	115 09.5	S17 19.3	209 55.1	N22 22.2	184 42.9	N16 24.5	311 04.7	N 2 34.4
	23	338 56.0	130 10.7	S17 20.1	224 55.9	N22 21.9	199 44.9	N16 24.4	326 07.3	N 2 34.4
15	0	353 58.5	145 11.9	S17 20.9	239 56.7	N22 21.7	214 46.8	N16 24.2	341 10.0	N 2 34.3
	1	9 00.9	160 13.1	S17 21.7	254 57.5	N22 21.5	229 48.8	N16 24.1	356 12.6	N 2 34.2
	2	24 03.4	175 14.3	S17 22.5	269 58.4	N22 21.3	244 50.8	N16 23.9	11 15.2	N 2 34.1
	3	39 05.9	190 15.6	S17 23.3	284 59.2	N22 21.1	259 52.8	N16 23.8	26 17.8	N 2 34.1
	4	54 08.3	205 16.8	S17 24.1	300 00.0	N22 20.9	274 54.7	N16 23.6	41 20.5	N 2 34.0
T	5	69 10.8	220 18.0	S17 24.9	315 00.8	N22 20.7	289 56.7	N16 23.5	56 23.1	N 2 33.9
U										
E	6	84 13.3	235 19.2	S17 25.7	330 01.7	N22 20.5	304 58.7	N16 23.3	71 25.7	N 2 33.8
S	7	99 15.7	250 20.4	S17 26.5	345 02.5	N22 20.3	320 00.6	N16 23.2	86 28.3	N 2 33.8
D	8	114 18.2	265 21.7	S17 27.2	0 03.3	N22 20.1	335 02.6	N16 23.1	101 31.0	N 2 33.7
A	9	129 20.6	280 22.9	S17 28.0	15 04.1	N22 19.9	350 04.6	N16 22.9	116 33.6	N 2 33.6
Y	10	144 23.1	295 24.1	S17 28.8	30 05.0	N22 19.6	5 06.5	N16 22.8	131 36.2	N 2 33.6
	11	159 25.6	310 25.3	S17 29.6	45 05.8	N22 19.4	20 08.5	N16 22.6	146 38.8	N 2 33.5
	12	174 28.0	325 26.6	S17 30.4	60 06.6	N22 19.2	35 10.5	N16 22.5	161 41.5	N 2 33.4
	13	189 30.5	340 27.8	S17 31.2	75 07.5	N22 19.0	50 12.5	N16 22.3	176 44.1	N 2 33.3
	14	204 33.0	355 29.0	S17 32.0	90 08.3	N22 18.8	65 14.4	N16 22.2	191 46.7	N 2 33.3
	15	219 35.4	10 30.3	S17 32.7	105 09.1	N22 18.6	80 16.4	N16 22.1	206 49.4	N 2 33.2
	16	234 37.9	25 31.5	S17 33.5	120 09.9	N22 18.4	95 18.4	N16 21.9	221 52.0	N 2 33.1
	17	249 40.4	40 32.8	S17 34.3	135 10.8	N22 18.2	110 20.3	N16 21.8	236 54.6	N 2 33.0
	18	264 42.8	55 34.0	S17 35.1	150 11.6	N22 17.9	125 22.3	N16 21.6	251 57.2	N 2 33.0
	19	279 45.3	70 35.3	S17 35.8	165 12.4	N22 17.7	140 24.3	N16 21.5	266 59.9	N 2 32.9
	20	294 47.8	85 36.5	S17 36.6	180 13.3	N22 17.5	155 26.3	N16 21.3	282 02.5	N 2 32.8
	21	309 50.2	100 37.8	S17 37.4	195 14.1	N22 17.3	170 28.2	N16 21.2	297 05.1	N 2 32.7
	22	324 52.7	115 39.0	S17 38.2	210 14.9	N22 17.1	185 30.2	N16 21.0	312 07.7	N 2 32.7
	23	339 55.1	130 40.3	S17 38.9	225 15.8	N22 16.9	200 32.2	N16 20.9	327 10.4	N 2 32.6
			v 1.2	d 0.8	v 0.8	d 0.2	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
13	0	180 58.4	N 3 52.0	161 05.7	13.8	S 8 37.6	14.9	57.0
	1	195 58.6	N 3 51.1	175 38.4	13.7	S 8 52.4	14.8	56.9
	2	210 58.8	N 3 50.1	190 11.2	13.7	S 9 07.2	14.8	56.9
	3	225 59.1	N 3 49.1	204 43.9	13.7	S 9 21.9	14.7	56.9
	4	240 59.3	N 3 48.2	219 16.6	13.7	S 9 36.6	14.7	56.9
S	5	255 59.5	N 3 47.2	233 49.3	13.7	S 9 51.2	14.6	56.8
U								
N	6	270 59.7	N 3 46.3	248 22.0	13.7	S10 05.7	14.5	56.8
D	7	285 59.9	N 3 45.3	262 54.7	13.7	S10 20.2	14.5	56.8
A	8	301 00.2	N 3 44.4	277 27.4	13.7	S10 34.6	14.4	56.7
Y	9	316 00.4	N 3 43.4	292 00.1	13.7	S10 49.0	14.4	56.7
	10	331 00.6	N 3 42.4	306 32.7	13.6	S11 03.3	14.3	56.7
	11	346 00.8	N 3 41.5	321 05.3	13.6	S11 17.5	14.2	56.7
	12	1 01.1	N 3 40.5	335 37.9	13.6	S11 31.7	14.2	56.6
	13	16 01.3	N 3 39.6	350 10.5	13.6	S11 45.8	14.1	56.6
	14	31 01.5	N 3 38.6	4 43.1	13.6	S11 59.8	14.0	56.6
	15	46 01.7	N 3 37.7	19 15.7	13.6	S12 13.8	14.0	56.5
	16	61 01.9	N 3 36.7	33 48.2	13.5	S12 27.6	13.9	56.5
	17	76 02.2	N 3 35.7	48 20.7	13.5	S12 41.5	13.8	56.5
	18	91 02.4	N 3 34.8	62 53.2	13.5	S12 55.2	13.8	56.5
	19	106 02.6	N 3 33.8	77 25.7	13.5	S13 08.9	13.7	56.4
	20	121 02.8	N 3 32.9	91 58.2	13.5	S13 22.5	13.6	56.4
	21	136 03.1	N 3 31.9	106 30.6	13.4	S13 36.0	13.5	56.4
	22	151 03.3	N 3 31.0	121 03.0	13.4	S13 49.5	13.5	56.3
	23	166 03.5	N 3 30.0	135 35.4	13.4	S14 02.9	13.4	56.3
14	0	181 03.7	N 3 29.0	150 07.7	13.4	S14 16.2	13.3	56.3
	1	196 03.9	N 3 28.1	164 40.0	13.3	S14 29.4	13.2	56.3
	2	211 04.2	N 3 27.1	179 12.3	13.3	S14 42.6	13.1	56.2
	3	226 04.4	N 3 26.2	193 44.6	13.3	S14 55.6	13.1	56.2
	4	241 04.6	N 3 25.2	208 16.9	13.2	S15 08.6	13.0	56.2
M	5	256 04.8	N 3 24.2	222 49.1	13.2	S15 21.5	12.9	56.1
O								
N	6	271 05.0	N 3 23.3	237 21.3	13.2	S15 34.4	12.8	56.1
D	7	286 05.3	N 3 22.3	251 53.4	13.2	S15 47.1	12.7	56.1
A	8	301 05.5	N 3 21.4	266 25.5	13.1	S15 59.8	12.7	56.1
Y	9	316 05.7	N 3 20.4	280 57.6	13.1	S16 12.3	12.6	56.0
	10	331 05.9	N 3 19.4	295 29.7	13.1	S16 24.8	12.5	56.0
	11	346 06.2	N 3 18.5	310 01.7	13.0	S16 37.2	12.4	56.0
	12	1 06.4	N 3 17.5	324 33.7	13.0	S16 49.6	12.3	55.9
	13	16 06.6	N 3 16.6	339 05.7	13.0	S17 01.8	12.2	55.9
	14	31 06.8	N 3 15.6	353 37.6	12.9	S17 13.9	12.1	55.9
	15	46 07.0	N 3 14.6	8 09.5	12.9	S17 26.0	12.0	55.9
	16	61 07.3	N 3 13.7	22 41.3	12.9	S17 37.9	12.0	55.8
	17	76 07.5	N 3 12.7	37 13.2	12.8	S17 49.8	11.9	55.8
	18	91 07.7	N 3 11.8	51 44.9	12.8	S18 01.6	11.8	55.8
	19	106 07.9	N 3 10.8	66 16.7	12.7	S18 13.3	11.7	55.8
	20	121 08.2	N 3 09.8	80 48.4	12.7	S18 24.8	11.6	55.7
	21	136 08.4	N 3 08.9	95 20.1	12.7	S18 36.3	11.5	55.7
	22	151 08.6	N 3 07.9	109 51.7	12.6	S18 47.7	11.4	55.7
	23	166 08.8	N 3 07.0	124 23.3	12.6	S18 59.0	11.3	55.7
15	0	181 09.0	N 3 06.0	138 54.9	12.6	S19 10.2	11.2	55.6
	1	196 09.3	N 3 05.0	153 26.4	12.5	S19 21.4	11.1	55.6
	2	211 09.5	N 3 04.1	167 57.9	12.5	S19 32.4	11.0	55.6
	3	226 09.7	N 3 03.1	182 29.3	12.4	S19 43.3	10.9	55.6
	4	241 09.9	N 3 02.1	197 00.7	12.4	S19 54.1	10.8	55.5
T	5	256 10.2	N 3 01.2	211 32.1	12.4	S20 04.8	10.7	55.5
U								
E	6	271 10.4	N 3 00.2	226 03.4	12.3	S20 15.4	10.6	55.5
S	7	286 10.6	N 2 59.3	240 34.7	12.3	S20 25.9	10.5	55.5
D	8	301 10.8	N 2 58.3	255 05.9	12.2	S20 36.3	10.4	55.4
A	9	316 11.0	N 2 57.3	269 37.1	12.2	S20 46.6	10.3	55.4
Y	10	331 11.3	N 2 56.4	284 08.3	12.2	S20 56.8	10.2	55.4
	11	346 11.5	N 2 55.4	298 39.4	12.1	S21 06.9	10.1	55.4
	12	1 11.7	N 2 54.4	313 10.4	12.1	S21 16.9	10.0	55.3
	13	16 11.9	N 2 53.5	327 41.5	12.0	S21 26.8	9.9	55.3
	14	31 12.2	N 2 52.5	342 12.5	12.0	S21 36.6	9.8	55.3
	15	46 12.4	N 2 51.6	356 43.4	11.9	S21 46.2	9.7	55.3
	16	61 12.6	N 2 50.6	11 14.3	11.9	S21 55.8	9.6	55.2
	17	76 12.8	N 2 49.6	25 45.2	11.9	S22 05.2	9.4	55.2
	18	91 13.1	N 2 48.7	40 16.0	11.8	S22 14.6	9.3	55.2
	19	106 13.3	N 2 47.7	54 46.8	11.8	S22 23.8	9.2	55.2
	20	121 13.5	N 2 46.7	69 17.5	11.7	S22 32.9	9.1	55.2
	21	136 13.7	N 2 45.8	83 48.2	11.7	S22 41.9	9.0	55.1
	22	151 13.9	N 2 44.8	98 18.9	11.7	S22 50.8	8.9	55.1
	23	166 14.2	N 2 43.9	112 49.5	11.6	S22 59.6	8.8	55.1
		S.D. 15.9	d 1.0	S.D.	15.4	15.2	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.4	S40 11.5
Achernar	335 18.6	S57 05.8
Acrux	172 59.3	S63 14.9
Adhara	255 04.9	S29 00.2
Albireo	67 02.8	N28 01.1
Aldebaran	290 38.0	N16 33.9
Alioth	166 12.2	N55 49.0
Alkaid	152 51.3	N49 10.9
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.3	S 1 10.9
Alphard	217 46.6	S 8 46.3
Alphecca	126 02.7	N26 37.6
Alpheratz	357 33.0	N29 14.5
Altair	61 58.4	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.2	S26 29.5
Arcturus	145 46.9	N19 02.7
Atria	107 07.4	S69 04.8
Avior	234 14.6	S59 35.4
Bellatrix	278 21.4	N 6 22.6
Betelgeuse	270 50.6	N 7 24.9
Canopus	263 51.9	S52 42.2
Capella	280 19.8	N46 01.4
Castor	245 55.5	N31 49.8
Deneb	49 24.5	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.6	S17 50.2
Dubhe	193 39.9	N61 36.4
Elnath	278 00.1	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 37.1	N10 00.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.8
Gienah	175 42.5	S17 41.3
Hadar	148 34.6	S60 30.3
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 30.6	S34 22.4
Kochab	137 20.7	N74 02.9
Markab	13 28.2	N15 21.1
Menkar	314 04.5	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.7	S69 49.4
Mirfak	308 26.1	N49 57.3
Nunki	75 45.9	S26 15.8
Peacock	53 03.0	S56 39.1
Polaris	315 42.0	N89 21.8
Pollux	243 15.8	N27 57.7
Procyon	244 49.5	N 5 09.5
Rasalhague	95 57.3	N12 32.6
Regulus	207 33.2	N11 50.3
Rigel	281 02.5	S 8 10.0
Rigil Kent	139 39.0	S60 56.9
Sabik	102 01.2	S15 45.5
Schedar	349 28.9	N56 41.1
Shaula	96 08.5	S37 07.5
Sirius	258 25.1	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.6	S43 32.2
Vega	80 32.2	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
16 0	354 57.6	145 41.5	S17 39.7	240 16.6	N22 16.7	215 34.1	N16 20.8	342 13.0	N 2 32.5
1	10 00.1	160 42.8	S17 40.5	255 17.4	N22 16.5	230 36.1	N16 20.6	357 15.6	N 2 32.4
2	25 02.5	175 44.0	S17 41.3	270 18.2	N22 16.2	245 38.1	N16 20.5	12 18.2	N 2 32.4
3	40 05.0	190 45.3	S17 42.0	285 19.1	N22 16.0	260 40.1	N16 20.3	27 20.9	N 2 32.3
4	55 07.5	205 46.6	S17 42.8	300 19.9	N22 15.8	275 42.0	N16 20.2	42 23.5	N 2 32.2
W 5	70 09.9	220 47.8	S17 43.6	315 20.7	N22 15.6	290 44.0	N16 20.0	57 26.1	N 2 32.1
E									
D 6	85 12.4	235 49.1	S17 44.3	330 21.6	N22 15.4	305 46.0	N16 19.9	72 28.8	N 2 32.1
N 7	100 14.9	250 50.4	S17 45.1	345 22.4	N22 15.2	320 48.0	N16 19.8	87 31.4	N 2 32.0
E 8	115 17.3	265 51.7	S17 45.9	0 23.2	N22 14.9	335 49.9	N16 19.6	102 34.0	N 2 31.9
S 9	130 19.8	280 52.9	S17 46.6	15 24.1	N22 14.7	350 51.9	N16 19.5	117 36.6	N 2 31.9
D 10	145 22.2	295 54.2	S17 47.4	30 24.9	N22 14.5	5 53.9	N16 19.3	132 39.3	N 2 31.8
A 11	160 24.7	310 55.5	S17 48.2	45 25.7	N22 14.3	20 55.8	N16 19.2	147 41.9	N 2 31.7
Y									
12	175 27.2	325 56.8	S17 48.9	60 26.6	N22 14.1	35 57.8	N16 19.0	162 44.5	N 2 31.6
13	190 29.6	340 58.1	S17 49.7	75 27.4	N22 13.9	50 59.8	N16 18.9	177 47.1	N 2 31.6
14	205 32.1	355 59.3	S17 50.4	90 28.2	N22 13.6	66 01.8	N16 18.8	192 49.8	N 2 31.5
15	220 34.6	11 00.6	S17 51.2	105 29.1	N22 13.4	81 03.7	N16 18.6	207 52.4	N 2 31.4
16	235 37.0	26 01.9	S17 51.9	120 29.9	N22 13.2	96 05.7	N16 18.5	222 55.0	N 2 31.3
17	250 39.5	41 03.2	S17 52.7	135 30.7	N22 13.0	111 07.7	N16 18.3	237 57.7	N 2 31.3
18	265 42.0	56 04.5	S17 53.5	150 31.6	N22 12.8	126 09.7	N16 18.2	253 00.3	N 2 31.2
19	280 44.4	71 05.8	S17 54.2	165 32.4	N22 12.6	141 11.6	N16 18.0	268 02.9	N 2 31.1
20	295 46.9	86 07.1	S17 55.0	180 33.3	N22 12.3	156 13.6	N16 17.9	283 05.5	N 2 31.0
21	310 49.4	101 08.4	S17 55.7	195 34.1	N22 12.1	171 15.6	N16 17.7	298 08.2	N 2 31.0
22	325 51.8	116 09.7	S17 56.5	210 34.9	N22 11.9	186 17.6	N16 17.6	313 10.8	N 2 30.9
23	340 54.3	131 11.0	S17 57.2	225 35.8	N22 11.7	201 19.5	N16 17.5	328 13.4	N 2 30.8
17 0	355 56.7	146 12.4	S17 58.0	240 36.6	N22 11.5	216 21.5	N16 17.3	343 16.1	N 2 30.7
1	10 59.2	161 13.7	S17 58.7	255 37.4	N22 11.2	231 23.5	N16 17.2	358 18.7	N 2 30.7
2	26 01.7	176 15.0	S17 59.5	270 38.3	N22 11.0	246 25.5	N16 17.0	13 21.3	N 2 30.6
3	41 04.1	191 16.3	S18 00.2	285 39.1	N22 10.8	261 27.4	N16 16.9	28 23.9	N 2 30.5
4	56 06.6	206 17.6	S18 00.9	300 40.0	N22 10.6	276 29.4	N16 16.7	43 26.6	N 2 30.4
T 5	71 09.1	221 18.9	S18 01.7	315 40.8	N22 10.4	291 31.4	N16 16.6	58 29.2	N 2 30.4
H									
U 6	86 11.5	236 20.3	S18 02.4	330 41.6	N22 10.1	306 33.4	N16 16.5	73 31.8	N 2 30.3
R 7	101 14.0	251 21.6	S18 03.2	345 42.5	N22 09.9	321 35.3	N16 16.3	88 34.5	N 2 30.2
S 8	116 16.5	266 22.9	S18 03.9	0 43.3	N22 09.7	336 37.3	N16 16.2	103 37.1	N 2 30.1
D 9	131 18.9	281 24.3	S18 04.6	15 44.2	N22 09.5	351 39.3	N16 16.0	118 39.7	N 2 30.1
A 10	146 21.4	296 25.6	S18 05.4	30 45.0	N22 09.3	6 41.3	N16 15.9	133 42.3	N 2 30.0
Y 11	161 23.9	311 26.9	S18 06.1	45 45.8	N22 09.0	21 43.2	N16 15.7	148 45.0	N 2 29.9
12	176 26.3	326 28.3	S18 06.9	60 46.7	N22 08.8	36 45.2	N16 15.6	163 47.6	N 2 29.8
13	191 28.8	341 29.6	S18 07.6	75 47.5	N22 08.6	51 47.2	N16 15.5	178 50.2	N 2 29.8
14	206 31.2	356 30.9	S18 08.3	90 48.4	N22 08.4	66 49.2	N16 15.3	193 52.9	N 2 29.7
15	221 33.7	11 32.3	S18 09.1	105 49.2	N22 08.1	81 51.2	N16 15.2	208 55.5	N 2 29.6
16	236 36.2	26 33.6	S18 09.8	120 50.0	N22 07.9	96 53.1	N16 15.0	223 58.1	N 2 29.5
17	251 38.6	41 35.0	S18 10.5	135 50.9	N22 07.7	111 55.1	N16 14.9	239 00.7	N 2 29.5
18	266 41.1	56 36.3	S18 11.3	150 51.7	N22 07.5	126 57.1	N16 14.7	254 03.4	N 2 29.4
19	281 43.6	71 37.7	S18 12.0	165 52.6	N22 07.3	141 59.1	N16 14.6	269 06.0	N 2 29.3
20	296 46.0	86 39.0	S18 12.7	180 53.4	N22 07.0	157 01.0	N16 14.5	284 08.6	N 2 29.2
21	311 48.5	101 40.4	S18 13.4	195 54.3	N22 06.8	172 03.0	N16 14.3	299 11.3	N 2 29.2
22	326 51.0	116 41.8	S18 14.2	210 55.1	N22 06.6	187 05.0	N16 14.2	314 13.9	N 2 29.1
23	341 53.4	131 43.1	S18 14.9	225 55.9	N22 06.4	202 07.0	N16 14.0	329 16.5	N 2 29.0
18 0	356 55.9	146 44.5	S18 15.6	240 56.8	N22 06.1	217 09.0	N16 13.9	344 19.2	N 2 28.9
1	11 58.3	161 45.9	S18 16.3	255 57.6	N22 05.9	232 10.9	N16 13.7	359 21.8	N 2 28.9
2	27 00.8	176 47.2	S18 17.1	270 58.5	N22 05.7	247 12.9	N16 13.6	14 24.4	N 2 28.8
3	42 03.3	191 48.6	S18 17.8	285 59.3	N22 05.5	262 14.9	N16 13.5	29 27.0	N 2 28.7
4	57 05.7	206 50.0	S18 18.5	301 00.2	N22 05.2	277 16.9	N16 13.3	44 29.7	N 2 28.6
F 5	72 08.2	221 51.4	S18 19.2	316 01.0	N22 05.0	292 18.8	N16 13.2	59 32.3	N 2 28.6
R									
I 6	87 10.7	236 52.7	S18 19.9	331 01.9	N22 04.8	307 20.8	N16 13.0	74 34.9	N 2 28.5
D 7	102 13.1	251 54.1	S18 20.6	346 02.7	N22 04.6	322 22.8	N16 12.9	89 37.6	N 2 28.4
A 8	117 15.6	266 55.5	S18 21.4	1 03.5	N22 04.3	337 24.8	N16 12.7	104 40.2	N 2 28.3
Y 9	132 18.1	281 56.9	S18 22.1	16 04.4	N22 04.1	352 26.8	N16 12.6	119 42.8	N 2 28.3
10	147 20.5	296 58.3	S18 22.8	31 05.2	N22 03.9	7 28.7	N16 12.5	134 45.5	N 2 28.2
11	162 23.0	311 59.7	S18 23.5	46 06.1	N22 03.7	22 30.7	N16 12.3	149 48.1	N 2 28.1
12	177 25.5	327 01.1	S18 24.2	61 06.9	N22 03.4	37 32.7	N16 12.2	164 50.7	N 2 28.0
13	192 27.9	342 02.5	S18 24.9	76 07.8	N22 03.2	52 34.7	N16 12.0	179 53.4	N 2 28.0
14	207 30.4	357 03.9	S18 25.6	91 08.6	N22 03.0	67 36.7	N16 11.9	194 56.0	N 2 27.9
15	222 32.8	12 05.3	S18 26.3	106 09.5	N22 02.7	82 38.6	N16 11.8	209 58.6	N 2 27.8
16	237 35.3	27 06.7	S18 27.0	121 10.3	N22 02.5	97 40.6	N16 11.6	225 01.2	N 2 27.7
17	252 37.8	42 08.1	S18 27.7	136 11.2	N22 02.3	112 42.6	N16 11.5	240 03.9	N 2 27.7
18	267 40.2	57 09.5	S18 28.4	151 12.0	N22 02.1	127 44.6	N16 11.3	255 06.5	N 2 27.6
19	282 42.7	72 10.9	S18 29.1	166 12.9	N22 01.8	142 46.6	N16 11.2	270 09.1	N 2 27.5
20	297 45.2	87 12.3	S18 29.8	181 13.7	N22 01.6	157 48.5	N16 11.0	285 11.8	N 2 27.4
21	312 47.6	102 13.7	S18 30.5	196 14.6	N22 01.4	172 50.5	N16 10.9	300 14.4	N 2 27.4
22	327 50.1	117 15.2	S18 31.2	211 15.4	N22 01.1	187 52.5	N16 10.8	315 17.0	N 2 27.3
23	342 52.6	132 16.6	S18 31.9	226 16.3	N22 00.9	202 54.5	N16 10.6	330 19.7	N 2 27.2
		v 1.3	d 0.7	v 0.8	d 0.2	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
16	0	181 14.4	N 2 42.9	127 20.1	11.6	S23 08.3	8.7	55.1
	1	196 14.6	N 2 41.9	141 50.6	11.5	S23 16.8	8.6	55.0
	2	211 14.8	N 2 41.0	156 21.1	11.5	S23 25.2	8.4	55.0
	3	226 15.1	N 2 40.0	170 51.5	11.4	S23 33.6	8.3	55.0
	4	241 15.3	N 2 39.0	185 21.9	11.4	S23 41.8	8.2	55.0
W	5	256 15.5	N 2 38.1	199 52.3	11.4	S23 49.9	8.1	55.0
E								
D	6	271 15.7	N 2 37.1	214 22.6	11.3	S23 57.8	8.0	54.9
N	7	286 15.9	N 2 36.1	228 52.9	11.3	S24 05.7	7.9	54.9
E	8	301 16.2	N 2 35.2	243 23.2	11.2	S24 13.4	7.7	54.9
S	9	316 16.4	N 2 34.2	257 53.4	11.2	S24 21.0	7.6	54.9
D	10	331 16.6	N 2 33.2	272 23.5	11.2	S24 28.5	7.5	54.9
A	11	346 16.8	N 2 32.3	286 53.6	11.1	S24 35.9	7.4	54.9
Y								
	12	1 17.1	N 2 31.3	301 23.7	11.1	S24 43.1	7.3	54.8
	13	16 17.3	N 2 30.4	315 53.8	11.0	S24 50.3	7.1	54.8
	14	31 17.5	N 2 29.4	330 23.8	11.0	S24 57.3	7.0	54.8
	15	46 17.7	N 2 28.4	344 53.7	11.0	S25 04.2	6.9	54.8
	16	61 18.0	N 2 27.5	359 23.7	10.9	S25 10.9	6.8	54.8
	17	76 18.2	N 2 26.5	13 53.6	10.9	S25 17.6	6.6	54.7
	18	91 18.4	N 2 25.5	28 23.4	10.9	S25 24.1	6.5	54.7
	19	106 18.6	N 2 24.6	42 53.2	10.8	S25 30.5	6.4	54.7
	20	121 18.8	N 2 23.6	57 23.0	10.8	S25 36.8	6.3	54.7
	21	136 19.1	N 2 22.6	71 52.8	10.7	S25 42.9	6.1	54.7
	22	151 19.3	N 2 21.7	86 22.5	10.7	S25 48.9	6.0	54.7
	23	166 19.5	N 2 20.7	100 52.2	10.7	S25 54.8	5.9	54.7
17	0	181 19.7	N 2 19.7	115 21.8	10.6	S26 00.6	5.8	54.6
	1	196 20.0	N 2 18.8	129 51.4	10.6	S26 06.2	5.6	54.6
	2	211 20.2	N 2 17.8	144 21.0	10.6	S26 11.7	5.5	54.6
	3	226 20.4	N 2 16.8	158 50.6	10.5	S26 17.1	5.4	54.6
	4	241 20.6	N 2 15.9	173 20.1	10.5	S26 22.4	5.3	54.6
T	5	256 20.9	N 2 14.9	187 49.6	10.5	S26 27.5	5.1	54.6
H								
U	6	271 21.1	N 2 13.9	202 19.0	10.5	S26 32.5	5.0	54.6
R	7	286 21.3	N 2 13.0	216 48.4	10.4	S26 37.4	4.9	54.5
S	8	301 21.5	N 2 12.0	231 17.8	10.4	S26 42.1	4.7	54.5
D	9	316 21.8	N 2 11.0	245 47.2	10.4	S26 46.7	4.6	54.5
A	10	331 22.0	N 2 10.1	260 16.5	10.3	S26 51.2	4.5	54.5
Y	11	346 22.2	N 2 09.1	274 45.9	10.3	S26 55.5	4.3	54.5
	12	1 22.4	N 2 08.1	289 15.1	10.3	S26 59.7	4.2	54.5
	13	16 22.6	N 2 07.2	303 44.4	10.3	S27 03.8	4.1	54.5
	14	31 22.9	N 2 06.2	318 13.6	10.2	S27 07.8	4.0	54.5
	15	46 23.1	N 2 05.2	332 42.9	10.2	S27 11.6	3.8	54.4
	16	61 23.3	N 2 04.3	347 12.1	10.2	S27 15.3	3.7	54.4
	17	76 23.5	N 2 03.3	1 41.2	10.2	S27 18.8	3.6	54.4
	18	91 23.8	N 2 02.3	16 10.4	10.1	S27 22.2	3.4	54.4
	19	106 24.0	N 2 01.4	30 39.5	10.1	S27 25.5	3.3	54.4
	20	121 24.2	N 2 00.4	45 08.6	10.1	S27 28.7	3.2	54.4
	21	136 24.4	N 1 59.4	59 37.7	10.1	S27 31.7	3.0	54.4
	22	151 24.7	N 1 58.5	74 06.8	10.1	S27 34.6	2.9	54.4
	23	166 24.9	N 1 57.5	88 35.8	10.1	S27 37.3	2.8	54.4
18	0	181 25.1	N 1 56.5	103 04.9	10.0	S27 40.0	2.6	54.4
	1	196 25.3	N 1 55.6	117 33.9	10.0	S27 42.4	2.5	54.3
	2	211 25.5	N 1 54.6	132 02.9	10.0	S27 44.8	2.3	54.3
	3	226 25.8	N 1 53.6	146 31.9	10.0	S27 47.0	2.2	54.3
	4	241 26.0	N 1 52.7	161 00.9	10.0	S27 49.1	2.1	54.3
F	5	256 26.2	N 1 51.7	175 29.9	10.0	S27 51.0	1.9	54.3
R								
I	6	271 26.4	N 1 50.7	189 58.8	10.0	S27 52.8	1.8	54.3
D	7	286 26.7	N 1 49.8	204 27.8	10.0	S27 54.5	1.7	54.3
A	8	301 26.9	N 1 48.8	218 56.7	9.9	S27 56.0	1.5	54.3
Y	9	316 27.1	N 1 47.8	233 25.7	9.9	S27 57.4	1.4	54.3
	10	331 27.3	N 1 46.9	247 54.6	9.9	S27 58.7	1.3	54.3
	11	346 27.6	N 1 45.9	262 23.5	9.9	S27 59.8	1.1	54.3
	12	1 27.8	N 1 44.9	276 52.4	9.9	S28 00.8	1.0	54.3
	13	16 28.0	N 1 44.0	291 21.4	9.9	S28 01.7	0.9	54.3
	14	31 28.2	N 1 43.0	305 50.3	9.9	S28 02.4	0.7	54.3
	15	46 28.4	N 1 42.0	320 19.2	9.9	S28 03.0	0.6	54.3
	16	61 28.7	N 1 41.1	334 48.1	9.9	S28 03.4	0.4	54.3
	17	76 28.9	N 1 40.1	349 17.0	9.9	S28 03.7	0.3	54.3
	18	91 29.1	N 1 39.1	3 45.9	9.9	S28 03.9	0.2	54.3
	19	106 29.3	N 1 38.1	18 14.9	9.9	S28 04.0	0.0	54.3
	20	121 29.6	N 1 37.2	32 43.8	9.9	S28 03.9	0.1	54.3
	21	136 29.8	N 1 36.2	47 12.7	9.9	S28 03.6	0.2	54.3
	22	151 30.0	N 1 35.2	61 41.6	9.9	S28 03.3	0.4	54.2
	23	166 30.2	N 1 34.3	76 10.6	9.9	S28 02.8	0.5	54.2
		S.D. 15.9	d 1.0	S.D.	14.9	14.8	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.4	S40 11.5
Achernar	335 18.6	S57 05.8
Acrux	172 59.3	S63 14.8
Adhara	255 04.9	S29 00.2
Albireo	67 02.8	N28 01.2
Aldebaran	290 37.9	N16 33.9
Alioth	166 12.2	N55 49.0
Alkaid	152 51.3	N49 10.9
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.3	S 1 10.9
Alphard	217 46.6	S 8 46.3
Alphecca	126 02.7	N26 37.6
Alpheratz	357 33.0	N29 14.5
Altair	61 58.4	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.2	S26 29.5
Arcturus	145 46.9	N19 02.7
Atria	107 07.4	S69 04.8
Avior	234 14.6	S59 35.4
Bellatrix	278 21.4	N 6 22.6
Betelgeuse	270 50.6	N 7 24.9
Canopus	263 51.9	S52 42.2
Capella	280 19.8	N46 01.4
Castor	245 55.4	N31 49.8
Deneb	49 24.5	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.6	S17 50.2
Dubhe	193 39.9	N61 36.4
Elnath	278 00.1	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 37.1	N10 00.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.8
Gienah	175 42.5	S17 41.3
Hadar	148 34.6	S60 30.3
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 30.6	S34 22.4
Kochab	137 20.7	N74 02.9
Markab	13 28.2	N15 21.1
Menkar	314 04.5	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.7	S69 49.4
Mirfak	308 26.0	N49 57.3
Nunki	75 45.9	S26 15.8
Peacock	53 03.1	S56 39.1
Polaris	315 40.9	N89 21.8
Pollux	243 15.8	N27 57.7
Procyon	244 49.5	N 5 09.5
Rasalhague	95 57.3	N12 32.6
Regulus	207 33.2	N11 50.3
Rigel	281 02.5	S 8 10.0
Rigil Kent	139 39.0	S60 56.9
Sabik	102 01.2	S15 45.5
Schedar	349 28.9	N56 41.1
Shaula	96 08.5	S37 07.5
Sirius	258 25.1	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.6	S43 32.2
Vega	80 32.2	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
19	0	357 55.0	147 18.0	S18 32.6	241 17.1	N22 00.7	217 56.5	N16 10.5	345 22.3	N 2 27.1
	1	12 57.5	162 19.4	S18 33.3	256 18.0	N22 00.5	232 58.4	N16 10.3	0 24.9	N 2 27.1
	2	27 60.0	177 20.9	S18 34.0	271 18.8	N22 00.2	248 00.4	N16 10.2	15 27.6	N 2 27.0
	3	43 02.4	192 22.3	S18 34.7	286 19.7	N21 60.0	263 02.4	N16 10.0	30 30.2	N 2 26.9
	4	58 04.9	207 23.7	S18 35.4	301 20.5	N21 59.8	278 04.4	N16 09.9	45 32.8	N 2 26.8
S	5	73 07.3	222 25.2	S18 36.1	316 21.4	N21 59.5	293 06.4	N16 09.8	60 35.5	N 2 26.8
A										
T	6	88 09.8	237 26.6	S18 36.8	331 22.2	N21 59.3	308 08.4	N16 09.6	75 38.1	N 2 26.7
U	7	103 12.3	252 28.1	S18 37.5	346 23.1	N21 59.1	323 10.3	N16 09.5	90 40.7	N 2 26.6
R	8	118 14.7	267 29.5	S18 38.2	1 23.9	N21 58.8	338 12.3	N16 09.3	105 43.4	N 2 26.5
D	9	133 17.2	282 30.9	S18 38.9	16 24.8	N21 58.6	353 14.3	N16 09.2	120 46.0	N 2 26.5
A	10	148 19.7	297 32.4	S18 39.5	31 25.6	N21 58.4	8 16.3	N16 09.0	135 48.6	N 2 26.4
Y	11	163 22.1	312 33.8	S18 40.2	46 26.5	N21 58.1	23 18.3	N16 08.9	150 51.3	N 2 26.3
	12	178 24.6	327 35.3	S18 40.9	61 27.4	N21 57.9	38 20.2	N16 08.8	165 53.9	N 2 26.2
	13	193 27.1	342 36.8	S18 41.6	76 28.2	N21 57.7	53 22.2	N16 08.6	180 56.5	N 2 26.1
	14	208 29.5	357 38.2	S18 42.3	91 29.1	N21 57.4	68 24.2	N16 08.5	195 59.2	N 2 26.1
	15	223 32.0	12 39.7	S18 43.0	106 29.9	N21 57.2	83 26.2	N16 08.3	211 01.8	N 2 26.0
	16	238 34.5	27 41.1	S18 43.6	121 30.8	N21 57.0	98 28.2	N16 08.2	226 04.4	N 2 25.9
	17	253 36.9	42 42.6	S18 44.3	136 31.6	N21 56.7	113 30.2	N16 08.1	241 07.1	N 2 25.8
	18	268 39.4	57 44.1	S18 45.0	151 32.5	N21 56.5	128 32.1	N16 07.9	256 09.7	N 2 25.8
	19	283 41.8	72 45.6	S18 45.7	166 33.3	N21 56.3	143 34.1	N16 07.8	271 12.3	N 2 25.7
	20	298 44.3	87 47.0	S18 46.3	181 34.2	N21 56.0	158 36.1	N16 07.6	286 14.9	N 2 25.6
	21	313 46.8	102 48.5	S18 47.0	196 35.1	N21 55.8	173 38.1	N16 07.5	301 17.6	N 2 25.5
	22	328 49.2	117 50.0	S18 47.7	211 35.9	N21 55.6	188 40.1	N16 07.3	316 20.2	N 2 25.5
	23	343 51.7	132 51.5	S18 48.4	226 36.8	N21 55.3	203 42.1	N16 07.2	331 22.8	N 2 25.4
20	0	358 54.2	147 53.0	S18 49.0	241 37.6	N21 55.1	218 44.0	N16 07.1	346 25.5	N 2 25.3
	1	13 56.6	162 54.4	S18 49.7	256 38.5	N21 54.9	233 46.0	N16 06.9	1 28.1	N 2 25.2
	2	28 59.1	177 55.9	S18 50.4	271 39.3	N21 54.6	248 48.0	N16 06.8	16 30.7	N 2 25.2
	3	44 01.6	192 57.4	S18 51.0	286 40.2	N21 54.4	263 50.0	N16 06.6	31 33.4	N 2 25.1
	4	59 04.0	207 58.9	S18 51.7	301 41.1	N21 54.2	278 52.0	N16 06.5	46 36.0	N 2 25.0
S	5	74 06.5	223 00.4	S18 52.4	316 41.9	N21 53.9	293 54.0	N16 06.4	61 38.7	N 2 24.9
U										
N	6	89 09.0	238 01.9	S18 53.0	331 42.8	N21 53.7	308 56.0	N16 06.2	76 41.3	N 2 24.9
D	7	104 11.4	253 03.4	S18 53.7	346 43.6	N21 53.5	323 57.9	N16 06.1	91 43.9	N 2 24.8
A	8	119 13.9	268 04.9	S18 54.3	1 44.5	N21 53.2	338 59.9	N16 05.9	106 46.6	N 2 24.7
Y	9	134 16.3	283 06.4	S18 55.0	16 45.4	N21 53.0	354 01.9	N16 05.8	121 49.2	N 2 24.6
	10	149 18.8	298 07.9	S18 55.7	31 46.2	N21 52.7	9 03.9	N16 05.6	136 51.8	N 2 24.6
	11	164 21.3	313 09.5	S18 56.3	46 47.1	N21 52.5	24 05.9	N16 05.5	151 54.5	N 2 24.5
	12	179 23.7	328 11.0	S18 57.0	61 47.9	N21 52.3	39 07.9	N16 05.4	166 57.1	N 2 24.4
	13	194 26.2	343 12.5	S18 57.6	76 48.8	N21 52.0	54 09.9	N16 05.2	181 59.7	N 2 24.3
	14	209 28.7	358 14.0	S18 58.3	91 49.7	N21 51.8	69 11.8	N16 05.1	197 02.4	N 2 24.3
	15	224 31.1	13 15.5	S18 58.9	106 50.5	N21 51.6	84 13.8	N16 04.9	212 05.0	N 2 24.2
	16	239 33.6	28 17.1	S18 59.6	121 51.4	N21 51.3	99 15.8	N16 04.8	227 07.6	N 2 24.1
	17	254 36.1	43 18.6	S19 00.2	136 52.2	N21 51.1	114 17.8	N16 04.7	242 10.3	N 2 24.0
	18	269 38.5	58 20.1	S19 00.9	151 53.1	N21 50.8	129 19.8	N16 04.5	257 12.9	N 2 23.9
	19	284 41.0	73 21.7	S19 01.5	166 54.0	N21 50.6	144 21.8	N16 04.4	272 15.5	N 2 23.9
	20	299 43.4	88 23.2	S19 02.2	181 54.8	N21 50.4	159 23.8	N16 04.2	287 18.2	N 2 23.8
	21	314 45.9	103 24.7	S19 02.8	196 55.7	N21 50.1	174 25.7	N16 04.1	302 20.8	N 2 23.7
	22	329 48.4	118 26.3	S19 03.5	211 56.6	N21 49.9	189 27.7	N16 03.9	317 23.4	N 2 23.6
	23	344 50.8	133 27.8	S19 04.1	226 57.4	N21 49.6	204 29.7	N16 03.8	332 26.1	N 2 23.6
21	0	359 53.3	148 29.4	S19 04.8	241 58.3	N21 49.4	219 31.7	N16 03.7	347 28.7	N 2 23.5
	1	14 55.8	163 30.9	S19 05.4	256 59.2	N21 49.2	234 33.7	N16 03.5	2 31.3	N 2 23.4
	2	29 58.2	178 32.5	S19 06.0	272 00.0	N21 48.9	249 35.7	N16 03.4	17 34.0	N 2 23.3
	3	45 00.7	193 34.0	S19 06.7	287 00.9	N21 48.7	264 37.7	N16 03.2	32 36.6	N 2 23.3
	4	60 03.2	208 35.6	S19 07.3	302 01.7	N21 48.4	279 39.7	N16 03.1	47 39.2	N 2 23.2
M	5	75 05.6	223 37.2	S19 07.9	317 02.6	N21 48.2	294 41.6	N16 03.0	62 41.9	N 2 23.1
O										
N	6	90 08.1	238 38.7	S19 08.6	332 03.5	N21 48.0	309 43.6	N16 02.8	77 44.5	N 2 23.0
D	7	105 10.6	253 40.3	S19 09.2	347 04.3	N21 47.7	324 45.6	N16 02.7	92 47.1	N 2 23.0
A	8	120 13.0	268 41.9	S19 09.8	2 05.2	N21 47.5	339 47.6	N16 02.5	107 49.8	N 2 22.9
Y	9	135 15.5	283 43.4	S19 10.5	17 06.1	N21 47.2	354 49.6	N16 02.4	122 52.4	N 2 22.8
	10	150 17.9	298 45.0	S19 11.1	32 06.9	N21 47.0	9 51.6	N16 02.3	137 55.0	N 2 22.7
	11	165 20.4	313 46.6	S19 11.7	47 07.8	N21 46.8	24 53.6	N16 02.1	152 57.7	N 2 22.6
	12	180 22.9	328 48.2	S19 12.4	62 08.7	N21 46.5	39 55.6	N16 02.0	168 00.3	N 2 22.6
	13	195 25.3	343 49.8	S19 13.0	77 09.6	N21 46.3	54 57.6	N16 01.8	183 03.0	N 2 22.5
	14	210 27.8	358 51.4	S19 13.6	92 10.4	N21 46.0	69 59.5	N16 01.7	198 05.6	N 2 22.4
	15	225 30.3	13 52.9	S19 14.2	107 11.3	N21 45.8	85 01.5	N16 01.6	213 08.2	N 2 22.3
	16	240 32.7	28 54.5	S19 14.9	122 12.2	N21 45.5	100 03.5	N16 01.4	228 10.9	N 2 22.3
	17	255 35.2	43 56.1	S19 15.5	137 13.0	N21 45.3	115 05.5	N16 01.3	243 13.5	N 2 22.2
	18	270 37.7	58 57.7	S19 16.1	152 13.9	N21 45.1	130 07.5	N16 01.1	258 16.1	N 2 22.1
	19	285 40.1	73 59.3	S19 16.7	167 14.8	N21 44.8	145 09.5	N16 01.0	273 18.8	N 2 22.0
	20	300 42.6	89 00.9	S19 17.3	182 15.6	N21 44.6	160 11.5	N16 00.8	288 21.4	N 2 22.0
	21	315 45.1	104 02.5	S19 17.9	197 16.5	N21 44.3	175 13.5	N16 00.7	303 24.0	N 2 21.9
	22	330 47.5	119 04.1	S19 18.6	212 17.4	N21 44.1	190 15.5	N16 00.6	318 26.7	N 2 21.8
	23	345 50.0	134 05.8	S19 19.2	227 18.2	N21 43.8	205 17.4	N16 00.4	333 29.3	N 2 21.7
			v 1.5	d 0.7	v 0.9	d 0.2	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
19	0	181 30.5	N 1 33.3	90 39.5	9.9	S28 02.1	0.6	54.2
	1	196 30.7	N 1 32.3	105 08.5	10.0	S28 01.4	0.8	54.2
	2	211 30.9	N 1 31.4	119 37.4	10.0	S28 00.5	0.9	54.2
	3	226 31.1	N 1 30.4	134 06.4	10.0	S27 59.4	1.0	54.2
	4	241 31.3	N 1 29.4	148 35.4	10.0	S27 58.2	1.2	54.2
S	5	256 31.6	N 1 28.5	163 04.4	10.0	S27 56.9	1.3	54.2
A								
T	6	271 31.8	N 1 27.5	177 33.4	10.0	S27 55.5	1.4	54.2
U	7	286 32.0	N 1 26.5	192 02.4	10.0	S27 53.9	1.6	54.2
R	8	301 32.2	N 1 25.6	206 31.4	10.0	S27 52.2	1.7	54.2
D	9	316 32.5	N 1 24.6	221 00.5	10.1	S27 50.3	1.9	54.3
A	10	331 32.7	N 1 23.6	235 29.6	10.1	S27 48.3	2.0	54.3
Y	11	346 32.9	N 1 22.6	249 58.7	10.1	S27 46.2	2.1	54.3
	12	1 33.1	N 1 21.7	264 27.8	10.1	S27 44.0	2.3	54.3
	13	16 33.4	N 1 20.7	278 56.9	10.1	S27 41.6	2.4	54.3
	14	31 33.6	N 1 19.7	293 26.0	10.1	S27 39.0	2.5	54.3
	15	46 33.8	N 1 18.8	307 55.2	10.2	S27 36.4	2.7	54.3
	16	61 34.0	N 1 17.8	322 24.4	10.2	S27 33.6	2.8	54.3
	17	76 34.2	N 1 16.8	336 53.6	10.2	S27 30.7	2.9	54.3
	18	91 34.5	N 1 15.9	351 22.9	10.2	S27 27.6	3.1	54.3
	19	106 34.7	N 1 14.9	5 52.1	10.3	S27 24.5	3.2	54.3
	20	121 34.9	N 1 13.9	20 21.4	10.3	S27 21.1	3.3	54.3
	21	136 35.1	N 1 12.9	34 50.7	10.3	S27 17.7	3.4	54.3
	22	151 35.4	N 1 12.0	49 20.1	10.3	S27 14.1	3.6	54.3
	23	166 35.6	N 1 11.0	63 49.4	10.4	S27 10.4	3.7	54.3
20	0	181 35.8	N 1 10.0	78 18.8	10.4	S27 06.6	3.8	54.3
	1	196 36.0	N 1 09.1	92 48.3	10.4	S27 02.6	4.0	54.3
	2	211 36.3	N 1 08.1	107 17.7	10.5	S26 58.5	4.1	54.3
	3	226 36.5	N 1 07.1	121 47.2	10.5	S26 54.3	4.2	54.3
	4	241 36.7	N 1 06.2	136 16.7	10.5	S26 49.9	4.4	54.3
S	5	256 36.9	N 1 05.2	150 46.3	10.6	S26 45.4	4.5	54.3
U								
N	6	271 37.1	N 1 04.2	165 15.9	10.6	S26 40.8	4.6	54.4
D	7	286 37.4	N 1 03.2	179 45.5	10.6	S26 36.1	4.7	54.4
A	8	301 37.6	N 1 02.3	194 15.2	10.7	S26 31.2	4.9	54.4
Y	9	316 37.8	N 1 01.3	208 44.8	10.7	S26 26.2	5.0	54.4
	10	331 38.0	N 1 00.3	223 14.6	10.7	S26 21.1	5.1	54.4
	11	346 38.3	N 0 59.4	237 44.3	10.8	S26 15.9	5.2	54.4
	12	1 38.5	N 0 58.4	252 14.1	10.8	S26 10.5	5.4	54.4
	13	16 38.7	N 0 57.4	266 44.0	10.8	S26 05.0	5.5	54.4
	14	31 38.9	N 0 56.4	281 13.8	10.9	S25 59.4	5.6	54.4
	15	46 39.1	N 0 55.5	295 43.8	10.9	S25 53.6	5.7	54.4
	16	61 39.4	N 0 54.5	310 13.7	11.0	S25 47.8	5.9	54.4
	17	76 39.6	N 0 53.5	324 43.7	11.0	S25 41.8	6.0	54.5
	18	91 39.8	N 0 52.6	339 13.7	11.0	S25 35.7	6.1	54.5
	19	106 40.0	N 0 51.6	353 43.8	11.1	S25 29.4	6.2	54.5
	20	121 40.3	N 0 50.6	8 13.9	11.1	S25 23.1	6.4	54.5
	21	136 40.5	N 0 49.7	22 44.1	11.2	S25 16.6	6.5	54.5
	22	151 40.7	N 0 48.7	37 14.3	11.2	S25 10.0	6.6	54.5
	23	166 40.9	N 0 47.7	51 44.5	11.2	S25 03.3	6.7	54.5
21	0	181 41.1	N 0 46.7	66 14.8	11.3	S24 56.5	6.8	54.5
	1	196 41.4	N 0 45.8	80 45.1	11.3	S24 49.5	7.0	54.6
	2	211 41.6	N 0 44.8	95 15.5	11.4	S24 42.4	7.1	54.6
	3	226 41.8	N 0 43.8	109 45.9	11.4	S24 35.2	7.2	54.6
	4	241 42.0	N 0 42.9	124 16.3	11.5	S24 27.9	7.3	54.6
M	5	256 42.3	N 0 41.9	138 46.8	11.5	S24 20.5	7.4	54.6
O								
N	6	271 42.5	N 0 40.9	153 17.4	11.5	S24 13.0	7.5	54.6
D	7	286 42.7	N 0 39.9	167 47.9	11.6	S24 05.3	7.7	54.6
A	8	301 42.9	N 0 39.0	182 18.6	11.6	S23 57.5	7.8	54.7
Y	9	316 43.1	N 0 38.0	196 49.2	11.7	S23 49.7	7.9	54.7
	10	331 43.4	N 0 37.0	211 19.9	11.7	S23 41.7	8.0	54.7
	11	346 43.6	N 0 36.1	225 50.7	11.8	S23 33.6	8.1	54.7
	12	1 43.8	N 0 35.1	240 21.5	11.8	S23 25.3	8.2	54.7
	13	16 44.0	N 0 34.1	254 52.4	11.9	S23 17.0	8.3	54.7
	14	31 44.3	N 0 33.1	269 23.3	11.9	S23 08.6	8.4	54.8
	15	46 44.5	N 0 32.2	283 54.2	11.9	S22 60.0	8.6	54.8
	16	61 44.7	N 0 31.2	298 25.2	12.0	S22 51.3	8.7	54.8
	17	76 44.9	N 0 30.2	312 56.2	12.0	S22 42.6	8.8	54.8
	18	91 45.1	N 0 29.2	327 27.3	12.1	S22 33.7	8.9	54.8
	19	106 45.4	N 0 28.3	341 58.4	12.1	S22 24.7	9.0	54.8
	20	121 45.6	N 0 27.3	356 29.6	12.2	S22 15.6	9.1	54.9
	21	136 45.8	N 0 26.3	11 00.8	12.2	S22 06.4	9.2	54.9
	22	151 46.0	N 0 25.4	25 32.1	12.3	S21 57.1	9.3	54.9
	23	166 46.2	N 0 24.4	40 03.4	12.3	S21 47.7	9.4	54.9
		S.D. 15.9	d 1.0	S.D. 14.8		14.8		14.9

STARS Name	SHA	Dec
Acamar	315 10.4	S40 11.5
Achernar	335 18.6	S57 05.8
Acrux	172 59.3	S63 14.8
Adhara	255 04.9	S29 00.2
Albireo	67 02.8	N28 01.2
Aldebaran	290 37.9	N16 33.9
Alioth	166 12.2	N55 49.0
Alkaid	152 51.3	N49 10.9
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.3	S 1 10.9
Alphard	217 46.6	S 8 46.3
Alphecca	126 02.7	N26 37.6
Alpheratz	357 33.0	N29 14.5
Altair	61 58.4	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.7
Atria	107 07.4	S69 04.8
Avior	234 14.5	S59 35.4
Bellatrix	278 21.3	N 6 22.6
Betelgeuse	270 50.6	N 7 24.9
Canopus	263 51.8	S52 42.2
Capella	280 19.8	N46 01.4
Castor	245 55.4	N31 49.8
Deneb	49 24.5	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.6	S17 50.2
Dubhe	193 39.9	N61 36.3
Elnath	278 00.1	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 37.1	N10 00.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.8
Gienah	175 42.5	S17 41.3
Hadar	148 34.6	S60 30.3
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 30.6	S34 22.4
Kochab	137 20.8	N74 02.9
Markab	13 28.2	N15 21.1
Menkar	314 04.4	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.6	S69 49.4
Mirfak	308 26.0	N49 57.3
Nunki	75 45.9	S26 15.8
Peacock	53 03.1	S56 39.1
Polaris	315 39.9	N89 21.8
Pollux	243 15.7	N27 57.7
Procyon	244 49.5	N 5 09.5
Rasalhague	95 57.3	N12 32.6
Regulus	207 33.2	N11 50.3
Rigel	281 02.5	S 8 10.0
Rigil Kent	139 39.0	S60 56.9
Sabik	102 01.2	S15 45.5
Schedar	349 28.9	N56 41.1
Shaula	96 08.5	S37 07.5
Sirius	258 25.1	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.6	S43 32.2
Vega	80 32.2	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
22	0	0 52.4	149 07.4	S19 19.8	242 19.1	N21 43.6	220 19.4	N16 00.3	348 31.9	N 2 21.7
	1	15 54.9	164 09.0	S19 20.4	257 20.0	N21 43.3	235 21.4	N16 00.1	3 34.6	N 2 21.6
	2	30 57.4	179 10.6	S19 21.0	272 20.9	N21 43.1	250 23.4	N16 00.0	18 37.2	N 2 21.5
	3	45 59.8	194 12.2	S19 21.6	287 21.7	N21 42.9	265 25.4	N15 59.9	33 39.9	N 2 21.4
	4	61 02.3	209 13.9	S19 22.2	302 22.6	N21 42.6	280 27.4	N15 59.7	48 42.5	N 2 21.3
T	5	76 04.8	224 15.5	S19 22.8	317 23.5	N21 42.4	295 29.4	N15 59.6	63 45.1	N 2 21.3
U										
E	6	91 07.2	239 17.1	S19 23.4	332 24.4	N21 42.1	310 31.4	N15 59.4	78 47.8	N 2 21.2
S	7	106 09.7	254 18.8	S19 24.0	347 25.2	N21 41.9	325 33.4	N15 59.3	93 50.4	N 2 21.1
D	8	121 12.2	269 20.4	S19 24.6	2 26.1	N21 41.6	340 35.4	N15 59.2	108 53.0	N 2 21.0
A	9	136 14.6	284 22.0	S19 25.2	17 27.0	N21 41.4	355 37.4	N15 59.0	123 55.7	N 2 21.0
Y	10	151 17.1	299 23.7	S19 25.8	32 27.8	N21 41.1	10 39.3	N15 58.9	138 58.3	N 2 20.9
	11	166 19.5	314 25.3	S19 26.4	47 28.7	N21 40.9	25 41.3	N15 58.7	154 00.9	N 2 20.8
	12	181 22.0	329 27.0	S19 27.0	62 29.6	N21 40.6	40 43.3	N15 58.6	169 03.6	N 2 20.7
	13	196 24.5	344 28.6	S19 27.6	77 30.5	N21 40.4	55 45.3	N15 58.5	184 06.2	N 2 20.7
	14	211 26.9	359 30.3	S19 28.2	92 31.3	N21 40.1	70 47.3	N15 58.3	199 08.9	N 2 20.6
	15	226 29.4	14 31.9	S19 28.8	107 32.2	N21 39.9	85 49.3	N15 58.2	214 11.5	N 2 20.5
	16	241 31.9	29 33.6	S19 29.4	122 33.1	N21 39.7	100 51.3	N15 58.0	229 14.1	N 2 20.4
	17	256 34.3	44 35.3	S19 30.0	137 34.0	N21 39.4	115 53.3	N15 57.9	244 16.8	N 2 20.3
	18	271 36.8	59 36.9	S19 30.6	152 34.8	N21 39.2	130 55.3	N15 57.8	259 19.4	N 2 20.3
	19	286 39.3	74 38.6	S19 31.2	167 35.7	N21 38.9	145 57.3	N15 57.6	274 22.0	N 2 20.2
	20	301 41.7	89 40.3	S19 31.7	182 36.6	N21 38.7	160 59.3	N15 57.5	289 24.7	N 2 20.1
	21	316 44.2	104 41.9	S19 32.3	197 37.5	N21 38.4	176 01.3	N15 57.3	304 27.3	N 2 20.0
	22	331 46.7	119 43.6	S19 32.9	212 38.4	N21 38.2	191 03.3	N15 57.2	319 30.0	N 2 20.0
	23	346 49.1	134 45.3	S19 33.5	227 39.2	N21 37.9	206 05.3	N15 57.1	334 32.6	N 2 19.9
23	0	1 51.6	149 47.0	S19 34.1	242 40.1	N21 37.7	221 07.2	N15 56.9	349 35.2	N 2 19.8
	1	16 54.0	164 48.7	S19 34.7	257 41.0	N21 37.4	236 09.2	N15 56.8	4 37.9	N 2 19.7
	2	31 56.5	179 50.4	S19 35.2	272 41.9	N21 37.2	251 11.2	N15 56.6	19 40.5	N 2 19.7
	3	46 59.0	194 52.0	S19 35.8	287 42.7	N21 36.9	266 13.2	N15 56.5	34 43.1	N 2 19.6
	4	62 01.4	209 53.7	S19 36.4	302 43.6	N21 36.7	281 15.2	N15 56.4	49 45.8	N 2 19.5
W	5	77 03.9	224 55.4	S19 37.0	317 44.5	N21 36.4	296 17.2	N15 56.2	64 48.4	N 2 19.4
E										
D	6	92 06.4	239 57.1	S19 37.5	332 45.4	N21 36.2	311 19.2	N15 56.1	79 51.1	N 2 19.4
N	7	107 08.8	254 58.8	S19 38.1	347 46.3	N21 35.9	326 21.2	N15 55.9	94 53.7	N 2 19.3
E	8	122 11.3	270 00.6	S19 38.7	2 47.1	N21 35.7	341 23.2	N15 55.8	109 56.3	N 2 19.2
S	9	137 13.8	285 02.3	S19 39.3	17 48.0	N21 35.4	356 25.2	N15 55.7	124 59.0	N 2 19.1
D	10	152 16.2	300 04.0	S19 39.8	32 48.9	N21 35.2	11 27.2	N15 55.5	140 01.6	N 2 19.0
A	11	167 18.7	315 05.7	S19 40.4	47 49.8	N21 34.9	26 29.2	N15 55.4	155 04.2	N 2 19.0
Y										
	12	182 21.2	330 07.4	S19 41.0	62 50.7	N21 34.7	41 31.2	N15 55.2	170 06.9	N 2 18.9
	13	197 23.6	345 09.1	S19 41.5	77 51.6	N21 34.4	56 33.2	N15 55.1	185 09.5	N 2 18.8
	14	212 26.1	0 10.9	S19 42.1	92 52.4	N21 34.2	71 35.2	N15 55.0	200 12.2	N 2 18.7
	15	227 28.5	15 12.6	S19 42.6	107 53.3	N21 33.9	86 37.2	N15 54.8	215 14.8	N 2 18.7
	16	242 31.0	30 14.3	S19 43.2	122 54.2	N21 33.6	101 39.2	N15 54.7	230 17.4	N 2 18.6
	17	257 33.5	45 16.0	S19 43.8	137 55.1	N21 33.4	116 41.2	N15 54.5	245 20.1	N 2 18.5
	18	272 35.9	60 17.8	S19 44.3	152 56.0	N21 33.1	131 43.2	N15 54.4	260 22.7	N 2 18.4
	19	287 38.4	75 19.5	S19 44.9	167 56.9	N21 32.9	146 45.1	N15 54.3	275 25.3	N 2 18.3
	20	302 40.9	90 21.3	S19 45.4	182 57.7	N21 32.6	161 47.1	N15 54.1	290 28.0	N 2 18.3
	21	317 43.3	105 23.0	S19 46.0	197 58.6	N21 32.4	176 49.1	N15 54.0	305 30.6	N 2 18.2
	22	332 45.8	120 24.8	S19 46.5	212 59.5	N21 32.1	191 51.1	N15 53.8	320 33.3	N 2 18.1
	23	347 48.3	135 26.5	S19 47.1	228 00.4	N21 31.9	206 53.1	N15 53.7	335 35.9	N 2 18.0
24	0	2 50.7	150 28.3	S19 47.6	243 01.3	N21 31.6	221 55.1	N15 53.6	350 38.5	N 2 18.0
	1	17 53.2	165 30.0	S19 48.2	258 02.2	N21 31.4	236 57.1	N15 53.4	5 41.2	N 2 17.9
	2	32 55.6	180 31.8	S19 48.7	273 03.0	N21 31.1	251 59.1	N15 53.3	20 43.8	N 2 17.8
	3	47 58.1	195 33.5	S19 49.3	288 03.9	N21 30.9	267 01.1	N15 53.1	35 46.4	N 2 17.7
	4	63 00.6	210 35.3	S19 49.8	303 04.8	N21 30.6	282 03.1	N15 53.0	50 49.1	N 2 17.7
T	5	78 03.0	225 37.1	S19 50.3	318 05.7	N21 30.3	297 05.1	N15 52.9	65 51.7	N 2 17.6
H										
U	6	93 05.5	240 38.9	S19 50.9	333 06.6	N21 30.1	312 07.1	N15 52.7	80 54.4	N 2 17.5
R	7	108 08.0	255 40.6	S19 51.4	348 07.5	N21 29.8	327 09.1	N15 52.6	95 57.0	N 2 17.4
S	8	123 10.4	270 42.4	S19 52.0	3 08.4	N21 29.6	342 11.1	N15 52.4	110 59.6	N 2 17.3
D	9	138 12.9	285 44.2	S19 52.5	18 09.3	N21 29.3	357 13.1	N15 52.3	126 02.3	N 2 17.3
A	10	153 15.4	300 46.0	S19 53.0	33 10.1	N21 29.1	12 15.1	N15 52.2	141 04.9	N 2 17.2
Y	11	168 17.8	315 47.8	S19 53.6	48 11.0	N21 28.8	27 17.1	N15 52.0	156 07.6	N 2 17.1
	12	183 20.3	330 49.6	S19 54.1	63 11.9	N21 28.6	42 19.1	N15 51.9	171 10.2	N 2 17.0
	13	198 22.8	345 51.4	S19 54.6	78 12.8	N21 28.3	57 21.1	N15 51.7	186 12.8	N 2 17.0
	14	213 25.2	0 53.2	S19 55.2	93 13.7	N21 28.0	72 23.1	N15 51.6	201 15.5	N 2 16.9
	15	228 27.7	15 55.0	S19 55.7	108 14.6	N21 27.8	87 25.1	N15 51.5	216 18.1	N 2 16.8
	16	243 30.1	30 56.8	S19 56.2	123 15.5	N21 27.5	102 27.1	N15 51.3	231 20.8	N 2 16.7
	17	258 32.6	45 58.6	S19 56.7	138 16.4	N21 27.3	117 29.1	N15 51.2	246 23.4	N 2 16.7
	18	273 35.1	61 00.4	S19 57.3	153 17.3	N21 27.0	132 31.1	N15 51.1	261 26.0	N 2 16.6
	19	288 37.5	76 02.2	S19 57.8	168 18.1	N21 26.8	147 33.1	N15 50.9	276 28.7	N 2 16.5
	20	303 40.0	91 04.0	S19 58.3	183 19.0	N21 26.5	162 35.1	N15 50.8	291 31.3	N 2 16.4
	21	318 42.5	106 05.8	S19 58.8	198 19.9	N21 26.2	177 37.1	N15 50.6	306 34.0	N 2 16.3
	22	333 44.9	121 07.6	S19 59.3	213 20.8	N21 26.0	192 39.1	N15 50.5	321 36.6	N 2 16.3
	23	348 47.4	136 09.5	S19 59.9	228 21.7	N21 25.7	207 41.1	N15 50.4	336 39.2	N 2 16.2
			v 1.7	d 0.6	v 0.9	d 0.3	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
22	0	181 46.5	N 0 23.4	54 34.7	12.3	S21 38.1	9.5	54.9
	1	196 46.7	N 0 22.4	69 06.1	12.4	S21 28.5	9.6	55.0
	2	211 46.9	N 0 21.5	83 37.5	12.4	S21 18.8	9.7	55.0
	3	226 47.1	N 0 20.5	98 09.0	12.5	S21 09.0	9.8	55.0
	4	241 47.4	N 0 19.5	112 40.5	12.5	S20 59.0	9.9	55.0
T	5	256 47.6	N 0 18.6	127 12.1	12.6	S20 49.0	10.0	55.0
U								
E	6	271 47.8	N 0 17.6	141 43.7	12.6	S20 38.9	10.1	55.0
S	7	286 48.0	N 0 16.6	156 15.4	12.7	S20 28.7	10.2	55.1
D	8	301 48.2	N 0 15.6	170 47.1	12.7	S20 18.3	10.3	55.1
A	9	316 48.5	N 0 14.7	185 18.8	12.7	S20 07.9	10.4	55.1
Y	10	331 48.7	N 0 13.7	199 50.6	12.8	S19 57.4	10.5	55.1
	11	346 48.9	N 0 12.7	214 22.4	12.8	S19 46.8	10.6	55.2
	12	1 49.1	N 0 11.8	228 54.3	12.9	S19 36.0	10.7	55.2
	13	16 49.3	N 0 10.8	243 26.2	12.9	S19 25.2	10.8	55.2
	14	31 49.6	N 0 09.8	257 58.2	13.0	S19 14.3	10.9	55.2
	15	46 49.8	N 0 08.8	272 30.2	13.0	S19 03.3	11.0	55.2
	16	61 50.0	N 0 07.9	287 02.2	13.0	S18 52.2	11.1	55.3
	17	76 50.2	N 0 06.9	301 34.3	13.1	S18 41.1	11.2	55.3
	18	91 50.4	N 0 05.9	316 06.4	13.1	S18 29.8	11.3	55.3
	19	106 50.7	N 0 04.9	330 38.5	13.2	S18 18.4	11.4	55.3
	20	121 50.9	N 0 04.0	345 10.7	13.2	S18 07.0	11.5	55.4
	21	136 51.1	N 0 03.0	359 43.0	13.2	S17 55.4	11.5	55.4
	22	151 51.3	N 0 02.0	14 15.2	13.3	S17 43.8	11.6	55.4
	23	166 51.6	N 0 01.1	28 47.5	13.3	S17 32.1	11.7	55.4
23	0	181 51.8	N 0 00.1	43 19.9	13.3	S17 20.3	11.8	55.4
	1	196 52.0	S 0 00.9	57 52.3	13.4	S17 08.4	11.9	55.5
	2	211 52.2	S 0 01.9	72 24.7	13.4	S16 56.4	12.0	55.5
	3	226 52.4	S 0 02.8	86 57.1	13.5	S16 44.3	12.1	55.5
	4	241 52.7	S 0 03.8	101 29.6	13.5	S16 32.2	12.1	55.5
W	5	256 52.9	S 0 04.8	116 02.2	13.5	S16 20.0	12.2	55.6
E								
D	6	271 53.1	S 0 05.8	130 34.7	13.6	S16 07.7	12.3	55.6
N	7	286 53.3	S 0 06.7	145 07.3	13.6	S15 55.3	12.4	55.6
E	8	301 53.5	S 0 07.7	159 39.9	13.6	S15 42.8	12.5	55.6
S	9	316 53.8	S 0 08.7	174 12.6	13.7	S15 30.2	12.5	55.7
D	10	331 54.0	S 0 09.6	188 45.3	13.7	S15 17.6	12.6	55.7
A	11	346 54.2	S 0 10.6	203 18.0	13.7	S15 04.9	12.7	55.7
Y								
	12	1 54.4	S 0 11.6	217 50.7	13.7	S14 52.1	12.8	55.7
	13	16 54.6	S 0 12.6	232 23.5	13.8	S14 39.3	12.9	55.8
	14	31 54.9	S 0 13.5	246 56.3	13.8	S14 26.3	12.9	55.8
	15	46 55.1	S 0 14.5	261 29.1	13.8	S14 13.3	13.0	55.8
	16	61 55.3	S 0 15.5	276 02.0	13.9	S14 00.2	13.1	55.8
	17	76 55.5	S 0 16.5	290 34.9	13.9	S13 47.1	13.2	55.9
	18	91 55.7	S 0 17.4	305 07.8	13.9	S13 33.9	13.2	55.9
	19	106 56.0	S 0 18.4	319 40.7	13.9	S13 20.6	13.3	55.9
	20	121 56.2	S 0 19.4	334 13.7	14.0	S13 07.2	13.4	55.9
	21	136 56.4	S 0 20.3	348 46.7	14.0	S12 53.8	13.4	56.0
	22	151 56.6	S 0 21.3	3 19.7	14.0	S12 40.2	13.5	56.0
	23	166 56.8	S 0 22.3	17 52.7	14.0	S12 26.7	13.6	56.0
24	0	181 57.0	S 0 23.3	32 25.8	14.1	S12 13.0	13.6	56.0
	1	196 57.3	S 0 24.2	46 58.9	14.1	S11 59.3	13.7	56.1
	2	211 57.5	S 0 25.2	61 32.0	14.1	S11 45.6	13.8	56.1
	3	226 57.7	S 0 26.2	76 05.1	14.1	S11 31.7	13.8	56.1
	4	241 57.9	S 0 27.2	90 38.2	14.1	S11 17.8	13.9	56.2
T	5	256 58.1	S 0 28.1	105 11.3	14.1	S11 03.9	14.0	56.2
H								
U	6	271 58.4	S 0 29.1	119 44.5	14.2	S10 49.8	14.0	56.2
R	7	286 58.6	S 0 30.1	134 17.7	14.2	S10 35.8	14.1	56.2
S	8	301 58.8	S 0 31.0	148 50.9	14.2	S10 21.6	14.1	56.3
D	9	316 59.0	S 0 32.0	163 24.1	14.2	S10 07.4	14.2	56.3
A	10	331 59.2	S 0 33.0	177 57.3	14.2	S 9 53.2	14.3	56.3
Y	11	346 59.5	S 0 34.0	192 30.5	14.2	S 9 38.8	14.3	56.3
	12	1 59.7	S 0 34.9	207 03.8	14.2	S 9 24.5	14.4	56.4
	13	16 59.9	S 0 35.9	221 37.0	14.3	S 9 10.1	14.4	56.4
	14	32 00.1	S 0 36.9	236 10.3	14.3	S 8 55.6	14.5	56.4
	15	47 00.3	S 0 37.9	250 43.6	14.3	S 8 41.0	14.5	56.5
	16	62 00.5	S 0 38.8	265 16.8	14.3	S 8 26.5	14.6	56.5
	17	77 00.8	S 0 39.8	279 50.1	14.3	S 8 11.8	14.6	56.5
	18	92 01.0	S 0 40.8	294 23.4	14.3	S 7 57.1	14.7	56.5
	19	107 01.2	S 0 41.8	308 56.7	14.3	S 7 42.4	14.7	56.6
	20	122 01.4	S 0 42.7	323 30.0	14.3	S 7 27.6	14.8	56.6
	21	137 01.6	S 0 43.7	338 03.3	14.3	S 7 12.8	14.8	56.6
	22	152 01.9	S 0 44.7	352 36.6	14.3	S 6 57.9	14.9	56.6
	23	167 02.1	S 0 45.6	7 09.9	14.3	S 6 43.0	14.9	56.7
		S.D. 15.9	d 1.0	S.D. 15.0	15.2	15.4		

STARS Name	SHA	Dec
Acamar	315 10.4	S40 11.5
Achernar	335 18.6	S57 05.8
Acrux	172 59.3	S63 14.8
Adhara	255 04.8	S29 00.2
Albireo	67 02.8	N28 01.2
Aldebaran	290 37.9	N16 33.9
Alioth	166 12.2	N55 49.0
Alkaid	152 51.3	N49 10.9
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.2	S 1 10.9
Alphard	217 46.6	S 8 46.3
Alphecca	126 02.7	N26 37.6
Alpheratz	357 33.0	N29 14.5
Altair	61 58.4	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.7
Atria	107 07.5	S69 04.8
Avior	234 14.5	S59 35.4
Bellatrix	278 21.3	N 6 22.6
Betelgeuse	270 50.5	N 7 24.9
Canopus	263 51.8	S52 42.2
Capella	280 19.7	N46 01.4
Castor	245 55.4	N31 49.8
Deneb	49 24.6	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.6	S17 50.2
Dubhe	193 39.8	N61 36.3
Elnath	278 00.1	N28 37.8
Eltanin	90 41.6	N51 29.3
Enif	33 37.1	N10 00.0
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.8
Gienah	175 42.5	S17 41.3
Hadar	148 34.7	S60 30.2
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 30.6	S34 22.4
Kochab	137 20.8	N74 02.9
Markab	13 28.2	N15 21.1
Menkar	314 04.4	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.6	S69 49.4
Mirfak	308 26.0	N49 57.3
Nunki	75 45.9	S26 15.8
Peacock	53 03.1	S56 39.1
Polaris	315 39.1	N89 21.9
Pollux	243 15.7	N27 57.7
Procyon	244 49.5	N 5 09.5
Rasalhague	95 57.3	N12 32.6
Regulus	207 33.2	N11 50.3
Rigel	281 02.4	S 8 10.0
Rigil Kent	139 39.0	S60 56.9
Sabik	102 01.3	S15 45.5
Schedar	349 28.9	N56 41.1
Shaula	96 08.5	S37 07.5
Sirius	258 25.1	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.6	S43 32.2
Vega	80 32.2	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
25 0	3 49.9	151 11.3	S20 00.4	243 22.6	N21 25.5	222 43.1	N15 50.2	351 41.9	N 2 16.1
1	18 52.3	166 13.1	S20 00.9	258 23.5	N21 25.2	237 45.1	N15 50.1	6 44.5	N 2 16.0
2	33 54.8	181 15.0	S20 01.4	273 24.4	N21 25.0	252 47.1	N15 49.9	21 47.1	N 2 16.0
3	48 57.3	196 16.8	S20 01.9	288 25.3	N21 24.7	267 49.1	N15 49.8	36 49.8	N 2 15.9
4	63 59.7	211 18.6	S20 02.4	303 26.2	N21 24.4	282 51.1	N15 49.7	51 52.4	N 2 15.8
F 5	79 02.2	226 20.5	S20 02.9	318 27.1	N21 24.2	297 53.1	N15 49.5	66 55.1	N 2 15.7
R									
I 6	94 04.6	241 22.3	S20 03.4	333 28.0	N21 23.9	312 55.1	N15 49.4	81 57.7	N 2 15.6
D 7	109 07.1	256 24.2	S20 03.9	348 28.9	N21 23.7	327 57.1	N15 49.2	97 00.3	N 2 15.6
A 8	124 09.6	271 26.0	S20 04.4	3 29.7	N21 23.4	342 59.1	N15 49.1	112 03.0	N 2 15.5
Y 9	139 12.0	286 27.9	S20 05.0	18 30.6	N21 23.1	358 01.1	N15 49.0	127 05.6	N 2 15.4
10	154 14.5	301 29.8	S20 05.5	33 31.5	N21 22.9	13 03.1	N15 48.8	142 08.3	N 2 15.3
11	169 17.0	316 31.6	S20 06.0	48 32.4	N21 22.6	28 05.1	N15 48.7	157 10.9	N 2 15.3
12	184 19.4	331 33.5	S20 06.4	63 33.3	N21 22.4	43 07.1	N15 48.6	172 13.5	N 2 15.2
13	199 21.9	346 35.4	S20 06.9	78 34.2	N21 22.1	58 09.1	N15 48.4	187 16.2	N 2 15.1
14	214 24.4	1 37.2	S20 07.4	93 35.1	N21 21.8	73 11.1	N15 48.3	202 18.8	N 2 15.0
15	229 26.8	16 39.1	S20 07.9	108 36.0	N21 21.6	88 13.1	N15 48.1	217 21.5	N 2 14.9
16	244 29.3	31 41.0	S20 08.4	123 36.9	N21 21.3	103 15.1	N15 48.0	232 24.1	N 2 14.9
17	259 31.7	46 42.9	S20 08.9	138 37.8	N21 21.0	118 17.1	N15 47.9	247 26.7	N 2 14.8
18	274 34.2	61 44.8	S20 09.4	153 38.7	N21 20.8	133 19.1	N15 47.7	262 29.4	N 2 14.7
19	289 36.7	76 46.6	S20 09.9	168 39.6	N21 20.5	148 21.1	N15 47.6	277 32.0	N 2 14.6
20	304 39.1	91 48.5	S20 10.4	183 40.5	N21 20.3	163 23.1	N15 47.4	292 34.7	N 2 14.6
21	319 41.6	106 50.4	S20 10.9	198 41.4	N21 20.0	178 25.1	N15 47.3	307 37.3	N 2 14.5
22	334 44.1	121 52.3	S20 11.3	213 42.3	N21 19.7	193 27.1	N15 47.2	322 39.9	N 2 14.4
23	349 46.5	136 54.2	S20 11.8	228 43.2	N21 19.5	208 29.1	N15 47.0	337 42.6	N 2 14.3
26 0	4 49.0	151 56.1	S20 12.3	243 44.1	N21 19.2	223 31.1	N15 46.9	352 45.2	N 2 14.2
1	19 51.5	166 58.0	S20 12.8	258 45.0	N21 18.9	238 33.1	N15 46.8	7 47.9	N 2 14.2
2	34 53.9	181 60.0	S20 13.3	273 45.9	N21 18.7	253 35.1	N15 46.6	22 50.5	N 2 14.1
3	49 56.4	197 01.9	S20 13.7	288 46.8	N21 18.4	268 37.1	N15 46.5	37 53.1	N 2 14.0
4	64 58.9	212 03.8	S20 14.2	303 47.7	N21 18.2	283 39.1	N15 46.3	52 55.8	N 2 13.9
S 5	80 01.3	227 05.7	S20 14.7	318 48.6	N21 17.9	298 41.2	N15 46.2	67 58.4	N 2 13.9
A									
T 6	95 03.8	242 07.6	S20 15.2	333 49.5	N21 17.6	313 43.2	N15 46.1	83 01.1	N 2 13.8
U 7	110 06.2	257 09.6	S20 15.6	348 50.4	N21 17.4	328 45.2	N15 45.9	98 03.7	N 2 13.7
R 8	125 08.7	272 11.5	S20 16.1	3 51.3	N21 17.1	343 47.2	N15 45.8	113 06.3	N 2 13.6
D 9	140 11.2	287 13.4	S20 16.6	18 52.2	N21 16.8	358 49.2	N15 45.7	128 09.0	N 2 13.6
A 10	155 13.6	302 15.4	S20 17.0	33 53.1	N21 16.6	13 51.2	N15 45.5	143 11.6	N 2 13.5
Y 11	170 16.1	317 17.3	S20 17.5	48 54.0	N21 16.3	28 53.2	N15 45.4	158 14.3	N 2 13.4
12	185 18.6	332 19.3	S20 18.0	63 54.9	N21 16.0	43 55.2	N15 45.2	173 16.9	N 2 13.3
13	200 21.0	347 21.2	S20 18.4	78 55.8	N21 15.8	58 57.2	N15 45.1	188 19.6	N 2 13.2
14	215 23.5	2 23.2	S20 18.9	93 56.7	N21 15.5	73 59.2	N15 45.0	203 22.2	N 2 13.2
15	230 26.0	17 25.1	S20 19.3	108 57.6	N21 15.2	89 01.2	N15 44.8	218 24.8	N 2 13.1
16	245 28.4	32 27.1	S20 19.8	123 58.5	N21 15.0	104 03.2	N15 44.7	233 27.5	N 2 13.0
17	260 30.9	47 29.0	S20 20.2	138 59.4	N21 14.7	119 05.2	N15 44.6	248 30.1	N 2 12.9
18	275 33.3	62 31.0	S20 20.7	154 00.3	N21 14.4	134 07.2	N15 44.4	263 32.8	N 2 12.9
19	290 35.8	77 33.0	S20 21.1	169 01.2	N21 14.2	149 09.2	N15 44.3	278 35.4	N 2 12.8
20	305 38.3	92 34.9	S20 21.6	184 02.1	N21 13.9	164 11.2	N15 44.1	293 38.0	N 2 12.7
21	320 40.7	107 36.9	S20 22.0	199 03.0	N21 13.6	179 13.2	N15 44.0	308 40.7	N 2 12.6
22	335 43.2	122 38.9	S20 22.5	214 03.9	N21 13.4	194 15.2	N15 43.9	323 43.3	N 2 12.5
23	350 45.7	137 40.9	S20 22.9	229 04.9	N21 13.1	209 17.3	N15 43.7	338 46.0	N 2 12.5
27 0	5 48.1	152 42.8	S20 23.4	244 05.8	N21 12.8	224 19.3	N15 43.6	353 48.6	N 2 12.4
1	20 50.6	167 44.8	S20 23.8	259 06.7	N21 12.6	239 21.3	N15 43.5	8 51.2	N 2 12.3
2	35 53.1	182 46.8	S20 24.3	274 07.6	N21 12.3	254 23.3	N15 43.3	23 53.9	N 2 12.2
3	50 55.5	197 48.8	S20 24.7	289 08.5	N21 12.0	269 25.3	N15 43.2	38 56.5	N 2 12.2
4	65 58.0	212 50.8	S20 25.1	304 09.4	N21 11.8	284 27.3	N15 43.0	53 59.2	N 2 12.1
S 5	81 00.5	227 52.8	S20 25.6	319 10.3	N21 11.5	299 29.3	N15 42.9	69 01.8	N 2 12.0
U									
N 6	96 02.9	242 54.8	S20 26.0	334 11.2	N21 11.2	314 31.3	N15 42.8	84 04.5	N 2 11.9
D 7	111 05.4	257 56.8	S20 26.4	349 12.1	N21 11.0	329 33.3	N15 42.6	99 07.1	N 2 11.8
A 8	126 07.8	272 58.8	S20 26.9	4 13.0	N21 10.7	344 35.3	N15 42.5	114 09.7	N 2 11.8
Y 9	141 10.3	288 00.9	S20 27.3	19 13.9	N21 10.4	359 37.3	N15 42.4	129 12.4	N 2 11.7
10	156 12.8	303 02.9	S20 27.7	34 14.8	N21 10.2	14 39.3	N15 42.2	144 15.0	N 2 11.6
11	171 15.2	318 04.9	S20 28.2	49 15.7	N21 09.9	29 41.3	N15 42.1	159 17.7	N 2 11.5
12	186 17.7	333 06.9	S20 28.6	64 16.7	N21 09.6	44 43.4	N15 41.9	174 20.3	N 2 11.5
13	201 20.2	348 08.9	S20 29.0	79 17.6	N21 09.4	59 45.4	N15 41.8	189 22.9	N 2 11.4
14	216 22.6	3 11.0	S20 29.4	94 18.5	N21 09.1	74 47.4	N15 41.7	204 25.6	N 2 11.3
15	231 25.1	18 13.0	S20 29.8	109 19.4	N21 08.8	89 49.4	N15 41.5	219 28.2	N 2 11.2
16	246 27.6	33 15.1	S20 30.3	124 20.3	N21 08.5	104 51.4	N15 41.4	234 30.9	N 2 11.1
17	261 30.0	48 17.1	S20 30.7	139 21.2	N21 08.3	119 53.4	N15 41.3	249 33.5	N 2 11.1
18	276 32.5	63 19.1	S20 31.1	154 22.1	N21 08.0	134 55.4	N15 41.1	264 36.2	N 2 11.0
19	291 34.9	78 21.2	S20 31.5	169 23.0	N21 07.7	149 57.4	N15 41.0	279 38.8	N 2 10.9
20	306 37.4	93 23.2	S20 31.9	184 23.9	N21 07.5	164 59.4	N15 40.8	294 41.4	N 2 10.8
21	321 39.9	108 25.3	S20 32.3	199 24.9	N21 07.2	180 01.4	N15 40.7	309 44.1	N 2 10.8
22	336 42.3	123 27.4	S20 32.7	214 25.8	N21 06.9	195 03.4	N15 40.6	324 46.7	N 2 10.7
23	351 44.8	138 29.4	S20 33.1	229 26.7	N21 06.6	210 05.5	N15 40.4	339 49.4	N 2 10.6
		v 1.9	d 0.5	v 0.9	d 0.3	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
25 0	182 02.3	S 0 46.6	21 43.2	14.3	S 6 28.1	15.0	56.7	Acamar	315 10.3	S40 11.5
1	197 02.5	S 0 47.6	36 16.5	14.3	S 6 13.0	15.0	56.7	Achernar	335 18.5	S57 05.8
2	212 02.7	S 0 48.6	50 49.8	14.3	S 5 58.0	15.0	56.8	Acrux	172 59.3	S63 14.8
3	227 02.9	S 0 49.5	65 23.1	14.3	S 5 42.9	15.1	56.8	Adhara	255 04.8	S29 00.2
4	242 03.2	S 0 50.5	79 56.4	14.3	S 5 27.8	15.1	56.8	Albireo	67 02.8	N28 01.2
F 5	257 03.4	S 0 51.5	94 29.7	14.3	S 5 12.6	15.2	56.8			
R								Aldebaran	290 37.9	N16 33.9
I 6	272 03.6	S 0 52.5	109 03.0	14.3	S 4 57.4	15.2	56.9	Alioth	166 12.2	N55 49.0
D 7	287 03.8	S 0 53.4	123 36.3	14.3	S 4 42.2	15.2	56.9	Alkaid	152 51.3	N49 10.9
A 8	302 04.0	S 0 54.4	138 09.5	14.3	S 4 26.9	15.3	56.9	Al Na-ir	27 30.7	S46 49.9
Y 9	317 04.2	S 0 55.4	152 42.8	14.3	S 4 11.6	15.3	56.9	Alnilam	275 36.2	S 1 10.9
10	332 04.5	S 0 56.3	167 16.0	14.2	S 3 56.2	15.3	57.0			
11	347 04.7	S 0 57.3	181 49.3	14.2	S 3 40.9	15.4	57.0	Alphard	217 46.6	S 8 46.3
								Alphecca	126 02.8	N26 37.6
12	2 04.9	S 0 58.3	196 22.5	14.2	S 3 25.5	15.4	57.0	Alpheratz	357 33.0	N29 14.5
13	17 05.1	S 0 59.3	210 55.7	14.2	S 3 10.0	15.4	57.1	Altair	61 58.4	N 8 56.5
14	32 05.3	S 1 00.2	225 28.9	14.2	S 2 54.6	15.5	57.1	Ankaa	353 05.3	S42 09.5
15	47 05.5	S 1 01.2	240 02.1	14.2	S 2 39.1	15.5	57.1			
16	62 05.8	S 1 02.2	254 35.2	14.2	S 2 23.5	15.5	57.1	Antares	112 14.3	S26 29.5
17	77 06.0	S 1 03.2	269 08.4	14.1	S 2 08.0	15.5	57.2	Arcturus	145 46.9	N19 02.7
								Atria	107 07.5	S69 04.8
18	92 06.2	S 1 04.1	283 41.5	14.1	S 1 52.4	15.6	57.2	Avior	234 14.5	S59 35.4
19	107 06.4	S 1 05.1	298 14.6	14.1	S 1 36.8	15.6	57.2	Bellatrix	278 21.3	N 6 22.6
20	122 06.6	S 1 06.1	312 47.7	14.1	S 1 21.2	15.6	57.2			
21	137 06.8	S 1 07.1	327 20.7	14.1	S 1 05.6	15.6	57.3	Betelgeuse	270 50.5	N 7 24.9
22	152 07.1	S 1 08.0	341 53.8	14.0	S 0 49.9	15.7	57.3	Canopus	263 51.8	S52 42.2
23	167 07.3	S 1 09.0	356 26.8	14.0	S 0 34.3	15.7	57.3	Capella	280 19.7	N46 01.4
26 0	182 07.5	S 1 10.0	10 59.8	14.0	S 0 18.6	15.7	57.4	Castor	245 55.4	N31 49.8
1	197 07.7	S 1 10.9	25 32.7	14.0	S 0 02.9	15.7	57.4	Deneb	49 24.6	N45 22.8
2	212 07.9	S 1 11.9	40 05.7	13.9	N 0 12.9	15.7	57.4			
3	227 08.1	S 1 12.9	54 38.6	13.9	N 0 28.6	15.7	57.4	Denebola	182 23.8	N14 25.4
4	242 08.4	S 1 13.9	69 11.4	13.9	N 0 44.3	15.7	57.5	Diphda	348 45.6	S17 50.2
S 5	257 08.6	S 1 14.8	83 44.3	13.8	N 1 00.1	15.8	57.5	Dubhe	193 39.8	N61 36.3
A								Elnath	278 00.0	N28 37.8
T 6	272 08.8	S 1 15.8	98 17.1	13.8	N 1 15.9	15.8	57.5	Eltanin	90 41.6	N51 29.3
U 7	287 09.0	S 1 16.8	112 49.9	13.8	N 1 31.7	15.8	57.5			
R 8	302 09.2	S 1 17.8	127 22.6	13.7	N 1 47.4	15.8	57.6	Enif	33 37.1	N10 00.0
D 9	317 09.4	S 1 18.7	141 55.3	13.7	N 2 03.2	15.8	57.6	Fomalhaut	15 12.6	S29 28.7
A 10	332 09.7	S 1 19.7	156 28.0	13.7	N 2 19.0	15.8	57.6	Gacrux	171 50.7	S57 15.8
Y 11	347 09.9	S 1 20.7	171 00.6	13.6	N 2 34.8	15.8	57.6	Gienah	175 42.5	S17 41.3
								Hadar	148 34.7	S60 30.2
12	2 10.1	S 1 21.6	185 33.2	13.6	N 2 50.6	15.8	57.7			
13	17 10.3	S 1 22.6	200 05.8	13.6	N 3 06.4	15.8	57.7	Hamal	327 49.3	N23 35.5
14	32 10.5	S 1 23.6	214 38.3	13.5	N 3 22.2	15.8	57.7	Kaus Austr.	83 30.6	S34 22.4
15	47 10.7	S 1 24.6	229 10.7	13.5	N 3 38.0	15.8	57.7	Kochab	137 20.8	N74 02.9
16	62 10.9	S 1 25.5	243 43.2	13.4	N 3 53.8	15.8	57.8	Markab	13 28.2	N15 21.1
17	77 11.2	S 1 26.5	258 15.5	13.4	N 4 09.6	15.8	57.8	Menkar	314 04.4	N 4 11.9
								Menkent	147 56.3	S36 30.2
18	92 11.4	S 1 27.5	272 47.9	13.3	N 4 25.4	15.8	57.8	Miaplacidus	221 38.6	S69 49.3
19	107 11.6	S 1 28.5	287 20.1	13.3	N 4 41.2	15.8	57.8	Mirfak	308 26.0	N49 57.3
20	122 11.8	S 1 29.4	301 52.4	13.2	N 4 57.0	15.8	57.9	Nunki	75 45.9	S26 15.8
21	137 12.0	S 1 30.4	316 24.6	13.2	N 5 12.7	15.8	57.9	Peacock	53 03.1	S56 39.1
22	152 12.2	S 1 31.4	330 56.7	13.1	N 5 28.5	15.8	57.9			
23	167 12.4	S 1 32.4	345 28.8	13.1	N 5 44.2	15.7	57.9	Polaris	315 38.4	N89 21.9
27 0	182 12.7	S 1 33.3	0 00.8	13.0	N 5 59.9	15.7	58.0	Pollux	243 15.7	N27 57.7
1	197 12.9	S 1 34.3	14 32.8	13.0	N 6 15.7	15.7	58.0	Procyon	244 49.5	N 5 09.5
2	212 13.1	S 1 35.3	29 04.7	12.9	N 6 31.3	15.7	58.0	Rasalhague	95 57.3	N12 32.6
3	227 13.3	S 1 36.2	43 36.6	12.9	N 6 47.0	15.7	58.0	Regulus	207 33.2	N11 50.3
4	242 13.5	S 1 37.2	58 08.4	12.8	N 7 02.7	15.7	58.1			
S 5	257 13.7	S 1 38.2	72 40.1	12.7	N 7 18.3	15.6	58.1	Rigel	281 02.4	S 8 10.0
U								Rigil Kent	139 39.1	S60 56.9
N 6	272 13.9	S 1 39.2	87 11.8	12.7	N 7 33.9	15.6	58.1	Sabik	102 01.3	S15 45.5
D 7	287 14.2	S 1 40.1	101 43.5	12.6	N 7 49.5	15.6	58.1	Schedar	349 28.9	N56 41.1
A 8	302 14.4	S 1 41.1	116 15.0	12.6	N 8 05.1	15.6	58.2	Shaula	96 08.5	S37 07.5
Y 9	317 14.6	S 1 42.1	130 46.5	12.5	N 8 20.6	15.5	58.2	Sirius	258 25.0	S16 44.9
10	332 14.8	S 1 43.0	145 18.0	12.4	N 8 36.1	15.5	58.2	Spica	158 21.1	S11 18.0
11	347 15.0	S 1 44.0	159 49.3	12.4	N 8 51.6	15.5	58.2	Suhail	222 45.6	S43 32.2
								Vega	80 32.2	N38 48.7
12	2 15.2	S 1 45.0	174 20.7	12.3	N 9 07.0	15.4	58.2	Zuben-ubi	136 55.6	S16 09.2
13	17 15.4	S 1 46.0	188 51.9	12.2	N 9 22.4	15.4	58.3			
14	32 15.6	S 1 46.9	203 23.1	12.2	N 9 37.8	15.4	58.3			
15	47 15.9	S 1 47.9	217 54.2	12.1	N 9 53.1	15.3	58.3			
16	62 16.1	S 1 48.9	232 25.2	12.0	N10 08.4	15.3	58.3			
17	77 16.3	S 1 49.9	246 56.2	12.0	N10 23.7	15.3	58.3			
18	92 16.5	S 1 50.8	261 27.0	11.9	N10 38.9	15.2	58.4			
19	107 16.7	S 1 51.8	275 57.9	11.8	N10 54.1	15.2	58.4			
20	122 16.9	S 1 52.8	290 28.6	11.7	N11 09.2	15.1	58.4			
21	137 17.1	S 1 53.7	304 59.3	11.7	N11 24.3	15.1	58.4			
22	152 17.3	S 1 54.7	319 29.8	11.6	N11 39.3	15.0	58.4			
23	167 17.6	S 1 55.7	334 00.3	11.5	N11 54.3	15.0	58.5			
	S.D. 16.0	d 1.0	S.D.	15.5	15.7	15.9				

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
28	0	6 47.3	153 31.5	S20 33.6	244 27.6	N21 06.4	225 07.5	N15 40.3	354 52.0	N 2 10.5
	1	21 49.7	168 33.5	S20 34.0	259 28.5	N21 06.1	240 09.5	N15 40.2	9 54.6	N 2 10.4
	2	36 52.2	183 35.6	S20 34.4	274 29.4	N21 05.8	255 11.5	N15 40.0	24 57.3	N 2 10.4
	3	51 54.7	198 37.7	S20 34.8	289 30.3	N21 05.6	270 13.5	N15 39.9	39 59.9	N 2 10.3
	4	66 57.1	213 39.8	S20 35.2	304 31.3	N21 05.3	285 15.5	N15 39.7	55 02.6	N 2 10.2
M	5	81 59.6	228 41.9	S20 35.6	319 32.2	N21 05.0	300 17.5	N15 39.6	70 05.2	N 2 10.1
O										
N	6	97 02.1	243 43.9	S20 36.0	334 33.1	N21 04.7	315 19.5	N15 39.5	85 07.9	N 2 10.1
D	7	112 04.5	258 46.0	S20 36.3	349 34.0	N21 04.5	330 21.5	N15 39.3	100 10.5	N 2 10.0
A	8	127 07.0	273 48.1	S20 36.7	4 34.9	N21 04.2	345 23.6	N15 39.2	115 13.1	N 2 09.9
Y	9	142 09.4	288 50.2	S20 37.1	19 35.8	N21 03.9	0 25.6	N15 39.1	130 15.8	N 2 09.8
	10	157 11.9	303 52.3	S20 37.5	34 36.7	N21 03.6	15 27.6	N15 38.9	145 18.4	N 2 09.7
	11	172 14.4	318 54.4	S20 37.9	49 37.7	N21 03.4	30 29.6	N15 38.8	160 21.1	N 2 09.7
	12	187 16.8	333 56.5	S20 38.3	64 38.6	N21 03.1	45 31.6	N15 38.7	175 23.7	N 2 09.6
	13	202 19.3	348 58.6	S20 38.7	79 39.5	N21 02.8	60 33.6	N15 38.5	190 26.4	N 2 09.5
	14	217 21.8	4 00.8	S20 39.1	94 40.4	N21 02.6	75 35.6	N15 38.4	205 29.0	N 2 09.4
	15	232 24.2	19 02.9	S20 39.4	109 41.3	N21 02.3	90 37.6	N15 38.2	220 31.6	N 2 09.4
	16	247 26.7	34 05.0	S20 39.8	124 42.2	N21 02.0	105 39.6	N15 38.1	235 34.3	N 2 09.3
	17	262 29.2	49 07.1	S20 40.2	139 43.2	N21 01.7	120 41.7	N15 38.0	250 36.9	N 2 09.2
	18	277 31.6	64 09.3	S20 40.6	154 44.1	N21 01.5	135 43.7	N15 37.8	265 39.6	N 2 09.1
	19	292 34.1	79 11.4	S20 41.0	169 45.0	N21 01.2	150 45.7	N15 37.7	280 42.2	N 2 09.0
	20	307 36.6	94 13.5	S20 41.3	184 45.9	N21 00.9	165 47.7	N15 37.6	295 44.8	N 2 09.0
	21	322 39.0	109 15.7	S20 41.7	199 46.8	N21 00.6	180 49.7	N15 37.4	310 47.5	N 2 08.9
	22	337 41.5	124 17.8	S20 42.1	214 47.8	N21 00.4	195 51.7	N15 37.3	325 50.1	N 2 08.8
	23	352 43.9	139 19.9	S20 42.4	229 48.7	N21 00.1	210 53.7	N15 37.2	340 52.8	N 2 08.7
29	0	7 46.4	154 22.1	S20 42.8	244 49.6	N20 59.8	225 55.8	N15 37.0	355 55.4	N 2 08.7
	1	22 48.9	169 24.2	S20 43.2	259 50.5	N20 59.5	240 57.8	N15 36.9	10 58.1	N 2 08.6
	2	37 51.3	184 26.4	S20 43.5	274 51.4	N20 59.3	255 59.8	N15 36.7	26 00.7	N 2 08.5
	3	52 53.8	199 28.6	S20 43.9	289 52.4	N20 59.0	271 01.8	N15 36.6	41 03.3	N 2 08.4
	4	67 56.3	214 30.7	S20 44.2	304 53.3	N20 58.7	286 03.8	N15 36.5	56 06.0	N 2 08.3
T	5	82 58.7	229 32.9	S20 44.6	319 54.2	N20 58.4	301 05.8	N15 36.3	71 08.6	N 2 08.3
U										
E	6	98 01.2	244 35.1	S20 45.0	334 55.1	N20 58.1	316 07.8	N15 36.2	86 11.3	N 2 08.2
S	7	113 03.7	259 37.2	S20 45.3	349 56.1	N20 57.9	331 09.9	N15 36.1	101 13.9	N 2 08.1
D	8	128 06.1	274 39.4	S20 45.7	4 57.0	N20 57.6	346 11.9	N15 35.9	116 16.6	N 2 08.0
A	9	143 08.6	289 41.6	S20 46.0	19 57.9	N20 57.3	1 13.9	N15 35.8	131 19.2	N 2 08.0
Y	10	158 11.0	304 43.8	S20 46.4	34 58.8	N20 57.0	16 15.9	N15 35.7	146 21.8	N 2 07.9
	11	173 13.5	319 46.0	S20 46.7	49 59.7	N20 56.8	31 17.9	N15 35.5	161 24.5	N 2 07.8
	12	188 16.0	334 48.2	S20 47.1	65 00.7	N20 56.5	46 19.9	N15 35.4	176 27.1	N 2 07.7
	13	203 18.4	349 50.4	S20 47.4	80 01.6	N20 56.2	61 21.9	N15 35.3	191 29.8	N 2 07.6
	14	218 20.9	4 52.6	S20 47.7	95 02.5	N20 55.9	76 24.0	N15 35.1	206 32.4	N 2 07.6
	15	233 23.4	19 54.8	S20 48.1	110 03.4	N20 55.6	91 26.0	N15 35.0	221 35.1	N 2 07.5
	16	248 25.8	34 57.0	S20 48.4	125 04.4	N20 55.4	106 28.0	N15 34.8	236 37.7	N 2 07.4
	17	263 28.3	49 59.2	S20 48.8	140 05.3	N20 55.1	121 30.0	N15 34.7	251 40.3	N 2 07.3
	18	278 30.8	65 01.4	S20 49.1	155 06.2	N20 54.8	136 32.0	N15 34.6	266 43.0	N 2 07.3
	19	293 33.2	80 03.6	S20 49.4	170 07.1	N20 54.5	151 34.0	N15 34.4	281 45.6	N 2 07.2
	20	308 35.7	95 05.8	S20 49.8	185 08.1	N20 54.3	166 36.1	N15 34.3	296 48.3	N 2 07.1
	21	323 38.2	110 08.0	S20 50.1	200 09.0	N20 54.0	181 38.1	N15 34.2	311 50.9	N 2 07.0
	22	338 40.6	125 10.3	S20 50.4	215 09.9	N20 53.7	196 40.1	N15 34.0	326 53.6	N 2 06.9
	23	353 43.1	140 12.5	S20 50.7	230 10.9	N20 53.4	211 42.1	N15 33.9	341 56.2	N 2 06.9
30	0	8 45.5	155 14.7	S20 51.1	245 11.8	N20 53.1	226 44.1	N15 33.8	356 58.8	N 2 06.8
	1	23 48.0	170 17.0	S20 51.4	260 12.7	N20 52.9	241 46.1	N15 33.6	12 01.5	N 2 06.7
	2	38 50.5	185 19.2	S20 51.7	275 13.6	N20 52.6	256 48.2	N15 33.5	27 04.1	N 2 06.6
	3	53 52.9	200 21.5	S20 52.0	290 14.6	N20 52.3	271 50.2	N15 33.4	42 06.8	N 2 06.6
	4	68 55.4	215 23.7	S20 52.4	305 15.5	N20 52.0	286 52.2	N15 33.2	57 09.4	N 2 06.5
W	5	83 57.9	230 26.0	S20 52.7	320 16.4	N20 51.7	301 54.2	N15 33.1	72 12.1	N 2 06.4
E										
D	6	99 00.3	245 28.2	S20 53.0	335 17.4	N20 51.5	316 56.2	N15 33.0	87 14.7	N 2 06.3
N	7	114 02.8	260 30.5	S20 53.3	350 18.3	N20 51.2	331 58.3	N15 32.8	102 17.4	N 2 06.2
E	8	129 05.3	275 32.7	S20 53.6	5 19.2	N20 50.9	347 00.3	N15 32.7	117 20.0	N 2 06.2
S	9	144 07.7	290 35.0	S20 53.9	20 20.1	N20 50.6	2 02.3	N15 32.5	132 22.6	N 2 06.1
D	10	159 10.2	305 37.3	S20 54.2	35 21.1	N20 50.3	17 04.3	N15 32.4	147 25.3	N 2 06.0
A	11	174 12.6	320 39.6	S20 54.5	50 22.0	N20 50.0	32 06.3	N15 32.3	162 27.9	N 2 05.9
Y										
	12	189 15.1	335 41.8	S20 54.8	65 22.9	N20 49.8	47 08.3	N15 32.1	177 30.6	N 2 05.9
	13	204 17.6	350 44.1	S20 55.1	80 23.9	N20 49.5	62 10.4	N15 32.0	192 33.2	N 2 05.8
	14	219 20.0	5 46.4	S20 55.4	95 24.8	N20 49.2	77 12.4	N15 31.9	207 35.9	N 2 05.7
	15	234 22.5	20 48.7	S20 55.7	110 25.7	N20 48.9	92 14.4	N15 31.7	222 38.5	N 2 05.6
	16	249 25.0	35 51.0	S20 56.0	125 26.7	N20 48.6	107 16.4	N15 31.6	237 41.1	N 2 05.5
	17	264 27.4	50 53.3	S20 56.3	140 27.6	N20 48.4	122 18.4	N15 31.5	252 43.8	N 2 05.5
	18	279 29.9	65 55.6	S20 56.6	155 28.5	N20 48.1	137 20.5	N15 31.3	267 46.4	N 2 05.4
	19	294 32.4	80 57.9	S20 56.9	170 29.5	N20 47.8	152 22.5	N15 31.2	282 49.1	N 2 05.3
	20	309 34.8	96 00.2	S20 57.2	185 30.4	N20 47.5	167 24.5	N15 31.1	297 51.7	N 2 05.2
	21	324 37.3	111 02.5	S20 57.5	200 31.3	N20 47.2	182 26.5	N15 30.9	312 54.4	N 2 05.2
	22	339 39.8	126 04.8	S20 57.8	215 32.3	N20 46.9	197 28.5	N15 30.8	327 57.0	N 2 05.1
	23	354 42.2	141 07.1	S20 58.0	230 33.2	N20 46.7	212 30.6	N15 30.7	342 59.7	N 2 05.0
			v 2.2	d 0.3	v 0.9	d 0.3	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS	
	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
d h	° '	° '	° '	'	° '	'	'		° ' ° '
28 0	182 17.8	S 1 56.7	348 30.8	11.4	N12 09.3	14.9	58.5	Acamar	315 10.3 S40 11.5
1	197 18.0	S 1 57.6	3 01.1	11.3	N12 24.1	14.9	58.5	Achernar	335 18.5 S57 05.8
2	212 18.2	S 1 58.6	17 31.4	11.3	N12 39.0	14.8	58.5	Acrux	172 59.3 S63 14.8
3	227 18.4	S 1 59.6	32 01.6	11.2	N12 53.7	14.8	58.5	Adhara	255 04.8 S29 00.2
4	242 18.6	S 2 00.6	46 31.7	11.1	N13 08.5	14.7	58.6	Albireo	67 02.8 N28 01.2
M 5	257 18.8	S 2 01.5	61 01.7	11.0	N13 23.1	14.7	58.6		
O								Aldebaran	290 37.8 N16 33.9
N 6	272 19.0	S 2 02.5	75 31.6	10.9	N13 37.7	14.6	58.6	Alioth	166 12.2 N55 49.0
D 7	287 19.2	S 2 03.5	90 01.5	10.8	N13 52.2	14.5	58.6	Alkaid	152 51.3 N49 10.9
A 8	302 19.5	S 2 04.4	104 31.2	10.8	N14 06.7	14.5	58.6	Al Na-ir	27 30.7 S46 49.9
Y 9	317 19.7	S 2 05.4	119 00.9	10.7	N14 21.1	14.4	58.7	Alnilam	275 36.2 S 1 10.9
10	332 19.9	S 2 06.4	133 30.5	10.6	N14 35.5	14.3	58.7		
11	347 20.1	S 2 07.4	147 60.0	10.5	N14 49.7	14.3	58.7	Alphard	217 46.6 S 8 46.3
								Alphecca	126 02.8 N26 37.6
12	2 20.3	S 2 08.3	162 29.4	10.4	N15 03.9	14.2	58.7	Alpheratz	357 33.0 N29 14.5
13	17 20.5	S 2 09.3	176 58.7	10.3	N15 18.0	14.1	58.7	Altair	61 58.5 N 8 56.5
14	32 20.7	S 2 10.3	191 27.9	10.2	N15 32.1	14.0	58.7	Ankaa	353 05.3 S42 09.5
15	47 20.9	S 2 11.2	205 57.0	10.1	N15 46.1	14.0	58.8		
16	62 21.1	S 2 12.2	220 26.1	10.0	N15 60.0	13.9	58.8	Antares	112 14.3 S26 29.5
17	77 21.3	S 2 13.2	234 55.0	9.9	N16 13.8	13.8	58.8	Arcturus	145 46.9 N19 02.7
								Atria	107 07.5 S69 04.8
18	92 21.6	S 2 14.2	249 23.9	9.8	N16 27.5	13.7	58.8	Avior	234 14.5 S59 35.4
19	107 21.8	S 2 15.1	263 52.6	9.8	N16 41.2	13.6	58.8	Bellatrix	278 21.3 N 6 22.6
20	122 22.0	S 2 16.1	278 21.3	9.7	N16 54.7	13.6	58.8		
21	137 22.2	S 2 17.1	292 49.8	9.6	N17 08.2	13.5	58.9	Betelgeuse	270 50.5 N 7 24.9
22	152 22.4	S 2 18.0	307 18.3	9.5	N17 21.6	13.4	58.9	Canopus	263 51.7 S52 42.2
23	167 22.6	S 2 19.0	321 46.7	9.4	N17 34.9	13.3	58.9	Capella	280 19.7 N46 01.4
29 0	182 22.8	S 2 20.0	336 14.9	9.3	N17 48.1	13.2	58.9	Castor	245 55.3 N31 49.8
1	197 23.0	S 2 21.0	350 43.1	9.2	N18 01.2	13.1	58.9	Deneb	49 24.6 N45 22.8
2	212 23.2	S 2 21.9	5 11.2	9.1	N18 14.2	13.0	58.9		
3	227 23.4	S 2 22.9	19 39.1	9.0	N18 27.1	12.9	58.9	Denebola	182 23.8 N14 25.4
4	242 23.7	S 2 23.9	34 07.0	8.9	N18 40.0	12.8	59.0	Diphda	348 45.6 S17 50.2
T 5	257 23.9	S 2 24.8	48 34.8	8.8	N18 52.7	12.7	59.0	Dubhe	193 39.8 N61 36.3
U								Elnath	278 00.0 N28 37.8
E 6	272 24.1	S 2 25.8	63 02.5	8.7	N19 05.3	12.6	59.0	Eltanin	90 41.6 N51 29.3
S 7	287 24.3	S 2 26.8	77 30.0	8.6	N19 17.8	12.5	59.0	Enif	33 37.1 N10 00.0
D 8	302 24.5	S 2 27.8	91 57.5	8.5	N19 30.2	12.4	59.0	Fomalhaut	15 12.6 S29 28.7
A 9	317 24.7	S 2 28.7	106 24.8	8.4	N19 42.5	12.3	59.0	Gacrux	171 50.7 S57 15.8
Y 10	332 24.9	S 2 29.7	120 52.1	8.3	N19 54.7	12.2	59.0	Gienah	175 42.5 S17 41.3
11	347 25.1	S 2 30.7	135 19.3	8.2	N20 06.8	12.1	59.0	Hadar	148 34.7 S60 30.2
12	2 25.3	S 2 31.6	149 46.3	8.1	N20 18.7	12.0	59.1	Hamal	327 49.3 N23 35.5
13	17 25.5	S 2 32.6	164 13.3	8.0	N20 30.6	11.8	59.1	Kaus Austr.	83 30.7 S34 22.4
14	32 25.7	S 2 33.6	178 40.1	7.9	N20 42.3	11.7	59.1	Kochab	137 20.9 N74 02.8
15	47 25.9	S 2 34.6	193 06.9	7.7	N20 53.9	11.6	59.1	Markab	13 28.2 N15 21.1
16	62 26.2	S 2 35.5	207 33.5	7.6	N21 05.4	11.5	59.1	Menkar	314 04.4 N 4 11.9
17	77 26.4	S 2 36.5	222 00.1	7.5	N21 16.8	11.4	59.1		
								Menkent	147 56.3 S36 30.2
18	92 26.6	S 2 37.5	236 26.5	7.4	N21 28.0	11.2	59.1	Miaplacidus	221 38.5 S69 49.3
19	107 26.8	S 2 38.4	250 52.9	7.3	N21 39.1	11.1	59.1	Mirfak	308 25.9 N49 57.4
20	122 27.0	S 2 39.4	265 19.1	7.2	N21 50.1	11.0	59.1	Nunki	75 46.0 S26 15.8
21	137 27.2	S 2 40.4	279 45.2	7.1	N22 01.0	10.9	59.1	Peacock	53 03.1 S56 39.1
22	152 27.4	S 2 41.4	294 11.3	7.0	N22 11.7	10.7	59.2		
23	167 27.6	S 2 42.3	308 37.2	6.9	N22 22.3	10.6	59.2	Polaris	315 37.5 N89 21.9
30 0	182 27.8	S 2 43.3	323 03.0	6.8	N22 32.7	10.5	59.2	Pollux	243 15.7 N27 57.7
1	197 28.0	S 2 44.3	337 28.8	6.7	N22 43.1	10.3	59.2	Procyon	244 49.4 N 5 09.5
2	212 28.2	S 2 45.2	351 54.4	6.6	N22 53.3	10.2	59.2	Rasalhague	95 57.3 N12 32.6
3	227 28.4	S 2 46.2	6 19.9	6.5	N23 03.3	10.0	59.2	Regulus	207 33.2 N11 50.3
4	242 28.6	S 2 47.2	20 45.4	6.4	N23 13.2	9.9	59.2		
W 5	257 28.8	S 2 48.1	35 10.7	6.3	N23 23.0	9.8	59.2	Rigel	281 02.4 S 8 10.0
E								Rigil Kent	139 39.1 S60 56.9
D 6	272 29.0	S 2 49.1	49 35.9	6.2	N23 32.6	9.6	59.2	Sabik	102 01.3 S15 45.5
N 7	287 29.2	S 2 50.1	64 01.1	6.1	N23 42.0	9.5	59.2	Schedar	349 28.9 N56 41.1
E 8	302 29.5	S 2 51.1	78 26.1	6.0	N23 51.4	9.3	59.2	Shaula	96 08.5 S37 07.5
S 9	317 29.7	S 2 52.0	92 51.1	5.9	N24 00.5	9.2	59.2		
D 10	332 29.9	S 2 53.0	107 15.9	5.9	N24 09.6	9.0	59.3	Sirius	258 25.0 S16 44.9
A 11	347 30.1	S 2 54.0	121 40.7	5.8	N24 18.4	8.9	59.3	Spica	158 21.1 S11 18.0
Y								Suhail	222 45.5 S43 32.2
12	2 30.3	S 2 54.9	136 05.3	5.7	N24 27.1	8.7	59.3	Vega	80 32.3 N38 48.7
13	17 30.5	S 2 55.9	150 29.9	5.6	N24 35.7	8.6	59.3	Zuben-ubi	136 55.6 S16 09.2
14	32 30.7	S 2 56.9	164 54.4	5.5	N24 44.1	8.4	59.3		
15	47 30.9	S 2 57.8	179 18.8	5.4	N24 52.3	8.2	59.3		
16	62 31.1	S 2 58.8	193 43.1	5.3	N25 00.4	8.1	59.3		
17	77 31.3	S 2 59.8	208 07.3	5.2	N25 08.3	7.9	59.3		
18	92 31.5	S 3 00.8	222 31.4	5.1	N25 16.1	7.8	59.3		
19	107 31.7	S 3 01.7	236 55.5	5.0	N25 23.7	7.6	59.3		
20	122 31.9	S 3 02.7	251 19.5	5.0	N25 31.1	7.4	59.3		
21	137 32.1	S 3 03.7	265 43.3	4.9	N25 38.3	7.3	59.3		
22	152 32.3	S 3 04.6	280 07.1	4.8	N25 45.4	7.1	59.3		
23	167 32.5	S 3 05.6	294 30.9	4.7	N25 52.4	6.9	59.3		
	S.D. 16.0	d 1.0	S.D.	16.0	16.1	16.1			

G.M.T d	h	ARIES GHA	VENUS GHA	VENUS Dec	MARS GHA	MARS Dec	JUPITER GHA	JUPITER Dec	SATURN GHA	SATURN Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
1	0	9 44.7	156 09.5	S20 58.3	245 34.1	N20 46.4	227 32.6	N15 30.5	358 02.3	N 2 04.9
	1	24 47.1	171 11.8	S20 58.6	260 35.1	N20 46.1	242 34.6	N15 30.4	13 04.9	N 2 04.8
	2	39 49.6	186 14.1	S20 58.9	275 36.0	N20 45.8	257 36.6	N15 30.3	28 07.6	N 2 04.8
	3	54 52.1	201 16.4	S20 59.2	290 36.9	N20 45.5	272 38.6	N15 30.1	43 10.2	N 2 04.7
	4	69 54.5	216 18.8	S20 59.4	305 37.9	N20 45.2	287 40.7	N15 30.0	58 12.9	N 2 04.6
T	5	84 57.0	231 21.1	S20 59.7	320 38.8	N20 45.0	302 42.7	N15 29.9	73 15.5	N 2 04.5
H										
U	6	99 59.5	246 23.5	S20 60.0	335 39.8	N20 44.7	317 44.7	N15 29.7	88 18.2	N 2 04.5
R	7	115 01.9	261 25.8	S21 00.2	350 40.7	N20 44.4	332 46.7	N15 29.6	103 20.8	N 2 04.4
S	8	130 04.4	276 28.2	S21 00.5	5 41.6	N20 44.1	347 48.8	N15 29.4	118 23.4	N 2 04.3
D	9	145 06.9	291 30.5	S21 00.8	20 42.6	N20 43.8	2 50.8	N15 29.3	133 26.1	N 2 04.2
A	10	160 09.3	306 32.9	S21 01.0	35 43.5	N20 43.5	17 52.8	N15 29.2	148 28.7	N 2 04.1
Y	11	175 11.8	321 35.2	S21 01.3	50 44.4	N20 43.2	32 54.8	N15 29.0	163 31.4	N 2 04.1
	12	190 14.3	336 37.6	S21 01.6	65 45.4	N20 43.0	47 56.8	N15 28.9	178 34.0	N 2 04.0
	13	205 16.7	351 40.0	S21 01.8	80 46.3	N20 42.7	62 58.9	N15 28.8	193 36.7	N 2 03.9
	14	220 19.2	6 42.4	S21 02.1	95 47.3	N20 42.4	78 00.9	N15 28.6	208 39.3	N 2 03.8
	15	235 21.6	21 44.7	S21 02.3	110 48.2	N20 42.1	93 02.9	N15 28.5	223 42.0	N 2 03.8
	16	250 24.1	36 47.1	S21 02.6	125 49.1	N20 41.8	108 04.9	N15 28.4	238 44.6	N 2 03.7
	17	265 26.6	51 49.5	S21 02.8	140 50.1	N20 41.5	123 07.0	N15 28.2	253 47.2	N 2 03.6
	18	280 29.0	66 51.9	S21 03.1	155 51.0	N20 41.2	138 09.0	N15 28.1	268 49.9	N 2 03.5
	19	295 31.5	81 54.3	S21 03.3	170 52.0	N20 41.0	153 11.0	N15 28.0	283 52.5	N 2 03.4
	20	310 34.0	96 56.7	S21 03.6	185 52.9	N20 40.7	168 13.0	N15 27.8	298 55.2	N 2 03.4
	21	325 36.4	111 59.1	S21 03.8	200 53.8	N20 40.4	183 15.1	N15 27.7	313 57.8	N 2 03.3
	22	340 38.9	127 01.5	S21 04.1	215 54.8	N20 40.1	198 17.1	N15 27.6	329 00.5	N 2 03.2
	23	355 41.4	142 03.9	S21 04.3	230 55.7	N20 39.8	213 19.1	N15 27.4	344 03.1	N 2 03.1
2	0	10 43.8	157 06.3	S21 04.5	245 56.7	N20 39.5	228 21.1	N15 27.3	359 05.8	N 2 03.1
	1	25 46.3	172 08.7	S21 04.8	260 57.6	N20 39.2	243 23.2	N15 27.2	14 08.4	N 2 03.0
	2	40 48.8	187 11.1	S21 05.0	275 58.5	N20 38.9	258 25.2	N15 27.0	29 11.0	N 2 02.9
	3	55 51.2	202 13.6	S21 05.2	290 59.5	N20 38.7	273 27.2	N15 26.9	44 13.7	N 2 02.8
	4	70 53.7	217 16.0	S21 05.5	306 00.4	N20 38.4	288 29.2	N15 26.8	59 16.3	N 2 02.7
F	5	85 56.1	232 18.4	S21 05.7	321 01.4	N20 38.1	303 31.3	N15 26.6	74 19.0	N 2 02.7
R										
I	6	100 58.6	247 20.8	S21 05.9	336 02.3	N20 37.8	318 33.3	N15 26.5	89 21.6	N 2 02.6
D	7	116 01.1	262 23.3	S21 06.1	351 03.3	N20 37.5	333 35.3	N15 26.4	104 24.3	N 2 02.5
A	8	131 03.5	277 25.7	S21 06.4	6 04.2	N20 37.2	348 37.3	N15 26.2	119 26.9	N 2 02.4
Y	9	146 06.0	292 28.2	S21 06.6	21 05.2	N20 36.9	3 39.4	N15 26.1	134 29.5	N 2 02.4
	10	161 08.5	307 30.6	S21 06.8	36 06.1	N20 36.6	18 41.4	N15 26.0	149 32.2	N 2 02.3
	11	176 10.9	322 33.1	S21 07.0	51 07.0	N20 36.3	33 43.4	N15 25.8	164 34.8	N 2 02.2
	12	191 13.4	337 35.5	S21 07.2	66 08.0	N20 36.1	48 45.4	N15 25.7	179 37.5	N 2 02.1
	13	206 15.9	352 38.0	S21 07.4	81 08.9	N20 35.8	63 47.5	N15 25.6	194 40.1	N 2 02.0
	14	221 18.3	7 40.4	S21 07.7	96 09.9	N20 35.5	78 49.5	N15 25.4	209 42.8	N 2 02.0
	15	236 20.8	22 42.9	S21 07.9	111 10.8	N20 35.2	93 51.5	N15 25.3	224 45.4	N 2 01.9
	16	251 23.2	37 45.4	S21 08.1	126 11.8	N20 34.9	108 53.5	N15 25.2	239 48.1	N 2 01.8
	17	266 25.7	52 47.9	S21 08.3	141 12.7	N20 34.6	123 55.6	N15 25.0	254 50.7	N 2 01.7
	18	281 28.2	67 50.3	S21 08.5	156 13.7	N20 34.3	138 57.6	N15 24.9	269 53.3	N 2 01.7
	19	296 30.6	82 52.8	S21 08.7	171 14.6	N20 34.0	153 59.6	N15 24.8	284 56.0	N 2 01.6
	20	311 33.1	97 55.3	S21 08.9	186 15.6	N20 33.7	169 01.7	N15 24.6	299 58.6	N 2 01.5
	21	326 35.6	112 57.8	S21 09.1	201 16.5	N20 33.4	184 03.7	N15 24.5	315 01.3	N 2 01.4
	22	341 38.0	128 00.3	S21 09.3	216 17.5	N20 33.2	199 05.7	N15 24.4	330 03.9	N 2 01.3
	23	356 40.5	143 02.8	S21 09.5	231 18.4	N20 32.9	214 07.7	N15 24.2	345 06.6	N 2 01.3
3	0	11 43.0	158 05.3	S21 09.6	246 19.4	N20 32.6	229 09.8	N15 24.1	0 09.2	N 2 01.2
	1	26 45.4	173 07.8	S21 09.8	261 20.3	N20 32.3	244 11.8	N15 24.0	15 11.9	N 2 01.1
	2	41 47.9	188 10.3	S21 10.0	276 21.3	N20 32.0	259 13.8	N15 23.8	30 14.5	N 2 01.0
	3	56 50.4	203 12.8	S21 10.2	291 22.2	N20 31.7	274 15.9	N15 23.7	45 17.1	N 2 01.0
	4	71 52.8	218 15.3	S21 10.4	306 23.2	N20 31.4	289 17.9	N15 23.6	60 19.8	N 2 00.9
S	5	86 55.3	233 17.9	S21 10.6	321 24.1	N20 31.1	304 19.9	N15 23.4	75 22.4	N 2 00.8
A										
T	6	101 57.7	248 20.4	S21 10.7	336 25.1	N20 30.8	319 21.9	N15 23.3	90 25.1	N 2 00.7
U	7	117 00.2	263 22.9	S21 10.9	351 26.0	N20 30.5	334 24.0	N15 23.2	105 27.7	N 2 00.7
R	8	132 02.7	278 25.4	S21 11.1	6 27.0	N20 30.2	349 26.0	N15 23.0	120 30.4	N 2 00.6
D	9	147 05.1	293 28.0	S21 11.3	21 27.9	N20 29.9	4 28.0	N15 22.9	135 33.0	N 2 00.5
A	10	162 07.6	308 30.5	S21 11.4	36 28.9	N20 29.7	19 30.1	N15 22.8	150 35.7	N 2 00.4
Y	11	177 10.1	323 33.1	S21 11.6	51 29.8	N20 29.4	34 32.1	N15 22.6	165 38.3	N 2 00.3
	12	192 12.5	338 35.6	S21 11.8	66 30.8	N20 29.1	49 34.1	N15 22.5	180 40.9	N 2 00.3
	13	207 15.0	353 38.2	S21 11.9	81 31.7	N20 28.8	64 36.1	N15 22.4	195 43.6	N 2 00.2
	14	222 17.5	8 40.7	S21 12.1	96 32.7	N20 28.5	79 38.2	N15 22.2	210 46.2	N 2 00.1
	15	237 19.9	23 43.3	S21 12.3	111 33.7	N20 28.2	94 40.2	N15 22.1	225 48.9	N 2 00.0
	16	252 22.4	38 45.8	S21 12.4	126 34.6	N20 27.9	109 42.2	N15 22.0	240 51.5	N 1 60.0
	17	267 24.9	53 48.4	S21 12.6	141 35.6	N20 27.6	124 44.3	N15 21.9	255 54.2	N 1 59.9
	18	282 27.3	68 51.0	S21 12.7	156 36.5	N20 27.3	139 46.3	N15 21.7	270 56.8	N 1 59.8
	19	297 29.8	83 53.5	S21 12.9	171 37.5	N20 27.0	154 48.3	N15 21.6	285 59.5	N 1 59.7
	20	312 32.2	98 56.1	S21 13.0	186 38.4	N20 26.7	169 50.4	N15 21.5	301 02.1	N 1 59.6
	21	327 34.7	113 58.7	S21 13.2	201 39.4	N20 26.4	184 52.4	N15 21.3	316 04.8	N 1 59.6
	22	342 37.2	129 01.3	S21 13.3	216 40.3	N20 26.1	199 54.4	N15 21.2	331 07.4	N 1 59.5
	23	357 39.6	144 03.9	S21 13.5	231 41.3	N20 25.8	214 56.5	N15 21.1	346 10.0	N 1 59.4
			v 2.5	d 0.2	v 0.9	d 0.3	v 2.0	d 0.1	v -897.4	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
1	0	182 32.7	S 3 06.6	308 54.5	4.6	N25 59.1	6.7	59.3
	1	197 32.9	S 3 07.5	323 18.1	4.6	N26 05.7	6.6	59.3
	2	212 33.1	S 3 08.5	337 41.6	4.5	N26 12.1	6.4	59.3
	3	227 33.3	S 3 09.5	352 05.0	4.4	N26 18.3	6.2	59.3
	4	242 33.5	S 3 10.5	6 28.3	4.4	N26 24.3	6.0	59.3
T	5	257 33.7	S 3 11.4	20 51.6	4.3	N26 30.2	5.9	59.3
H								
U	6	272 33.9	S 3 12.4	35 14.8	4.2	N26 35.9	5.7	59.3
R	7	287 34.2	S 3 13.4	49 38.0	4.1	N26 41.4	5.5	59.4
S	8	302 34.4	S 3 14.3	64 01.1	4.1	N26 46.7	5.3	59.4
D	9	317 34.6	S 3 15.3	78 24.1	4.0	N26 51.9	5.1	59.4
A	10	332 34.8	S 3 16.3	92 47.1	4.0	N26 56.9	5.0	59.4
Y	11	347 35.0	S 3 17.2	107 10.0	3.9	N27 01.6	4.8	59.4
	12	2 35.2	S 3 18.2	121 32.8	3.9	N27 06.2	4.6	59.4
	13	17 35.4	S 3 19.2	135 55.6	3.8	N27 10.6	4.4	59.4
	14	32 35.6	S 3 20.1	150 18.4	3.7	N27 14.9	4.2	59.4
	15	47 35.8	S 3 21.1	164 41.1	3.7	N27 18.9	4.0	59.4
	16	62 36.0	S 3 22.1	179 03.7	3.7	N27 22.8	3.9	59.4
	17	77 36.2	S 3 23.0	193 26.3	3.6	N27 26.4	3.7	59.4
	18	92 36.4	S 3 24.0	207 48.9	3.6	N27 29.9	3.5	59.4
	19	107 36.6	S 3 25.0	222 11.4	3.5	N27 33.2	3.3	59.4
	20	122 36.8	S 3 26.0	236 33.9	3.5	N27 36.3	3.1	59.4
	21	137 37.0	S 3 26.9	250 56.4	3.5	N27 39.2	2.9	59.4
	22	152 37.2	S 3 27.9	265 18.8	3.4	N27 41.9	2.7	59.4
	23	167 37.4	S 3 28.9	279 41.2	3.4	N27 44.4	2.5	59.4
2	0	182 37.6	S 3 29.8	294 03.6	3.4	N27 46.7	2.3	59.4
	1	197 37.8	S 3 30.8	308 25.9	3.3	N27 48.9	2.1	59.4
	2	212 38.0	S 3 31.8	322 48.2	3.3	N27 50.8	1.9	59.4
	3	227 38.2	S 3 32.7	337 10.5	3.3	N27 52.5	1.7	59.4
	4	242 38.4	S 3 33.7	351 32.8	3.3	N27 54.1	1.5	59.4
F	5	257 38.6	S 3 34.7	5 55.1	3.3	N27 55.4	1.4	59.4
R								
I	6	272 38.8	S 3 35.6	20 17.4	3.3	N27 56.6	1.2	59.4
D	7	287 39.0	S 3 36.6	34 39.6	3.2	N27 57.6	1.0	59.4
A	8	302 39.2	S 3 37.6	49 01.8	3.2	N27 58.3	0.8	59.4
Y	9	317 39.4	S 3 38.5	63 24.1	3.2	N27 58.9	0.6	59.4
	10	332 39.6	S 3 39.5	77 46.3	3.2	N27 59.3	0.4	59.4
	11	347 39.8	S 3 40.5	92 08.6	3.2	N27 59.5	0.2	59.4
	12	2 40.0	S 3 41.4	106 30.8	3.2	N27 59.5	0.0	59.4
	13	17 40.2	S 3 42.4	120 53.0	3.2	N27 59.3	0.2	59.3
	14	32 40.4	S 3 43.4	135 15.3	3.3	N27 58.9	0.4	59.3
	15	47 40.6	S 3 44.3	149 37.6	3.3	N27 58.3	0.6	59.3
	16	62 40.8	S 3 45.3	163 59.8	3.3	N27 57.5	0.8	59.3
	17	77 41.0	S 3 46.3	178 22.1	3.3	N27 56.5	1.0	59.3
	18	92 41.2	S 3 47.2	192 44.5	3.3	N27 55.3	1.2	59.3
	19	107 41.4	S 3 48.2	207 06.8	3.3	N27 53.9	1.4	59.3
	20	122 41.6	S 3 49.2	221 29.1	3.4	N27 52.4	1.6	59.3
	21	137 41.8	S 3 50.1	235 51.5	3.4	N27 50.6	1.8	59.3
	22	152 41.9	S 3 51.1	250 13.9	3.4	N27 48.7	2.0	59.3
	23	167 42.1	S 3 52.1	264 36.4	3.4	N27 46.5	2.1	59.3
3	0	182 42.3	S 3 53.0	278 58.9	3.5	N27 44.2	2.3	59.3
	1	197 42.5	S 3 54.0	293 21.4	3.5	N27 41.7	2.5	59.3
	2	212 42.7	S 3 55.0	307 43.9	3.6	N27 38.9	2.7	59.3
	3	227 42.9	S 3 55.9	322 06.5	3.6	N27 36.0	2.9	59.3
	4	242 43.1	S 3 56.9	336 29.2	3.6	N27 32.9	3.1	59.3
S	5	257 43.3	S 3 57.9	350 51.9	3.7	N27 29.6	3.3	59.3
A								
T	6	272 43.5	S 3 58.8	5 14.6	3.7	N27 26.2	3.5	59.3
U	7	287 43.7	S 3 59.8	19 37.4	3.8	N27 22.5	3.7	59.3
R	8	302 43.9	S 4 00.8	34 00.2	3.8	N27 18.7	3.8	59.3
D	9	317 44.1	S 4 01.7	48 23.1	3.9	N27 14.6	4.0	59.3
A	10	332 44.3	S 4 02.7	62 46.1	3.9	N27 10.4	4.2	59.3
Y	11	347 44.5	S 4 03.7	77 09.1	4.0	N27 06.0	4.4	59.3
	12	2 44.7	S 4 04.6	91 32.1	4.1	N27 01.5	4.6	59.2
	13	17 44.9	S 4 05.6	105 55.3	4.1	N26 56.7	4.8	59.2
	14	32 45.1	S 4 06.6	120 18.4	4.2	N26 51.7	4.9	59.2
	15	47 45.3	S 4 07.5	134 41.7	4.3	N26 46.6	5.1	59.2
	16	62 45.5	S 4 08.5	149 05.0	4.3	N26 41.3	5.3	59.2
	17	77 45.7	S 4 09.5	163 28.4	4.4	N26 35.8	5.5	59.2
	18	92 45.9	S 4 10.4	177 51.9	4.5	N26 30.2	5.7	59.2
	19	107 46.1	S 4 11.4	192 15.4	4.5	N26 24.4	5.8	59.2
	20	122 46.2	S 4 12.4	206 39.0	4.6	N26 18.4	6.0	59.2
	21	137 46.4	S 4 13.3	221 02.7	4.7	N26 12.2	6.2	59.2
	22	152 46.6	S 4 14.3	235 26.5	4.8	N26 05.8	6.3	59.2
	23	167 46.8	S 4 15.2	249 50.4	4.9	N25 59.3	6.5	59.2
		S.D. 16.0	d 1.0	S.D. 16.2		16.2		16.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.6
Achernar	335 18.5	S57 05.8
Acrux	172 59.3	S63 14.8
Adhara	255 04.8	S29 00.2
Albireo	67 02.8	N28 01.2
Aldebaran	290 37.8	N16 33.9
Alioth	166 12.2	N55 48.9
Alkaid	152 51.3	N49 10.9
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.2	S 1 10.9
Alphard	217 46.5	S 8 46.3
Alphecca	126 02.8	N26 37.6
Alpheratz	357 33.0	N29 14.5
Altair	61 58.5	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.7
Atria	107 07.6	S69 04.8
Avior	234 14.4	S59 35.4
Bellatrix	278 21.2	N 6 22.6
Betelgeuse	270 50.5	N 7 24.9
Canopus	263 51.7	S52 42.2
Capella	280 19.6	N46 01.4
Castor	245 55.3	N31 49.8
Deneb	49 24.6	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.6	S17 50.2
Dubhe	193 39.8	N61 36.3
Elnath	277 60.0	N28 37.8
Eltanin	90 41.6	N51 29.3
Enif	33 37.1	N10 00.1
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.8
Gienah	175 42.5	S17 41.3
Hadar	148 34.7	S60 30.2
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 30.7	S34 22.4
Kochab	137 20.9	N74 02.8
Markab	13 28.2	N15 21.1
Menkar	314 04.4	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.5	S69 49.3
Mirfak	308 25.9	N49 57.4
Nunki	75 46.0	S26 15.8
Peacock	53 03.1	S56 39.1
Polaris	315 36.6	N89 21.9
Pollux	243 15.6	N27 57.7
Procyon	244 49.4	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.2	N11 50.3
Rigel	281 02.4	S 8 10.0
Rigil Kent	139 39.1	S60 56.9
Sabik	102 01.3	S15 45.5
Schedar	349 28.9	N56 41.2
Shaula	96 08.5	S37 07.5
Sirius	258 25.0	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.5	S43 32.2
Vega	80 32.3	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
4	0	12 42.1	159 06.5	S21 13.6	246 42.3	N20 25.5	229 58.5	N15 20.9	1 12.7	N 1 59.3
	1	27 44.6	174 09.1	S21 13.8	261 43.2	N20 25.2	245 00.5	N15 20.8	16 15.3	N 1 59.3
	2	42 47.0	189 11.7	S21 13.9	276 44.2	N20 24.9	260 02.6	N15 20.7	31 18.0	N 1 59.2
	3	57 49.5	204 14.3	S21 14.0	291 45.1	N20 24.7	275 04.6	N15 20.5	46 20.6	N 1 59.1
	4	72 52.0	219 16.9	S21 14.2	306 46.1	N20 24.4	290 06.6	N15 20.4	61 23.3	N 1 59.0
S	5	87 54.4	234 19.5	S21 14.3	321 47.1	N20 24.1	305 08.7	N15 20.3	76 25.9	N 1 58.9
U										
N	6	102 56.9	249 22.1	S21 14.4	336 48.0	N20 23.8	320 10.7	N15 20.1	91 28.6	N 1 58.9
D	7	117 59.4	264 24.7	S21 14.6	351 49.0	N20 23.5	335 12.7	N15 20.0	106 31.2	N 1 58.8
A	8	133 01.8	279 27.3	S21 14.7	6 49.9	N20 23.2	350 14.8	N15 19.9	121 33.8	N 1 58.7
Y	9	148 04.3	294 30.0	S21 14.8	21 50.9	N20 22.9	5 16.8	N15 19.7	136 36.5	N 1 58.6
	10	163 06.7	309 32.6	S21 14.9	36 51.8	N20 22.6	20 18.8	N15 19.6	151 39.1	N 1 58.6
	11	178 09.2	324 35.2	S21 15.0	51 52.8	N20 22.3	35 20.9	N15 19.5	166 41.8	N 1 58.5
	12	193 11.7	339 37.9	S21 15.2	66 53.8	N20 22.0	50 22.9	N15 19.3	181 44.4	N 1 58.4
	13	208 14.1	354 40.5	S21 15.3	81 54.7	N20 21.7	65 24.9	N15 19.2	196 47.1	N 1 58.3
	14	223 16.6	9 43.2	S21 15.4	96 55.7	N20 21.4	80 27.0	N15 19.1	211 49.7	N 1 58.3
	15	238 19.1	24 45.8	S21 15.5	111 56.7	N20 21.1	95 29.0	N15 19.0	226 52.4	N 1 58.2
	16	253 21.5	39 48.5	S21 15.6	126 57.6	N20 20.8	110 31.0	N15 18.8	241 55.0	N 1 58.1
	17	268 24.0	54 51.1	S21 15.7	141 58.6	N20 20.5	125 33.1	N15 18.7	256 57.6	N 1 58.0
	18	283 26.5	69 53.8	S21 15.8	156 59.5	N20 20.2	140 35.1	N15 18.6	272 00.3	N 1 57.9
	19	298 28.9	84 56.4	S21 15.9	172 00.5	N20 19.9	155 37.1	N15 18.4	287 02.9	N 1 57.9
	20	313 31.4	99 59.1	S21 16.0	187 01.5	N20 19.6	170 39.2	N15 18.3	302 05.6	N 1 57.8
	21	328 33.8	115 01.8	S21 16.1	202 02.4	N20 19.3	185 41.2	N15 18.2	317 08.2	N 1 57.7
	22	343 36.3	130 04.5	S21 16.2	217 03.4	N20 19.0	200 43.2	N15 18.0	332 10.9	N 1 57.6
	23	358 38.8	145 07.1	S21 16.3	232 04.4	N20 18.7	215 45.3	N15 17.9	347 13.5	N 1 57.6
5	0	13 41.2	160 09.8	S21 16.4	247 05.3	N20 18.4	230 47.3	N15 17.8	2 16.2	N 1 57.5
	1	28 43.7	175 12.5	S21 16.5	262 06.3	N20 18.1	245 49.3	N15 17.6	17 18.8	N 1 57.4
	2	43 46.2	190 15.2	S21 16.6	277 07.3	N20 17.8	260 51.4	N15 17.5	32 21.5	N 1 57.3
	3	58 48.6	205 17.9	S21 16.7	292 08.2	N20 17.5	275 53.4	N15 17.4	47 24.1	N 1 57.2
	4	73 51.1	220 20.6	S21 16.8	307 09.2	N20 17.2	290 55.5	N15 17.2	62 26.7	N 1 57.2
M	5	88 53.6	235 23.3	S21 16.8	322 10.2	N20 16.9	305 57.5	N15 17.1	77 29.4	N 1 57.1
O										
N	6	103 56.0	250 26.0	S21 16.9	337 11.1	N20 16.6	320 59.5	N15 17.0	92 32.0	N 1 57.0
D	7	118 58.5	265 28.7	S21 17.0	352 12.1	N20 16.3	336 01.6	N15 16.9	107 34.7	N 1 56.9
A	8	134 01.0	280 31.4	S21 17.1	7 13.1	N20 16.0	351 03.6	N15 16.7	122 37.3	N 1 56.9
Y	9	149 03.4	295 34.2	S21 17.1	22 14.0	N20 15.7	6 05.6	N15 16.6	137 40.0	N 1 56.8
	10	164 05.9	310 36.9	S21 17.2	37 15.0	N20 15.4	21 07.7	N15 16.5	152 42.6	N 1 56.7
	11	179 08.3	325 39.6	S21 17.3	52 16.0	N20 15.1	36 09.7	N15 16.3	167 45.3	N 1 56.6
	12	194 10.8	340 42.3	S21 17.4	67 16.9	N20 14.8	51 11.8	N15 16.2	182 47.9	N 1 56.6
	13	209 13.3	355 45.1	S21 17.4	82 17.9	N20 14.5	66 13.8	N15 16.1	197 50.5	N 1 56.5
	14	224 15.7	10 47.8	S21 17.5	97 18.9	N20 14.2	81 15.8	N15 15.9	212 53.2	N 1 56.4
	15	239 18.2	25 50.6	S21 17.5	112 19.8	N20 13.9	96 17.9	N15 15.8	227 55.8	N 1 56.3
	16	254 20.7	40 53.3	S21 17.6	127 20.8	N20 13.6	111 19.9	N15 15.7	242 58.5	N 1 56.2
	17	269 23.1	55 56.0	S21 17.7	142 21.8	N20 13.3	126 21.9	N15 15.6	258 01.1	N 1 56.2
	18	284 25.6	70 58.8	S21 17.7	157 22.8	N20 13.0	141 24.0	N15 15.4	273 03.8	N 1 56.1
	19	299 28.1	86 01.6	S21 17.8	172 23.7	N20 12.7	156 26.0	N15 15.3	288 06.4	N 1 56.0
	20	314 30.5	101 04.3	S21 17.8	187 24.7	N20 12.4	171 28.1	N15 15.2	303 09.1	N 1 55.9
	21	329 33.0	116 07.1	S21 17.9	202 25.7	N20 12.1	186 30.1	N15 15.0	318 11.7	N 1 55.9
	22	344 35.5	131 09.9	S21 17.9	217 26.6	N20 11.8	201 32.1	N15 14.9	333 14.3	N 1 55.8
	23	359 37.9	146 12.6	S21 17.9	232 27.6	N20 11.5	216 34.2	N15 14.8	348 17.0	N 1 55.7
6	0	14 40.4	161 15.4	S21 18.0	247 28.6	N20 11.2	231 36.2	N15 14.6	3 19.6	N 1 55.6
	1	29 42.8	176 18.2	S21 18.0	262 29.6	N20 10.9	246 38.3	N15 14.5	18 22.3	N 1 55.6
	2	44 45.3	191 21.0	S21 18.1	277 30.5	N20 10.6	261 40.3	N15 14.4	33 24.9	N 1 55.5
	3	59 47.8	206 23.8	S21 18.1	292 31.5	N20 10.3	276 42.3	N15 14.2	48 27.6	N 1 55.4
	4	74 50.2	221 26.6	S21 18.1	307 32.5	N20 10.0	291 44.4	N15 14.1	63 30.2	N 1 55.3
T	5	89 52.7	236 29.3	S21 18.2	322 33.5	N20 09.7	306 46.4	N15 14.0	78 32.9	N 1 55.2
U										
E	6	104 55.2	251 32.1	S21 18.2	337 34.4	N20 09.4	321 48.5	N15 13.9	93 35.5	N 1 55.2
S	7	119 57.6	266 34.9	S21 18.2	352 35.4	N20 09.1	336 50.5	N15 13.7	108 38.2	N 1 55.1
D	8	135 00.1	281 37.8	S21 18.2	7 36.4	N20 08.8	351 52.5	N15 13.6	123 40.8	N 1 55.0
A	9	150 02.6	296 40.6	S21 18.3	22 37.4	N20 08.5	6 54.6	N15 13.5	138 43.4	N 1 54.9
Y	10	165 05.0	311 43.4	S21 18.3	37 38.3	N20 08.2	21 56.6	N15 13.3	153 46.1	N 1 54.9
	11	180 07.5	326 46.2	S21 18.3	52 39.3	N20 07.9	36 58.7	N15 13.2	168 48.7	N 1 54.8
	12	195 10.0	341 49.0	S21 18.3	67 40.3	N20 07.6	52 00.7	N15 13.1	183 51.4	N 1 54.7
	13	210 12.4	356 51.9	S21 18.3	82 41.3	N20 07.3	67 02.8	N15 13.0	198 54.0	N 1 54.6
	14	225 14.9	11 54.7	S21 18.3	97 42.2	N20 07.0	82 04.8	N15 12.8	213 56.7	N 1 54.6
	15	240 17.3	26 57.5	S21 18.3	112 43.2	N20 06.7	97 06.8	N15 12.7	228 59.3	N 1 54.5
	16	255 19.8	42 00.4	S21 18.3	127 44.2	N20 06.4	112 08.9	N15 12.6	244 02.0	N 1 54.4
	17	270 22.3	57 03.2	S21 18.3	142 45.2	N20 06.1	127 10.9	N15 12.4	259 04.6	N 1 54.3
	18	285 24.7	72 06.0	S21 18.3	157 46.2	N20 05.8	142 13.0	N15 12.3	274 07.2	N 1 54.2
	19	300 27.2	87 08.9	S21 18.3	172 47.1	N20 05.5	157 15.0	N15 12.2	289 09.9	N 1 54.2
	20	315 29.7	102 11.7	S21 18.3	187 48.1	N20 05.2	172 17.1	N15 12.0	304 12.5	N 1 54.1
	21	330 32.1	117 14.6	S21 18.3	202 49.1	N20 04.9	187 19.1	N15 11.9	319 15.2	N 1 54.0
	22	345 34.6	132 17.5	S21 18.3	217 50.1	N20 04.6	202 21.1	N15 11.8	334 17.8	N 1 53.9
	23	0 37.1	147 20.3	S21 18.3	232 51.0	N20 04.3	217 23.2	N15 11.7	349 20.5	N 1 53.9
			v 2.7	d 0.1	v 1.0	d 0.3	v 2.0	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
4	0	182 47.0	S 4 16.2	264 14.3	4.9	N25 52.6	6.7	59.2
	1	197 47.2	S 4 17.2	278 38.3	5.0	N25 45.8	6.9	59.2
	2	212 47.4	S 4 18.1	293 02.4	5.1	N25 38.8	7.0	59.2
	3	227 47.6	S 4 19.1	307 26.6	5.2	N25 31.6	7.2	59.1
	4	242 47.8	S 4 20.1	321 50.9	5.3	N25 24.2	7.3	59.1
S	5	257 48.0	S 4 21.0	336 15.2	5.4	N25 16.7	7.5	59.1
U								
N	6	272 48.2	S 4 22.0	350 39.7	5.4	N25 09.0	7.7	59.1
D	7	287 48.4	S 4 23.0	5 04.2	5.5	N25 01.2	7.8	59.1
A	8	302 48.6	S 4 23.9	19 28.8	5.6	N24 53.2	8.0	59.1
Y	9	317 48.8	S 4 24.9	33 53.5	5.7	N24 45.1	8.1	59.1
	10	332 48.9	S 4 25.9	48 18.4	5.8	N24 36.8	8.3	59.1
	11	347 49.1	S 4 26.8	62 43.3	5.9	N24 28.3	8.5	59.1
	12	2 49.3	S 4 27.8	77 08.3	6.0	N24 19.7	8.6	59.1
	13	17 49.5	S 4 28.7	91 33.4	6.1	N24 11.0	8.8	59.1
	14	32 49.7	S 4 29.7	105 58.5	6.2	N24 02.1	8.9	59.1
	15	47 49.9	S 4 30.7	120 23.8	6.3	N23 53.0	9.1	59.0
	16	62 50.1	S 4 31.6	134 49.2	6.4	N23 43.8	9.2	59.0
	17	77 50.3	S 4 32.6	149 14.7	6.5	N23 34.5	9.3	59.0
	18	92 50.5	S 4 33.6	163 40.3	6.6	N23 25.0	9.5	59.0
	19	107 50.7	S 4 34.5	178 06.0	6.7	N23 15.4	9.6	59.0
	20	122 50.9	S 4 35.5	192 31.8	6.8	N23 05.6	9.8	59.0
	21	137 51.0	S 4 36.4	206 57.6	6.9	N22 55.7	9.9	59.0
	22	152 51.2	S 4 37.4	221 23.6	7.0	N22 45.7	10.0	59.0
	23	167 51.4	S 4 38.4	235 49.7	7.1	N22 35.5	10.2	59.0
5	0	182 51.6	S 4 39.3	250 15.9	7.2	N22 25.2	10.3	59.0
	1	197 51.8	S 4 40.3	264 42.2	7.3	N22 14.7	10.4	58.9
	2	212 52.0	S 4 41.3	279 08.6	7.4	N22 04.2	10.6	58.9
	3	227 52.2	S 4 42.2	293 35.1	7.5	N21 53.5	10.7	58.9
	4	242 52.4	S 4 43.2	308 01.6	7.6	N21 42.6	10.8	58.9
M	5	257 52.6	S 4 44.1	322 28.3	7.7	N21 31.7	10.9	58.9
O								
N	6	272 52.7	S 4 45.1	336 55.1	7.8	N21 20.6	11.1	58.9
D	7	287 52.9	S 4 46.1	351 22.0	7.9	N21 09.4	11.2	58.9
A	8	302 53.1	S 4 47.0	5 49.0	8.0	N20 58.1	11.3	58.9
Y	9	317 53.3	S 4 48.0	20 16.1	8.1	N20 46.7	11.4	58.9
	10	332 53.5	S 4 49.0	34 43.3	8.2	N20 35.1	11.5	58.8
	11	347 53.7	S 4 49.9	49 10.6	8.3	N20 23.5	11.7	58.8
	12	2 53.9	S 4 50.9	63 38.0	8.4	N20 11.7	11.8	58.8
	13	17 54.1	S 4 51.8	78 05.5	8.5	N19 59.8	11.9	58.8
	14	32 54.2	S 4 52.8	92 33.1	8.6	N19 47.8	12.0	58.8
	15	47 54.4	S 4 53.8	107 00.8	8.7	N19 35.7	12.1	58.8
	16	62 54.6	S 4 54.7	121 28.6	8.8	N19 23.5	12.2	58.8
	17	77 54.8	S 4 55.7	135 56.5	8.9	N19 11.2	12.3	58.8
	18	92 55.0	S 4 56.6	150 24.5	9.0	N18 58.8	12.4	58.8
	19	107 55.2	S 4 57.6	164 52.6	9.1	N18 46.3	12.5	58.7
	20	122 55.4	S 4 58.6	179 20.8	9.2	N18 33.6	12.6	58.7
	21	137 55.6	S 4 59.5	193 49.1	9.3	N18 20.9	12.7	58.7
	22	152 55.7	S 5 00.5	208 17.5	9.4	N18 08.1	12.8	58.7
	23	167 55.9	S 5 01.4	222 46.0	9.5	N17 55.2	12.9	58.7
6	0	182 56.1	S 5 02.4	237 14.5	9.6	N17 42.2	13.0	58.7
	1	197 56.3	S 5 03.4	251 43.2	9.7	N17 29.1	13.1	58.7
	2	212 56.5	S 5 04.3	266 12.0	9.8	N17 15.9	13.2	58.7
	3	227 56.7	S 5 05.3	280 40.8	9.9	N17 02.7	13.3	58.6
	4	242 56.8	S 5 06.2	295 09.8	10.0	N16 49.3	13.4	58.6
T	5	257 57.0	S 5 07.2	309 38.8	10.0	N16 35.9	13.4	58.6
U								
E	6	272 57.2	S 5 08.2	324 08.0	10.1	N16 22.3	13.5	58.6
S	7	287 57.4	S 5 09.1	338 37.2	10.2	N16 08.7	13.6	58.6
D	8	302 57.6	S 5 10.1	353 06.5	10.3	N15 55.0	13.7	58.6
A	9	317 57.8	S 5 11.0	7 35.9	10.4	N15 41.3	13.8	58.6
Y	10	332 58.0	S 5 12.0	22 05.4	10.5	N15 27.4	13.8	58.5
	11	347 58.1	S 5 13.0	36 35.0	10.6	N15 13.5	13.9	58.5
	12	2 58.3	S 5 13.9	51 04.6	10.7	N14 59.5	14.0	58.5
	13	17 58.5	S 5 14.9	65 34.4	10.7	N14 45.5	14.1	58.5
	14	32 58.7	S 5 15.8	80 04.2	10.8	N14 31.3	14.1	58.5
	15	47 58.9	S 5 16.8	94 34.1	10.9	N14 17.1	14.2	58.5
	16	62 59.1	S 5 17.7	109 04.1	11.0	N14 02.9	14.3	58.5
	17	77 59.2	S 5 18.7	123 34.2	11.1	N13 48.5	14.3	58.4
	18	92 59.4	S 5 19.7	138 04.4	11.2	N13 34.1	14.4	58.4
	19	107 59.6	S 5 20.6	152 34.6	11.2	N13 19.7	14.5	58.4
	20	122 59.8	S 5 21.6	167 04.9	11.3	N13 05.1	14.5	58.4
	21	137 60.0	S 5 22.5	181 35.3	11.4	N12 50.6	14.6	58.4
	22	153 00.1	S 5 23.5	196 05.8	11.5	N12 35.9	14.6	58.4
	23	168 00.3	S 5 24.5	210 36.4	11.5	N12 21.2	14.7	58.3
		S.D. 16.0	d 1.0	S.D.	16.1	16.0	15.9	

Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.6
Achernar	335 18.5	S57 05.9
Acrux	172 59.3	S63 14.8
Adhara	255 04.7	S29 00.2
Albireo	67 02.8	N28 01.2
Aldebaran	290 37.8	N16 33.9
Alioth	166 12.2	N55 48.9
Alkaid	152 51.3	N49 10.8
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.1	S 1 10.9
Alphard	217 46.5	S 8 46.3
Alphecca	126 02.8	N26 37.6
Alpheratz	357 33.0	N29 14.5
Altair	61 58.5	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.7
Atria	107 07.6	S69 04.8
Avior	234 14.4	S59 35.4
Bellatrix	278 21.2	N 6 22.6
Betelgeuse	270 50.5	N 7 24.9
Canopus	263 51.7	S52 42.2
Capella	280 19.6	N46 01.4
Castor	245 55.3	N31 49.7
Deneb	49 24.6	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.5	S17 50.2
Dubhe	193 39.8	N61 36.2
Elnath	277 60.0	N28 37.8
Eltanin	90 41.7	N51 29.3
Enif	33 37.1	N10 00.1
Fomalhaut	15 12.6	S29 28.7
Gacrux	171 50.7	S57 15.7
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 30.2
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 30.7	S34 22.4
Kochab	137 21.0	N74 02.8
Markab	13 28.2	N15 21.1
Menkar	314 04.4	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.4	S69 49.3
Mirfak	308 25.9	N49 57.4
Nunki	75 46.0	S26 15.8
Peacock	53 03.2	S56 39.1
Polaris	315 35.9	N89 21.9
Pollux	243 15.6	N27 57.7
Procyon	244 49.4	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.1	N11 50.2
Rigel	281 02.4	S 8 10.0
Rigil Kent	139 39.1	S60 56.9
Sabik	102 01.3	S15 45.5
Schedar	349 28.9	N56 41.2
Shaula	96 08.6	S37 07.5
Sirius	258 25.0	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.5	S43 32.2
Vega	80 32.3	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
7 0	15 39.5	162 23.2	S21 18.3	247 52.0	N20 04.0	232 25.2	N15 11.5	4 23.1	N 1 53.8
1	30 42.0	177 26.1	S21 18.3	262 53.0	N20 03.7	247 27.3	N15 11.4	19 25.8	N 1 53.7
2	45 44.4	192 28.9	S21 18.3	277 54.0	N20 03.4	262 29.3	N15 11.3	34 28.4	N 1 53.6
3	60 46.9	207 31.8	S21 18.2	292 55.0	N20 03.0	277 31.4	N15 11.1	49 31.0	N 1 53.6
4	75 49.4	222 34.7	S21 18.2	307 56.0	N20 02.7	292 33.4	N15 11.0	64 33.7	N 1 53.5
W 5	90 51.8	237 37.6	S21 18.2	322 56.9	N20 02.4	307 35.5	N15 10.9	79 36.3	N 1 53.4
E									
D 6	105 54.3	252 40.5	S21 18.2	337 57.9	N20 02.1	322 37.5	N15 10.8	94 39.0	N 1 53.3
N 7	120 56.8	267 43.4	S21 18.1	352 58.9	N20 01.8	337 39.5	N15 10.6	109 41.6	N 1 53.2
E 8	135 59.2	282 46.3	S21 18.1	7 59.9	N20 01.5	352 41.6	N15 10.5	124 44.3	N 1 53.2
S 9	151 01.7	297 49.2	S21 18.1	23 00.9	N20 01.2	7 43.6	N15 10.4	139 46.9	N 1 53.1
D 10	166 04.2	312 52.1	S21 18.0	38 01.9	N20 00.9	22 45.7	N15 10.2	154 49.6	N 1 53.0
A 11	181 06.6	327 55.0	S21 18.0	53 02.8	N20 00.6	37 47.7	N15 10.1	169 52.2	N 1 52.9
Y									
12	196 09.1	342 57.9	S21 18.0	68 03.8	N20 00.3	52 49.8	N15 10.0	184 54.9	N 1 52.9
13	211 11.6	358 00.8	S21 17.9	83 04.8	N19 60.0	67 51.8	N15 09.9	199 57.5	N 1 52.8
14	226 14.0	13 03.8	S21 17.9	98 05.8	N19 59.7	82 53.9	N15 09.7	215 00.1	N 1 52.7
15	241 16.5	28 06.7	S21 17.8	113 06.8	N19 59.4	97 55.9	N15 09.6	230 02.8	N 1 52.6
16	256 18.9	43 09.6	S21 17.8	128 07.8	N19 59.1	112 58.0	N15 09.5	245 05.4	N 1 52.6
17	271 21.4	58 12.5	S21 17.7	143 08.7	N19 58.8	128 00.0	N15 09.3	260 08.1	N 1 52.5
18	286 23.9	73 15.5	S21 17.7	158 09.7	N19 58.5	143 02.1	N15 09.2	275 10.7	N 1 52.4
19	301 26.3	88 18.4	S21 17.6	173 10.7	N19 58.2	158 04.1	N15 09.1	290 13.4	N 1 52.3
20	316 28.8	103 21.4	S21 17.6	188 11.7	N19 57.8	173 06.1	N15 09.0	305 16.0	N 1 52.3
21	331 31.3	118 24.3	S21 17.5	203 12.7	N19 57.5	188 08.2	N15 08.8	320 18.7	N 1 52.2
22	346 33.7	133 27.3	S21 17.4	218 13.7	N19 57.2	203 10.2	N15 08.7	335 21.3	N 1 52.1
23	1 36.2	148 30.2	S21 17.4	233 14.7	N19 56.9	218 12.3	N15 08.6	350 23.9	N 1 52.0
8 0	16 38.7	163 33.2	S21 17.3	248 15.7	N19 56.6	233 14.3	N15 08.4	5 26.6	N 1 51.9
1	31 41.1	178 36.1	S21 17.2	263 16.6	N19 56.3	248 16.4	N15 08.3	20 29.2	N 1 51.9
2	46 43.6	193 39.1	S21 17.2	278 17.6	N19 56.0	263 18.4	N15 08.2	35 31.9	N 1 51.8
3	61 46.1	208 42.1	S21 17.1	293 18.6	N19 55.7	278 20.5	N15 08.1	50 34.5	N 1 51.7
4	76 48.5	223 45.1	S21 17.0	308 19.6	N19 55.4	293 22.5	N15 07.9	65 37.2	N 1 51.6
T 5	91 51.0	238 48.0	S21 16.9	323 20.6	N19 55.1	308 24.6	N15 07.8	80 39.8	N 1 51.6
H									
U 6	106 53.4	253 51.0	S21 16.8	338 21.6	N19 54.8	323 26.6	N15 07.7	95 42.5	N 1 51.5
R 7	121 55.9	268 54.0	S21 16.8	353 22.6	N19 54.5	338 28.7	N15 07.6	110 45.1	N 1 51.4
S 8	136 58.4	283 57.0	S21 16.7	8 23.6	N19 54.2	353 30.7	N15 07.4	125 47.7	N 1 51.3
D 9	152 00.8	298 60.0	S21 16.6	23 24.6	N19 53.8	8 32.8	N15 07.3	140 50.4	N 1 51.3
A 10	167 03.3	314 03.0	S21 16.5	38 25.6	N19 53.5	23 34.8	N15 07.2	155 53.0	N 1 51.2
Y 11	182 05.8	329 06.0	S21 16.4	53 26.6	N19 53.2	38 36.9	N15 07.0	170 55.7	N 1 51.1
12	197 08.2	344 09.0	S21 16.3	68 27.5	N19 52.9	53 38.9	N15 06.9	185 58.3	N 1 51.0
13	212 10.7	359 12.0	S21 16.2	83 28.5	N19 52.6	68 41.0	N15 06.8	201 01.0	N 1 51.0
14	227 13.2	14 15.0	S21 16.1	98 29.5	N19 52.3	83 43.0	N15 06.7	216 03.6	N 1 50.9
15	242 15.6	29 18.0	S21 16.0	113 30.5	N19 52.0	98 45.1	N15 06.5	231 06.3	N 1 50.8
16	257 18.1	44 21.1	S21 15.9	128 31.5	N19 51.7	113 47.1	N15 06.4	246 08.9	N 1 50.7
17	272 20.5	59 24.1	S21 15.8	143 32.5	N19 51.4	128 49.2	N15 06.3	261 11.5	N 1 50.6
18	287 23.0	74 27.1	S21 15.7	158 33.5	N19 51.1	143 51.2	N15 06.1	276 14.2	N 1 50.6
19	302 25.5	89 30.1	S21 15.6	173 34.5	N19 50.8	158 53.3	N15 06.0	291 16.8	N 1 50.5
20	317 27.9	104 33.2	S21 15.4	188 35.5	N19 50.4	173 55.3	N15 05.9	306 19.5	N 1 50.4
21	332 30.4	119 36.2	S21 15.3	203 36.5	N19 50.1	188 57.4	N15 05.8	321 22.1	N 1 50.3
22	347 32.9	134 39.3	S21 15.2	218 37.5	N19 49.8	203 59.4	N15 05.6	336 24.8	N 1 50.3
23	2 35.3	149 42.3	S21 15.1	233 38.5	N19 49.5	219 01.5	N15 05.5	351 27.4	N 1 50.2
9 0	17 37.8	164 45.4	S21 15.0	248 39.5	N19 49.2	234 03.5	N15 05.4	6 30.1	N 1 50.1
1	32 40.3	179 48.4	S21 14.8	263 40.5	N19 48.9	249 05.6	N15 05.3	21 32.7	N 1 50.0
2	47 42.7	194 51.5	S21 14.7	278 41.5	N19 48.6	264 07.6	N15 05.1	36 35.3	N 1 50.0
3	62 45.2	209 54.5	S21 14.6	293 42.5	N19 48.3	279 09.7	N15 05.0	51 38.0	N 1 49.9
4	77 47.7	224 57.6	S21 14.4	308 43.5	N19 48.0	294 11.8	N15 04.9	66 40.6	N 1 49.8
F 5	92 50.1	240 00.7	S21 14.3	323 44.5	N19 47.6	309 13.8	N15 04.8	81 43.3	N 1 49.7
R									
I 6	107 52.6	255 03.7	S21 14.2	338 45.5	N19 47.3	324 15.9	N15 04.6	96 45.9	N 1 49.7
D 7	122 55.0	270 06.8	S21 14.0	353 46.5	N19 47.0	339 17.9	N15 04.5	111 48.6	N 1 49.6
A 8	137 57.5	285 09.9	S21 13.9	8 47.5	N19 46.7	354 20.0	N15 04.4	126 51.2	N 1 49.5
Y 9	152 60.0	300 13.0	S21 13.7	23 48.5	N19 46.4	9 22.0	N15 04.2	141 53.9	N 1 49.4
10	168 02.4	315 16.1	S21 13.6	38 49.5	N19 46.1	24 24.1	N15 04.1	156 56.5	N 1 49.4
11	183 04.9	330 19.2	S21 13.4	53 50.5	N19 45.8	39 26.1	N15 04.0	171 59.1	N 1 49.3
12	198 07.4	345 22.2	S21 13.3	68 51.5	N19 45.5	54 28.2	N15 03.9	187 01.8	N 1 49.2
13	213 09.8	0 25.3	S21 13.1	83 52.5	N19 45.2	69 30.2	N15 03.7	202 04.4	N 1 49.1
14	228 12.3	15 28.4	S21 13.0	98 53.5	N19 44.8	84 32.3	N15 03.6	217 07.1	N 1 49.1
15	243 14.8	30 31.6	S21 12.8	113 54.5	N19 44.5	99 34.3	N15 03.5	232 09.7	N 1 49.0
16	258 17.2	45 34.7	S21 12.6	128 55.5	N19 44.2	114 36.4	N15 03.4	247 12.4	N 1 48.9
17	273 19.7	60 37.8	S21 12.5	143 56.5	N19 43.9	129 38.5	N15 03.2	262 15.0	N 1 48.8
18	288 22.1	75 40.9	S21 12.3	158 57.5	N19 43.6	144 40.5	N15 03.1	277 17.6	N 1 48.7
19	303 24.6	90 44.0	S21 12.1	173 58.5	N19 43.3	159 42.6	N15 03.0	292 20.3	N 1 48.7
20	318 27.1	105 47.1	S21 12.0	188 59.5	N19 43.0	174 44.6	N15 02.9	307 22.9	N 1 48.6
21	333 29.5	120 50.3	S21 11.8	204 00.5	N19 42.7	189 46.7	N15 02.7	322 25.6	N 1 48.5
22	348 32.0	135 53.4	S21 11.6	219 01.5	N19 42.3	204 48.7	N15 02.6	337 28.2	N 1 48.4
23	3 34.5	150 56.5	S21 11.4	234 02.5	N19 42.0	219 50.8	N15 02.5	352 30.9	N 1 48.4
		v 3.0	d 0.1	v 1.0	d 0.3	v 2.1	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
7	0	183 00.5	S 5 25.4	225 07.0	11.6	N12 06.5	14.8	58.3
	1	198 00.7	S 5 26.4	239 37.7	11.7	N11 51.7	14.8	58.3
	2	213 00.9	S 5 27.3	254 08.4	11.8	N11 36.8	14.9	58.3
	3	228 01.0	S 5 28.3	268 39.3	11.8	N11 21.9	14.9	58.3
	4	243 01.2	S 5 29.2	283 10.2	11.9	N11 06.9	15.0	58.3
W	5	258 01.4	S 5 30.2	297 41.2	12.0	N10 51.9	15.0	58.3
E								
D	6	273 01.6	S 5 31.2	312 12.2	12.0	N10 36.9	15.0	58.2
N	7	288 01.8	S 5 32.1	326 43.3	12.1	N10 21.8	15.1	58.2
E	8	303 01.9	S 5 33.1	341 14.5	12.2	N10 06.7	15.1	58.2
S	9	318 02.1	S 5 34.0	355 45.7	12.2	N 9 51.5	15.2	58.2
D	10	333 02.3	S 5 35.0	10 17.1	12.3	N 9 36.3	15.2	58.2
A	11	348 02.5	S 5 35.9	24 48.4	12.4	N 9 21.0	15.3	58.2
Y								
	12	3 02.7	S 5 36.9	39 19.9	12.4	N 9 05.7	15.3	58.1
	13	18 02.8	S 5 37.8	53 51.3	12.5	N 8 50.4	15.3	58.1
	14	33 03.0	S 5 38.8	68 22.9	12.5	N 8 35.0	15.4	58.1
	15	48 03.2	S 5 39.8	82 54.5	12.6	N 8 19.7	15.4	58.1
	16	63 03.4	S 5 40.7	97 26.2	12.7	N 8 04.2	15.4	58.1
	17	78 03.6	S 5 41.7	111 57.9	12.7	N 7 48.8	15.5	58.0
	18	93 03.7	S 5 42.6	126 29.7	12.8	N 7 33.3	15.5	58.0
	19	108 03.9	S 5 43.6	141 01.5	12.8	N 7 17.8	15.5	58.0
	20	123 04.1	S 5 44.5	155 33.4	12.9	N 7 02.2	15.5	58.0
	21	138 04.3	S 5 45.5	170 05.3	12.9	N 6 46.7	15.6	58.0
	22	153 04.4	S 5 46.4	184 37.3	13.0	N 6 31.1	15.6	58.0
	23	168 04.6	S 5 47.4	199 09.3	13.0	N 6 15.5	15.6	57.9
8	0	183 04.8	S 5 48.3	213 41.4	13.1	N 5 59.9	15.6	57.9
	1	198 05.0	S 5 49.3	228 13.5	13.1	N 5 44.2	15.6	57.9
	2	213 05.1	S 5 50.3	242 45.7	13.2	N 5 28.6	15.7	57.9
	3	228 05.3	S 5 51.2	257 17.9	13.2	N 5 12.9	15.7	57.9
	4	243 05.5	S 5 52.2	271 50.1	13.3	N 4 57.2	15.7	57.8
T	5	258 05.7	S 5 53.1	286 22.4	13.3	N 4 41.5	15.7	57.8
H								
U	6	273 05.8	S 5 54.1	300 54.7	13.3	N 4 25.8	15.7	57.8
R	7	288 06.0	S 5 55.0	315 27.1	13.4	N 4 10.1	15.7	57.8
S	8	303 06.2	S 5 56.0	329 59.5	13.4	N 3 54.3	15.7	57.8
D	9	318 06.4	S 5 56.9	344 32.0	13.4	N 3 38.6	15.7	57.8
A	10	333 06.6	S 5 57.9	359 04.5	13.5	N 3 22.8	15.8	57.7
Y	11	348 06.7	S 5 58.8	13 37.0	13.5	N 3 07.1	15.8	57.7
	12	3 06.9	S 5 59.8	28 09.5	13.6	N 2 51.3	15.8	57.7
	13	18 07.1	S 6 00.7	42 42.1	13.6	N 2 35.5	15.8	57.7
	14	33 07.2	S 6 01.7	57 14.7	13.6	N 2 19.8	15.8	57.7
	15	48 07.4	S 6 02.6	71 47.4	13.6	N 2 04.0	15.8	57.6
	16	63 07.6	S 6 03.6	86 20.0	13.7	N 1 48.2	15.8	57.6
	17	78 07.8	S 6 04.6	100 52.7	13.7	N 1 32.5	15.8	57.6
	18	93 07.9	S 6 05.5	115 25.5	13.7	N 1 16.7	15.8	57.6
	19	108 08.1	S 6 06.5	129 58.2	13.8	N 1 01.0	15.8	57.6
	20	123 08.3	S 6 07.4	144 31.0	13.8	N 0 45.2	15.7	57.5
	21	138 08.5	S 6 08.4	159 03.8	13.8	N 0 29.5	15.7	57.5
	22	153 08.6	S 6 09.3	173 36.6	13.8	N 0 13.7	15.7	57.5
	23	168 08.8	S 6 10.3	188 09.4	13.8	S 0 02.0	15.7	57.5
9	0	183 09.0	S 6 11.2	202 42.3	13.9	S 0 17.7	15.7	57.4
	1	198 09.1	S 6 12.2	217 15.2	13.9	S 0 33.4	15.7	57.4
	2	213 09.3	S 6 13.1	231 48.1	13.9	S 0 49.1	15.7	57.4
	3	228 09.5	S 6 14.1	246 21.0	13.9	S 1 04.8	15.7	57.4
	4	243 09.7	S 6 15.0	260 53.9	13.9	S 1 20.4	15.7	57.4
F	5	258 09.8	S 6 16.0	275 26.8	13.9	S 1 36.1	15.6	57.3
R								
I	6	273 10.0	S 6 16.9	289 59.8	14.0	S 1 51.7	15.6	57.3
D	7	288 10.2	S 6 17.9	304 32.8	14.0	S 2 07.3	15.6	57.3
A	8	303 10.3	S 6 18.8	319 05.7	14.0	S 2 22.9	15.6	57.3
Y	9	318 10.5	S 6 19.8	333 38.7	14.0	S 2 38.4	15.6	57.3
	10	333 10.7	S 6 20.7	348 11.7	14.0	S 2 54.0	15.5	57.2
	11	348 10.9	S 6 21.7	2 44.7	14.0	S 3 09.5	15.5	57.2
	12	3 11.0	S 6 22.6	17 17.7	14.0	S 3 25.0	15.5	57.2
	13	18 11.2	S 6 23.6	31 50.7	14.0	S 3 40.4	15.5	57.2
	14	33 11.4	S 6 24.5	46 23.8	14.0	S 3 55.9	15.4	57.2
	15	48 11.5	S 6 25.5	60 56.8	14.0	S 4 11.3	15.4	57.1
	16	63 11.7	S 6 26.4	75 29.8	14.0	S 4 26.6	15.4	57.1
	17	78 11.9	S 6 27.4	90 02.8	14.0	S 4 42.0	15.3	57.1
	18	93 12.0	S 6 28.3	104 35.8	14.0	S 4 57.3	15.3	57.1
	19	108 12.2	S 6 29.3	119 08.9	14.0	S 5 12.6	15.3	57.0
	20	123 12.4	S 6 30.2	133 41.9	14.0	S 5 27.8	15.2	57.0
	21	138 12.5	S 6 31.2	148 14.9	14.0	S 5 43.0	15.2	57.0
	22	153 12.7	S 6 32.1	162 47.9	14.0	S 5 58.2	15.2	57.0
	23	168 12.9	S 6 33.0	177 20.9	14.0	S 6 13.3	15.1	57.0
		S.D. 16.0	d 1.0	S.D.	15.8	15.7	15.6	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.6
Achernar	335 18.5	S57 05.9
Acrux	172 59.3	S63 14.8
Adhara	255 04.7	S29 00.2
Albireo	67 02.9	N28 01.2
Aldebaran	290 37.8	N16 33.9
Alioth	166 12.2	N55 48.9
Alkaid	152 51.3	N49 10.8
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.1	S 1 10.9
Alphard	217 46.5	S 8 46.3
Alphecca	126 02.8	N26 37.6
Alpheratz	357 33.0	N29 14.5
Altair	61 58.5	N 8 56.5
Ankaa	353 05.3	S42 09.5
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.7
Atria	107 07.6	S69 04.8
Avior	234 14.4	S59 35.4
Bellatrix	278 21.2	N 6 22.6
Betelgeuse	270 50.4	N 7 24.9
Canopus	263 51.6	S52 42.2
Capella	280 19.6	N46 01.4
Castor	245 55.3	N31 49.7
Deneb	49 24.6	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.5	S17 50.2
Dubhe	193 39.8	N61 36.2
Elnath	277 59.9	N28 37.8
Eltanin	90 41.7	N51 29.3
Enif	33 37.1	N10 00.1
Fomalhaut	15 12.6	S29 28.8
Gacrux	171 50.7	S57 15.7
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 30.2
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 30.7	S34 22.4
Kochab	137 21.0	N74 02.8
Markab	13 28.2	N15 21.1
Menkar	314 04.3	N 4 11.9
Menkent	147 56.3	S36 30.2
Miaplacidus	221 38.4	S69 49.3
Mirfak	308 25.8	N49 57.4
Nunki	75 46.0	S26 15.8
Peacock	53 03.2	S56 39.1
Polaris	315 35.4	N89 21.9
Pollux	243 15.6	N27 57.7
Procyon	244 49.4	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.1	N11 50.2
Rigel	281 02.3	S 8 10.0
Rigil Kent	139 39.1	S60 56.9
Sabik	102 01.3	S15 45.5
Schedar	349 28.9	N56 41.2
Shaula	96 08.6	S37 07.5
Sirius	258 24.9	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.5	S43 32.1
Vega	80 32.3	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
10 0	18 36.9	165 59.7	S21 11.3	249 03.5	N19 41.7	234 52.8	N15 02.4	7 33.5	N 1 48.3
1	33 39.4	181 02.8	S21 11.1	264 04.5	N19 41.4	249 54.9	N15 02.2	22 36.2	N 1 48.2
2	48 41.9	196 06.0	S21 10.9	279 05.5	N19 41.1	264 57.0	N15 02.1	37 38.8	N 1 48.1
3	63 44.3	211 09.1	S21 10.7	294 06.5	N19 40.8	279 59.0	N15 02.0	52 41.4	N 1 48.1
4	78 46.8	226 12.3	S21 10.5	309 07.5	N19 40.5	295 01.1	N15 01.9	67 44.1	N 1 48.0
S 5	93 49.3	241 15.4	S21 10.3	324 08.5	N19 40.1	310 03.1	N15 01.7	82 46.7	N 1 47.9
A									
T 6	108 51.7	256 18.6	S21 10.1	339 09.5	N19 39.8	325 05.2	N15 01.6	97 49.4	N 1 47.8
U 7	123 54.2	271 21.7	S21 09.9	354 10.5	N19 39.5	340 07.2	N15 01.5	112 52.0	N 1 47.8
R 8	138 56.6	286 24.9	S21 09.7	9 11.6	N19 39.2	355 09.3	N15 01.3	127 54.7	N 1 47.7
D 9	153 59.1	301 28.1	S21 09.5	24 12.6	N19 38.9	10 11.4	N15 01.2	142 57.3	N 1 47.6
A 10	169 01.6	316 31.3	S21 09.3	39 13.6	N19 38.6	25 13.4	N15 01.1	157 59.9	N 1 47.5
Y 11	184 04.0	331 34.4	S21 09.1	54 14.6	N19 38.3	40 15.5	N15 01.0	173 02.6	N 1 47.5
12	199 06.5	346 37.6	S21 08.9	69 15.6	N19 37.9	55 17.5	N15 00.8	188 05.2	N 1 47.4
13	214 09.0	1 40.8	S21 08.7	84 16.6	N19 37.6	70 19.6	N15 00.7	203 07.9	N 1 47.3
14	229 11.4	16 44.0	S21 08.4	99 17.6	N19 37.3	85 21.7	N15 00.6	218 10.5	N 1 47.2
15	244 13.9	31 47.2	S21 08.2	114 18.6	N19 37.0	100 23.7	N15 00.5	233 13.2	N 1 47.2
16	259 16.4	46 50.4	S21 08.0	129 19.6	N19 36.7	115 25.8	N15 00.3	248 15.8	N 1 47.1
17	274 18.8	61 53.6	S21 07.8	144 20.6	N19 36.4	130 27.8	N15 00.2	263 18.5	N 1 47.0
18	289 21.3	76 56.8	S21 07.5	159 21.6	N19 36.1	145 29.9	N15 00.1	278 21.1	N 1 46.9
19	304 23.8	91 60.0	S21 07.3	174 22.7	N19 35.7	160 32.0	N14 60.0	293 23.7	N 1 46.9
20	319 26.2	107 03.2	S21 07.1	189 23.7	N19 35.4	175 34.0	N14 59.8	308 26.4	N 1 46.8
21	334 28.7	122 06.4	S21 06.9	204 24.7	N19 35.1	190 36.1	N14 59.7	323 29.0	N 1 46.7
22	349 31.1	137 09.6	S21 06.6	219 25.7	N19 34.8	205 38.1	N14 59.6	338 31.7	N 1 46.6
23	4 33.6	152 12.8	S21 06.4	234 26.7	N19 34.5	220 40.2	N14 59.5	353 34.3	N 1 46.6
11 0	19 36.1	167 16.1	S21 06.1	249 27.7	N19 34.2	235 42.3	N14 59.3	8 37.0	N 1 46.5
1	34 38.5	182 19.3	S21 05.9	264 28.7	N19 33.9	250 44.3	N14 59.2	23 39.6	N 1 46.4
2	49 41.0	197 22.5	S21 05.6	279 29.7	N19 33.5	265 46.4	N14 59.1	38 42.2	N 1 46.3
3	64 43.5	212 25.8	S21 05.4	294 30.8	N19 33.2	280 48.4	N14 59.0	53 44.9	N 1 46.3
4	79 45.9	227 29.0	S21 05.1	309 31.8	N19 32.9	295 50.5	N14 58.8	68 47.5	N 1 46.2
S 5	94 48.4	242 32.2	S21 04.9	324 32.8	N19 32.6	310 52.6	N14 58.7	83 50.2	N 1 46.1
U									
N 6	109 50.9	257 35.5	S21 04.6	339 33.8	N19 32.3	325 54.6	N14 58.6	98 52.8	N 1 46.0
D 7	124 53.3	272 38.7	S21 04.4	354 34.8	N19 32.0	340 56.7	N14 58.5	113 55.5	N 1 46.0
A 8	139 55.8	287 42.0	S21 04.1	9 35.8	N19 31.6	355 58.7	N14 58.4	128 58.1	N 1 45.9
Y 9	154 58.2	302 45.2	S21 03.8	24 36.8	N19 31.3	11 00.8	N14 58.2	144 00.7	N 1 45.8
10	170 00.7	317 48.5	S21 03.6	39 37.9	N19 31.0	26 02.9	N14 58.1	159 03.4	N 1 45.7
11	185 03.2	332 51.8	S21 03.3	54 38.9	N19 30.7	41 04.9	N14 58.0	174 06.0	N 1 45.7
12	200 05.6	347 55.0	S21 03.0	69 39.9	N19 30.4	56 07.0	N14 57.9	189 08.7	N 1 45.6
13	215 08.1	2 58.3	S21 02.8	84 40.9	N19 30.1	71 09.1	N14 57.7	204 11.3	N 1 45.5
14	230 10.6	18 01.6	S21 02.5	99 41.9	N19 29.7	86 11.1	N14 57.6	219 14.0	N 1 45.4
15	245 13.0	33 04.9	S21 02.2	114 42.9	N19 29.4	101 13.2	N14 57.5	234 16.6	N 1 45.4
16	260 15.5	48 08.1	S21 01.9	129 44.0	N19 29.1	116 15.3	N14 57.4	249 19.3	N 1 45.3
17	275 18.0	63 11.4	S21 01.6	144 45.0	N19 28.8	131 17.3	N14 57.2	264 21.9	N 1 45.2
18	290 20.4	78 14.7	S21 01.4	159 46.0	N19 28.5	146 19.4	N14 57.1	279 24.5	N 1 45.1
19	305 22.9	93 18.0	S21 01.1	174 47.0	N19 28.1	161 21.4	N14 57.0	294 27.2	N 1 45.1
20	320 25.4	108 21.3	S21 00.8	189 48.0	N19 27.8	176 23.5	N14 56.9	309 29.8	N 1 45.0
21	335 27.8	123 24.6	S21 00.5	204 49.1	N19 27.5	191 25.6	N14 56.7	324 32.5	N 1 44.9
22	350 30.3	138 27.9	S21 00.2	219 50.1	N19 27.2	206 27.6	N14 56.6	339 35.1	N 1 44.8
23	5 32.7	153 31.2	S20 59.9	234 51.1	N19 26.9	221 29.7	N14 56.5	354 37.8	N 1 44.8
12 0	20 35.2	168 34.5	S20 59.6	249 52.1	N19 26.6	236 31.8	N14 56.4	9 40.4	N 1 44.7
1	35 37.7	183 37.8	S20 59.3	264 53.1	N19 26.2	251 33.8	N14 56.2	24 43.0	N 1 44.6
2	50 40.1	198 41.1	S20 59.0	279 54.2	N19 25.9	266 35.9	N14 56.1	39 45.7	N 1 44.5
3	65 42.6	213 44.4	S20 58.7	294 55.2	N19 25.6	281 38.0	N14 56.0	54 48.3	N 1 44.5
4	80 45.1	228 47.8	S20 58.4	309 56.2	N19 25.3	296 40.0	N14 55.9	69 51.0	N 1 44.4
M 5	95 47.5	243 51.1	S20 58.0	324 57.2	N19 25.0	311 42.1	N14 55.8	84 53.6	N 1 44.3
O									
N 6	110 50.0	258 54.4	S20 57.7	339 58.3	N19 24.6	326 44.2	N14 55.6	99 56.2	N 1 44.2
D 7	125 52.5	273 57.7	S20 57.4	354 59.3	N19 24.3	341 46.2	N14 55.5	114 58.9	N 1 44.2
A 8	140 54.9	289 01.1	S20 57.1	10 00.3	N19 24.0	356 48.3	N14 55.4	130 01.5	N 1 44.1
Y 9	155 57.4	304 04.4	S20 56.8	25 01.3	N19 23.7	11 50.4	N14 55.3	145 04.2	N 1 44.0
10	170 59.8	319 07.8	S20 56.4	40 02.4	N19 23.4	26 52.4	N14 55.1	160 06.8	N 1 43.9
11	186 02.3	334 11.1	S20 56.1	55 03.4	N19 23.0	41 54.5	N14 55.0	175 09.5	N 1 43.9
12	201 04.8	349 14.4	S20 55.8	70 04.4	N19 22.7	56 56.6	N14 54.9	190 12.1	N 1 43.8
13	216 07.2	4 17.8	S20 55.4	85 05.4	N19 22.4	71 58.6	N14 54.8	205 14.7	N 1 43.7
14	231 09.7	19 21.2	S20 55.1	100 06.5	N19 22.1	87 00.7	N14 54.6	220 17.4	N 1 43.6
15	246 12.2	34 24.5	S20 54.8	115 07.5	N19 21.8	102 02.8	N14 54.5	235 20.0	N 1 43.6
16	261 14.6	49 27.9	S20 54.4	130 08.5	N19 21.4	117 04.8	N14 54.4	250 22.7	N 1 43.5
17	276 17.1	64 31.2	S20 54.1	145 09.5	N19 21.1	132 06.9	N14 54.3	265 25.3	N 1 43.4
18	291 19.6	79 34.6	S20 53.7	160 10.6	N19 20.8	147 09.0	N14 54.2	280 28.0	N 1 43.3
19	306 22.0	94 38.0	S20 53.4	175 11.6	N19 20.5	162 11.0	N14 54.0	295 30.6	N 1 43.3
20	321 24.5	109 41.3	S20 53.0	190 12.6	N19 20.2	177 13.1	N14 53.9	310 33.2	N 1 43.2
21	336 27.0	124 44.7	S20 52.7	205 13.6	N19 19.8	192 15.2	N14 53.8	325 35.9	N 1 43.1
22	351 29.4	139 48.1	S20 52.3	220 14.7	N19 19.5	207 17.2	N14 53.7	340 38.5	N 1 43.1
23	6 31.9	154 51.5	S20 52.0	235 15.7	N19 19.2	222 19.3	N14 53.5	355 41.2	N 1 43.0
		v 3.3	d 0.3	v 1.0	d 0.3	v 2.1	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
10 0	183 13.0	S 6 34.0	191 53.9	14.0	S 6 28.4	15.1	56.9	Acamar	315 10.3 S40 11.6
1	198 13.2	S 6 34.9	206 26.9	14.0	S 6 43.5	15.1	56.9	Achernar	335 18.5 S57 05.9
2	213 13.4	S 6 35.9	220 59.9	14.0	S 6 58.5	15.0	56.9	Acrux	172 59.2 S63 14.7
3	228 13.5	S 6 36.8	235 32.9	14.0	S 7 13.4	15.0	56.9	Adhara	255 04.7 S29 00.2
4	243 13.7	S 6 37.8	250 05.9	14.0	S 7 28.4	14.9	56.8	Albireo	67 02.9 N28 01.2
S 5	258 13.9	S 6 38.7	264 38.8	14.0	S 7 43.2	14.9	56.8		
A								Aldebaran	290 37.8 N16 33.9
T 6	273 14.0	S 6 39.7	279 11.8	13.9	S 7 58.1	14.8	56.8	Alioth	166 12.2 N55 48.9
U 7	288 14.2	S 6 40.6	293 44.7	13.9	S 8 12.9	14.8	56.8	Alkaid	152 51.3 N49 10.8
R 8	303 14.4	S 6 41.6	308 17.6	13.9	S 8 27.6	14.7	56.7	Al Na-ir	27 30.7 S46 49.9
D 9	318 14.5	S 6 42.5	322 50.5	13.9	S 8 42.3	14.7	56.7	Alnilam	275 36.1 S 1 10.9
A 10	333 14.7	S 6 43.5	337 23.4	13.9	S 8 56.9	14.6	56.7		
Y 11	348 14.9	S 6 44.4	351 56.3	13.9	S 9 11.5	14.6	56.7	Alphard	217 46.5 S 8 46.3
								Alphecca	126 02.8 N26 37.6
12	3 15.0	S 6 45.4	6 29.2	13.9	S 9 26.1	14.5	56.7	Alpheratz	357 33.0 N29 14.5
13	18 15.2	S 6 46.3	21 02.0	13.8	S 9 40.6	14.5	56.6	Altair	61 58.5 N 8 56.5
14	33 15.4	S 6 47.2	35 34.8	13.8	S 9 55.0	14.4	56.6	Ankaa	353 05.3 S42 09.6
15	48 15.5	S 6 48.2	50 07.6	13.8	S10 09.4	14.4	56.6		
16	63 15.7	S 6 49.1	64 40.4	13.8	S10 23.7	14.3	56.6	Antares	112 14.3 S26 29.5
17	78 15.9	S 6 50.1	79 13.2	13.8	S10 37.9	14.3	56.5	Arcturus	145 46.9 N19 02.6
								Atria	107 07.7 S69 04.8
18	93 16.0	S 6 51.0	93 45.9	13.7	S10 52.1	14.2	56.5	Avior	234 14.3 S59 35.4
19	108 16.2	S 6 52.0	108 18.6	13.7	S11 06.3	14.1	56.5	Bellatrix	278 21.2 N 6 22.6
20	123 16.3	S 6 52.9	122 51.3	13.7	S11 20.4	14.1	56.5		
21	138 16.5	S 6 53.9	137 24.0	13.7	S11 34.4	14.0	56.4	Betelgeuse	270 50.4 N 7 24.9
22	153 16.7	S 6 54.8	151 56.7	13.6	S11 48.3	14.0	56.4	Canopus	263 51.6 S52 42.2
23	168 16.8	S 6 55.7	166 29.3	13.6	S12 02.2	13.9	56.4	Capella	280 19.5 N46 01.4
11 0	183 17.0	S 6 56.7	181 01.9	13.6	S12 16.1	13.8	56.4	Castor	245 55.2 N31 49.7
1	198 17.2	S 6 57.6	195 34.4	13.6	S12 29.8	13.8	56.4	Deneb	49 24.7 N45 22.8
2	213 17.3	S 6 58.6	210 07.0	13.5	S12 43.5	13.7	56.3	Denebola	182 23.8 N14 25.4
3	228 17.5	S 6 59.5	224 39.5	13.5	S12 57.2	13.6	56.3	Diphda	348 45.5 S17 50.2
4	243 17.6	S 7 00.5	239 12.0	13.5	S13 10.7	13.6	56.3	Dubhe	193 39.7 N61 36.2
S 5	258 17.8	S 7 01.4	253 44.4	13.4	S13 24.2	13.5	56.3	Elnath	277 59.9 N28 37.8
U								Eltanin	90 41.7 N51 29.3
N 6	273 18.0	S 7 02.4	268 16.8	13.4	S13 37.6	13.4	56.2		
D 7	288 18.1	S 7 03.3	282 49.2	13.4	S13 51.0	13.3	56.2	Enif	33 37.1 N10 00.1
A 8	303 18.3	S 7 04.2	297 21.6	13.4	S14 04.3	13.3	56.2	Fomalhaut	15 12.6 S29 28.8
Y 9	318 18.5	S 7 05.2	311 53.9	13.3	S14 17.5	13.2	56.2	Gacrux	171 50.7 S57 15.7
10	333 18.6	S 7 06.1	326 26.2	13.3	S14 30.6	13.1	56.1	Gienah	175 42.4 S17 41.3
11	348 18.8	S 7 07.1	340 58.4	13.3	S14 43.6	13.1	56.1	Hadar	148 34.7 S60 30.2
12	3 18.9	S 7 08.0	355 30.6	13.2	S14 56.6	13.0	56.1	Hamal	327 49.3 N23 35.5
13	18 19.1	S 7 08.9	10 02.8	13.2	S15 09.5	12.9	56.1	Kaus Austr.	83 30.7 S34 22.4
14	33 19.3	S 7 09.9	24 35.0	13.1	S15 22.3	12.8	56.1	Kochab	137 21.0 N74 02.8
15	48 19.4	S 7 10.8	39 07.1	13.1	S15 35.1	12.7	56.0	Markab	13 28.2 N15 21.1
16	63 19.6	S 7 11.8	53 39.2	13.1	S15 47.7	12.7	56.0	Menkar	314 04.3 N 4 11.9
17	78 19.7	S 7 12.7	68 11.2	13.0	S16 00.3	12.6	56.0		
								Menkent	147 56.3 S36 30.1
18	93 19.9	S 7 13.7	82 43.2	13.0	S16 12.8	12.5	56.0	Miaplacidus	221 38.4 S69 49.3
19	108 20.0	S 7 14.6	97 15.2	13.0	S16 25.2	12.4	55.9	Mirfak	308 25.8 N49 57.4
20	123 20.2	S 7 15.5	111 47.1	12.9	S16 37.5	12.3	55.9	Nunki	75 46.0 S26 15.8
21	138 20.4	S 7 16.5	126 19.0	12.9	S16 49.8	12.2	55.9	Peacock	53 03.2 S56 39.1
22	153 20.5	S 7 17.4	140 50.8	12.8	S17 01.9	12.2	55.9		
23	168 20.7	S 7 18.4	155 22.6	12.8	S17 14.0	12.1	55.8	Polaris	315 34.9 N89 22.0
12 0	183 20.8	S 7 19.3	169 54.4	12.8	S17 26.0	12.0	55.8	Pollux	243 15.6 N27 57.7
1	198 21.0	S 7 20.2	184 26.1	12.7	S17 37.8	11.9	55.8	Procyon	244 49.3 N 5 09.5
2	213 21.1	S 7 21.2	198 57.8	12.7	S17 49.6	11.8	55.8	Rasalhague	95 57.4 N12 32.6
3	228 21.3	S 7 22.1	213 29.4	12.6	S18 01.4	11.7	55.8	Regulus	207 33.1 N11 50.2
4	243 21.5	S 7 23.1	228 01.0	12.6	S18 13.0	11.6	55.7	Rigel	281 02.3 S 8 10.0
M 5	258 21.6	S 7 24.0	242 32.6	12.6	S18 24.5	11.5	55.7	Rigil Kent	139 39.1 S60 56.8
O								Sabik	102 01.3 S15 45.5
N 6	273 21.8	S 7 24.9	257 04.1	12.5	S18 35.9	11.4	55.7	Schedar	349 28.9 N56 41.2
D 7	288 21.9	S 7 25.9	271 35.6	12.5	S18 47.3	11.3	55.7	Shaula	96 08.6 S37 07.5
A 8	303 22.1	S 7 26.8	286 07.0	12.4	S18 58.5	11.2	55.6		
Y 9	318 22.2	S 7 27.7	300 38.4	12.4	S19 09.6	11.1	55.6	Sirius	258 24.9 S16 44.9
10	333 22.4	S 7 28.7	315 09.7	12.3	S19 20.7	11.0	55.6	Spica	158 21.1 S11 18.0
11	348 22.5	S 7 29.6	329 41.0	12.3	S19 31.6	11.0	55.6	Suhail	222 45.5 S43 32.1
								Vega	80 32.3 N38 48.7
12	3 22.7	S 7 30.6	344 12.3	12.3	S19 42.5	10.9	55.6	Zuben-ubi	136 55.6 S16 09.2
13	18 22.9	S 7 31.5	358 43.5	12.2	S19 53.3	10.8	55.5		
14	33 23.0	S 7 32.4	13 14.7	12.2	S20 03.9	10.7	55.5		
15	48 23.2	S 7 33.4	27 45.8	12.1	S20 14.5	10.6	55.5		
16	63 23.3	S 7 34.3	42 16.9	12.1	S20 24.9	10.4	55.5		
17	78 23.5	S 7 35.2	56 47.9	12.0	S20 35.2	10.3	55.4		
18	93 23.6	S 7 36.2	71 18.9	12.0	S20 45.5	10.2	55.4		
19	108 23.8	S 7 37.1	85 49.8	11.9	S20 55.6	10.1	55.4		
20	123 23.9	S 7 38.1	100 20.7	11.9	S21 05.7	10.0	55.4		
21	138 24.1	S 7 39.0	114 51.6	11.9	S21 15.6	9.9	55.4		
22	153 24.2	S 7 39.9	129 22.4	11.8	S21 25.4	9.8	55.3		
23	168 24.4	S 7 40.9	143 53.2	11.8	S21 35.1	9.7	55.3		
	S.D. 16.0	d 0.9	S.D.	15.4	15.3	15.1			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
13	0	21 34.3	169 54.9	S20 51.6	250 16.7	N19 18.9	237 21.4	N14 53.4	10 43.8	N 1 42.9
	1	36 36.8	184 58.3	S20 51.2	265 17.8	N19 18.6	252 23.5	N14 53.3	25 46.5	N 1 42.8
	2	51 39.3	200 01.6	S20 50.9	280 18.8	N19 18.2	267 25.5	N14 53.2	40 49.1	N 1 42.8
	3	66 41.7	215 05.0	S20 50.5	295 19.8	N19 17.9	282 27.6	N14 53.1	55 51.7	N 1 42.7
	4	81 44.2	230 08.4	S20 50.1	310 20.9	N19 17.6	297 29.7	N14 52.9	70 54.4	N 1 42.6
T	5	96 46.7	245 11.8	S20 49.7	325 21.9	N19 17.3	312 31.7	N14 52.8	85 57.0	N 1 42.5
U										
E	6	111 49.1	260 15.2	S20 49.4	340 22.9	N19 17.0	327 33.8	N14 52.7	100 59.7	N 1 42.5
S	7	126 51.6	275 18.7	S20 49.0	355 23.9	N19 16.6	342 35.9	N14 52.6	116 02.3	N 1 42.4
D	8	141 54.1	290 22.1	S20 48.6	10 25.0	N19 16.3	357 37.9	N14 52.4	131 04.9	N 1 42.3
A	9	156 56.5	305 25.5	S20 48.2	25 26.0	N19 16.0	12 40.0	N14 52.3	146 07.6	N 1 42.2
Y	10	171 59.0	320 28.9	S20 47.8	40 27.0	N19 15.7	27 42.1	N14 52.2	161 10.2	N 1 42.2
	11	187 01.4	335 32.3	S20 47.4	55 28.1	N19 15.4	42 44.2	N14 52.1	176 12.9	N 1 42.1
	12	202 03.9	350 35.7	S20 47.0	70 29.1	N19 15.0	57 46.2	N14 52.0	191 15.5	N 1 42.0
	13	217 06.4	5 39.2	S20 46.7	85 30.1	N19 14.7	72 48.3	N14 51.8	206 18.2	N 1 41.9
	14	232 08.8	20 42.6	S20 46.3	100 31.2	N19 14.4	87 50.4	N14 51.7	221 20.8	N 1 41.9
	15	247 11.3	35 46.0	S20 45.9	115 32.2	N19 14.1	102 52.4	N14 51.6	236 23.4	N 1 41.8
	16	262 13.8	50 49.5	S20 45.4	130 33.3	N19 13.7	117 54.5	N14 51.5	251 26.1	N 1 41.7
	17	277 16.2	65 52.9	S20 45.0	145 34.3	N19 13.4	132 56.6	N14 51.3	266 28.7	N 1 41.6
	18	292 18.7	80 56.4	S20 44.6	160 35.3	N19 13.1	147 58.7	N14 51.2	281 31.4	N 1 41.6
	19	307 21.2	95 59.8	S20 44.2	175 36.4	N19 12.8	163 00.7	N14 51.1	296 34.0	N 1 41.5
	20	322 23.6	111 03.2	S20 43.8	190 37.4	N19 12.5	178 02.8	N14 51.0	311 36.6	N 1 41.4
	21	337 26.1	126 06.7	S20 43.4	205 38.4	N19 12.1	193 04.9	N14 50.9	326 39.3	N 1 41.4
	22	352 28.6	141 10.2	S20 43.0	220 39.5	N19 11.8	208 07.0	N14 50.7	341 41.9	N 1 41.3
	23	7 31.0	156 13.6	S20 42.6	235 40.5	N19 11.5	223 09.0	N14 50.6	356 44.6	N 1 41.2
14	0	22 33.5	171 17.1	S20 42.1	250 41.5	N19 11.2	238 11.1	N14 50.5	11 47.2	N 1 41.1
	1	37 35.9	186 20.5	S20 41.7	265 42.6	N19 10.8	253 13.2	N14 50.4	26 49.9	N 1 41.1
	2	52 38.4	201 24.0	S20 41.3	280 43.6	N19 10.5	268 15.3	N14 50.3	41 52.5	N 1 41.0
	3	67 40.9	216 27.5	S20 40.9	295 44.7	N19 10.2	283 17.3	N14 50.1	56 55.1	N 1 40.9
	4	82 43.3	231 30.9	S20 40.4	310 45.7	N19 09.9	298 19.4	N14 50.0	71 57.8	N 1 40.8
W	5	97 45.8	246 34.4	S20 40.0	325 46.7	N19 09.5	313 21.5	N14 49.9	87 00.4	N 1 40.8
E										
D	6	112 48.3	261 37.9	S20 39.5	340 47.8	N19 09.2	328 23.6	N14 49.8	102 03.1	N 1 40.7
N	7	127 50.7	276 41.4	S20 39.1	355 48.8	N19 08.9	343 25.6	N14 49.7	117 05.7	N 1 40.6
E	8	142 53.2	291 44.9	S20 38.7	10 49.9	N19 08.6	358 27.7	N14 49.5	132 08.3	N 1 40.5
S	9	157 55.7	306 48.3	S20 38.2	25 50.9	N19 08.2	13 29.8	N14 49.4	147 11.0	N 1 40.5
D	10	172 58.1	321 51.8	S20 37.8	40 51.9	N19 07.9	28 31.9	N14 49.3	162 13.6	N 1 40.4
A	11	188 00.6	336 55.3	S20 37.3	55 53.0	N19 07.6	43 33.9	N14 49.2	177 16.3	N 1 40.3
Y										
	12	203 03.1	351 58.8	S20 36.9	70 54.0	N19 07.3	58 36.0	N14 49.0	192 18.9	N 1 40.3
	13	218 05.5	7 02.3	S20 36.4	85 55.1	N19 07.0	73 38.1	N14 48.9	207 21.5	N 1 40.2
	14	233 08.0	22 05.8	S20 35.9	100 56.1	N19 06.6	88 40.2	N14 48.8	222 24.2	N 1 40.1
	15	248 10.4	37 09.3	S20 35.5	115 57.1	N19 06.3	103 42.2	N14 48.7	237 26.8	N 1 40.0
	16	263 12.9	52 12.8	S20 35.0	130 58.2	N19 06.0	118 44.3	N14 48.6	252 29.5	N 1 40.0
	17	278 15.4	67 16.3	S20 34.6	145 59.2	N19 05.7	133 46.4	N14 48.4	267 32.1	N 1 39.9
	18	293 17.8	82 19.9	S20 34.1	161 00.3	N19 05.3	148 48.5	N14 48.3	282 34.7	N 1 39.8
	19	308 20.3	97 23.4	S20 33.6	176 01.3	N19 05.0	163 50.6	N14 48.2	297 37.4	N 1 39.7
	20	323 22.8	112 26.9	S20 33.1	191 02.4	N19 04.7	178 52.6	N14 48.1	312 40.0	N 1 39.7
	21	338 25.2	127 30.4	S20 32.7	206 03.4	N19 04.4	193 54.7	N14 48.0	327 42.7	N 1 39.6
	22	353 27.7	142 33.9	S20 32.2	221 04.5	N19 04.0	208 56.8	N14 47.8	342 45.3	N 1 39.5
	23	8 30.2	157 37.5	S20 31.7	236 05.5	N19 03.7	223 58.9	N14 47.7	357 48.0	N 1 39.4
15	0	23 32.6	172 41.0	S20 31.2	251 06.6	N19 03.4	239 00.9	N14 47.6	12 50.6	N 1 39.4
	1	38 35.1	187 44.5	S20 30.7	266 07.6	N19 03.1	254 03.0	N14 47.5	27 53.2	N 1 39.3
	2	53 37.6	202 48.1	S20 30.2	281 08.6	N19 02.7	269 05.1	N14 47.4	42 55.9	N 1 39.2
	3	68 40.0	217 51.6	S20 29.8	296 09.7	N19 02.4	284 07.2	N14 47.2	57 58.5	N 1 39.2
	4	83 42.5	232 55.1	S20 29.3	311 10.7	N19 02.1	299 09.3	N14 47.1	73 01.2	N 1 39.1
T	5	98 44.9	247 58.7	S20 28.8	326 11.8	N19 01.8	314 11.3	N14 47.0	88 03.8	N 1 39.0
H										
U	6	113 47.4	263 02.2	S20 28.3	341 12.8	N19 01.4	329 13.4	N14 46.9	103 06.4	N 1 38.9
R	7	128 49.9	278 05.8	S20 27.8	356 13.9	N19 01.1	344 15.5	N14 46.8	118 09.1	N 1 38.9
S	8	143 52.3	293 09.3	S20 27.3	11 14.9	N19 00.8	359 17.6	N14 46.6	133 11.7	N 1 38.8
D	9	158 54.8	308 12.9	S20 26.8	26 16.0	N19 00.5	14 19.7	N14 46.5	148 14.4	N 1 38.7
A	10	173 57.3	323 16.4	S20 26.2	41 17.0	N19 00.1	29 21.7	N14 46.4	163 17.0	N 1 38.7
Y	11	188 59.7	338 20.0	S20 25.7	56 18.1	N18 59.8	44 23.8	N14 46.3	178 19.6	N 1 38.6
	12	204 02.2	353 23.5	S20 25.2	71 19.1	N18 59.5	59 25.9	N14 46.2	193 22.3	N 1 38.5
	13	219 04.7	8 27.1	S20 24.7	86 20.2	N18 59.1	74 28.0	N14 46.1	208 24.9	N 1 38.4
	14	234 07.1	23 30.7	S20 24.2	101 21.2	N18 58.8	89 30.1	N14 45.9	223 27.6	N 1 38.4
	15	249 09.6	38 34.2	S20 23.7	116 22.3	N18 58.5	104 32.1	N14 45.8	238 30.2	N 1 38.3
	16	264 12.0	53 37.8	S20 23.1	131 23.3	N18 58.2	119 34.2	N14 45.7	253 32.8	N 1 38.2
	17	279 14.5	68 41.4	S20 22.6	146 24.4	N18 57.8	134 36.3	N14 45.6	268 35.5	N 1 38.1
	18	294 17.0	83 45.0	S20 22.1	161 25.4	N18 57.5	149 38.4	N14 45.5	283 38.1	N 1 38.1
	19	309 19.4	98 48.5	S20 21.6	176 26.5	N18 57.2	164 40.5	N14 45.3	298 40.8	N 1 38.0
	20	324 21.9	113 52.1	S20 21.0	191 27.5	N18 56.9	179 42.6	N14 45.2	313 43.4	N 1 37.9
	21	339 24.4	128 55.7	S20 20.5	206 28.6	N18 56.5	194 44.6	N14 45.1	328 46.0	N 1 37.9
	22	354 26.8	143 59.3	S20 19.9	221 29.7	N18 56.2	209 46.7	N14 45.0	343 48.7	N 1 37.8
	23	9 29.3	159 02.9	S20 19.4	236 30.7	N18 55.9	224 48.8	N14 44.9	358 51.3	N 1 37.7
			v 3.5	d 0.5	v 1.0	d 0.3	v 2.1	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
13	0	183 24.5	S 7 41.8	158 23.9	11.7	S21 44.7	9.6	55.3
	1	198 24.7	S 7 42.7	172 54.5	11.7	S21 54.2	9.5	55.3
	2	213 24.8	S 7 43.7	187 25.2	11.6	S22 03.6	9.4	55.3
	3	228 25.0	S 7 44.6	201 55.8	11.6	S22 12.9	9.3	55.2
	4	243 25.1	S 7 45.5	216 26.3	11.5	S22 22.0	9.2	55.2
T	5	258 25.3	S 7 46.5	230 56.8	11.5	S22 31.1	9.1	55.2
U								
E	6	273 25.4	S 7 47.4	245 27.2	11.5	S22 40.0	8.9	55.2
S	7	288 25.6	S 7 48.3	259 57.7	11.4	S22 48.9	8.8	55.2
D	8	303 25.8	S 7 49.3	274 28.0	11.4	S22 57.6	8.7	55.1
A	9	318 25.9	S 7 50.2	288 58.3	11.3	S23 06.2	8.6	55.1
Y	10	333 26.1	S 7 51.1	303 28.6	11.3	S23 14.6	8.5	55.1
	11	348 26.2	S 7 52.1	317 58.9	11.2	S23 23.0	8.4	55.1
	12	3 26.3	S 7 53.0	332 29.1	11.2	S23 31.2	8.2	55.1
	13	18 26.5	S 7 53.9	346 59.2	11.2	S23 39.4	8.1	55.0
	14	33 26.6	S 7 54.9	1 29.3	11.1	S23 47.4	8.0	55.0
	15	48 26.8	S 7 55.8	15 59.4	11.1	S23 55.3	7.9	55.0
	16	63 26.9	S 7 56.7	30 29.4	11.0	S24 03.0	7.8	55.0
	17	78 27.1	S 7 57.7	44 59.4	11.0	S24 10.7	7.7	55.0
	18	93 27.2	S 7 58.6	59 29.3	10.9	S24 18.2	7.5	55.0
	19	108 27.4	S 7 59.5	73 59.3	10.9	S24 25.6	7.4	54.9
	20	123 27.5	S 8 00.5	88 29.1	10.9	S24 32.9	7.3	54.9
	21	138 27.7	S 8 01.4	102 59.0	10.8	S24 40.1	7.2	54.9
	22	153 27.8	S 8 02.3	117 28.7	10.8	S24 47.1	7.0	54.9
	23	168 28.0	S 8 03.3	131 58.5	10.8	S24 54.1	6.9	54.9
14	0	183 28.1	S 8 04.2	146 28.2	10.7	S25 00.9	6.8	54.8
	1	198 28.3	S 8 05.1	160 57.9	10.7	S25 07.5	6.7	54.8
	2	213 28.4	S 8 06.1	175 27.5	10.6	S25 14.1	6.5	54.8
	3	228 28.6	S 8 07.0	189 57.1	10.6	S25 20.5	6.4	54.8
	4	243 28.7	S 8 07.9	204 26.7	10.6	S25 26.8	6.3	54.8
W	5	258 28.9	S 8 08.8	218 56.2	10.5	S25 32.9	6.2	54.8
E								
D	6	273 29.0	S 8 09.8	233 25.8	10.5	S25 39.0	6.0	54.7
N	7	288 29.1	S 8 10.7	247 55.2	10.5	S25 44.9	5.9	54.7
E	8	303 29.3	S 8 11.6	262 24.7	10.4	S25 50.7	5.8	54.7
S	9	318 29.4	S 8 12.6	276 54.1	10.4	S25 56.3	5.7	54.7
D	10	333 29.6	S 8 13.5	291 23.4	10.4	S26 01.9	5.5	54.7
A	11	348 29.7	S 8 14.4	305 52.8	10.3	S26 07.2	5.4	54.7
Y								
	12	3 29.9	S 8 15.3	320 22.1	10.3	S26 12.5	5.3	54.7
	13	18 30.0	S 8 16.3	334 51.4	10.3	S26 17.6	5.1	54.6
	14	33 30.2	S 8 17.2	349 20.7	10.3	S26 22.7	5.0	54.6
	15	48 30.3	S 8 18.1	3 49.9	10.2	S26 27.5	4.9	54.6
	16	63 30.4	S 8 19.1	18 19.1	10.2	S26 32.3	4.7	54.6
	17	78 30.6	S 8 20.0	32 48.3	10.2	S26 36.9	4.6	54.6
	18	93 30.7	S 8 20.9	47 17.4	10.2	S26 41.4	4.5	54.6
	19	108 30.9	S 8 21.8	61 46.6	10.1	S26 45.7	4.3	54.6
	20	123 31.0	S 8 22.8	76 15.7	10.1	S26 49.9	4.2	54.5
	21	138 31.1	S 8 23.7	90 44.8	10.1	S26 54.0	4.1	54.5
	22	153 31.3	S 8 24.6	105 13.9	10.1	S26 57.9	3.9	54.5
	23	168 31.4	S 8 25.5	119 42.9	10.1	S27 01.8	3.8	54.5
15	0	183 31.6	S 8 26.5	134 11.9	10.0	S27 05.4	3.7	54.5
	1	198 31.7	S 8 27.4	148 40.9	10.0	S27 09.0	3.5	54.5
	2	213 31.9	S 8 28.3	163 09.9	10.0	S27 12.4	3.4	54.5
	3	228 32.0	S 8 29.2	177 38.9	10.0	S27 15.7	3.3	54.5
	4	243 32.1	S 8 30.2	192 07.9	10.0	S27 18.8	3.1	54.4
T	5	258 32.3	S 8 31.1	206 36.8	10.0	S27 21.8	3.0	54.4
H								
U	6	273 32.4	S 8 32.0	221 05.8	9.9	S27 24.7	2.9	54.4
R	7	288 32.6	S 8 32.9	235 34.7	9.9	S27 27.4	2.7	54.4
S	8	303 32.7	S 8 33.9	250 03.6	9.9	S27 30.0	2.6	54.4
D	9	318 32.8	S 8 34.8	264 32.5	9.9	S27 32.5	2.5	54.4
A	10	333 33.0	S 8 35.7	279 01.4	9.9	S27 34.8	2.3	54.4
Y	11	348 33.1	S 8 36.6	293 30.3	9.9	S27 37.0	2.2	54.4
	12	3 33.2	S 8 37.6	307 59.2	9.9	S27 39.1	2.1	54.4
	13	18 33.4	S 8 38.5	322 28.1	9.9	S27 41.0	1.9	54.4
	14	33 33.5	S 8 39.4	336 56.9	9.9	S27 42.8	1.8	54.3
	15	48 33.7	S 8 40.3	351 25.8	9.9	S27 44.4	1.6	54.3
	16	63 33.8	S 8 41.3	5 54.7	9.9	S27 45.9	1.5	54.3
	17	78 33.9	S 8 42.2	20 23.5	9.9	S27 47.3	1.4	54.3
	18	93 34.1	S 8 43.1	34 52.4	9.9	S27 48.6	1.2	54.3
	19	108 34.2	S 8 44.0	49 21.3	9.9	S27 49.7	1.1	54.3
	20	123 34.3	S 8 44.9	63 50.1	9.9	S27 50.6	1.0	54.3
	21	138 34.5	S 8 45.9	78 19.0	9.9	S27 51.5	0.8	54.3
	22	153 34.6	S 8 46.8	92 47.9	9.9	S27 52.2	0.7	54.3
	23	168 34.8	S 8 47.7	107 16.7	9.9	S27 52.7	0.6	54.3
		S.D. 16.0	d 0.9	S.D. 15.0		14.9	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.6
Achernar	335 18.5	S57 05.9
Acrux	172 59.2	S63 14.7
Adhara	255 04.7	S29 00.2
Albireo	67 02.9	N28 01.2
Aldebaran	290 37.7	N16 33.9
Alioth	166 12.2	N55 48.9
Alkaid	152 51.3	N49 10.8
Al Na-ir	27 30.7	S46 49.9
Alnilam	275 36.1	S 1 10.9
Alphard	217 46.5	S 8 46.3
Alphecca	126 02.8	N26 37.6
Alpheratz	357 33.0	N29 14.6
Altair	61 58.5	N 8 56.5
Ankaa	353 05.3	S42 09.6
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.6
Atria	107 07.7	S69 04.8
Avior	234 14.3	S59 35.4
Bellatrix	278 21.2	N 6 22.6
Betelgeuse	270 50.4	N 7 24.9
Canopus	263 51.6	S52 42.2
Capella	280 19.5	N46 01.4
Castor	245 55.2	N31 49.7
Deneb	49 24.7	N45 22.8
Denebola	182 23.8	N14 25.4
Diphda	348 45.5	S17 50.2
Dubhe	193 39.7	N61 36.2
Elnath	277 59.9	N28 37.8
Eltanin	90 41.7	N51 29.3
Enif	33 37.1	N10 00.1
Fomalhaut	15 12.6	S29 28.8
Gacrux	171 50.7	S57 15.7
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 30.2
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 30.7	S34 22.4
Kochab	137 21.1	N74 02.8
Markab	13 28.2	N15 21.1
Menkar	314 04.3	N 4 11.9
Menkent	147 56.3	S36 30.1
Miaplacidus	221 38.3	S69 49.3
Mirfak	308 25.8	N49 57.4
Nunki	75 46.0	S26 15.8
Peacock	53 03.2	S56 39.1
Polaris	315 34.2	N89 22.0
Pollux	243 15.5	N27 57.6
Procyon	244 49.3	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.1	N11 50.2
Rigel	281 02.3	S 8 10.0
Rigil Kent	139 39.1	S60 56.8
Sabik	102 01.3	S15 45.5
Schedar	349 28.8	N56 41.2
Shaula	96 08.6	S37 07.5
Sirius	258 24.9	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.4	S43 32.1
Vega	80 32.3	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
16	0	24 31.8	174 06.5	S20 18.9	251 31.8	N18 55.6	239 50.9	N14 44.7	13 53.9	N 1 37.6
	1	39 34.2	189 10.1	S20 18.3	266 32.8	N18 55.2	254 53.0	N14 44.6	28 56.6	N 1 37.6
	2	54 36.7	204 13.7	S20 17.8	281 33.9	N18 54.9	269 55.1	N14 44.5	43 59.2	N 1 37.5
	3	69 39.2	219 17.3	S20 17.2	296 34.9	N18 54.6	284 57.1	N14 44.4	59 01.9	N 1 37.4
	4	84 41.6	234 20.9	S20 16.7	311 36.0	N18 54.2	299 59.2	N14 44.3	74 04.5	N 1 37.3
F	5	99 44.1	249 24.5	S20 16.1	326 37.0	N18 53.9	315 01.3	N14 44.2	89 07.1	N 1 37.3
R										
I	6	114 46.5	264 28.1	S20 15.6	341 38.1	N18 53.6	330 03.4	N14 44.0	104 09.8	N 1 37.2
D	7	129 49.0	279 31.7	S20 15.0	356 39.2	N18 53.3	345 05.5	N14 43.9	119 12.4	N 1 37.1
A	8	144 51.5	294 35.3	S20 14.4	11 40.2	N18 52.9	0 07.6	N14 43.8	134 15.1	N 1 37.1
Y	9	159 53.9	309 38.9	S20 13.9	26 41.3	N18 52.6	15 09.6	N14 43.7	149 17.7	N 1 37.0
	10	174 56.4	324 42.5	S20 13.3	41 42.3	N18 52.3	30 11.7	N14 43.6	164 20.3	N 1 36.9
	11	189 58.9	339 46.1	S20 12.7	56 43.4	N18 51.9	45 13.8	N14 43.4	179 23.0	N 1 36.8
	12	205 01.3	354 49.8	S20 12.1	71 44.4	N18 51.6	60 15.9	N14 43.3	194 25.6	N 1 36.8
	13	220 03.8	9 53.4	S20 11.6	86 45.5	N18 51.3	75 18.0	N14 43.2	209 28.3	N 1 36.7
	14	235 06.3	24 57.0	S20 11.0	101 46.6	N18 51.0	90 20.1	N14 43.1	224 30.9	N 1 36.6
	15	250 08.7	40 00.6	S20 10.4	116 47.6	N18 50.6	105 22.2	N14 43.0	239 33.5	N 1 36.6
	16	265 11.2	55 04.3	S20 09.8	131 48.7	N18 50.3	120 24.2	N14 42.9	254 36.2	N 1 36.5
	17	280 13.7	70 07.9	S20 09.2	146 49.7	N18 50.0	135 26.3	N14 42.7	269 38.8	N 1 36.4
	18	295 16.1	85 11.5	S20 08.7	161 50.8	N18 49.7	150 28.4	N14 42.6	284 41.4	N 1 36.3
	19	310 18.6	100 15.2	S20 08.1	176 51.9	N18 49.3	165 30.5	N14 42.5	299 44.1	N 1 36.3
	20	325 21.0	115 18.8	S20 07.5	191 52.9	N18 49.0	180 32.6	N14 42.4	314 46.7	N 1 36.2
	21	340 23.5	130 22.5	S20 06.9	206 54.0	N18 48.7	195 34.7	N14 42.3	329 49.4	N 1 36.1
	22	355 26.0	145 26.1	S20 06.3	221 55.1	N18 48.3	210 36.8	N14 42.2	344 52.0	N 1 36.1
	23	10 28.4	160 29.7	S20 05.7	236 56.1	N18 48.0	225 38.9	N14 42.0	359 54.6	N 1 36.0
17	0	25 30.9	175 33.4	S20 05.1	251 57.2	N18 47.7	240 40.9	N14 41.9	14 57.3	N 1 35.9
	1	40 33.4	190 37.0	S20 04.5	266 58.2	N18 47.3	255 43.0	N14 41.8	29 59.9	N 1 35.8
	2	55 35.8	205 40.7	S20 03.9	281 59.3	N18 47.0	270 45.1	N14 41.7	45 02.6	N 1 35.8
	3	70 38.3	220 44.3	S20 03.3	297 00.4	N18 46.7	285 47.2	N14 41.6	60 05.2	N 1 35.7
	4	85 40.8	235 48.0	S20 02.6	312 01.4	N18 46.4	300 49.3	N14 41.5	75 07.8	N 1 35.6
S	5	100 43.2	250 51.7	S20 02.0	327 02.5	N18 46.0	315 51.4	N14 41.3	90 10.5	N 1 35.6
A										
T	6	115 45.7	265 55.3	S20 01.4	342 03.6	N18 45.7	330 53.5	N14 41.2	105 13.1	N 1 35.5
U	7	130 48.2	280 59.0	S20 00.8	357 04.6	N18 45.4	345 55.6	N14 41.1	120 15.7	N 1 35.4
R	8	145 50.6	296 02.6	S20 00.2	12 05.7	N18 45.0	0 57.7	N14 41.0	135 18.4	N 1 35.3
D	9	160 53.1	311 06.3	S19 59.5	27 06.8	N18 44.7	15 59.7	N14 40.9	150 21.0	N 1 35.3
A	10	175 55.5	326 10.0	S19 58.9	42 07.8	N18 44.4	31 01.8	N14 40.8	165 23.7	N 1 35.2
Y	11	190 58.0	341 13.7	S19 58.3	57 08.9	N18 44.1	46 03.9	N14 40.6	180 26.3	N 1 35.1
	12	206 00.5	356 17.3	S19 57.7	72 10.0	N18 43.7	61 06.0	N14 40.5	195 28.9	N 1 35.1
	13	221 02.9	11 21.0	S19 57.0	87 11.0	N18 43.4	76 08.1	N14 40.4	210 31.6	N 1 35.0
	14	236 05.4	26 24.7	S19 56.4	102 12.1	N18 43.1	91 10.2	N14 40.3	225 34.2	N 1 34.9
	15	251 07.9	41 28.4	S19 55.8	117 13.2	N18 42.7	106 12.3	N14 40.2	240 36.8	N 1 34.8
	16	266 10.3	56 32.0	S19 55.1	132 14.2	N18 42.4	121 14.4	N14 40.1	255 39.5	N 1 34.8
	17	281 12.8	71 35.7	S19 54.5	147 15.3	N18 42.1	136 16.5	N14 39.9	270 42.1	N 1 34.7
	18	296 15.3	86 39.4	S19 53.8	162 16.4	N18 41.7	151 18.6	N14 39.8	285 44.8	N 1 34.6
	19	311 17.7	101 43.1	S19 53.2	177 17.4	N18 41.4	166 20.7	N14 39.7	300 47.4	N 1 34.6
	20	326 20.2	116 46.8	S19 52.5	192 18.5	N18 41.1	181 22.7	N14 39.6	315 50.0	N 1 34.5
	21	341 22.6	131 50.5	S19 51.9	207 19.6	N18 40.8	196 24.8	N14 39.5	330 52.7	N 1 34.4
	22	356 25.1	146 54.2	S19 51.2	222 20.7	N18 40.4	211 26.9	N14 39.4	345 55.3	N 1 34.4
	23	11 27.6	161 57.9	S19 50.6	237 21.7	N18 40.1	226 29.0	N14 39.2	0 57.9	N 1 34.3
18	0	26 30.0	177 01.6	S19 49.9	252 22.8	N18 39.8	241 31.1	N14 39.1	16 00.6	N 1 34.2
	1	41 32.5	192 05.2	S19 49.2	267 23.9	N18 39.4	256 33.2	N14 39.0	31 03.2	N 1 34.1
	2	56 35.0	207 08.9	S19 48.6	282 24.9	N18 39.1	271 35.3	N14 38.9	46 05.9	N 1 34.1
	3	71 37.4	222 12.6	S19 47.9	297 26.0	N18 38.8	286 37.4	N14 38.8	61 08.5	N 1 34.0
	4	86 39.9	237 16.4	S19 47.2	312 27.1	N18 38.4	301 39.5	N14 38.7	76 11.1	N 1 33.9
S	5	101 42.4	252 20.1	S19 46.6	327 28.2	N18 38.1	316 41.6	N14 38.5	91 13.8	N 1 33.9
U										
N	6	116 44.8	267 23.8	S19 45.9	342 29.2	N18 37.8	331 43.7	N14 38.4	106 16.4	N 1 33.8
D	7	131 47.3	282 27.5	S19 45.2	357 30.3	N18 37.4	346 45.8	N14 38.3	121 19.0	N 1 33.7
A	8	146 49.8	297 31.2	S19 44.5	12 31.4	N18 37.1	1 47.9	N14 38.2	136 21.7	N 1 33.6
Y	9	161 52.2	312 34.9	S19 43.9	27 32.5	N18 36.8	16 50.0	N14 38.1	151 24.3	N 1 33.6
	10	176 54.7	327 38.6	S19 43.2	42 33.5	N18 36.4	31 52.1	N14 38.0	166 27.0	N 1 33.5
	11	191 57.1	342 42.3	S19 42.5	57 34.6	N18 36.1	46 54.1	N14 37.9	181 29.6	N 1 33.4
	12	206 59.6	357 46.0	S19 41.8	72 35.7	N18 35.8	61 56.2	N14 37.7	196 32.2	N 1 33.4
	13	222 02.1	12 49.8	S19 41.1	87 36.8	N18 35.5	76 58.3	N14 37.6	211 34.9	N 1 33.3
	14	237 04.5	27 53.5	S19 40.4	102 37.8	N18 35.1	92 00.4	N14 37.5	226 37.5	N 1 33.2
	15	252 07.0	42 57.2	S19 39.7	117 38.9	N18 34.8	107 02.5	N14 37.4	241 40.1	N 1 33.2
	16	267 09.5	58 00.9	S19 39.0	132 40.0	N18 34.5	122 04.6	N14 37.3	256 42.8	N 1 33.1
	17	282 11.9	73 04.6	S19 38.3	147 41.1	N18 34.1	137 06.7	N14 37.2	271 45.4	N 1 33.0
	18	297 14.4	88 08.4	S19 37.6	162 42.2	N18 33.8	152 08.8	N14 37.0	286 48.0	N 1 32.9
	19	312 16.9	103 12.1	S19 36.9	177 43.2	N18 33.5	167 10.9	N14 36.9	301 50.7	N 1 32.9
	20	327 19.3	118 15.8	S19 36.2	192 44.3	N18 33.1	182 13.0	N14 36.8	316 53.3	N 1 32.8
	21	342 21.8	133 19.6	S19 35.5	207 45.4	N18 32.8	197 15.1	N14 36.7	331 55.9	N 1 32.7
	22	357 24.3	148 23.3	S19 34.8	222 46.5	N18 32.5	212 17.2	N14 36.6	346 58.6	N 1 32.7
	23	12 26.7	163 27.0	S19 34.1	237 47.6	N18 32.1	227 19.3	N14 36.5	2 01.2	N 1 32.6
			v 3.7	d 0.6	v 1.1	d 0.3	v 2.1	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
16	0	183 34.9	S 8 48.6	121 45.6	9.9	S27 53.1	0.4	54.3
	1	198 35.0	S 8 49.6	136 14.5	9.9	S27 53.4	0.3	54.3
	2	213 35.2	S 8 50.5	150 43.4	9.9	S27 53.6	0.2	54.3
	3	228 35.3	S 8 51.4	165 12.3	9.9	S27 53.6	0.0	54.2
	4	243 35.4	S 8 52.3	179 41.2	9.9	S27 53.5	0.1	54.2
F	5	258 35.6	S 8 53.2	194 10.1	9.9	S27 53.2	0.3	54.2
R								
I	6	273 35.7	S 8 54.2	208 39.1	9.9	S27 52.8	0.4	54.2
D	7	288 35.8	S 8 55.1	223 08.0	10.0	S27 52.3	0.5	54.2
A	8	303 36.0	S 8 56.0	237 37.0	10.0	S27 51.7	0.7	54.2
Y	9	318 36.1	S 8 56.9	252 06.0	10.0	S27 50.9	0.8	54.2
	10	333 36.2	S 8 57.8	266 35.0	10.0	S27 49.9	0.9	54.2
	11	348 36.4	S 8 58.7	281 04.0	10.0	S27 48.9	1.1	54.2
	12	3 36.5	S 8 59.7	295 33.0	10.0	S27 47.7	1.2	54.2
	13	18 36.6	S 9 00.6	310 02.1	10.0	S27 46.4	1.3	54.2
	14	33 36.8	S 9 01.5	324 31.1	10.1	S27 44.9	1.5	54.2
	15	48 36.9	S 9 02.4	339 00.2	10.1	S27 43.3	1.6	54.2
	16	63 37.0	S 9 03.3	353 29.3	10.1	S27 41.6	1.7	54.2
	17	78 37.2	S 9 04.3	7 58.5	10.1	S27 39.7	1.9	54.2
	18	93 37.3	S 9 05.2	22 27.6	10.2	S27 37.7	2.0	54.2
	19	108 37.4	S 9 06.1	36 56.8	10.2	S27 35.6	2.1	54.2
	20	123 37.5	S 9 07.0	51 26.0	10.2	S27 33.3	2.3	54.2
	21	138 37.7	S 9 07.9	65 55.3	10.2	S27 30.9	2.4	54.2
	22	153 37.8	S 9 08.8	80 24.5	10.3	S27 28.4	2.5	54.2
	23	168 37.9	S 9 09.7	94 53.8	10.3	S27 25.7	2.7	54.2
17	0	183 38.1	S 9 10.7	109 23.1	10.3	S27 23.0	2.8	54.2
	1	198 38.2	S 9 11.6	123 52.5	10.4	S27 20.0	2.9	54.2
	2	213 38.3	S 9 12.5	138 21.9	10.4	S27 17.0	3.0	54.2
	3	228 38.4	S 9 13.4	152 51.3	10.4	S27 13.8	3.2	54.2
	4	243 38.6	S 9 14.3	167 20.7	10.4	S27 10.5	3.3	54.2
S	5	258 38.7	S 9 15.2	181 50.2	10.5	S27 07.1	3.4	54.2
A								
T	6	273 38.8	S 9 16.2	196 19.7	10.5	S27 03.5	3.6	54.2
U	7	288 39.0	S 9 17.1	210 49.3	10.5	S26 59.8	3.7	54.2
R	8	303 39.1	S 9 18.0	225 18.8	10.6	S26 56.0	3.8	54.2
D	9	318 39.2	S 9 18.9	239 48.5	10.6	S26 52.1	3.9	54.2
A	10	333 39.3	S 9 19.8	254 18.1	10.7	S26 48.0	4.1	54.2
Y	11	348 39.5	S 9 20.7	268 47.8	10.7	S26 43.8	4.2	54.2
	12	3 39.6	S 9 21.6	283 17.5	10.7	S26 39.5	4.3	54.2
	13	18 39.7	S 9 22.5	297 47.3	10.8	S26 35.0	4.4	54.2
	14	33 39.8	S 9 23.5	312 17.1	10.8	S26 30.4	4.6	54.2
	15	48 40.0	S 9 24.4	326 47.0	10.8	S26 25.7	4.7	54.2
	16	63 40.1	S 9 25.3	341 16.8	10.9	S26 20.9	4.8	54.2
	17	78 40.2	S 9 26.2	355 46.8	10.9	S26 16.0	4.9	54.2
	18	93 40.3	S 9 27.1	10 16.7	11.0	S26 10.9	5.1	54.2
	19	108 40.5	S 9 28.0	24 46.8	11.0	S26 05.7	5.2	54.2
	20	123 40.6	S 9 28.9	39 16.8	11.1	S26 00.4	5.3	54.3
	21	138 40.7	S 9 29.8	53 46.9	11.1	S25 55.0	5.4	54.3
	22	153 40.8	S 9 30.7	68 17.0	11.1	S25 49.4	5.6	54.3
	23	168 41.0	S 9 31.7	82 47.2	11.2	S25 43.7	5.7	54.3
18	0	183 41.1	S 9 32.6	97 17.5	11.2	S25 37.9	5.8	54.3
	1	198 41.2	S 9 33.5	111 47.7	11.3	S25 32.0	5.9	54.3
	2	213 41.3	S 9 34.4	126 18.0	11.3	S25 26.0	6.0	54.3
	3	228 41.5	S 9 35.3	140 48.4	11.4	S25 19.8	6.2	54.3
	4	243 41.6	S 9 36.2	155 18.8	11.4	S25 13.5	6.3	54.3
S	5	258 41.7	S 9 37.1	169 49.3	11.5	S25 07.2	6.4	54.3
U								
N	6	273 41.8	S 9 38.0	184 19.8	11.5	S25 00.7	6.5	54.3
D	7	288 42.0	S 9 38.9	198 50.3	11.5	S24 54.0	6.6	54.3
A	8	303 42.1	S 9 39.8	213 20.9	11.6	S24 47.3	6.7	54.4
Y	9	318 42.2	S 9 40.7	227 51.5	11.6	S24 40.5	6.9	54.4
	10	333 42.3	S 9 41.6	242 22.2	11.7	S24 33.5	7.0	54.4
	11	348 42.4	S 9 42.6	256 53.0	11.7	S24 26.4	7.1	54.4
	12	3 42.6	S 9 43.5	271 23.7	11.8	S24 19.2	7.2	54.4
	13	18 42.7	S 9 44.4	285 54.6	11.8	S24 11.9	7.3	54.4
	14	33 42.8	S 9 45.3	300 25.5	11.9	S24 04.5	7.4	54.4
	15	48 42.9	S 9 46.2	314 56.4	11.9	S23 57.0	7.5	54.4
	16	63 43.0	S 9 47.1	329 27.3	12.0	S23 49.3	7.6	54.4
	17	78 43.2	S 9 48.0	343 58.4	12.0	S23 41.6	7.7	54.5
	18	93 43.3	S 9 48.9	358 29.4	12.1	S23 33.7	7.9	54.5
	19	108 43.4	S 9 49.8	13 00.6	12.1	S23 25.8	8.0	54.5
	20	123 43.5	S 9 50.7	27 31.7	12.2	S23 17.7	8.1	54.5
	21	138 43.6	S 9 51.6	42 02.9	12.2	S23 09.5	8.2	54.5
	22	153 43.7	S 9 52.5	56 34.2	12.3	S23 01.2	8.3	54.5
	23	168 43.9	S 9 53.4	71 05.5	12.3	S22 52.8	8.4	54.5
		S.D. 16.1	d 0.9	S.D. 14.8	14.8		14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.6
Achernar	335 18.5	S57 05.9
Acrux	172 59.2	S63 14.7
Adhara	255 04.6	S29 00.2
Albireo	67 02.9	N28 01.2
Aldebaran	290 37.7	N16 33.9
Alioth	166 12.2	N55 48.8
Alkaid	152 51.3	N49 10.8
Al Na-ir	27 30.8	S46 49.9
Alnilam	275 36.1	S 1 10.9
Alphard	217 46.4	S 8 46.3
Alphecca	126 02.8	N26 37.6
Alpheratz	357 33.0	N29 14.6
Altair	61 58.5	N 8 56.5
Ankaa	353 05.3	S42 09.6
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.6
Atria	107 07.7	S69 04.8
Avior	234 14.2	S59 35.4
Bellatrix	278 21.1	N 6 22.6
Betelgeuse	270 50.4	N 7 24.9
Canopus	263 51.5	S52 42.2
Capella	280 19.5	N46 01.4
Castor	245 55.2	N31 49.7
Deneb	49 24.7	N45 22.9
Denebola	182 23.7	N14 25.4
Diphda	348 45.5	S17 50.2
Dubhe	193 39.7	N61 36.2
Elnath	277 59.9	N28 37.8
Eltanin	90 41.8	N51 29.3
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.6	S29 28.8
Gacrux	171 50.6	S57 15.7
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 30.1
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.7	S34 22.4
Kochab	137 21.1	N74 02.7
Markab	13 28.2	N15 21.2
Menkar	314 04.3	N 4 11.9
Menkent	147 56.3	S36 30.1
Miaplacidus	221 38.3	S69 49.3
Mirfak	308 25.8	N49 57.4
Nunki	75 46.0	S26 15.8
Peacock	53 03.3	S56 39.1
Polaris	315 33.6	N89 22.0
Pollux	243 15.5	N27 57.6
Procyon	244 49.3	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.1	N11 50.2
Rigel	281 02.3	S 8 10.0
Rigil Kent	139 39.1	S60 56.8
Sabik	102 01.3	S15 45.5
Schedar	349 28.8	N56 41.2
Shaula	96 08.6	S37 07.5
Sirius	258 24.9	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.4	S43 32.1
Vega	80 32.4	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
19	0	27 29.2	178 30.8	S19 33.4	252 48.6	N18 31.8	242 21.4	N14 36.4	17 03.9	N 1 32.5
	1	42 31.6	193 34.5	S19 32.7	267 49.7	N18 31.5	257 23.5	N14 36.2	32 06.5	N 1 32.5
	2	57 34.1	208 38.2	S19 31.9	282 50.8	N18 31.1	272 25.6	N14 36.1	47 09.1	N 1 32.4
	3	72 36.6	223 42.0	S19 31.2	297 51.9	N18 30.8	287 27.7	N14 36.0	62 11.8	N 1 32.3
	4	87 39.0	238 45.7	S19 30.5	312 53.0	N18 30.5	302 29.8	N14 35.9	77 14.4	N 1 32.2
M	5	102 41.5	253 49.5	S19 29.8	327 54.0	N18 30.1	317 31.9	N14 35.8	92 17.0	N 1 32.2
O										
N	6	117 44.0	268 53.2	S19 29.0	342 55.1	N18 29.8	332 34.0	N14 35.7	107 19.7	N 1 32.1
D	7	132 46.4	283 57.0	S19 28.3	357 56.2	N18 29.5	347 36.1	N14 35.6	122 22.3	N 1 32.0
A	8	147 48.9	299 00.7	S19 27.6	12 57.3	N18 29.1	2 38.2	N14 35.4	137 24.9	N 1 32.0
Y	9	162 51.4	314 04.5	S19 26.8	27 58.4	N18 28.8	17 40.3	N14 35.3	152 27.6	N 1 31.9
	10	177 53.8	329 08.2	S19 26.1	42 59.5	N18 28.5	32 42.4	N14 35.2	167 30.2	N 1 31.8
	11	192 56.3	344 12.0	S19 25.4	58 00.5	N18 28.1	47 44.5	N14 35.1	182 32.8	N 1 31.8
	12	207 58.8	359 15.7	S19 24.6	73 01.6	N18 27.8	62 46.6	N14 35.0	197 35.5	N 1 31.7
	13	223 01.2	14 19.5	S19 23.9	88 02.7	N18 27.5	77 48.7	N14 34.9	212 38.1	N 1 31.6
	14	238 03.7	29 23.2	S19 23.1	103 03.8	N18 27.1	92 50.8	N14 34.8	227 40.8	N 1 31.5
	15	253 06.1	44 27.0	S19 22.4	118 04.9	N18 26.8	107 52.9	N14 34.7	242 43.4	N 1 31.5
	16	268 08.6	59 30.7	S19 21.6	133 06.0	N18 26.5	122 55.0	N14 34.5	257 46.0	N 1 31.4
	17	283 11.1	74 34.5	S19 20.9	148 07.1	N18 26.1	137 57.1	N14 34.4	272 48.7	N 1 31.3
	18	298 13.5	89 38.2	S19 20.1	163 08.1	N18 25.8	152 59.2	N14 34.3	287 51.3	N 1 31.3
	19	313 16.0	104 42.0	S19 19.4	178 09.2	N18 25.5	168 01.3	N14 34.2	302 53.9	N 1 31.2
	20	328 18.5	119 45.8	S19 18.6	193 10.3	N18 25.1	183 03.4	N14 34.1	317 56.6	N 1 31.1
	21	343 20.9	134 49.5	S19 17.9	208 11.4	N18 24.8	198 05.5	N14 34.0	332 59.2	N 1 31.1
	22	358 23.4	149 53.3	S19 17.1	223 12.5	N18 24.5	213 07.6	N14 33.9	348 01.8	N 1 31.0
	23	13 25.9	164 57.1	S19 16.3	238 13.6	N18 24.1	228 09.7	N14 33.7	3 04.5	N 1 30.9
20	0	28 28.3	180 00.8	S19 15.6	253 14.7	N18 23.8	243 11.8	N14 33.6	18 07.1	N 1 30.9
	1	43 30.8	195 04.6	S19 14.8	268 15.8	N18 23.5	258 13.9	N14 33.5	33 09.7	N 1 30.8
	2	58 33.2	210 08.4	S19 14.0	283 16.9	N18 23.1	273 16.0	N14 33.4	48 12.4	N 1 30.7
	3	73 35.7	225 12.1	S19 13.3	298 17.9	N18 22.8	288 18.1	N14 33.3	63 15.0	N 1 30.6
	4	88 38.2	240 15.9	S19 12.5	313 19.0	N18 22.5	303 20.2	N14 33.2	78 17.6	N 1 30.6
T	5	103 40.6	255 19.7	S19 11.7	328 20.1	N18 22.1	318 22.3	N14 33.1	93 20.3	N 1 30.5
U										
E	6	118 43.1	270 23.5	S19 10.9	343 21.2	N18 21.8	333 24.4	N14 33.0	108 22.9	N 1 30.4
S	7	133 45.6	285 27.2	S19 10.1	358 22.3	N18 21.5	348 26.5	N14 32.8	123 25.5	N 1 30.4
D	8	148 48.0	300 31.0	S19 09.4	13 23.4	N18 21.1	3 28.6	N14 32.7	138 28.2	N 1 30.3
A	9	163 50.5	315 34.8	S19 08.6	28 24.5	N18 20.8	18 30.7	N14 32.6	153 30.8	N 1 30.2
Y	10	178 53.0	330 38.6	S19 07.8	43 25.6	N18 20.5	33 32.8	N14 32.5	168 33.4	N 1 30.2
	11	193 55.4	345 42.3	S19 07.0	58 26.7	N18 20.1	48 34.9	N14 32.4	183 36.1	N 1 30.1
	12	208 57.9	0 46.1	S19 06.2	73 27.8	N18 19.8	63 37.0	N14 32.3	198 38.7	N 1 30.0
	13	224 00.4	15 49.9	S19 05.4	88 28.9	N18 19.5	78 39.1	N14 32.2	213 41.3	N 1 30.0
	14	239 02.8	30 53.7	S19 04.6	103 30.0	N18 19.1	93 41.3	N14 32.1	228 44.0	N 1 29.9
	15	254 05.3	45 57.5	S19 03.8	118 31.1	N18 18.8	108 43.4	N14 31.9	243 46.6	N 1 29.8
	16	269 07.7	61 01.2	S19 03.0	133 32.1	N18 18.5	123 45.5	N14 31.8	258 49.2	N 1 29.8
	17	284 10.2	76 05.0	S19 02.2	148 33.2	N18 18.1	138 47.6	N14 31.7	273 51.9	N 1 29.7
	18	299 12.7	91 08.8	S19 01.4	163 34.3	N18 17.8	153 49.7	N14 31.6	288 54.5	N 1 29.6
	19	314 15.1	106 12.6	S19 00.6	178 35.4	N18 17.4	168 51.8	N14 31.5	303 57.1	N 1 29.5
	20	329 17.6	121 16.4	S18 59.8	193 36.5	N18 17.1	183 53.9	N14 31.4	318 59.8	N 1 29.5
	21	344 20.1	136 20.2	S18 59.0	208 37.6	N18 16.8	198 56.0	N14 31.3	334 02.4	N 1 29.4
	22	359 22.5	151 24.0	S18 58.2	223 38.7	N18 16.4	213 58.1	N14 31.2	349 05.0	N 1 29.3
	23	14 25.0	166 27.7	S18 57.4	238 39.8	N18 16.1	229 00.2	N14 31.1	4 07.7	N 1 29.3
21	0	29 27.5	181 31.5	S18 56.5	253 40.9	N18 15.8	244 02.3	N14 30.9	19 10.3	N 1 29.2
	1	44 29.9	196 35.3	S18 55.7	268 42.0	N18 15.4	259 04.4	N14 30.8	34 12.9	N 1 29.1
	2	59 32.4	211 39.1	S18 54.9	283 43.1	N18 15.1	274 06.5	N14 30.7	49 15.6	N 1 29.1
	3	74 34.9	226 42.9	S18 54.1	298 44.2	N18 14.8	289 08.6	N14 30.6	64 18.2	N 1 29.0
	4	89 37.3	241 46.7	S18 53.3	313 45.3	N18 14.4	304 10.7	N14 30.5	79 20.8	N 1 28.9
W	5	104 39.8	256 50.5	S18 52.4	328 46.4	N18 14.1	319 12.9	N14 30.4	94 23.5	N 1 28.9
E										
D	6	119 42.2	271 54.3	S18 51.6	343 47.5	N18 13.8	334 15.0	N14 30.3	109 26.1	N 1 28.8
N	7	134 44.7	286 58.1	S18 50.8	358 48.6	N18 13.4	349 17.1	N14 30.2	124 28.7	N 1 28.7
E	8	149 47.2	302 01.9	S18 49.9	13 49.7	N18 13.1	4 19.2	N14 30.1	139 31.4	N 1 28.7
S	9	164 49.6	317 05.7	S18 49.1	28 50.8	N18 12.7	19 21.3	N14 29.9	154 34.0	N 1 28.6
D	10	179 52.1	332 09.5	S18 48.3	43 51.9	N18 12.4	34 23.4	N14 29.8	169 36.6	N 1 28.5
A	11	194 54.6	347 13.3	S18 47.4	58 53.0	N18 12.1	49 25.5	N14 29.7	184 39.3	N 1 28.5
Y										
	12	209 57.0	2 17.1	S18 46.6	73 54.1	N18 11.7	64 27.6	N14 29.6	199 41.9	N 1 28.4
	13	224 59.5	17 20.9	S18 45.8	88 55.2	N18 11.4	79 29.7	N14 29.5	214 44.5	N 1 28.3
	14	240 02.0	32 24.7	S18 44.9	103 56.3	N18 11.1	94 31.8	N14 29.4	229 47.2	N 1 28.3
	15	255 04.4	47 28.5	S18 44.1	118 57.4	N18 10.7	109 34.0	N14 29.3	244 49.8	N 1 28.2
	16	270 06.9	62 32.3	S18 43.2	133 58.5	N18 10.4	124 36.1	N14 29.2	259 52.4	N 1 28.1
	17	285 09.3	77 36.1	S18 42.4	148 59.6	N18 10.1	139 38.2	N14 29.1	274 55.1	N 1 28.1
	18	300 11.8	92 39.8	S18 41.5	164 00.7	N18 09.7	154 40.3	N14 28.9	289 57.7	N 1 28.0
	19	315 14.3	107 43.6	S18 40.7	179 01.8	N18 09.4	169 42.4	N14 28.8	305 00.3	N 1 27.9
	20	330 16.7	122 47.5	S18 39.8	194 02.9	N18 09.1	184 44.5	N14 28.7	320 02.9	N 1 27.9
	21	345 19.2	137 51.3	S18 39.0	209 04.1	N18 08.7	199 46.6	N14 28.6	335 05.6	N 1 27.8
	22	0 21.7	152 55.1	S18 38.1	224 05.2	N18 08.4	214 48.7	N14 28.5	350 08.2	N 1 27.7
	23	15 24.1	167 58.9	S18 37.3	239 06.3	N18 08.0	229 50.8	N14 28.4	5 10.8	N 1 27.6
			v 3.8	d 0.8	v 1.1	d 0.3	v 2.1	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
19	0	183 44.0	S 9 54.3	85 36.9	12.4	S22 44.3	8.5	54.5
	1	198 44.1	S 9 55.2	100 08.3	12.4	S22 35.7	8.6	54.6
	2	213 44.2	S 9 56.1	114 39.7	12.5	S22 27.0	8.7	54.6
	3	228 44.3	S 9 57.0	129 11.2	12.5	S22 18.2	8.8	54.6
	4	243 44.4	S 9 57.9	143 42.7	12.5	S22 09.3	8.9	54.6
M	5	258 44.6	S 9 58.8	158 14.3	12.6	S22 00.3	9.0	54.6
O								
N	6	273 44.7	S 9 59.7	172 46.0	12.6	S21 51.2	9.1	54.6
D	7	288 44.8	S10 00.6	187 17.7	12.7	S21 41.9	9.2	54.7
A	8	303 44.9	S10 01.5	201 49.4	12.7	S21 32.6	9.3	54.7
Y	9	318 45.0	S10 02.4	216 21.2	12.8	S21 23.2	9.4	54.7
	10	333 45.1	S10 03.4	230 53.0	12.8	S21 13.7	9.5	54.7
	11	348 45.2	S10 04.3	245 24.9	12.9	S21 04.1	9.6	54.7
	12	3 45.4	S10 05.2	259 56.8	12.9	S20 54.4	9.7	54.7
	13	18 45.5	S10 06.1	274 28.7	13.0	S20 44.5	9.8	54.8
	14	33 45.6	S10 07.0	289 00.7	13.0	S20 34.6	9.9	54.8
	15	48 45.7	S10 07.9	303 32.8	13.0	S20 24.6	10.0	54.8
	16	63 45.8	S10 08.8	318 04.9	13.1	S20 14.5	10.1	54.8
	17	78 45.9	S10 09.7	332 37.0	13.1	S20 04.3	10.2	54.8
	18	93 46.0	S10 10.6	347 09.2	13.2	S19 54.1	10.3	54.9
	19	108 46.2	S10 11.5	1 41.4	13.2	S19 43.7	10.4	54.9
	20	123 46.3	S10 12.3	16 13.7	13.3	S19 33.2	10.5	54.9
	21	138 46.4	S10 13.2	30 46.0	13.3	S19 22.6	10.6	54.9
	22	153 46.5	S10 14.1	45 18.4	13.3	S19 12.0	10.7	54.9
	23	168 46.6	S10 15.0	59 50.7	13.4	S19 01.2	10.7	55.0
20	0	183 46.7	S10 15.9	74 23.2	13.4	S18 50.4	10.8	55.0
	1	198 46.8	S10 16.8	88 55.6	13.5	S18 39.5	10.9	55.0
	2	213 46.9	S10 17.7	103 28.2	13.5	S18 28.5	11.0	55.0
	3	228 47.0	S10 18.6	118 00.7	13.5	S18 17.4	11.1	55.1
	4	243 47.2	S10 19.5	132 33.3	13.6	S18 06.2	11.2	55.1
T	5	258 47.3	S10 20.4	147 05.9	13.6	S17 54.9	11.3	55.1
U								
E	6	273 47.4	S10 21.3	161 38.6	13.7	S17 43.5	11.4	55.1
S	7	288 47.5	S10 22.2	176 11.3	13.7	S17 32.1	11.4	55.1
D	8	303 47.6	S10 23.1	190 44.0	13.7	S17 20.6	11.5	55.2
A	9	318 47.7	S10 24.0	205 16.8	13.8	S17 09.0	11.6	55.2
Y	10	333 47.8	S10 24.9	219 49.6	13.8	S16 57.3	11.7	55.2
	11	348 47.9	S10 25.8	234 22.4	13.8	S16 45.5	11.8	55.2
	12	3 48.0	S10 26.7	248 55.3	13.9	S16 33.6	11.9	55.3
	13	18 48.1	S10 27.6	263 28.2	13.9	S16 21.7	11.9	55.3
	14	33 48.2	S10 28.5	278 01.1	13.9	S16 09.7	12.0	55.3
	15	48 48.3	S10 29.4	292 34.1	14.0	S15 57.6	12.1	55.3
	16	63 48.4	S10 30.3	307 07.1	14.0	S15 45.4	12.2	55.4
	17	78 48.6	S10 31.2	321 40.1	14.0	S15 33.1	12.3	55.4
	18	93 48.7	S10 32.1	336 13.2	14.1	S15 20.8	12.3	55.4
	19	108 48.8	S10 32.9	350 46.3	14.1	S15 08.4	12.4	55.4
	20	123 48.9	S10 33.8	5 19.4	14.1	S14 55.9	12.5	55.5
	21	138 49.0	S10 34.7	19 52.5	14.1	S14 43.4	12.6	55.5
	22	153 49.1	S10 35.6	34 25.7	14.2	S14 30.7	12.6	55.5
	23	168 49.2	S10 36.5	48 58.9	14.2	S14 18.0	12.7	55.6
21	0	183 49.3	S10 37.4	63 32.1	14.2	S14 05.2	12.8	55.6
	1	198 49.4	S10 38.3	78 05.3	14.2	S13 52.4	12.9	55.6
	2	213 49.5	S10 39.2	92 38.6	14.3	S13 39.5	12.9	55.6
	3	228 49.6	S10 40.1	107 11.9	14.3	S13 26.5	13.0	55.7
	4	243 49.7	S10 41.0	121 45.2	14.3	S13 13.4	13.1	55.7
W	5	258 49.8	S10 41.9	136 18.5	14.3	S13 00.3	13.1	55.7
E								
D	6	273 49.9	S10 42.7	150 51.9	14.3	S12 47.1	13.2	55.7
N	7	288 50.0	S10 43.6	165 25.2	14.4	S12 33.8	13.3	55.8
E	8	303 50.1	S10 44.5	179 58.6	14.4	S12 20.5	13.3	55.8
S	9	318 50.2	S10 45.4	194 32.0	14.4	S12 07.1	13.4	55.8
D	10	333 50.3	S10 46.3	209 05.4	14.4	S11 53.6	13.5	55.9
A	11	348 50.4	S10 47.2	223 38.9	14.4	S11 40.1	13.5	55.9
Y								
	12	3 50.5	S10 48.1	238 12.3	14.4	S11 26.5	13.6	55.9
	13	18 50.6	S10 49.0	252 45.8	14.5	S11 12.8	13.7	56.0
	14	33 50.7	S10 49.8	267 19.2	14.5	S10 59.1	13.7	56.0
	15	48 50.8	S10 50.7	281 52.7	14.5	S10 45.3	13.8	56.0
	16	63 50.9	S10 51.6	296 26.2	14.5	S10 31.5	13.8	56.0
	17	78 51.0	S10 52.5	310 59.7	14.5	S10 17.6	13.9	56.1
	18	93 51.1	S10 53.4	325 33.2	14.5	S10 03.6	14.0	56.1
	19	108 51.2	S10 54.3	340 06.7	14.5	S 9 49.6	14.0	56.1
	20	123 51.3	S10 55.2	354 40.3	14.5	S 9 35.5	14.1	56.2
	21	138 51.4	S10 56.1	9 13.8	14.5	S 9 21.4	14.1	56.2
	22	153 51.5	S10 56.9	23 47.3	14.5	S 9 07.2	14.2	56.2
	23	168 51.6	S10 57.8	38 20.9	14.5	S 8 53.0	14.2	56.3
		S.D. 16.1	d 0.9	S.D. 14.9		15.1		15.2

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.6
Achernar	335 18.5	S57 05.9
Acrux	172 59.2	S63 14.7
Adhara	255 04.6	S29 00.2
Albireo	67 02.9	N28 01.2
Aldebaran	290 37.7	N16 33.9
Alioth	166 12.2	N55 48.8
Alkaid	152 51.3	N49 10.8
Al Na-ir	27 30.8	S46 50.0
Alnilam	275 36.0	S 1 10.9
Alphard	217 46.4	S 8 46.4
Alphecca	126 02.8	N26 37.6
Alpheratz	357 33.0	N29 14.6
Altair	61 58.5	N 8 56.5
Ankaa	353 05.3	S42 09.6
Antares	112 14.3	S26 29.5
Arcturus	145 46.9	N19 02.6
Atria	107 07.7	S69 04.8
Avior	234 14.2	S59 35.4
Bellatrix	278 21.1	N 6 22.6
Betelgeuse	270 50.3	N 7 24.8
Canopus	263 51.5	S52 42.2
Capella	280 19.4	N46 01.4
Castor	245 55.1	N31 49.7
Deneb	49 24.7	N45 22.9
Denebola	182 23.7	N14 25.4
Diphda	348 45.5	S17 50.2
Dubhe	193 39.7	N61 36.2
Elnath	277 59.8	N28 37.8
Eltanin	90 41.8	N51 29.3
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.6	S29 28.8
Gacrux	171 50.6	S57 15.7
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 30.1
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.1	N74 02.7
Markab	13 28.2	N15 21.2
Menkar	314 04.3	N 4 11.9
Menkent	147 56.3	S36 30.1
Miaplacidus	221 38.2	S69 49.3
Mirfak	308 25.8	N49 57.4
Nunki	75 46.0	S26 15.8
Peacock	53 03.3	S56 39.1
Polaris	315 33.2	N89 22.0
Pollux	243 15.5	N27 57.6
Procyon	244 49.3	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.1	N11 50.2
Rigel	281 02.3	S 8 10.0
Rigil Kent	139 39.1	S60 56.8
Sabik	102 01.3	S15 45.5
Schedar	349 28.8	N56 41.3
Shaula	96 08.6	S37 07.5
Sirius	258 24.9	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.4	S43 32.1
Vega	80 32.4	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
22	0	30 26.6	183 02.7	S18 36.4	254 07.4	N18 07.7	244 53.0	N14 28.3	20 13.5	N 1 27.6
	1	45 29.1	198 06.5	S18 35.5	269 08.5	N18 07.4	259 55.1	N14 28.2	35 16.1	N 1 27.5
	2	60 31.5	213 10.3	S18 34.7	284 09.6	N18 07.0	274 57.2	N14 28.1	50 18.7	N 1 27.4
	3	75 34.0	228 14.1	S18 33.8	299 10.7	N18 06.7	289 59.3	N14 28.0	65 21.4	N 1 27.4
	4	90 36.5	243 17.9	S18 32.9	314 11.8	N18 06.4	305 01.4	N14 27.8	80 24.0	N 1 27.3
T	5	105 38.9	258 21.7	S18 32.1	329 12.9	N18 06.0	320 03.5	N14 27.7	95 26.6	N 1 27.2
H										
U	6	120 41.4	273 25.5	S18 31.2	344 14.0	N18 05.7	335 05.6	N14 27.6	110 29.3	N 1 27.2
R	7	135 43.8	288 29.3	S18 30.3	359 15.1	N18 05.3	350 07.7	N14 27.5	125 31.9	N 1 27.1
S	8	150 46.3	303 33.1	S18 29.4	14 16.2	N18 05.0	5 09.9	N14 27.4	140 34.5	N 1 27.0
D	9	165 48.8	318 36.9	S18 28.6	29 17.3	N18 04.7	20 12.0	N14 27.3	155 37.2	N 1 27.0
A	10	180 51.2	333 40.7	S18 27.7	44 18.5	N18 04.3	35 14.1	N14 27.2	170 39.8	N 1 26.9
Y	11	195 53.7	348 44.5	S18 26.8	59 19.6	N18 04.0	50 16.2	N14 27.1	185 42.4	N 1 26.8
	12	210 56.2	3 48.3	S18 25.9	74 20.7	N18 03.7	65 18.3	N14 27.0	200 45.0	N 1 26.8
	13	225 58.6	18 52.1	S18 25.0	89 21.8	N18 03.3	80 20.4	N14 26.9	215 47.7	N 1 26.7
	14	241 01.1	33 55.9	S18 24.2	104 22.9	N18 03.0	95 22.6	N14 26.8	230 50.3	N 1 26.6
	15	256 03.6	48 59.7	S18 23.3	119 24.0	N18 02.6	110 24.7	N14 26.6	245 52.9	N 1 26.6
	16	271 06.0	64 03.5	S18 22.4	134 25.1	N18 02.3	125 26.8	N14 26.5	260 55.6	N 1 26.5
	17	286 08.5	79 07.3	S18 21.5	149 26.2	N18 02.0	140 28.9	N14 26.4	275 58.2	N 1 26.4
	18	301 11.0	94 11.1	S18 20.6	164 27.4	N18 01.6	155 31.0	N14 26.3	291 00.8	N 1 26.4
	19	316 13.4	109 14.9	S18 19.7	179 28.5	N18 01.3	170 33.1	N14 26.2	306 03.5	N 1 26.3
	20	331 15.9	124 18.7	S18 18.8	194 29.6	N18 01.0	185 35.2	N14 26.1	321 06.1	N 1 26.2
	21	346 18.3	139 22.5	S18 17.9	209 30.7	N18 00.6	200 37.4	N14 26.0	336 08.7	N 1 26.2
	22	1 20.8	154 26.4	S18 17.0	224 31.8	N18 00.3	215 39.5	N14 25.9	351 11.3	N 1 26.1
	23	16 23.3	169 30.2	S18 16.1	239 32.9	N17 59.9	230 41.6	N14 25.8	6 14.0	N 1 26.0
23	0	31 25.7	184 34.0	S18 15.2	254 34.0	N17 59.6	245 43.7	N14 25.7	21 16.6	N 1 26.0
	1	46 28.2	199 37.8	S18 14.3	269 35.2	N17 59.3	260 45.8	N14 25.6	36 19.2	N 1 25.9
	2	61 30.7	214 41.6	S18 13.4	284 36.3	N17 58.9	275 47.9	N14 25.5	51 21.9	N 1 25.8
	3	76 33.1	229 45.4	S18 12.5	299 37.4	N17 58.6	290 50.1	N14 25.3	66 24.5	N 1 25.8
	4	91 35.6	244 49.2	S18 11.6	314 38.5	N17 58.3	305 52.2	N14 25.2	81 27.1	N 1 25.7
F	5	106 38.1	259 53.0	S18 10.7	329 39.6	N17 57.9	320 54.3	N14 25.1	96 29.8	N 1 25.6
R										
I	6	121 40.5	274 56.8	S18 09.8	344 40.7	N17 57.6	335 56.4	N14 25.0	111 32.4	N 1 25.6
D	7	136 43.0	290 00.6	S18 08.9	359 41.9	N17 57.2	350 58.5	N14 24.9	126 35.0	N 1 25.5
A	8	151 45.4	305 04.4	S18 08.0	14 43.0	N17 56.9	6 00.7	N14 24.8	141 37.6	N 1 25.4
Y	9	166 47.9	320 08.2	S18 07.0	29 44.1	N17 56.6	21 02.8	N14 24.7	156 40.3	N 1 25.4
	10	181 50.4	335 12.0	S18 06.1	44 45.2	N17 56.2	36 04.9	N14 24.6	171 42.9	N 1 25.3
	11	196 52.8	350 15.8	S18 05.2	59 46.3	N17 55.9	51 07.0	N14 24.5	186 45.5	N 1 25.2
	12	211 55.3	5 19.6	S18 04.3	74 47.5	N17 55.6	66 09.1	N14 24.4	201 48.2	N 1 25.2
	13	226 57.8	20 23.4	S18 03.4	89 48.6	N17 55.2	81 11.3	N14 24.3	216 50.8	N 1 25.1
	14	242 00.2	35 27.2	S18 02.4	104 49.7	N17 54.9	96 13.4	N14 24.2	231 53.4	N 1 25.1
	15	257 02.7	50 31.0	S18 01.5	119 50.8	N17 54.5	111 15.5	N14 24.0	246 56.0	N 1 25.0
	16	272 05.2	65 34.8	S18 00.6	134 51.9	N17 54.2	126 17.6	N14 23.9	261 58.7	N 1 24.9
	17	287 07.6	80 38.6	S17 59.7	149 53.1	N17 53.9	141 19.7	N14 23.8	277 01.3	N 1 24.9
	18	302 10.1	95 42.4	S17 58.7	164 54.2	N17 53.5	156 21.9	N14 23.7	292 03.9	N 1 24.8
	19	317 12.6	110 46.2	S17 57.8	179 55.3	N17 53.2	171 24.0	N14 23.6	307 06.6	N 1 24.7
	20	332 15.0	125 50.0	S17 56.9	194 56.4	N17 52.8	186 26.1	N14 23.5	322 09.2	N 1 24.7
	21	347 17.5	140 53.8	S17 55.9	209 57.5	N17 52.5	201 28.2	N14 23.4	337 11.8	N 1 24.6
	22	2 19.9	155 57.6	S17 55.0	224 58.7	N17 52.2	216 30.4	N14 23.3	352 14.4	N 1 24.5
	23	17 22.4	171 01.4	S17 54.1	239 59.8	N17 51.8	231 32.5	N14 23.2	7 17.1	N 1 24.5
24	0	32 24.9	186 05.2	S17 53.1	255 00.9	N17 51.5	246 34.6	N14 23.1	22 19.7	N 1 24.4
	1	47 27.3	201 09.0	S17 52.2	270 02.0	N17 51.1	261 36.7	N14 23.0	37 22.3	N 1 24.3
	2	62 29.8	216 12.8	S17 51.3	285 03.2	N17 50.8	276 38.8	N14 22.9	52 25.0	N 1 24.3
	3	77 32.3	231 16.6	S17 50.3	300 04.3	N17 50.5	291 41.0	N14 22.8	67 27.6	N 1 24.2
	4	92 34.7	246 20.4	S17 49.4	315 05.4	N17 50.1	306 43.1	N14 22.7	82 30.2	N 1 24.1
S	5	107 37.2	261 24.2	S17 48.4	330 06.5	N17 49.8	321 45.2	N14 22.6	97 32.8	N 1 24.1
A										
T	6	122 39.7	276 28.0	S17 47.5	345 07.7	N17 49.5	336 47.3	N14 22.4	112 35.5	N 1 24.0
U	7	137 42.1	291 31.8	S17 46.5	0 08.8	N17 49.1	351 49.5	N14 22.3	127 38.1	N 1 23.9
R	8	152 44.6	306 35.6	S17 45.6	15 09.9	N17 48.8	6 51.6	N14 22.2	142 40.7	N 1 23.9
D	9	167 47.0	321 39.4	S17 44.7	30 11.1	N17 48.4	21 53.7	N14 22.1	157 43.3	N 1 23.8
A	10	182 49.5	336 43.2	S17 43.7	45 12.2	N17 48.1	36 55.8	N14 22.0	172 46.0	N 1 23.7
Y	11	197 52.0	351 47.0	S17 42.8	60 13.3	N17 47.8	51 58.0	N14 21.9	187 48.6	N 1 23.7
	12	212 54.4	6 50.7	S17 41.8	75 14.4	N17 47.4	67 00.1	N14 21.8	202 51.2	N 1 23.6
	13	227 56.9	21 54.5	S17 40.8	90 15.6	N17 47.1	82 02.2	N14 21.7	217 53.9	N 1 23.5
	14	242 59.4	36 58.3	S17 39.9	105 16.7	N17 46.7	97 04.3	N14 21.6	232 56.5	N 1 23.5
	15	258 01.8	52 02.1	S17 38.9	120 17.8	N17 46.4	112 06.5	N14 21.5	247 59.1	N 1 23.4
	16	273 04.3	67 05.9	S17 38.0	135 19.0	N17 46.1	127 08.6	N14 21.4	263 01.7	N 1 23.4
	17	288 06.8	82 09.7	S17 37.0	150 20.1	N17 45.7	142 10.7	N14 21.3	278 04.4	N 1 23.3
	18	303 09.2	97 13.5	S17 36.1	165 21.2	N17 45.4	157 12.8	N14 21.2	293 07.0	N 1 23.2
	19	318 11.7	112 17.3	S17 35.1	180 22.4	N17 45.0	172 15.0	N14 21.1	308 09.6	N 1 23.2
	20	333 14.2	127 21.1	S17 34.1	195 23.5	N17 44.7	187 17.1	N14 21.0	323 12.2	N 1 23.1
	21	348 16.6	142 24.8	S17 33.2	210 24.6	N17 44.4	202 19.2	N14 20.9	338 14.9	N 1 23.0
	22	3 19.1	157 28.6	S17 32.2	225 25.7	N17 44.0	217 21.3	N14 20.7	353 17.5	N 1 23.0
	23	18 21.5	172 32.4	S17 31.2	240 26.9	N17 43.7	232 23.5	N14 20.6	8 20.1	N 1 22.9
			v 3.8	d 0.9	v 1.1	d 0.3	v 2.1	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
22	0	183 51.7	S10 58.7	52 54.4	14.5	S 8 38.7	14.3	56.3
	1	198 51.8	S10 59.6	67 27.9	14.5	S 8 24.3	14.4	56.3
	2	213 51.9	S11 00.5	82 01.5	14.5	S 8 09.9	14.4	56.4
	3	228 52.0	S11 01.4	96 35.0	14.5	S 7 55.5	14.5	56.4
	4	243 52.1	S11 02.2	111 08.6	14.5	S 7 41.0	14.5	56.4
T	5	258 52.2	S11 03.1	125 42.1	14.5	S 7 26.4	14.6	56.5
H								
U	6	273 52.3	S11 04.0	140 15.6	14.5	S 7 11.8	14.6	56.5
R	7	288 52.4	S11 04.9	154 49.2	14.5	S 6 57.1	14.7	56.5
S	8	303 52.5	S11 05.8	169 22.7	14.5	S 6 42.4	14.7	56.6
D	9	318 52.6	S11 06.7	183 56.2	14.5	S 6 27.7	14.7	56.6
A	10	333 52.7	S11 07.5	198 29.7	14.5	S 6 12.9	14.8	56.6
Y	11	348 52.8	S11 08.4	213 03.2	14.5	S 5 58.1	14.8	56.7
	12	3 52.9	S11 09.3	227 36.7	14.5	S 5 43.2	14.9	56.7
	13	18 52.9	S11 10.2	242 10.2	14.5	S 5 28.3	14.9	56.7
	14	33 53.0	S11 11.1	256 43.6	14.5	S 5 13.3	15.0	56.8
	15	48 53.1	S11 11.9	271 17.1	14.5	S 4 58.3	15.0	56.8
	16	63 53.2	S11 12.8	285 50.5	14.4	S 4 43.3	15.0	56.8
	17	78 53.3	S11 13.7	300 24.0	14.4	S 4 28.2	15.1	56.9
	18	93 53.4	S11 14.6	314 57.4	14.4	S 4 13.0	15.1	56.9
	19	108 53.5	S11 15.5	329 30.7	14.4	S 3 57.9	15.2	56.9
	20	123 53.6	S11 16.3	344 04.1	14.4	S 3 42.7	15.2	57.0
	21	138 53.7	S11 17.2	358 37.5	14.3	S 3 27.5	15.2	57.0
	22	153 53.8	S11 18.1	13 10.8	14.3	S 3 12.2	15.3	57.0
	23	168 53.9	S11 19.0	27 44.1	14.3	S 2 56.9	15.3	57.1
23	0	183 54.0	S11 19.8	42 17.4	14.3	S 2 41.6	15.3	57.1
	1	198 54.0	S11 20.7	56 50.6	14.3	S 2 26.2	15.4	57.1
	2	213 54.1	S11 21.6	71 23.8	14.2	S 2 10.8	15.4	57.2
	3	228 54.2	S11 22.5	85 57.0	14.2	S 1 55.4	15.4	57.2
	4	243 54.3	S11 23.3	100 30.2	14.2	S 1 40.0	15.4	57.2
F	5	258 54.4	S11 24.2	115 03.3	14.1	S 1 24.5	15.5	57.3
R								
I	6	273 54.5	S11 25.1	129 36.4	14.1	S 1 09.0	15.5	57.3
D	7	288 54.6	S11 26.0	144 09.5	14.1	S 0 53.5	15.5	57.3
A	8	303 54.7	S11 26.9	158 42.6	14.0	S 0 37.9	15.5	57.4
Y	9	318 54.8	S11 27.7	173 15.6	14.0	S 0 22.4	15.6	57.4
	10	333 54.8	S11 28.6	187 48.5	14.0	S 0 06.8	15.6	57.4
	11	348 54.9	S11 29.5	202 21.5	13.9	N 0 08.8	15.6	57.5
	12	3 55.0	S11 30.3	216 54.4	13.9	N 0 24.5	15.6	57.5
	13	18 55.1	S11 31.2	231 27.2	13.9	N 0 40.1	15.6	57.5
	14	33 55.2	S11 32.1	246 00.1	13.8	N 0 55.8	15.7	57.6
	15	48 55.3	S11 33.0	260 32.8	13.8	N 1 11.5	15.7	57.6
	16	63 55.4	S11 33.8	275 05.6	13.7	N 1 27.1	15.7	57.6
	17	78 55.4	S11 34.7	289 38.2	13.7	N 1 42.9	15.7	57.7
	18	93 55.5	S11 35.6	304 10.9	13.6	N 1 58.6	15.7	57.7
	19	108 55.6	S11 36.5	318 43.5	13.6	N 2 14.3	15.7	57.7
	20	123 55.7	S11 37.3	333 16.0	13.5	N 2 30.0	15.7	57.8
	21	138 55.8	S11 38.2	347 48.5	13.5	N 2 45.8	15.7	57.8
	22	153 55.9	S11 39.1	2 21.0	13.4	N 3 01.5	15.8	57.8
	23	168 56.0	S11 39.9	16 53.4	13.4	N 3 17.3	15.8	57.9
24	0	183 56.0	S11 40.8	31 25.7	13.3	N 3 33.0	15.8	57.9
	1	198 56.1	S11 41.7	45 58.0	13.3	N 3 48.8	15.8	57.9
	2	213 56.2	S11 42.5	60 30.2	13.2	N 4 04.6	15.8	58.0
	3	228 56.3	S11 43.4	75 02.4	13.2	N 4 20.3	15.8	58.0
	4	243 56.4	S11 44.3	89 34.5	13.1	N 4 36.1	15.8	58.0
S	5	258 56.5	S11 45.2	104 06.6	13.1	N 4 51.9	15.8	58.1
A								
T	6	273 56.5	S11 46.0	118 38.6	13.0	N 5 07.6	15.8	58.1
U	7	288 56.6	S11 46.9	133 10.5	12.9	N 5 23.4	15.8	58.1
R	8	303 56.7	S11 47.8	147 42.4	12.9	N 5 39.1	15.7	58.2
D	9	318 56.8	S11 48.6	162 14.2	12.8	N 5 54.8	15.7	58.2
A	10	333 56.9	S11 49.5	176 45.9	12.7	N 6 10.6	15.7	58.2
Y	11	348 56.9	S11 50.4	191 17.6	12.7	N 6 26.3	15.7	58.3
	12	3 57.0	S11 51.2	205 49.2	12.6	N 6 42.0	15.7	58.3
	13	18 57.1	S11 52.1	220 20.7	12.5	N 6 57.7	15.7	58.3
	14	33 57.2	S11 53.0	234 52.2	12.5	N 7 13.3	15.7	58.4
	15	48 57.3	S11 53.8	249 23.6	12.4	N 7 29.0	15.7	58.4
	16	63 57.3	S11 54.7	263 54.9	12.3	N 7 44.6	15.6	58.4
	17	78 57.4	S11 55.6	278 26.2	12.2	N 8 00.2	15.6	58.5
	18	93 57.5	S11 56.4	292 57.3	12.2	N 8 15.8	15.6	58.5
	19	108 57.6	S11 57.3	307 28.4	12.1	N 8 31.4	15.6	58.5
	20	123 57.6	S11 58.1	321 59.5	12.0	N 8 47.0	15.5	58.6
	21	138 57.7	S11 59.0	336 30.4	11.9	N 9 02.5	15.5	58.6
	22	153 57.8	S11 59.9	351 01.3	11.9	N 9 18.0	15.5	58.6
	23	168 57.9	S12 00.7	5 32.0	11.8	N 9 33.4	15.5	58.7
		S.D. 16.1	d 0.9	S.D. 15.4		15.7		15.9

STARS Name	SHA	Dec
Acamar	315 10.2	S40 11.6
Achernar	335 18.5	S57 05.9
Acrux	172 59.2	S63 14.7
Adhara	255 04.6	S29 00.2
Albireo	67 02.9	N28 01.2
Aldebaran	290 37.7	N16 33.9
Alioth	166 12.2	N55 48.8
Alkaid	152 51.3	N49 10.7
Al Na-ir	27 30.8	S46 50.0
Alnilam	275 36.0	S 1 10.9
Alphard	217 46.4	S 8 46.4
Alphecca	126 02.8	N26 37.5
Alpheratz	357 33.0	N29 14.6
Altair	61 58.6	N 8 56.5
Ankaa	353 05.3	S42 09.6
Antares	112 14.4	S26 29.5
Arcturus	145 46.9	N19 02.6
Atria	107 07.8	S69 04.7
Avior	234 14.2	S59 35.4
Bellatrix	278 21.1	N 6 22.6
Betelgeuse	270 50.3	N 7 24.8
Canopus	263 51.5	S52 42.2
Capella	280 19.4	N46 01.5
Castor	245 55.1	N31 49.7
Deneb	49 24.7	N45 22.9
Denebola	182 23.7	N14 25.3
Diphda	348 45.5	S17 50.2
Dubhe	193 39.6	N61 36.2
Elnath	277 59.8	N28 37.8
Eltanin	90 41.8	N51 29.3
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.6	S29 28.8
Gacrux	171 50.6	S57 15.7
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 30.1
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.1	N74 02.7
Markab	13 28.2	N15 21.2
Menkar	314 04.3	N 4 11.9
Menkent	147 56.3	S36 30.1
Miaplacidus	221 38.2	S69 49.3
Mirfak	308 25.7	N49 57.4
Nunki	75 46.1	S26 15.8
Peacock	53 03.3	S56 39.1
Polaris	315 33.0	N89 22.0
Pollux	243 15.5	N27 57.6
Procyon	244 49.2	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.0	N11 50.2
Rigel	281 02.2	S 8 10.0
Rigil Kent	139 39.1	S60 56.8
Sabik	102 01.4	S15 45.5
Schedar	349 28.8	N56 41.3
Shaula	96 08.6	S37 07.5
Sirius	258 24.8	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.3	S43 32.1
Vega	80 32.4	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
25	0	33 24.0	187 36.2	S17 30.3	255 28.0	N17 43.3	247 25.6	N14 20.5	23 22.7	N 1 22.8
	1	48 26.5	202 40.0	S17 29.3	270 29.1	N17 43.0	262 27.7	N14 20.4	38 25.4	N 1 22.8
	2	63 28.9	217 43.7	S17 28.3	285 30.3	N17 42.7	277 29.9	N14 20.3	53 28.0	N 1 22.7
	3	78 31.4	232 47.5	S17 27.4	300 31.4	N17 42.3	292 32.0	N14 20.2	68 30.6	N 1 22.6
	4	93 33.9	247 51.3	S17 26.4	315 32.5	N17 42.0	307 34.1	N14 20.1	83 33.2	N 1 22.6
S	5	108 36.3	262 55.1	S17 25.4	330 33.7	N17 41.6	322 36.2	N14 20.0	98 35.9	N 1 22.5
U										
N	6	123 38.8	277 58.9	S17 24.4	345 34.8	N17 41.3	337 38.4	N14 19.9	113 38.5	N 1 22.5
D	7	138 41.3	293 02.6	S17 23.5	0 36.0	N17 41.0	352 40.5	N14 19.8	128 41.1	N 1 22.4
A	8	153 43.7	308 06.4	S17 22.5	15 37.1	N17 40.6	7 42.6	N14 19.7	143 43.7	N 1 22.3
Y	9	168 46.2	323 10.2	S17 21.5	30 38.2	N17 40.3	22 44.8	N14 19.6	158 46.4	N 1 22.3
	10	183 48.7	338 14.0	S17 20.5	45 39.4	N17 39.9	37 46.9	N14 19.5	173 49.0	N 1 22.2
	11	198 51.1	353 17.7	S17 19.6	60 40.5	N17 39.6	52 49.0	N14 19.4	188 51.6	N 1 22.1
	12	213 53.6	8 21.5	S17 18.6	75 41.6	N17 39.3	67 51.1	N14 19.3	203 54.3	N 1 22.1
	13	228 56.0	23 25.3	S17 17.6	90 42.8	N17 38.9	82 53.3	N14 19.2	218 56.9	N 1 22.0
	14	243 58.5	38 29.0	S17 16.6	105 43.9	N17 38.6	97 55.4	N14 19.1	233 59.5	N 1 21.9
	15	259 01.0	53 32.8	S17 15.6	120 45.1	N17 38.2	112 57.5	N14 19.0	249 02.1	N 1 21.9
	16	274 03.4	68 36.6	S17 14.7	135 46.2	N17 37.9	127 59.7	N14 18.9	264 04.8	N 1 21.8
	17	289 05.9	83 40.3	S17 13.7	150 47.3	N17 37.6	143 01.8	N14 18.8	279 07.4	N 1 21.7
	18	304 08.4	98 44.1	S17 12.7	165 48.5	N17 37.2	158 03.9	N14 18.7	294 10.0	N 1 21.7
	19	319 10.8	113 47.9	S17 11.7	180 49.6	N17 36.9	173 06.1	N14 18.6	309 12.6	N 1 21.6
	20	334 13.3	128 51.6	S17 10.7	195 50.8	N17 36.5	188 08.2	N14 18.4	324 15.2	N 1 21.6
	21	349 15.8	143 55.4	S17 09.7	210 51.9	N17 36.2	203 10.3	N14 18.3	339 17.9	N 1 21.5
	22	4 18.2	158 59.1	S17 08.7	225 53.0	N17 35.9	218 12.5	N14 18.2	354 20.5	N 1 21.4
	23	19 20.7	174 02.9	S17 07.7	240 54.2	N17 35.5	233 14.6	N14 18.1	9 23.1	N 1 21.4
26	0	34 23.1	189 06.6	S17 06.7	255 55.3	N17 35.2	248 16.7	N14 18.0	24 25.7	N 1 21.3
	1	49 25.6	204 10.4	S17 05.8	270 56.5	N17 34.8	263 18.9	N14 17.9	39 28.4	N 1 21.2
	2	64 28.1	219 14.1	S17 04.8	285 57.6	N17 34.5	278 21.0	N14 17.8	54 31.0	N 1 21.2
	3	79 30.5	234 17.9	S17 03.8	300 58.7	N17 34.2	293 23.1	N14 17.7	69 33.6	N 1 21.1
	4	94 33.0	249 21.7	S17 02.8	315 59.9	N17 33.8	308 25.3	N14 17.6	84 36.2	N 1 21.1
M	5	109 35.5	264 25.4	S17 01.8	331 01.0	N17 33.5	323 27.4	N14 17.5	99 38.9	N 1 21.0
O										
N	6	124 37.9	279 29.1	S17 00.8	346 02.2	N17 33.1	338 29.5	N14 17.4	114 41.5	N 1 20.9
D	7	139 40.4	294 32.9	S16 59.8	1 03.3	N17 32.8	353 31.7	N14 17.3	129 44.1	N 1 20.9
A	8	154 42.9	309 36.6	S16 58.8	16 04.5	N17 32.4	8 33.8	N14 17.2	144 46.7	N 1 20.8
Y	9	169 45.3	324 40.4	S16 57.8	31 05.6	N17 32.1	23 35.9	N14 17.1	159 49.4	N 1 20.7
	10	184 47.8	339 44.1	S16 56.8	46 06.8	N17 31.8	38 38.1	N14 17.0	174 52.0	N 1 20.7
	11	199 50.3	354 47.9	S16 55.8	61 07.9	N17 31.4	53 40.2	N14 16.9	189 54.6	N 1 20.6
	12	214 52.7	9 51.6	S16 54.8	76 09.1	N17 31.1	68 42.3	N14 16.8	204 57.2	N 1 20.5
	13	229 55.2	24 55.3	S16 53.8	91 10.2	N17 30.7	83 44.5	N14 16.7	219 59.9	N 1 20.5
	14	244 57.6	39 59.1	S16 52.8	106 11.3	N17 30.4	98 46.6	N14 16.6	235 02.5	N 1 20.4
	15	260 00.1	55 02.8	S16 51.8	121 12.5	N17 30.1	113 48.7	N14 16.5	250 05.1	N 1 20.4
	16	275 02.6	70 06.5	S16 50.8	136 13.6	N17 29.7	128 50.9	N14 16.4	265 07.7	N 1 20.3
	17	290 05.0	85 10.3	S16 49.8	151 14.8	N17 29.4	143 53.0	N14 16.3	280 10.3	N 1 20.2
	18	305 07.5	100 14.0	S16 48.7	166 15.9	N17 29.0	158 55.2	N14 16.2	295 13.0	N 1 20.2
	19	320 10.0	115 17.7	S16 47.7	181 17.1	N17 28.7	173 57.3	N14 16.1	310 15.6	N 1 20.1
	20	335 12.4	130 21.5	S16 46.7	196 18.2	N17 28.4	188 59.4	N14 16.0	325 18.2	N 1 20.0
	21	350 14.9	145 25.2	S16 45.7	211 19.4	N17 28.0	204 01.6	N14 15.9	340 20.8	N 1 20.0
	22	5 17.4	160 28.9	S16 44.7	226 20.5	N17 27.7	219 03.7	N14 15.8	355 23.5	N 1 19.9
	23	20 19.8	175 32.6	S16 43.7	241 21.7	N17 27.3	234 05.8	N14 15.7	10 26.1	N 1 19.9
27	0	35 22.3	190 36.4	S16 42.7	256 22.8	N17 27.0	249 08.0	N14 15.6	25 28.7	N 1 19.8
	1	50 24.7	205 40.1	S16 41.7	271 24.0	N17 26.6	264 10.1	N14 15.5	40 31.3	N 1 19.7
	2	65 27.2	220 43.8	S16 40.7	286 25.1	N17 26.3	279 12.3	N14 15.4	55 33.9	N 1 19.7
	3	80 29.7	235 47.5	S16 39.7	301 26.3	N17 26.0	294 14.4	N14 15.3	70 36.6	N 1 19.6
	4	95 32.1	250 51.2	S16 38.6	316 27.5	N17 25.6	309 16.5	N14 15.2	85 39.2	N 1 19.5
T	5	110 34.6	265 54.9	S16 37.6	331 28.6	N17 25.3	324 18.7	N14 15.1	100 41.8	N 1 19.5
U										
E	6	125 37.1	280 58.6	S16 36.6	346 29.8	N17 24.9	339 20.8	N14 15.0	115 44.4	N 1 19.4
S	7	140 39.5	296 02.4	S16 35.6	1 30.9	N17 24.6	354 23.0	N14 14.9	130 47.1	N 1 19.4
D	8	155 42.0	311 06.1	S16 34.6	16 32.1	N17 24.3	9 25.1	N14 14.7	145 49.7	N 1 19.3
A	9	170 44.5	326 09.8	S16 33.6	31 33.2	N17 23.9	24 27.2	N14 14.6	160 52.3	N 1 19.2
Y	10	185 46.9	341 13.5	S16 32.6	46 34.4	N17 23.6	39 29.4	N14 14.5	175 54.9	N 1 19.2
	11	200 49.4	356 17.2	S16 31.5	61 35.5	N17 23.2	54 31.5	N14 14.4	190 57.5	N 1 19.1
	12	215 51.9	11 20.9	S16 30.5	76 36.7	N17 22.9	69 33.7	N14 14.3	206 00.2	N 1 19.1
	13	230 54.3	26 24.6	S16 29.5	91 37.8	N17 22.6	84 35.8	N14 14.2	221 02.8	N 1 19.0
	14	245 56.8	41 28.3	S16 28.5	106 39.0	N17 22.2	99 37.9	N14 14.1	236 05.4	N 1 18.9
	15	260 59.2	56 32.0	S16 27.5	121 40.2	N17 21.9	114 40.1	N14 14.0	251 08.0	N 1 18.9
	16	276 01.7	71 35.6	S16 26.4	136 41.3	N17 21.5	129 42.2	N14 13.9	266 10.6	N 1 18.8
	17	291 04.2	86 39.3	S16 25.4	151 42.5	N17 21.2	144 44.4	N14 13.8	281 13.3	N 1 18.7
	18	306 06.6	101 43.0	S16 24.4	166 43.6	N17 20.8	159 46.5	N14 13.7	296 15.9	N 1 18.7
	19	321 09.1	116 46.7	S16 23.4	181 44.8	N17 20.5	174 48.7	N14 13.6	311 18.5	N 1 18.6
	20	336 11.6	131 50.4	S16 22.4	196 45.9	N17 20.2	189 50.8	N14 13.5	326 21.1	N 1 18.6
	21	351 14.0	146 54.1	S16 21.3	211 47.1	N17 19.8	204 52.9	N14 13.4	341 23.7	N 1 18.5
	22	6 16.5	161 57.8	S16 20.3	226 48.3	N17 19.5	219 55.1	N14 13.3	356 26.4	N 1 18.4
	23	21 19.0	177 01.4	S16 19.3	241 49.4	N17 19.1	234 57.2	N14 13.2	11 29.0	N 1 18.4
			v 3.7	d 1.0	v 1.1	d 0.3	v 2.1	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
25	0	183 58.0	S12 01.6	20 02.7	11.7	N 9 48.8	15.4	58.7
	1	198 58.0	S12 02.5	34 33.3	11.6	N10 04.2	15.4	58.7
	2	213 58.1	S12 03.3	49 03.9	11.5	N10 19.6	15.4	58.7
	3	228 58.2	S12 04.2	63 34.3	11.4	N10 34.9	15.3	58.8
	4	243 58.3	S12 05.0	78 04.7	11.4	N10 50.2	15.3	58.8
S	5	258 58.3	S12 05.9	92 34.9	11.3	N11 05.5	15.2	58.8
U								
N	6	273 58.4	S12 06.8	107 05.1	11.2	N11 20.7	15.2	58.9
D	7	288 58.5	S12 07.6	121 35.2	11.1	N11 35.8	15.2	58.9
A	8	303 58.5	S12 08.5	136 05.2	11.0	N11 50.9	15.1	58.9
Y	9	318 58.6	S12 09.3	150 35.1	10.9	N12 06.0	15.1	58.9
	10	333 58.7	S12 10.2	165 04.9	10.8	N12 21.0	15.0	59.0
	11	348 58.8	S12 11.1	179 34.6	10.7	N12 36.0	15.0	59.0
	12	3 58.8	S12 11.9	194 04.2	10.6	N12 50.9	14.9	59.0
	13	18 58.9	S12 12.8	208 33.7	10.5	N13 05.8	14.9	59.1
	14	33 59.0	S12 13.6	223 03.2	10.4	N13 20.6	14.8	59.1
	15	48 59.1	S12 14.5	237 32.5	10.3	N13 35.3	14.7	59.1
	16	63 59.1	S12 15.4	252 01.7	10.2	N13 50.0	14.7	59.1
	17	78 59.2	S12 16.2	266 30.8	10.1	N14 04.6	14.6	59.2
	18	93 59.3	S12 17.1	280 59.9	10.0	N14 19.2	14.6	59.2
	19	108 59.3	S12 17.9	295 28.8	9.9	N14 33.7	14.5	59.2
	20	123 59.4	S12 18.8	309 57.6	9.8	N14 48.1	14.4	59.2
	21	138 59.5	S12 19.6	324 26.3	9.7	N15 02.5	14.4	59.3
	22	153 59.5	S12 20.5	338 54.9	9.6	N15 16.8	14.3	59.3
	23	168 59.6	S12 21.4	353 23.4	9.5	N15 31.0	14.2	59.3
26	0	183 59.7	S12 22.2	7 51.8	9.4	N15 45.1	14.1	59.3
	1	198 59.8	S12 23.1	22 20.1	9.3	N15 59.2	14.1	59.4
	2	213 59.8	S12 23.9	36 48.3	9.2	N16 13.2	14.0	59.4
	3	228 59.9	S12 24.8	51 16.4	9.1	N16 27.1	13.9	59.4
	4	243 60.0	S12 25.6	65 44.3	9.0	N16 40.9	13.8	59.4
M	5	259 00.0	S12 26.5	80 12.2	8.9	N16 54.6	13.7	59.5
O								
N	6	274 00.1	S12 27.3	94 39.9	8.7	N17 08.2	13.6	59.5
D	7	289 00.2	S12 28.2	109 07.5	8.6	N17 21.8	13.6	59.5
A	8	304 00.2	S12 29.0	123 35.1	8.5	N17 35.3	13.5	59.5
Y	9	319 00.3	S12 29.9	138 02.5	8.4	N17 48.6	13.4	59.6
	10	334 00.4	S12 30.7	152 29.8	8.3	N18 01.9	13.3	59.6
	11	349 00.4	S12 31.6	166 57.0	8.2	N18 15.1	13.2	59.6
	12	4 00.5	S12 32.4	181 24.0	8.1	N18 28.2	13.1	59.6
	13	19 00.5	S12 33.3	195 51.0	8.0	N18 41.2	13.0	59.6
	14	34 00.6	S12 34.1	210 17.8	7.8	N18 54.0	12.9	59.7
	15	49 00.7	S12 35.0	224 44.5	7.7	N19 06.8	12.8	59.7
	16	64 00.7	S12 35.8	239 11.2	7.6	N19 19.5	12.7	59.7
	17	79 00.8	S12 36.7	253 37.6	7.5	N19 32.0	12.6	59.7
	18	94 00.9	S12 37.5	268 04.0	7.4	N19 44.4	12.4	59.7
	19	109 00.9	S12 38.4	282 30.3	7.3	N19 56.8	12.3	59.7
	20	124 01.0	S12 39.2	296 56.4	7.2	N20 09.0	12.2	59.8
	21	139 01.1	S12 40.1	311 22.5	7.0	N20 21.1	12.1	59.8
	22	154 01.1	S12 40.9	325 48.4	6.9	N20 33.0	12.0	59.8
	23	169 01.2	S12 41.8	340 14.2	6.8	N20 44.9	11.8	59.8
27	0	184 01.2	S12 42.6	354 39.9	6.7	N20 56.6	11.7	59.8
	1	199 01.3	S12 43.5	9 05.5	6.6	N21 08.2	11.6	59.9
	2	214 01.4	S12 44.3	23 30.9	6.5	N21 19.7	11.5	59.9
	3	229 01.4	S12 45.2	37 56.3	6.3	N21 31.0	11.3	59.9
	4	244 01.5	S12 46.0	52 21.5	6.2	N21 42.2	11.2	59.9
T	5	259 01.5	S12 46.8	66 46.7	6.1	N21 53.3	11.1	59.9
U								
E	6	274 01.6	S12 47.7	81 11.7	6.0	N22 04.3	10.9	59.9
S	7	289 01.7	S12 48.5	95 36.6	5.9	N22 15.1	10.8	59.9
D	8	304 01.7	S12 49.4	110 01.3	5.8	N22 25.7	10.7	60.0
A	9	319 01.8	S12 50.2	124 26.0	5.7	N22 36.2	10.5	60.0
Y	10	334 01.8	S12 51.1	138 50.6	5.6	N22 46.6	10.4	60.0
	11	349 01.9	S12 51.9	153 15.0	5.5	N22 56.8	10.2	60.0
	12	4 01.9	S12 52.8	167 39.4	5.3	N23 06.9	10.1	60.0
	13	19 02.0	S12 53.6	182 03.6	5.2	N23 16.8	9.9	60.0
	14	34 02.1	S12 54.4	196 27.7	5.1	N23 26.6	9.8	60.0
	15	49 02.1	S12 55.3	210 51.8	5.0	N23 36.2	9.6	60.0
	16	64 02.2	S12 56.1	225 15.7	4.9	N23 45.7	9.5	60.0
	17	79 02.2	S12 57.0	239 39.5	4.8	N23 55.0	9.3	60.1
	18	94 02.3	S12 57.8	254 03.2	4.7	N24 04.2	9.2	60.1
	19	109 02.3	S12 58.6	268 26.8	4.6	N24 13.2	9.0	60.1
	20	124 02.4	S12 59.5	282 50.3	4.5	N24 22.0	8.8	60.1
	21	139 02.4	S13 00.3	297 13.7	4.4	N24 30.6	8.7	60.1
	22	154 02.5	S13 01.2	311 37.1	4.3	N24 39.1	8.5	60.1
	23	169 02.6	S13 02.0	326 00.3	4.2	N24 47.5	8.3	60.1
		S.D. 16.1	d 0.9	S.D.	16.1	16.2	16.3	

Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.6
Achernar	335 18.5	S57 06.0
Acrux	172 59.1	S63 14.7
Adhara	255 04.6	S29 00.2
Albireo	67 03.0	N28 01.2
Aldebaran	290 37.7	N16 33.9
Alioth	166 12.2	N55 48.8
Alkaid	152 51.3	N49 10.7
Al Na-ir	27 30.8	S46 50.0
Alnilam	275 36.0	S 1 10.9
Alphard	217 46.4	S 8 46.4
Alphecca	126 02.8	N26 37.5
Alpheratz	357 33.0	N29 14.6
Altair	61 58.6	N 8 56.5
Ankaa	353 05.3	S42 09.6
Antares	112 14.4	S26 29.5
Arcturus	145 46.9	N19 02.6
Atria	107 07.8	S69 04.7
Avior	234 14.1	S59 35.4
Bellatrix	278 21.1	N 6 22.6
Betelgeuse	270 50.3	N 7 24.8
Canopus	263 51.5	S52 42.2
Capella	280 19.4	N46 01.5
Castor	245 55.1	N31 49.7
Deneb	49 24.8	N45 22.9
Denebola	182 23.7	N14 25.3
Diphda	348 45.5	S17 50.2
Dubhe	193 39.6	N61 36.1
Elnath	277 59.8	N28 37.8
Eltanin	90 41.8	N51 29.3
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.6	S29 28.8
Gacrux	171 50.6	S57 15.7
Gienah	175 42.4	S17 41.3
Hadar	148 34.7	S60 30.1
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.1	N74 02.7
Markab	13 28.2	N15 21.2
Menkar	314 04.3	N 4 11.9
Menkent	147 56.3	S36 30.1
Miaplacidus	221 38.1	S69 49.3
Mirfak	308 25.7	N49 57.4
Nunki	75 46.1	S26 15.8
Peacock	53 03.3	S56 39.1
Polaris	315 32.6	N89 22.0
Pollux	243 15.4	N27 57.6
Procyon	244 49.2	N 5 09.5
Rasalhague	95 57.4	N12 32.6
Regulus	207 33.0	N11 50.2
Rigel	281 02.2	S 8 10.0
Rigil Kent	139 39.1	S60 56.8
Sabik	102 01.4	S15 45.5
Schedar	349 28.9	N56 41.3
Shaula	96 08.7	S37 07.5
Sirius	258 24.8	S16 44.9
Spica	158 21.1	S11 18.0
Suhail	222 45.3	S43 32.1
Vega	80 32.4	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
28	0	36 21.4	192 05.1	S16 18.3	256 50.6	N17 18.8	249 59.4	N14 13.1	26 31.6	N 1 18.3
	1	51 23.9	207 08.8	S16 17.2	271 51.7	N17 18.4	265 01.5	N14 13.0	41 34.2	N 1 18.3
	2	66 26.4	222 12.5	S16 16.2	286 52.9	N17 18.1	280 03.7	N14 12.9	56 36.8	N 1 18.2
	3	81 28.8	237 16.1	S16 15.2	301 54.1	N17 17.8	295 05.8	N14 12.8	71 39.5	N 1 18.1
	4	96 31.3	252 19.8	S16 14.2	316 55.2	N17 17.4	310 07.9	N14 12.7	86 42.1	N 1 18.1
W	5	111 33.7	267 23.5	S16 13.1	331 56.4	N17 17.1	325 10.1	N14 12.6	101 44.7	N 1 18.0
E										
D	6	126 36.2	282 27.1	S16 12.1	346 57.6	N17 16.7	340 12.2	N14 12.5	116 47.3	N 1 17.9
N	7	141 38.7	297 30.8	S16 11.1	1 58.7	N17 16.4	355 14.4	N14 12.4	131 49.9	N 1 17.9
E	8	156 41.1	312 34.5	S16 10.1	16 59.9	N17 16.1	10 16.5	N14 12.3	146 52.6	N 1 17.8
S	9	171 43.6	327 38.1	S16 09.0	32 01.0	N17 15.7	25 18.7	N14 12.2	161 55.2	N 1 17.8
D	10	186 46.1	342 41.8	S16 08.0	47 02.2	N17 15.4	40 20.8	N14 12.1	176 57.8	N 1 17.7
A	11	201 48.5	357 45.4	S16 07.0	62 03.4	N17 15.0	55 23.0	N14 12.0	192 00.4	N 1 17.6
Y										
	12	216 51.0	12 49.1	S16 06.0	77 04.5	N17 14.7	70 25.1	N14 11.9	207 03.0	N 1 17.6
	13	231 53.5	27 52.7	S16 04.9	92 05.7	N17 14.3	85 27.3	N14 11.8	222 05.7	N 1 17.5
	14	246 55.9	42 56.4	S16 03.9	107 06.9	N17 14.0	100 29.4	N14 11.7	237 08.3	N 1 17.5
	15	261 58.4	58 00.0	S16 02.9	122 08.0	N17 13.7	115 31.5	N14 11.6	252 10.9	N 1 17.4
	16	277 00.9	73 03.7	S16 01.8	137 09.2	N17 13.3	130 33.7	N14 11.5	267 13.5	N 1 17.3
	17	292 03.3	88 07.3	S16 00.8	152 10.4	N17 13.0	145 35.8	N14 11.4	282 16.1	N 1 17.3
	18	307 05.8	103 10.9	S15 59.8	167 11.5	N17 12.6	160 38.0	N14 11.3	297 18.8	N 1 17.2
	19	322 08.2	118 14.6	S15 58.8	182 12.7	N17 12.3	175 40.1	N14 11.2	312 21.4	N 1 17.2
	20	337 10.7	133 18.2	S15 57.7	197 13.9	N17 11.9	190 42.3	N14 11.1	327 24.0	N 1 17.1
	21	352 13.2	148 21.8	S15 56.7	212 15.0	N17 11.6	205 44.4	N14 11.0	342 26.6	N 1 17.0
	22	7 15.6	163 25.5	S15 55.7	227 16.2	N17 11.3	220 46.6	N14 10.9	357 29.2	N 1 17.0
	23	22 18.1	178 29.1	S15 54.6	242 17.4	N17 10.9	235 48.7	N14 10.8	12 31.8	N 1 16.9
29	0	37 20.6	193 32.7	S15 53.6	257 18.6	N17 10.6	250 50.9	N14 10.7	27 34.5	N 1 16.9
	1	52 23.0	208 36.3	S15 52.6	272 19.7	N17 10.2	265 53.0	N14 10.6	42 37.1	N 1 16.8
	2	67 25.5	223 40.0	S15 51.6	287 20.9	N17 09.9	280 55.2	N14 10.6	57 39.7	N 1 16.7
	3	82 28.0	238 43.6	S15 50.5	302 22.1	N17 09.6	295 57.3	N14 10.5	72 42.3	N 1 16.7
	4	97 30.4	253 47.2	S15 49.5	317 23.2	N17 09.2	310 59.5	N14 10.4	87 44.9	N 1 16.6
T	5	112 32.9	268 50.8	S15 48.5	332 24.4	N17 08.9	326 01.6	N14 10.3	102 47.6	N 1 16.6
H										
U	6	127 35.3	283 54.4	S15 47.4	347 25.6	N17 08.5	341 03.8	N14 10.2	117 50.2	N 1 16.5
R	7	142 37.8	298 58.0	S15 46.4	2 26.7	N17 08.2	356 05.9	N14 10.1	132 52.8	N 1 16.4
S	8	157 40.3	314 01.6	S15 45.4	17 27.9	N17 07.8	11 08.1	N14 10.0	147 55.4	N 1 16.4
D	9	172 42.7	329 05.2	S15 44.3	32 29.1	N17 07.5	26 10.2	N14 09.9	162 58.0	N 1 16.3
A	10	187 45.2	344 08.8	S15 43.3	47 30.3	N17 07.2	41 12.4	N14 09.8	178 00.6	N 1 16.3
Y	11	202 47.7	359 12.4	S15 42.3	62 31.4	N17 06.8	56 14.5	N14 09.7	193 03.3	N 1 16.2
	12	217 50.1	14 16.0	S15 41.2	77 32.6	N17 06.5	71 16.7	N14 09.6	208 05.9	N 1 16.1
	13	232 52.6	29 19.6	S15 40.2	92 33.8	N17 06.1	86 18.8	N14 09.5	223 08.5	N 1 16.1
	14	247 55.1	44 23.2	S15 39.2	107 35.0	N17 05.8	101 21.0	N14 09.4	238 11.1	N 1 16.0
	15	262 57.5	59 26.8	S15 38.2	122 36.1	N17 05.4	116 23.1	N14 09.3	253 13.7	N 1 16.0
	16	277 60.0	74 30.4	S15 37.1	137 37.3	N17 05.1	131 25.3	N14 09.2	268 16.3	N 1 15.9
	17	293 02.5	89 34.0	S15 36.1	152 38.5	N17 04.8	146 27.4	N14 09.1	283 19.0	N 1 15.8
	18	308 04.9	104 37.5	S15 35.1	167 39.7	N17 04.4	161 29.6	N14 09.0	298 21.6	N 1 15.8
	19	323 07.4	119 41.1	S15 34.0	182 40.8	N17 04.1	176 31.8	N14 08.9	313 24.2	N 1 15.7
	20	338 09.8	134 44.7	S15 33.0	197 42.0	N17 03.7	191 33.9	N14 08.8	328 26.8	N 1 15.7
	21	353 12.3	149 48.3	S15 32.0	212 43.2	N17 03.4	206 36.1	N14 08.7	343 29.4	N 1 15.6
	22	8 14.8	164 51.8	S15 30.9	227 44.4	N17 03.0	221 38.2	N14 08.6	358 32.0	N 1 15.6
	23	23 17.2	179 55.4	S15 29.9	242 45.6	N17 02.7	236 40.4	N14 08.5	13 34.6	N 1 15.5
30	0	38 19.7	194 59.0	S15 28.9	257 46.7	N17 02.4	251 42.5	N14 08.4	28 37.3	N 1 15.4
	1	53 22.2	210 02.5	S15 27.8	272 47.9	N17 02.0	266 44.7	N14 08.3	43 39.9	N 1 15.4
	2	68 24.6	225 06.1	S15 26.8	287 49.1	N17 01.7	281 46.8	N14 08.2	58 42.5	N 1 15.3
	3	83 27.1	240 09.6	S15 25.8	302 50.3	N17 01.3	296 49.0	N14 08.1	73 45.1	N 1 15.3
	4	98 29.6	255 13.2	S15 24.8	317 51.5	N17 01.0	311 51.1	N14 08.0	88 47.7	N 1 15.2
F	5	113 32.0	270 16.7	S15 23.7	332 52.6	N17 00.6	326 53.3	N14 07.9	103 50.3	N 1 15.1
R										
I	6	128 34.5	285 20.3	S15 22.7	347 53.8	N17 00.3	341 55.5	N14 07.8	118 53.0	N 1 15.1
D	7	143 37.0	300 23.8	S15 21.7	2 55.0	N16 60.0	356 57.6	N14 07.7	133 55.6	N 1 15.0
A	8	158 39.4	315 27.4	S15 20.6	17 56.2	N16 59.6	11 59.8	N14 07.6	148 58.2	N 1 15.0
Y	9	173 41.9	330 30.9	S15 19.6	32 57.4	N16 59.3	27 01.9	N14 07.5	164 00.8	N 1 14.9
	10	188 44.3	345 34.5	S15 18.6	47 58.5	N16 58.9	42 04.1	N14 07.4	179 03.4	N 1 14.8
	11	203 46.8	0 38.0	S15 17.5	62 59.7	N16 58.6	57 06.2	N14 07.3	194 06.0	N 1 14.8
	12	218 49.3	15 41.5	S15 16.5	78 00.9	N16 58.2	72 08.4	N14 07.2	209 08.6	N 1 14.7
	13	233 51.7	30 45.0	S15 15.5	93 02.1	N16 57.9	87 10.6	N14 07.1	224 11.3	N 1 14.7
	14	248 54.2	45 48.6	S15 14.5	108 03.3	N16 57.6	102 12.7	N14 07.1	239 13.9	N 1 14.6
	15	263 56.7	60 52.1	S15 13.4	123 04.5	N16 57.2	117 14.9	N14 07.0	254 16.5	N 1 14.6
	16	278 59.1	75 55.6	S15 12.4	138 05.7	N16 56.9	132 17.0	N14 06.9	269 19.1	N 1 14.5
	17	294 01.6	90 59.1	S15 11.4	153 06.8	N16 56.5	147 19.2	N14 06.8	284 21.7	N 1 14.4
	18	309 04.1	106 02.6	S15 10.3	168 08.0	N16 56.2	162 21.3	N14 06.7	299 24.3	N 1 14.4
	19	324 06.5	121 06.2	S15 09.3	183 09.2	N16 55.8	177 23.5	N14 06.6	314 26.9	N 1 14.3
	20	339 09.0	136 09.7	S15 08.3	198 10.4	N16 55.5	192 25.7	N14 06.5	329 29.6	N 1 14.3
	21	354 11.5	151 13.2	S15 07.3	213 11.6	N16 55.2	207 27.8	N14 06.4	344 32.2	N 1 14.2
	22	9 13.9	166 16.7	S15 06.2	228 12.8	N16 54.8	222 30.0	N14 06.3	359 34.8	N 1 14.2
	23	24 16.4	181 20.2	S15 05.2	243 14.0	N16 54.5	237 32.1	N14 06.2	14 37.4	N 1 14.1
			v 3.6	d 1.0	v 1.2	d 0.3	v 2.2	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
28 0	184 02.6	S13 02.8	340 23.4	4.1	N24 55.6	8.2	60.1	Acamar	315 10.2	S40 11.7
1	199 02.7	S13 03.7	354 46.4	4.0	N25 03.6	8.0	60.1	Achernar	335 18.5	S57 06.0
2	214 02.7	S13 04.5	9 09.4	3.9	N25 11.4	7.8	60.1	Acrux	172 59.1	S63 14.7
3	229 02.8	S13 05.4	23 32.2	3.8	N25 19.1	7.6	60.1	Adhara	255 04.6	S29 00.2
4	244 02.8	S13 06.2	37 55.0	3.8	N25 26.5	7.5	60.1	Albireo	67 03.0	N28 01.2
W 5	259 02.9	S13 07.0	52 17.6	3.7	N25 33.8	7.3	60.1			
E								Aldebaran	290 37.6	N16 33.9
D 6	274 02.9	S13 07.9	66 40.2	3.6	N25 40.9	7.1	60.1	Alioth	166 12.1	N55 48.8
N 7	289 03.0	S13 08.7	81 02.7	3.5	N25 47.8	6.9	60.1	Alkaid	152 51.3	N49 10.7
E 8	304 03.0	S13 09.5	95 25.2	3.4	N25 54.6	6.7	60.2	Al Na-ir	27 30.8	S46 50.0
S 9	319 03.1	S13 10.4	109 47.5	3.4	N26 01.1	6.6	60.2	Alnilam	275 36.0	S 1 10.9
D 10	334 03.1	S13 11.2	124 09.8	3.3	N26 07.5	6.4	60.2			
A 11	349 03.2	S13 12.0	138 32.0	3.2	N26 13.7	6.2	60.2	Alphard	217 46.3	S 8 46.4
Y								Alphecca	126 02.8	N26 37.5
12	4 03.2	S13 12.9	152 54.1	3.1	N26 19.7	6.0	60.2	Alpheratz	357 33.0	N29 14.6
13	19 03.3	S13 13.7	167 16.2	3.1	N26 25.5	5.8	60.2	Altair	61 58.6	N 8 56.5
14	34 03.3	S13 14.5	181 38.2	3.0	N26 31.1	5.6	60.2	Ankaa	353 05.3	S42 09.6
15	49 03.4	S13 15.4	196 00.1	2.9	N26 36.6	5.4	60.2			
16	64 03.4	S13 16.2	210 22.0	2.9	N26 41.8	5.2	60.2	Antares	112 14.4	S26 29.5
17	79 03.5	S13 17.0	224 43.8	2.8	N26 46.8	5.0	60.2	Arcturus	145 46.9	N19 02.6
								Atria	107 07.8	S69 04.7
18	94 03.5	S13 17.9	239 05.5	2.8	N26 51.7	4.9	60.2	Avior	234 14.1	S59 35.4
19	109 03.6	S13 18.7	253 27.2	2.7	N26 56.3	4.7	60.2	Bellatrix	278 21.1	N 6 22.6
20	124 03.6	S13 19.5	267 48.9	2.6	N27 00.8	4.5	60.2			
21	139 03.6	S13 20.4	282 10.5	2.6	N27 05.1	4.3	60.2	Betelgeuse	270 50.3	N 7 24.8
22	154 03.7	S13 21.2	296 32.0	2.5	N27 09.1	4.1	60.2	Canopus	263 51.4	S52 42.3
23	169 03.7	S13 22.0	310 53.5	2.5	N27 13.0	3.9	60.2	Capella	280 19.4	N46 01.5
								Castor	245 55.1	N31 49.7
29 0	184 03.8	S13 22.9	325 15.0	2.5	N27 16.7	3.7	60.2	Deneb	49 24.8	N45 22.9
1	199 03.8	S13 23.7	339 36.4	2.4	N27 20.1	3.5	60.2			
2	214 03.9	S13 24.5	353 57.8	2.4	N27 23.4	3.3	60.2	Denebola	182 23.7	N14 25.3
3	229 03.9	S13 25.3	8 19.2	2.4	N27 26.4	3.1	60.2	Diphda	348 45.5	S17 50.2
4	244 04.0	S13 26.2	22 40.5	2.3	N27 29.3	2.9	60.2	Dubhe	193 39.6	N61 36.1
T 5	259 04.0	S13 27.0	37 01.8	2.3	N27 32.0	2.7	60.2	Elnath	277 59.8	N28 37.8
H								Eltanin	90 41.9	N51 29.3
U 6	274 04.0	S13 27.8	51 23.1	2.3	N27 34.4	2.5	60.1			
R 7	289 04.1	S13 28.7	65 44.3	2.3	N27 36.7	2.3	60.1	Enif	33 37.2	N10 00.1
S 8	304 04.1	S13 29.5	80 05.6	2.2	N27 38.7	2.0	60.1	Fomalhaut	15 12.6	S29 28.8
D 9	319 04.2	S13 30.3	94 26.8	2.2	N27 40.6	1.8	60.1	Gacrux	171 50.6	S57 15.7
A 10	334 04.2	S13 31.1	108 48.0	2.2	N27 42.2	1.6	60.1	Gienah	175 42.4	S17 41.3
Y 11	349 04.3	S13 32.0	123 09.2	2.2	N27 43.6	1.4	60.1	Hadar	148 34.7	S60 30.1
12	4 04.3	S13 32.8	137 30.4	2.2	N27 44.9	1.2	60.1	Hamal	327 49.2	N23 35.6
13	19 04.3	S13 33.6	151 51.6	2.2	N27 45.9	1.0	60.1	Kaus Austr.	83 30.8	S34 22.4
14	34 04.4	S13 34.4	166 12.8	2.2	N27 46.7	0.8	60.1	Kochab	137 21.2	N74 02.7
15	49 04.4	S13 35.3	180 34.0	2.2	N27 47.3	0.6	60.1	Markab	13 28.2	N15 21.2
16	64 04.5	S13 36.1	194 55.2	2.2	N27 47.7	0.4	60.1	Menkar	314 04.3	N 4 11.9
17	79 04.5	S13 36.9	209 16.5	2.2	N27 48.0	0.2	60.1			
								Menkent	147 56.3	S36 30.1
18	94 04.5	S13 37.7	223 37.7	2.2	N27 48.0	0.0	60.1	Miaplacidus	221 38.1	S69 49.3
19	109 04.6	S13 38.6	237 58.9	2.2	N27 47.8	0.2	60.1	Mirfak	308 25.7	N49 57.5
20	124 04.6	S13 39.4	252 20.2	2.3	N27 47.3	0.4	60.1	Nunki	75 46.1	S26 15.8
21	139 04.7	S13 40.2	266 41.5	2.3	N27 46.7	0.6	60.0	Peacock	53 03.4	S56 39.1
22	154 04.7	S13 41.0	281 02.8	2.3	N27 45.9	0.8	60.0			
23	169 04.7	S13 41.8	295 24.1	2.3	N27 44.9	1.0	60.0	Polaris	315 32.2	N89 22.1
								Pollux	243 15.4	N27 57.6
30 0	184 04.8	S13 42.7	309 45.5	2.4	N27 43.7	1.2	60.0	Procyon	244 49.2	N 5 09.5
1	199 04.8	S13 43.5	324 06.9	2.4	N27 42.3	1.4	60.0	Rasalhague	95 57.4	N12 32.6
2	214 04.8	S13 44.3	338 28.3	2.4	N27 40.7	1.6	60.0	Regulus	207 33.0	N11 50.2
3	229 04.9	S13 45.1	352 49.8	2.5	N27 38.8	1.8	60.0			
4	244 04.9	S13 46.0	7 11.3	2.5	N27 36.8	2.0	60.0	Rigel	281 02.2	S 8 10.0
F 5	259 04.9	S13 46.8	21 32.9	2.6	N27 34.6	2.2	60.0	Rigil Kent	139 39.1	S60 56.8
R								Sabik	102 01.4	S15 45.5
I 6	274 05.0	S13 47.6	35 54.5	2.6	N27 32.2	2.4	60.0	Schedar	349 28.8	N56 41.3
D 7	289 05.0	S13 48.4	50 16.1	2.7	N27 29.5	2.6	59.9	Shaula	96 08.7	S37 07.5
A 8	304 05.0	S13 49.2	64 37.9	2.7	N27 26.7	2.8	59.9			
Y 9	319 05.1	S13 50.0	78 59.6	2.8	N27 23.7	3.0	59.9	Sirius	258 24.8	S16 45.0
10	334 05.1	S13 50.9	93 21.4	2.8	N27 20.5	3.2	59.9	Spica	158 21.1	S11 18.0
11	349 05.1	S13 51.7	107 43.3	2.9	N27 17.1	3.4	59.9	Suhail	222 45.3	S43 32.1
								Vega	80 32.4	N38 48.7
12	4 05.2	S13 52.5	122 05.3	2.9	N27 13.5	3.6	59.9	Zuben-ubi	136 55.6	S16 09.2
13	19 05.2	S13 53.3	136 27.3	3.0	N27 09.7	3.8	59.9			
14	34 05.2	S13 54.1	150 49.4	3.1	N27 05.8	4.0	59.9			
15	49 05.3	S13 54.9	165 11.5	3.1	N27 01.6	4.2	59.8			
16	64 05.3	S13 55.8	179 33.7	3.2	N26 57.2	4.4	59.8			
17	79 05.3	S13 56.6	193 56.0	3.3	N26 52.7	4.5	59.8			
18	94 05.4	S13 57.4	208 18.4	3.4	N26 47.9	4.7	59.8			
19	109 05.4	S13 58.2	222 40.9	3.5	N26 43.0	4.9	59.8			
20	124 05.4	S13 59.0	237 03.4	3.5	N26 37.9	5.1	59.8			
21	139 05.5	S13 59.8	251 26.0	3.6	N26 32.6	5.3	59.8			
22	154 05.5	S14 00.6	265 48.7	3.7	N26 27.2	5.5	59.7			
23	169 05.5	S14 01.5	280 11.5	3.8	N26 21.5	5.6	59.7			
	S.D. 16.1	d 0.8	S.D.	16.4		16.4	16.3			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
31	0	39 18.8	196 23.7	S15 04.2	258 15.1	N16 54.1	252 34.3	N14 06.1	29 40.0	N 1 14.0
	1	54 21.3	211 27.2	S15 03.2	273 16.3	N16 53.8	267 36.5	N14 06.0	44 42.6	N 1 14.0
	2	69 23.8	226 30.7	S15 02.1	288 17.5	N16 53.4	282 38.6	N14 05.9	59 45.2	N 1 13.9
	3	84 26.2	241 34.2	S15 01.1	303 18.7	N16 53.1	297 40.8	N14 05.8	74 47.9	N 1 13.9
	4	99 28.7	256 37.6	S15 00.1	318 19.9	N16 52.8	312 42.9	N14 05.7	89 50.5	N 1 13.8
S	5	114 31.2	271 41.1	S14 59.1	333 21.1	N16 52.4	327 45.1	N14 05.6	104 53.1	N 1 13.7
A										
T	6	129 33.6	286 44.6	S14 58.0	348 22.3	N16 52.1	342 47.3	N14 05.5	119 55.7	N 1 13.7
U	7	144 36.1	301 48.1	S14 57.0	3 23.5	N16 51.7	357 49.4	N14 05.4	134 58.3	N 1 13.6
R	8	159 38.6	316 51.5	S14 56.0	18 24.7	N16 51.4	12 51.6	N14 05.3	150 00.9	N 1 13.6
D	9	174 41.0	331 55.0	S14 55.0	33 25.9	N16 51.0	27 53.8	N14 05.2	165 03.5	N 1 13.5
A	10	189 43.5	346 58.5	S14 54.0	48 27.1	N16 50.7	42 55.9	N14 05.2	180 06.1	N 1 13.5
Y	11	204 46.0	2 02.0	S14 52.9	63 28.2	N16 50.4	57 58.1	N14 05.1	195 08.8	N 1 13.4
	12	219 48.4	17 05.4	S14 51.9	78 29.4	N16 50.0	73 00.2	N14 05.0	210 11.4	N 1 13.3
	13	234 50.9	32 08.9	S14 50.9	93 30.6	N16 49.7	88 02.4	N14 04.9	225 14.0	N 1 13.3
	14	249 53.3	47 12.3	S14 49.9	108 31.8	N16 49.3	103 04.6	N14 04.8	240 16.6	N 1 13.2
	15	264 55.8	62 15.8	S14 48.9	123 33.0	N16 49.0	118 06.7	N14 04.7	255 19.2	N 1 13.2
	16	279 58.3	77 19.2	S14 47.8	138 34.2	N16 48.6	133 08.9	N14 04.6	270 21.8	N 1 13.1
	17	295 00.7	92 22.7	S14 46.8	153 35.4	N16 48.3	148 11.1	N14 04.5	285 24.4	N 1 13.1
	18	310 03.2	107 26.1	S14 45.8	168 36.6	N16 48.0	163 13.2	N14 04.4	300 27.0	N 1 13.0
	19	325 05.7	122 29.6	S14 44.8	183 37.8	N16 47.6	178 15.4	N14 04.3	315 29.7	N 1 12.9
	20	340 08.1	137 33.0	S14 43.8	198 39.0	N16 47.3	193 17.6	N14 04.2	330 32.3	N 1 12.9
	21	355 10.6	152 36.4	S14 42.7	213 40.2	N16 46.9	208 19.7	N14 04.1	345 34.9	N 1 12.8
	22	10 13.1	167 39.9	S14 41.7	228 41.4	N16 46.6	223 21.9	N14 04.0	0 37.5	N 1 12.8
	23	25 15.5	182 43.3	S14 40.7	243 42.6	N16 46.3	238 24.0	N14 03.9	15 40.1	N 1 12.7
1	0	40 18.0	197 46.7	S14 39.7	258 43.8	N16 45.9	253 26.2	N14 03.8	30 42.7	N 1 12.7
	1	55 20.5	212 50.1	S14 38.7	273 45.0	N16 45.6	268 28.4	N14 03.7	45 45.3	N 1 12.6
	2	70 22.9	227 53.6	S14 37.7	288 46.2	N16 45.2	283 30.5	N14 03.7	60 47.9	N 1 12.6
	3	85 25.4	242 57.0	S14 36.7	303 47.4	N16 44.9	298 32.7	N14 03.6	75 50.5	N 1 12.5
	4	100 27.8	258 00.4	S14 35.6	318 48.6	N16 44.5	313 34.9	N14 03.5	90 53.2	N 1 12.4
S	5	115 30.3	273 03.8	S14 34.6	333 49.8	N16 44.2	328 37.0	N14 03.4	105 55.8	N 1 12.4
U										
N	6	130 32.8	288 07.2	S14 33.6	348 51.0	N16 43.9	343 39.2	N14 03.3	120 58.4	N 1 12.3
D	7	145 35.2	303 10.6	S14 32.6	3 52.2	N16 43.5	358 41.4	N14 03.2	136 01.0	N 1 12.3
A	8	160 37.7	318 14.0	S14 31.6	18 53.4	N16 43.2	13 43.6	N14 03.1	151 03.6	N 1 12.2
Y	9	175 40.2	333 17.4	S14 30.6	33 54.6	N16 42.8	28 45.7	N14 03.0	166 06.2	N 1 12.2
	10	190 42.6	348 20.8	S14 29.6	48 55.8	N16 42.5	43 47.9	N14 02.9	181 08.8	N 1 12.1
	11	205 45.1	3 24.2	S14 28.6	63 57.0	N16 42.1	58 50.1	N14 02.8	196 11.4	N 1 12.0
	12	220 47.6	18 27.6	S14 27.6	78 58.2	N16 41.8	73 52.2	N14 02.7	211 14.0	N 1 12.0
	13	235 50.0	33 30.9	S14 26.6	93 59.4	N16 41.5	88 54.4	N14 02.6	226 16.6	N 1 11.9
	14	250 52.5	48 34.3	S14 25.6	109 00.6	N16 41.1	103 56.6	N14 02.5	241 19.3	N 1 11.9
	15	265 54.9	63 37.7	S14 24.6	124 01.8	N16 40.8	118 58.7	N14 02.4	256 21.9	N 1 11.8
	16	280 57.4	78 41.1	S14 23.5	139 03.0	N16 40.4	134 00.9	N14 02.4	271 24.5	N 1 11.8
	17	295 59.9	93 44.4	S14 22.5	154 04.2	N16 40.1	149 03.1	N14 02.3	286 27.1	N 1 11.7
	18	311 02.3	108 47.8	S14 21.5	169 05.4	N16 39.7	164 05.2	N14 02.2	301 29.7	N 1 11.7
	19	326 04.8	123 51.2	S14 20.5	184 06.6	N16 39.4	179 07.4	N14 02.1	316 32.3	N 1 11.6
	20	341 07.3	138 54.5	S14 19.5	199 07.8	N16 39.1	194 09.6	N14 02.0	331 34.9	N 1 11.5
	21	356 09.7	153 57.9	S14 18.5	214 09.0	N16 38.7	209 11.8	N14 01.9	346 37.5	N 1 11.5
	22	11 12.2	169 01.2	S14 17.5	229 10.2	N16 38.4	224 13.9	N14 01.8	1 40.1	N 1 11.4
	23	26 14.7	184 04.6	S14 16.5	244 11.4	N16 38.0	239 16.1	N14 01.7	16 42.7	N 1 11.4
2	0	41 17.1	199 07.9	S14 15.5	259 12.7	N16 37.7	254 18.3	N14 01.6	31 45.3	N 1 11.3
	1	56 19.6	214 11.3	S14 14.5	274 13.9	N16 37.3	269 20.4	N14 01.5	46 48.0	N 1 11.3
	2	71 22.1	229 14.6	S14 13.5	289 15.1	N16 37.0	284 22.6	N14 01.4	61 50.6	N 1 11.2
	3	86 24.5	244 18.0	S14 12.5	304 16.3	N16 36.7	299 24.8	N14 01.3	76 53.2	N 1 11.2
	4	101 27.0	259 21.3	S14 11.5	319 17.5	N16 36.3	314 27.0	N14 01.3	91 55.8	N 1 11.1
M	5	116 29.4	274 24.6	S14 10.6	334 18.7	N16 36.0	329 29.1	N14 01.2	106 58.4	N 1 11.1
O										
N	6	131 31.9	289 27.9	S14 09.6	349 19.9	N16 35.6	344 31.3	N14 01.1	122 01.0	N 1 11.0
D	7	146 34.4	304 31.3	S14 08.6	4 21.1	N16 35.3	359 33.5	N14 01.0	137 03.6	N 1 10.9
A	8	161 36.8	319 34.6	S14 07.6	19 22.3	N16 34.9	14 35.6	N14 00.9	152 06.2	N 1 10.9
Y	9	176 39.3	334 37.9	S14 06.6	34 23.5	N16 34.6	29 37.8	N14 00.8	167 08.8	N 1 10.8
	10	191 41.8	349 41.2	S14 05.6	49 24.8	N16 34.3	44 40.0	N14 00.7	182 11.4	N 1 10.8
	11	206 44.2	4 44.5	S14 04.6	64 26.0	N16 33.9	59 42.2	N14 00.6	197 14.0	N 1 10.7
	12	221 46.7	19 47.8	S14 03.6	79 27.2	N16 33.6	74 44.3	N14 00.5	212 16.6	N 1 10.7
	13	236 49.2	34 51.1	S14 02.6	94 28.4	N16 33.2	89 46.5	N14 00.4	227 19.2	N 1 10.6
	14	251 51.6	49 54.4	S14 01.6	109 29.6	N16 32.9	104 48.7	N14 00.4	242 21.9	N 1 10.6
	15	266 54.1	64 57.7	S14 00.7	124 30.8	N16 32.5	119 50.9	N14 00.3	257 24.5	N 1 10.5
	16	281 56.6	80 01.0	S13 59.7	139 32.0	N16 32.2	134 53.0	N14 00.2	272 27.1	N 1 10.5
	17	296 59.0	95 04.3	S13 58.7	154 33.2	N16 31.9	149 55.2	N14 00.1	287 29.7	N 1 10.4
	18	312 01.5	110 07.6	S13 57.7	169 34.5	N16 31.5	164 57.4	N13 60.0	302 32.3	N 1 10.3
	19	327 03.9	125 10.9	S13 56.7	184 35.7	N16 31.2	179 59.6	N13 59.9	317 34.9	N 1 10.3
	20	342 06.4	140 14.1	S13 55.7	199 36.9	N16 30.8	195 01.7	N13 59.8	332 37.5	N 1 10.2
	21	357 08.9	155 17.4	S13 54.8	214 38.1	N16 30.5	210 03.9	N13 59.7	347 40.1	N 1 10.2
	22	12 11.3	170 20.7	S13 53.8	229 39.3	N16 30.2	225 06.1	N13 59.6	2 42.7	N 1 10.1
	23	27 13.8	185 24.0	S13 52.8	244 40.5	N16 29.8	240 08.3	N13 59.5	17 45.3	N 1 10.1
			v 3.4	d 1.0	v 1.2	d 0.3	v 2.2	d 0.1	v 2.6	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
31	0	184 05.6	S14 02.3	294 34.4	3.9	N26 15.7	5.8	59.7
	1	199 05.6	S14 03.1	308 57.3	4.0	N26 09.7	6.0	59.7
	2	214 05.6	S14 03.9	323 20.4	4.1	N26 03.5	6.2	59.7
	3	229 05.6	S14 04.7	337 43.5	4.2	N25 57.2	6.4	59.7
	4	244 05.7	S14 05.5	352 06.8	4.2	N25 50.7	6.5	59.6
S	5	259 05.7	S14 06.3	6 30.1	4.3	N25 44.0	6.7	59.6
A								
T	6	274 05.7	S14 07.1	20 53.6	4.4	N25 37.1	6.9	59.6
U	7	289 05.7	S14 07.9	35 17.1	4.5	N25 30.1	7.0	59.6
R	8	304 05.8	S14 08.7	49 40.8	4.6	N25 22.9	7.2	59.6
D	9	319 05.8	S14 09.6	64 04.5	4.7	N25 15.5	7.4	59.6
A	10	334 05.8	S14 10.4	78 28.4	4.9	N25 08.0	7.5	59.5
Y	11	349 05.8	S14 11.2	92 52.3	5.0	N25 00.3	7.7	59.5
	12	4 05.9	S14 12.0	107 16.4	5.1	N24 52.4	7.8	59.5
	13	19 05.9	S14 12.8	121 40.6	5.2	N24 44.4	8.0	59.5
	14	34 05.9	S14 13.6	136 04.8	5.3	N24 36.3	8.2	59.5
	15	49 05.9	S14 14.4	150 29.2	5.4	N24 28.0	8.3	59.4
	16	64 06.0	S14 15.2	164 53.7	5.5	N24 19.5	8.5	59.4
	17	79 06.0	S14 16.0	179 18.3	5.6	N24 10.9	8.6	59.4
	18	94 06.0	S14 16.8	193 43.0	5.7	N24 02.1	8.8	59.4
	19	109 06.0	S14 17.6	208 07.9	5.8	N23 53.2	8.9	59.4
	20	124 06.1	S14 18.4	222 32.8	5.9	N23 44.1	9.1	59.4
	21	139 06.1	S14 19.2	236 57.9	6.1	N23 34.9	9.2	59.3
	22	154 06.1	S14 20.0	251 23.0	6.2	N23 25.5	9.4	59.3
	23	169 06.1	S14 20.8	265 48.3	6.3	N23 16.0	9.5	59.3
1	0	184 06.1	S14 21.6	280 13.7	6.4	N23 06.4	9.6	59.3
	1	199 06.2	S14 22.4	294 39.2	6.5	N22 56.6	9.8	59.3
	2	214 06.2	S14 23.2	309 04.8	6.6	N22 46.7	9.9	59.2
	3	229 06.2	S14 24.0	323 30.6	6.7	N22 36.7	10.0	59.2
	4	244 06.2	S14 24.8	337 56.4	6.9	N22 26.5	10.2	59.2
S	5	259 06.2	S14 25.6	352 22.4	7.0	N22 16.2	10.3	59.2
U								
N	6	274 06.2	S14 26.4	6 48.5	7.1	N22 05.8	10.4	59.2
D	7	289 06.3	S14 27.2	21 14.7	7.2	N21 55.2	10.6	59.1
A	8	304 06.3	S14 28.0	35 41.0	7.3	N21 44.6	10.7	59.1
Y	9	319 06.3	S14 28.8	50 07.5	7.4	N21 33.8	10.8	59.1
	10	334 06.3	S14 29.6	64 34.0	7.6	N21 22.8	10.9	59.1
	11	349 06.3	S14 30.4	79 00.7	7.7	N21 11.8	11.0	59.0
	12	4 06.4	S14 31.2	93 27.5	7.8	N21 00.6	11.2	59.0
	13	19 06.4	S14 32.0	107 54.4	7.9	N20 49.4	11.3	59.0
	14	34 06.4	S14 32.8	122 21.4	8.0	N20 38.0	11.4	59.0
	15	49 06.4	S14 33.6	136 48.5	8.1	N20 26.5	11.5	59.0
	16	64 06.4	S14 34.4	151 15.8	8.2	N20 14.9	11.6	58.9
	17	79 06.4	S14 35.2	165 43.1	8.4	N20 03.2	11.7	58.9
	18	94 06.4	S14 36.0	180 10.6	8.5	N19 51.3	11.8	58.9
	19	109 06.5	S14 36.8	194 38.2	8.6	N19 39.4	11.9	58.9
	20	124 06.5	S14 37.6	209 05.9	8.7	N19 27.4	12.0	58.9
	21	139 06.5	S14 38.4	223 33.7	8.8	N19 15.2	12.1	58.8
	22	154 06.5	S14 39.2	238 01.6	8.9	N19 03.0	12.2	58.8
	23	169 06.5	S14 40.0	252 29.6	9.0	N18 50.7	12.3	58.8
2	0	184 06.5	S14 40.8	266 57.7	9.1	N18 38.2	12.4	58.8
	1	199 06.5	S14 41.6	281 26.0	9.2	N18 25.7	12.5	58.7
	2	214 06.5	S14 42.4	295 54.3	9.4	N18 13.1	12.6	58.7
	3	229 06.5	S14 43.2	310 22.8	9.5	N18 00.4	12.7	58.7
	4	244 06.6	S14 44.0	324 51.4	9.6	N17 47.6	12.8	58.7
M	5	259 06.6	S14 44.7	339 20.1	9.7	N17 34.7	12.9	58.7
O								
N	6	274 06.6	S14 45.5	353 48.8	9.8	N17 21.8	13.0	58.6
D	7	289 06.6	S14 46.3	8 17.7	9.9	N17 08.7	13.1	58.6
A	8	304 06.6	S14 47.1	22 46.7	10.0	N16 55.6	13.1	58.6
Y	9	319 06.6	S14 47.9	37 15.8	10.1	N16 42.4	13.2	58.6
	10	334 06.6	S14 48.7	51 45.0	10.2	N16 29.1	13.3	58.6
	11	349 06.6	S14 49.5	66 14.3	10.3	N16 15.7	13.4	58.5
	12	4 06.6	S14 50.3	80 43.7	10.4	N16 02.2	13.4	58.5
	13	19 06.6	S14 51.1	95 13.2	10.5	N15 48.7	13.5	58.5
	14	34 06.6	S14 51.8	109 42.8	10.6	N15 35.1	13.6	58.5
	15	49 06.6	S14 52.6	124 12.4	10.7	N15 21.5	13.7	58.4
	16	64 06.7	S14 53.4	138 42.2	10.8	N15 07.7	13.7	58.4
	17	79 06.7	S14 54.2	153 12.1	10.9	N14 53.9	13.8	58.4
	18	94 06.7	S14 55.0	167 42.1	11.0	N14 40.1	13.9	58.4
	19	109 06.7	S14 55.8	182 12.1	11.1	N14 26.1	13.9	58.3
	20	124 06.7	S14 56.6	196 42.3	11.2	N14 12.1	14.0	58.3
	21	139 06.7	S14 57.3	211 12.5	11.2	N13 58.1	14.1	58.3
	22	154 06.7	S14 58.1	225 42.9	11.3	N13 44.0	14.1	58.3
	23	169 06.7	S14 58.9	240 13.3	11.4	N13 29.8	14.2	58.3
		S.D. 16.1	d 0.8	S.D. 16.2		16.1	15.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.7
Achernar	335 18.5	S57 06.0
Acrux	172 59.1	S63 14.7
Adhara	255 04.5	S29 00.2
Albireo	67 03.0	N28 01.2
Aldebaran	290 37.6	N16 33.9
Alioth	166 12.1	N55 48.8
Alkaid	152 51.3	N49 10.7
Al Na-ir	27 30.8	S46 50.0
Alnilam	275 36.0	S 1 10.9
Alphard	217 46.3	S 8 46.4
Alphecca	126 02.8	N26 37.5
Alpheratz	357 33.0	N29 14.6
Altair	61 58.6	N 8 56.5
Ankaa	353 05.3	S42 09.6
Antares	112 14.4	S26 29.5
Arcturus	145 46.9	N19 02.6
Atria	107 07.8	S69 04.7
Avior	234 14.1	S59 35.4
Bellatrix	278 21.0	N 6 22.6
Betelgeuse	270 50.3	N 7 24.8
Canopus	263 51.4	S52 42.3
Capella	280 19.3	N46 01.5
Castor	245 55.0	N31 49.7
Deneb	49 24.8	N45 22.9
Denebola	182 23.7	N14 25.3
Diphda	348 45.5	S17 50.2
Dubhe	193 39.5	N61 36.1
Elnath	277 59.7	N28 37.8
Eltanin	90 41.9	N51 29.3
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.6	S29 28.8
Gacrux	171 50.5	S57 15.7
Gienah	175 42.3	S17 41.3
Hadar	148 34.6	S60 30.1
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.2	N74 02.7
Markab	13 28.2	N15 21.2
Menkar	314 04.2	N 4 11.9
Menkent	147 56.3	S36 30.1
Miaplacidus	221 38.0	S69 49.3
Mirfak	308 25.7	N49 57.5
Nunki	75 46.1	S26 15.8
Peacock	53 03.4	S56 39.1
Polaris	315 32.0	N89 22.1
Pollux	243 15.4	N27 57.6
Procyon	244 49.2	N 5 09.5
Rasalhague	95 57.5	N12 32.6
Regulus	207 33.0	N11 50.2
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 39.1	S60 56.8
Sabik	102 01.4	S15 45.5
Schedar	349 28.8	N56 41.3
Shaula	96 08.7	S37 07.5
Sirius	258 24.8	S16 45.0
Spica	158 21.1	S11 18.0
Suhail	222 45.3	S43 32.2
Vega	80 32.4	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
3 0	42 16.3	200 27.2	S13 51.8	259 41.8	N16 29.5	255 10.5	N13 59.5	32 47.9	N 1 10.0
1	57 18.7	215 30.5	S13 50.8	274 43.0	N16 29.1	270 12.6	N13 59.4	47 50.5	N 1 10.0
2	72 21.2	230 33.7	S13 49.9	289 44.2	N16 28.8	285 14.8	N13 59.3	62 53.1	N 1 09.9
3	87 23.7	245 37.0	S13 48.9	304 45.4	N16 28.4	300 17.0	N13 59.2	77 55.7	N 1 09.9
4	102 26.1	260 40.2	S13 47.9	319 46.6	N16 28.1	315 19.2	N13 59.1	92 58.3	N 1 09.8
T 5	117 28.6	275 43.5	S13 47.0	334 47.9	N16 27.8	330 21.3	N13 59.0	108 00.9	N 1 09.7
U									
E 6	132 31.0	290 46.7	S13 46.0	349 49.1	N16 27.4	345 23.5	N13 58.9	123 03.6	N 1 09.7
S 7	147 33.5	305 50.0	S13 45.0	4 50.3	N16 27.1	0 25.7	N13 58.8	138 06.2	N 1 09.6
D 8	162 36.0	320 53.2	S13 44.0	19 51.5	N16 26.7	15 27.9	N13 58.7	153 08.8	N 1 09.6
A 9	177 38.4	335 56.4	S13 43.1	34 52.7	N16 26.4	30 30.1	N13 58.7	168 11.4	N 1 09.5
Y 10	192 40.9	350 59.7	S13 42.1	49 54.0	N16 26.0	45 32.2	N13 58.6	183 14.0	N 1 09.5
11	207 43.4	6 02.9	S13 41.1	64 55.2	N16 25.7	60 34.4	N13 58.5	198 16.6	N 1 09.4
12	222 45.8	21 06.1	S13 40.2	79 56.4	N16 25.4	75 36.6	N13 58.4	213 19.2	N 1 09.4
13	237 48.3	36 09.3	S13 39.2	94 57.6	N16 25.0	90 38.8	N13 58.3	228 21.8	N 1 09.3
14	252 50.8	51 12.5	S13 38.2	109 58.8	N16 24.7	105 41.0	N13 58.2	243 24.4	N 1 09.3
15	267 53.2	66 15.7	S13 37.3	125 00.1	N16 24.3	120 43.1	N13 58.1	258 27.0	N 1 09.2
16	282 55.7	81 19.0	S13 36.3	140 01.3	N16 24.0	135 45.3	N13 58.0	273 29.6	N 1 09.2
17	297 58.2	96 22.2	S13 35.4	155 02.5	N16 23.7	150 47.5	N13 57.9	288 32.2	N 1 09.1
18	313 00.6	111 25.4	S13 34.4	170 03.7	N16 23.3	165 49.7	N13 57.9	303 34.8	N 1 09.1
19	328 03.1	126 28.6	S13 33.4	185 05.0	N16 23.0	180 51.9	N13 57.8	318 37.4	N 1 09.0
20	343 05.5	141 31.7	S13 32.5	200 06.2	N16 22.6	195 54.1	N13 57.7	333 40.0	N 1 09.0
21	358 08.0	156 34.9	S13 31.5	215 07.4	N16 22.3	210 56.2	N13 57.6	348 42.6	N 1 08.9
22	13 10.5	171 38.1	S13 30.6	230 08.6	N16 21.9	225 58.4	N13 57.5	3 45.2	N 1 08.8
23	28 12.9	186 41.3	S13 29.6	245 09.9	N16 21.6	241 00.6	N13 57.4	18 47.8	N 1 08.8
4 0	43 15.4	201 44.5	S13 28.7	260 11.1	N16 21.3	256 02.8	N13 57.3	33 50.4	N 1 08.7
1	58 17.9	216 47.6	S13 27.7	275 12.3	N16 20.9	271 05.0	N13 57.2	48 53.0	N 1 08.7
2	73 20.3	231 50.8	S13 26.8	290 13.6	N16 20.6	286 07.2	N13 57.2	63 55.6	N 1 08.6
3	88 22.8	246 54.0	S13 25.8	305 14.8	N16 20.2	301 09.3	N13 57.1	78 58.2	N 1 08.6
4	103 25.3	261 57.1	S13 24.9	320 16.0	N16 19.9	316 11.5	N13 57.0	94 00.8	N 1 08.5
W 5	118 27.7	277 00.3	S13 23.9	335 17.2	N16 19.6	331 13.7	N13 56.9	109 03.4	N 1 08.5
E									
D 6	133 30.2	292 03.5	S13 23.0	350 18.5	N16 19.2	346 15.9	N13 56.8	124 06.0	N 1 08.4
N 7	148 32.7	307 06.6	S13 22.0	5 19.7	N16 18.9	1 18.1	N13 56.7	139 08.6	N 1 08.4
E 8	163 35.1	322 09.8	S13 21.1	20 20.9	N16 18.5	16 20.3	N13 56.6	154 11.3	N 1 08.3
S 9	178 37.6	337 12.9	S13 20.2	35 22.2	N16 18.2	31 22.4	N13 56.5	169 13.9	N 1 08.3
D 10	193 40.0	352 16.0	S13 19.2	50 23.4	N16 17.8	46 24.6	N13 56.5	184 16.5	N 1 08.2
A 11	208 42.5	7 19.2	S13 18.3	65 24.6	N16 17.5	61 26.8	N13 56.4	199 19.1	N 1 08.2
Y									
12	223 45.0	22 22.3	S13 17.3	80 25.9	N16 17.2	76 29.0	N13 56.3	214 21.7	N 1 08.1
13	238 47.4	37 25.4	S13 16.4	95 27.1	N16 16.8	91 31.2	N13 56.2	229 24.3	N 1 08.1
14	253 49.9	52 28.6	S13 15.5	110 28.3	N16 16.5	106 33.4	N13 56.1	244 26.9	N 1 08.0
15	268 52.4	67 31.7	S13 14.5	125 29.6	N16 16.1	121 35.6	N13 56.0	259 29.5	N 1 08.0
16	283 54.8	82 34.8	S13 13.6	140 30.8	N16 15.8	136 37.7	N13 55.9	274 32.1	N 1 07.9
17	298 57.3	97 37.9	S13 12.7	155 32.0	N16 15.5	151 39.9	N13 55.9	289 34.7	N 1 07.9
18	313 59.8	112 41.0	S13 11.7	170 33.3	N16 15.1	166 42.1	N13 55.8	304 37.3	N 1 07.8
19	329 02.2	127 44.1	S13 10.8	185 34.5	N16 14.8	181 44.3	N13 55.7	319 39.9	N 1 07.8
20	344 04.7	142 47.2	S13 09.9	200 35.7	N16 14.4	196 46.5	N13 55.6	334 42.5	N 1 07.7
21	359 07.1	157 50.3	S13 09.0	215 37.0	N16 14.1	211 48.7	N13 55.5	349 45.1	N 1 07.6
22	14 09.6	172 53.4	S13 08.0	230 38.2	N16 13.8	226 50.9	N13 55.4	4 47.7	N 1 07.6
23	29 12.1	187 56.5	S13 07.1	245 39.5	N16 13.4	241 53.1	N13 55.3	19 50.3	N 1 07.5
5 0	44 14.5	202 59.6	S13 06.2	260 40.7	N16 13.1	256 55.3	N13 55.3	34 52.9	N 1 07.5
1	59 17.0	218 02.7	S13 05.3	275 41.9	N16 12.7	271 57.4	N13 55.2	49 55.5	N 1 07.4
2	74 19.5	233 05.8	S13 04.4	290 43.2	N16 12.4	286 59.6	N13 55.1	64 58.1	N 1 07.4
3	89 21.9	248 08.9	S13 03.4	305 44.4	N16 12.0	302 01.8	N13 55.0	80 00.7	N 1 07.3
4	104 24.4	263 11.9	S13 02.5	320 45.6	N16 11.7	317 04.0	N13 54.9	95 03.3	N 1 07.3
T 5	119 26.9	278 15.0	S13 01.6	335 46.9	N16 11.4	332 06.2	N13 54.8	110 05.9	N 1 07.2
H									
U 6	134 29.3	293 18.1	S13 00.7	350 48.1	N16 11.0	347 08.4	N13 54.7	125 08.5	N 1 07.2
R 7	149 31.8	308 21.1	S12 59.8	5 49.4	N16 10.7	2 10.6	N13 54.7	140 11.1	N 1 07.1
S 8	164 34.3	323 24.2	S12 58.9	20 50.6	N16 10.3	17 12.8	N13 54.6	155 13.7	N 1 07.1
D 9	179 36.7	338 27.2	S12 58.0	35 51.8	N16 10.0	32 15.0	N13 54.5	170 16.3	N 1 07.0
A 10	194 39.2	353 30.3	S12 57.0	50 53.1	N16 09.7	47 17.2	N13 54.4	185 18.9	N 1 07.0
Y 11	209 41.6	8 33.3	S12 56.1	65 54.3	N16 09.3	62 19.4	N13 54.3	200 21.5	N 1 06.9
12	224 44.1	23 36.4	S12 55.2	80 55.6	N16 09.0	77 21.5	N13 54.2	215 24.1	N 1 06.9
13	239 46.6	38 39.4	S12 54.3	95 56.8	N16 08.6	92 23.7	N13 54.2	230 26.7	N 1 06.8
14	254 49.0	53 42.4	S12 53.4	110 58.1	N16 08.3	107 25.9	N13 54.1	245 29.3	N 1 06.8
15	269 51.5	68 45.5	S12 52.5	125 59.3	N16 08.0	122 28.1	N13 54.0	260 31.9	N 1 06.7
16	284 54.0	83 48.5	S12 51.6	141 00.5	N16 07.6	137 30.3	N13 53.9	275 34.5	N 1 06.7
17	299 56.4	98 51.5	S12 50.7	156 01.8	N16 07.3	152 32.5	N13 53.8	290 37.1	N 1 06.6
18	314 58.9	113 54.5	S12 49.8	171 03.0	N16 06.9	167 34.7	N13 53.7	305 39.7	N 1 06.6
19	330 01.4	128 57.6	S12 48.9	186 04.3	N16 06.6	182 36.9	N13 53.6	320 42.3	N 1 06.5
20	345 03.8	144 00.6	S12 48.0	201 05.5	N16 06.3	197 39.1	N13 53.6	335 44.9	N 1 06.5
21	0 06.3	159 03.6	S12 47.1	216 06.8	N16 05.9	212 41.3	N13 53.5	350 47.5	N 1 06.4
22	15 08.8	174 06.6	S12 46.3	231 08.0	N16 05.6	227 43.5	N13 53.4	5 50.1	N 1 06.4
23	30 11.2	189 09.6	S12 45.4	246 09.3	N16 05.2	242 45.7	N13 53.3	20 52.7	N 1 06.3
		v 3.1	d 0.9	v 1.2	d 0.3	v 2.2	d 0.1	v 2.6	d 0.1

G.M.T d h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
3 0	184 06.7	S14 59.7	254 43.8	11.5	N13 15.6	14.2	58.2
1	199 06.7	S15 00.5	269 14.4	11.6	N13 01.3	14.3	58.2
2	214 06.7	S15 01.3	283 45.1	11.7	N12 46.9	14.3	58.2
3	229 06.7	S15 02.0	298 15.8	11.8	N12 32.5	14.4	58.2
4	244 06.7	S15 02.8	312 46.7	11.8	N12 18.1	14.4	58.1
T 5	259 06.7	S15 03.6	327 17.6	11.9	N12 03.6	14.5	58.1
U							
E 6	274 06.7	S15 04.4	341 48.6	12.0	N11 49.0	14.5	58.1
S 7	289 06.7	S15 05.2	356 19.7	12.1	N11 34.5	14.6	58.1
D 8	304 06.7	S15 05.9	10 50.9	12.2	N11 19.8	14.6	58.1
A 9	319 06.7	S15 06.7	25 22.1	12.2	N11 05.1	14.7	58.0
Y 10	334 06.7	S15 07.5	39 53.4	12.3	N10 50.4	14.7	58.0
11	349 06.7	S15 08.3	54 24.8	12.4	N10 35.7	14.8	58.0
12	4 06.7	S15 09.1	68 56.2	12.5	N10 20.8	14.8	58.0
13	19 06.7	S15 09.8	83 27.8	12.5	N10 06.0	14.8	57.9
14	34 06.7	S15 10.6	97 59.4	12.6	N 9 51.1	14.9	57.9
15	49 06.7	S15 11.4	112 31.0	12.7	N 9 36.2	14.9	57.9
16	64 06.7	S15 12.2	127 02.8	12.7	N 9 21.3	14.9	57.9
17	79 06.7	S15 12.9	141 34.6	12.8	N 9 06.3	15.0	57.9
18	94 06.7	S15 13.7	156 06.4	12.9	N 8 51.3	15.0	57.8
19	109 06.7	S15 14.5	170 38.4	12.9	N 8 36.2	15.0	57.8
20	124 06.7	S15 15.3	185 10.4	13.0	N 8 21.1	15.1	57.8
21	139 06.7	S15 16.0	199 42.4	13.1	N 8 06.0	15.1	57.8
22	154 06.7	S15 16.8	214 14.5	13.1	N 7 50.9	15.1	57.7
23	169 06.7	S15 17.6	228 46.7	13.2	N 7 35.8	15.2	57.7
4 0	184 06.7	S15 18.4	243 18.9	13.2	N 7 20.6	15.2	57.7
1	199 06.7	S15 19.1	257 51.2	13.3	N 7 05.4	15.2	57.7
2	214 06.6	S15 19.9	272 23.6	13.3	N 6 50.2	15.2	57.7
3	229 06.6	S15 20.7	286 55.9	13.4	N 6 34.9	15.2	57.6
4	244 06.6	S15 21.4	301 28.4	13.4	N 6 19.7	15.3	57.6
W 5	259 06.6	S15 22.2	316 00.9	13.5	N 6 04.4	15.3	57.6
E							
D 6	274 06.6	S15 23.0	330 33.4	13.5	N 5 49.1	15.3	57.6
N 7	289 06.6	S15 23.8	345 06.0	13.6	N 5 33.8	15.3	57.5
E 8	304 06.6	S15 24.5	359 38.7	13.6	N 5 18.5	15.3	57.5
S 9	319 06.6	S15 25.3	14 11.3	13.7	N 5 03.1	15.3	57.5
D 10	334 06.6	S15 26.1	28 44.1	13.7	N 4 47.8	15.3	57.5
A 11	349 06.6	S15 26.8	43 16.8	13.8	N 4 32.4	15.4	57.5
Y							
12	4 06.6	S15 27.6	57 49.6	13.8	N 4 17.0	15.4	57.4
13	19 06.6	S15 28.4	72 22.5	13.9	N 4 01.7	15.4	57.4
14	34 06.5	S15 29.1	86 55.4	13.9	N 3 46.3	15.4	57.4
15	49 06.5	S15 29.9	101 28.3	13.9	N 3 30.9	15.4	57.4
16	64 06.5	S15 30.7	116 01.3	14.0	N 3 15.5	15.4	57.3
17	79 06.5	S15 31.4	130 34.3	14.0	N 3 00.1	15.4	57.3
18	94 06.5	S15 32.2	145 07.3	14.0	N 2 44.7	15.4	57.3
19	109 06.5	S15 33.0	159 40.4	14.1	N 2 29.3	15.4	57.3
20	124 06.5	S15 33.7	174 13.5	14.1	N 2 13.9	15.4	57.3
21	139 06.5	S15 34.5	188 46.6	14.1	N 1 58.5	15.4	57.2
22	154 06.4	S15 35.3	203 19.8	14.2	N 1 43.1	15.4	57.2
23	169 06.4	S15 36.0	217 53.0	14.2	N 1 27.7	15.4	57.2
5 0	184 06.4	S15 36.8	232 26.2	14.2	N 1 12.3	15.4	57.2
1	199 06.4	S15 37.5	246 59.4	14.2	N 0 56.9	15.4	57.1
2	214 06.4	S15 38.3	261 32.7	14.3	N 0 41.6	15.4	57.1
3	229 06.4	S15 39.1	276 06.0	14.3	N 0 26.2	15.4	57.1
4	244 06.4	S15 39.8	290 39.3	14.3	N 0 10.8	15.4	57.1
T 5	259 06.3	S15 40.6	305 12.6	14.3	S 0 04.5	15.4	57.1
H							
U 6	274 06.3	S15 41.3	319 45.9	14.3	S 0 19.9	15.3	57.0
R 7	289 06.3	S15 42.1	334 19.3	14.4	S 0 35.2	15.3	57.0
S 8	304 06.3	S15 42.9	348 52.7	14.4	S 0 50.5	15.3	57.0
D 9	319 06.3	S15 43.6	3 26.1	14.4	S 1 05.8	15.3	57.0
A 10	334 06.2	S15 44.4	17 59.5	14.4	S 1 21.1	15.3	56.9
Y 11	349 06.2	S15 45.1	32 32.9	14.4	S 1 36.4	15.3	56.9
12	4 06.2	S15 45.9	47 06.4	14.4	S 1 51.6	15.3	56.9
13	19 06.2	S15 46.6	61 39.8	14.4	S 2 06.8	15.2	56.9
14	34 06.2	S15 47.4	76 13.3	14.5	S 2 22.0	15.2	56.9
15	49 06.2	S15 48.2	90 46.7	14.5	S 2 37.2	15.2	56.8
16	64 06.1	S15 48.9	105 20.2	14.5	S 2 52.4	15.2	56.8
17	79 06.1	S15 49.7	119 53.7	14.5	S 3 07.6	15.1	56.8
18	94 06.1	S15 50.4	134 27.2	14.5	S 3 22.7	15.1	56.8
19	109 06.1	S15 51.2	149 00.7	14.5	S 3 37.8	15.1	56.8
20	124 06.0	S15 51.9	163 34.2	14.5	S 3 52.9	15.1	56.7
21	139 06.0	S15 52.7	178 07.7	14.5	S 4 07.9	15.0	56.7
22	154 06.0	S15 53.4	192 41.2	14.5	S 4 22.9	15.0	56.7
23	169 06.0	S15 54.2	207 14.7	14.5	S 4 37.9	15.0	56.7
	S.D. 16.1	d 0.8	S.D.	15.8	15.6	15.5	

Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.7
Achernar	335 18.5	S57 06.0
Acrux	172 59.1	S63 14.7
Adhara	255 04.5	S29 00.2
Albireo	67 03.0	N28 01.2
Aldebaran	290 37.6	N16 33.9
Alioth	166 12.1	N55 48.7
Alkaid	152 51.3	N49 10.7
Al Na-ir	27 30.8	S46 50.0
Alnilam	275 35.9	S 1 10.9
Alphard	217 46.3	S 8 46.4
Alphecca	126 02.8	N26 37.5
Alpheratz	357 33.0	N29 14.6
Altair	61 58.6	N 8 56.5
Ankaa	353 05.3	S42 09.6
Antares	112 14.4	S26 29.5
Arcturus	145 46.9	N19 02.6
Atria	107 07.8	S69 04.7
Avior	234 14.0	S59 35.4
Bellatrix	278 21.0	N 6 22.6
Betelgeuse	270 50.2	N 7 24.8
Canopus	263 51.4	S52 42.3
Capella	280 19.3	N46 01.5
Castor	245 55.0	N31 49.7
Deneb	49 24.8	N45 22.9
Denebola	182 23.6	N14 25.3
Diphda	348 45.5	S17 50.2
Dubhe	193 39.5	N61 36.1
Elnath	277 59.7	N28 37.8
Eltanin	90 41.9	N51 29.3
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.7	S29 28.8
Gacrux	171 50.5	S57 15.6
Gienah	175 42.3	S17 41.3
Hadar	148 34.6	S60 30.1
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.2	N74 02.6
Markab	13 28.2	N15 21.2
Menkar	314 04.2	N 4 11.9
Menkent	147 56.3	S36 30.1
Miaplacidus	221 38.0	S69 49.3
Mirfak	308 25.7	N49 57.5
Nunki	75 46.1	S26 15.8
Peacock	53 03.4	S56 39.1
Polaris	315 31.9	N89 22.1
Pollux	243 15.4	N27 57.6
Procyon	244 49.2	N 5 09.5
Rasalhague	95 57.5	N12 32.6
Regulus	207 32.9	N11 50.2
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 39.1	S60 56.7
Sabik	102 01.4	S15 45.5
Schedar	349 28.9	N56 41.3
Shaula	96 08.7	S37 07.5
Sirius	258 24.7	S16 45.0
Spica	158 21.0	S11 18.0
Suhail	222 45.2	S43 32.2
Vega	80 32.5	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
6 0	45 13.7	204 12.6	S12 44.5	261 10.5	N16 04.9	257 47.9	N13 53.2	35 55.3	N 1 06.3
1	60 16.1	219 15.6	S12 43.6	276 11.8	N16 04.6	272 50.1	N13 53.1	50 57.9	N 1 06.2
2	75 18.6	234 18.6	S12 42.7	291 13.0	N16 04.2	287 52.3	N13 53.1	66 00.5	N 1 06.2
3	90 21.1	249 21.5	S12 41.8	306 14.3	N16 03.9	302 54.5	N13 53.0	81 03.0	N 1 06.1
4	105 23.5	264 24.5	S12 40.9	321 15.5	N16 03.5	317 56.7	N13 52.9	96 05.6	N 1 06.1
F 5	120 26.0	279 27.5	S12 40.1	336 16.8	N16 03.2	332 58.8	N13 52.8	111 08.2	N 1 06.0
R									
I 6	135 28.5	294 30.5	S12 39.2	351 18.0	N16 02.9	348 01.0	N13 52.7	126 10.8	N 1 06.0
D 7	150 30.9	309 33.4	S12 38.3	6 19.3	N16 02.5	3 03.2	N13 52.6	141 13.4	N 1 05.9
A 8	165 33.4	324 36.4	S12 37.4	21 20.5	N16 02.2	18 05.4	N13 52.6	156 16.0	N 1 05.9
Y 9	180 35.9	339 39.4	S12 36.5	36 21.8	N16 01.8	33 07.6	N13 52.5	171 18.6	N 1 05.8
10	195 38.3	354 42.3	S12 35.7	51 23.0	N16 01.5	48 09.8	N13 52.4	186 21.2	N 1 05.8
11	210 40.8	9 45.3	S12 34.8	66 24.3	N16 01.2	63 12.0	N13 52.3	201 23.8	N 1 05.7
12	225 43.2	24 48.2	S12 33.9	81 25.5	N16 00.8	78 14.2	N13 52.2	216 26.4	N 1 05.7
13	240 45.7	39 51.2	S12 33.1	96 26.8	N16 00.5	93 16.4	N13 52.1	231 29.0	N 1 05.6
14	255 48.2	54 54.1	S12 32.2	111 28.0	N16 00.1	108 18.6	N13 52.1	246 31.6	N 1 05.6
15	270 50.6	69 57.1	S12 31.3	126 29.3	N15 59.8	123 20.8	N13 52.0	261 34.2	N 1 05.5
16	285 53.1	84 60.0	S12 30.5	141 30.5	N15 59.5	138 23.0	N13 51.9	276 36.8	N 1 05.5
17	300 55.6	100 02.9	S12 29.6	156 31.8	N15 59.1	153 25.2	N13 51.8	291 39.4	N 1 05.4
18	315 58.0	115 05.9	S12 28.7	171 33.1	N15 58.8	168 27.4	N13 51.7	306 42.0	N 1 05.4
19	331 00.5	130 08.8	S12 27.9	186 34.3	N15 58.4	183 29.6	N13 51.7	321 44.6	N 1 05.3
20	346 03.0	145 11.7	S12 27.0	201 35.6	N15 58.1	198 31.8	N13 51.6	336 47.2	N 1 05.3
21	1 05.4	160 14.6	S12 26.2	216 36.8	N15 57.8	213 34.0	N13 51.5	351 49.8	N 1 05.2
22	16 07.9	175 17.5	S12 25.3	231 38.1	N15 57.4	228 36.2	N13 51.4	6 52.4	N 1 05.2
23	31 10.4	190 20.4	S12 24.5	246 39.3	N15 57.1	243 38.4	N13 51.3	21 55.0	N 1 05.1
7 0	46 12.8	205 23.3	S12 23.6	261 40.6	N15 56.7	258 40.6	N13 51.2	36 57.6	N 1 05.1
1	61 15.3	220 26.2	S12 22.8	276 41.9	N15 56.4	273 42.8	N13 51.2	52 00.2	N 1 05.1
2	76 17.7	235 29.1	S12 21.9	291 43.1	N15 56.1	288 45.0	N13 51.1	67 02.8	N 1 05.0
3	91 20.2	250 32.0	S12 21.1	306 44.4	N15 55.7	303 47.2	N13 51.0	82 05.4	N 1 05.0
4	106 22.7	265 34.9	S12 20.2	321 45.6	N15 55.4	318 49.4	N13 50.9	97 07.9	N 1 04.9
S 5	121 25.1	280 37.8	S12 19.4	336 46.9	N15 55.0	333 51.6	N13 50.8	112 10.5	N 1 04.9
A									
T 6	136 27.6	295 40.7	S12 18.5	351 48.2	N15 54.7	348 53.8	N13 50.8	127 13.1	N 1 04.8
U 7	151 30.1	310 43.5	S12 17.7	6 49.4	N15 54.4	3 56.0	N13 50.7	142 15.7	N 1 04.8
R 8	166 32.5	325 46.4	S12 16.9	21 50.7	N15 54.0	18 58.3	N13 50.6	157 18.3	N 1 04.7
D 9	181 35.0	340 49.3	S12 16.0	36 51.9	N15 53.7	34 00.5	N13 50.5	172 20.9	N 1 04.7
A 10	196 37.5	355 52.1	S12 15.2	51 53.2	N15 53.3	49 02.7	N13 50.4	187 23.5	N 1 04.6
Y 11	211 39.9	10 55.0	S12 14.3	66 54.5	N15 53.0	64 04.9	N13 50.4	202 26.1	N 1 04.6
12	226 42.4	25 57.9	S12 13.5	81 55.7	N15 52.7	79 07.1	N13 50.3	217 28.7	N 1 04.5
13	241 44.8	41 00.7	S12 12.7	96 57.0	N15 52.3	94 09.3	N13 50.2	232 31.3	N 1 04.5
14	256 47.3	56 03.6	S12 11.9	111 58.3	N15 52.0	109 11.5	N13 50.1	247 33.9	N 1 04.4
15	271 49.8	71 06.4	S12 11.0	126 59.5	N15 51.7	124 13.7	N13 50.0	262 36.5	N 1 04.4
16	286 52.2	86 09.2	S12 10.2	142 00.8	N15 51.3	139 15.9	N13 50.0	277 39.1	N 1 04.3
17	301 54.7	101 12.1	S12 09.4	157 02.1	N15 51.0	154 18.1	N13 49.9	292 41.7	N 1 04.3
18	316 57.2	116 14.9	S12 08.6	172 03.3	N15 50.6	169 20.3	N13 49.8	307 44.3	N 1 04.2
19	331 59.6	131 17.7	S12 07.7	187 04.6	N15 50.3	184 22.5	N13 49.7	322 46.9	N 1 04.2
20	347 02.1	146 20.6	S12 06.9	202 05.9	N15 50.0	199 24.7	N13 49.6	337 49.4	N 1 04.1
21	2 04.6	161 23.4	S12 06.1	217 07.1	N15 49.6	214 26.9	N13 49.6	352 52.0	N 1 04.1
22	17 07.0	176 26.2	S12 05.3	232 08.4	N15 49.3	229 29.1	N13 49.5	7 54.6	N 1 04.0
23	32 09.5	191 29.0	S12 04.5	247 09.7	N15 48.9	244 31.3	N13 49.4	22 57.2	N 1 04.0
8 0	47 12.0	206 31.8	S12 03.7	262 10.9	N15 48.6	259 33.5	N13 49.3	37 59.8	N 1 04.0
1	62 14.4	221 34.6	S12 02.8	277 12.2	N15 48.3	274 35.7	N13 49.2	53 02.4	N 1 03.9
2	77 16.9	236 37.4	S12 02.0	292 13.5	N15 47.9	289 38.0	N13 49.2	68 05.0	N 1 03.9
3	92 19.3	251 40.2	S12 01.2	307 14.7	N15 47.6	304 40.2	N13 49.1	83 07.6	N 1 03.8
4	107 21.8	266 43.0	S12 00.4	322 16.0	N15 47.3	319 42.4	N13 49.0	98 10.2	N 1 03.8
S 5	122 24.3	281 45.8	S11 59.6	337 17.3	N15 46.9	334 44.6	N13 48.9	113 12.8	N 1 03.7
U									
N 6	137 26.7	296 48.6	S11 58.8	352 18.5	N15 46.6	349 46.8	N13 48.8	128 15.4	N 1 03.7
D 7	152 29.2	311 51.4	S11 58.0	7 19.8	N15 46.2	4 49.0	N13 48.8	143 18.0	N 1 03.6
A 8	167 31.7	326 54.2	S11 57.2	22 21.1	N15 45.9	19 51.2	N13 48.7	158 20.5	N 1 03.6
Y 9	182 34.1	341 56.9	S11 56.4	37 22.4	N15 45.6	34 53.4	N13 48.6	173 23.1	N 1 03.5
10	197 36.6	356 59.7	S11 55.6	52 23.6	N15 45.2	49 55.6	N13 48.5	188 25.7	N 1 03.5
11	212 39.1	12 02.5	S11 54.8	67 24.9	N15 44.9	64 57.8	N13 48.5	203 28.3	N 1 03.4
12	227 41.5	27 05.2	S11 54.0	82 26.2	N15 44.6	80 00.1	N13 48.4	218 30.9	N 1 03.4
13	242 44.0	42 08.0	S11 53.3	97 27.5	N15 44.2	95 02.3	N13 48.3	233 33.5	N 1 03.3
14	257 46.5	57 10.7	S11 52.5	112 28.7	N15 43.9	110 04.5	N13 48.2	248 36.1	N 1 03.3
15	272 48.9	72 13.5	S11 51.7	127 30.0	N15 43.5	125 06.7	N13 48.1	263 38.7	N 1 03.3
16	287 51.4	87 16.2	S11 50.9	142 31.3	N15 43.2	140 08.9	N13 48.1	278 41.3	N 1 03.2
17	302 53.8	102 19.0	S11 50.1	157 32.6	N15 42.9	155 11.1	N13 48.0	293 43.9	N 1 03.2
18	317 56.3	117 21.7	S11 49.3	172 33.8	N15 42.5	170 13.3	N13 47.9	308 46.4	N 1 03.1
19	332 58.8	132 24.4	S11 48.6	187 35.1	N15 42.2	185 15.5	N13 47.8	323 49.0	N 1 03.1
20	348 01.2	147 27.2	S11 47.8	202 36.4	N15 41.9	200 17.7	N13 47.7	338 51.6	N 1 03.0
21	3 03.7	162 29.9	S11 47.0	217 37.7	N15 41.5	215 20.0	N13 47.7	353 54.2	N 1 03.0
22	18 06.2	177 32.6	S11 46.2	232 39.0	N15 41.2	230 22.2	N13 47.6	8 56.8	N 1 02.9
23	33 08.6	192 35.3	S11 45.5	247 40.2	N15 40.8	245 24.4	N13 47.5	23 59.4	N 1 02.9
		v 2.9	d 0.8	v 1.3	d 0.3	v 2.2	d 0.1	v 2.6	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
6 0	184 06.0	S15 54.9	221 48.2	14.5	S 4 52.9	15.0	56.7	Acamar	315 10.2 S40 11.7
1	199 05.9	S15 55.7	236 21.6	14.5	S 5 07.8	14.9	56.6	Achernar	335 18.5 S57 06.0
2	214 05.9	S15 56.4	250 55.1	14.5	S 5 22.7	14.9	56.6	Acrux	172 59.0 S63 14.7
3	229 05.9	S15 57.2	265 28.6	14.5	S 5 37.6	14.9	56.6	Adhara	255 04.5 S29 00.3
4	244 05.9	S15 57.9	280 02.1	14.5	S 5 52.4	14.8	56.6	Albireo	67 03.0 N28 01.2
F 5	259 05.8	S15 58.7	294 35.6	14.5	S 6 07.2	14.8	56.5		
R								Aldebaran	290 37.6 N16 33.9
I 6	274 05.8	S15 59.4	309 09.0	14.5	S 6 22.0	14.8	56.5	Alioth	166 12.1 N55 48.7
D 7	289 05.8	S16 00.2	323 42.5	14.5	S 6 36.7	14.7	56.5	Alkaid	152 51.3 N49 10.7
A 8	304 05.8	S16 00.9	338 15.9	14.4	S 6 51.4	14.7	56.5	Al Na-ir	27 30.9 S46 50.0
Y 9	319 05.7	S16 01.7	352 49.4	14.4	S 7 06.0	14.6	56.5	Alnilam	275 35.9 S 1 10.9
10	334 05.7	S16 02.4	7 22.8	14.4	S 7 20.6	14.6	56.4		
11	349 05.7	S16 03.2	21 56.2	14.4	S 7 35.2	14.6	56.4	Alphard	217 46.3 S 8 46.4
								Alphecca	126 02.8 N26 37.5
12	4 05.7	S16 03.9	36 29.6	14.4	S 7 49.7	14.5	56.4	Alpheratz	357 33.0 N29 14.6
13	19 05.6	S16 04.7	51 03.0	14.4	S 8 04.2	14.5	56.4	Altair	61 58.6 N 8 56.5
14	34 05.6	S16 05.4	65 36.3	14.4	S 8 18.6	14.4	56.4	Ankaa	353 05.3 S42 09.7
15	49 05.6	S16 06.2	80 09.7	14.3	S 8 33.0	14.4	56.3		
16	64 05.5	S16 06.9	94 43.0	14.3	S 8 47.3	14.3	56.3	Antares	112 14.4 S26 29.5
17	79 05.5	S16 07.6	109 16.3	14.3	S 9 01.6	14.3	56.3	Arcturus	145 46.9 N19 02.5
								Atria	107 07.8 S69 04.7
18	94 05.5	S16 08.4	123 49.6	14.3	S 9 15.9	14.2	56.3	Avior	234 14.0 S59 35.4
19	109 05.4	S16 09.1	138 22.9	14.3	S 9 30.1	14.2	56.3	Bellatrix	278 21.0 N 6 22.6
20	124 05.4	S16 09.9	152 56.2	14.3	S 9 44.2	14.2	56.2		
21	139 05.4	S16 10.6	167 29.4	14.2	S 9 58.3	14.1	56.2	Betelgeuse	270 50.2 N 7 24.8
22	154 05.4	S16 11.4	182 02.6	14.2	S10 12.4	14.0	56.2	Canopus	263 51.4 S52 42.3
23	169 05.3	S16 12.1	196 35.8	14.2	S10 26.4	14.0	56.2	Capella	280 19.3 N46 01.5
7 0	184 05.3	S16 12.8	211 08.9	14.2	S10 40.3	13.9	56.2	Castor	245 55.0 N31 49.7
1	199 05.3	S16 13.6	225 42.1	14.1	S10 54.2	13.9	56.1	Deneb	49 24.8 N45 22.9
2	214 05.2	S16 14.3	240 15.2	14.1	S11 08.0	13.8	56.1		
3	229 05.2	S16 15.1	254 48.2	14.1	S11 21.8	13.8	56.1	Denebola	182 23.6 N14 25.3
4	244 05.2	S16 15.8	269 21.3	14.0	S11 35.5	13.7	56.1	Diphda	348 45.5 S17 50.2
S 5	259 05.1	S16 16.5	283 54.3	14.0	S11 49.2	13.7	56.1	Dubhe	193 39.5 N61 36.1
A								Elnath	277 59.7 N28 37.8
T 6	274 05.1	S16 17.3	298 27.3	14.0	S12 02.8	13.6	56.0	Eltanin	90 41.9 N51 29.2
U 7	289 05.1	S16 18.0	313 00.2	14.0	S12 16.3	13.5	56.0		
R 8	304 05.0	S16 18.7	327 33.2	13.9	S12 29.8	13.5	56.0	Enif	33 37.2 N10 00.1
D 9	319 05.0	S16 19.5	342 06.1	13.9	S12 43.2	13.4	56.0	Fomalhaut	15 12.7 S29 28.8
A 10	334 05.0	S16 20.2	356 38.9	13.9	S12 56.5	13.3	56.0	Gacrux	171 50.5 S57 15.6
Y 11	349 04.9	S16 20.9	11 11.8	13.8	S13 09.8	13.3	55.9	Gienah	175 42.3 S17 41.3
								Hadar	148 34.6 S60 30.1
12	4 04.9	S16 21.7	25 44.5	13.8	S13 23.0	13.2	55.9		
13	19 04.8	S16 22.4	40 17.3	13.8	S13 36.2	13.1	55.9	Hamal	327 49.2 N23 35.6
14	34 04.8	S16 23.2	54 50.0	13.7	S13 49.3	13.1	55.9	Kaus Austr.	83 30.8 S34 22.4
15	49 04.8	S16 23.9	69 22.7	13.7	S14 02.3	13.0	55.9	Kochab	137 21.2 N74 02.6
16	64 04.7	S16 24.6	83 55.4	13.6	S14 15.2	12.9	55.8	Markab	13 28.2 N15 21.2
17	79 04.7	S16 25.3	98 28.0	13.6	S14 28.1	12.9	55.8	Menkar	314 04.2 N 4 11.9
								Menkent	147 56.3 S36 30.1
18	94 04.7	S16 26.1	113 00.5	13.6	S14 40.9	12.8	55.8	Miaplacidus	221 37.9 S69 49.3
19	109 04.6	S16 26.8	127 33.1	13.5	S14 53.6	12.7	55.8	Mirfak	308 25.7 N49 57.5
20	124 04.6	S16 27.5	142 05.6	13.5	S15 06.3	12.7	55.8	Nunki	75 46.1 S26 15.8
21	139 04.5	S16 28.3	156 38.0	13.5	S15 18.9	12.6	55.7	Peacock	53 03.4 S56 39.1
22	154 04.5	S16 29.0	171 10.4	13.4	S15 31.4	12.5	55.7		
23	169 04.5	S16 29.7	185 42.8	13.4	S15 43.8	12.4	55.7	Polaris	315 31.9 N89 22.1
8 0	184 04.4	S16 30.5	200 15.1	13.3	S15 56.2	12.4	55.7	Pollux	243 15.3 N27 57.6
1	199 04.4	S16 31.2	214 47.4	13.3	S16 08.4	12.3	55.7	Procyon	244 49.1 N 5 09.4
2	214 04.3	S16 31.9	229 19.6	13.2	S16 20.6	12.2	55.6	Rasalhague	95 57.5 N12 32.6
3	229 04.3	S16 32.6	243 51.8	13.2	S16 32.8	12.1	55.6	Regulus	207 32.9 N11 50.2
4	244 04.2	S16 33.4	258 24.0	13.2	S16 44.8	12.0	55.6		
S 5	259 04.2	S16 34.1	272 56.1	13.1	S16 56.7	12.0	55.6	Rigel	281 02.1 S 8 10.1
U								Rigil Kent	139 39.1 S60 56.7
N 6	274 04.2	S16 34.8	287 28.2	13.1	S17 08.6	11.9	55.6	Sabik	102 01.4 S15 45.5
D 7	289 04.1	S16 35.6	302 00.2	13.0	S17 20.4	11.8	55.6	Schedar	349 28.9 N56 41.3
A 8	304 04.1	S16 36.3	316 32.2	13.0	S17 32.1	11.7	55.5	Shaula	96 08.7 S37 07.5
Y 9	319 04.0	S16 37.0	331 04.1	12.9	S17 43.7	11.6	55.5	Sirius	258 24.7 S16 45.0
10	334 04.0	S16 37.7	345 36.0	12.9	S17 55.3	11.5	55.5	Spica	158 21.0 S11 18.0
11	349 03.9	S16 38.4	0 07.8	12.8	S18 06.7	11.4	55.5	Suhail	222 45.2 S43 32.2
								Vega	80 32.5 N38 48.7
12	4 03.9	S16 39.2	14 39.6	12.8	S18 18.0	11.4	55.5	Zuben-ubi	136 55.6 S16 09.2
13	19 03.8	S16 39.9	29 11.3	12.7	S18 29.3	11.3	55.4		
14	34 03.8	S16 40.6	43 43.0	12.7	S18 40.5	11.2	55.4		
15	49 03.8	S16 41.3	58 14.7	12.6	S18 51.6	11.1	55.4		
16	64 03.7	S16 42.1	72 46.3	12.6	S19 02.6	11.0	55.4		
17	79 03.7	S16 42.8	87 17.8	12.5	S19 13.5	10.9	55.4		
18	94 03.6	S16 43.5	101 49.3	12.5	S19 24.3	10.8	55.4		
19	109 03.6	S16 44.2	116 20.7	12.4	S19 35.0	10.7	55.3		
20	124 03.5	S16 44.9	130 52.1	12.4	S19 45.6	10.6	55.3		
21	139 03.5	S16 45.7	145 23.5	12.3	S19 56.1	10.5	55.3		
22	154 03.4	S16 46.4	159 54.8	12.3	S20 06.5	10.4	55.3		
23	169 03.4	S16 47.1	174 26.0	12.3	S20 16.8	10.3	55.3		
	S.D. 16.1	d 0.7	S.D.	15.4	15.2	15.1			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
9	0	48 11.1	207 38.1	S11 44.7	262 41.5	N15 40.5	260 26.6	N13 47.4	39 02.0	N 1 02.8
	1	63 13.6	222 40.8	S11 43.9	277 42.8	N15 40.2	275 28.8	N13 47.4	54 04.6	N 1 02.8
	2	78 16.0	237 43.5	S11 43.1	292 44.1	N15 39.8	290 31.0	N13 47.3	69 07.2	N 1 02.8
	3	93 18.5	252 46.2	S11 42.4	307 45.3	N15 39.5	305 33.2	N13 47.2	84 09.8	N 1 02.7
	4	108 20.9	267 48.9	S11 41.6	322 46.6	N15 39.2	320 35.5	N13 47.1	99 12.3	N 1 02.7
M	5	123 23.4	282 51.6	S11 40.9	337 47.9	N15 38.8	335 37.7	N13 47.1	114 14.9	N 1 02.6
O										
N	6	138 25.9	297 54.3	S11 40.1	352 49.2	N15 38.5	350 39.9	N13 47.0	129 17.5	N 1 02.6
D	7	153 28.3	312 56.9	S11 39.3	7 50.5	N15 38.2	5 42.1	N13 46.9	144 20.1	N 1 02.5
A	8	168 30.8	327 59.6	S11 38.6	22 51.8	N15 37.8	20 44.3	N13 46.8	159 22.7	N 1 02.5
Y	9	183 33.3	343 02.3	S11 37.8	37 53.0	N15 37.5	35 46.5	N13 46.7	174 25.3	N 1 02.4
	10	198 35.7	358 05.0	S11 37.1	52 54.3	N15 37.1	50 48.8	N13 46.7	189 27.9	N 1 02.4
	11	213 38.2	13 07.7	S11 36.3	67 55.6	N15 36.8	65 51.0	N13 46.6	204 30.5	N 1 02.3
	12	228 40.7	28 10.3	S11 35.6	82 56.9	N15 36.5	80 53.2	N13 46.5	219 33.0	N 1 02.3
	13	243 43.1	43 13.0	S11 34.8	97 58.2	N15 36.1	95 55.4	N13 46.4	234 35.6	N 1 02.3
	14	258 45.6	58 15.6	S11 34.1	112 59.5	N15 35.8	110 57.6	N13 46.4	249 38.2	N 1 02.2
	15	273 48.1	73 18.3	S11 33.3	128 00.8	N15 35.5	125 59.8	N13 46.3	264 40.8	N 1 02.2
	16	288 50.5	88 20.9	S11 32.6	143 02.0	N15 35.1	141 02.1	N13 46.2	279 43.4	N 1 02.1
	17	303 53.0	103 23.6	S11 31.9	158 03.3	N15 34.8	156 04.3	N13 46.1	294 46.0	N 1 02.1
	18	318 55.4	118 26.2	S11 31.1	173 04.6	N15 34.5	171 06.5	N13 46.1	309 48.6	N 1 02.0
	19	333 57.9	133 28.9	S11 30.4	188 05.9	N15 34.1	186 08.7	N13 46.0	324 51.2	N 1 02.0
	20	349 00.4	148 31.5	S11 29.7	203 07.2	N15 33.8	201 10.9	N13 45.9	339 53.7	N 1 01.9
	21	4 02.8	163 34.1	S11 28.9	218 08.5	N15 33.4	216 13.2	N13 45.8	354 56.3	N 1 01.9
	22	19 05.3	178 36.8	S11 28.2	233 09.8	N15 33.1	231 15.4	N13 45.8	9 58.9	N 1 01.9
	23	34 07.8	193 39.4	S11 27.5	248 11.1	N15 32.8	246 17.6	N13 45.7	25 01.5	N 1 01.8
10	0	49 10.2	208 42.0	S11 26.7	263 12.4	N15 32.4	261 19.8	N13 45.6	40 04.1	N 1 01.8
	1	64 12.7	223 44.6	S11 26.0	278 13.6	N15 32.1	276 22.0	N13 45.5	55 06.7	N 1 01.7
	2	79 15.2	238 47.2	S11 25.3	293 14.9	N15 31.8	291 24.3	N13 45.5	70 09.3	N 1 01.7
	3	94 17.6	253 49.8	S11 24.6	308 16.2	N15 31.4	306 26.5	N13 45.4	85 11.8	N 1 01.6
	4	109 20.1	268 52.5	S11 23.9	323 17.5	N15 31.1	321 28.7	N13 45.3	100 14.4	N 1 01.6
T	5	124 22.6	283 55.1	S11 23.1	338 18.8	N15 30.8	336 30.9	N13 45.2	115 17.0	N 1 01.6
U										
E	6	139 25.0	298 57.6	S11 22.4	353 20.1	N15 30.4	351 33.1	N13 45.2	130 19.6	N 1 01.5
S	7	154 27.5	314 00.2	S11 21.7	8 21.4	N15 30.1	6 35.4	N13 45.1	145 22.2	N 1 01.5
D	8	169 29.9	329 02.8	S11 21.0	23 22.7	N15 29.8	21 37.6	N13 45.0	160 24.8	N 1 01.4
A	9	184 32.4	344 05.4	S11 20.3	38 24.0	N15 29.4	36 39.8	N13 44.9	175 27.4	N 1 01.4
Y	10	199 34.9	359 08.0	S11 19.6	53 25.3	N15 29.1	51 42.0	N13 44.9	190 29.9	N 1 01.3
	11	214 37.3	14 10.6	S11 18.9	68 26.6	N15 28.8	66 44.3	N13 44.8	205 32.5	N 1 01.3
	12	229 39.8	29 13.1	S11 18.2	83 27.9	N15 28.4	81 46.5	N13 44.7	220 35.1	N 1 01.2
	13	244 42.3	44 15.7	S11 17.5	98 29.2	N15 28.1	96 48.7	N13 44.6	235 37.7	N 1 01.2
	14	259 44.7	59 18.3	S11 16.8	113 30.5	N15 27.7	111 50.9	N13 44.6	250 40.3	N 1 01.2
	15	274 47.2	74 20.8	S11 16.1	128 31.8	N15 27.4	126 53.1	N13 44.5	265 42.9	N 1 01.1
	16	289 49.7	89 23.4	S11 15.4	143 33.1	N15 27.1	141 55.4	N13 44.4	280 45.4	N 1 01.1
	17	304 52.1	104 25.9	S11 14.7	158 34.4	N15 26.7	156 57.6	N13 44.3	295 48.0	N 1 01.0
	18	319 54.6	119 28.5	S11 14.0	173 35.7	N15 26.4	171 59.8	N13 44.3	310 50.6	N 1 01.0
	19	334 57.0	134 31.0	S11 13.3	188 37.0	N15 26.1	187 02.0	N13 44.2	325 53.2	N 1 00.9
	20	349 59.5	149 33.6	S11 12.6	203 38.2	N15 25.7	202 04.3	N13 44.1	340 55.8	N 1 00.9
	21	5 02.0	164 36.1	S11 11.9	218 39.5	N15 25.4	217 06.5	N13 44.1	355 58.4	N 1 00.9
	22	20 04.4	179 38.6	S11 11.2	233 40.8	N15 25.1	232 08.7	N13 44.0	11 00.9	N 1 00.8
	23	35 06.9	194 41.2	S11 10.6	248 42.2	N15 24.7	247 10.9	N13 43.9	26 03.5	N 1 00.8
11	0	50 09.4	209 43.7	S11 09.9	263 43.5	N15 24.4	262 13.2	N13 43.8	41 06.1	N 1 00.7
	1	65 11.8	224 46.2	S11 09.2	278 44.8	N15 24.1	277 15.4	N13 43.8	56 08.7	N 1 00.7
	2	80 14.3	239 48.7	S11 08.5	293 46.1	N15 23.7	292 17.6	N13 43.7	71 11.3	N 1 00.6
	3	95 16.8	254 51.3	S11 07.9	308 47.4	N15 23.4	307 19.9	N13 43.6	86 13.9	N 1 00.6
	4	110 19.2	269 53.8	S11 07.2	323 48.7	N15 23.1	322 22.1	N13 43.5	101 16.4	N 1 00.6
W	5	125 21.7	284 56.3	S11 06.5	338 50.0	N15 22.7	337 24.3	N13 43.5	116 19.0	N 1 00.5
E										
D	6	140 24.2	299 58.8	S11 05.8	353 51.3	N15 22.4	352 26.5	N13 43.4	131 21.6	N 1 00.5
N	7	155 26.6	315 01.3	S11 05.2	8 52.6	N15 22.1	7 28.8	N13 43.3	146 24.2	N 1 00.4
E	8	170 29.1	330 03.8	S11 04.5	23 53.9	N15 21.7	22 31.0	N13 43.3	161 26.8	N 1 00.4
S	9	185 31.5	345 06.3	S11 03.8	38 55.2	N15 21.4	37 33.2	N13 43.2	176 29.3	N 1 00.4
D	10	200 34.0	0 08.7	S11 03.2	53 56.5	N15 21.1	52 35.5	N13 43.1	191 31.9	N 1 00.3
A	11	215 36.5	15 11.2	S11 02.5	68 57.8	N15 20.7	67 37.7	N13 43.0	206 34.5	N 1 00.3
Y										
	12	230 38.9	30 13.7	S11 01.9	83 59.1	N15 20.4	82 39.9	N13 43.0	221 37.1	N 1 00.2
	13	245 41.4	45 16.2	S11 01.2	99 00.4	N15 20.1	97 42.1	N13 42.9	236 39.7	N 1 00.2
	14	260 43.9	60 18.6	S11 00.6	114 01.7	N15 19.7	112 44.4	N13 42.8	251 42.3	N 1 00.1
	15	275 46.3	75 21.1	S10 59.9	129 03.0	N15 19.4	127 46.6	N13 42.7	266 44.8	N 1 00.1
	16	290 48.8	90 23.6	S10 59.3	144 04.3	N15 19.1	142 48.8	N13 42.7	281 47.4	N 1 00.1
	17	305 51.3	105 26.0	S10 58.6	159 05.6	N15 18.7	157 51.1	N13 42.6	296 50.0	N 1 00.0
	18	320 53.7	120 28.5	S10 58.0	174 07.0	N15 18.4	172 53.3	N13 42.5	311 52.6	N 0 60.0
	19	335 56.2	135 30.9	S10 57.3	189 08.3	N15 18.1	187 55.5	N13 42.5	326 55.2	N 0 59.9
	20	350 58.7	150 33.4	S10 56.7	204 09.6	N15 17.7	202 57.8	N13 42.4	341 57.7	N 0 59.9
	21	6 01.1	165 35.8	S10 56.0	219 10.9	N15 17.4	217 60.0	N13 42.3	357 00.3	N 0 59.9
	22	21 03.6	180 38.3	S10 55.4	234 12.2	N15 17.1	233 02.2	N13 42.3	12 02.9	N 0 59.8
	23	36 06.0	195 40.7	S10 54.8	249 13.5	N15 16.7	248 04.5	N13 42.2	27 05.5	N 0 59.8
			v 2.6	d 0.7	v 1.3	d 0.3	v 2.2	d 0.1	v 2.6	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
9	0	184 03.3	S16 47.8	188 57.2	12.2	S20 27.1	10.2	55.2
	1	199 03.3	S16 48.5	203 28.4	12.2	S20 37.2	10.1	55.2
	2	214 03.2	S16 49.2	217 59.5	12.1	S20 47.2	10.0	55.2
	3	229 03.2	S16 50.0	232 30.6	12.1	S20 57.1	9.9	55.2
	4	244 03.1	S16 50.7	247 01.6	12.0	S21 06.9	9.8	55.2
M	5	259 03.1	S16 51.4	261 32.5	12.0	S21 16.7	9.7	55.2
O								
N	6	274 03.0	S16 52.1	276 03.4	11.9	S21 26.3	9.6	55.1
D	7	289 03.0	S16 52.8	290 34.3	11.9	S21 35.8	9.5	55.1
A	8	304 02.9	S16 53.5	305 05.1	11.8	S21 45.2	9.4	55.1
Y	9	319 02.9	S16 54.2	319 35.8	11.8	S21 54.5	9.3	55.1
	10	334 02.8	S16 55.0	334 06.5	11.7	S22 03.6	9.2	55.1
	11	349 02.8	S16 55.7	348 37.2	11.7	S22 12.7	9.1	55.1
	12	4 02.7	S16 56.4	3 07.8	11.6	S22 21.7	9.0	55.0
	13	19 02.6	S16 57.1	17 38.3	11.6	S22 30.5	8.9	55.0
	14	34 02.6	S16 57.8	32 08.9	11.5	S22 39.3	8.7	55.0
	15	49 02.5	S16 58.5	46 39.3	11.5	S22 47.9	8.6	55.0
	16	64 02.5	S16 59.2	61 09.7	11.4	S22 56.5	8.5	55.0
	17	79 02.4	S16 59.9	75 40.1	11.4	S23 04.9	8.4	55.0
	18	94 02.4	S17 00.6	90 10.4	11.3	S23 13.2	8.3	54.9
	19	109 02.3	S17 01.3	104 40.7	11.3	S23 21.3	8.2	54.9
	20	124 02.3	S17 02.0	119 10.9	11.2	S23 29.4	8.1	54.9
	21	139 02.2	S17 02.8	133 41.1	11.2	S23 37.4	8.0	54.9
	22	154 02.1	S17 03.5	148 11.2	11.1	S23 45.2	7.8	54.9
	23	169 02.1	S17 04.2	162 41.3	11.1	S23 52.9	7.7	54.9
10	0	184 02.0	S17 04.9	177 11.3	11.0	S24 00.5	7.6	54.8
	1	199 02.0	S17 05.6	191 41.3	11.0	S24 08.0	7.5	54.8
	2	214 01.9	S17 06.3	206 11.3	11.0	S24 15.3	7.4	54.8
	3	229 01.8	S17 07.0	220 41.2	10.9	S24 22.6	7.2	54.8
	4	244 01.8	S17 07.7	235 11.1	10.9	S24 29.7	7.1	54.8
T	5	259 01.7	S17 08.4	249 40.9	10.8	S24 36.7	7.0	54.8
U								
E	6	274 01.7	S17 09.1	264 10.7	10.8	S24 43.6	6.9	54.8
S	7	289 01.6	S17 09.8	278 40.4	10.7	S24 50.3	6.8	54.7
D	8	304 01.5	S17 10.5	293 10.1	10.7	S24 57.0	6.6	54.7
A	9	319 01.5	S17 11.2	307 39.8	10.7	S25 03.5	6.5	54.7
Y	10	334 01.4	S17 11.9	322 09.4	10.6	S25 09.9	6.4	54.7
	11	349 01.4	S17 12.6	336 39.0	10.6	S25 16.1	6.3	54.7
	12	4 01.3	S17 13.3	351 08.5	10.5	S25 22.2	6.1	54.7
	13	19 01.2	S17 14.0	5 38.0	10.5	S25 28.2	6.0	54.7
	14	34 01.2	S17 14.7	20 07.5	10.5	S25 34.1	5.9	54.6
	15	49 01.1	S17 15.4	34 37.0	10.4	S25 39.9	5.8	54.6
	16	64 01.0	S17 16.1	49 06.4	10.4	S25 45.5	5.6	54.6
	17	79 01.0	S17 16.8	63 35.7	10.4	S25 51.0	5.5	54.6
	18	94 00.9	S17 17.5	78 05.1	10.3	S25 56.4	5.4	54.6
	19	109 00.8	S17 18.2	92 34.4	10.3	S26 01.6	5.2	54.6
	20	124 00.8	S17 18.9	107 03.6	10.3	S26 06.7	5.1	54.6
	21	139 00.7	S17 19.6	121 32.9	10.2	S26 11.7	5.0	54.5
	22	154 00.6	S17 20.3	136 02.1	10.2	S26 16.6	4.8	54.5
	23	169 00.6	S17 21.0	150 31.3	10.2	S26 21.3	4.7	54.5
11	0	184 00.5	S17 21.6	165 00.4	10.2	S26 25.9	4.6	54.5
	1	199 00.4	S17 22.3	179 29.6	10.1	S26 30.3	4.5	54.5
	2	214 00.4	S17 23.0	193 58.7	10.1	S26 34.6	4.3	54.5
	3	229 00.3	S17 23.7	208 27.8	10.1	S26 38.8	4.2	54.5
	4	244 00.2	S17 24.4	222 56.8	10.1	S26 42.9	4.1	54.5
W	5	259 00.2	S17 25.1	237 25.9	10.0	S26 46.8	3.9	54.5
E								
D	6	274 00.1	S17 25.8	251 54.9	10.0	S26 50.6	3.8	54.4
N	7	289 00.0	S17 26.5	266 23.9	10.0	S26 54.3	3.7	54.4
E	8	303 60.0	S17 27.2	280 52.9	10.0	S26 57.8	3.5	54.4
S	9	318 59.9	S17 27.9	295 21.8	10.0	S27 01.2	3.4	54.4
D	10	333 59.8	S17 28.5	309 50.7	9.9	S27 04.4	3.3	54.4
A	11	348 59.7	S17 29.2	324 19.7	9.9	S27 07.6	3.1	54.4
Y								
	12	3 59.7	S17 29.9	338 48.6	9.9	S27 10.6	3.0	54.4
	13	18 59.6	S17 30.6	353 17.5	9.9	S27 13.4	2.9	54.4
	14	33 59.5	S17 31.3	7 46.4	9.9	S27 16.1	2.7	54.3
	15	48 59.5	S17 32.0	22 15.2	9.9	S27 18.7	2.6	54.3
	16	63 59.4	S17 32.7	36 44.1	9.9	S27 21.2	2.4	54.3
	17	78 59.3	S17 33.3	51 13.0	9.9	S27 23.5	2.3	54.3
	18	93 59.2	S17 34.0	65 41.8	9.8	S27 25.7	2.2	54.3
	19	108 59.2	S17 34.7	80 10.6	9.8	S27 27.7	2.0	54.3
	20	123 59.1	S17 35.4	94 39.5	9.8	S27 29.6	1.9	54.3
	21	138 59.0	S17 36.1	109 08.3	9.8	S27 31.4	1.8	54.3
	22	153 58.9	S17 36.8	123 37.1	9.8	S27 33.0	1.6	54.3
	23	168 58.9	S17 37.4	138 05.9	9.8	S27 34.5	1.5	54.3
		S.D. 16.2	d 0.7	S.D. 15.0		14.9		14.8

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.7
Achernar	335 18.5	S57 06.0
Acrux	172 59.0	S63 14.6
Adhara	255 04.5	S29 00.3
Albireo	67 03.0	N28 01.1
Aldebaran	290 37.6	N16 33.9
Alioth	166 12.1	N55 48.7
Alkaid	152 51.3	N49 10.6
Al Na-ir	27 30.9	S46 50.0
Alnilam	275 35.9	S 1 10.9
Alphard	217 46.3	S 8 46.4
Alphecca	126 02.8	N26 37.5
Alpheratz	357 33.0	N29 14.6
Altair	61 58.6	N 8 56.5
Ankaa	353 05.3	S42 09.7
Antares	112 14.4	S26 29.5
Arcturus	145 46.9	N19 02.5
Atria	107 07.8	S69 04.7
Avior	234 13.9	S59 35.4
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.8
Canopus	263 51.3	S52 42.3
Capella	280 19.3	N46 01.5
Castor	245 55.0	N31 49.7
Deneb	49 24.9	N45 22.9
Denebola	182 23.6	N14 25.3
Diphda	348 45.5	S17 50.3
Dubhe	193 39.4	N61 36.1
Elnath	277 59.7	N28 37.8
Eltanin	90 41.9	N51 29.2
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.7	S29 28.8
Gacrux	171 50.5	S57 15.6
Gienah	175 42.3	S17 41.3
Hadar	148 34.6	S60 30.1
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.2	N74 02.6
Markab	13 28.3	N15 21.2
Menkar	314 04.2	N 4 11.8
Menkent	147 56.3	S36 30.1
Miaplacidus	221 37.8	S69 49.3
Mirfak	308 25.6	N49 57.5
Nunki	75 46.1	S26 15.8
Peacock	53 03.4	S56 39.1
Polaris	315 31.8	N89 22.1
Pollux	243 15.3	N27 57.6
Procyon	244 49.1	N 5 09.4
Rasalhague	95 57.5	N12 32.5
Regulus	207 32.9	N11 50.1
Rigel	281 02.1	S 8 10.1
Rigil Kent	139 39.1	S60 56.7
Sabik	102 01.4	S15 45.5
Schedar	349 28.9	N56 41.3
Shaula	96 08.7	S37 07.5
Sirius	258 24.7	S16 45.0
Spica	158 21.0	S11 18.0
Suhail	222 45.2	S43 32.2
Vega	80 32.5	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
12	0	51 08.5	210 43.1	S10 54.1	264 14.8	N15 16.4	263 06.7	N13 42.1	42 08.1	N 0 59.7
	1	66 11.0	225 45.6	S10 53.5	279 16.1	N15 16.1	278 08.9	N13 42.0	57 10.6	N 0 59.7
	2	81 13.4	240 48.0	S10 52.9	294 17.4	N15 15.7	293 11.2	N13 42.0	72 13.2	N 0 59.7
	3	96 15.9	255 50.4	S10 52.2	309 18.8	N15 15.4	308 13.4	N13 41.9	87 15.8	N 0 59.6
	4	111 18.4	270 52.8	S10 51.6	324 20.1	N15 15.1	323 15.6	N13 41.8	102 18.4	N 0 59.6
T	5	126 20.8	285 55.2	S10 51.0	339 21.4	N15 14.7	338 17.9	N13 41.8	117 21.0	N 0 59.5
H										
U	6	141 23.3	300 57.7	S10 50.4	354 22.7	N15 14.4	353 20.1	N13 41.7	132 23.5	N 0 59.5
R	7	156 25.8	316 00.1	S10 49.7	9 24.0	N15 14.1	8 22.3	N13 41.6	147 26.1	N 0 59.4
S	8	171 28.2	331 02.5	S10 49.1	24 25.3	N15 13.8	23 24.6	N13 41.5	162 28.7	N 0 59.4
D	9	186 30.7	346 04.9	S10 48.5	39 26.6	N15 13.4	38 26.8	N13 41.5	177 31.3	N 0 59.4
A	10	201 33.2	1 07.2	S10 47.9	54 28.0	N15 13.1	53 29.0	N13 41.4	192 33.8	N 0 59.3
Y	11	216 35.6	16 09.6	S10 47.3	69 29.3	N15 12.8	68 31.3	N13 41.3	207 36.4	N 0 59.3
	12	231 38.1	31 12.0	S10 46.7	84 30.6	N15 12.4	83 33.5	N13 41.3	222 39.0	N 0 59.2
	13	246 40.5	46 14.4	S10 46.1	99 31.9	N15 12.1	98 35.7	N13 41.2	237 41.6	N 0 59.2
	14	261 43.0	61 16.8	S10 45.5	114 33.2	N15 11.8	113 38.0	N13 41.1	252 44.2	N 0 59.2
	15	276 45.5	76 19.2	S10 44.9	129 34.6	N15 11.4	128 40.2	N13 41.1	267 46.7	N 0 59.1
	16	291 47.9	91 21.5	S10 44.3	144 35.9	N15 11.1	143 42.5	N13 41.0	282 49.3	N 0 59.1
	17	306 50.4	106 23.9	S10 43.7	159 37.2	N15 10.8	158 44.7	N13 40.9	297 51.9	N 0 59.0
	18	321 52.9	121 26.3	S10 43.1	174 38.5	N15 10.4	173 46.9	N13 40.9	312 54.5	N 0 59.0
	19	336 55.3	136 28.6	S10 42.5	189 39.8	N15 10.1	188 49.2	N13 40.8	327 57.0	N 0 59.0
	20	351 57.8	151 31.0	S10 41.9	204 41.2	N15 09.8	203 51.4	N13 40.7	342 59.6	N 0 58.9
	21	7 00.3	166 33.3	S10 41.3	219 42.5	N15 09.4	218 53.6	N13 40.6	358 02.2	N 0 58.9
	22	22 02.7	181 35.7	S10 40.7	234 43.8	N15 09.1	233 55.9	N13 40.6	13 04.8	N 0 58.8
	23	37 05.2	196 38.0	S10 40.1	249 45.1	N15 08.8	248 58.1	N13 40.5	28 07.3	N 0 58.8
13	0	52 07.7	211 40.4	S10 39.5	264 46.5	N15 08.5	264 00.4	N13 40.4	43 09.9	N 0 58.8
	1	67 10.1	226 42.7	S10 38.9	279 47.8	N15 08.1	279 02.6	N13 40.4	58 12.5	N 0 58.7
	2	82 12.6	241 45.0	S10 38.3	294 49.1	N15 07.8	294 04.8	N13 40.3	73 15.1	N 0 58.7
	3	97 15.0	256 47.4	S10 37.8	309 50.4	N15 07.5	309 07.1	N13 40.2	88 17.7	N 0 58.7
	4	112 17.5	271 49.7	S10 37.2	324 51.7	N15 07.1	324 09.3	N13 40.2	103 20.2	N 0 58.6
F	5	127 20.0	286 52.0	S10 36.6	339 53.1	N15 06.8	339 11.6	N13 40.1	118 22.8	N 0 58.6
R										
I	6	142 22.4	301 54.3	S10 36.0	354 54.4	N15 06.5	354 13.8	N13 40.0	133 25.4	N 0 58.5
D	7	157 24.9	316 56.6	S10 35.5	9 55.7	N15 06.1	9 16.1	N13 40.0	148 28.0	N 0 58.5
A	8	172 27.4	331 58.9	S10 34.9	24 57.1	N15 05.8	24 18.3	N13 39.9	163 30.5	N 0 58.5
Y	9	187 29.8	347 01.2	S10 34.3	39 58.4	N15 05.5	39 20.5	N13 39.8	178 33.1	N 0 58.4
	10	202 32.3	2 03.5	S10 33.8	54 59.7	N15 05.2	54 22.8	N13 39.8	193 35.7	N 0 58.4
	11	217 34.8	17 05.8	S10 33.2	70 01.0	N15 04.8	69 25.0	N13 39.7	208 38.3	N 0 58.3
	12	232 37.2	32 08.1	S10 32.6	85 02.4	N15 04.5	84 27.3	N13 39.6	223 40.8	N 0 58.3
	13	247 39.7	47 10.4	S10 32.1	100 03.7	N15 04.2	99 29.5	N13 39.6	238 43.4	N 0 58.3
	14	262 42.2	62 12.7	S10 31.5	115 05.0	N15 03.8	114 31.7	N13 39.5	253 46.0	N 0 58.2
	15	277 44.6	77 15.0	S10 31.0	130 06.4	N15 03.5	129 34.0	N13 39.4	268 48.6	N 0 58.2
	16	292 47.1	92 17.3	S10 30.4	145 07.7	N15 03.2	144 36.2	N13 39.4	283 51.1	N 0 58.2
	17	307 49.5	107 19.5	S10 29.8	160 09.0	N15 02.9	159 38.5	N13 39.3	298 53.7	N 0 58.1
	18	322 52.0	122 21.8	S10 29.3	175 10.4	N15 02.5	174 40.7	N13 39.2	313 56.3	N 0 58.1
	19	337 54.5	137 24.1	S10 28.7	190 11.7	N15 02.2	189 43.0	N13 39.2	328 58.8	N 0 58.0
	20	352 56.9	152 26.3	S10 28.2	205 13.0	N15 01.9	204 45.2	N13 39.1	344 01.4	N 0 58.0
	21	7 59.4	167 28.6	S10 27.7	220 14.4	N15 01.5	219 47.5	N13 39.0	359 04.0	N 0 58.0
	22	23 01.9	182 30.9	S10 27.1	235 15.7	N15 01.2	234 49.7	N13 39.0	14 06.6	N 0 57.9
	23	38 04.3	197 33.1	S10 26.6	250 17.0	N15 00.9	249 52.0	N13 38.9	29 09.1	N 0 57.9
14	0	53 06.8	212 35.4	S10 26.0	265 18.4	N15 00.6	264 54.2	N13 38.8	44 11.7	N 0 57.8
	1	68 09.3	227 37.6	S10 25.5	280 19.7	N15 00.2	279 56.4	N13 38.8	59 14.3	N 0 57.8
	2	83 11.7	242 39.9	S10 25.0	295 21.0	N14 59.9	294 58.7	N13 38.7	74 16.9	N 0 57.8
	3	98 14.2	257 42.1	S10 24.4	310 22.4	N14 59.6	310 00.9	N13 38.6	89 19.4	N 0 57.7
	4	113 16.6	272 44.3	S10 23.9	325 23.7	N14 59.2	325 03.2	N13 38.6	104 22.0	N 0 57.7
S	5	128 19.1	287 46.6	S10 23.4	340 25.0	N14 58.9	340 05.4	N13 38.5	119 24.6	N 0 57.7
A										
T	6	143 21.6	302 48.8	S10 22.9	355 26.4	N14 58.6	355 07.7	N13 38.4	134 27.2	N 0 57.6
U	7	158 24.0	317 51.0	S10 22.3	10 27.7	N14 58.3	10 09.9	N13 38.4	149 29.7	N 0 57.6
R	8	173 26.5	332 53.2	S10 21.8	25 29.0	N14 57.9	25 12.2	N13 38.3	164 32.3	N 0 57.5
D	9	188 29.0	347 55.4	S10 21.3	40 30.4	N14 57.6	40 14.4	N13 38.2	179 34.9	N 0 57.5
A	10	203 31.4	2 57.7	S10 20.8	55 31.7	N14 57.3	55 16.7	N13 38.2	194 37.4	N 0 57.5
Y	11	218 33.9	17 59.9	S10 20.2	70 33.1	N14 56.9	70 18.9	N13 38.1	209 40.0	N 0 57.4
	12	233 36.4	33 02.1	S10 19.7	85 34.4	N14 56.6	85 21.2	N13 38.0	224 42.6	N 0 57.4
	13	248 38.8	48 04.3	S10 19.2	100 35.7	N14 56.3	100 23.4	N13 38.0	239 45.2	N 0 57.4
	14	263 41.3	63 06.5	S10 18.7	115 37.1	N14 56.0	115 25.7	N13 37.9	254 47.7	N 0 57.3
	15	278 43.8	78 08.7	S10 18.2	130 38.4	N14 55.6	130 27.9	N13 37.8	269 50.3	N 0 57.3
	16	293 46.2	93 10.8	S10 17.7	145 39.8	N14 55.3	145 30.2	N13 37.8	284 52.9	N 0 57.3
	17	308 48.7	108 13.0	S10 17.2	160 41.1	N14 55.0	160 32.4	N13 37.7	299 55.4	N 0 57.2
	18	323 51.1	123 15.2	S10 16.7	175 42.5	N14 54.7	175 34.7	N13 37.6	314 58.0	N 0 57.2
	19	338 53.6	138 17.4	S10 16.2	190 43.8	N14 54.3	190 36.9	N13 37.6	330 00.6	N 0 57.1
	20	353 56.1	153 19.6	S10 15.7	205 45.1	N14 54.0	205 39.2	N13 37.5	345 03.1	N 0 57.1
	21	8 58.5	168 21.7	S10 15.2	220 46.5	N14 53.7	220 41.4	N13 37.5	0 05.7	N 0 57.1
	22	24 01.0	183 23.9	S10 14.7	235 47.8	N14 53.3	235 43.7	N13 37.4	15 08.3	N 0 57.0
	23	39 03.5	198 26.1	S10 14.2	250 49.2	N14 53.0	250 45.9	N13 37.3	30 10.9	N 0 57.0
			v 2.3	d 0.6	v 1.3	d 0.3	v 2.2	d 0.1	v 2.6	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
12	0	183 58.8	S17 38.1	152 34.8	9.8	S27 35.9	1.4	54.3
	1	198 58.7	S17 38.8	167 03.6	9.8	S27 37.1	1.2	54.2
	2	213 58.6	S17 39.5	181 32.4	9.8	S27 38.2	1.1	54.2
	3	228 58.6	S17 40.2	196 01.2	9.8	S27 39.1	1.0	54.2
	4	243 58.5	S17 40.8	210 30.1	9.8	S27 40.0	0.8	54.2
T	5	258 58.4	S17 41.5	224 58.9	9.8	S27 40.6	0.7	54.2
H								
U	6	273 58.3	S17 42.2	239 27.8	9.8	S27 41.2	0.5	54.2
R	7	288 58.2	S17 42.9	253 56.6	9.9	S27 41.6	0.4	54.2
S	8	303 58.2	S17 43.5	268 25.5	9.9	S27 41.9	0.3	54.2
D	9	318 58.1	S17 44.2	282 54.3	9.9	S27 42.0	0.1	54.2
A	10	333 58.0	S17 44.9	297 23.2	9.9	S27 42.0	0.0	54.2
Y	11	348 57.9	S17 45.6	311 52.1	9.9	S27 41.9	0.1	54.2
	12	3 57.8	S17 46.2	326 21.0	9.9	S27 41.6	0.3	54.2
	13	18 57.8	S17 46.9	340 49.9	9.9	S27 41.2	0.4	54.2
	14	33 57.7	S17 47.6	355 18.9	9.9	S27 40.7	0.5	54.1
	15	48 57.6	S17 48.3	9 47.8	10.0	S27 40.0	0.7	54.1
	16	63 57.5	S17 48.9	24 16.8	10.0	S27 39.2	0.8	54.1
	17	78 57.4	S17 49.6	38 45.8	10.0	S27 38.2	0.9	54.1
	18	93 57.3	S17 50.3	53 14.8	10.0	S27 37.2	1.1	54.1
	19	108 57.3	S17 50.9	67 43.8	10.0	S27 36.0	1.2	54.1
	20	123 57.2	S17 51.6	82 12.9	10.1	S27 34.6	1.3	54.1
	21	138 57.1	S17 52.3	96 41.9	10.1	S27 33.1	1.5	54.1
	22	153 57.0	S17 52.9	111 11.0	10.1	S27 31.5	1.6	54.1
	23	168 56.9	S17 53.6	125 40.2	10.1	S27 29.8	1.7	54.1
13	0	183 56.8	S17 54.3	140 09.3	10.2	S27 27.9	1.9	54.1
	1	198 56.8	S17 55.0	154 38.5	10.2	S27 25.9	2.0	54.1
	2	213 56.7	S17 55.6	169 07.7	10.2	S27 23.8	2.1	54.1
	3	228 56.6	S17 56.3	183 37.0	10.2	S27 21.5	2.3	54.1
	4	243 56.5	S17 56.9	198 06.2	10.3	S27 19.1	2.4	54.1
F	5	258 56.4	S17 57.6	212 35.5	10.3	S27 16.6	2.5	54.1
R								
I	6	273 56.3	S17 58.3	227 04.9	10.3	S27 13.9	2.7	54.1
D	7	288 56.2	S17 58.9	241 34.2	10.4	S27 11.1	2.8	54.1
A	8	303 56.2	S17 59.6	256 03.6	10.4	S27 08.2	2.9	54.1
Y	9	318 56.1	S18 00.3	270 33.1	10.4	S27 05.2	3.0	54.1
	10	333 56.0	S18 00.9	285 02.5	10.5	S27 02.0	3.2	54.1
	11	348 55.9	S18 01.6	299 32.0	10.5	S26 58.7	3.3	54.1
	12	3 55.8	S18 02.3	314 01.6	10.5	S26 55.3	3.4	54.1
	13	18 55.7	S18 02.9	328 31.2	10.6	S26 51.7	3.6	54.1
	14	33 55.6	S18 03.6	343 00.8	10.6	S26 48.0	3.7	54.1
	15	48 55.5	S18 04.2	357 30.5	10.7	S26 44.2	3.8	54.1
	16	63 55.4	S18 04.9	12 00.2	10.7	S26 40.3	3.9	54.1
	17	78 55.3	S18 05.5	26 29.9	10.7	S26 36.2	4.1	54.1
	18	93 55.3	S18 06.2	40 59.7	10.8	S26 32.1	4.2	54.1
	19	108 55.2	S18 06.9	55 29.6	10.8	S26 27.7	4.3	54.1
	20	123 55.1	S18 07.5	69 59.4	10.9	S26 23.3	4.4	54.1
	21	138 55.0	S18 08.2	84 29.4	10.9	S26 18.8	4.6	54.1
	22	153 54.9	S18 08.8	98 59.3	11.0	S26 14.1	4.7	54.1
	23	168 54.8	S18 09.5	113 29.3	11.0	S26 09.3	4.8	54.1
14	0	183 54.7	S18 10.1	127 59.4	11.1	S26 04.4	4.9	54.1
	1	198 54.6	S18 10.8	142 29.5	11.1	S25 59.3	5.0	54.1
	2	213 54.5	S18 11.4	156 59.7	11.2	S25 54.2	5.2	54.1
	3	228 54.4	S18 12.1	171 29.9	11.2	S25 48.9	5.3	54.1
	4	243 54.3	S18 12.8	186 00.1	11.3	S25 43.5	5.4	54.1
S	5	258 54.2	S18 13.4	200 30.4	11.3	S25 38.0	5.5	54.1
A								
T	6	273 54.1	S18 14.1	215 00.8	11.4	S25 32.4	5.6	54.1
U	7	288 54.0	S18 14.7	229 31.2	11.4	S25 26.6	5.7	54.1
R	8	303 53.9	S18 15.4	244 01.6	11.5	S25 20.7	5.9	54.1
D	9	318 53.8	S18 16.0	258 32.1	11.5	S25 14.8	6.0	54.1
A	10	333 53.7	S18 16.7	273 02.7	11.6	S25 08.7	6.1	54.1
Y	11	348 53.6	S18 17.3	287 33.3	11.6	S25 02.5	6.2	54.1
	12	3 53.5	S18 17.9	302 04.0	11.7	S24 56.1	6.3	54.1
	13	18 53.5	S18 18.6	316 34.7	11.7	S24 49.7	6.4	54.1
	14	33 53.4	S18 19.2	331 05.4	11.8	S24 43.1	6.5	54.1
	15	48 53.3	S18 19.9	345 36.2	11.8	S24 36.5	6.7	54.1
	16	63 53.2	S18 20.5	0 07.1	11.9	S24 29.7	6.8	54.1
	17	78 53.1	S18 21.2	14 38.0	11.9	S24 22.8	6.9	54.1
	18	93 53.0	S18 21.8	29 09.0	12.0	S24 15.8	7.0	54.1
	19	108 52.9	S18 22.5	43 40.0	12.0	S24 08.7	7.1	54.1
	20	123 52.8	S18 23.1	58 11.1	12.1	S24 01.5	7.2	54.1
	21	138 52.7	S18 23.8	72 42.3	12.1	S23 54.2	7.3	54.2
	22	153 52.6	S18 24.4	87 13.4	12.2	S23 46.8	7.4	54.2
	23	168 52.4	S18 25.0	101 44.7	12.2	S23 39.2	7.5	54.2
		S.D. 16.2	d 0.7	S.D.	14.8	14.7	14.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.7
Achernar	335 18.5	S57 06.0
Acrux	172 59.0	S63 14.6
Adhara	255 04.4	S29 00.3
Albireo	67 03.0	N28 01.1
Aldebaran	290 37.6	N16 33.9
Alioth	166 12.1	N55 48.7
Alkaid	152 51.3	N49 10.6
Al Na-ir	27 30.9	S46 50.0
Alnilam	275 35.9	S 1 11.0
Alphard	217 46.2	S 8 46.4
Alphecca	126 02.8	N26 37.5
Alpheratz	357 33.0	N29 14.6
Altair	61 58.6	N 8 56.5
Ankaa	353 05.3	S42 09.7
Antares	112 14.4	S26 29.5
Arcturus	145 46.9	N19 02.5
Atria	107 07.8	S69 04.7
Avior	234 13.9	S59 35.4
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.8
Canopus	263 51.3	S52 42.3
Capella	280 19.2	N46 01.5
Castor	245 54.9	N31 49.7
Deneb	49 24.9	N45 22.9
Denebola	182 23.6	N14 25.3
Diphda	348 45.5	S17 50.3
Dubhe	193 39.4	N61 36.0
Elnath	277 59.7	N28 37.8
Eltanin	90 41.9	N51 29.2
Enif	33 37.2	N10 00.1
Fomalhaut	15 12.7	S29 28.8
Gacrux	171 50.4	S57 15.6
Gienah	175 42.3	S17 41.3
Hadar	148 34.6	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.2	N74 02.6
Markab	13 28.3	N15 21.2
Menkar	314 04.2	N 4 11.8
Menkent	147 56.2	S36 30.1
Miaplacidus	221 37.8	S69 49.3
Mirfak	308 25.6	N49 57.5
Nunki	75 46.1	S26 15.8
Peacock	53 03.5	S56 39.1
Polaris	315 31.7	N89 22.2
Pollux	243 15.3	N27 57.6
Procyon	244 49.1	N 5 09.4
Rasalhague	95 57.5	N12 32.5
Regulus	207 32.9	N11 50.1
Rigel	281 02.1	S 8 10.1
Rigil Kent	139 39.0	S60 56.7
Sabik	102 01.4	S15 45.5
Schedar	349 28.9	N56 41.4
Shaula	96 08.7	S37 07.5
Sirius	258 24.7	S16 45.0
Spica	158 21.0	S11 18.0
Suhail	222 45.1	S43 32.2
Vega	80 32.5	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
15	0	54 05.9	213 28.2	S10 13.7	265 50.5	N14 52.7	265 48.2	N13 37.3	45 13.4	N 0 57.0
	1	69 08.4	228 30.4	S10 13.2	280 51.9	N14 52.4	280 50.4	N13 37.2	60 16.0	N 0 56.9
	2	84 10.9	243 32.5	S10 12.8	295 53.2	N14 52.0	295 52.7	N13 37.1	75 18.6	N 0 56.9
	3	99 13.3	258 34.7	S10 12.3	310 54.6	N14 51.7	310 54.9	N13 37.1	90 21.1	N 0 56.9
	4	114 15.8	273 36.8	S10 11.8	325 55.9	N14 51.4	325 57.2	N13 37.0	105 23.7	N 0 56.8
S	5	129 18.3	288 39.0	S10 11.3	340 57.3	N14 51.1	340 59.5	N13 36.9	120 26.3	N 0 56.8
U										
N	6	144 20.7	303 41.1	S10 10.8	355 58.6	N14 50.7	356 01.7	N13 36.9	135 28.8	N 0 56.7
D	7	159 23.2	318 43.2	S10 10.4	10 60.0	N14 50.4	11 04.0	N13 36.8	150 31.4	N 0 56.7
A	8	174 25.6	333 45.4	S10 09.9	26 01.3	N14 50.1	26 06.2	N13 36.8	165 34.0	N 0 56.7
Y	9	189 28.1	348 47.5	S10 09.4	41 02.7	N14 49.8	41 08.5	N13 36.7	180 36.5	N 0 56.6
	10	204 30.6	3 49.6	S10 08.9	56 04.0	N14 49.4	56 10.7	N13 36.6	195 39.1	N 0 56.6
	11	219 33.0	18 51.7	S10 08.5	71 05.4	N14 49.1	71 13.0	N13 36.6	210 41.7	N 0 56.6
	12	234 35.5	33 53.9	S10 08.0	86 06.7	N14 48.8	86 15.2	N13 36.5	225 44.2	N 0 56.5
	13	249 38.0	48 56.0	S10 07.5	101 08.1	N14 48.5	101 17.5	N13 36.4	240 46.8	N 0 56.5
	14	264 40.4	63 58.1	S10 07.1	116 09.4	N14 48.1	116 19.8	N13 36.4	255 49.4	N 0 56.5
	15	279 42.9	79 00.2	S10 06.6	131 10.8	N14 47.8	131 22.0	N13 36.3	270 52.0	N 0 56.4
	16	294 45.4	94 02.3	S10 06.2	146 12.1	N14 47.5	146 24.3	N13 36.3	285 54.5	N 0 56.4
	17	309 47.8	109 04.4	S10 05.7	161 13.5	N14 47.2	161 26.5	N13 36.2	300 57.1	N 0 56.4
	18	324 50.3	124 06.5	S10 05.3	176 14.8	N14 46.8	176 28.8	N13 36.1	315 59.7	N 0 56.3
	19	339 52.8	139 08.6	S10 04.8	191 16.2	N14 46.5	191 31.0	N13 36.1	331 02.2	N 0 56.3
	20	354 55.2	154 10.6	S10 04.4	206 17.6	N14 46.2	206 33.3	N13 36.0	346 04.8	N 0 56.3
	21	9 57.7	169 12.7	S10 03.9	221 18.9	N14 45.9	221 35.6	N13 35.9	1 07.4	N 0 56.2
	22	25 00.1	184 14.8	S10 03.5	236 20.3	N14 45.5	236 37.8	N13 35.9	16 09.9	N 0 56.2
	23	40 02.6	199 16.9	S10 03.0	251 21.6	N14 45.2	251 40.1	N13 35.8	31 12.5	N 0 56.1
16	0	55 05.1	214 19.0	S10 02.6	266 23.0	N14 44.9	266 42.3	N13 35.8	46 15.1	N 0 56.1
	1	70 07.5	229 21.0	S10 02.1	281 24.3	N14 44.6	281 44.6	N13 35.7	61 17.6	N 0 56.1
	2	85 10.0	244 23.1	S10 01.7	296 25.7	N14 44.2	296 46.9	N13 35.6	76 20.2	N 0 56.0
	3	100 12.5	259 25.2	S10 01.3	311 27.1	N14 43.9	311 49.1	N13 35.6	91 22.7	N 0 56.0
	4	115 14.9	274 27.2	S10 00.8	326 28.4	N14 43.6	326 51.4	N13 35.5	106 25.3	N 0 56.0
M	5	130 17.4	289 29.3	S10 00.4	341 29.8	N14 43.3	341 53.6	N13 35.5	121 27.9	N 0 55.9
O										
N	6	145 19.9	304 31.3	S 9 60.0	356 31.1	N14 43.0	356 55.9	N13 35.4	136 30.4	N 0 55.9
D	7	160 22.3	319 33.4	S 9 59.5	11 32.5	N14 42.6	11 58.2	N13 35.3	151 33.0	N 0 55.9
A	8	175 24.8	334 35.4	S 9 59.1	26 33.9	N14 42.3	27 00.4	N13 35.3	166 35.6	N 0 55.8
Y	9	190 27.3	349 37.4	S 9 58.7	41 35.2	N14 42.0	42 02.7	N13 35.2	181 38.1	N 0 55.8
	10	205 29.7	4 39.5	S 9 58.3	56 36.6	N14 41.7	57 04.9	N13 35.1	196 40.7	N 0 55.8
	11	220 32.2	19 41.5	S 9 57.9	71 38.0	N14 41.3	72 07.2	N13 35.1	211 43.3	N 0 55.7
	12	235 34.6	34 43.5	S 9 57.4	86 39.3	N14 41.0	87 09.5	N13 35.0	226 45.8	N 0 55.7
	13	250 37.1	49 45.6	S 9 57.0	101 40.7	N14 40.7	102 11.7	N13 35.0	241 48.4	N 0 55.7
	14	265 39.6	64 47.6	S 9 56.6	116 42.0	N14 40.4	117 14.0	N13 34.9	256 51.0	N 0 55.6
	15	280 42.0	79 49.6	S 9 56.2	131 43.4	N14 40.0	132 16.3	N13 34.8	271 53.5	N 0 55.6
	16	295 44.5	94 51.6	S 9 55.8	146 44.8	N14 39.7	147 18.5	N13 34.8	286 56.1	N 0 55.6
	17	310 47.0	109 53.6	S 9 55.4	161 46.1	N14 39.4	162 20.8	N13 34.7	301 58.7	N 0 55.5
	18	325 49.4	124 55.6	S 9 55.0	176 47.5	N14 39.1	177 23.1	N13 34.7	317 01.2	N 0 55.5
	19	340 51.9	139 57.6	S 9 54.6	191 48.9	N14 38.8	192 25.3	N13 34.6	332 03.8	N 0 55.5
	20	355 54.4	154 59.6	S 9 54.2	206 50.2	N14 38.4	207 27.6	N13 34.5	347 06.3	N 0 55.4
	21	10 56.8	170 01.6	S 9 53.8	221 51.6	N14 38.1	222 29.9	N13 34.5	2 08.9	N 0 55.4
	22	25 59.3	185 03.6	S 9 53.4	236 53.0	N14 37.8	237 32.1	N13 34.4	17 11.5	N 0 55.4
	23	41 01.7	200 05.6	S 9 53.0	251 54.3	N14 37.5	252 34.4	N13 34.4	32 14.0	N 0 55.3
17	0	56 04.2	215 07.6	S 9 52.6	266 55.7	N14 37.1	267 36.7	N13 34.3	47 16.6	N 0 55.3
	1	71 06.7	230 09.6	S 9 52.2	281 57.1	N14 36.8	282 38.9	N13 34.2	62 19.2	N 0 55.3
	2	86 09.1	245 11.6	S 9 51.8	296 58.5	N14 36.5	297 41.2	N13 34.2	77 21.7	N 0 55.2
	3	101 11.6	260 13.6	S 9 51.4	311 59.8	N14 36.2	312 43.5	N13 34.1	92 24.3	N 0 55.2
	4	116 14.1	275 15.5	S 9 51.0	327 01.2	N14 35.9	327 45.7	N13 34.1	107 26.8	N 0 55.2
T	5	131 16.5	290 17.5	S 9 50.7	342 02.6	N14 35.5	342 48.0	N13 34.0	122 29.4	N 0 55.1
U										
E	6	146 19.0	305 19.5	S 9 50.3	357 03.9	N14 35.2	357 50.3	N13 34.0	137 32.0	N 0 55.1
S	7	161 21.5	320 21.4	S 9 49.9	12 05.3	N14 34.9	12 52.5	N13 33.9	152 34.5	N 0 55.1
D	8	176 23.9	335 23.4	S 9 49.5	27 06.7	N14 34.6	27 54.8	N13 33.8	167 37.1	N 0 55.0
A	9	191 26.4	350 25.3	S 9 49.1	42 08.1	N14 34.3	42 57.1	N13 33.8	182 39.7	N 0 55.0
Y	10	206 28.9	5 27.3	S 9 48.8	57 09.4	N14 33.9	57 59.3	N13 33.7	197 42.2	N 0 55.0
	11	221 31.3	20 29.2	S 9 48.4	72 10.8	N14 33.6	73 01.6	N13 33.7	212 44.8	N 0 54.9
	12	236 33.8	35 31.2	S 9 48.0	87 12.2	N14 33.3	88 03.9	N13 33.6	227 47.3	N 0 54.9
	13	251 36.2	50 33.1	S 9 47.7	102 13.6	N14 33.0	103 06.1	N13 33.5	242 49.9	N 0 54.9
	14	266 38.7	65 35.1	S 9 47.3	117 14.9	N14 32.7	118 08.4	N13 33.5	257 52.5	N 0 54.9
	15	281 41.2	80 37.0	S 9 46.9	132 16.3	N14 32.3	133 10.7	N13 33.4	272 55.0	N 0 54.8
	16	296 43.6	95 38.9	S 9 46.6	147 17.7	N14 32.0	148 13.0	N13 33.4	287 57.6	N 0 54.8
	17	311 46.1	110 40.9	S 9 46.2	162 19.1	N14 31.7	163 15.2	N13 33.3	303 00.1	N 0 54.8
	18	326 48.6	125 42.8	S 9 45.9	177 20.4	N14 31.4	178 17.5	N13 33.3	318 02.7	N 0 54.7
	19	341 51.0	140 44.7	S 9 45.5	192 21.8	N14 31.1	193 19.8	N13 33.2	333 05.3	N 0 54.7
	20	356 53.5	155 46.6	S 9 45.1	207 23.2	N14 30.7	208 22.0	N13 33.1	348 07.8	N 0 54.7
	21	11 56.0	170 48.5	S 9 44.8	222 24.6	N14 30.4	223 24.3	N13 33.1	3 10.4	N 0 54.6
	22	26 58.4	185 50.4	S 9 44.4	237 26.0	N14 30.1	238 26.6	N13 33.0	18 12.9	N 0 54.6
	23	42 00.9	200 52.4	S 9 44.1	252 27.3	N14 29.8	253 28.9	N13 33.0	33 15.5	N 0 54.6
			v 2.0	d 0.4	v 1.4	d 0.3	v 2.3	d 0.1	v 2.6	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
15 0	183 52.3	S18 25.7	116 16.0	12.3	S23 31.6	7.6	54.2	Acamar	315 10.2	S40 11.7
1	198 52.2	S18 26.3	130 47.3	12.4	S23 23.9	7.7	54.2	Achernar	335 18.5	S57 06.1
2	213 52.1	S18 27.0	145 18.7	12.4	S23 16.0	7.8	54.2	Acrux	172 58.9	S63 14.6
3	228 52.0	S18 27.6	159 50.2	12.5	S23 08.1	8.0	54.2	Adhara	255 04.4	S29 00.3
4	243 51.9	S18 28.2	174 21.7	12.5	S23 00.0	8.1	54.2	Albireo	67 03.0	N28 01.1
S 5	258 51.8	S18 28.9	188 53.3	12.6	S22 51.8	8.2	54.2			
U								Aldebaran	290 37.5	N16 33.9
N 6	273 51.7	S18 29.5	203 24.9	12.6	S22 43.6	8.3	54.2	Alioth	166 12.0	N55 48.7
D 7	288 51.6	S18 30.1	217 56.6	12.7	S22 35.2	8.4	54.2	Alkaid	152 51.2	N49 10.6
A 8	303 51.5	S18 30.8	232 28.3	12.7	S22 26.8	8.5	54.2	Al Na-ir	27 30.9	S46 50.0
Y 9	318 51.4	S18 31.4	247 00.1	12.8	S22 18.2	8.6	54.3	Alnilam	275 35.9	S 1 11.0
10	333 51.3	S18 32.1	261 31.9	12.8	S22 09.5	8.7	54.3			
11	348 51.2	S18 32.7	276 03.8	12.9	S22 00.8	8.8	54.3	Alphard	217 46.2	S 8 46.4
								Alphecca	126 02.8	N26 37.4
12	3 51.1	S18 33.3	290 35.7	12.9	S21 51.9	8.9	54.3	Alpheratz	357 33.0	N29 14.6
13	18 51.0	S18 34.0	305 07.7	13.0	S21 43.0	9.0	54.3	Altair	61 58.6	N 8 56.5
14	33 50.9	S18 34.6	319 39.8	13.0	S21 33.9	9.0	54.3	Ankaa	353 05.3	S42 09.7
15	48 50.8	S18 35.2	334 11.9	13.1	S21 24.8	9.1	54.3			
16	63 50.7	S18 35.9	348 44.0	13.1	S21 15.6	9.2	54.3	Antares	112 14.4	S26 29.5
17	78 50.6	S18 36.5	3 16.2	13.2	S21 06.2	9.3	54.3	Arcturus	145 46.8	N19 02.5
								Atria	107 07.8	S69 04.6
18	93 50.4	S18 37.1	17 48.5	13.3	S20 56.8	9.4	54.4	Avior	234 13.9	S59 35.4
19	108 50.3	S18 37.7	32 20.8	13.3	S20 47.3	9.5	54.4	Bellatrix	278 20.9	N 6 22.5
20	123 50.2	S18 38.4	46 53.1	13.4	S20 37.7	9.6	54.4			
21	138 50.1	S18 39.0	61 25.5	13.4	S20 28.0	9.7	54.4	Betelgeuse	270 50.2	N 7 24.8
22	153 50.0	S18 39.6	75 58.0	13.5	S20 18.2	9.8	54.4	Canopus	263 51.3	S52 42.3
23	168 49.9	S18 40.3	90 30.5	13.5	S20 08.3	9.9	54.4	Capella	280 19.2	N46 01.5
16 0	183 49.8	S18 40.9	105 03.1	13.6	S19 58.3	10.0	54.4	Castor	245 54.9	N31 49.7
1	198 49.7	S18 41.5	119 35.7	13.6	S19 48.3	10.1	54.5	Deneb	49 24.9	N45 22.9
2	213 49.6	S18 42.1	134 08.3	13.6	S19 38.1	10.1	54.5			
3	228 49.5	S18 42.8	148 41.0	13.7	S19 27.9	10.2	54.5	Denebola	182 23.6	N14 25.3
4	243 49.3	S18 43.4	163 13.7	13.7	S19 17.6	10.3	54.5	Diphda	348 45.6	S17 50.3
M 5	258 49.2	S18 44.0	177 46.5	13.8	S19 07.2	10.4	54.5	Dubhe	193 39.3	N61 36.0
O								Elnath	277 59.6	N28 37.8
N 6	273 49.1	S18 44.6	192 19.4	13.8	S18 56.7	10.5	54.5	Eltanin	90 42.0	N51 29.2
D 7	288 49.0	S18 45.3	206 52.3	13.9	S18 46.1	10.6	54.6			
A 8	303 48.9	S18 45.9	221 25.2	13.9	S18 35.4	10.7	54.6	Enif	33 37.3	N10 00.1
Y 9	318 48.8	S18 46.5	235 58.2	14.0	S18 24.7	10.7	54.6	Fomalhaut	15 12.7	S29 28.8
10	333 48.7	S18 47.1	250 31.2	14.0	S18 13.9	10.8	54.6	Gacrux	171 50.4	S57 15.6
11	348 48.5	S18 47.7	265 04.2	14.1	S18 03.0	10.9	54.6	Gienah	175 42.2	S17 41.4
								Hadar	148 34.5	S60 30.0
12	3 48.4	S18 48.4	279 37.3	14.1	S17 52.0	11.0	54.6			
13	18 48.3	S18 49.0	294 10.5	14.1	S17 40.9	11.1	54.7	Hamal	327 49.2	N23 35.6
14	33 48.2	S18 49.6	308 43.7	14.2	S17 29.8	11.1	54.7	Kaus Austr.	83 30.8	S34 22.4
15	48 48.1	S18 50.2	323 16.9	14.2	S17 18.5	11.2	54.7	Kochab	137 21.2	N74 02.6
16	63 48.0	S18 50.8	337 50.2	14.3	S17 07.2	11.3	54.7	Markab	13 28.3	N15 21.2
17	78 47.8	S18 51.5	352 23.5	14.3	S16 55.9	11.4	54.7	Menkar	314 04.2	N 4 11.8
								Menkent	147 56.2	S36 30.1
18	93 47.7	S18 52.1	6 56.8	14.3	S16 44.4	11.5	54.8	Miaplacidus	221 37.7	S69 49.3
19	108 47.6	S18 52.7	21 30.2	14.4	S16 32.9	11.5	54.8	Mirfak	308 25.6	N49 57.5
20	123 47.5	S18 53.3	36 03.6	14.4	S16 21.3	11.6	54.8	Nunki	75 46.1	S26 15.8
21	138 47.4	S18 53.9	50 37.1	14.5	S16 09.6	11.7	54.8	Peacock	53 03.5	S56 39.1
22	153 47.3	S18 54.5	65 10.6	14.5	S15 57.8	11.8	54.8			
23	168 47.1	S18 55.2	79 44.1	14.5	S15 46.0	11.8	54.9	Polaris	315 31.8	N89 22.2
17 0	183 47.0	S18 55.8	94 17.7	14.6	S15 34.1	11.9	54.9	Pollux	243 15.2	N27 57.6
1	198 46.9	S18 56.4	108 51.3	14.6	S15 22.1	12.0	54.9	Procyon	244 49.1	N 5 09.4
2	213 46.8	S18 57.0	123 24.9	14.6	S15 10.0	12.0	54.9	Rasalhague	95 57.5	N12 32.5
3	228 46.7	S18 57.6	137 58.5	14.7	S14 57.9	12.1	55.0	Regulus	207 32.8	N11 50.1
4	243 46.5	S18 58.2	152 32.2	14.7	S14 45.7	12.2	55.0			
T 5	258 46.4	S18 58.8	167 06.0	14.7	S14 33.5	12.3	55.0	Rigel	281 02.1	S 8 10.1
U								Rigil Kent	139 39.0	S60 56.7
E 6	273 46.3	S18 59.4	181 39.7	14.8	S14 21.2	12.3	55.0	Sabik	102 01.4	S15 45.5
S 7	288 46.2	S19 00.0	196 13.5	14.8	S14 08.8	12.4	55.0	Schedar	349 28.9	N56 41.4
D 8	303 46.1	S19 00.7	210 47.3	14.8	S13 56.3	12.5	55.1	Shaula	96 08.7	S37 07.4
A 9	318 45.9	S19 01.3	225 21.1	14.8	S13 43.8	12.5	55.1	Sirius	258 24.7	S16 45.0
Y 10	333 45.8	S19 01.9	239 55.0	14.9	S13 31.2	12.6	55.1	Spica	158 21.0	S11 18.0
11	348 45.7	S19 02.5	254 28.9	14.9	S13 18.5	12.7	55.1	Suhail	222 45.1	S43 32.2
								Vega	80 32.5	N38 48.7
12	3 45.6	S19 03.1	269 02.8	14.9	S13 05.8	12.7	55.2	Zuben-ubi	136 55.6	S16 09.2
13	18 45.4	S19 03.7	283 36.7	14.9	S12 53.0	12.8	55.2			
14	33 45.3	S19 04.3	298 10.7	15.0	S12 40.2	12.9	55.2			
15	48 45.2	S19 04.9	312 44.7	15.0	S12 27.2	12.9	55.2			
16	63 45.1	S19 05.5	327 18.6	15.0	S12 14.3	13.0	55.3			
17	78 44.9	S19 06.1	341 52.7	15.0	S12 01.2	13.0	55.3			
18	93 44.8	S19 06.7	356 26.7	15.0	S11 48.1	13.1	55.3			
19	108 44.7	S19 07.3	11 00.8	15.1	S11 35.0	13.2	55.3			
20	123 44.6	S19 07.9	25 34.8	15.1	S11 21.8	13.2	55.4			
21	138 44.4	S19 08.5	40 08.9	15.1	S11 08.5	13.3	55.4			
22	153 44.3	S19 09.1	54 43.0	15.1	S10 55.1	13.3	55.4			
23	168 44.2	S19 09.7	69 17.1	15.1	S10 41.8	13.4	55.5			
	S.D. 16.2	d 0.6	S.D.	14.8	14.9	15.0				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
18	0	57 03.4	215 54.3	S 9 43.8	267 28.7	N14 29.5	268 31.1	N13 32.9	48 18.1	N 0 54.5
	1	72 05.8	230 56.2	S 9 43.4	282 30.1	N14 29.1	283 33.4	N13 32.9	63 20.6	N 0 54.5
	2	87 08.3	245 58.1	S 9 43.1	297 31.5	N14 28.8	298 35.7	N13 32.8	78 23.2	N 0 54.5
	3	102 10.7	260 59.9	S 9 42.7	312 32.9	N14 28.5	313 37.9	N13 32.7	93 25.7	N 0 54.4
	4	117 13.2	276 01.8	S 9 42.4	327 34.3	N14 28.2	328 40.2	N13 32.7	108 28.3	N 0 54.4
W	5	132 15.7	291 03.7	S 9 42.1	342 35.6	N14 27.9	343 42.5	N13 32.6	123 30.8	N 0 54.4
E										
D	6	147 18.1	306 05.6	S 9 41.7	357 37.0	N14 27.6	358 44.8	N13 32.6	138 33.4	N 0 54.3
N	7	162 20.6	321 07.5	S 9 41.4	12 38.4	N14 27.2	13 47.0	N13 32.5	153 36.0	N 0 54.3
E	8	177 23.1	336 09.4	S 9 41.1	27 39.8	N14 26.9	28 49.3	N13 32.5	168 38.5	N 0 54.3
S	9	192 25.5	351 11.2	S 9 40.7	42 41.2	N14 26.6	43 51.6	N13 32.4	183 41.1	N 0 54.3
D	10	207 28.0	6 13.1	S 9 40.4	57 42.6	N14 26.3	58 53.9	N13 32.4	198 43.6	N 0 54.2
A	11	222 30.5	21 15.0	S 9 40.1	72 44.0	N14 26.0	73 56.2	N13 32.3	213 46.2	N 0 54.2
Y										
	12	237 32.9	36 16.8	S 9 39.8	87 45.3	N14 25.6	88 58.4	N13 32.2	228 48.8	N 0 54.2
	13	252 35.4	51 18.7	S 9 39.4	102 46.7	N14 25.3	104 00.7	N13 32.2	243 51.3	N 0 54.1
	14	267 37.8	66 20.5	S 9 39.1	117 48.1	N14 25.0	119 03.0	N13 32.1	258 53.9	N 0 54.1
	15	282 40.3	81 22.4	S 9 38.8	132 49.5	N14 24.7	134 05.3	N13 32.1	273 56.4	N 0 54.1
	16	297 42.8	96 24.2	S 9 38.5	147 50.9	N14 24.4	149 07.5	N13 32.0	288 59.0	N 0 54.0
	17	312 45.2	111 26.1	S 9 38.2	162 52.3	N14 24.1	164 09.8	N13 32.0	304 01.5	N 0 54.0
	18	327 47.7	126 27.9	S 9 37.9	177 53.7	N14 23.7	179 12.1	N13 31.9	319 04.1	N 0 54.0
	19	342 50.2	141 29.8	S 9 37.6	192 55.1	N14 23.4	194 14.4	N13 31.9	334 06.7	N 0 54.0
	20	357 52.6	156 31.6	S 9 37.3	207 56.5	N14 23.1	209 16.6	N13 31.8	349 09.2	N 0 53.9
	21	12 55.1	171 33.4	S 9 37.0	222 57.9	N14 22.8	224 18.9	N13 31.7	4 11.8	N 0 53.9
	22	27 57.6	186 35.3	S 9 36.7	237 59.2	N14 22.5	239 21.2	N13 31.7	19 14.3	N 0 53.9
	23	43 00.0	201 37.1	S 9 36.4	253 00.6	N14 22.2	254 23.5	N13 31.6	34 16.9	N 0 53.8
19	0	58 02.5	216 38.9	S 9 36.1	268 02.0	N14 21.8	269 25.8	N13 31.6	49 19.4	N 0 53.8
	1	73 05.0	231 40.7	S 9 35.8	283 03.4	N14 21.5	284 28.0	N13 31.5	64 22.0	N 0 53.8
	2	88 07.4	246 42.6	S 9 35.5	298 04.8	N14 21.2	299 30.3	N13 31.5	79 24.5	N 0 53.7
	3	103 09.9	261 44.4	S 9 35.2	313 06.2	N14 20.9	314 32.6	N13 31.4	94 27.1	N 0 53.7
	4	118 12.3	276 46.2	S 9 34.9	328 07.6	N14 20.6	329 34.9	N13 31.4	109 29.7	N 0 53.7
T	5	133 14.8	291 48.0	S 9 34.6	343 09.0	N14 20.3	344 37.2	N13 31.3	124 32.2	N 0 53.7
H										
U	6	148 17.3	306 49.8	S 9 34.3	358 10.4	N14 19.9	359 39.5	N13 31.3	139 34.8	N 0 53.6
R	7	163 19.7	321 51.6	S 9 34.0	13 11.8	N14 19.6	14 41.7	N13 31.2	154 37.3	N 0 53.6
S	8	178 22.2	336 53.4	S 9 33.7	28 13.2	N14 19.3	29 44.0	N13 31.2	169 39.9	N 0 53.6
D	9	193 24.7	351 55.2	S 9 33.5	43 14.6	N14 19.0	44 46.3	N13 31.1	184 42.4	N 0 53.5
A	10	208 27.1	6 57.0	S 9 33.2	58 16.0	N14 18.7	59 48.6	N13 31.0	199 45.0	N 0 53.5
Y	11	223 29.6	21 58.7	S 9 32.9	73 17.4	N14 18.4	74 50.9	N13 31.0	214 47.5	N 0 53.5
	12	238 32.1	37 00.5	S 9 32.6	88 18.8	N14 18.1	89 53.1	N13 30.9	229 50.1	N 0 53.5
	13	253 34.5	52 02.3	S 9 32.4	103 20.2	N14 17.7	104 55.4	N13 30.9	244 52.6	N 0 53.4
	14	268 37.0	67 04.1	S 9 32.1	118 21.6	N14 17.4	119 57.7	N13 30.8	259 55.2	N 0 53.4
	15	283 39.5	82 05.9	S 9 31.8	133 23.0	N14 17.1	135 00.0	N13 30.8	274 57.7	N 0 53.4
	16	298 41.9	97 07.6	S 9 31.6	148 24.4	N14 16.8	150 02.3	N13 30.7	290 00.3	N 0 53.3
	17	313 44.4	112 09.4	S 9 31.3	163 25.8	N14 16.5	165 04.6	N13 30.7	305 02.9	N 0 53.3
	18	328 46.8	127 11.2	S 9 31.0	178 27.2	N14 16.2	180 06.9	N13 30.6	320 05.4	N 0 53.3
	19	343 49.3	142 12.9	S 9 30.8	193 28.6	N14 15.9	195 09.1	N13 30.6	335 08.0	N 0 53.3
	20	358 51.8	157 14.7	S 9 30.5	208 30.0	N14 15.5	210 11.4	N13 30.5	350 10.5	N 0 53.2
	21	13 54.2	172 16.4	S 9 30.3	223 31.4	N14 15.2	225 13.7	N13 30.5	5 13.1	N 0 53.2
	22	28 56.7	187 18.2	S 9 30.0	238 32.8	N14 14.9	240 16.0	N13 30.4	20 15.6	N 0 53.2
	23	43 59.2	202 19.9	S 9 29.7	253 34.2	N14 14.6	255 18.3	N13 30.4	35 18.2	N 0 53.1
20	0	59 01.6	217 21.7	S 9 29.5	268 35.6	N14 14.3	270 20.6	N13 30.3	50 20.7	N 0 53.1
	1	74 04.1	232 23.4	S 9 29.2	283 37.0	N14 14.0	285 22.9	N13 30.3	65 23.3	N 0 53.1
	2	89 06.6	247 25.1	S 9 29.0	298 38.4	N14 13.7	300 25.1	N13 30.2	80 25.8	N 0 53.1
	3	104 09.0	262 26.9	S 9 28.7	313 39.8	N14 13.3	315 27.4	N13 30.2	95 28.4	N 0 53.0
	4	119 11.5	277 28.6	S 9 28.5	328 41.2	N14 13.0	330 29.7	N13 30.1	110 30.9	N 0 53.0
F	5	134 13.9	292 30.3	S 9 28.3	343 42.7	N14 12.7	345 32.0	N13 30.0	125 33.5	N 0 53.0
R										
I	6	149 16.4	307 32.1	S 9 28.0	358 44.1	N14 12.4	0 34.3	N13 30.0	140 36.0	N 0 52.9
D	7	164 18.9	322 33.8	S 9 27.8	13 45.5	N14 12.1	15 36.6	N13 29.9	155 38.6	N 0 52.9
A	8	179 21.3	337 35.5	S 9 27.5	28 46.9	N14 11.8	30 38.9	N13 29.9	170 41.1	N 0 52.9
Y	9	194 23.8	352 37.2	S 9 27.3	43 48.3	N14 11.5	45 41.2	N13 29.8	185 43.7	N 0 52.9
	10	209 26.3	7 38.9	S 9 27.1	58 49.7	N14 11.2	60 43.5	N13 29.8	200 46.2	N 0 52.8
	11	224 28.7	22 40.6	S 9 26.9	73 51.1	N14 10.8	75 45.7	N13 29.7	215 48.8	N 0 52.8
	12	239 31.2	37 42.3	S 9 26.6	88 52.5	N14 10.5	90 48.0	N13 29.7	230 51.3	N 0 52.8
	13	254 33.7	52 44.0	S 9 26.4	103 53.9	N14 10.2	105 50.3	N13 29.6	245 53.9	N 0 52.8
	14	269 36.1	67 45.7	S 9 26.2	118 55.3	N14 09.9	120 52.6	N13 29.6	260 56.4	N 0 52.7
	15	284 38.6	82 47.4	S 9 25.9	133 56.8	N14 09.6	135 54.9	N13 29.5	275 59.0	N 0 52.7
	16	299 41.1	97 49.1	S 9 25.7	148 58.2	N14 09.3	150 57.2	N13 29.5	291 01.5	N 0 52.7
	17	314 43.5	112 50.8	S 9 25.5	163 59.6	N14 09.0	165 59.5	N13 29.4	306 04.1	N 0 52.7
	18	329 46.0	127 52.5	S 9 25.3	179 01.0	N14 08.7	181 01.8	N13 29.4	321 06.6	N 0 52.6
	19	344 48.4	142 54.2	S 9 25.1	194 02.4	N14 08.4	196 04.1	N13 29.3	336 09.2	N 0 52.6
	20	359 50.9	157 55.9	S 9 24.9	209 03.8	N14 08.0	211 06.4	N13 29.3	351 11.7	N 0 52.6
	21	14 53.4	172 57.5	S 9 24.7	224 05.3	N14 07.7	226 08.7	N13 29.2	6 14.3	N 0 52.5
	22	29 55.8	187 59.2	S 9 24.4	239 06.7	N14 07.4	241 11.0	N13 29.2	21 16.8	N 0 52.5
	23	44 58.3	203 00.9	S 9 24.2	254 08.1	N14 07.1	256 13.3	N13 29.1	36 19.4	N 0 52.5
			v 1.8	d 0.3	v 1.4	d 0.3	v 2.3	d 0.1	v 2.6	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
18	0	183 44.0	S19 10.3	83 51.2	15.1	S10 28.3	13.4	55.5
	1	198 43.9	S19 10.9	98 25.4	15.1	S10 14.8	13.5	55.5
	2	213 43.8	S19 11.5	112 59.5	15.1	S10 01.2	13.6	55.5
	3	228 43.7	S19 12.1	127 33.7	15.2	S 9 47.6	13.6	55.6
	4	243 43.5	S19 12.7	142 07.8	15.2	S 9 34.0	13.7	55.6
W	5	258 43.4	S19 13.3	156 42.0	15.2	S 9 20.3	13.7	55.6
E								
D	6	273 43.3	S19 13.9	171 16.2	15.2	S 9 06.5	13.8	55.7
N	7	288 43.1	S19 14.5	185 50.4	15.2	S 8 52.7	13.8	55.7
E	8	303 43.0	S19 15.1	200 24.6	15.2	S 8 38.8	13.9	55.7
S	9	318 42.9	S19 15.7	214 58.8	15.2	S 8 24.9	13.9	55.8
D	10	333 42.8	S19 16.3	229 33.0	15.2	S 8 10.9	14.0	55.8
A	11	348 42.6	S19 16.9	244 07.1	15.2	S 7 56.9	14.0	55.8
Y								
	12	3 42.5	S19 17.4	258 41.3	15.2	S 7 42.8	14.1	55.8
	13	18 42.4	S19 18.0	273 15.5	15.2	S 7 28.7	14.1	55.9
	14	33 42.2	S19 18.6	287 49.7	15.2	S 7 14.5	14.2	55.9
	15	48 42.1	S19 19.2	302 23.9	15.2	S 7 00.3	14.2	55.9
	16	63 42.0	S19 19.8	316 58.1	15.2	S 6 46.1	14.3	56.0
	17	78 41.8	S19 20.4	331 32.3	15.2	S 6 31.8	14.3	56.0
	18	93 41.7	S19 21.0	346 06.4	15.2	S 6 17.4	14.3	56.0
	19	108 41.6	S19 21.6	0 40.6	15.2	S 6 03.0	14.4	56.1
	20	123 41.4	S19 22.2	15 14.7	15.1	S 5 48.6	14.4	56.1
	21	138 41.3	S19 22.7	29 48.9	15.1	S 5 34.2	14.5	56.1
	22	153 41.1	S19 23.3	44 23.0	15.1	S 5 19.7	14.5	56.2
	23	168 41.0	S19 23.9	58 57.1	15.1	S 5 05.1	14.5	56.2
19	0	183 40.9	S19 24.5	73 31.2	15.1	S 4 50.5	14.6	56.2
	1	198 40.7	S19 25.1	88 05.3	15.1	S 4 35.9	14.6	56.3
	2	213 40.6	S19 25.7	102 39.4	15.1	S 4 21.2	14.7	56.3
	3	228 40.5	S19 26.3	117 13.4	15.1	S 4 06.5	14.7	56.3
	4	243 40.3	S19 26.8	131 47.5	15.0	S 3 51.8	14.7	56.4
T	5	258 40.2	S19 27.4	146 21.5	15.0	S 3 37.0	14.8	56.4
H								
U	6	273 40.1	S19 28.0	160 55.5	15.0	S 3 22.2	14.8	56.4
R	7	288 39.9	S19 28.6	175 29.4	15.0	S 3 07.4	14.8	56.5
S	8	303 39.8	S19 29.2	190 03.4	14.9	S 2 52.5	14.9	56.5
D	9	318 39.6	S19 29.7	204 37.3	14.9	S 2 37.7	14.9	56.6
A	10	333 39.5	S19 30.3	219 11.2	14.9	S 2 22.7	14.9	56.6
Y	11	348 39.4	S19 30.9	233 45.0	14.9	S 2 07.8	15.0	56.6
	12	3 39.2	S19 31.5	248 18.9	14.8	S 1 52.8	15.0	56.7
	13	18 39.1	S19 32.0	262 52.7	14.8	S 1 37.8	15.0	56.7
	14	33 38.9	S19 32.6	277 26.4	14.8	S 1 22.7	15.0	56.7
	15	48 38.8	S19 33.2	292 00.2	14.7	S 1 07.7	15.1	56.8
	16	63 38.6	S19 33.8	306 33.9	14.7	S 0 52.6	15.1	56.8
	17	78 38.5	S19 34.3	321 07.5	14.7	S 0 37.5	15.1	56.8
	18	93 38.4	S19 34.9	335 41.2	14.6	S 0 22.3	15.1	56.9
	19	108 38.2	S19 35.5	350 14.8	14.6	S 0 07.2	15.2	56.9
	20	123 38.1	S19 36.1	4 48.3	14.6	N 0 08.0	15.2	57.0
	21	138 37.9	S19 36.6	19 21.8	14.5	N 0 23.2	15.2	57.0
	22	153 37.8	S19 37.2	33 55.3	14.5	N 0 38.5	15.2	57.0
	23	168 37.6	S19 37.8	48 28.7	14.4	N 0 53.7	15.2	57.1
20	0	183 37.5	S19 38.4	63 02.1	14.4	N 1 08.9	15.3	57.1
	1	198 37.4	S19 38.9	77 35.5	14.3	N 1 24.2	15.3	57.1
	2	213 37.2	S19 39.5	92 08.7	14.3	N 1 39.5	15.3	57.2
	3	228 37.1	S19 40.1	106 42.0	14.2	N 1 54.8	15.3	57.2
	4	243 36.9	S19 40.6	121 15.2	14.2	N 2 10.1	15.3	57.3
F	5	258 36.8	S19 41.2	135 48.3	14.1	N 2 25.5	15.3	57.3
R								
I	6	273 36.6	S19 41.8	150 21.4	14.1	N 2 40.8	15.3	57.3
D	7	288 36.5	S19 42.3	164 54.4	14.0	N 2 56.2	15.3	57.4
A	8	303 36.3	S19 42.9	179 27.4	14.0	N 3 11.5	15.4	57.4
Y	9	318 36.2	S19 43.5	194 00.3	13.9	N 3 26.9	15.4	57.5
	10	333 36.0	S19 44.0	208 33.2	13.9	N 3 42.2	15.4	57.5
	11	348 35.9	S19 44.6	223 06.0	13.8	N 3 57.6	15.4	57.5
	12	3 35.7	S19 45.1	237 38.7	13.7	N 4 13.0	15.4	57.6
	13	18 35.6	S19 45.7	252 11.4	13.7	N 4 28.4	15.4	57.6
	14	33 35.4	S19 46.3	266 44.0	13.6	N 4 43.8	15.4	57.7
	15	48 35.3	S19 46.8	281 16.5	13.5	N 4 59.2	15.4	57.7
	16	63 35.1	S19 47.4	295 49.0	13.5	N 5 14.6	15.4	57.7
	17	78 35.0	S19 47.9	310 21.4	13.4	N 5 29.9	15.4	57.8
	18	93 34.8	S19 48.5	324 53.8	13.3	N 5 45.3	15.4	57.8
	19	108 34.7	S19 49.1	339 26.1	13.3	N 6 00.7	15.4	57.9
	20	123 34.5	S19 49.6	353 58.3	13.2	N 6 16.1	15.4	57.9
	21	138 34.4	S19 50.2	8 30.4	13.1	N 6 31.4	15.4	57.9
	22	153 34.2	S19 50.7	23 02.4	13.1	N 6 46.8	15.4	58.0
	23	168 34.1	S19 51.3	37 34.4	13.0	N 7 02.1	15.3	58.0
		S.D. 16.2	d 0.6	S.D.	15.2	15.4	15.7	

STARS Name	SHA	Dec
Acamar	315 10.2	S40 11.8
Achernar	335 18.5	S57 06.1
Acrux	172 58.9	S63 14.6
Adhara	255 04.4	S29 00.3
Albireo	67 03.1	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 12.0	N55 48.6
Alkaid	152 51.2	N49 10.6
Al Na-ir	27 30.9	S46 50.0
Alnilam	275 35.8	S 1 11.0
Alphard	217 46.2	S 8 46.4
Alphecca	126 02.8	N26 37.4
Alpheratz	357 33.0	N29 14.6
Altair	61 58.6	N 8 56.5
Ankaa	353 05.3	S42 09.7
Antares	112 14.4	S26 29.5
Arcturus	145 46.8	N19 02.5
Atria	107 07.8	S69 04.6
Avior	234 13.8	S59 35.4
Bellatrix	278 20.9	N 6 22.5
Betelgeuse	270 50.1	N 7 24.8
Canopus	263 51.3	S52 42.3
Capella	280 19.2	N46 01.5
Castor	245 54.9	N31 49.7
Deneb	49 24.9	N45 22.8
Denebola	182 23.5	N14 25.2
Diphda	348 45.6	S17 50.3
Dubhe	193 39.3	N61 36.0
Elnath	277 59.6	N28 37.8
Eltanin	90 42.0	N51 29.2
Enif	33 37.3	N10 00.1
Fomalhaut	15 12.7	S29 28.8
Gacrux	171 50.4	S57 15.6
Gienah	175 42.2	S17 41.4
Hadar	148 34.5	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.2	N74 02.5
Markab	13 28.3	N15 21.2
Menkar	314 04.2	N 4 11.8
Menkent	147 56.2	S36 30.1
Miaplacidus	221 37.7	S69 49.3
Mirfak	308 25.6	N49 57.5
Nunki	75 46.1	S26 15.8
Peacock	53 03.5	S56 39.1
Polaris	315 32.2	N89 22.2
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.4
Rasalhague	95 57.5	N12 32.5
Regulus	207 32.8	N11 50.1
Rigel	281 02.1	S 8 10.1
Rigil Kent	139 39.0	S60 56.7
Sabik	102 01.4	S15 45.5
Schedar	349 28.9	N56 41.4
Shaula	96 08.7	S37 07.4
Sirius	258 24.6	S16 45.0
Spica	158 21.0	S11 18.0
Suhail	222 45.1	S43 32.2
Vega	80 32.5	N38 48.7
Zuben-ubi	136 55.6	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
21	0	60 00.8	218 02.5	S 9 24.0	269 09.5	N14 06.8	271 15.5	N13 29.1	51 21.9	N 0 52.5
	1	75 03.2	233 04.2	S 9 23.8	284 10.9	N14 06.5	286 17.8	N13 29.0	66 24.5	N 0 52.4
	2	90 05.7	248 05.9	S 9 23.6	299 12.3	N14 06.2	301 20.1	N13 29.0	81 27.0	N 0 52.4
	3	105 08.2	263 07.5	S 9 23.4	314 13.8	N14 05.9	316 22.4	N13 28.9	96 29.6	N 0 52.4
	4	120 10.6	278 09.2	S 9 23.2	329 15.2	N14 05.6	331 24.7	N13 28.9	111 32.1	N 0 52.4
S	5	135 13.1	293 10.8	S 9 23.0	344 16.6	N14 05.3	346 27.0	N13 28.8	126 34.7	N 0 52.3
A										
T	6	150 15.5	308 12.5	S 9 22.8	359 18.0	N14 04.9	1 29.3	N13 28.8	141 37.2	N 0 52.3
U	7	165 18.0	323 14.1	S 9 22.6	14 19.4	N14 04.6	16 31.6	N13 28.7	156 39.7	N 0 52.3
R	8	180 20.5	338 15.8	S 9 22.5	29 20.9	N14 04.3	31 33.9	N13 28.7	171 42.3	N 0 52.3
D	9	195 22.9	353 17.4	S 9 22.3	44 22.3	N14 04.0	46 36.2	N13 28.6	186 44.8	N 0 52.2
A	10	210 25.4	8 19.0	S 9 22.1	59 23.7	N14 03.7	61 38.5	N13 28.6	201 47.4	N 0 52.2
Y	11	225 27.9	23 20.7	S 9 21.9	74 25.1	N14 03.4	76 40.8	N13 28.6	216 49.9	N 0 52.2
	12	240 30.3	38 22.3	S 9 21.7	89 26.6	N14 03.1	91 43.1	N13 28.5	231 52.5	N 0 52.2
	13	255 32.8	53 23.9	S 9 21.5	104 28.0	N14 02.8	106 45.4	N13 28.5	246 55.0	N 0 52.1
	14	270 35.3	68 25.5	S 9 21.3	119 29.4	N14 02.5	121 47.7	N13 28.4	261 57.6	N 0 52.1
	15	285 37.7	83 27.2	S 9 21.2	134 30.8	N14 02.2	136 50.0	N13 28.4	277 00.1	N 0 52.1
	16	300 40.2	98 28.8	S 9 21.0	149 32.3	N14 01.9	151 52.3	N13 28.3	292 02.7	N 0 52.1
	17	315 42.7	113 30.4	S 9 20.8	164 33.7	N14 01.5	166 54.6	N13 28.3	307 05.2	N 0 52.0
	18	330 45.1	128 32.0	S 9 20.6	179 35.1	N14 01.2	181 56.9	N13 28.2	322 07.8	N 0 52.0
	19	345 47.6	143 33.6	S 9 20.5	194 36.5	N14 00.9	196 59.2	N13 28.2	337 10.3	N 0 52.0
	20	0 50.0	158 35.2	S 9 20.3	209 38.0	N14 00.6	212 01.5	N13 28.1	352 12.8	N 0 52.0
	21	15 52.5	173 36.8	S 9 20.1	224 39.4	N14 00.3	227 03.8	N13 28.1	7 15.4	N 0 51.9
	22	30 55.0	188 38.4	S 9 20.0	239 40.8	N14 00.0	242 06.1	N13 28.0	22 17.9	N 0 51.9
	23	45 57.4	203 40.0	S 9 19.8	254 42.3	N13 59.7	257 08.4	N13 28.0	37 20.5	N 0 51.9
22	0	60 59.9	218 41.6	S 9 19.7	269 43.7	N13 59.4	272 10.7	N13 27.9	52 23.0	N 0 51.9
	1	76 02.4	233 43.2	S 9 19.5	284 45.1	N13 59.1	287 13.0	N13 27.9	67 25.6	N 0 51.8
	2	91 04.8	248 44.8	S 9 19.3	299 46.5	N13 58.8	302 15.3	N13 27.8	82 28.1	N 0 51.8
	3	106 07.3	263 46.4	S 9 19.2	314 48.0	N13 58.5	317 17.6	N13 27.8	97 30.7	N 0 51.8
	4	121 09.8	278 47.9	S 9 19.0	329 49.4	N13 58.2	332 19.9	N13 27.7	112 33.2	N 0 51.8
S	5	136 12.2	293 49.5	S 9 18.9	344 50.8	N13 57.9	347 22.2	N13 27.7	127 35.7	N 0 51.7
U										
N	6	151 14.7	308 51.1	S 9 18.7	359 52.3	N13 57.6	2 24.5	N13 27.7	142 38.3	N 0 51.7
D	7	166 17.2	323 52.7	S 9 18.6	14 53.7	N13 57.2	17 26.8	N13 27.6	157 40.8	N 0 51.7
A	8	181 19.6	338 54.2	S 9 18.4	29 55.1	N13 56.9	32 29.1	N13 27.6	172 43.4	N 0 51.7
Y	9	196 22.1	353 55.8	S 9 18.3	44 56.6	N13 56.6	47 31.4	N13 27.5	187 45.9	N 0 51.6
	10	211 24.5	8 57.3	S 9 18.1	59 58.0	N13 56.3	62 33.7	N13 27.5	202 48.5	N 0 51.6
	11	226 27.0	23 58.9	S 9 18.0	74 59.4	N13 56.0	77 36.0	N13 27.4	217 51.0	N 0 51.6
	12	241 29.5	39 00.5	S 9 17.9	90 00.9	N13 55.7	92 38.3	N13 27.4	232 53.5	N 0 51.6
	13	256 31.9	54 02.0	S 9 17.7	105 02.3	N13 55.4	107 40.6	N13 27.3	247 56.1	N 0 51.5
	14	271 34.4	69 03.6	S 9 17.6	120 03.8	N13 55.1	122 42.9	N13 27.3	262 58.6	N 0 51.5
	15	286 36.9	84 05.1	S 9 17.5	135 05.2	N13 54.8	137 45.2	N13 27.2	278 01.2	N 0 51.5
	16	301 39.3	99 06.7	S 9 17.3	150 06.6	N13 54.5	152 47.5	N13 27.2	293 03.7	N 0 51.5
	17	316 41.8	114 08.2	S 9 17.2	165 08.1	N13 54.2	167 49.8	N13 27.1	308 06.3	N 0 51.5
	18	331 44.3	129 09.7	S 9 17.1	180 09.5	N13 53.9	182 52.2	N13 27.1	323 08.8	N 0 51.4
	19	346 46.7	144 11.3	S 9 16.9	195 11.0	N13 53.6	197 54.5	N13 27.1	338 11.3	N 0 51.4
	20	1 49.2	159 12.8	S 9 16.8	210 12.4	N13 53.3	212 56.8	N13 27.0	353 13.9	N 0 51.4
	21	16 51.6	174 14.3	S 9 16.7	225 13.8	N13 53.0	227 59.1	N13 27.0	8 16.4	N 0 51.4
	22	31 54.1	189 15.9	S 9 16.6	240 15.3	N13 52.7	243 01.4	N13 26.9	23 19.0	N 0 51.3
	23	46 56.6	204 17.4	S 9 16.5	255 16.7	N13 52.4	258 03.7	N13 26.9	38 21.5	N 0 51.3
23	0	61 59.0	219 18.9	S 9 16.3	270 18.2	N13 52.1	273 06.0	N13 26.8	53 24.0	N 0 51.3
	1	77 01.5	234 20.4	S 9 16.2	285 19.6	N13 51.8	288 08.3	N13 26.8	68 26.6	N 0 51.3
	2	92 04.0	249 21.9	S 9 16.1	300 21.0	N13 51.5	303 10.6	N13 26.7	83 29.1	N 0 51.2
	3	107 06.4	264 23.4	S 9 16.0	315 22.5	N13 51.2	318 12.9	N13 26.7	98 31.7	N 0 51.2
	4	122 08.9	279 24.9	S 9 15.9	330 23.9	N13 50.8	333 15.2	N13 26.7	113 34.2	N 0 51.2
M	5	137 11.4	294 26.5	S 9 15.8	345 25.4	N13 50.5	348 17.5	N13 26.6	128 36.7	N 0 51.2
O										
N	6	152 13.8	309 28.0	S 9 15.7	0 26.8	N13 50.2	3 19.9	N13 26.6	143 39.3	N 0 51.2
D	7	167 16.3	324 29.5	S 9 15.6	15 28.3	N13 49.9	18 22.2	N13 26.5	158 41.8	N 0 51.1
A	8	182 18.8	339 31.0	S 9 15.5	30 29.7	N13 49.6	33 24.5	N13 26.5	173 44.4	N 0 51.1
Y	9	197 21.2	354 32.4	S 9 15.4	45 31.2	N13 49.3	48 26.8	N13 26.4	188 46.9	N 0 51.1
	10	212 23.7	9 33.9	S 9 15.3	60 32.6	N13 49.0	63 29.1	N13 26.4	203 49.4	N 0 51.1
	11	227 26.1	24 35.4	S 9 15.2	75 34.1	N13 48.7	78 31.4	N13 26.3	218 52.0	N 0 51.0
	12	242 28.6	39 36.9	S 9 15.1	90 35.5	N13 48.4	93 33.7	N13 26.3	233 54.5	N 0 51.0
	13	257 31.1	54 38.4	S 9 15.0	105 37.0	N13 48.1	108 36.0	N13 26.3	248 57.1	N 0 51.0
	14	272 33.5	69 39.9	S 9 14.9	120 38.4	N13 47.8	123 38.3	N13 26.2	263 59.6	N 0 51.0
	15	287 36.0	84 41.3	S 9 14.8	135 39.9	N13 47.5	138 40.7	N13 26.2	279 02.1	N 0 51.0
	16	302 38.5	99 42.8	S 9 14.7	150 41.3	N13 47.2	153 43.0	N13 26.1	294 04.7	N 0 50.9
	17	317 40.9	114 44.3	S 9 14.6	165 42.8	N13 46.9	168 45.3	N13 26.1	309 07.2	N 0 50.9
	18	332 43.4	129 45.8	S 9 14.5	180 44.2	N13 46.6	183 47.6	N13 26.0	324 09.8	N 0 50.9
	19	347 45.9	144 47.2	S 9 14.4	195 45.7	N13 46.3	198 49.9	N13 26.0	339 12.3	N 0 50.9
	20	2 48.3	159 48.7	S 9 14.4	210 47.1	N13 46.0	213 52.2	N13 26.0	354 14.8	N 0 50.9
	21	17 50.8	174 50.1	S 9 14.3	225 48.6	N13 45.7	228 54.5	N13 25.9	9 17.4	N 0 50.8
	22	32 53.3	189 51.6	S 9 14.2	240 50.0	N13 45.4	243 56.8	N13 25.9	24 19.9	N 0 50.8
	23	47 55.7	204 53.0	S 9 14.1	255 51.5	N13 45.1	258 59.2	N13 25.8	39 22.4	N 0 50.8
			v 1.6	d 0.1	v 1.4	d 0.3	v 2.3	d 0.0	v 2.5	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
	° '	° '	° '	'	° '	'	'		° ' ° '
21 0	183 33.9	S19 51.8	52 06.3	12.9	N 7 17.5	15.3	58.0	Acamar	315 10.2 S40 11.8
1	198 33.8	S19 52.4	66 38.1	12.8	N 7 32.8	15.3	58.1	Achernar	335 18.5 S57 06.1
2	213 33.6	S19 52.9	81 09.9	12.7	N 7 48.1	15.3	58.1	Acrux	172 58.8 S63 14.6
3	228 33.5	S19 53.5	95 41.5	12.7	N 8 03.4	15.3	58.2	Adhara	255 04.4 S29 00.3
4	243 33.3	S19 54.1	110 13.1	12.6	N 8 18.7	15.3	58.2	Albireo	67 03.1 N28 01.1
S 5	258 33.2	S19 54.6	124 44.6	12.5	N 8 33.9	15.3	58.2		
A								Aldebaran	290 37.5 N16 33.9
T 6	273 33.0	S19 55.2	139 16.0	12.4	N 8 49.2	15.2	58.3	Alioth	166 12.0 N55 48.6
U 7	288 32.8	S19 55.7	153 47.3	12.3	N 9 04.4	15.2	58.3	Alkaid	152 51.2 N49 10.6
R 8	303 32.7	S19 56.3	168 18.5	12.2	N 9 19.6	15.2	58.4	Al Na-ir	27 30.9 S46 50.0
D 9	318 32.5	S19 56.8	182 49.6	12.1	N 9 34.8	15.2	58.4	Alnilam	275 35.8 S 1 11.0
A 10	333 32.4	S19 57.4	197 20.7	12.0	N 9 49.9	15.1	58.4		
Y 11	348 32.2	S19 57.9	211 51.6	11.9	N10 05.0	15.1	58.5	Alphard	217 46.2 S 8 46.4
								Alphecca	126 02.8 N26 37.4
12	3 32.1	S19 58.5	226 22.5	11.9	N10 20.1	15.1	58.5	Alpheratz	357 33.0 N29 14.6
13	18 31.9	S19 59.0	240 53.2	11.8	N10 35.2	15.1	58.6	Altair	61 58.7 N 8 56.5
14	33 31.8	S19 59.5	255 23.9	11.7	N10 50.2	15.0	58.6	Ankaa	353 05.4 S42 09.7
15	48 31.6	S20 00.1	269 54.5	11.6	N11 05.2	15.0	58.6		
16	63 31.4	S20 00.6	284 24.9	11.5	N11 20.1	15.0	58.7	Antares	112 14.4 S26 29.5
17	78 31.3	S20 01.2	298 55.3	11.4	N11 35.1	14.9	58.7	Arcturus	145 46.8 N19 02.5
								Atria	107 07.8 S69 04.6
18	93 31.1	S20 01.7	313 25.6	11.3	N11 49.9	14.9	58.8	Avior	234 13.8 S59 35.4
19	108 31.0	S20 02.3	327 55.7	11.2	N12 04.8	14.8	58.8	Bellatrix	278 20.9 N 6 22.5
20	123 30.8	S20 02.8	342 25.8	11.1	N12 19.6	14.8	58.8		
21	138 30.6	S20 03.3	356 55.7	10.9	N12 34.3	14.8	58.9	Betelgeuse	270 50.1 N 7 24.8
22	153 30.5	S20 03.9	11 25.6	10.8	N12 49.1	14.7	58.9	Canopus	263 51.2 S52 42.4
23	168 30.3	S20 04.4	25 55.3	10.7	N13 03.7	14.7	58.9	Capella	280 19.2 N46 01.5
22 0	183 30.2	S20 05.0	40 24.9	10.6	N13 18.3	14.6	59.0	Castor	245 54.8 N31 49.7
1	198 30.0	S20 05.5	54 54.4	10.5	N13 32.9	14.6	59.0	Deneb	49 24.9 N45 22.8
2	213 29.8	S20 06.0	69 23.8	10.4	N13 47.4	14.5	59.1		
3	228 29.7	S20 06.6	83 53.1	10.3	N14 01.8	14.5	59.1	Denebola	182 23.5 N14 25.2
4	243 29.5	S20 07.1	98 22.3	10.2	N14 16.2	14.4	59.1	Diphda	348 45.6 S17 50.3
S 5	258 29.3	S20 07.7	112 51.4	10.1	N14 30.6	14.3	59.2	Dubhe	193 39.3 N61 36.0
U								Elnath	277 59.6 N28 37.8
N 6	273 29.2	S20 08.2	127 20.3	9.9	N14 44.9	14.3	59.2	Eltanin	90 42.0 N51 29.2
D 7	288 29.0	S20 08.7	141 49.1	9.8	N14 59.1	14.2	59.2		
A 8	303 28.9	S20 09.3	156 17.9	9.7	N15 13.2	14.2	59.3	Enif	33 37.3 N10 00.1
Y 9	318 28.7	S20 09.8	170 46.4	9.6	N15 27.3	14.1	59.3	Fomalhaut	15 12.7 S29 28.8
10	333 28.5	S20 10.3	185 14.9	9.5	N15 41.3	14.0	59.3	Gacrux	171 50.3 S57 15.6
11	348 28.4	S20 10.9	199 43.3	9.3	N15 55.3	13.9	59.4	Gienah	175 42.2 S17 41.4
								Hadar	148 34.5 S60 30.0
12	3 28.2	S20 11.4	214 11.5	9.2	N16 09.1	13.9	59.4		
13	18 28.0	S20 11.9	228 39.6	9.1	N16 22.9	13.8	59.5	Hamal	327 49.2 N23 35.6
14	33 27.9	S20 12.5	243 07.6	9.0	N16 36.7	13.7	59.5	Kaus Austr.	83 30.9 S34 22.4
15	48 27.7	S20 13.0	257 35.4	8.9	N16 50.3	13.6	59.5	Kochab	137 21.2 N74 02.5
16	63 27.5	S20 13.5	272 03.2	8.7	N17 03.9	13.6	59.6	Markab	13 28.3 N15 21.2
17	78 27.4	S20 14.0	286 30.8	8.6	N17 17.3	13.5	59.6	Menkar	314 04.2 N 4 11.8
								Menkent	147 56.2 S36 30.1
18	93 27.2	S20 14.6	300 58.2	8.5	N17 30.7	13.4	59.6	Miaplacidus	221 37.6 S69 49.3
19	108 27.0	S20 15.1	315 25.6	8.3	N17 44.1	13.3	59.7	Mirfak	308 25.6 N49 57.5
20	123 26.9	S20 15.6	329 52.8	8.2	N17 57.3	13.2	59.7	Nunki	75 46.1 S26 15.8
21	138 26.7	S20 16.2	344 19.9	8.1	N18 10.4	13.1	59.7	Peacock	53 03.5 S56 39.1
22	153 26.5	S20 16.7	358 46.9	8.0	N18 23.4	13.0	59.8		
23	168 26.4	S20 17.2	13 13.7	7.8	N18 36.4	12.9	59.8	Polaris	315 32.4 N89 22.2
23 0	183 26.2	S20 17.7	27 40.4	7.7	N18 49.2	12.8	59.8	Pollux	243 15.2 N27 57.6
1	198 26.0	S20 18.3	42 07.0	7.6	N19 01.9	12.7	59.9	Procyon	244 49.0 N 5 09.4
2	213 25.8	S20 18.8	56 33.4	7.4	N19 14.6	12.6	59.9	Rasalhague	95 57.5 N12 32.5
3	228 25.7	S20 19.3	70 59.7	7.3	N19 27.1	12.5	59.9	Regulus	207 32.8 N11 50.1
4	243 25.5	S20 19.8	85 25.9	7.2	N19 39.5	12.4	60.0		
M 5	258 25.3	S20 20.3	99 51.9	7.0	N19 51.9	12.3	60.0	Rigel	281 02.1 S 8 10.1
O								Rigil Kent	139 39.0 S60 56.7
N 6	273 25.2	S20 20.9	114 17.8	6.9	N20 04.1	12.2	60.0	Sabik	102 01.4 S15 45.5
D 7	288 25.0	S20 21.4	128 43.6	6.8	N20 16.2	12.1	60.0	Schedar	349 28.9 N56 41.4
A 8	303 24.8	S20 21.9	143 09.2	6.6	N20 28.1	12.0	60.1	Shaula	96 08.7 S37 07.4
Y 9	318 24.6	S20 22.4	157 34.7	6.5	N20 40.0	11.9	60.1	Sirius	258 24.6 S16 45.0
10	333 24.5	S20 22.9	172 00.1	6.4	N20 51.7	11.7	60.1	Spica	158 21.0 S11 18.1
11	348 24.3	S20 23.5	186 25.4	6.2	N21 03.3	11.6	60.2	Suhail	222 45.1 S43 32.2
								Vega	80 32.5 N38 48.6
12	3 24.1	S20 24.0	200 50.5	6.1	N21 14.8	11.5	60.2	Zuben-ubi	136 55.6 S16 09.2
13	18 24.0	S20 24.5	215 15.4	6.0	N21 26.2	11.4	60.2		
14	33 23.8	S20 25.0	229 40.3	5.8	N21 37.4	11.2	60.2		
15	48 23.6	S20 25.5	244 05.0	5.7	N21 48.5	11.1	60.3		
16	63 23.4	S20 26.0	258 29.6	5.6	N21 59.5	11.0	60.3		
17	78 23.3	S20 26.5	272 54.0	5.4	N22 10.3	10.8	60.3		
18	93 23.1	S20 27.1	287 18.3	5.3	N22 21.0	10.7	60.3		
19	108 22.9	S20 27.6	301 42.5	5.2	N22 31.6	10.6	60.4		
20	123 22.7	S20 28.1	316 06.6	5.1	N22 42.0	10.4	60.4		
21	138 22.6	S20 28.6	330 30.5	4.9	N22 52.3	10.3	60.4		
22	153 22.4	S20 29.1	344 54.3	4.8	N23 02.4	10.1	60.4		
23	168 22.2	S20 29.6	359 18.0	4.7	N23 12.4	10.0	60.5		
	S.D. 16.2	d 0.5	S.D.	15.9	16.2		16.4		

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
24 0	62 58.2	219 54.5	S 9 14.0	270 52.9	N13 44.8	274 01.5	N13 25.8	54 25.0	N 0 50.8
1	78 00.6	234 55.9	S 9 14.0	285 54.4	N13 44.5	289 03.8	N13 25.7	69 27.5	N 0 50.7
2	93 03.1	249 57.4	S 9 13.9	300 55.9	N13 44.2	304 06.1	N13 25.7	84 30.1	N 0 50.7
3	108 05.6	264 58.8	S 9 13.8	315 57.3	N13 43.9	319 08.4	N13 25.7	99 32.6	N 0 50.7
4	123 08.0	280 00.3	S 9 13.8	330 58.8	N13 43.6	334 10.7	N13 25.6	114 35.1	N 0 50.7
T 5	138 10.5	295 01.7	S 9 13.7	346 00.2	N13 43.3	349 13.1	N13 25.6	129 37.7	N 0 50.7
U									
E 6	153 13.0	310 03.1	S 9 13.6	1 01.7	N13 43.0	4 15.4	N13 25.5	144 40.2	N 0 50.6
S 7	168 15.4	325 04.6	S 9 13.6	16 03.1	N13 42.7	19 17.7	N13 25.5	159 42.7	N 0 50.6
D 8	183 17.9	340 06.0	S 9 13.5	31 04.6	N13 42.4	34 20.0	N13 25.5	174 45.3	N 0 50.6
A 9	198 20.4	355 07.4	S 9 13.5	46 06.1	N13 42.1	49 22.3	N13 25.4	189 47.8	N 0 50.6
Y 10	213 22.8	10 08.8	S 9 13.4	61 07.5	N13 41.8	64 24.6	N13 25.4	204 50.3	N 0 50.6
11	228 25.3	25 10.3	S 9 13.3	76 09.0	N13 41.5	79 27.0	N13 25.3	219 52.9	N 0 50.5
12	243 27.8	40 11.7	S 9 13.3	91 10.4	N13 41.2	94 29.3	N13 25.3	234 55.4	N 0 50.5
13	258 30.2	55 13.1	S 9 13.2	106 11.9	N13 40.9	109 31.6	N13 25.3	249 57.9	N 0 50.5
14	273 32.7	70 14.5	S 9 13.2	121 13.4	N13 40.6	124 33.9	N13 25.2	265 00.5	N 0 50.5
15	288 35.1	85 15.9	S 9 13.1	136 14.8	N13 40.3	139 36.2	N13 25.2	280 03.0	N 0 50.5
16	303 37.6	100 17.3	S 9 13.1	151 16.3	N13 40.0	154 38.6	N13 25.1	295 05.5	N 0 50.4
17	318 40.1	115 18.7	S 9 13.0	166 17.8	N13 39.7	169 40.9	N13 25.1	310 08.1	N 0 50.4
18	333 42.5	130 20.1	S 9 13.0	181 19.2	N13 39.4	184 43.2	N13 25.1	325 10.6	N 0 50.4
19	348 45.0	145 21.5	S 9 13.0	196 20.7	N13 39.1	199 45.5	N13 25.0	340 13.1	N 0 50.4
20	3 47.5	160 22.9	S 9 12.9	211 22.2	N13 38.8	214 47.8	N13 25.0	355 15.7	N 0 50.4
21	18 49.9	175 24.3	S 9 12.9	226 23.6	N13 38.5	229 50.2	N13 24.9	10 18.2	N 0 50.3
22	33 52.4	190 25.7	S 9 12.8	241 25.1	N13 38.2	244 52.5	N13 24.9	25 20.8	N 0 50.3
23	48 54.9	205 27.1	S 9 12.8	256 26.6	N13 37.9	259 54.8	N13 24.9	40 23.3	N 0 50.3
25 0	63 57.3	220 28.4	S 9 12.8	271 28.0	N13 37.6	274 57.1	N13 24.8	55 25.8	N 0 50.3
1	78 59.8	235 29.8	S 9 12.7	286 29.5	N13 37.3	289 59.5	N13 24.8	70 28.4	N 0 50.3
2	94 02.3	250 31.2	S 9 12.7	301 31.0	N13 37.1	305 01.8	N13 24.7	85 30.9	N 0 50.2
3	109 04.7	265 32.6	S 9 12.7	316 32.4	N13 36.8	320 04.1	N13 24.7	100 33.4	N 0 50.2
4	124 07.2	280 33.9	S 9 12.6	331 33.9	N13 36.5	335 06.4	N13 24.7	115 35.9	N 0 50.2
W 5	139 09.6	295 35.3	S 9 12.6	346 35.4	N13 36.2	350 08.7	N13 24.6	130 38.5	N 0 50.2
E									
D 6	154 12.1	310 36.7	S 9 12.6	1 36.9	N13 35.9	5 11.1	N13 24.6	145 41.0	N 0 50.2
N 7	169 14.6	325 38.0	S 9 12.6	16 38.3	N13 35.6	20 13.4	N13 24.5	160 43.5	N 0 50.2
E 8	184 17.0	340 39.4	S 9 12.6	31 39.8	N13 35.3	35 15.7	N13 24.5	175 46.1	N 0 50.1
S 9	199 19.5	355 40.8	S 9 12.5	46 41.3	N13 35.0	50 18.0	N13 24.5	190 48.6	N 0 50.1
D 10	214 22.0	10 42.1	S 9 12.5	61 42.7	N13 34.7	65 20.4	N13 24.4	205 51.1	N 0 50.1
A 11	229 24.4	25 43.5	S 9 12.5	76 44.2	N13 34.4	80 22.7	N13 24.4	220 53.7	N 0 50.1
Y									
12	244 26.9	40 44.8	S 9 12.5	91 45.7	N13 34.1	95 25.0	N13 24.3	235 56.2	N 0 50.1
13	259 29.4	55 46.2	S 9 12.5	106 47.2	N13 33.8	110 27.3	N13 24.3	250 58.7	N 0 50.0
14	274 31.8	70 47.5	S 9 12.5	121 48.6	N13 33.5	125 29.7	N13 24.3	266 01.3	N 0 50.0
15	289 34.3	85 48.8	S 9 12.5	136 50.1	N13 33.2	140 32.0	N13 24.2	281 03.8	N 0 50.0
16	304 36.7	100 50.2	S 9 12.5	151 51.6	N13 32.9	155 34.3	N13 24.2	296 06.3	N 0 50.0
17	319 39.2	115 51.5	S 9 12.5	166 53.1	N13 32.6	170 36.7	N13 24.2	311 08.9	N 0 50.0
18	334 41.7	130 52.8	S 9 12.4	181 54.6	N13 32.3	185 39.0	N13 24.1	326 11.4	N 0 50.0
19	349 44.1	145 54.2	S 9 12.4	196 56.0	N13 32.0	200 41.3	N13 24.1	341 13.9	N 0 49.9
20	4 46.6	160 55.5	S 9 12.4	211 57.5	N13 31.7	215 43.6	N13 24.0	356 16.4	N 0 49.9
21	19 49.1	175 56.8	S 9 12.4	226 59.0	N13 31.4	230 46.0	N13 24.0	11 19.0	N 0 49.9
22	34 51.5	190 58.1	S 9 12.4	242 00.5	N13 31.2	245 48.3	N13 24.0	26 21.5	N 0 49.9
23	49 54.0	205 59.5	S 9 12.5	257 02.0	N13 30.9	260 50.6	N13 23.9	41 24.0	N 0 49.9
26 0	64 56.5	221 00.8	S 9 12.5	272 03.4	N13 30.6	275 53.0	N13 23.9	56 26.6	N 0 49.8
1	79 58.9	236 02.1	S 9 12.5	287 04.9	N13 30.3	290 55.3	N13 23.9	71 29.1	N 0 49.8
2	95 01.4	251 03.4	S 9 12.5	302 06.4	N13 30.0	305 57.6	N13 23.8	86 31.6	N 0 49.8
3	110 03.9	266 04.7	S 9 12.5	317 07.9	N13 29.7	320 59.9	N13 23.8	101 34.2	N 0 49.8
4	125 06.3	281 06.0	S 9 12.5	332 09.4	N13 29.4	336 02.3	N13 23.7	116 36.7	N 0 49.8
T 5	140 08.8	296 07.3	S 9 12.5	347 10.9	N13 29.1	351 04.6	N13 23.7	131 39.2	N 0 49.8
H									
U 6	155 11.2	311 08.6	S 9 12.5	2 12.3	N13 28.8	6 06.9	N13 23.7	146 41.7	N 0 49.7
R 7	170 13.7	326 09.9	S 9 12.6	17 13.8	N13 28.5	21 09.3	N13 23.6	161 44.3	N 0 49.7
S 8	185 16.2	341 11.2	S 9 12.6	32 15.3	N13 28.2	36 11.6	N13 23.6	176 46.8	N 0 49.7
D 9	200 18.6	356 12.5	S 9 12.6	47 16.8	N13 27.9	51 13.9	N13 23.6	191 49.3	N 0 49.7
A 10	215 21.1	11 13.8	S 9 12.6	62 18.3	N13 27.6	66 16.3	N13 23.5	206 51.8	N 0 49.7
Y 11	230 23.6	26 15.1	S 9 12.6	77 19.8	N13 27.4	81 18.6	N13 23.5	221 54.4	N 0 49.7
12	245 26.0	41 16.4	S 9 12.7	92 21.3	N13 27.1	96 20.9	N13 23.5	236 56.9	N 0 49.6
13	260 28.5	56 17.7	S 9 12.7	107 22.7	N13 26.8	111 23.3	N13 23.4	251 59.4	N 0 49.6
14	275 31.0	71 18.9	S 9 12.7	122 24.2	N13 26.5	126 25.6	N13 23.4	267 02.0	N 0 49.6
15	290 33.4	86 20.2	S 9 12.8	137 25.7	N13 26.2	141 27.9	N13 23.4	282 04.5	N 0 49.6
16	305 35.9	101 21.5	S 9 12.8	152 27.2	N13 25.9	156 30.3	N13 23.3	297 07.0	N 0 49.6
17	320 38.4	116 22.8	S 9 12.8	167 28.7	N13 25.6	171 32.6	N13 23.3	312 09.5	N 0 49.6
18	335 40.8	131 24.0	S 9 12.9	182 30.2	N13 25.3	186 34.9	N13 23.2	327 12.1	N 0 49.5
19	350 43.3	146 25.3	S 9 12.9	197 31.7	N13 25.0	201 37.3	N13 23.2	342 14.6	N 0 49.5
20	5 45.7	161 26.6	S 9 12.9	212 33.2	N13 24.7	216 39.6	N13 23.2	357 17.1	N 0 49.5
21	20 48.2	176 27.8	S 9 13.0	227 34.7	N13 24.5	231 41.9	N13 23.1	12 19.6	N 0 49.5
22	35 50.7	191 29.1	S 9 13.0	242 36.2	N13 24.2	246 44.3	N13 23.1	27 22.2	N 0 49.5
23	50 53.1	206 30.3	S 9 13.1	257 37.7	N13 23.9	261 46.6	N13 23.1	42 24.7	N 0 49.5
		v 1.3	d 0.0	v 1.5	d 0.3	v 2.3	d 0.0	v 2.5	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
	° '	° '	° '	'	° '	'	'		° ' ° '
24 0	183 22.0	S20 30.1	13 41.5	4.5	N23 22.2	9.8	60.5	Acamar	315 10.2 S40 11.8
1	198 21.8	S20 30.6	28 04.9	4.4	N23 31.8	9.7	60.5	Achernar	335 18.6 S57 06.1
2	213 21.7	S20 31.1	42 28.2	4.3	N23 41.4	9.5	60.5	Acrux	172 58.8 S63 14.6
3	228 21.5	S20 31.6	56 51.4	4.2	N23 50.7	9.4	60.6	Adhara	255 04.4 S29 00.3
4	243 21.3	S20 32.1	71 14.4	4.0	N23 59.9	9.2	60.6	Albireo	67 03.1 N28 01.1
T 5	258 21.1	S20 32.7	85 37.3	3.9	N24 08.9	9.0	60.6		
U								Aldebaran	290 37.5 N16 33.9
E 6	273 21.0	S20 33.2	100 00.2	3.8	N24 17.8	8.9	60.6	Alioth	166 12.0 N55 48.6
S 7	288 20.8	S20 33.7	114 22.8	3.7	N24 26.5	8.7	60.6	Alkaid	152 51.2 N49 10.5
D 8	303 20.6	S20 34.2	128 45.4	3.6	N24 35.0	8.5	60.7	Al Na-ir	27 31.0 S46 50.0
A 9	318 20.4	S20 34.7	143 07.9	3.5	N24 43.4	8.4	60.7	Alnilam	275 35.8 S 1 11.0
Y 10	333 20.2	S20 35.2	157 30.2	3.3	N24 51.6	8.2	60.7		
11	348 20.1	S20 35.7	171 52.4	3.2	N24 59.6	8.0	60.7	Alphard	217 46.1 S 8 46.4
								Alphecca	126 02.8 N26 37.4
12	3 19.9	S20 36.2	186 14.5	3.1	N25 07.4	7.8	60.7	Alpheratz	357 33.0 N29 14.6
13	18 19.7	S20 36.7	200 36.5	3.0	N25 15.1	7.7	60.7	Altair	61 58.7 N 8 56.5
14	33 19.5	S20 37.2	214 58.4	2.9	N25 22.5	7.5	60.8	Ankaa	353 05.4 S42 09.7
15	48 19.3	S20 37.7	229 20.2	2.8	N25 29.8	7.3	60.8		
16	63 19.1	S20 38.2	243 41.9	2.7	N25 36.9	7.1	60.8	Antares	112 14.3 S26 29.5
17	78 19.0	S20 38.7	258 03.5	2.6	N25 43.9	6.9	60.8	Arcturus	145 46.8 N19 02.5
								Atria	107 07.8 S69 04.6
18	93 18.8	S20 39.2	272 25.0	2.5	N25 50.6	6.7	60.8	Avior	234 13.8 S59 35.5
19	108 18.6	S20 39.7	286 46.4	2.4	N25 57.1	6.5	60.8	Bellatrix	278 20.9 N 6 22.5
20	123 18.4	S20 40.2	301 07.7	2.3	N26 03.5	6.4	60.9		
21	138 18.2	S20 40.6	315 28.9	2.2	N26 09.6	6.2	60.9	Betelgeuse	270 50.1 N 7 24.8
22	153 18.0	S20 41.1	329 50.1	2.1	N26 15.6	6.0	60.9	Canopus	263 51.2 S52 42.4
23	168 17.9	S20 41.6	344 11.1	2.0	N26 21.4	5.8	60.9	Capella	280 19.2 N46 01.5
25 0	183 17.7	S20 42.1	358 32.1	2.0	N26 27.0	5.6	60.9	Castor	245 54.8 N31 49.7
1	198 17.5	S20 42.6	12 52.9	1.9	N26 32.3	5.4	60.9	Deneb	49 24.9 N45 22.8
2	213 17.3	S20 43.1	27 13.7	1.8	N26 37.5	5.2	60.9		
3	228 17.1	S20 43.6	41 34.5	1.7	N26 42.5	5.0	60.9	Denebola	182 23.5 N14 25.2
4	243 16.9	S20 44.1	55 55.1	1.7	N26 47.3	4.8	60.9	Diphda	348 45.6 S17 50.3
W 5	258 16.7	S20 44.6	70 15.7	1.6	N26 51.8	4.6	61.0	Dubhe	193 39.2 N61 36.0
E								Elnath	277 59.6 N28 37.8
D 6	273 16.6	S20 45.1	84 36.2	1.5	N26 56.2	4.4	61.0	Eltanin	90 42.0 N51 29.2
N 7	288 16.4	S20 45.6	98 56.7	1.5	N27 00.3	4.2	61.0	Enif	33 37.3 N10 00.1
E 8	303 16.2	S20 46.0	113 17.0	1.4	N27 04.3	3.9	61.0	Fomalhaut	15 12.7 S29 28.9
S 9	318 16.0	S20 46.5	127 37.4	1.3	N27 08.0	3.7	61.0	Gacrux	171 50.3 S57 15.6
D 10	333 15.8	S20 47.0	141 57.7	1.3	N27 11.6	3.5	61.0	Gienah	175 42.2 S17 41.4
A 11	348 15.6	S20 47.5	156 17.9	1.2	N27 14.9	3.3	61.0	Hadar	148 34.5 S60 30.0
Y									
12	3 15.4	S20 48.0	170 38.1	1.2	N27 18.0	3.1	61.0	Hamal	327 49.2 N23 35.6
13	18 15.2	S20 48.5	184 58.2	1.1	N27 20.9	2.9	61.0	Kaus Austr.	83 30.9 S34 22.4
14	33 15.0	S20 49.0	199 18.3	1.1	N27 23.6	2.7	61.0	Kochab	137 21.2 N74 02.5
15	48 14.9	S20 49.4	213 38.4	1.1	N27 26.0	2.5	61.0	Markab	13 28.3 N15 21.2
16	63 14.7	S20 49.9	227 58.4	1.0	N27 28.3	2.3	61.0	Menkar	314 04.2 N 4 11.8
17	78 14.5	S20 50.4	242 18.4	1.0	N27 30.3	2.0	61.0		
								Menkent	147 56.2 S36 30.1
18	93 14.3	S20 50.9	256 38.4	1.0	N27 32.1	1.8	61.0	Miaplacidus	221 37.6 S69 49.3
19	108 14.1	S20 51.4	270 58.3	1.0	N27 33.8	1.6	61.0	Mirfak	308 25.6 N49 57.6
20	123 13.9	S20 51.8	285 18.3	0.9	N27 35.1	1.4	61.0	Nunki	75 46.1 S26 15.8
21	138 13.7	S20 52.3	299 38.2	0.9	N27 36.3	1.2	61.0	Peacock	53 03.5 S56 39.1
22	153 13.5	S20 52.8	313 58.1	0.9	N27 37.3	1.0	61.0		
23	168 13.3	S20 53.3	328 18.0	0.9	N27 38.0	0.7	61.0	Polaris	315 32.5 N89 22.2
26 0	183 13.1	S20 53.8	342 37.9	0.9	N27 38.5	0.5	61.0	Pollux	243 15.2 N27 57.6
1	198 12.9	S20 54.2	356 57.7	0.9	N27 38.9	0.3	61.0	Procyon	244 49.0 N 5 09.4
2	213 12.7	S20 54.7	11 17.6	0.9	N27 38.9	0.1	61.0	Rasalhague	95 57.5 N12 32.5
3	228 12.5	S20 55.2	25 37.5	0.9	N27 38.8	0.1	61.0	Regulus	207 32.8 N11 50.1
4	243 12.4	S20 55.7	39 57.4	0.9	N27 38.5	0.3	61.0		
T 5	258 12.2	S20 56.1	54 17.4	0.9	N27 37.9	0.6	61.0	Rigel	281 02.1 S 8 10.1
H								Rigil Kent	139 39.0 S60 56.7
U 6	273 12.0	S20 56.6	68 37.3	0.9	N27 37.1	0.8	61.0	Sabik	102 01.4 S15 45.5
R 7	288 11.8	S20 57.1	82 57.2	1.0	N27 36.1	1.0	61.0	Schedar	349 28.9 N56 41.4
S 8	303 11.6	S20 57.5	97 17.2	1.0	N27 34.9	1.2	61.0	Shaula	96 08.7 S37 07.4
D 9	318 11.4	S20 58.0	111 37.2	1.0	N27 33.5	1.4	61.0	Sirius	258 24.6 S16 45.0
A 10	333 11.2	S20 58.5	125 57.3	1.0	N27 31.9	1.6	61.0	Spica	158 20.9 S11 18.1
Y 11	348 11.0	S20 59.0	140 17.3	1.1	N27 30.0	1.9	61.0	Suhail	222 45.0 S43 32.2
								Vega	80 32.5 N38 48.6
12	3 10.8	S20 59.4	154 37.4	1.1	N27 27.9	2.1	61.0	Zuben-ubi	136 55.5 S16 09.2
13	18 10.6	S20 59.9	168 57.6	1.1	N27 25.7	2.3	61.0		
14	33 10.4	S21 00.4	183 17.8	1.2	N27 23.2	2.5	60.9		
15	48 10.2	S21 00.8	197 38.0	1.2	N27 20.5	2.7	60.9		
16	63 10.0	S21 01.3	211 58.3	1.3	N27 17.5	2.9	60.9		
17	78 09.8	S21 01.8	226 18.6	1.3	N27 14.4	3.1	60.9		
18	93 09.6	S21 02.2	240 39.0	1.4	N27 11.1	3.3	60.9		
19	108 09.4	S21 02.7	254 59.5	1.5	N27 07.5	3.5	60.9		
20	123 09.2	S21 03.1	269 20.0	1.5	N27 03.8	3.8	60.9		
21	138 09.0	S21 03.6	283 40.6	1.6	N26 59.8	4.0	60.9		
22	153 08.8	S21 04.1	298 01.3	1.7	N26 55.7	4.2	60.9		
23	168 08.6	S21 04.5	312 22.0	1.7	N26 51.3	4.4	60.8		
	S.D. 16.2	d 0.5	S.D.	16.5	16.6	16.6			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
27	0	65 55.6	221 31.6	S 9 13.1	272 39.2	N13 23.6	276 49.0	N13 23.0	57 27.2	N 0 49.4
	1	80 58.1	236 32.8	S 9 13.1	287 40.7	N13 23.3	291 51.3	N13 23.0	72 29.7	N 0 49.4
	2	96 00.5	251 34.1	S 9 13.2	302 42.2	N13 23.0	306 53.6	N13 23.0	87 32.3	N 0 49.4
	3	111 03.0	266 35.3	S 9 13.2	317 43.6	N13 22.7	321 56.0	N13 22.9	102 34.8	N 0 49.4
	4	126 05.5	281 36.6	S 9 13.3	332 45.1	N13 22.4	336 58.3	N13 22.9	117 37.3	N 0 49.4
F	5	141 07.9	296 37.8	S 9 13.3	347 46.6	N13 22.1	352 00.6	N13 22.9	132 39.8	N 0 49.4
R										
I	6	156 10.4	311 39.1	S 9 13.4	2 48.1	N13 21.9	7 03.0	N13 22.8	147 42.4	N 0 49.4
D	7	171 12.9	326 40.3	S 9 13.5	17 49.6	N13 21.6	22 05.3	N13 22.8	162 44.9	N 0 49.3
A	8	186 15.3	341 41.5	S 9 13.5	32 51.1	N13 21.3	37 07.7	N13 22.8	177 47.4	N 0 49.3
Y	9	201 17.8	356 42.7	S 9 13.6	47 52.6	N13 21.0	52 10.0	N13 22.7	192 49.9	N 0 49.3
	10	216 20.2	11 44.0	S 9 13.6	62 54.1	N13 20.7	67 12.3	N13 22.7	207 52.5	N 0 49.3
	11	231 22.7	26 45.2	S 9 13.7	77 55.6	N13 20.4	82 14.7	N13 22.7	222 55.0	N 0 49.3
	12	246 25.2	41 46.4	S 9 13.8	92 57.1	N13 20.1	97 17.0	N13 22.6	237 57.5	N 0 49.3
	13	261 27.6	56 47.6	S 9 13.8	107 58.6	N13 19.8	112 19.4	N13 22.6	253 00.0	N 0 49.2
	14	276 30.1	71 48.9	S 9 13.9	123 00.1	N13 19.6	127 21.7	N13 22.6	268 02.6	N 0 49.2
	15	291 32.6	86 50.1	S 9 14.0	138 01.6	N13 19.3	142 24.0	N13 22.5	283 05.1	N 0 49.2
	16	306 35.0	101 51.3	S 9 14.0	153 03.2	N13 19.0	157 26.4	N13 22.5	298 07.6	N 0 49.2
	17	321 37.5	116 52.5	S 9 14.1	168 04.7	N13 18.7	172 28.7	N13 22.5	313 10.1	N 0 49.2
	18	336 40.0	131 53.7	S 9 14.2	183 06.2	N13 18.4	187 31.1	N13 22.4	328 12.6	N 0 49.2
	19	351 42.4	146 54.9	S 9 14.2	198 07.7	N13 18.1	202 33.4	N13 22.4	343 15.2	N 0 49.2
	20	6 44.9	161 56.1	S 9 14.3	213 09.2	N13 17.8	217 35.8	N13 22.4	358 17.7	N 0 49.1
	21	21 47.4	176 57.3	S 9 14.4	228 10.7	N13 17.6	232 38.1	N13 22.3	13 20.2	N 0 49.1
	22	36 49.8	191 58.5	S 9 14.5	243 12.2	N13 17.3	247 40.4	N13 22.3	28 22.7	N 0 49.1
	23	51 52.3	206 59.7	S 9 14.6	258 13.7	N13 17.0	262 42.8	N13 22.3	43 25.3	N 0 49.1
28	0	66 54.7	222 00.9	S 9 14.6	273 15.2	N13 16.7	277 45.1	N13 22.2	58 27.8	N 0 49.1
	1	81 57.2	237 02.1	S 9 14.7	288 16.7	N13 16.4	292 47.5	N13 22.2	73 30.3	N 0 49.1
	2	96 59.7	252 03.3	S 9 14.8	303 18.2	N13 16.1	307 49.8	N13 22.2	88 32.8	N 0 49.1
	3	112 02.1	267 04.5	S 9 14.9	318 19.7	N13 15.8	322 52.2	N13 22.1	103 35.3	N 0 49.1
	4	127 04.6	282 05.6	S 9 15.0	333 21.2	N13 15.6	337 54.5	N13 22.1	118 37.9	N 0 49.0
S	5	142 07.1	297 06.8	S 9 15.1	348 22.8	N13 15.3	352 56.9	N13 22.1	133 40.4	N 0 49.0
A										
T	6	157 09.5	312 08.0	S 9 15.2	3 24.3	N13 15.0	7 59.2	N13 22.1	148 42.9	N 0 49.0
U	7	172 12.0	327 09.2	S 9 15.3	18 25.8	N13 14.7	23 01.5	N13 22.0	163 45.4	N 0 49.0
R	8	187 14.5	342 10.3	S 9 15.4	33 27.3	N13 14.4	38 03.9	N13 22.0	178 47.9	N 0 49.0
D	9	202 16.9	357 11.5	S 9 15.5	48 28.8	N13 14.1	53 06.2	N13 22.0	193 50.5	N 0 49.0
A	10	217 19.4	12 12.7	S 9 15.6	63 30.3	N13 13.9	68 08.6	N13 21.9	208 53.0	N 0 49.0
Y	11	232 21.9	27 13.8	S 9 15.6	78 31.8	N13 13.6	83 10.9	N13 21.9	223 55.5	N 0 48.9
	12	247 24.3	42 15.0	S 9 15.8	93 33.4	N13 13.3	98 13.3	N13 21.9	238 58.0	N 0 48.9
	13	262 26.8	57 16.2	S 9 15.9	108 34.9	N13 13.0	113 15.6	N13 21.8	254 00.5	N 0 48.9
	14	277 29.2	72 17.3	S 9 16.0	123 36.4	N13 12.7	128 18.0	N13 21.8	269 03.1	N 0 48.9
	15	292 31.7	87 18.5	S 9 16.1	138 37.9	N13 12.4	143 20.3	N13 21.8	284 05.6	N 0 48.9
	16	307 34.2	102 19.6	S 9 16.2	153 39.4	N13 12.2	158 22.7	N13 21.8	299 08.1	N 0 48.9
	17	322 36.6	117 20.8	S 9 16.3	168 40.9	N13 11.9	173 25.0	N13 21.7	314 10.6	N 0 48.9
	18	337 39.1	132 21.9	S 9 16.4	183 42.5	N13 11.6	188 27.4	N13 21.7	329 13.1	N 0 48.9
	19	352 41.6	147 23.1	S 9 16.5	198 44.0	N13 11.3	203 29.7	N13 21.7	344 15.7	N 0 48.8
	20	7 44.0	162 24.2	S 9 16.6	213 45.5	N13 11.0	218 32.1	N13 21.6	359 18.2	N 0 48.8
	21	22 46.5	177 25.3	S 9 16.7	228 47.0	N13 10.8	233 34.4	N13 21.6	14 20.7	N 0 48.8
	22	37 49.0	192 26.5	S 9 16.8	243 48.5	N13 10.5	248 36.8	N13 21.6	29 23.2	N 0 48.8
	23	52 51.4	207 27.6	S 9 17.0	258 50.1	N13 10.2	263 39.1	N13 21.5	44 25.7	N 0 48.8
29	0	67 53.9	222 28.8	S 9 17.1	273 51.6	N13 09.9	278 41.5	N13 21.5	59 28.3	N 0 48.8
	1	82 56.3	237 29.9	S 9 17.2	288 53.1	N13 09.6	293 43.8	N13 21.5	74 30.8	N 0 48.8
	2	97 58.8	252 31.0	S 9 17.3	303 54.6	N13 09.4	308 46.2	N13 21.5	89 33.3	N 0 48.8
	3	113 01.3	267 32.1	S 9 17.4	318 56.2	N13 09.1	323 48.5	N13 21.4	104 35.8	N 0 48.7
	4	128 03.7	282 33.3	S 9 17.6	333 57.7	N13 08.8	338 50.9	N13 21.4	119 38.3	N 0 48.7
S	5	143 06.2	297 34.4	S 9 17.7	348 59.2	N13 08.5	353 53.2	N13 21.4	134 40.8	N 0 48.7
U										
N	6	158 08.7	312 35.5	S 9 17.8	4 00.7	N13 08.2	8 55.6	N13 21.3	149 43.4	N 0 48.7
D	7	173 11.1	327 36.6	S 9 17.9	19 02.3	N13 08.0	23 58.0	N13 21.3	164 45.9	N 0 48.7
A	8	188 13.6	342 37.7	S 9 18.1	34 03.8	N13 07.7	39 00.3	N13 21.3	179 48.4	N 0 48.7
Y	9	203 16.1	357 38.8	S 9 18.2	49 05.3	N13 07.4	54 02.7	N13 21.3	194 50.9	N 0 48.7
	10	218 18.5	12 40.0	S 9 18.3	64 06.8	N13 07.1	69 05.0	N13 21.2	209 53.4	N 0 48.7
	11	233 21.0	27 41.1	S 9 18.5	79 08.4	N13 06.8	84 07.4	N13 21.2	224 55.9	N 0 48.6
	12	248 23.5	42 42.2	S 9 18.6	94 09.9	N13 06.6	99 09.7	N13 21.2	239 58.4	N 0 48.6
	13	263 25.9	57 43.3	S 9 18.7	109 11.4	N13 06.3	114 12.1	N13 21.1	255 01.0	N 0 48.6
	14	278 28.4	72 44.4	S 9 18.9	124 13.0	N13 06.0	129 14.4	N13 21.1	270 03.5	N 0 48.6
	15	293 30.8	87 45.5	S 9 19.0	139 14.5	N13 05.7	144 16.8	N13 21.1	285 06.0	N 0 48.6
	16	308 33.3	102 46.6	S 9 19.2	154 16.0	N13 05.5	159 19.2	N13 21.1	300 08.5	N 0 48.6
	17	323 35.8	117 47.6	S 9 19.3	169 17.6	N13 05.2	174 21.5	N13 21.0	315 11.0	N 0 48.6
	18	338 38.2	132 48.7	S 9 19.4	184 19.1	N13 04.9	189 23.9	N13 21.0	330 13.5	N 0 48.6
	19	353 40.7	147 49.8	S 9 19.6	199 20.6	N13 04.6	204 26.2	N13 21.0	345 16.1	N 0 48.6
	20	8 43.2	162 50.9	S 9 19.7	214 22.2	N13 04.3	219 28.6	N13 21.0	0 18.6	N 0 48.6
	21	23 45.6	177 52.0	S 9 19.9	229 23.7	N13 04.1	234 30.9	N13 20.9	15 21.1	N 0 48.5
	22	38 48.1	192 53.1	S 9 20.0	244 25.2	N13 03.8	249 33.3	N13 20.9	30 23.6	N 0 48.5
	23	53 50.6	207 54.2	S 9 20.2	259 26.8	N13 03.5	264 35.7	N13 20.9	45 26.1	N 0 48.5
			v 1.2	d 0.1	v 1.5	d 0.3	v 2.3	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
27	0	183 08.4	S21 05.0	326 42.8	1.8	N26 46.7	4.6	60.8
	1	198 08.2	S21 05.5	341 03.7	1.9	N26 42.0	4.8	60.8
	2	213 08.0	S21 05.9	355 24.7	2.0	N26 37.0	5.0	60.8
	3	228 07.8	S21 06.4	9 45.7	2.1	N26 31.8	5.2	60.8
	4	243 07.6	S21 06.8	24 06.9	2.1	N26 26.5	5.4	60.8
F	5	258 07.4	S21 07.3	38 28.1	2.2	N26 20.9	5.6	60.8
R								
I	6	273 07.2	S21 07.7	52 49.4	2.3	N26 15.2	5.7	60.7
D	7	288 07.0	S21 08.2	67 10.8	2.4	N26 09.2	5.9	60.7
A	8	303 06.8	S21 08.7	81 32.3	2.5	N26 03.1	6.1	60.7
Y	9	318 06.6	S21 09.1	95 53.9	2.6	N25 56.8	6.3	60.7
	10	333 06.4	S21 09.6	110 15.6	2.7	N25 50.3	6.5	60.7
	11	348 06.2	S21 10.0	124 37.5	2.8	N25 43.6	6.7	60.7
	12	3 06.0	S21 10.5	138 59.4	2.9	N25 36.7	6.9	60.6
	13	18 05.8	S21 10.9	153 21.4	3.0	N25 29.7	7.1	60.6
	14	33 05.6	S21 11.4	167 43.5	3.1	N25 22.4	7.2	60.6
	15	48 05.3	S21 11.8	182 05.8	3.2	N25 15.0	7.4	60.6
	16	63 05.1	S21 12.3	196 28.1	3.3	N25 07.4	7.6	60.6
	17	78 04.9	S21 12.7	210 50.6	3.5	N24 59.7	7.8	60.5
	18	93 04.7	S21 13.2	225 13.1	3.6	N24 51.7	7.9	60.5
	19	108 04.5	S21 13.6	239 35.8	3.7	N24 43.6	8.1	60.5
	20	123 04.3	S21 14.1	253 58.6	3.8	N24 35.3	8.3	60.5
	21	138 04.1	S21 14.5	268 21.6	3.9	N24 26.9	8.4	60.5
	22	153 03.9	S21 14.9	282 44.6	4.1	N24 18.3	8.6	60.4
	23	168 03.7	S21 15.4	297 07.8	4.2	N24 09.5	8.8	60.4
28	0	183 03.5	S21 15.8	311 31.1	4.3	N24 00.6	8.9	60.4
	1	198 03.3	S21 16.3	325 54.5	4.4	N23 51.5	9.1	60.4
	2	213 03.1	S21 16.7	340 18.1	4.5	N23 42.3	9.2	60.3
	3	228 02.9	S21 17.2	354 41.7	4.7	N23 32.9	9.4	60.3
	4	243 02.6	S21 17.6	9 05.5	4.8	N23 23.3	9.5	60.3
S	5	258 02.4	S21 18.0	23 29.5	4.9	N23 13.6	9.7	60.3
A								
T	6	273 02.2	S21 18.5	37 53.5	5.1	N23 03.8	9.8	60.3
U	7	288 02.0	S21 18.9	52 17.7	5.2	N22 53.8	10.0	60.2
R	8	303 01.8	S21 19.4	66 42.0	5.3	N22 43.6	10.1	60.2
D	9	318 01.6	S21 19.8	81 06.4	5.4	N22 33.4	10.3	60.2
A	10	333 01.4	S21 20.2	95 31.0	5.6	N22 23.0	10.4	60.2
Y	11	348 01.2	S21 20.7	109 55.7	5.7	N22 12.4	10.6	60.1
	12	3 01.0	S21 21.1	124 20.5	5.8	N22 01.7	10.7	60.1
	13	18 00.7	S21 21.5	138 45.5	6.0	N21 50.9	10.8	60.1
	14	33 00.5	S21 22.0	153 10.6	6.1	N21 39.9	11.0	60.0
	15	48 00.3	S21 22.4	167 35.8	6.2	N21 28.9	11.1	60.0
	16	63 00.1	S21 22.8	182 01.2	6.4	N21 17.7	11.2	60.0
	17	77 59.9	S21 23.3	196 26.7	6.5	N21 06.3	11.3	60.0
	18	92 59.7	S21 23.7	210 52.3	6.6	N20 54.9	11.5	59.9
	19	107 59.5	S21 24.1	225 18.0	6.8	N20 43.3	11.6	59.9
	20	122 59.2	S21 24.6	239 43.9	6.9	N20 31.6	11.7	59.9
	21	137 59.0	S21 25.0	254 09.9	7.0	N20 19.8	11.8	59.9
	22	152 58.8	S21 25.4	268 36.1	7.1	N20 07.9	11.9	59.8
	23	167 58.6	S21 25.9	283 02.3	7.3	N19 55.9	12.0	59.8
29	0	182 58.4	S21 26.3	297 28.8	7.4	N19 43.7	12.1	59.8
	1	197 58.2	S21 26.7	311 55.3	7.5	N19 31.5	12.2	59.7
	2	212 58.0	S21 27.1	326 21.9	7.7	N19 19.1	12.4	59.7
	3	227 57.7	S21 27.6	340 48.7	7.8	N19 06.7	12.5	59.7
	4	242 57.5	S21 28.0	355 15.6	7.9	N18 54.1	12.6	59.6
S	5	257 57.3	S21 28.4	9 42.7	8.0	N18 41.5	12.7	59.6
U								
N	6	272 57.1	S21 28.8	24 09.9	8.2	N18 28.7	12.8	59.6
D	7	287 56.9	S21 29.3	38 37.2	8.3	N18 15.9	12.8	59.6
A	8	302 56.7	S21 29.7	53 04.6	8.4	N18 02.9	12.9	59.5
Y	9	317 56.4	S21 30.1	67 32.1	8.5	N17 49.9	13.0	59.5
	10	332 56.2	S21 30.5	81 59.8	8.7	N17 36.8	13.1	59.5
	11	347 56.0	S21 30.9	96 27.6	8.8	N17 23.6	13.2	59.4
	12	2 55.8	S21 31.4	110 55.5	8.9	N17 10.3	13.3	59.4
	13	17 55.6	S21 31.8	125 23.5	9.0	N16 56.9	13.4	59.4
	14	32 55.3	S21 32.2	139 51.7	9.2	N16 43.4	13.5	59.3
	15	47 55.1	S21 32.6	154 19.9	9.3	N16 29.9	13.5	59.3
	16	62 54.9	S21 33.0	168 48.3	9.4	N16 16.3	13.6	59.3
	17	77 54.7	S21 33.4	183 16.8	9.5	N16 02.6	13.7	59.2
	18	92 54.4	S21 33.8	197 45.5	9.6	N15 48.8	13.8	59.2
	19	107 54.2	S21 34.3	212 14.2	9.7	N15 35.0	13.8	59.2
	20	122 54.0	S21 34.7	226 43.0	9.8	N15 21.1	13.9	59.2
	21	137 53.8	S21 35.1	241 12.0	10.0	N15 07.1	14.0	59.1
	22	152 53.6	S21 35.5	255 41.1	10.1	N14 53.1	14.0	59.1
	23	167 53.3	S21 35.9	270 10.3	10.2	N14 39.0	14.1	59.1
		S.D. 16.2	d 0.4	S.D.	16.5	16.4	16.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.8
Achernar	335 18.6	S57 06.1
Acrux	172 58.8	S63 14.6
Adhara	255 04.3	S29 00.3
Albireo	67 03.1	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.9	N55 48.6
Alkaid	152 51.2	N49 10.5
Al Na-ir	27 31.0	S46 50.0
Alnilam	275 35.8	S 1 11.0
Alphard	217 46.1	S 8 46.5
Alphecca	126 02.8	N26 37.4
Alpheratz	357 33.0	N29 14.6
Altair	61 58.7	N 8 56.5
Ankaa	353 05.4	S42 09.7
Antares	112 14.3	S26 29.5
Arcturus	145 46.8	N19 02.5
Atria	107 07.8	S69 04.6
Avior	234 13.7	S59 35.5
Bellatrix	278 20.9	N 6 22.5
Betelgeuse	270 50.1	N 7 24.8
Canopus	263 51.2	S52 42.4
Capella	280 19.1	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 25.0	N45 22.8
Denebola	182 23.5	N14 25.2
Diphda	348 45.6	S17 50.3
Dubhe	193 39.2	N61 36.0
Elnath	277 59.6	N28 37.8
Eltanin	90 42.0	N51 29.2
Enif	33 37.3	N10 00.0
Fomalhaut	15 12.7	S29 28.9
Gacrux	171 50.3	S57 15.6
Gienah	175 42.2	S17 41.4
Hadar	148 34.4	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.1	N74 02.5
Markab	13 28.3	N15 21.2
Menkar	314 04.2	N 4 11.8
Menkent	147 56.2	S36 30.1
Miaplacidus	221 37.5	S69 49.3
Mirfak	308 25.6	N49 57.6
Nunki	75 46.1	S26 15.8
Peacock	53 03.5	S56 39.1
Polaris	315 32.8	N89 22.2
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.4
Rasalhague	95 57.5	N12 32.5
Regulus	207 32.7	N11 50.1
Rigel	281 02.0	S 8 10.1
Rigil Kent	139 38.9	S60 56.7
Sabik	102 01.4	S15 45.5
Schedar	349 28.9	N56 41.4
Shaula	96 08.7	S37 07.4
Sirius	258 24.6	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 45.0	S43 32.2
Vega	80 32.5	N38 48.6
Zuben-ubi	136 55.5	S16 09.2

G.M.T d	h	ARIES GHA	VENUS GHA	VENUS Dec	MARS GHA	MARS Dec	JUPITER GHA	JUPITER Dec	SATURN GHA	SATURN Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
30	0	68 53.0	222 55.2	S 9 20.3	274 28.3	N13 03.2	279 38.0	N13 20.8	60 28.6	N 0 48.5
	1	83 55.5	237 56.3	S 9 20.5	289 29.8	N13 03.0	294 40.4	N13 20.8	75 31.1	N 0 48.5
	2	98 58.0	252 57.4	S 9 20.6	304 31.4	N13 02.7	309 42.7	N13 20.8	90 33.7	N 0 48.5
	3	114 00.4	267 58.4	S 9 20.8	319 32.9	N13 02.4	324 45.1	N13 20.8	105 36.2	N 0 48.5
	4	129 02.9	282 59.5	S 9 21.0	334 34.4	N13 02.1	339 47.5	N13 20.7	120 38.7	N 0 48.5
M	5	144 05.3	298 00.6	S 9 21.1	349 36.0	N13 01.9	354 49.8	N13 20.7	135 41.2	N 0 48.5
O										
N	6	159 07.8	313 01.6	S 9 21.3	4 37.5	N13 01.6	9 52.2	N13 20.7	150 43.7	N 0 48.4
D	7	174 10.3	328 02.7	S 9 21.4	19 39.1	N13 01.3	24 54.5	N13 20.7	165 46.2	N 0 48.4
A	8	189 12.7	343 03.8	S 9 21.6	34 40.6	N13 01.0	39 56.9	N13 20.6	180 48.7	N 0 48.4
Y	9	204 15.2	358 04.8	S 9 21.8	49 42.2	N13 00.8	54 59.3	N13 20.6	195 51.2	N 0 48.4
	10	219 17.7	13 05.9	S 9 21.9	64 43.7	N13 00.5	70 01.6	N13 20.6	210 53.8	N 0 48.4
	11	234 20.1	28 06.9	S 9 22.1	79 45.2	N13 00.2	85 04.0	N13 20.6	225 56.3	N 0 48.4
	12	249 22.6	43 08.0	S 9 22.3	94 46.8	N12 59.9	100 06.3	N13 20.5	240 58.8	N 0 48.4
	13	264 25.1	58 09.0	S 9 22.4	109 48.3	N12 59.7	115 08.7	N13 20.5	256 01.3	N 0 48.4
	14	279 27.5	73 10.0	S 9 22.6	124 49.9	N12 59.4	130 11.1	N13 20.5	271 03.8	N 0 48.4
	15	294 30.0	88 11.1	S 9 22.8	139 51.4	N12 59.1	145 13.4	N13 20.5	286 06.3	N 0 48.4
	16	309 32.5	103 12.1	S 9 23.0	154 53.0	N12 58.9	160 15.8	N13 20.4	301 08.8	N 0 48.4
	17	324 34.9	118 13.2	S 9 23.1	169 54.5	N12 58.6	175 18.2	N13 20.4	316 11.3	N 0 48.3
	18	339 37.4	133 14.2	S 9 23.3	184 56.1	N12 58.3	190 20.5	N13 20.4	331 13.8	N 0 48.3
	19	354 39.8	148 15.2	S 9 23.5	199 57.6	N12 58.0	205 22.9	N13 20.4	346 16.4	N 0 48.3
	20	9 42.3	163 16.3	S 9 23.7	214 59.2	N12 57.8	220 25.3	N13 20.3	1 18.9	N 0 48.3
	21	24 44.8	178 17.3	S 9 23.9	230 00.7	N12 57.5	235 27.6	N13 20.3	16 21.4	N 0 48.3
	22	39 47.2	193 18.3	S 9 24.0	245 02.3	N12 57.2	250 30.0	N13 20.3	31 23.9	N 0 48.3
	23	54 49.7	208 19.3	S 9 24.2	260 03.8	N12 56.9	265 32.4	N13 20.3	46 26.4	N 0 48.3
1	0	69 52.2	223 20.4	S 9 24.4	275 05.4	N12 56.7	280 34.7	N13 20.2	61 28.9	N 0 48.3
	1	84 54.6	238 21.4	S 9 24.6	290 06.9	N12 56.4	295 37.1	N13 20.2	76 31.4	N 0 48.3
	2	99 57.1	253 22.4	S 9 24.8	305 08.5	N12 56.1	310 39.5	N13 20.2	91 33.9	N 0 48.3
	3	114 59.6	268 23.4	S 9 25.0	320 10.0	N12 55.9	325 41.8	N13 20.2	106 36.4	N 0 48.3
	4	130 02.0	283 24.4	S 9 25.2	335 11.6	N12 55.6	340 44.2	N13 20.2	121 38.9	N 0 48.2
T	5	145 04.5	298 25.4	S 9 25.4	350 13.1	N12 55.3	355 46.6	N13 20.1	136 41.4	N 0 48.2
U										
E	6	160 06.9	313 26.4	S 9 25.6	5 14.7	N12 55.1	10 48.9	N13 20.1	151 44.0	N 0 48.2
S	7	175 09.4	328 27.4	S 9 25.7	20 16.2	N12 54.8	25 51.3	N13 20.1	166 46.5	N 0 48.2
D	8	190 11.9	343 28.4	S 9 25.9	35 17.8	N12 54.5	40 53.7	N13 20.1	181 49.0	N 0 48.2
A	9	205 14.3	358 29.4	S 9 26.1	50 19.3	N12 54.2	55 56.0	N13 20.0	196 51.5	N 0 48.2
Y	10	220 16.8	13 30.4	S 9 26.3	65 20.9	N12 54.0	70 58.4	N13 20.0	211 54.0	N 0 48.2
	11	235 19.3	28 31.4	S 9 26.5	80 22.5	N12 53.7	86 00.8	N13 20.0	226 56.5	N 0 48.2
	12	250 21.7	43 32.4	S 9 26.7	95 24.0	N12 53.4	101 03.2	N13 20.0	241 59.0	N 0 48.2
	13	265 24.2	58 33.4	S 9 26.9	110 25.6	N12 53.2	116 05.5	N13 19.9	257 01.5	N 0 48.2
	14	280 26.7	73 34.4	S 9 27.1	125 27.1	N12 52.9	131 07.9	N13 19.9	272 04.0	N 0 48.2
	15	295 29.1	88 35.4	S 9 27.4	140 28.7	N12 52.6	146 10.3	N13 19.9	287 06.5	N 0 48.2
	16	310 31.6	103 36.4	S 9 27.6	155 30.3	N12 52.4	161 12.6	N13 19.9	302 09.0	N 0 48.2
	17	325 34.1	118 37.4	S 9 27.8	170 31.8	N12 52.1	176 15.0	N13 19.9	317 11.5	N 0 48.1
	18	340 36.5	133 38.4	S 9 28.0	185 33.4	N12 51.8	191 17.4	N13 19.8	332 14.0	N 0 48.1
	19	355 39.0	148 39.3	S 9 28.2	200 34.9	N12 51.6	206 19.8	N13 19.8	347 16.6	N 0 48.1
	20	10 41.4	163 40.3	S 9 28.4	215 36.5	N12 51.3	221 22.1	N13 19.8	2 19.1	N 0 48.1
	21	25 43.9	178 41.3	S 9 28.6	230 38.1	N12 51.0	236 24.5	N13 19.8	17 21.6	N 0 48.1
	22	40 46.4	193 42.3	S 9 28.8	245 39.6	N12 50.8	251 26.9	N13 19.8	32 24.1	N 0 48.1
	23	55 48.8	208 43.2	S 9 29.0	260 41.2	N12 50.5	266 29.2	N13 19.7	47 26.6	N 0 48.1
2	0	70 51.3	223 44.2	S 9 29.3	275 42.8	N12 50.2	281 31.6	N13 19.7	62 29.1	N 0 48.1
	1	85 53.8	238 45.2	S 9 29.5	290 44.3	N12 50.0	296 34.0	N13 19.7	77 31.6	N 0 48.1
	2	100 56.2	253 46.1	S 9 29.7	305 45.9	N12 49.7	311 36.4	N13 19.7	92 34.1	N 0 48.1
	3	115 58.7	268 47.1	S 9 29.9	320 47.5	N12 49.4	326 38.7	N13 19.6	107 36.6	N 0 48.1
	4	131 01.2	283 48.0	S 9 30.1	335 49.0	N12 49.2	341 41.1	N13 19.6	122 39.1	N 0 48.1
W	5	146 03.6	298 49.0	S 9 30.4	350 50.6	N12 48.9	356 43.5	N13 19.6	137 41.6	N 0 48.1
E										
D	6	161 06.1	313 50.0	S 9 30.6	5 52.2	N12 48.6	11 45.9	N13 19.6	152 44.1	N 0 48.1
N	7	176 08.6	328 50.9	S 9 30.8	20 53.7	N12 48.4	26 48.2	N13 19.6	167 46.6	N 0 48.0
E	8	191 11.0	343 51.9	S 9 31.0	35 55.3	N12 48.1	41 50.6	N13 19.5	182 49.1	N 0 48.0
S	9	206 13.5	358 52.8	S 9 31.3	50 56.9	N12 47.8	56 53.0	N13 19.5	197 51.6	N 0 48.0
D	10	221 15.9	13 53.8	S 9 31.5	65 58.5	N12 47.6	71 55.4	N13 19.5	212 54.1	N 0 48.0
A	11	236 18.4	28 54.7	S 9 31.7	81 00.0	N12 47.3	86 57.8	N13 19.5	227 56.6	N 0 48.0
Y										
	12	251 20.9	43 55.6	S 9 32.0	96 01.6	N12 47.1	102 00.1	N13 19.5	242 59.1	N 0 48.0
	13	266 23.3	58 56.6	S 9 32.2	111 03.2	N12 46.8	117 02.5	N13 19.4	258 01.6	N 0 48.0
	14	281 25.8	73 57.5	S 9 32.4	126 04.7	N12 46.5	132 04.9	N13 19.4	273 04.1	N 0 48.0
	15	296 28.3	88 58.5	S 9 32.7	141 06.3	N12 46.3	147 07.3	N13 19.4	288 06.6	N 0 48.0
	16	311 30.7	103 59.4	S 9 32.9	156 07.9	N12 46.0	162 09.7	N13 19.4	303 09.1	N 0 48.0
	17	326 33.2	119 00.3	S 9 33.1	171 09.5	N12 45.7	177 12.0	N13 19.4	318 11.7	N 0 48.0
	18	341 35.7	134 01.3	S 9 33.4	186 11.0	N12 45.5	192 14.4	N13 19.3	333 14.2	N 0 48.0
	19	356 38.1	149 02.2	S 9 33.6	201 12.6	N12 45.2	207 16.8	N13 19.3	348 16.7	N 0 48.0
	20	11 40.6	164 03.1	S 9 33.9	216 14.2	N12 45.0	222 19.2	N13 19.3	3 19.2	N 0 48.0
	21	26 43.0	179 04.0	S 9 34.1	231 15.8	N12 44.7	237 21.6	N13 19.3	18 21.7	N 0 48.0
	22	41 45.5	194 05.0	S 9 34.4	246 17.4	N12 44.4	252 23.9	N13 19.3	33 24.2	N 0 48.0
	23	56 48.0	209 05.9	S 9 34.6	261 18.9	N12 44.2	267 26.3	N13 19.3	48 26.7	N 0 48.0
			v 1.0	d 0.2	v 1.6	d 0.3	v 2.4	d 0.0	v 2.5	d 0.0

	SUN		MOON					STARS		
G.M.T d h	GHA ° '	Dec ° '	GHA ° '	v '	Dec ° '	d '	HP '	Name	SHA ° '	Dec ° '
30 0	182 53.1	S21 36.3	284 39.6	10.3	N14 24.8	14.2	59.0	Acamar	315 10.2	S40 11.8
1	197 52.9	S21 36.7	299 09.0	10.4	N14 10.6	14.2	59.0	Achernar	335 18.6	S57 06.1
2	212 52.7	S21 37.1	313 38.5	10.5	N13 56.3	14.3	59.0	Acrux	172 58.7	S63 14.6
3	227 52.4	S21 37.5	328 08.1	10.6	N13 42.0	14.3	58.9	Adhara	255 04.3	S29 00.4
4	242 52.2	S21 38.0	342 37.8	10.7	N13 27.6	14.4	58.9	Albireo	67 03.1	N28 01.1
M 5	257 52.0	S21 38.4	357 07.6	10.8	N13 13.1	14.5	58.9			
O								Aldebaran	290 37.5	N16 33.9
N 6	272 51.8	S21 38.8	11 37.5	10.9	N12 58.6	14.5	58.8	Alioth	166 11.9	N55 48.6
D 7	287 51.5	S21 39.2	26 07.6	11.0	N12 44.1	14.6	58.8	Alkaid	152 51.1	N49 10.5
A 8	302 51.3	S21 39.6	40 37.7	11.1	N12 29.5	14.6	58.8	Al Na-ir	27 31.0	S46 50.0
Y 9	317 51.1	S21 40.0	55 07.9	11.2	N12 14.8	14.7	58.7	Alnilam	275 35.8	S 1 11.0
10	332 50.9	S21 40.4	69 38.2	11.3	N12 00.1	14.7	58.7			
11	347 50.6	S21 40.8	84 08.6	11.4	N11 45.4	14.7	58.7	Alphard	217 46.1	S 8 46.5
								Alphecca	126 02.8	N26 37.4
12	2 50.4	S21 41.2	98 39.1	11.5	N11 30.6	14.8	58.6	Alpheratz	357 33.0	N29 14.6
13	17 50.2	S21 41.6	113 09.7	11.6	N11 15.8	14.8	58.6	Altair	61 58.7	N 8 56.4
14	32 50.0	S21 42.0	127 40.4	11.7	N11 00.9	14.9	58.6	Ankaa	353 05.4	S42 09.7
15	47 49.7	S21 42.4	142 11.2	11.8	N10 46.0	14.9	58.5			
16	62 49.5	S21 42.8	156 42.1	11.9	N10 31.0	14.9	58.5	Antares	112 14.3	S26 29.5
17	77 49.3	S21 43.2	171 13.0	12.0	N10 16.1	15.0	58.5	Arcturus	145 46.8	N19 02.4
								Atria	107 07.8	S69 04.6
18	92 49.0	S21 43.6	185 44.0	12.0	N10 01.1	15.0	58.4	Avior	234 13.7	S59 35.5
19	107 48.8	S21 44.0	200 15.2	12.1	N 9 46.0	15.0	58.4	Bellatrix	278 20.9	N 6 22.5
20	122 48.6	S21 44.4	214 46.4	12.2	N 9 31.0	15.1	58.4			
21	137 48.4	S21 44.8	229 17.7	12.3	N 9 15.9	15.1	58.3	Betelgeuse	270 50.1	N 7 24.8
22	152 48.1	S21 45.2	243 49.0	12.4	N 9 00.7	15.1	58.3	Canopus	263 51.2	S52 42.4
23	167 47.9	S21 45.6	258 20.5	12.4	N 8 45.6	15.2	58.3	Capella	280 19.1	N46 01.5
1 0	182 47.7	S21 45.9	272 52.0	12.5	N 8 30.4	15.2	58.2	Castor	245 54.8	N31 49.7
1	197 47.4	S21 46.3	287 23.6	12.6	N 8 15.2	15.2	58.2	Deneb	49 25.0	N45 22.8
2	212 47.2	S21 46.7	301 55.3	12.7	N 7 60.0	15.2	58.2			
3	227 47.0	S21 47.1	316 27.0	12.7	N 7 44.7	15.2	58.1	Denebola	182 23.5	N14 25.2
4	242 46.7	S21 47.5	330 58.8	12.8	N 7 29.5	15.3	58.1	Diphda	348 45.6	S17 50.3
T 5	257 46.5	S21 47.9	345 30.7	12.9	N 7 14.2	15.3	58.1	Dubhe	193 39.1	N61 36.0
U								Elnath	277 59.6	N28 37.8
E 6	272 46.3	S21 48.3	0 02.6	13.0	N 6 58.9	15.3	58.0	Eltanin	90 42.0	N51 29.1
S 7	287 46.0	S21 48.7	14 34.7	13.0	N 6 43.6	15.3	58.0			
D 8	302 45.8	S21 49.1	29 06.8	13.1	N 6 28.2	15.3	58.0	Enif	33 37.3	N10 00.0
A 9	317 45.6	S21 49.5	43 38.9	13.1	N 6 12.9	15.3	58.0	Fomalhaut	15 12.8	S29 28.9
Y 10	332 45.3	S21 49.8	58 11.1	13.2	N 5 57.5	15.4	57.9	Gacrux	171 50.2	S57 15.6
11	347 45.1	S21 50.2	72 43.4	13.3	N 5 42.2	15.4	57.9	Gienah	175 42.1	S17 41.4
								Hadar	148 34.4	S60 30.0
12	2 44.9	S21 50.6	87 15.7	13.3	N 5 26.8	15.4	57.9			
13	17 44.6	S21 51.0	101 48.1	13.4	N 5 11.4	15.4	57.8	Hamal	327 49.2	N23 35.6
14	32 44.4	S21 51.4	116 20.6	13.4	N 4 56.0	15.4	57.8	Kaus Austr.	83 30.8	S34 22.4
15	47 44.2	S21 51.8	130 53.1	13.5	N 4 40.6	15.4	57.8	Kochab	137 21.1	N74 02.5
16	62 43.9	S21 52.1	145 25.6	13.6	N 4 25.2	15.4	57.7	Markab	13 28.3	N15 21.2
17	77 43.7	S21 52.5	159 58.2	13.6	N 4 09.8	15.4	57.7	Menkar	314 04.2	N 4 11.8
								Menkent	147 56.1	S36 30.1
18	92 43.5	S21 52.9	174 30.9	13.7	N 3 54.4	15.4	57.7	Miaplacidus	221 37.5	S69 49.4
19	107 43.2	S21 53.3	189 03.6	13.7	N 3 39.0	15.4	57.6	Mirfak	308 25.6	N49 57.6
20	122 43.0	S21 53.7	203 36.4	13.8	N 3 23.6	15.4	57.6	Nunki	75 46.1	S26 15.8
21	137 42.8	S21 54.0	218 09.2	13.8	N 3 08.2	15.4	57.6	Peacock	53 03.6	S56 39.1
22	152 42.5	S21 54.4	232 42.0	13.9	N 2 52.8	15.4	57.5			
23	167 42.3	S21 54.8	247 14.9	13.9	N 2 37.4	15.4	57.5	Polaris	315 33.3	N89 22.3
2 0	182 42.1	S21 55.2	261 47.9	13.9	N 2 22.0	15.4	57.5	Pollux	243 15.1	N27 57.6
1	197 41.8	S21 55.5	276 20.9	14.0	N 2 06.6	15.4	57.4	Procyon	244 48.9	N 5 09.4
2	212 41.6	S21 55.9	290 53.9	14.0	N 1 51.2	15.4	57.4	Rasalhague	95 57.5	N12 32.5
3	227 41.3	S21 56.3	305 27.0	14.1	N 1 35.8	15.4	57.4	Regulus	207 32.7	N11 50.1
4	242 41.1	S21 56.7	320 00.1	14.1	N 1 20.5	15.4	57.4			
W 5	257 40.9	S21 57.0	334 33.2	14.1	N 1 05.1	15.4	57.3	Rigel	281 02.0	S 8 10.1
E								Rigil Kent	139 38.9	S60 56.7
D 6	272 40.6	S21 57.4	349 06.4	14.2	N 0 49.8	15.3	57.3	Sabik	102 01.4	S15 45.5
N 7	287 40.4	S21 57.8	3 39.6	14.2	N 0 34.4	15.3	57.3	Schedar	349 29.0	N56 41.4
E 8	302 40.1	S21 58.1	18 12.8	14.2	N 0 19.1	15.3	57.2	Shaula	96 08.7	S37 07.4
S 9	317 39.9	S21 58.5	32 46.1	14.3	N 0 03.8	15.3	57.2	Sirius	258 24.6	S16 45.1
D 10	332 39.7	S21 58.9	47 19.4	14.3	S 0 11.5	15.3	57.2	Spica	158 20.9	S11 18.1
A 11	347 39.4	S21 59.2	61 52.7	14.3	S 0 26.7	15.3	57.1	Suhail	222 45.0	S43 32.2
Y								Vega	80 32.5	N38 48.6
12	2 39.2	S21 59.6	76 26.1	14.4	S 0 42.0	15.3	57.1	Zuben-ubi	136 55.5	S16 09.2
13	17 38.9	S21 60.0	90 59.4	14.4	S 0 57.2	15.2	57.1			
14	32 38.7	S22 00.3	105 32.8	14.4	S 1 12.5	15.2	57.1			
15	47 38.5	S22 00.7	120 06.3	14.4	S 1 27.7	15.2	57.0			
16	62 38.2	S22 01.1	134 39.7	14.4	S 1 42.8	15.2	57.0			
17	77 38.0	S22 01.4	149 13.2	14.5	S 1 58.0	15.2	57.0			
18	92 37.7	S22 01.8	163 46.7	14.5	S 2 13.1	15.1	56.9			
19	107 37.5	S22 02.2	178 20.2	14.5	S 2 28.2	15.1	56.9			
20	122 37.2	S22 02.5	192 53.7	14.5	S 2 43.3	15.1	56.9			
21	137 37.0	S22 02.9	207 27.2	14.5	S 2 58.4	15.1	56.9			
22	152 36.8	S22 03.2	222 00.8	14.6	S 3 13.4	15.0	56.8			
23	167 36.5	S22 03.6	236 34.4	14.6	S 3 28.4	15.0	56.8			
	S.D. 16.2	d 0.4	S.D.	16.0	15.8	15.6				

G.M.T d h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
3 0	71 50.4	224 06.8	S 9 34.8	276 20.5	N12 43.9	282 28.7	N13 19.2	63 29.2	N 0 48.0
1	86 52.9	239 07.7	S 9 35.1	291 22.1	N12 43.6	297 31.1	N13 19.2	78 31.7	N 0 47.9
2	101 55.4	254 08.6	S 9 35.3	306 23.7	N12 43.4	312 33.5	N13 19.2	93 34.2	N 0 47.9
3	116 57.8	269 09.5	S 9 35.6	321 25.3	N12 43.1	327 35.8	N13 19.2	108 36.7	N 0 47.9
4	132 00.3	284 10.4	S 9 35.8	336 26.9	N12 42.9	342 38.2	N13 19.2	123 39.2	N 0 47.9
T 5	147 02.8	299 11.3	S 9 36.1	351 28.4	N12 42.6	357 40.6	N13 19.1	138 41.7	N 0 47.9
H									
U 6	162 05.2	314 12.2	S 9 36.4	6 30.0	N12 42.3	12 43.0	N13 19.1	153 44.2	N 0 47.9
R 7	177 07.7	329 13.2	S 9 36.6	21 31.6	N12 42.1	27 45.4	N13 19.1	168 46.7	N 0 47.9
S 8	192 10.2	344 14.1	S 9 36.9	36 33.2	N12 41.8	42 47.8	N13 19.1	183 49.2	N 0 47.9
D 9	207 12.6	359 14.9	S 9 37.1	51 34.8	N12 41.6	57 50.1	N13 19.1	198 51.7	N 0 47.9
A 10	222 15.1	14 15.8	S 9 37.4	66 36.4	N12 41.3	72 52.5	N13 19.1	213 54.2	N 0 47.9
Y 11	237 17.5	29 16.7	S 9 37.6	81 38.0	N12 41.0	87 54.9	N13 19.0	228 56.7	N 0 47.9
12	252 20.0	44 17.6	S 9 37.9	96 39.5	N12 40.8	102 57.3	N13 19.0	243 59.2	N 0 47.9
13	267 22.5	59 18.5	S 9 38.2	111 41.1	N12 40.5	117 59.7	N13 19.0	259 01.7	N 0 47.9
14	282 24.9	74 19.4	S 9 38.4	126 42.7	N12 40.3	133 02.1	N13 19.0	274 04.2	N 0 47.9
15	297 27.4	89 20.3	S 9 38.7	141 44.3	N12 40.0	148 04.5	N13 19.0	289 06.7	N 0 47.9
16	312 29.9	104 21.2	S 9 39.0	156 45.9	N12 39.8	163 06.8	N13 19.0	304 09.2	N 0 47.9
17	327 32.3	119 22.1	S 9 39.2	171 47.5	N12 39.5	178 09.2	N13 18.9	319 11.7	N 0 47.9
18	342 34.8	134 22.9	S 9 39.5	186 49.1	N12 39.2	193 11.6	N13 18.9	334 14.2	N 0 47.9
19	357 37.3	149 23.8	S 9 39.8	201 50.7	N12 39.0	208 14.0	N13 18.9	349 16.7	N 0 47.9
20	12 39.7	164 24.7	S 9 40.0	216 52.3	N12 38.7	223 16.4	N13 18.9	4 19.2	N 0 47.9
21	27 42.2	179 25.6	S 9 40.3	231 53.9	N12 38.5	238 18.8	N13 18.9	19 21.7	N 0 47.9
22	42 44.7	194 26.4	S 9 40.6	246 55.5	N12 38.2	253 21.2	N13 18.9	34 24.2	N 0 47.9
23	57 47.1	209 27.3	S 9 40.9	261 57.1	N12 38.0	268 23.6	N13 18.8	49 26.7	N 0 47.9
4 0	72 49.6	224 28.2	S 9 41.1	276 58.7	N12 37.7	283 26.0	N13 18.8	64 29.2	N 0 47.9
1	87 52.0	239 29.0	S 9 41.4	292 00.2	N12 37.5	298 28.3	N13 18.8	79 31.6	N 0 47.9
2	102 54.5	254 29.9	S 9 41.7	307 01.8	N12 37.2	313 30.7	N13 18.8	94 34.1	N 0 47.8
3	117 57.0	269 30.8	S 9 42.0	322 03.4	N12 36.9	328 33.1	N13 18.8	109 36.6	N 0 47.8
4	132 59.4	284 31.6	S 9 42.2	337 05.0	N12 36.7	343 35.5	N13 18.8	124 39.1	N 0 47.8
F 5	148 01.9	299 32.5	S 9 42.5	352 06.6	N12 36.4	358 37.9	N13 18.8	139 41.6	N 0 47.8
R									
I 6	163 04.4	314 33.3	S 9 42.8	7 08.2	N12 36.2	13 40.3	N13 18.7	154 44.1	N 0 47.8
D 7	178 06.8	329 34.2	S 9 43.1	22 09.8	N12 35.9	28 42.7	N13 18.7	169 46.6	N 0 47.8
A 8	193 09.3	344 35.1	S 9 43.4	37 11.4	N12 35.7	43 45.1	N13 18.7	184 49.1	N 0 47.8
Y 9	208 11.8	359 35.9	S 9 43.7	52 13.0	N12 35.4	58 47.5	N13 18.7	199 51.6	N 0 47.8
10	223 14.2	14 36.8	S 9 44.0	67 14.6	N12 35.2	73 49.9	N13 18.7	214 54.1	N 0 47.8
11	238 16.7	29 37.6	S 9 44.2	82 16.3	N12 34.9	88 52.3	N13 18.7	229 56.6	N 0 47.8
12	253 19.1	44 38.4	S 9 44.5	97 17.9	N12 34.7	103 54.7	N13 18.7	244 59.1	N 0 47.8
13	268 21.6	59 39.3	S 9 44.8	112 19.5	N12 34.4	118 57.0	N13 18.6	260 01.6	N 0 47.8
14	283 24.1	74 40.1	S 9 45.1	127 21.1	N12 34.2	133 59.4	N13 18.6	275 04.1	N 0 47.8
15	298 26.5	89 41.0	S 9 45.4	142 22.7	N12 33.9	149 01.8	N13 18.6	290 06.6	N 0 47.8
16	313 29.0	104 41.8	S 9 45.7	157 24.3	N12 33.6	164 04.2	N13 18.6	305 09.1	N 0 47.8
17	328 31.5	119 42.6	S 9 46.0	172 25.9	N12 33.4	179 06.6	N13 18.6	320 11.6	N 0 47.8
18	343 33.9	134 43.5	S 9 46.3	187 27.5	N12 33.1	194 09.0	N13 18.6	335 14.1	N 0 47.8
19	358 36.4	149 44.3	S 9 46.6	202 29.1	N12 32.9	209 11.4	N13 18.6	350 16.6	N 0 47.8
20	13 38.9	164 45.1	S 9 46.9	217 30.7	N12 32.6	224 13.8	N13 18.5	5 19.1	N 0 47.8
21	28 41.3	179 45.9	S 9 47.2	232 32.3	N12 32.4	239 16.2	N13 18.5	20 21.6	N 0 47.8
22	43 43.8	194 46.8	S 9 47.5	247 33.9	N12 32.1	254 18.6	N13 18.5	35 24.1	N 0 47.8
23	58 46.3	209 47.6	S 9 47.8	262 35.5	N12 31.9	269 21.0	N13 18.5	50 26.5	N 0 47.8
5 0	73 48.7	224 48.4	S 9 48.1	277 37.2	N12 31.6	284 23.4	N13 18.5	65 29.0	N 0 47.8
1	88 51.2	239 49.2	S 9 48.4	292 38.8	N12 31.4	299 25.8	N13 18.5	80 31.5	N 0 47.8
2	103 53.6	254 50.1	S 9 48.7	307 40.4	N12 31.1	314 28.2	N13 18.5	95 34.0	N 0 47.8
3	118 56.1	269 50.9	S 9 49.0	322 42.0	N12 30.9	329 30.6	N13 18.5	110 36.5	N 0 47.8
4	133 58.6	284 51.7	S 9 49.3	337 43.6	N12 30.6	344 33.0	N13 18.4	125 39.0	N 0 47.8
S 5	149 01.0	299 52.5	S 9 49.6	352 45.2	N12 30.4	359 35.4	N13 18.4	140 41.5	N 0 47.8
A									
T 6	164 03.5	314 53.3	S 9 49.9	7 46.8	N12 30.1	14 37.8	N13 18.4	155 44.0	N 0 47.8
U 7	179 06.0	329 54.1	S 9 50.2	22 48.5	N12 29.9	29 40.2	N13 18.4	170 46.5	N 0 47.8
R 8	194 08.4	344 54.9	S 9 50.6	37 50.1	N12 29.6	44 42.6	N13 18.4	185 49.0	N 0 47.8
D 9	209 10.9	359 55.7	S 9 50.9	52 51.7	N12 29.4	59 45.0	N13 18.4	200 51.5	N 0 47.8
A 10	224 13.4	14 56.5	S 9 51.2	67 53.3	N12 29.2	74 47.4	N13 18.4	215 54.0	N 0 47.8
Y 11	239 15.8	29 57.3	S 9 51.5	82 54.9	N12 28.9	89 49.8	N13 18.4	230 56.5	N 0 47.8
12	254 18.3	44 58.1	S 9 51.8	97 56.5	N12 28.7	104 52.2	N13 18.3	245 58.9	N 0 47.8
13	269 20.8	59 58.9	S 9 52.1	112 58.2	N12 28.4	119 54.6	N13 18.3	261 01.4	N 0 47.8
14	284 23.2	74 59.7	S 9 52.4	127 59.8	N12 28.2	134 57.0	N13 18.3	276 03.9	N 0 47.8
15	299 25.7	90 00.5	S 9 52.8	143 01.4	N12 27.9	149 59.4	N13 18.3	291 06.4	N 0 47.8
16	314 28.1	105 01.3	S 9 53.1	158 03.0	N12 27.7	165 01.8	N13 18.3	306 08.9	N 0 47.8
17	329 30.6	120 02.1	S 9 53.4	173 04.7	N12 27.4	180 04.2	N13 18.3	321 11.4	N 0 47.8
18	344 33.1	135 02.9	S 9 53.7	188 06.3	N12 27.2	195 06.6	N13 18.3	336 13.9	N 0 47.8
19	359 35.5	150 03.6	S 9 54.1	203 07.9	N12 26.9	210 09.0	N13 18.3	351 16.4	N 0 47.8
20	14 38.0	165 04.4	S 9 54.4	218 09.5	N12 26.7	225 11.4	N13 18.3	6 18.9	N 0 47.8
21	29 40.5	180 05.2	S 9 54.7	233 11.2	N12 26.4	240 13.8	N13 18.2	21 21.4	N 0 47.8
22	44 42.9	195 06.0	S 9 55.0	248 12.8	N12 26.2	255 16.2	N13 18.2	36 23.9	N 0 47.8
23	59 45.4	210 06.8	S 9 55.4	263 14.4	N12 26.0	270 18.6	N13 18.2	51 26.3	N 0 47.8
		v 0.8	d 0.3	v 1.6	d 0.3	v 2.4	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
3	0	182 36.3	S22 04.0	251 07.9	14.6	S 3 43.4	15.0	56.8
	1	197 36.0	S22 04.3	265 41.5	14.6	S 3 58.3	14.9	56.7
	2	212 35.8	S22 04.7	280 15.1	14.6	S 4 13.2	14.9	56.7
	3	227 35.5	S22 05.0	294 48.7	14.6	S 4 28.1	14.9	56.7
	4	242 35.3	S22 05.4	309 22.3	14.6	S 4 43.0	14.8	56.7
T	5	257 35.1	S22 05.7	323 55.9	14.6	S 4 57.8	14.8	56.6
H								
U	6	272 34.8	S22 06.1	338 29.6	14.6	S 5 12.6	14.8	56.6
R	7	287 34.6	S22 06.4	353 03.2	14.6	S 5 27.3	14.7	56.6
S	8	302 34.3	S22 06.8	7 36.8	14.6	S 5 42.0	14.7	56.6
D	9	317 34.1	S22 07.1	22 10.4	14.6	S 5 56.7	14.7	56.5
A	10	332 33.8	S22 07.5	36 44.1	14.6	S 6 11.3	14.6	56.5
Y	11	347 33.6	S22 07.8	51 17.7	14.6	S 6 25.9	14.6	56.5
	12	2 33.3	S22 08.2	65 51.3	14.6	S 6 40.5	14.6	56.4
	13	17 33.1	S22 08.5	80 24.9	14.6	S 6 55.0	14.5	56.4
	14	32 32.8	S22 08.9	94 58.5	14.6	S 7 09.5	14.5	56.4
	15	47 32.6	S22 09.2	109 32.2	14.6	S 7 23.9	14.4	56.4
	16	62 32.3	S22 09.6	124 05.8	14.6	S 7 38.3	14.4	56.3
	17	77 32.1	S22 09.9	138 39.3	14.6	S 7 52.6	14.3	56.3
	18	92 31.8	S22 10.3	153 12.9	14.6	S 8 06.9	14.3	56.3
	19	107 31.6	S22 10.6	167 46.5	14.6	S 8 21.2	14.3	56.3
	20	122 31.3	S22 11.0	182 20.1	14.6	S 8 35.4	14.2	56.2
	21	137 31.1	S22 11.3	196 53.6	14.6	S 8 49.5	14.2	56.2
	22	152 30.8	S22 11.6	211 27.2	14.5	S 9 03.7	14.1	56.2
	23	167 30.6	S22 12.0	226 00.7	14.5	S 9 17.7	14.1	56.2
4	0	182 30.3	S22 12.3	240 34.2	14.5	S 9 31.7	14.0	56.1
	1	197 30.1	S22 12.7	255 07.7	14.5	S 9 45.7	14.0	56.1
	2	212 29.8	S22 13.0	269 41.1	14.5	S 9 59.6	13.9	56.1
	3	227 29.6	S22 13.3	284 14.6	14.5	S10 13.4	13.9	56.1
	4	242 29.3	S22 13.7	298 48.0	14.4	S10 27.2	13.8	56.0
F	5	257 29.1	S22 14.0	313 21.4	14.4	S10 41.0	13.7	56.0
R								
I	6	272 28.8	S22 14.3	327 54.8	14.4	S10 54.7	13.7	56.0
D	7	287 28.6	S22 14.7	342 28.2	14.4	S11 08.3	13.6	56.0
A	8	302 28.3	S22 15.0	357 01.6	14.3	S11 21.9	13.6	55.9
Y	9	317 28.1	S22 15.3	11 34.9	14.3	S11 35.4	13.5	55.9
	10	332 27.8	S22 15.7	26 08.2	14.3	S11 48.9	13.5	55.9
	11	347 27.6	S22 16.0	40 41.5	14.3	S12 02.3	13.4	55.9
	12	2 27.3	S22 16.3	55 14.7	14.2	S12 15.6	13.3	55.9
	13	17 27.1	S22 16.7	69 47.9	14.2	S12 28.9	13.3	55.8
	14	32 26.8	S22 17.0	84 21.1	14.2	S12 42.1	13.2	55.8
	15	47 26.6	S22 17.3	98 54.3	14.2	S12 55.2	13.2	55.8
	16	62 26.3	S22 17.7	113 27.4	14.1	S13 08.3	13.1	55.8
	17	77 26.0	S22 18.0	128 00.5	14.1	S13 21.3	13.0	55.7
	18	92 25.8	S22 18.3	142 33.6	14.1	S13 34.3	13.0	55.7
	19	107 25.5	S22 18.6	157 06.6	14.0	S13 47.2	12.9	55.7
	20	122 25.3	S22 19.0	171 39.6	14.0	S14 00.0	12.8	55.7
	21	137 25.0	S22 19.3	186 12.6	14.0	S14 12.8	12.8	55.7
	22	152 24.8	S22 19.6	200 45.5	13.9	S14 25.4	12.7	55.6
	23	167 24.5	S22 19.9	215 18.4	13.9	S14 38.1	12.6	55.6
5	0	182 24.3	S22 20.3	229 51.2	13.9	S14 50.6	12.5	55.6
	1	197 24.0	S22 20.6	244 24.0	13.8	S15 03.1	12.5	55.6
	2	212 23.7	S22 20.9	258 56.8	13.8	S15 15.5	12.4	55.5
	3	227 23.5	S22 21.2	273 29.6	13.7	S15 27.8	12.3	55.5
	4	242 23.2	S22 21.5	288 02.3	13.7	S15 40.0	12.2	55.5
S	5	257 23.0	S22 21.9	302 34.9	13.7	S15 52.2	12.2	55.5
A								
T	6	272 22.7	S22 22.2	317 07.6	13.6	S16 04.3	12.1	55.5
U	7	287 22.5	S22 22.5	331 40.1	13.6	S16 16.3	12.0	55.4
R	8	302 22.2	S22 22.8	346 12.7	13.5	S16 28.3	11.9	55.4
D	9	317 21.9	S22 23.1	0 45.2	13.5	S16 40.1	11.9	55.4
A	10	332 21.7	S22 23.4	15 17.6	13.5	S16 51.9	11.8	55.4
Y	11	347 21.4	S22 23.8	29 50.0	13.4	S17 03.6	11.7	55.4
	12	2 21.2	S22 24.1	44 22.4	13.4	S17 15.2	11.6	55.3
	13	17 20.9	S22 24.4	58 54.7	13.3	S17 26.8	11.5	55.3
	14	32 20.6	S22 24.7	73 27.0	13.3	S17 38.2	11.5	55.3
	15	47 20.4	S22 25.0	87 59.2	13.2	S17 49.6	11.4	55.3
	16	62 20.1	S22 25.3	102 31.4	13.2	S18 00.9	11.3	55.3
	17	77 19.9	S22 25.6	117 03.6	13.1	S18 12.1	11.2	55.3
	18	92 19.6	S22 25.9	131 35.7	13.1	S18 23.2	11.1	55.2
	19	107 19.3	S22 26.2	146 07.7	13.0	S18 34.2	11.0	55.2
	20	122 19.1	S22 26.5	160 39.7	13.0	S18 45.2	10.9	55.2
	21	137 18.8	S22 26.9	175 11.6	12.9	S18 56.0	10.9	55.2
	22	152 18.5	S22 27.2	189 43.5	12.9	S19 06.8	10.8	55.2
	23	167 18.3	S22 27.5	204 15.4	12.9	S19 17.5	10.7	55.1
		S.D. 16.2	d 0.3	S.D. 15.4		15.2	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.8
Achernar	335 18.6	S57 06.1
Acrux	172 58.7	S63 14.6
Adhara	255 04.3	S29 00.4
Albireo	67 03.1	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.9	N55 48.6
Alkaid	152 51.1	N49 10.5
Al Na-ir	27 31.0	S46 50.0
Alnilam	275 35.8	S 1 11.0
Alphard	217 46.1	S 8 46.5
Alphecca	126 02.8	N26 37.4
Alpheratz	357 33.0	N29 14.6
Altair	61 58.7	N 8 56.4
Ankaa	353 05.4	S42 09.7
Antares	112 14.3	S26 29.5
Arcturus	145 46.8	N19 02.4
Atria	107 07.8	S69 04.6
Avior	234 13.7	S59 35.5
Bellatrix	278 20.9	N 6 22.5
Betelgeuse	270 50.1	N 7 24.8
Canopus	263 51.2	S52 42.4
Capella	280 19.1	N46 01.5
Castor	245 54.7	N31 49.7
Deneb	49 25.0	N45 22.8
Denebola	182 23.4	N14 25.2
Diphda	348 45.6	S17 50.3
Dubhe	193 39.1	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 42.0	N51 29.1
Enif	33 37.3	N10 00.0
Fomalhaut	15 12.8	S29 28.9
Gacrux	171 50.2	S57 15.6
Gienah	175 42.1	S17 41.4
Hadar	148 34.4	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.9	S34 22.4
Kochab	137 21.1	N74 02.4
Markab	13 28.3	N15 21.2
Menkar	314 04.2	N 4 11.8
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.4	S69 49.4
Mirfak	308 25.6	N49 57.6
Nunki	75 46.2	S26 15.8
Peacock	53 03.6	S56 39.1
Polaris	315 33.9	N89 22.3
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.4
Rasalhague	95 57.5	N12 32.5
Regulus	207 32.7	N11 50.1
Rigel	281 02.0	S 8 10.1
Rigil Kent	139 38.9	S60 56.7
Sabik	102 01.4	S15 45.5
Schedar	349 29.0	N56 41.4
Shaula	96 08.7	S37 07.4
Sirius	258 24.6	S16 45.1
Spica	158 20.9	S11 18.1
Suhail	222 44.9	S43 32.2
Vega	80 32.6	N38 48.6
Zuben-ubi	136 55.5	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
6 0	74 47.9	225 07.5	S 9 55.7	278 16.0	N12 25.7	285 21.0	N13 18.2	66 28.8	N 0 47.8
1	89 50.3	240 08.3	S 9 56.0	293 17.7	N12 25.5	300 23.4	N13 18.2	81 31.3	N 0 47.8
2	104 52.8	255 09.1	S 9 56.3	308 19.3	N12 25.2	315 25.8	N13 18.2	96 33.8	N 0 47.8
3	119 55.2	270 09.8	S 9 56.7	323 20.9	N12 25.0	330 28.2	N13 18.2	111 36.3	N 0 47.8
4	134 57.7	285 10.6	S 9 57.0	338 22.6	N12 24.7	345 30.7	N13 18.2	126 38.8	N 0 47.8
S 5	150 00.2	300 11.4	S 9 57.3	353 24.2	N12 24.5	0 33.1	N13 18.2	141 41.3	N 0 47.8
U									
N 6	165 02.6	315 12.1	S 9 57.7	8 25.8	N12 24.2	15 35.5	N13 18.2	156 43.8	N 0 47.8
D 7	180 05.1	330 12.9	S 9 58.0	23 27.4	N12 24.0	30 37.9	N13 18.2	171 46.2	N 0 47.8
A 8	195 07.6	345 13.7	S 9 58.4	38 29.1	N12 23.8	45 40.3	N13 18.1	186 48.7	N 0 47.8
Y 9	210 10.0	0 14.4	S 9 58.7	53 30.7	N12 23.5	60 42.7	N13 18.1	201 51.2	N 0 47.8
10	225 12.5	15 15.2	S 9 59.0	68 32.3	N12 23.3	75 45.1	N13 18.1	216 53.7	N 0 47.8
11	240 15.0	30 15.9	S 9 59.4	83 34.0	N12 23.0	90 47.5	N13 18.1	231 56.2	N 0 47.8
12	255 17.4	45 16.7	S 9 59.7	98 35.6	N12 22.8	105 49.9	N13 18.1	246 58.7	N 0 47.8
13	270 19.9	60 17.4	S10 00.1	113 37.3	N12 22.6	120 52.3	N13 18.1	262 01.2	N 0 47.8
14	285 22.4	75 18.2	S10 00.4	128 38.9	N12 22.3	135 54.7	N13 18.1	277 03.7	N 0 47.8
15	300 24.8	90 18.9	S10 00.7	143 40.5	N12 22.1	150 57.1	N13 18.1	292 06.1	N 0 47.8
16	315 27.3	105 19.7	S10 01.1	158 42.2	N12 21.8	165 59.6	N13 18.1	307 08.6	N 0 47.8
17	330 29.7	120 20.4	S10 01.4	173 43.8	N12 21.6	181 02.0	N13 18.1	322 11.1	N 0 47.8
18	345 32.2	135 21.2	S10 01.8	188 45.4	N12 21.3	196 04.4	N13 18.1	337 13.6	N 0 47.8
19	0 34.7	150 21.9	S10 02.1	203 47.1	N12 21.1	211 06.8	N13 18.0	352 16.1	N 0 47.8
20	15 37.1	165 22.6	S10 02.5	218 48.7	N12 20.9	226 09.2	N13 18.0	7 18.6	N 0 47.8
21	30 39.6	180 23.4	S10 02.8	233 50.4	N12 20.6	241 11.6	N13 18.0	22 21.1	N 0 47.8
22	45 42.1	195 24.1	S10 03.2	248 52.0	N12 20.4	256 14.0	N13 18.0	37 23.5	N 0 47.8
23	60 44.5	210 24.8	S10 03.5	263 53.7	N12 20.2	271 16.4	N13 18.0	52 26.0	N 0 47.8
7 0	75 47.0	225 25.6	S10 03.9	278 55.3	N12 19.9	286 18.8	N13 18.0	67 28.5	N 0 47.8
1	90 49.5	240 26.3	S10 04.2	293 56.9	N12 19.7	301 21.3	N13 18.0	82 31.0	N 0 47.8
2	105 51.9	255 27.0	S10 04.6	308 58.6	N12 19.4	316 23.7	N13 18.0	97 33.5	N 0 47.8
3	120 54.4	270 27.8	S10 05.0	324 00.2	N12 19.2	331 26.1	N13 18.0	112 36.0	N 0 47.8
4	135 56.9	285 28.5	S10 05.3	339 01.9	N12 19.0	346 28.5	N13 18.0	127 38.5	N 0 47.8
M 5	150 59.3	300 29.2	S10 05.7	354 03.5	N12 18.7	1 30.9	N13 18.0	142 40.9	N 0 47.8
O									
N 6	166 01.8	315 29.9	S10 06.0	9 05.2	N12 18.5	16 33.3	N13 18.0	157 43.4	N 0 47.8
D 7	181 04.2	330 30.6	S10 06.4	24 06.8	N12 18.3	31 35.7	N13 18.0	172 45.9	N 0 47.8
A 8	196 06.7	345 31.4	S10 06.7	39 08.5	N12 18.0	46 38.2	N13 18.0	187 48.4	N 0 47.8
Y 9	211 09.2	0 32.1	S10 07.1	54 10.1	N12 17.8	61 40.6	N13 18.0	202 50.9	N 0 47.8
10	226 11.6	15 32.8	S10 07.5	69 11.8	N12 17.5	76 43.0	N13 17.9	217 53.4	N 0 47.9
11	241 14.1	30 33.5	S10 07.8	84 13.4	N12 17.3	91 45.4	N13 17.9	232 55.8	N 0 47.9
12	256 16.6	45 34.2	S10 08.2	99 15.1	N12 17.1	106 47.8	N13 17.9	247 58.3	N 0 47.9
13	271 19.0	60 34.9	S10 08.6	114 16.7	N12 16.8	121 50.2	N13 17.9	263 00.8	N 0 47.9
14	286 21.5	75 35.6	S10 08.9	129 18.4	N12 16.6	136 52.7	N13 17.9	278 03.3	N 0 47.9
15	301 24.0	90 36.3	S10 09.3	144 20.0	N12 16.4	151 55.1	N13 17.9	293 05.8	N 0 47.9
16	316 26.4	105 37.0	S10 09.7	159 21.7	N12 16.1	166 57.5	N13 17.9	308 08.3	N 0 47.9
17	331 28.9	120 37.7	S10 10.0	174 23.4	N12 15.9	181 59.9	N13 17.9	323 10.7	N 0 47.9
18	346 31.3	135 38.4	S10 10.4	189 25.0	N12 15.7	197 02.3	N13 17.9	338 13.2	N 0 47.9
19	1 33.8	150 39.1	S10 10.8	204 26.7	N12 15.4	212 04.8	N13 17.9	353 15.7	N 0 47.9
20	16 36.3	165 39.8	S10 11.2	219 28.3	N12 15.2	227 07.2	N13 17.9	8 18.2	N 0 47.9
21	31 38.7	180 40.5	S10 11.5	234 30.0	N12 15.0	242 09.6	N13 17.9	23 20.7	N 0 47.9
22	46 41.2	195 41.2	S10 11.9	249 31.6	N12 14.7	257 12.0	N13 17.9	38 23.1	N 0 47.9
23	61 43.7	210 41.9	S10 12.3	264 33.3	N12 14.5	272 14.4	N13 17.9	53 25.6	N 0 47.9
8 0	76 46.1	225 42.6	S10 12.7	279 35.0	N12 14.3	287 16.9	N13 17.9	68 28.1	N 0 47.9
1	91 48.6	240 43.3	S10 13.0	294 36.6	N12 14.0	302 19.3	N13 17.9	83 30.6	N 0 47.9
2	106 51.1	255 44.0	S10 13.4	309 38.3	N12 13.8	317 21.7	N13 17.9	98 33.1	N 0 47.9
3	121 53.5	270 44.6	S10 13.8	324 39.9	N12 13.6	332 24.1	N13 17.9	113 35.6	N 0 47.9
4	136 56.0	285 45.3	S10 14.2	339 41.6	N12 13.3	347 26.5	N13 17.9	128 38.0	N 0 47.9
T 5	151 58.5	300 46.0	S10 14.6	354 43.3	N12 13.1	2 29.0	N13 17.9	143 40.5	N 0 47.9
U									
E 6	167 00.9	315 46.7	S10 14.9	9 44.9	N12 12.9	17 31.4	N13 17.8	158 43.0	N 0 47.9
S 7	182 03.4	330 47.4	S10 15.3	24 46.6	N12 12.6	32 33.8	N13 17.8	173 45.5	N 0 47.9
D 8	197 05.8	345 48.0	S10 15.7	39 48.3	N12 12.4	47 36.2	N13 17.8	188 47.9	N 0 47.9
A 9	212 08.3	0 48.7	S10 16.1	54 49.9	N12 12.2	62 38.7	N13 17.8	203 50.4	N 0 47.9
Y 10	227 10.8	15 49.4	S10 16.5	69 51.6	N12 12.0	77 41.1	N13 17.8	218 52.9	N 0 48.0
11	242 13.2	30 50.0	S10 16.9	84 53.3	N12 11.7	92 43.5	N13 17.8	233 55.4	N 0 48.0
12	257 15.7	45 50.7	S10 17.2	99 54.9	N12 11.5	107 45.9	N13 17.8	248 57.9	N 0 48.0
13	272 18.2	60 51.4	S10 17.6	114 56.6	N12 11.3	122 48.3	N13 17.8	264 00.3	N 0 48.0
14	287 20.6	75 52.0	S10 18.0	129 58.3	N12 11.0	137 50.8	N13 17.8	279 02.8	N 0 48.0
15	302 23.1	90 52.7	S10 18.4	144 60.0	N12 10.8	152 53.2	N13 17.8	294 05.3	N 0 48.0
16	317 25.6	105 53.4	S10 18.8	160 01.6	N12 10.6	167 55.6	N13 17.8	309 07.8	N 0 48.0
17	332 28.0	120 54.0	S10 19.2	175 03.3	N12 10.4	182 58.1	N13 17.8	324 10.3	N 0 48.0
18	347 30.5	135 54.7	S10 19.6	190 05.0	N12 10.1	198 00.5	N13 17.8	339 12.7	N 0 48.0
19	2 33.0	150 55.3	S10 20.0	205 06.6	N12 09.9	213 02.9	N13 17.8	354 15.2	N 0 48.0
20	17 35.4	165 56.0	S10 20.4	220 08.3	N12 09.7	228 05.3	N13 17.8	9 17.7	N 0 48.0
21	32 37.9	180 56.6	S10 20.8	235 10.0	N12 09.4	243 07.8	N13 17.8	24 20.2	N 0 48.0
22	47 40.3	195 57.3	S10 21.2	250 11.7	N12 09.2	258 10.2	N13 17.8	39 22.6	N 0 48.0
23	62 42.8	210 57.9	S10 21.6	265 13.3	N12 09.0	273 12.6	N13 17.8	54 25.1	N 0 48.0
		v 0.7	d 0.4	v 1.7	d 0.2	v 2.4	d 0.0	v 2.5	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
6 0	182 18.0	S22 27.8	218 47.2	12.8	S19 28.0	10.6	55.1	Acamar	315 10.2	S40 11.8
1	197 17.8	S22 28.1	233 19.0	12.8	S19 38.5	10.5	55.1	Achernar	335 18.6	S57 06.1
2	212 17.5	S22 28.4	247 50.7	12.7	S19 48.9	10.4	55.1	Acrux	172 58.6	S63 14.6
3	227 17.2	S22 28.7	262 22.3	12.7	S19 59.2	10.3	55.1	Adhara	255 04.3	S29 00.4
4	242 17.0	S22 29.0	276 53.9	12.6	S20 09.4	10.2	55.1	Albireo	67 03.1	N28 01.1
S 5	257 16.7	S22 29.3	291 25.5	12.6	S20 19.5	10.1	55.0			
U								Aldebaran	290 37.5	N16 33.9
N 6	272 16.4	S22 29.6	305 57.0	12.5	S20 29.5	10.0	55.0	Alioth	166 11.8	N55 48.6
D 7	287 16.2	S22 29.9	320 28.4	12.5	S20 39.5	9.9	55.0	Alkaid	152 51.1	N49 10.5
A 8	302 15.9	S22 30.2	334 59.8	12.4	S20 49.3	9.8	55.0	Al Na-ir	27 31.0	S46 50.0
Y 9	317 15.7	S22 30.5	349 31.2	12.3	S20 59.0	9.7	55.0	Alnilam	275 35.8	S 1 11.0
10	332 15.4	S22 30.8	4 02.5	12.3	S21 08.6	9.6	55.0			
11	347 15.1	S22 31.1	18 33.7	12.2	S21 18.1	9.5	54.9	Alphard	217 46.0	S 8 46.5
								Alphecca	126 02.8	N26 37.3
12	2 14.9	S22 31.4	33 04.9	12.2	S21 27.6	9.4	54.9	Alpheratz	357 33.1	N29 14.6
13	17 14.6	S22 31.6	47 36.0	12.1	S21 36.9	9.3	54.9	Altair	61 58.7	N 8 56.4
14	32 14.3	S22 31.9	62 07.1	12.1	S21 46.1	9.2	54.9	Ankaa	353 05.4	S42 09.7
15	47 14.1	S22 32.2	76 38.2	12.0	S21 55.2	9.1	54.9			
16	62 13.8	S22 32.5	91 09.2	12.0	S22 04.2	9.0	54.9	Antares	112 14.3	S26 29.5
17	77 13.5	S22 32.8	105 40.1	11.9	S22 13.1	8.9	54.8	Arcturus	145 46.7	N19 02.4
								Atria	107 07.8	S69 04.6
18	92 13.3	S22 33.1	120 11.0	11.9	S22 21.9	8.8	54.8	Avior	234 13.6	S59 35.5
19	107 13.0	S22 33.4	134 41.8	11.8	S22 30.6	8.7	54.8	Bellatrix	278 20.9	N 6 22.5
20	122 12.7	S22 33.7	149 12.6	11.8	S22 39.1	8.6	54.8			
21	137 12.5	S22 34.0	163 43.4	11.7	S22 47.6	8.5	54.8	Betelgeuse	270 50.0	N 7 24.8
22	152 12.2	S22 34.3	178 14.0	11.7	S22 56.0	8.4	54.8	Canopus	263 51.1	S52 42.4
23	167 11.9	S22 34.5	192 44.7	11.6	S23 04.2	8.2	54.8	Capella	280 19.1	N46 01.5
								Castor	245 54.7	N31 49.7
7 0	182 11.7	S22 34.8	207 15.3	11.6	S23 12.4	8.1	54.7	Deneb	49 25.0	N45 22.8
1	197 11.4	S22 35.1	221 45.8	11.5	S23 20.4	8.0	54.7			
2	212 11.1	S22 35.4	236 16.3	11.5	S23 28.3	7.9	54.7	Denebola	182 23.4	N14 25.2
3	227 10.9	S22 35.7	250 46.7	11.4	S23 36.1	7.8	54.7	Diphda	348 45.6	S17 50.3
4	242 10.6	S22 36.0	265 17.1	11.4	S23 43.8	7.7	54.7	Dubhe	193 39.1	N61 36.0
M 5	257 10.3	S22 36.2	279 47.5	11.3	S23 51.4	7.6	54.7	Elnath	277 59.5	N28 37.8
O								Eltanin	90 42.0	N51 29.1
N 6	272 10.0	S22 36.5	294 17.7	11.3	S23 58.8	7.5	54.7			
D 7	287 09.8	S22 36.8	308 48.0	11.2	S24 06.2	7.3	54.6	Enif	33 37.3	N10 00.0
A 8	302 09.5	S22 37.1	323 18.2	11.2	S24 13.4	7.2	54.6	Fomalhaut	15 12.8	S29 28.9
Y 9	317 09.2	S22 37.4	337 48.3	11.2	S24 20.5	7.1	54.6	Gacrux	171 50.2	S57 15.6
10	332 09.0	S22 37.6	352 18.4	11.1	S24 27.5	7.0	54.6	Gienah	175 42.1	S17 41.4
11	347 08.7	S22 37.9	6 48.5	11.1	S24 34.4	6.9	54.6	Hadar	148 34.3	S60 30.0
12	2 08.4	S22 38.2	21 18.5	11.0	S24 41.1	6.8	54.6	Hamal	327 49.2	N23 35.6
13	17 08.2	S22 38.5	35 48.5	11.0	S24 47.8	6.6	54.6	Kaus Austr.	83 30.9	S34 22.4
14	32 07.9	S22 38.7	50 18.4	10.9	S24 54.3	6.5	54.5	Kochab	137 21.1	N74 02.4
15	47 07.6	S22 39.0	64 48.3	10.9	S25 00.7	6.4	54.5	Markab	13 28.3	N15 21.2
16	62 07.3	S22 39.3	79 18.1	10.8	S25 07.0	6.3	54.5	Menkar	314 04.2	N 4 11.8
17	77 07.1	S22 39.6	93 47.9	10.8	S25 13.1	6.2	54.5			
								Menkent	147 56.1	S36 30.1
18	92 06.8	S22 39.8	108 17.7	10.8	S25 19.1	6.0	54.5	Miaplacidus	221 37.4	S69 49.4
19	107 06.5	S22 40.1	122 47.4	10.7	S25 25.0	5.9	54.5	Mirfak	308 25.6	N49 57.6
20	122 06.3	S22 40.4	137 17.1	10.7	S25 30.8	5.8	54.5	Nunki	75 46.2	S26 15.8
21	137 06.0	S22 40.7	151 46.7	10.6	S25 36.5	5.7	54.5	Peacock	53 03.6	S56 39.1
22	152 05.7	S22 40.9	166 16.3	10.6	S25 42.0	5.5	54.5			
23	167 05.4	S22 41.2	180 45.9	10.6	S25 47.4	5.4	54.4	Polaris	315 34.3	N89 22.3
								Pollux	243 15.1	N27 57.6
8 0	182 05.2	S22 41.5	195 15.4	10.5	S25 52.7	5.3	54.4	Procyon	244 48.9	N 5 09.4
1	197 04.9	S22 41.7	209 44.9	10.5	S25 57.9	5.2	54.4	Rasalhague	95 57.5	N12 32.5
2	212 04.6	S22 42.0	224 14.3	10.5	S26 02.9	5.0	54.4	Regulus	207 32.7	N11 50.1
3	227 04.3	S22 42.3	238 43.8	10.4	S26 07.8	4.9	54.4			
4	242 04.1	S22 42.5	253 13.1	10.4	S26 12.6	4.8	54.4	Rigel	281 02.0	S 8 10.2
T 5	257 03.8	S22 42.8	267 42.5	10.4	S26 17.2	4.6	54.4	Rigil Kent	139 38.9	S60 56.6
U								Sabik	102 01.4	S15 45.5
E 6	272 03.5	S22 43.0	282 11.8	10.3	S26 21.7	4.5	54.4	Schedar	349 29.0	N56 41.4
S 7	287 03.2	S22 43.3	296 41.1	10.3	S26 26.1	4.4	54.4	Shaula	96 08.7	S37 07.4
D 8	302 03.0	S22 43.6	311 10.4	10.3	S26 30.4	4.3	54.3			
A 9	317 02.7	S22 43.8	325 39.6	10.2	S26 34.5	4.1	54.3	Sirius	258 24.5	S16 45.1
Y 10	332 02.4	S22 44.1	340 08.8	10.2	S26 38.5	4.0	54.3	Spica	158 20.8	S11 18.1
11	347 02.1	S22 44.3	354 38.0	10.2	S26 42.3	3.9	54.3	Suhail	222 44.9	S43 32.3
								Vega	80 32.6	N38 48.6
12	2 01.9	S22 44.6	9 07.1	10.2	S26 46.1	3.7	54.3	Zuben-ubi	136 55.5	S16 09.2
13	17 01.6	S22 44.9	23 36.2	10.1	S26 49.7	3.6	54.3			
14	32 01.3	S22 45.1	38 05.3	10.1	S26 53.1	3.5	54.3			
15	47 01.0	S22 45.4	52 34.4	10.1	S26 56.5	3.3	54.3			
16	62 00.8	S22 45.6	67 03.5	10.1	S26 59.7	3.2	54.3			
17	77 00.5	S22 45.9	81 32.5	10.0	S27 02.8	3.1	54.3			
18	92 00.2	S22 46.1	96 01.5	10.0	S27 05.7	2.9	54.2			
19	106 59.9	S22 46.4	110 30.6	10.0	S27 08.5	2.8	54.2			
20	121 59.7	S22 46.6	124 59.5	10.0	S27 11.2	2.7	54.2			
21	136 59.4	S22 46.9	139 28.5	10.0	S27 13.7	2.5	54.2			
22	151 59.1	S22 47.1	153 57.5	10.0	S27 16.1	2.4	54.2			
23	166 58.8	S22 47.4	168 26.4	9.9	S27 18.4	2.3	54.2			
	S.D. 16.2	d 0.3	S.D.	15.0	14.9		14.8			

G.M.T d	h	ARIES GHA	VENUS GHA	VENUS Dec	MARS GHA	MARS Dec	JUPITER GHA	JUPITER Dec	SATURN GHA	SATURN Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
9	0	77 45.3	225 58.6	S10 22.0	280 15.0	N12 08.8	288 15.0	N13 17.8	69 27.6	N 0 48.0
	1	92 47.7	240 59.2	S10 22.4	295 16.7	N12 08.5	303 17.5	N13 17.8	84 30.1	N 0 48.0
	2	107 50.2	255 59.9	S10 22.8	310 18.4	N12 08.3	318 19.9	N13 17.8	99 32.6	N 0 48.0
	3	122 52.7	271 00.5	S10 23.2	325 20.1	N12 08.1	333 22.3	N13 17.8	114 35.0	N 0 48.0
	4	137 55.1	286 01.2	S10 23.6	340 21.7	N12 07.9	348 24.8	N13 17.8	129 37.5	N 0 48.1
W	5	152 57.6	301 01.8	S10 24.0	355 23.4	N12 07.6	3 27.2	N13 17.8	144 40.0	N 0 48.1
E										
D	6	168 00.1	316 02.4	S10 24.4	10 25.1	N12 07.4	18 29.6	N13 17.8	159 42.5	N 0 48.1
N	7	183 02.5	331 03.1	S10 24.8	25 26.8	N12 07.2	33 32.1	N13 17.8	174 44.9	N 0 48.1
E	8	198 05.0	346 03.7	S10 25.2	40 28.5	N12 07.0	48 34.5	N13 17.8	189 47.4	N 0 48.1
S	9	213 07.5	1 04.3	S10 25.6	55 30.1	N12 06.7	63 36.9	N13 17.8	204 49.9	N 0 48.1
D	10	228 09.9	16 05.0	S10 26.0	70 31.8	N12 06.5	78 39.3	N13 17.8	219 52.4	N 0 48.1
A	11	243 12.4	31 05.6	S10 26.4	85 33.5	N12 06.3	93 41.8	N13 17.8	234 54.8	N 0 48.1
Y										
	12	258 14.8	46 06.2	S10 26.8	100 35.2	N12 06.1	108 44.2	N13 17.8	249 57.3	N 0 48.1
	13	273 17.3	61 06.9	S10 27.2	115 36.9	N12 05.9	123 46.6	N13 17.8	264 59.8	N 0 48.1
	14	288 19.8	76 07.5	S10 27.6	130 38.6	N12 05.6	138 49.1	N13 17.8	280 02.3	N 0 48.1
	15	303 22.2	91 08.1	S10 28.0	145 40.3	N12 05.4	153 51.5	N13 17.8	295 04.7	N 0 48.1
	16	318 24.7	106 08.7	S10 28.5	160 42.0	N12 05.2	168 53.9	N13 17.8	310 07.2	N 0 48.1
	17	333 27.2	121 09.3	S10 28.9	175 43.6	N12 05.0	183 56.4	N13 17.8	325 09.7	N 0 48.1
	18	348 29.6	136 10.0	S10 29.3	190 45.3	N12 04.7	198 58.8	N13 17.8	340 12.1	N 0 48.1
	19	3 32.1	151 10.6	S10 29.7	205 47.0	N12 04.5	214 01.2	N13 17.8	355 14.6	N 0 48.2
	20	18 34.6	166 11.2	S10 30.1	220 48.7	N12 04.3	229 03.7	N13 17.8	10 17.1	N 0 48.2
	21	33 37.0	181 11.8	S10 30.5	235 50.4	N12 04.1	244 06.1	N13 17.8	25 19.6	N 0 48.2
	22	48 39.5	196 12.4	S10 30.9	250 52.1	N12 03.9	259 08.6	N13 17.8	40 22.0	N 0 48.2
	23	63 42.0	211 13.0	S10 31.4	265 53.8	N12 03.6	274 11.0	N13 17.8	55 24.5	N 0 48.2
10	0	78 44.4	226 13.6	S10 31.8	280 55.5	N12 03.4	289 13.4	N13 17.8	70 27.0	N 0 48.2
	1	93 46.9	241 14.2	S10 32.2	295 57.2	N12 03.2	304 15.9	N13 17.8	85 29.5	N 0 48.2
	2	108 49.3	256 14.8	S10 32.6	310 58.9	N12 03.0	319 18.3	N13 17.8	100 31.9	N 0 48.2
	3	123 51.8	271 15.4	S10 33.0	326 00.6	N12 02.8	334 20.7	N13 17.8	115 34.4	N 0 48.2
	4	138 54.3	286 16.0	S10 33.5	341 02.3	N12 02.6	349 23.2	N13 17.8	130 36.9	N 0 48.2
T	5	153 56.7	301 16.6	S10 33.9	356 04.0	N12 02.3	4 25.6	N13 17.8	145 39.3	N 0 48.2
H										
U	6	168 59.2	316 17.2	S10 34.3	11 05.7	N12 02.1	19 28.0	N13 17.8	160 41.8	N 0 48.2
R	7	184 01.7	331 17.8	S10 34.7	26 07.4	N12 01.9	34 30.5	N13 17.8	175 44.3	N 0 48.3
S	8	199 04.1	346 18.4	S10 35.2	41 09.1	N12 01.7	49 32.9	N13 17.8	190 46.8	N 0 48.3
D	9	214 06.6	1 19.0	S10 35.6	56 10.8	N12 01.5	64 35.4	N13 17.8	205 49.2	N 0 48.3
A	10	229 09.1	16 19.6	S10 36.0	71 12.5	N12 01.2	79 37.8	N13 17.8	220 51.7	N 0 48.3
Y	11	244 11.5	31 20.2	S10 36.4	86 14.2	N12 01.0	94 40.2	N13 17.8	235 54.2	N 0 48.3
	12	259 14.0	46 20.8	S10 36.9	101 15.9	N12 00.8	109 42.7	N13 17.8	250 56.6	N 0 48.3
	13	274 16.5	61 21.4	S10 37.3	116 17.6	N12 00.6	124 45.1	N13 17.8	265 59.1	N 0 48.3
	14	289 18.9	76 22.0	S10 37.7	131 19.3	N12 00.4	139 47.6	N13 17.8	281 01.6	N 0 48.3
	15	304 21.4	91 22.5	S10 38.2	146 21.0	N12 00.2	154 50.0	N13 17.8	296 04.1	N 0 48.3
	16	319 23.8	106 23.1	S10 38.6	161 22.7	N11 60.0	169 52.4	N13 17.8	311 06.5	N 0 48.3
	17	334 26.3	121 23.7	S10 39.0	176 24.4	N11 59.7	184 54.9	N13 17.8	326 09.0	N 0 48.3
	18	349 28.8	136 24.3	S10 39.5	191 26.1	N11 59.5	199 57.3	N13 17.8	341 11.5	N 0 48.3
	19	4 31.2	151 24.9	S10 39.9	206 27.8	N11 59.3	214 59.8	N13 17.8	356 13.9	N 0 48.4
	20	19 33.7	166 25.4	S10 40.3	221 29.5	N11 59.1	230 02.2	N13 17.8	11 16.4	N 0 48.4
	21	34 36.2	181 26.0	S10 40.8	236 31.2	N11 58.9	245 04.7	N13 17.8	26 18.9	N 0 48.4
	22	49 38.6	196 26.6	S10 41.2	251 33.0	N11 58.7	260 07.1	N13 17.8	41 21.3	N 0 48.4
	23	64 41.1	211 27.2	S10 41.6	266 34.7	N11 58.5	275 09.5	N13 17.9	56 23.8	N 0 48.4
11	0	79 43.6	226 27.7	S10 42.1	281 36.4	N11 58.2	290 12.0	N13 17.9	71 26.3	N 0 48.4
	1	94 46.0	241 28.3	S10 42.5	296 38.1	N11 58.0	305 14.4	N13 17.9	86 28.7	N 0 48.4
	2	109 48.5	256 28.9	S10 43.0	311 39.8	N11 57.8	320 16.9	N13 17.9	101 31.2	N 0 48.4
	3	124 51.0	271 29.4	S10 43.4	326 41.5	N11 57.6	335 19.3	N13 17.9	116 33.7	N 0 48.4
	4	139 53.4	286 30.0	S10 43.8	341 43.2	N11 57.4	350 21.8	N13 17.9	131 36.1	N 0 48.4
F	5	154 55.9	301 30.6	S10 44.3	356 44.9	N11 57.2	5 24.2	N13 17.9	146 38.6	N 0 48.5
R										
I	6	169 58.3	316 31.1	S10 44.7	11 46.7	N11 57.0	20 26.7	N13 17.9	161 41.1	N 0 48.5
D	7	185 00.8	331 31.7	S10 45.2	26 48.4	N11 56.8	35 29.1	N13 17.9	176 43.6	N 0 48.5
A	8	200 03.3	346 32.2	S10 45.6	41 50.1	N11 56.5	50 31.6	N13 17.9	191 46.0	N 0 48.5
Y	9	215 05.7	1 32.8	S10 46.1	56 51.8	N11 56.3	65 34.0	N13 17.9	206 48.5	N 0 48.5
	10	230 08.2	16 33.3	S10 46.5	71 53.5	N11 56.1	80 36.5	N13 17.9	221 51.0	N 0 48.5
	11	245 10.7	31 33.9	S10 47.0	86 55.3	N11 55.9	95 38.9	N13 17.9	236 53.4	N 0 48.5
	12	260 13.1	46 34.4	S10 47.4	101 57.0	N11 55.7	110 41.4	N13 17.9	251 55.9	N 0 48.5
	13	275 15.6	61 35.0	S10 47.9	116 58.7	N11 55.5	125 43.8	N13 17.9	266 58.3	N 0 48.5
	14	290 18.1	76 35.5	S10 48.3	132 00.4	N11 55.3	140 46.2	N13 17.9	282 00.8	N 0 48.6
	15	305 20.5	91 36.1	S10 48.8	147 02.1	N11 55.1	155 48.7	N13 17.9	297 03.3	N 0 48.6
	16	320 23.0	106 36.6	S10 49.2	162 03.9	N11 54.9	170 51.1	N13 17.9	312 05.7	N 0 48.6
	17	335 25.4	121 37.2	S10 49.7	177 05.6	N11 54.7	185 53.6	N13 17.9	327 08.2	N 0 48.6
	18	350 27.9	136 37.7	S10 50.1	192 07.3	N11 54.5	200 56.0	N13 17.9	342 10.7	N 0 48.6
	19	5 30.4	151 38.2	S10 50.6	207 09.0	N11 54.3	215 58.5	N13 18.0	357 13.1	N 0 48.6
	20	20 32.8	166 38.8	S10 51.0	222 10.8	N11 54.0	231 00.9	N13 18.0	12 15.6	N 0 48.6
	21	35 35.3	181 39.3	S10 51.5	237 12.5	N11 53.8	246 03.4	N13 18.0	27 18.1	N 0 48.6
	22	50 37.8	196 39.9	S10 51.9	252 14.2	N11 53.6	261 05.8	N13 18.0	42 20.5	N 0 48.6
	23	65 40.2	211 40.4	S10 52.4	267 16.0	N11 53.4	276 08.3	N13 18.0	57 23.0	N 0 48.7
			v 0.6	d 0.4	v 1.7	d 0.2	v 2.4	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
9	0	181 58.5	S22 47.6	182 55.3	9.9	S27 20.5	2.1	54.2
	1	196 58.3	S22 47.9	197 24.3	9.9	S27 22.5	2.0	54.2
	2	211 58.0	S22 48.1	211 53.2	9.9	S27 24.4	1.9	54.2
	3	226 57.7	S22 48.4	226 22.1	9.9	S27 26.1	1.7	54.2
	4	241 57.4	S22 48.6	240 51.0	9.9	S27 27.7	1.6	54.2
W	5	256 57.2	S22 48.9	255 19.9	9.9	S27 29.2	1.5	54.2
E								
D	6	271 56.9	S22 49.1	269 48.7	9.9	S27 30.5	1.3	54.1
N	7	286 56.6	S22 49.4	284 17.6	9.9	S27 31.7	1.2	54.1
E	8	301 56.3	S22 49.6	298 46.5	9.9	S27 32.7	1.1	54.1
S	9	316 56.0	S22 49.8	313 15.4	9.9	S27 33.7	0.9	54.1
D	10	331 55.8	S22 50.1	327 44.3	9.9	S27 34.5	0.8	54.1
A	11	346 55.5	S22 50.3	342 13.2	9.9	S27 35.1	0.6	54.1
Y								
	12	1 55.2	S22 50.6	356 42.0	9.9	S27 35.6	0.5	54.1
	13	16 54.9	S22 50.8	11 10.9	9.9	S27 36.0	0.4	54.1
	14	31 54.6	S22 51.0	25 39.8	9.9	S27 36.2	0.2	54.1
	15	46 54.4	S22 51.3	40 08.7	9.9	S27 36.4	0.1	54.1
	16	61 54.1	S22 51.5	54 37.6	9.9	S27 36.3	0.0	54.1
	17	76 53.8	S22 51.7	69 06.5	9.9	S27 36.2	0.2	54.1
	18	91 53.5	S22 52.0	83 35.5	9.9	S27 35.9	0.3	54.1
	19	106 53.2	S22 52.2	98 04.4	9.9	S27 35.4	0.4	54.1
	20	121 52.9	S22 52.4	112 33.4	10.0	S27 34.9	0.6	54.1
	21	136 52.7	S22 52.7	127 02.3	10.0	S27 34.2	0.7	54.0
	22	151 52.4	S22 52.9	141 31.3	10.0	S27 33.3	0.8	54.0
	23	166 52.1	S22 53.1	156 00.3	10.0	S27 32.4	1.0	54.0
10	0	181 51.8	S22 53.4	170 29.3	10.0	S27 31.3	1.1	54.0
	1	196 51.5	S22 53.6	184 58.4	10.0	S27 30.0	1.2	54.0
	2	211 51.2	S22 53.8	199 27.4	10.1	S27 28.7	1.4	54.0
	3	226 51.0	S22 54.1	213 56.5	10.1	S27 27.2	1.5	54.0
	4	241 50.7	S22 54.3	228 25.6	10.1	S27 25.5	1.6	54.0
T	5	256 50.4	S22 54.5	242 54.7	10.1	S27 23.8	1.8	54.0
H								
U	6	271 50.1	S22 54.7	257 23.9	10.2	S27 21.9	1.9	54.0
R	7	286 49.8	S22 55.0	271 53.1	10.2	S27 19.9	2.0	54.0
S	8	301 49.5	S22 55.2	286 22.3	10.2	S27 17.7	2.2	54.0
D	9	316 49.3	S22 55.4	300 51.5	10.2	S27 15.4	2.3	54.0
A	10	331 49.0	S22 55.6	315 20.8	10.3	S27 13.0	2.4	54.0
Y	11	346 48.7	S22 55.8	329 50.1	10.3	S27 10.4	2.6	54.0
	12	1 48.4	S22 56.1	344 19.4	10.3	S27 07.7	2.7	54.0
	13	16 48.1	S22 56.3	358 48.7	10.4	S27 04.9	2.8	54.0
	14	31 47.8	S22 56.5	13 18.1	10.4	S27 02.0	2.9	54.0
	15	46 47.6	S22 56.7	27 47.6	10.4	S26 58.9	3.1	54.0
	16	61 47.3	S22 56.9	42 17.0	10.5	S26 55.7	3.2	54.0
	17	76 47.0	S22 57.2	56 46.5	10.5	S26 52.4	3.3	54.0
	18	91 46.7	S22 57.4	71 16.0	10.5	S26 48.9	3.5	54.0
	19	106 46.4	S22 57.6	85 45.6	10.6	S26 45.4	3.6	54.0
	20	121 46.1	S22 57.8	100 15.2	10.6	S26 41.7	3.7	54.0
	21	136 45.8	S22 58.0	114 44.9	10.7	S26 37.8	3.8	54.0
	22	151 45.6	S22 58.2	129 14.6	10.7	S26 33.9	4.0	54.0
	23	166 45.3	S22 58.4	143 44.3	10.7	S26 29.8	4.1	54.0
11	0	181 45.0	S22 58.6	158 14.1	10.8	S26 25.6	4.2	54.0
	1	196 44.7	S22 58.9	172 43.9	10.8	S26 21.3	4.3	54.0
	2	211 44.4	S22 59.1	187 13.8	10.9	S26 16.8	4.5	54.0
	3	226 44.1	S22 59.3	201 43.7	10.9	S26 12.2	4.6	54.0
	4	241 43.8	S22 59.5	216 13.7	11.0	S26 07.5	4.7	54.0
F	5	256 43.5	S22 59.7	230 43.7	11.0	S26 02.7	4.8	54.0
R								
I	6	271 43.3	S22 59.9	245 13.7	11.1	S25 57.8	4.9	54.0
D	7	286 43.0	S23 00.1	259 43.8	11.1	S25 52.7	5.1	54.0
A	8	301 42.7	S23 00.3	274 14.0	11.2	S25 47.5	5.2	54.0
Y	9	316 42.4	S23 00.5	288 44.2	11.2	S25 42.3	5.3	54.0
	10	331 42.1	S23 00.7	303 14.4	11.3	S25 36.8	5.4	54.0
	11	346 41.8	S23 00.9	317 44.7	11.3	S25 31.3	5.5	54.0
	12	1 41.5	S23 01.1	332 15.1	11.4	S25 25.7	5.6	54.0
	13	16 41.2	S23 01.3	346 45.5	11.4	S25 19.9	5.8	54.0
	14	31 40.9	S23 01.5	1 16.0	11.5	S25 14.0	5.9	54.0
	15	46 40.7	S23 01.7	15 46.5	11.5	S25 08.0	6.0	54.0
	16	61 40.4	S23 01.9	30 17.0	11.6	S25 01.9	6.1	54.0
	17	76 40.1	S23 02.1	44 47.7	11.6	S24 55.7	6.2	54.0
	18	91 39.8	S23 02.3	59 18.3	11.7	S24 49.3	6.3	54.0
	19	106 39.5	S23 02.5	73 49.1	11.7	S24 42.9	6.4	54.0
	20	121 39.2	S23 02.7	88 19.9	11.8	S24 36.3	6.6	54.0
	21	136 38.9	S23 02.9	102 50.7	11.8	S24 29.7	6.7	54.0
	22	151 38.6	S23 03.1	117 21.6	11.9	S24 22.9	6.8	54.0
	23	166 38.3	S23 03.3	131 52.5	12.0	S24 16.0	6.9	54.0
		S.D. 16.2	d 0.2	S.D. 14.7		14.7		14.7

STARS Name	SHA	Dec
Acamar	315 10.2	S40 11.8
Achernar	335 18.6	S57 06.1
Acrux	172 58.6	S63 14.6
Adhara	255 04.3	S29 00.4
Albireo	67 03.1	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.8	N55 48.5
Alkaid	152 51.1	N49 10.5
Al Na-ir	27 31.0	S46 50.0
Alnilam	275 35.8	S 1 11.0
Alphard	217 46.0	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 33.1	N29 14.6
Altair	61 58.7	N 8 56.4
Ankaa	353 05.4	S42 09.7
Antares	112 14.3	S26 29.5
Arcturus	145 46.7	N19 02.4
Atria	107 07.7	S69 04.5
Avior	234 13.6	S59 35.5
Bellatrix	278 20.8	N 6 22.5
Betelgeuse	270 50.0	N 7 24.8
Canopus	263 51.1	S52 42.5
Capella	280 19.1	N46 01.5
Castor	245 54.7	N31 49.7
Deneb	49 25.0	N45 22.8
Denebola	182 23.4	N14 25.2
Diphda	348 45.6	S17 50.3
Dubhe	193 39.0	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 42.0	N51 29.1
Enif	33 37.3	N10 00.0
Fomalhaut	15 12.8	S29 28.9
Gacrux	171 50.1	S57 15.6
Gienah	175 42.1	S17 41.4
Hadar	148 34.3	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.0	N74 02.4
Markab	13 28.3	N15 21.2
Menkar	314 04.2	N 4 11.8
Menkent	147 56.1	S36 30.1
Miaplacidus	221 37.3	S69 49.4
Mirfak	308 25.6	N49 57.6
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 39.1
Polaris	315 34.7	N89 22.3
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.4
Rasalhague	95 57.5	N12 32.5
Regulus	207 32.6	N11 50.0
Rigel	281 02.0	S 8 10.2
Rigil Kent	139 38.8	S60 56.6
Sabik	102 01.3	S15 45.5
Schedar	349 29.0	N56 41.4
Shaula	96 08.6	S37 07.4
Sirius	258 24.5	S16 45.1
Spica	158 20.8	S11 18.1
Suhail	222 44.9	S43 32.3
Vega	80 32.6	N38 48.6
Zuben-ubi	136 55.5	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
12	0	80 42.7	226 40.9	S10 52.8	282 17.7	N11 53.2	291 10.8	N13 18.0	72 25.5	N 0 48.7
	1	95 45.2	241 41.5	S10 53.3	297 19.4	N11 53.0	306 13.2	N13 18.0	87 27.9	N 0 48.7
	2	110 47.6	256 42.0	S10 53.7	312 21.1	N11 52.8	321 15.7	N13 18.0	102 30.4	N 0 48.7
	3	125 50.1	271 42.5	S10 54.2	327 22.9	N11 52.6	336 18.1	N13 18.0	117 32.9	N 0 48.7
	4	140 52.6	286 43.0	S10 54.7	342 24.6	N11 52.4	351 20.6	N13 18.0	132 35.3	N 0 48.7
S	5	155 55.0	301 43.6	S10 55.1	357 26.3	N11 52.2	6 23.0	N13 18.0	147 37.8	N 0 48.7
A										
T	6	170 57.5	316 44.1	S10 55.6	12 28.1	N11 52.0	21 25.5	N13 18.0	162 40.2	N 0 48.7
U	7	185 59.9	331 44.6	S10 56.0	27 29.8	N11 51.8	36 27.9	N13 18.0	177 42.7	N 0 48.7
R	8	201 02.4	346 45.1	S10 56.5	42 31.5	N11 51.6	51 30.4	N13 18.0	192 45.2	N 0 48.8
D	9	216 04.9	1 45.6	S10 57.0	57 33.3	N11 51.4	66 32.8	N13 18.1	207 47.6	N 0 48.8
A	10	231 07.3	16 46.2	S10 57.4	72 35.0	N11 51.2	81 35.3	N13 18.1	222 50.1	N 0 48.8
Y	11	246 09.8	31 46.7	S10 57.9	87 36.8	N11 51.0	96 37.7	N13 18.1	237 52.6	N 0 48.8
	12	261 12.3	46 47.2	S10 58.4	102 38.5	N11 50.8	111 40.2	N13 18.1	252 55.0	N 0 48.8
	13	276 14.7	61 47.7	S10 58.8	117 40.2	N11 50.6	126 42.7	N13 18.1	267 57.5	N 0 48.8
	14	291 17.2	76 48.2	S10 59.3	132 42.0	N11 50.4	141 45.1	N13 18.1	282 59.9	N 0 48.8
	15	306 19.7	91 48.7	S10 59.8	147 43.7	N11 50.2	156 47.6	N13 18.1	298 02.4	N 0 48.8
	16	321 22.1	106 49.2	S11 00.2	162 45.5	N11 50.0	171 50.0	N13 18.1	313 04.9	N 0 48.9
	17	336 24.6	121 49.7	S11 00.7	177 47.2	N11 49.8	186 52.5	N13 18.1	328 07.3	N 0 48.9
	18	351 27.1	136 50.2	S11 01.2	192 48.9	N11 49.6	201 54.9	N13 18.1	343 09.8	N 0 48.9
	19	6 29.5	151 50.7	S11 01.6	207 50.7	N11 49.4	216 57.4	N13 18.1	358 12.2	N 0 48.9
	20	21 32.0	166 51.2	S11 02.1	222 52.4	N11 49.2	231 59.9	N13 18.1	13 14.7	N 0 48.9
	21	36 34.4	181 51.7	S11 02.6	237 54.2	N11 49.0	247 02.3	N13 18.2	28 17.2	N 0 48.9
	22	51 36.9	196 52.2	S11 03.1	252 55.9	N11 48.8	262 04.8	N13 18.2	43 19.6	N 0 48.9
	23	66 39.4	211 52.7	S11 03.5	267 57.7	N11 48.6	277 07.2	N13 18.2	58 22.1	N 0 48.9
13	0	81 41.8	226 53.2	S11 04.0	282 59.4	N11 48.4	292 09.7	N13 18.2	73 24.6	N 0 49.0
	1	96 44.3	241 53.7	S11 04.5	298 01.2	N11 48.2	307 12.2	N13 18.2	88 27.0	N 0 49.0
	2	111 46.8	256 54.2	S11 05.0	313 02.9	N11 48.0	322 14.6	N13 18.2	103 29.5	N 0 49.0
	3	126 49.2	271 54.7	S11 05.4	328 04.7	N11 47.8	337 17.1	N13 18.2	118 31.9	N 0 49.0
	4	141 51.7	286 55.2	S11 05.9	343 06.4	N11 47.6	352 19.5	N13 18.2	133 34.4	N 0 49.0
S	5	156 54.2	301 55.7	S11 06.4	358 08.2	N11 47.4	7 22.0	N13 18.2	148 36.8	N 0 49.0
U										
N	6	171 56.6	316 56.2	S11 06.9	13 09.9	N11 47.2	22 24.5	N13 18.2	163 39.3	N 0 49.0
D	7	186 59.1	331 56.7	S11 07.3	28 11.7	N11 47.0	37 26.9	N13 18.3	178 41.8	N 0 49.1
A	8	202 01.6	346 57.1	S11 07.8	43 13.4	N11 46.8	52 29.4	N13 18.3	193 44.2	N 0 49.1
Y	9	217 04.0	1 57.6	S11 08.3	58 15.2	N11 46.6	67 31.9	N13 18.3	208 46.7	N 0 49.1
	10	232 06.5	16 58.1	S11 08.8	73 16.9	N11 46.4	82 34.3	N13 18.3	223 49.1	N 0 49.1
	11	247 08.9	31 58.6	S11 09.3	88 18.7	N11 46.2	97 36.8	N13 18.3	238 51.6	N 0 49.1
	12	262 11.4	46 59.1	S11 09.7	103 20.5	N11 46.0	112 39.2	N13 18.3	253 54.1	N 0 49.1
	13	277 13.9	61 59.5	S11 10.2	118 22.2	N11 45.8	127 41.7	N13 18.3	268 56.5	N 0 49.1
	14	292 16.3	77 00.0	S11 10.7	133 24.0	N11 45.6	142 44.2	N13 18.3	283 59.0	N 0 49.2
	15	307 18.8	92 00.5	S11 11.2	148 25.7	N11 45.4	157 46.6	N13 18.3	299 01.4	N 0 49.2
	16	322 21.3	107 01.0	S11 11.7	163 27.5	N11 45.2	172 49.1	N13 18.4	314 03.9	N 0 49.2
	17	337 23.7	122 01.4	S11 12.2	178 29.3	N11 45.0	187 51.6	N13 18.4	329 06.3	N 0 49.2
	18	352 26.2	137 01.9	S11 12.6	193 31.0	N11 44.8	202 54.0	N13 18.4	344 08.8	N 0 49.2
	19	7 28.7	152 02.4	S11 13.1	208 32.8	N11 44.6	217 56.5	N13 18.4	359 11.3	N 0 49.2
	20	22 31.1	167 02.8	S11 13.6	223 34.5	N11 44.5	232 59.0	N13 18.4	14 13.7	N 0 49.2
	21	37 33.6	182 03.3	S11 14.1	238 36.3	N11 44.3	248 01.4	N13 18.4	29 16.2	N 0 49.3
	22	52 36.1	197 03.8	S11 14.6	253 38.1	N11 44.1	263 03.9	N13 18.4	44 18.6	N 0 49.3
	23	67 38.5	212 04.2	S11 15.1	268 39.8	N11 43.9	278 06.4	N13 18.4	59 21.1	N 0 49.3
14	0	82 41.0	227 04.7	S11 15.6	283 41.6	N11 43.7	293 08.8	N13 18.5	74 23.5	N 0 49.3
	1	97 43.4	242 05.2	S11 16.1	298 43.4	N11 43.5	308 11.3	N13 18.5	89 26.0	N 0 49.3
	2	112 45.9	257 05.6	S11 16.5	313 45.1	N11 43.3	323 13.8	N13 18.5	104 28.4	N 0 49.3
	3	127 48.4	272 06.1	S11 17.0	328 46.9	N11 43.1	338 16.2	N13 18.5	119 30.9	N 0 49.4
	4	142 50.8	287 06.5	S11 17.5	343 48.7	N11 42.9	353 18.7	N13 18.5	134 33.4	N 0 49.4
M	5	157 53.3	302 07.0	S11 18.0	358 50.4	N11 42.7	8 21.2	N13 18.5	149 35.8	N 0 49.4
O										
N	6	172 55.8	317 07.4	S11 18.5	13 52.2	N11 42.5	23 23.7	N13 18.5	164 38.3	N 0 49.4
D	7	187 58.2	332 07.9	S11 19.0	28 54.0	N11 42.4	38 26.1	N13 18.5	179 40.7	N 0 49.4
A	8	203 00.7	347 08.3	S11 19.5	43 55.8	N11 42.2	53 28.6	N13 18.6	194 43.2	N 0 49.4
Y	9	218 03.2	2 08.8	S11 20.0	58 57.5	N11 42.0	68 31.1	N13 18.6	209 45.6	N 0 49.4
	10	233 05.6	17 09.2	S11 20.5	73 59.3	N11 41.8	83 33.5	N13 18.6	224 48.1	N 0 49.5
	11	248 08.1	32 09.7	S11 21.0	89 01.1	N11 41.6	98 36.0	N13 18.6	239 50.5	N 0 49.5
	12	263 10.5	47 10.1	S11 21.5	104 02.9	N11 41.4	113 38.5	N13 18.6	254 53.0	N 0 49.5
	13	278 13.0	62 10.6	S11 22.0	119 04.6	N11 41.2	128 41.0	N13 18.6	269 55.4	N 0 49.5
	14	293 15.5	77 11.0	S11 22.5	134 06.4	N11 41.0	143 43.4	N13 18.6	284 57.9	N 0 49.5
	15	308 17.9	92 11.4	S11 23.0	149 08.2	N11 40.8	158 45.9	N13 18.7	300 00.4	N 0 49.5
	16	323 20.4	107 11.9	S11 23.5	164 10.0	N11 40.7	173 48.4	N13 18.7	315 02.8	N 0 49.6
	17	338 22.9	122 12.3	S11 24.0	179 11.7	N11 40.5	188 50.8	N13 18.7	330 05.3	N 0 49.6
	18	353 25.3	137 12.7	S11 24.5	194 13.5	N11 40.3	203 53.3	N13 18.7	345 07.7	N 0 49.6
	19	8 27.8	152 13.2	S11 25.0	209 15.3	N11 40.1	218 55.8	N13 18.7	0 10.2	N 0 49.6
	20	23 30.3	167 13.6	S11 25.5	224 17.1	N11 39.9	233 58.3	N13 18.7	15 12.6	N 0 49.6
	21	38 32.7	182 14.0	S11 26.0	239 18.9	N11 39.7	249 00.7	N13 18.7	30 15.1	N 0 49.6
	22	53 35.2	197 14.5	S11 26.5	254 20.7	N11 39.5	264 03.2	N13 18.8	45 17.5	N 0 49.7
	23	68 37.7	212 14.9	S11 27.0	269 22.4	N11 39.4	279 05.7	N13 18.8	60 20.0	N 0 49.7
			v 0.5	d 0.5	v 1.8	d 0.2	v 2.5	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
12	0	181 38.1	S23 03.5	146 23.6	12.0	S24 09.0	7.0	54.0
	1	196 37.8	S23 03.7	160 54.6	12.1	S24 01.9	7.1	54.0
	2	211 37.5	S23 03.9	175 25.7	12.1	S23 54.7	7.2	54.0
	3	226 37.2	S23 04.0	189 56.9	12.2	S23 47.4	7.3	54.0
	4	241 36.9	S23 04.2	204 28.2	12.2	S23 39.9	7.4	54.0
S	5	256 36.6	S23 04.4	218 59.5	12.3	S23 32.4	7.5	54.0
A								
T	6	271 36.3	S23 04.6	233 30.8	12.4	S23 24.8	7.6	54.0
U	7	286 36.0	S23 04.8	248 02.2	12.4	S23 17.0	7.7	54.0
R	8	301 35.7	S23 05.0	262 33.7	12.5	S23 09.2	7.8	54.0
D	9	316 35.4	S23 05.2	277 05.2	12.5	S23 01.2	7.9	54.0
A	10	331 35.1	S23 05.3	291 36.8	12.6	S22 53.2	8.0	54.0
Y	11	346 34.8	S23 05.5	306 08.5	12.6	S22 45.1	8.1	54.0
	12	1 34.6	S23 05.7	320 40.2	12.7	S22 36.8	8.2	54.0
	13	16 34.3	S23 05.9	335 11.9	12.8	S22 28.5	8.3	54.0
	14	31 34.0	S23 06.1	349 43.7	12.8	S22 20.0	8.4	54.0
	15	46 33.7	S23 06.3	4 15.6	12.9	S22 11.5	8.5	54.1
	16	61 33.4	S23 06.4	18 47.6	12.9	S22 02.9	8.6	54.1
	17	76 33.1	S23 06.6	33 19.5	13.0	S21 54.1	8.7	54.1
	18	91 32.8	S23 06.8	47 51.6	13.1	S21 45.3	8.8	54.1
	19	106 32.5	S23 07.0	62 23.7	13.1	S21 36.4	8.9	54.1
	20	121 32.2	S23 07.1	76 55.9	13.2	S21 27.4	9.0	54.1
	21	136 31.9	S23 07.3	91 28.1	13.2	S21 18.3	9.1	54.1
	22	151 31.6	S23 07.5	106 00.4	13.3	S21 09.1	9.2	54.1
	23	166 31.3	S23 07.7	120 32.7	13.3	S20 59.8	9.3	54.1
13	0	181 31.0	S23 07.8	135 05.1	13.4	S20 50.4	9.4	54.1
	1	196 30.7	S23 08.0	149 37.6	13.5	S20 40.9	9.5	54.1
	2	211 30.4	S23 08.2	164 10.1	13.5	S20 31.4	9.6	54.1
	3	226 30.1	S23 08.4	178 42.6	13.6	S20 21.7	9.6	54.1
	4	241 29.9	S23 08.5	193 15.3	13.6	S20 12.0	9.7	54.1
S	5	256 29.6	S23 08.7	207 47.9	13.7	S20 02.2	9.8	54.2
U								
N	6	271 29.3	S23 08.9	222 20.7	13.7	S19 52.3	9.9	54.2
D	7	286 29.0	S23 09.0	236 53.4	13.8	S19 42.3	10.0	54.2
A	8	301 28.7	S23 09.2	251 26.3	13.8	S19 32.2	10.1	54.2
Y	9	316 28.4	S23 09.4	265 59.2	13.9	S19 22.1	10.2	54.2
	10	331 28.1	S23 09.5	280 32.1	13.9	S19 11.8	10.2	54.2
	11	346 27.8	S23 09.7	295 05.1	14.0	S19 01.5	10.3	54.2
	12	1 27.5	S23 09.8	309 38.2	14.1	S18 51.1	10.4	54.2
	13	16 27.2	S23 10.0	324 11.3	14.1	S18 40.6	10.5	54.2
	14	31 26.9	S23 10.2	338 44.4	14.2	S18 30.0	10.6	54.3
	15	46 26.6	S23 10.3	353 17.6	14.2	S18 19.4	10.6	54.3
	16	61 26.3	S23 10.5	7 50.9	14.3	S18 08.7	10.7	54.3
	17	76 26.0	S23 10.7	22 24.2	14.3	S17 57.9	10.8	54.3
	18	91 25.7	S23 10.8	36 57.5	14.4	S17 47.0	10.9	54.3
	19	106 25.4	S23 11.0	51 30.9	14.4	S17 36.1	10.9	54.3
	20	121 25.1	S23 11.1	66 04.4	14.5	S17 25.0	11.0	54.3
	21	136 24.8	S23 11.3	80 37.9	14.5	S17 13.9	11.1	54.3
	22	151 24.5	S23 11.4	95 11.4	14.5	S17 02.8	11.2	54.4
	23	166 24.2	S23 11.6	109 45.0	14.6	S16 51.5	11.2	54.4
14	0	181 23.9	S23 11.7	124 18.7	14.6	S16 40.2	11.3	54.4
	1	196 23.6	S23 11.9	138 52.3	14.7	S16 28.8	11.4	54.4
	2	211 23.3	S23 12.1	153 26.1	14.7	S16 17.4	11.5	54.4
	3	226 23.0	S23 12.2	167 59.8	14.8	S16 05.8	11.5	54.4
	4	241 22.7	S23 12.4	182 33.6	14.8	S15 54.2	11.6	54.4
M	5	256 22.4	S23 12.5	197 07.5	14.9	S15 42.6	11.7	54.5
O								
N	6	271 22.1	S23 12.7	211 41.4	14.9	S15 30.8	11.7	54.5
D	7	286 21.8	S23 12.8	226 15.3	14.9	S15 19.0	11.8	54.5
A	8	301 21.6	S23 12.9	240 49.3	15.0	S15 07.2	11.9	54.5
Y	9	316 21.3	S23 13.1	255 23.3	15.0	S14 55.2	11.9	54.5
	10	331 21.0	S23 13.2	269 57.4	15.1	S14 43.2	12.0	54.5
	11	346 20.7	S23 13.4	284 31.5	15.1	S14 31.2	12.1	54.5
	12	1 20.4	S23 13.5	299 05.6	15.1	S14 19.0	12.1	54.6
	13	16 20.1	S23 13.7	313 39.8	15.2	S14 06.9	12.2	54.6
	14	31 19.8	S23 13.8	328 14.0	15.2	S13 54.6	12.2	54.6
	15	46 19.5	S23 14.0	342 48.2	15.2	S13 42.3	12.3	54.6
	16	61 19.2	S23 14.1	357 22.5	15.3	S13 29.9	12.4	54.6
	17	76 18.9	S23 14.2	11 56.8	15.3	S13 17.5	12.4	54.7
	18	91 18.6	S23 14.4	26 31.1	15.3	S13 05.0	12.5	54.7
	19	106 18.3	S23 14.5	41 05.5	15.4	S12 52.5	12.5	54.7
	20	121 18.0	S23 14.6	55 39.9	15.4	S12 39.8	12.6	54.7
	21	136 17.7	S23 14.8	70 14.3	15.4	S12 27.2	12.7	54.7
	22	151 17.4	S23 14.9	84 48.7	15.5	S12 14.5	12.7	54.7
	23	166 17.1	S23 15.1	99 23.2	15.5	S12 01.7	12.8	54.8
		S.D. 16.2	d 0.2	S.D.	14.7	14.8	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.9
Achernar	335 18.7	S57 06.2
Acrux	172 58.5	S63 14.6
Adhara	255 04.2	S29 00.4
Albireo	67 03.1	N28 01.1
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.8	N55 48.5
Alkaid	152 51.0	N49 10.4
Al Na-ir	27 31.0	S46 50.0
Alnilam	275 35.7	S 1 11.0
Alphard	217 46.0	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 33.1	N29 14.6
Altair	61 58.7	N 8 56.4
Ankaa	353 05.4	S42 09.8
Antares	112 14.3	S26 29.5
Arcturus	145 46.7	N19 02.4
Atria	107 07.7	S69 04.5
Avior	234 13.6	S59 35.5
Bellatrix	278 20.8	N 6 22.5
Betelgeuse	270 50.0	N 7 24.8
Canopus	263 51.1	S52 42.5
Capella	280 19.1	N46 01.6
Castor	245 54.7	N31 49.7
Deneb	49 25.0	N45 22.8
Denebola	182 23.3	N14 25.2
Diphda	348 45.6	S17 50.3
Dubhe	193 39.0	N61 35.9
Elnath	277 59.5	N28 37.8
Eltanin	90 42.0	N51 29.1
Enif	33 37.3	N10 00.0
Fomalhaut	15 12.8	S29 28.9
Gacrux	171 50.1	S57 15.6
Gienah	175 42.0	S17 41.4
Hadar	148 34.3	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 21.0	N74 02.4
Markab	13 28.3	N15 21.2
Menkar	314 04.2	N 4 11.8
Menkent	147 56.0	S36 30.1
Miaplacidus	221 37.3	S69 49.4
Mirfak	308 25.6	N49 57.6
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 39.1
Polaris	315 35.4	N89 22.3
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.4
Rasalhague	95 57.5	N12 32.4
Regulus	207 32.6	N11 50.0
Rigel	281 02.0	S 8 10.2
Rigil Kent	139 38.8	S60 56.6
Sabik	102 01.3	S15 45.5
Schedar	349 29.0	N56 41.4
Shaula	96 08.6	S37 07.4
Sirius	258 24.5	S16 45.1
Spica	158 20.8	S11 18.1
Suhail	222 44.9	S43 32.3
Vega	80 32.6	N38 48.6
Zuben-ubi	136 55.4	S16 09.2

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
15	0	83 40.1	227 15.3	S11 27.5	284 24.2	N11 39.2	294 08.2	N13 18.8	75 22.4	N 0 49.7
	1	98 42.6	242 15.7	S11 28.0	299 26.0	N11 39.0	309 10.6	N13 18.8	90 24.9	N 0 49.7
	2	113 45.0	257 16.2	S11 28.5	314 27.8	N11 38.8	324 13.1	N13 18.8	105 27.3	N 0 49.7
	3	128 47.5	272 16.6	S11 29.0	329 29.6	N11 38.6	339 15.6	N13 18.8	120 29.8	N 0 49.7
	4	143 50.0	287 17.0	S11 29.5	344 31.4	N11 38.4	354 18.1	N13 18.8	135 32.2	N 0 49.8
T	5	158 52.4	302 17.4	S11 30.0	359 33.2	N11 38.3	9 20.6	N13 18.9	150 34.7	N 0 49.8
U										
E	6	173 54.9	317 17.9	S11 30.5	14 34.9	N11 38.1	24 23.0	N13 18.9	165 37.1	N 0 49.8
S	7	188 57.4	332 18.3	S11 31.0	29 36.7	N11 37.9	39 25.5	N13 18.9	180 39.6	N 0 49.8
D	8	203 59.8	347 18.7	S11 31.5	44 38.5	N11 37.7	54 28.0	N13 18.9	195 42.0	N 0 49.8
A	9	219 02.3	2 19.1	S11 32.1	59 40.3	N11 37.5	69 30.5	N13 18.9	210 44.5	N 0 49.8
Y	10	234 04.8	17 19.5	S11 32.6	74 42.1	N11 37.4	84 32.9	N13 18.9	225 46.9	N 0 49.9
	11	249 07.2	32 19.9	S11 33.1	89 43.9	N11 37.2	99 35.4	N13 19.0	240 49.4	N 0 49.9
	12	264 09.7	47 20.3	S11 33.6	104 45.7	N11 37.0	114 37.9	N13 19.0	255 51.8	N 0 49.9
	13	279 12.2	62 20.7	S11 34.1	119 47.5	N11 36.8	129 40.4	N13 19.0	270 54.3	N 0 49.9
	14	294 14.6	77 21.2	S11 34.6	134 49.3	N11 36.6	144 42.9	N13 19.0	285 56.7	N 0 49.9
	15	309 17.1	92 21.6	S11 35.1	149 51.1	N11 36.5	159 45.4	N13 19.0	300 59.2	N 0 50.0
	16	324 19.5	107 22.0	S11 35.6	164 52.9	N11 36.3	174 47.8	N13 19.0	316 01.6	N 0 50.0
	17	339 22.0	122 22.4	S11 36.1	179 54.7	N11 36.1	189 50.3	N13 19.1	331 04.1	N 0 50.0
	18	354 24.5	137 22.8	S11 36.7	194 56.5	N11 35.9	204 52.8	N13 19.1	346 06.5	N 0 50.0
	19	9 26.9	152 23.2	S11 37.2	209 58.3	N11 35.7	219 55.3	N13 19.1	1 09.0	N 0 50.0
	20	24 29.4	167 23.6	S11 37.7	225 00.1	N11 35.6	234 57.8	N13 19.1	16 11.4	N 0 50.0
	21	39 31.9	182 24.0	S11 38.2	240 01.9	N11 35.4	250 00.2	N13 19.1	31 13.9	N 0 50.1
	22	54 34.3	197 24.4	S11 38.7	255 03.7	N11 35.2	265 02.7	N13 19.2	46 16.3	N 0 50.1
	23	69 36.8	212 24.8	S11 39.2	270 05.5	N11 35.0	280 05.2	N13 19.2	61 18.8	N 0 50.1
16	0	84 39.3	227 25.1	S11 39.8	285 07.3	N11 34.9	295 07.7	N13 19.2	76 21.2	N 0 50.1
	1	99 41.7	242 25.5	S11 40.3	300 09.1	N11 34.7	310 10.2	N13 19.2	91 23.7	N 0 50.1
	2	114 44.2	257 25.9	S11 40.8	315 10.9	N11 34.5	325 12.7	N13 19.2	106 26.1	N 0 50.2
	3	129 46.7	272 26.3	S11 41.3	330 12.7	N11 34.3	340 15.1	N13 19.2	121 28.5	N 0 50.2
	4	144 49.1	287 26.7	S11 41.8	345 14.5	N11 34.2	355 17.6	N13 19.3	136 31.0	N 0 50.2
W	5	159 51.6	302 27.1	S11 42.4	0 16.3	N11 34.0	10 20.1	N13 19.3	151 33.4	N 0 50.2
E										
D	6	174 54.0	317 27.5	S11 42.9	15 18.1	N11 33.8	25 22.6	N13 19.3	166 35.9	N 0 50.2
N	7	189 56.5	332 27.9	S11 43.4	30 19.9	N11 33.6	40 25.1	N13 19.3	181 38.3	N 0 50.3
E	8	204 59.0	347 28.2	S11 43.9	45 21.8	N11 33.5	55 27.6	N13 19.3	196 40.8	N 0 50.3
S	9	220 01.4	2 28.6	S11 44.4	60 23.6	N11 33.3	70 30.1	N13 19.4	211 43.2	N 0 50.3
D	10	235 03.9	17 29.0	S11 45.0	75 25.4	N11 33.1	85 32.5	N13 19.4	226 45.7	N 0 50.3
A	11	250 06.4	32 29.4	S11 45.5	90 27.2	N11 32.9	100 35.0	N13 19.4	241 48.1	N 0 50.3
Y										
	12	265 08.8	47 29.8	S11 46.0	105 29.0	N11 32.8	115 37.5	N13 19.4	256 50.6	N 0 50.4
	13	280 11.3	62 30.1	S11 46.5	120 30.8	N11 32.6	130 40.0	N13 19.4	271 53.0	N 0 50.4
	14	295 13.8	77 30.5	S11 47.1	135 32.6	N11 32.4	145 42.5	N13 19.5	286 55.5	N 0 50.4
	15	310 16.2	92 30.9	S11 47.6	150 34.5	N11 32.2	160 45.0	N13 19.5	301 57.9	N 0 50.4
	16	325 18.7	107 31.3	S11 48.1	165 36.3	N11 32.1	175 47.5	N13 19.5	317 00.3	N 0 50.4
	17	340 21.1	122 31.6	S11 48.6	180 38.1	N11 31.9	190 50.0	N13 19.5	332 02.8	N 0 50.5
	18	355 23.6	137 32.0	S11 49.2	195 39.9	N11 31.7	205 52.5	N13 19.5	347 05.2	N 0 50.5
	19	10 26.1	152 32.4	S11 49.7	210 41.7	N11 31.6	220 54.9	N13 19.6	2 07.7	N 0 50.5
	20	25 28.5	167 32.7	S11 50.2	225 43.5	N11 31.4	235 57.4	N13 19.6	17 10.1	N 0 50.5
	21	40 31.0	182 33.1	S11 50.7	240 45.4	N11 31.2	250 59.9	N13 19.6	32 12.6	N 0 50.5
	22	55 33.5	197 33.5	S11 51.3	255 47.2	N11 31.1	266 02.4	N13 19.6	47 15.0	N 0 50.6
	23	70 35.9	212 33.8	S11 51.8	270 49.0	N11 30.9	281 04.9	N13 19.6	62 17.4	N 0 50.6
17	0	85 38.4	227 34.2	S11 52.3	285 50.8	N11 30.7	296 07.4	N13 19.7	77 19.9	N 0 50.6
	1	100 40.9	242 34.6	S11 52.9	300 52.7	N11 30.5	311 09.9	N13 19.7	92 22.3	N 0 50.6
	2	115 43.3	257 34.9	S11 53.4	315 54.5	N11 30.4	326 12.4	N13 19.7	107 24.8	N 0 50.6
	3	130 45.8	272 35.3	S11 53.9	330 56.3	N11 30.2	341 14.9	N13 19.7	122 27.2	N 0 50.7
	4	145 48.3	287 35.6	S11 54.5	345 58.1	N11 30.0	356 17.4	N13 19.7	137 29.7	N 0 50.7
T	5	160 50.7	302 36.0	S11 55.0	0 60.0	N11 29.9	11 19.9	N13 19.8	152 32.1	N 0 50.7
H										
U	6	175 53.2	317 36.3	S11 55.5	16 01.8	N11 29.7	26 22.4	N13 19.8	167 34.5	N 0 50.7
R	7	190 55.6	332 36.7	S11 56.1	31 03.6	N11 29.5	41 24.9	N13 19.8	182 37.0	N 0 50.7
S	8	205 58.1	347 37.0	S11 56.6	46 05.5	N11 29.4	56 27.3	N13 19.8	197 39.4	N 0 50.8
D	9	221 00.6	2 37.4	S11 57.1	61 07.3	N11 29.2	71 29.8	N13 19.8	212 41.9	N 0 50.8
A	10	236 03.0	17 37.7	S11 57.7	76 09.1	N11 29.0	86 32.3	N13 19.9	227 44.3	N 0 50.8
Y	11	251 05.5	32 38.1	S11 58.2	91 10.9	N11 28.9	101 34.8	N13 19.9	242 46.8	N 0 50.8
	12	266 08.0	47 38.4	S11 58.7	106 12.8	N11 28.7	116 37.3	N13 19.9	257 49.2	N 0 50.8
	13	281 10.4	62 38.8	S11 59.3	121 14.6	N11 28.5	131 39.8	N13 19.9	272 51.6	N 0 50.9
	14	296 12.9	77 39.1	S11 59.8	136 16.5	N11 28.4	146 42.3	N13 20.0	287 54.1	N 0 50.9
	15	311 15.4	92 39.5	S12 00.3	151 18.3	N11 28.2	161 44.8	N13 20.0	302 56.5	N 0 50.9
	16	326 17.8	107 39.8	S12 00.9	166 20.1	N11 28.1	176 47.3	N13 20.0	317 59.0	N 0 50.9
	17	341 20.3	122 40.1	S12 01.4	181 22.0	N11 27.9	191 49.8	N13 20.0	333 01.4	N 0 51.0
	18	356 22.8	137 40.5	S12 02.0	196 23.8	N11 27.7	206 52.3	N13 20.1	348 03.8	N 0 51.0
	19	11 25.2	152 40.8	S12 02.5	211 25.6	N11 27.6	221 54.8	N13 20.1	3 06.3	N 0 51.0
	20	26 27.7	167 41.1	S12 03.0	226 27.5	N11 27.4	236 57.3	N13 20.1	18 08.7	N 0 51.0
	21	41 30.1	182 41.5	S12 03.6	241 29.3	N11 27.2	251 59.8	N13 20.1	33 11.2	N 0 51.0
	22	56 32.6	197 41.8	S12 04.1	256 31.2	N11 27.1	267 02.3	N13 20.1	48 13.6	N 0 51.1
	23	71 35.1	212 42.1	S12 04.7	271 33.0	N11 26.9	282 04.8	N13 20.2	63 16.0	N 0 51.1
			v 0.4	d 0.5	v 1.8	d 0.2	v 2.5	d 0.0	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
15	0	181 16.8	S23 15.2	113 57.7	15.5	S11 48.9	12.8	54.8
	1	196 16.5	S23 15.3	128 32.2	15.5	S11 36.0	12.9	54.8
	2	211 16.2	S23 15.5	143 06.8	15.6	S11 23.0	12.9	54.8
	3	226 15.9	S23 15.6	157 41.4	15.6	S11 10.0	13.0	54.8
	4	241 15.6	S23 15.7	172 16.0	15.6	S10 57.0	13.0	54.9
T	5	256 15.3	S23 15.9	186 50.6	15.6	S10 43.9	13.1	54.9
U								
E	6	271 15.0	S23 16.0	201 25.2	15.6	S10 30.8	13.1	54.9
S	7	286 14.7	S23 16.1	215 59.9	15.7	S10 17.6	13.2	54.9
D	8	301 14.4	S23 16.2	230 34.6	15.7	S10 04.3	13.2	55.0
A	9	316 14.1	S23 16.4	245 09.3	15.7	S 9 51.0	13.3	55.0
Y	10	331 13.8	S23 16.5	259 44.0	15.7	S 9 37.7	13.3	55.0
	11	346 13.5	S23 16.6	274 18.7	15.7	S 9 24.3	13.4	55.0
	12	1 13.2	S23 16.7	288 53.5	15.7	S 9 10.9	13.4	55.0
	13	16 12.9	S23 16.9	303 28.2	15.8	S 8 57.4	13.5	55.1
	14	31 12.6	S23 17.0	318 03.0	15.8	S 8 43.9	13.5	55.1
	15	46 12.3	S23 17.1	332 37.8	15.8	S 8 30.3	13.6	55.1
	16	61 11.9	S23 17.2	347 12.6	15.8	S 8 16.7	13.6	55.1
	17	76 11.6	S23 17.4	1 47.4	15.8	S 8 03.0	13.7	55.2
	18	91 11.3	S23 17.5	16 22.2	15.8	S 7 49.3	13.7	55.2
	19	106 11.0	S23 17.6	30 57.0	15.8	S 7 35.6	13.7	55.2
	20	121 10.7	S23 17.7	45 31.8	15.8	S 7 21.8	13.8	55.2
	21	136 10.4	S23 17.8	60 06.6	15.8	S 7 08.0	13.8	55.3
	22	151 10.1	S23 17.9	74 41.5	15.8	S 6 54.1	13.9	55.3
	23	166 09.8	S23 18.1	89 16.3	15.8	S 6 40.2	13.9	55.3
16	0	181 09.5	S23 18.2	103 51.1	15.8	S 6 26.3	13.9	55.3
	1	196 09.2	S23 18.3	118 26.0	15.8	S 6 12.3	14.0	55.4
	2	211 08.9	S23 18.4	133 00.8	15.8	S 5 58.3	14.0	55.4
	3	226 08.6	S23 18.5	147 35.7	15.8	S 5 44.3	14.0	55.4
	4	241 08.3	S23 18.6	162 10.5	15.8	S 5 30.2	14.1	55.4
W	5	256 08.0	S23 18.7	176 45.3	15.8	S 5 16.1	14.1	55.5
E								
D	6	271 07.7	S23 18.8	191 20.1	15.8	S 5 01.9	14.2	55.5
N	7	286 07.4	S23 19.0	205 54.9	15.8	S 4 47.7	14.2	55.5
E	8	301 07.1	S23 19.1	220 29.7	15.8	S 4 33.5	14.2	55.6
S	9	316 06.8	S23 19.2	235 04.5	15.8	S 4 19.3	14.2	55.6
D	10	331 06.5	S23 19.3	249 39.3	15.8	S 4 05.0	14.3	55.6
A	11	346 06.2	S23 19.4	264 14.1	15.8	S 3 50.7	14.3	55.6
Y								
	12	1 05.9	S23 19.5	278 48.9	15.8	S 3 36.3	14.3	55.7
	13	16 05.6	S23 19.6	293 23.6	15.7	S 3 22.0	14.4	55.7
	14	31 05.3	S23 19.7	307 58.3	15.7	S 3 07.6	14.4	55.7
	15	46 05.0	S23 19.8	322 33.1	15.7	S 2 53.1	14.4	55.8
	16	61 04.7	S23 19.9	337 07.8	15.7	S 2 38.7	14.5	55.8
	17	76 04.4	S23 20.0	351 42.4	15.7	S 2 24.2	14.5	55.8
	18	91 04.1	S23 20.1	6 17.1	15.7	S 2 09.7	14.5	55.9
	19	106 03.8	S23 20.2	20 51.7	15.6	S 1 55.2	14.5	55.9
	20	121 03.5	S23 20.3	35 26.4	15.6	S 1 40.6	14.5	55.9
	21	136 03.2	S23 20.4	50 01.0	15.6	S 1 26.1	14.6	55.9
	22	151 02.9	S23 20.5	64 35.5	15.6	S 1 11.5	14.6	56.0
	23	166 02.6	S23 20.6	79 10.1	15.5	S 0 56.9	14.6	56.0
17	0	181 02.2	S23 20.7	93 44.6	15.5	S 0 42.2	14.6	56.0
	1	196 01.9	S23 20.8	108 19.1	15.5	S 0 27.6	14.7	56.1
	2	211 01.6	S23 20.9	122 53.5	15.5	S 0 12.9	14.7	56.1
	3	226 01.3	S23 21.0	137 27.9	15.4	N 0 01.8	14.7	56.1
	4	241 01.0	S23 21.1	152 02.3	15.4	N 0 16.5	14.7	56.2
T	5	256 00.7	S23 21.2	166 36.7	15.4	N 0 31.2	14.7	56.2
H								
U	6	271 00.4	S23 21.2	181 11.0	15.3	N 0 46.0	14.7	56.2
R	7	286 00.1	S23 21.3	195 45.3	15.3	N 1 00.7	14.8	56.3
S	8	300 59.8	S23 21.4	210 19.5	15.2	N 1 15.5	14.8	56.3
D	9	315 59.5	S23 21.5	224 53.8	15.2	N 1 30.3	14.8	56.3
A	10	330 59.2	S23 21.6	239 27.9	15.2	N 1 45.1	14.8	56.4
Y	11	345 58.9	S23 21.7	254 02.0	15.1	N 1 59.9	14.8	56.4
	12	0 58.6	S23 21.8	268 36.1	15.1	N 2 14.7	14.8	56.4
	13	15 58.3	S23 21.9	283 10.2	15.0	N 2 29.5	14.8	56.5
	14	30 58.0	S23 21.9	297 44.1	15.0	N 2 44.3	14.8	56.5
	15	45 57.7	S23 22.0	312 18.1	14.9	N 2 59.2	14.8	56.5
	16	60 57.4	S23 22.1	326 52.0	14.9	N 3 14.0	14.8	56.6
	17	75 57.1	S23 22.2	341 25.8	14.8	N 3 28.9	14.9	56.6
	18	90 56.8	S23 22.3	355 59.6	14.8	N 3 43.7	14.9	56.7
	19	105 56.4	S23 22.3	10 33.3	14.7	N 3 58.6	14.9	56.7
	20	120 56.1	S23 22.4	25 07.0	14.7	N 4 13.5	14.9	56.7
	21	135 55.8	S23 22.5	39 40.6	14.6	N 4 28.3	14.9	56.8
	22	150 55.5	S23 22.6	54 14.2	14.6	N 4 43.2	14.9	56.8
	23	165 55.2	S23 22.7	68 47.7	14.5	N 4 58.0	14.9	56.8
		S.D. 16.3	d 0.1	S.D.	15.0	15.2	15.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.9
Achernar	335 18.7	S57 06.2
Acrux	172 58.5	S63 14.6
Adhara	255 04.2	S29 00.4
Albireo	67 03.1	N28 01.0
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.7	N55 48.5
Alkaid	152 51.0	N49 10.4
Al Na-ir	27 31.1	S46 50.0
Alnilam	275 35.7	S 1 11.0
Alphard	217 46.0	S 8 46.5
Alphecca	126 02.7	N26 37.3
Alpheratz	357 33.1	N29 14.6
Altair	61 58.7	N 8 56.4
Ankaa	353 05.5	S42 09.8
Antares	112 14.3	S26 29.5
Arcturus	145 46.7	N19 02.4
Atria	107 07.7	S69 04.5
Avior	234 13.6	S59 35.6
Bellatrix	278 20.8	N 6 22.5
Betelgeuse	270 50.0	N 7 24.8
Canopus	263 51.1	S52 42.5
Capella	280 19.0	N46 01.6
Castor	245 54.7	N31 49.7
Deneb	49 25.0	N45 22.8
Denebola	182 23.3	N14 25.1
Diphda	348 45.6	S17 50.3
Dubhe	193 38.9	N61 35.9
Elnath	277 59.5	N28 37.8
Eltanin	90 42.0	N51 29.1
Enif	33 37.3	N10 00.0
Fomalhaut	15 12.8	S29 28.9
Gacrux	171 50.0	S57 15.6
Gienah	175 42.0	S17 41.4
Hadar	148 34.2	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 20.9	N74 02.4
Markab	13 28.4	N15 21.1
Menkar	314 04.2	N 4 11.8
Menkent	147 56.0	S36 30.1
Miaplacidus	221 37.3	S69 49.4
Mirfak	308 25.6	N49 57.6
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 39.1
Polaris	315 36.3	N89 22.3
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.3
Rasalhague	95 57.4	N12 32.4
Regulus	207 32.6	N11 50.0
Rigel	281 02.0	S 8 10.2
Rigil Kent	139 38.7	S60 56.6
Sabik	102 01.3	S15 45.5
Schedar	349 29.0	N56 41.4
Shaula	96 08.6	S37 07.4
Sirius	258 24.5	S16 45.1
Spica	158 20.8	S11 18.1
Suhail	222 44.8	S43 32.3
Vega	80 32.6	N38 48.5
Zuben-ubi	136 55.4	S16 09.2

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
18 0	86 37.5	227 42.5	S12 05.2	286 34.8	N11 26.8	297 07.3	N13 20.2	78 18.5	N 0 51.1
1	101 40.0	242 42.8	S12 05.7	301 36.7	N11 26.6	312 09.8	N13 20.2	93 20.9	N 0 51.1
2	116 42.5	257 43.1	S12 06.3	316 38.5	N11 26.4	327 12.3	N13 20.2	108 23.4	N 0 51.2
3	131 44.9	272 43.5	S12 06.8	331 40.4	N11 26.3	342 14.8	N13 20.3	123 25.8	N 0 51.2
4	146 47.4	287 43.8	S12 07.4	346 42.2	N11 26.1	357 17.3	N13 20.3	138 28.2	N 0 51.2
F 5	161 49.9	302 44.1	S12 07.9	1 44.1	N11 26.0	12 19.8	N13 20.3	153 30.7	N 0 51.2
R									
I 6	176 52.3	317 44.4	S12 08.5	16 45.9	N11 25.8	27 22.3	N13 20.3	168 33.1	N 0 51.2
D 7	191 54.8	332 44.7	S12 09.0	31 47.8	N11 25.6	42 24.8	N13 20.4	183 35.5	N 0 51.3
A 8	206 57.2	347 45.1	S12 09.5	46 49.6	N11 25.5	57 27.3	N13 20.4	198 38.0	N 0 51.3
Y 9	221 59.7	2 45.4	S12 10.1	61 51.5	N11 25.3	72 29.8	N13 20.4	213 40.4	N 0 51.3
10	237 02.2	17 45.7	S12 10.6	76 53.3	N11 25.2	87 32.3	N13 20.4	228 42.9	N 0 51.3
11	252 04.6	32 46.0	S12 11.2	91 55.2	N11 25.0	102 34.8	N13 20.5	243 45.3	N 0 51.4
12	267 07.1	47 46.3	S12 11.7	106 57.0	N11 24.9	117 37.3	N13 20.5	258 47.7	N 0 51.4
13	282 09.6	62 46.6	S12 12.3	121 58.9	N11 24.7	132 39.8	N13 20.5	273 50.2	N 0 51.4
14	297 12.0	77 47.0	S12 12.8	137 00.7	N11 24.5	147 42.3	N13 20.5	288 52.6	N 0 51.4
15	312 14.5	92 47.3	S12 13.4	152 02.6	N11 24.4	162 44.8	N13 20.6	303 55.0	N 0 51.5
16	327 17.0	107 47.6	S12 13.9	167 04.4	N11 24.2	177 47.3	N13 20.6	318 57.5	N 0 51.5
17	342 19.4	122 47.9	S12 14.5	182 06.3	N11 24.1	192 49.8	N13 20.6	333 59.9	N 0 51.5
18	357 21.9	137 48.2	S12 15.0	197 08.2	N11 23.9	207 52.3	N13 20.6	349 02.3	N 0 51.5
19	12 24.4	152 48.5	S12 15.6	212 10.0	N11 23.8	222 54.9	N13 20.7	4 04.8	N 0 51.6
20	27 26.8	167 48.8	S12 16.1	227 11.9	N11 23.6	237 57.4	N13 20.7	19 07.2	N 0 51.6
21	42 29.3	182 49.1	S12 16.7	242 13.7	N11 23.5	252 59.9	N13 20.7	34 09.7	N 0 51.6
22	57 31.7	197 49.4	S12 17.2	257 15.6	N11 23.3	268 02.4	N13 20.7	49 12.1	N 0 51.6
23	72 34.2	212 49.7	S12 17.8	272 17.5	N11 23.2	283 04.9	N13 20.8	64 14.5	N 0 51.6
19 0	87 36.7	227 50.0	S12 18.3	287 19.3	N11 23.0	298 07.4	N13 20.8	79 17.0	N 0 51.7
1	102 39.1	242 50.3	S12 18.9	302 21.2	N11 22.9	313 09.9	N13 20.8	94 19.4	N 0 51.7
2	117 41.6	257 50.6	S12 19.4	317 23.1	N11 22.7	328 12.4	N13 20.8	109 21.8	N 0 51.7
3	132 44.1	272 50.9	S12 20.0	332 24.9	N11 22.5	343 14.9	N13 20.9	124 24.3	N 0 51.7
4	147 46.5	287 51.2	S12 20.5	347 26.8	N11 22.4	358 17.4	N13 20.9	139 26.7	N 0 51.8
S 5	162 49.0	302 51.5	S12 21.1	2 28.7	N11 22.2	13 19.9	N13 20.9	154 29.1	N 0 51.8
A									
T 6	177 51.5	317 51.8	S12 21.6	17 30.5	N11 22.1	28 22.4	N13 21.0	169 31.6	N 0 51.8
U 7	192 53.9	332 52.1	S12 22.2	32 32.4	N11 21.9	43 24.9	N13 21.0	184 34.0	N 0 51.8
R 8	207 56.4	347 52.3	S12 22.8	47 34.3	N11 21.8	58 27.5	N13 21.0	199 36.4	N 0 51.9
D 9	222 58.8	2 52.6	S12 23.3	62 36.1	N11 21.6	73 30.0	N13 21.0	214 38.9	N 0 51.9
A 10	238 01.3	17 52.9	S12 23.9	77 38.0	N11 21.5	88 32.5	N13 21.1	229 41.3	N 0 51.9
Y 11	253 03.8	32 53.2	S12 24.4	92 39.9	N11 21.3	103 35.0	N13 21.1	244 43.7	N 0 51.9
12	268 06.2	47 53.5	S12 25.0	107 41.8	N11 21.2	118 37.5	N13 21.1	259 46.2	N 0 52.0
13	283 08.7	62 53.8	S12 25.5	122 43.6	N11 21.1	133 40.0	N13 21.1	274 48.6	N 0 52.0
14	298 11.2	77 54.1	S12 26.1	137 45.5	N11 20.9	148 42.5	N13 21.2	289 51.0	N 0 52.0
15	313 13.6	92 54.3	S12 26.6	152 47.4	N11 20.8	163 45.0	N13 21.2	304 53.5	N 0 52.0
16	328 16.1	107 54.6	S12 27.2	167 49.3	N11 20.6	178 47.6	N13 21.2	319 55.9	N 0 52.1
17	343 18.6	122 54.9	S12 27.8	182 51.1	N11 20.5	193 50.1	N13 21.3	334 58.3	N 0 52.1
18	358 21.0	137 55.2	S12 28.3	197 53.0	N11 20.3	208 52.6	N13 21.3	350 00.8	N 0 52.1
19	13 23.5	152 55.4	S12 28.9	212 54.9	N11 20.2	223 55.1	N13 21.3	5 03.2	N 0 52.1
20	28 26.0	167 55.7	S12 29.4	227 56.8	N11 20.0	238 57.6	N13 21.3	20 05.6	N 0 52.2
21	43 28.4	182 56.0	S12 30.0	242 58.7	N11 19.9	254 00.1	N13 21.4	35 08.0	N 0 52.2
22	58 30.9	197 56.3	S12 30.6	258 00.5	N11 19.7	269 02.6	N13 21.4	50 10.5	N 0 52.2
23	73 33.3	212 56.5	S12 31.1	273 02.4	N11 19.6	284 05.1	N13 21.4	65 12.9	N 0 52.3
20 0	88 35.8	227 56.8	S12 31.7	288 04.3	N11 19.4	299 07.7	N13 21.5	80 15.3	N 0 52.3
1	103 38.3	242 57.1	S12 32.2	303 06.2	N11 19.3	314 10.2	N13 21.5	95 17.8	N 0 52.3
2	118 40.7	257 57.3	S12 32.8	318 08.1	N11 19.2	329 12.7	N13 21.5	110 20.2	N 0 52.3
3	133 43.2	272 57.6	S12 33.4	333 10.0	N11 19.0	344 15.2	N13 21.6	125 22.6	N 0 52.4
4	148 45.7	287 57.9	S12 33.9	348 11.8	N11 18.9	359 17.7	N13 21.6	140 25.1	N 0 52.4
S 5	163 48.1	302 58.1	S12 34.5	3 13.7	N11 18.7	14 20.2	N13 21.6	155 27.5	N 0 52.4
U									
N 6	178 50.6	317 58.4	S12 35.1	18 15.6	N11 18.6	29 22.8	N13 21.6	170 29.9	N 0 52.4
D 7	193 53.1	332 58.7	S12 35.6	33 17.5	N11 18.4	44 25.3	N13 21.7	185 32.3	N 0 52.5
A 8	208 55.5	347 58.9	S12 36.2	48 19.4	N11 18.3	59 27.8	N13 21.7	200 34.8	N 0 52.5
Y 9	223 58.0	2 59.2	S12 36.8	63 21.3	N11 18.2	74 30.3	N13 21.7	215 37.2	N 0 52.5
10	239 00.5	17 59.4	S12 37.3	78 23.2	N11 18.0	89 32.8	N13 21.8	230 39.6	N 0 52.5
11	254 02.9	32 59.7	S12 37.9	93 25.1	N11 17.9	104 35.4	N13 21.8	245 42.1	N 0 52.6
12	269 05.4	47 59.9	S12 38.4	108 27.0	N11 17.7	119 37.9	N13 21.8	260 44.5	N 0 52.6
13	284 07.8	63 00.2	S12 39.0	123 28.9	N11 17.6	134 40.4	N13 21.9	275 46.9	N 0 52.6
14	299 10.3	78 00.4	S12 39.6	138 30.8	N11 17.5	149 42.9	N13 21.9	290 49.3	N 0 52.6
15	314 12.8	93 00.7	S12 40.1	153 32.7	N11 17.3	164 45.4	N13 21.9	305 51.8	N 0 52.7
16	329 15.2	108 00.9	S12 40.7	168 34.6	N11 17.2	179 48.0	N13 21.9	320 54.2	N 0 52.7
17	344 17.7	123 01.2	S12 41.3	183 36.5	N11 17.0	194 50.5	N13 22.0	335 56.6	N 0 52.7
18	359 20.2	138 01.4	S12 41.8	198 38.4	N11 16.9	209 53.0	N13 22.0	350 59.1	N 0 52.8
19	14 22.6	153 01.7	S12 42.4	213 40.3	N11 16.8	224 55.5	N13 22.0	6 01.5	N 0 52.8
20	29 25.1	168 01.9	S12 43.0	228 42.2	N11 16.6	239 58.0	N13 22.1	21 03.9	N 0 52.8
21	44 27.6	183 02.2	S12 43.6	243 44.1	N11 16.5	255 00.6	N13 22.1	36 06.3	N 0 52.8
22	59 30.0	198 02.4	S12 44.1	258 46.0	N11 16.4	270 03.1	N13 22.1	51 08.8	N 0 52.9
23	74 32.5	213 02.7	S12 44.7	273 47.9	N11 16.2	285 05.6	N13 22.2	66 11.2	N 0 52.9
		v 0.3	d 0.6	v 1.9	d 0.1	v 2.5	d 0.0	v 2.4	d 0.0

G.M.T	SUN		MOON						STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP		Name	SHA	Dec
	° '	° '	° '	'	° '	'	'			° '	° '
18 0	180 54.9	S23 22.7	83 21.2	14.4	N 5 12.9	14.9	56.9		Acamar	315 10.2	S40 11.9
1	195 54.6	S23 22.8	97 54.6	14.4	N 5 27.8	14.9	56.9		Achernar	335 18.7	S57 06.2
2	210 54.3	S23 22.9	112 27.9	14.3	N 5 42.6	14.9	57.0		Acrux	172 58.4	S63 14.6
3	225 54.0	S23 23.0	127 01.1	14.3	N 5 57.5	14.9	57.0		Adhara	255 04.2	S29 00.4
4	240 53.7	S23 23.0	141 34.3	14.2	N 6 12.3	14.8	57.0		Albireo	67 03.1	N28 01.0
F 5	255 53.4	S23 23.1	156 07.5	14.1	N 6 27.2	14.8	57.1				
R									Aldebaran	290 37.4	N16 33.9
I 6	270 53.1	S23 23.2	170 40.5	14.1	N 6 42.0	14.8	57.1		Alioth	166 11.7	N55 48.5
D 7	285 52.8	S23 23.2	185 13.5	14.0	N 6 56.8	14.8	57.1		Alkaid	152 51.0	N49 10.4
A 8	300 52.5	S23 23.3	199 46.4	13.9	N 7 11.6	14.8	57.2		Al Na-ir	27 31.1	S46 50.0
Y 9	315 52.2	S23 23.4	214 19.2	13.8	N 7 26.4	14.8	57.2		Alnilam	275 35.7	S 1 11.0
10	330 51.9	S23 23.5	228 52.0	13.8	N 7 41.2	14.8	57.3				
11	345 51.5	S23 23.5	243 24.7	13.7	N 7 56.0	14.8	57.3		Alphard	217 45.9	S 8 46.5
									Alphecca	126 02.7	N26 37.3
12	0 51.2	S23 23.6	257 57.3	13.6	N 8 10.8	14.8	57.3		Alpheratz	357 33.1	N29 14.6
13	15 50.9	S23 23.7	272 29.8	13.5	N 8 25.5	14.7	57.4		Altair	61 58.7	N 8 56.4
14	30 50.6	S23 23.7	287 02.3	13.5	N 8 40.2	14.7	57.4		Ankaa	353 05.5	S42 09.8
15	45 50.3	S23 23.8	301 34.7	13.4	N 8 54.9	14.7	57.5				
16	60 50.0	S23 23.8	316 07.0	13.3	N 9 09.6	14.7	57.5		Antares	112 14.2	S26 29.5
17	75 49.7	S23 23.9	330 39.2	13.2	N 9 24.3	14.7	57.5		Arcturus	145 46.7	N19 02.4
									Atria	107 07.7	S69 04.5
18	90 49.4	S23 24.0	345 11.3	13.1	N 9 38.9	14.6	57.6		Avior	234 13.5	S59 35.6
19	105 49.1	S23 24.0	359 43.3	13.0	N 9 53.6	14.6	57.6		Bellatrix	278 20.8	N 6 22.5
20	120 48.8	S23 24.1	14 15.2	12.9	N10 08.2	14.6	57.7				
21	135 48.5	S23 24.1	28 47.1	12.8	N10 22.7	14.6	57.7		Betelgeuse	270 50.0	N 7 24.8
22	150 48.2	S23 24.2	43 18.9	12.8	N10 37.3	14.5	57.7		Canopus	263 51.1	S52 42.5
23	165 47.9	S23 24.3	57 50.5	12.7	N10 51.8	14.5	57.8		Capella	280 19.0	N46 01.6
19 0	180 47.6	S23 24.3	72 22.1	12.6	N11 06.3	14.5	57.8		Castor	245 54.6	N31 49.7
1	195 47.2	S23 24.4	86 53.6	12.5	N11 20.7	14.5	57.9		Deneb	49 25.1	N45 22.8
2	210 46.9	S23 24.4	101 24.9	12.4	N11 35.2	14.4	57.9				
3	225 46.6	S23 24.5	115 56.2	12.3	N11 49.6	14.4	57.9		Denebola	182 23.3	N14 25.1
4	240 46.3	S23 24.5	130 27.4	12.2	N12 03.9	14.4	58.0		Diphda	348 45.6	S17 50.3
S 5	255 46.0	S23 24.6	144 58.5	12.1	N12 18.2	14.3	58.0		Dubhe	193 38.9	N61 35.9
A									Elnath	277 59.5	N28 37.8
T 6	270 45.7	S23 24.6	159 29.4	12.0	N12 32.5	14.3	58.1		Eltanin	90 42.0	N51 29.0
U 7	285 45.4	S23 24.7	174 00.3	11.9	N12 46.7	14.2	58.1				
R 8	300 45.1	S23 24.7	188 31.1	11.8	N13 00.9	14.2	58.1		Enif	33 37.3	N10 00.0
D 9	315 44.8	S23 24.8	203 01.7	11.7	N13 15.1	14.1	58.2		Fomalhaut	15 12.8	S29 28.9
A 10	330 44.5	S23 24.8	217 32.3	11.5	N13 29.2	14.1	58.2		Gacrux	171 50.0	S57 15.6
Y 11	345 44.2	S23 24.9	232 02.7	11.4	N13 43.2	14.1	58.3		Gienah	175 42.0	S17 41.4
									Hadar	148 34.2	S60 30.0
12	0 43.9	S23 24.9	246 33.0	11.3	N13 57.2	14.0	58.3				
13	15 43.5	S23 25.0	261 03.2	11.2	N14 11.2	14.0	58.3		Hamal	327 49.2	N23 35.6
14	30 43.2	S23 25.0	275 33.3	11.1	N14 25.1	13.9	58.4		Kaus Austr.	83 30.8	S34 22.4
15	45 42.9	S23 25.1	290 03.3	11.0	N14 38.9	13.9	58.4		Kochab	137 20.9	N74 02.4
16	60 42.6	S23 25.1	304 33.2	10.9	N14 52.7	13.8	58.5		Markab	13 28.4	N15 21.1
17	75 42.3	S23 25.2	319 02.9	10.7	N15 06.5	13.7	58.5		Menkar	314 04.2	N 4 11.8
									Menkent	147 56.0	S36 30.1
18	90 42.0	S23 25.2	333 32.5	10.6	N15 20.2	13.7	58.5		Miaplacidus	221 37.2	S69 49.4
19	105 41.7	S23 25.2	348 02.0	10.5	N15 33.8	13.6	58.6		Mirfak	308 25.6	N49 57.6
20	120 41.4	S23 25.3	2 31.4	10.4	N15 47.3	13.6	58.6		Nunki	75 46.1	S26 15.8
21	135 41.1	S23 25.3	17 00.7	10.3	N16 00.8	13.5	58.7		Peacock	53 03.6	S56 39.1
22	150 40.8	S23 25.4	31 29.8	10.1	N16 14.3	13.4	58.7				
23	165 40.5	S23 25.4	45 58.8	10.0	N16 27.6	13.4	58.8		Polaris	315 37.0	N89 22.4
20 0	180 40.2	S23 25.4	60 27.7	9.9	N16 40.9	13.3	58.8		Pollux	243 15.0	N27 57.6
1	195 39.8	S23 25.5	74 56.5	9.8	N16 54.1	13.2	58.8		Procyon	244 48.8	N 5 09.3
2	210 39.5	S23 25.5	89 25.1	9.6	N17 07.3	13.1	58.9		Rasalhague	95 57.4	N12 32.4
3	225 39.2	S23 25.5	103 53.6	9.5	N17 20.4	13.1	58.9		Regulus	207 32.6	N11 50.0
4	240 38.9	S23 25.6	118 22.0	9.4	N17 33.3	13.0	59.0		Rigel	281 02.0	S 8 10.2
S 5	255 38.6	S23 25.6	132 50.3	9.2	N17 46.3	12.9	59.0		Rigil Kent	139 38.7	S60 56.6
U									Sabik	102 01.3	S15 45.5
N 6	270 38.3	S23 25.6	147 18.4	9.1	N17 59.1	12.8	59.0		Schedar	349 29.1	N56 41.4
D 7	285 38.0	S23 25.7	161 46.3	9.0	N18 11.8	12.8	59.1		Shaula	96 08.6	S37 07.4
A 8	300 37.7	S23 25.7	176 14.2	8.8	N18 24.5	12.7	59.1				
Y 9	315 37.4	S23 25.7	190 41.9	8.7	N18 37.1	12.6	59.2		Sirius	258 24.5	S16 45.1
10	330 37.1	S23 25.8	205 09.5	8.6	N18 49.6	12.5	59.2		Spica	158 20.8	S11 18.1
11	345 36.8	S23 25.8	219 36.9	8.4	N19 02.0	12.4	59.2		Suhail	222 44.8	S43 32.3
									Vega	80 32.6	N38 48.5
12	0 36.4	S23 25.8	234 04.2	8.3	N19 14.3	12.3	59.3		Zuben-ubi	136 55.4	S16 09.2
13	15 36.1	S23 25.8	248 31.4	8.2	N19 26.5	12.2	59.3				
14	30 35.8	S23 25.9	262 58.4	8.0	N19 38.6	12.1	59.4				
15	45 35.5	S23 25.9	277 25.3	7.9	N19 50.6	12.0	59.4				
16	60 35.2	S23 25.9	291 52.0	7.7	N20 02.5	11.9	59.4				
17	75 34.9	S23 25.9	306 18.6	7.6	N20 14.4	11.8	59.5				
18	90 34.6	S23 26.0	320 45.1	7.5	N20 26.1	11.7	59.5				
19	105 34.3	S23 26.0	335 11.4	7.3	N20 37.7	11.6	59.6				
20	120 34.0	S23 26.0	349 37.6	7.2	N20 49.1	11.5	59.6				
21	135 33.7	S23 26.0	4 03.6	7.0	N21 00.5	11.4	59.6				
22	150 33.4	S23 26.0	18 29.5	6.9	N21 11.8	11.3	59.7				
23	165 33.0	S23 26.1	32 55.3	6.8	N21 22.9	11.1	59.7				
	S.D. 16.3	d 0.0	S.D.	15.6	15.9	16.2					

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
21	0	89 35.0	228 02.9	S12 45.3	288 49.8	N11 16.1	300 08.1	N13 22.2	81 13.6	N 0 52.9
	1	104 37.4	243 03.1	S12 45.8	303 51.7	N11 15.9	315 10.7	N13 22.2	96 16.0	N 0 53.0
	2	119 39.9	258 03.4	S12 46.4	318 53.6	N11 15.8	330 13.2	N13 22.3	111 18.5	N 0 53.0
	3	134 42.3	273 03.6	S12 47.0	333 55.5	N11 15.7	345 15.7	N13 22.3	126 20.9	N 0 53.0
	4	149 44.8	288 03.8	S12 47.5	348 57.4	N11 15.5	0 18.2	N13 22.3	141 23.3	N 0 53.0
M	5	164 47.3	303 04.1	S12 48.1	3 59.3	N11 15.4	15 20.7	N13 22.4	156 25.7	N 0 53.1
O										
N	6	179 49.7	318 04.3	S12 48.7	19 01.2	N11 15.3	30 23.3	N13 22.4	171 28.2	N 0 53.1
D	7	194 52.2	333 04.5	S12 49.3	34 03.1	N11 15.1	45 25.8	N13 22.4	186 30.6	N 0 53.1
A	8	209 54.7	348 04.8	S12 49.8	49 05.0	N11 15.0	60 28.3	N13 22.5	201 33.0	N 0 53.1
Y	9	224 57.1	3 05.0	S12 50.4	64 06.9	N11 14.9	75 30.8	N13 22.5	216 35.5	N 0 53.2
	10	239 59.6	18 05.2	S12 51.0	79 08.9	N11 14.7	90 33.4	N13 22.5	231 37.9	N 0 53.2
	11	255 02.1	33 05.5	S12 51.5	94 10.8	N11 14.6	105 35.9	N13 22.6	246 40.3	N 0 53.2
	12	270 04.5	48 05.7	S12 52.1	109 12.7	N11 14.5	120 38.4	N13 22.6	261 42.7	N 0 53.3
	13	285 07.0	63 05.9	S12 52.7	124 14.6	N11 14.4	135 41.0	N13 22.6	276 45.1	N 0 53.3
	14	300 09.4	78 06.1	S12 53.3	139 16.5	N11 14.2	150 43.5	N13 22.7	291 47.6	N 0 53.3
	15	315 11.9	93 06.3	S12 53.8	154 18.4	N11 14.1	165 46.0	N13 22.7	306 50.0	N 0 53.3
	16	330 14.4	108 06.6	S12 54.4	169 20.4	N11 14.0	180 48.5	N13 22.7	321 52.4	N 0 53.4
	17	345 16.8	123 06.8	S12 55.0	184 22.3	N11 13.8	195 51.1	N13 22.8	336 54.8	N 0 53.4
	18	0 19.3	138 07.0	S12 55.6	199 24.2	N11 13.7	210 53.6	N13 22.8	351 57.3	N 0 53.4
	19	15 21.8	153 07.2	S12 56.1	214 26.1	N11 13.6	225 56.1	N13 22.8	6 59.7	N 0 53.5
	20	30 24.2	168 07.4	S12 56.7	229 28.0	N11 13.4	240 58.7	N13 22.9	22 02.1	N 0 53.5
	21	45 26.7	183 07.7	S12 57.3	244 30.0	N11 13.3	256 01.2	N13 22.9	37 04.5	N 0 53.5
	22	60 29.2	198 07.9	S12 57.9	259 31.9	N11 13.2	271 03.7	N13 22.9	52 07.0	N 0 53.6
	23	75 31.6	213 08.1	S12 58.4	274 33.8	N11 13.1	286 06.2	N13 23.0	67 09.4	N 0 53.6
22	0	90 34.1	228 08.3	S12 59.0	289 35.7	N11 12.9	301 08.8	N13 23.0	82 11.8	N 0 53.6
	1	105 36.6	243 08.5	S12 59.6	304 37.7	N11 12.8	316 11.3	N13 23.0	97 14.2	N 0 53.6
	2	120 39.0	258 08.7	S13 00.2	319 39.6	N11 12.7	331 13.8	N13 23.1	112 16.6	N 0 53.7
	3	135 41.5	273 08.9	S13 00.8	334 41.5	N11 12.6	346 16.4	N13 23.1	127 19.1	N 0 53.7
	4	150 43.9	288 09.1	S13 01.3	349 43.4	N11 12.4	1 18.9	N13 23.1	142 21.5	N 0 53.7
T	5	165 46.4	303 09.3	S13 01.9	4 45.4	N11 12.3	16 21.4	N13 23.2	157 23.9	N 0 53.8
U										
E	6	180 48.9	318 09.5	S13 02.5	19 47.3	N11 12.2	31 24.0	N13 23.2	172 26.3	N 0 53.8
S	7	195 51.3	333 09.7	S13 03.1	34 49.2	N11 12.1	46 26.5	N13 23.2	187 28.8	N 0 53.8
D	8	210 53.8	348 09.9	S13 03.7	49 51.2	N11 11.9	61 29.0	N13 23.3	202 31.2	N 0 53.9
A	9	225 56.3	3 10.1	S13 04.2	64 53.1	N11 11.8	76 31.6	N13 23.3	217 33.6	N 0 53.9
Y	10	240 58.7	18 10.3	S13 04.8	79 55.0	N11 11.7	91 34.1	N13 23.3	232 36.0	N 0 53.9
	11	256 01.2	33 10.5	S13 05.4	94 57.0	N11 11.6	106 36.6	N13 23.4	247 38.4	N 0 53.9
	12	271 03.7	48 10.7	S13 06.0	109 58.9	N11 11.4	121 39.2	N13 23.4	262 40.9	N 0 54.0
	13	286 06.1	63 10.9	S13 06.6	125 00.8	N11 11.3	136 41.7	N13 23.5	277 43.3	N 0 54.0
	14	301 08.6	78 11.1	S13 07.1	140 02.8	N11 11.2	151 44.2	N13 23.5	292 45.7	N 0 54.0
	15	316 11.1	93 11.3	S13 07.7	155 04.7	N11 11.1	166 46.8	N13 23.5	307 48.1	N 0 54.1
	16	331 13.5	108 11.5	S13 08.3	170 06.7	N11 10.9	181 49.3	N13 23.6	322 50.5	N 0 54.1
	17	346 16.0	123 11.7	S13 08.9	185 08.6	N11 10.8	196 51.9	N13 23.6	337 53.0	N 0 54.1
	18	1 18.4	138 11.9	S13 09.5	200 10.5	N11 10.7	211 54.4	N13 23.6	352 55.4	N 0 54.2
	19	16 20.9	153 12.1	S13 10.0	215 12.5	N11 10.6	226 56.9	N13 23.7	7 57.8	N 0 54.2
	20	31 23.4	168 12.3	S13 10.6	230 14.4	N11 10.5	241 59.5	N13 23.7	23 00.2	N 0 54.2
	21	46 25.8	183 12.4	S13 11.2	245 16.4	N11 10.3	257 02.0	N13 23.8	38 02.6	N 0 54.3
	22	61 28.3	198 12.6	S13 11.8	260 18.3	N11 10.2	272 04.5	N13 23.8	53 05.0	N 0 54.3
	23	76 30.8	213 12.8	S13 12.4	275 20.3	N11 10.1	287 07.1	N13 23.8	68 07.5	N 0 54.3
23	0	91 33.2	228 13.0	S13 13.0	290 22.2	N11 10.0	302 09.6	N13 23.9	83 09.9	N 0 54.3
	1	106 35.7	243 13.2	S13 13.5	305 24.2	N11 09.9	317 12.2	N13 23.9	98 12.3	N 0 54.4
	2	121 38.2	258 13.4	S13 14.1	320 26.1	N11 09.8	332 14.7	N13 23.9	113 14.7	N 0 54.4
	3	136 40.6	273 13.5	S13 14.7	335 28.1	N11 09.6	347 17.2	N13 24.0	128 17.1	N 0 54.4
	4	151 43.1	288 13.7	S13 15.3	350 30.0	N11 09.5	2 19.8	N13 24.0	143 19.6	N 0 54.5
W	5	166 45.6	303 13.9	S13 15.9	5 32.0	N11 09.4	17 22.3	N13 24.1	158 22.0	N 0 54.5
E										
D	6	181 48.0	318 14.1	S13 16.5	20 33.9	N11 09.3	32 24.9	N13 24.1	173 24.4	N 0 54.5
N	7	196 50.5	333 14.2	S13 17.0	35 35.9	N11 09.2	47 27.4	N13 24.1	188 26.8	N 0 54.6
E	8	211 52.9	348 14.4	S13 17.6	50 37.8	N11 09.1	62 29.9	N13 24.2	203 29.2	N 0 54.6
S	9	226 55.4	3 14.6	S13 18.2	65 39.8	N11 08.9	77 32.5	N13 24.2	218 31.6	N 0 54.6
D	10	241 57.9	18 14.8	S13 18.8	80 41.7	N11 08.8	92 35.0	N13 24.2	233 34.1	N 0 54.7
A	11	257 00.3	33 14.9	S13 19.4	95 43.7	N11 08.7	107 37.6	N13 24.3	248 36.5	N 0 54.7
Y										
	12	272 02.8	48 15.1	S13 20.0	110 45.6	N11 08.6	122 40.1	N13 24.3	263 38.9	N 0 54.7
	13	287 05.3	63 15.3	S13 20.6	125 47.6	N11 08.5	137 42.6	N13 24.4	278 41.3	N 0 54.8
	14	302 07.7	78 15.4	S13 21.1	140 49.6	N11 08.4	152 45.2	N13 24.4	293 43.7	N 0 54.8
	15	317 10.2	93 15.6	S13 21.7	155 51.5	N11 08.3	167 47.7	N13 24.4	308 46.1	N 0 54.8
	16	332 12.7	108 15.8	S13 22.3	170 53.5	N11 08.1	182 50.3	N13 24.5	323 48.6	N 0 54.9
	17	347 15.1	123 15.9	S13 22.9	185 55.4	N11 08.0	197 52.8	N13 24.5	338 51.0	N 0 54.9
	18	2 17.6	138 16.1	S13 23.5	200 57.4	N11 07.9	212 55.4	N13 24.6	353 53.4	N 0 54.9
	19	17 20.1	153 16.3	S13 24.1	215 59.4	N11 07.8	227 57.9	N13 24.6	8 55.8	N 0 55.0
	20	32 22.5	168 16.4	S13 24.7	231 01.3	N11 07.7	243 00.5	N13 24.6	23 58.2	N 0 55.0
	21	47 25.0	183 16.6	S13 25.3	246 03.3	N11 07.6	258 03.0	N13 24.7	39 00.6	N 0 55.0
	22	62 27.4	198 16.7	S13 25.9	261 05.3	N11 07.5	273 05.5	N13 24.7	54 03.0	N 0 55.1
	23	77 29.9	213 16.9	S13 26.4	276 07.2	N11 07.4	288 08.1	N13 24.8	69 05.5	N 0 55.1
			v 0.2	d 0.6	v 1.9	d 0.1	v 2.5	d 0.0	v 2.4	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
21 0	180 32.7	S23 26.1	47 20.9	6.6	N21 33.9	11.0	59.7	Acamar	315 10.2	S40 11.9
1	195 32.4	S23 26.1	61 46.4	6.5	N21 44.8	10.9	59.8	Achernar	335 18.7	S57 06.2
2	210 32.1	S23 26.1	76 11.7	6.3	N21 55.6	10.8	59.8	Acrux	172 58.4	S63 14.6
3	225 31.8	S23 26.1	90 36.9	6.2	N22 06.3	10.7	59.9	Adhara	255 04.2	S29 00.5
4	240 31.5	S23 26.1	105 02.0	6.0	N22 16.8	10.5	59.9	Albireo	67 03.1	N28 01.0
M 5	255 31.2	S23 26.1	119 26.9	5.9	N22 27.2	10.4	59.9			
O								Aldebaran	290 37.4	N16 33.9
N 6	270 30.9	S23 26.2	133 51.6	5.8	N22 37.5	10.3	60.0	Alioth	166 11.7	N55 48.5
D 7	285 30.6	S23 26.2	148 16.2	5.6	N22 47.6	10.1	60.0	Alkaid	152 51.0	N49 10.4
A 8	300 30.3	S23 26.2	162 40.7	5.5	N22 57.6	10.0	60.0	Al Na-ir	27 31.1	S46 50.0
Y 9	315 30.0	S23 26.2	177 05.1	5.3	N23 07.4	9.9	60.1	Alnilam	275 35.7	S 1 11.0
10	330 29.6	S23 26.2	191 29.3	5.2	N23 17.1	9.7	60.1			
11	345 29.3	S23 26.2	205 53.3	5.1	N23 26.7	9.6	60.1	Alphard	217 45.9	S 8 46.5
								Alphecca	126 02.7	N26 37.3
12	0 29.0	S23 26.2	220 17.2	4.9	N23 36.1	9.4	60.2	Alpheratz	357 33.1	N29 14.6
13	15 28.7	S23 26.2	234 41.0	4.8	N23 45.4	9.3	60.2	Altair	61 58.7	N 8 56.4
14	30 28.4	S23 26.2	249 04.6	4.6	N23 54.5	9.1	60.2	Ankaa	353 05.5	S42 09.8
15	45 28.1	S23 26.2	263 28.1	4.5	N24 03.5	9.0	60.3			
16	60 27.8	S23 26.2	277 51.5	4.4	N24 12.3	8.8	60.3	Antares	112 14.2	S26 29.5
17	75 27.5	S23 26.2	292 14.7	4.2	N24 21.0	8.7	60.3	Arcturus	145 46.6	N19 02.3
								Atria	107 07.6	S69 04.5
18	90 27.2	S23 26.2	306 37.8	4.1	N24 29.5	8.5	60.4	Avior	234 13.5	S59 35.6
19	105 26.9	S23 26.2	321 00.8	4.0	N24 37.8	8.3	60.4	Bellatrix	278 20.8	N 6 22.5
20	120 26.5	S23 26.2	335 23.6	3.8	N24 46.0	8.2	60.4			
21	135 26.2	S23 26.2	349 46.3	3.7	N24 54.0	8.0	60.5	Betelgeuse	270 50.0	N 7 24.7
22	150 25.9	S23 26.2	4 08.9	3.6	N25 01.8	7.8	60.5	Canopus	263 51.1	S52 42.5
23	165 25.6	S23 26.2	18 31.3	3.4	N25 09.5	7.7	60.5	Capella	280 19.0	N46 01.6
								Castor	245 54.6	N31 49.7
22 0	180 25.3	S23 26.2	32 53.7	3.3	N25 17.0	7.5	60.6	Deneb	49 25.1	N45 22.8
1	195 25.0	S23 26.2	47 15.9	3.2	N25 24.3	7.3	60.6			
2	210 24.7	S23 26.2	61 37.9	3.1	N25 31.5	7.1	60.6	Denebola	182 23.3	N14 25.1
3	225 24.4	S23 26.2	75 59.9	2.9	N25 38.4	7.0	60.7	Diphda	348 45.6	S17 50.3
4	240 24.1	S23 26.2	90 21.7	2.8	N25 45.2	6.8	60.7	Dubhe	193 38.8	N61 35.9
T 5	255 23.8	S23 26.2	104 43.4	2.7	N25 51.8	6.6	60.7	Elnath	277 59.5	N28 37.8
U								Eltanin	90 42.0	N51 29.0
E 6	270 23.5	S23 26.2	119 05.0	2.6	N25 58.3	6.4	60.7			
S 7	285 23.1	S23 26.2	133 26.5	2.5	N26 04.5	6.2	60.8	Enif	33 37.4	N10 00.0
D 8	300 22.8	S23 26.2	147 47.9	2.4	N26 10.5	6.1	60.8	Fomalhaut	15 12.8	S29 28.9
A 9	315 22.5	S23 26.2	162 09.1	2.3	N26 16.4	5.9	60.8	Gacrux	171 50.0	S57 15.6
Y 10	330 22.2	S23 26.2	176 30.3	2.2	N26 22.1	5.7	60.8	Gienah	175 41.9	S17 41.4
11	345 21.9	S23 26.2	190 51.4	2.1	N26 27.6	5.5	60.9	Hadar	148 34.1	S60 30.0
12	0 21.6	S23 26.2	205 12.3	2.0	N26 32.8	5.3	60.9	Hamal	327 49.2	N23 35.6
13	15 21.3	S23 26.1	219 33.2	1.9	N26 37.9	5.1	60.9	Kaus Austr.	83 30.8	S34 22.4
14	30 21.0	S23 26.1	233 53.9	1.8	N26 42.8	4.9	60.9	Kochab	137 20.9	N74 02.3
15	45 20.7	S23 26.1	248 14.6	1.7	N26 47.5	4.7	61.0	Markab	13 28.4	N15 21.1
16	60 20.4	S23 26.1	262 35.2	1.6	N26 52.0	4.5	61.0	Menkar	314 04.2	N 4 11.8
17	75 20.0	S23 26.1	276 55.6	1.5	N26 56.3	4.3	61.0			
								Menkent	147 56.0	S36 30.1
18	90 19.7	S23 26.1	291 16.0	1.4	N27 00.3	4.1	61.0	Miaplacidus	221 37.2	S69 49.4
19	105 19.4	S23 26.0	305 36.4	1.3	N27 04.2	3.9	61.1	Mirfak	308 25.6	N49 57.6
20	120 19.1	S23 26.0	319 56.6	1.2	N27 07.9	3.7	61.1	Nunki	75 46.1	S26 15.8
21	135 18.8	S23 26.0	334 16.8	1.2	N27 11.3	3.5	61.1	Peacock	53 03.6	S56 39.0
22	150 18.5	S23 26.0	348 36.9	1.1	N27 14.6	3.2	61.1			
23	165 18.2	S23 26.0	2 56.9	1.0	N27 17.6	3.0	61.1	Polaris	315 37.7	N89 22.4
								Pollux	243 15.0	N27 57.6
23 0	180 17.9	S23 25.9	17 16.8	1.0	N27 20.4	2.8	61.2	Procyon	244 48.8	N 5 09.3
1	195 17.6	S23 25.9	31 36.7	0.9	N27 23.0	2.6	61.2	Rasalhague	95 57.4	N12 32.4
2	210 17.3	S23 25.9	45 56.6	0.8	N27 25.4	2.4	61.2	Regulus	207 32.5	N11 50.0
3	225 16.9	S23 25.9	60 16.3	0.8	N27 27.6	2.2	61.2			
4	240 16.6	S23 25.9	74 36.1	0.7	N27 29.6	2.0	61.2	Rigel	281 02.0	S 8 10.2
W 5	255 16.3	S23 25.8	88 55.7	0.7	N27 31.3	1.7	61.3	Rigil Kent	139 38.7	S60 56.6
E								Sabik	102 01.3	S15 45.5
D 6	270 16.0	S23 25.8	103 15.4	0.6	N27 32.8	1.5	61.3	Schedar	349 29.1	N56 41.4
N 7	285 15.7	S23 25.8	117 35.0	0.6	N27 34.2	1.3	61.3	Shaula	96 08.6	S37 07.4
E 8	300 15.4	S23 25.7	131 54.5	0.6	N27 35.2	1.1	61.3			
S 9	315 15.1	S23 25.7	146 14.0	0.5	N27 36.1	0.9	61.3	Sirius	258 24.5	S16 45.2
D 10	330 14.8	S23 25.7	160 33.5	0.5	N27 36.8	0.6	61.3	Spica	158 20.7	S11 18.1
A 11	345 14.5	S23 25.7	174 53.0	0.5	N27 37.2	0.4	61.3	Suhail	222 44.8	S43 32.3
Y								Vega	80 32.6	N38 48.5
12	0 14.2	S23 25.6	189 12.4	0.4	N27 37.4	0.2	61.4	Zuben-ubi	136 55.4	S16 09.2
13	15 13.8	S23 25.6	203 31.8	0.4	N27 37.4	0.0	61.4			
14	30 13.5	S23 25.6	217 51.2	0.4	N27 37.2	0.2	61.4			
15	45 13.2	S23 25.5	232 10.6	0.4	N27 36.7	0.5	61.4			
16	60 12.9	S23 25.5	246 30.0	0.4	N27 36.0	0.7	61.4			
17	75 12.6	S23 25.5	260 49.3	0.4	N27 35.1	0.9	61.4			
18	90 12.3	S23 25.4	275 08.7	0.4	N27 34.0	1.1	61.4			
19	105 12.0	S23 25.4	289 28.1	0.4	N27 32.6	1.3	61.4			
20	120 11.7	S23 25.3	303 47.5	0.4	N27 31.1	1.6	61.4			
21	135 11.4	S23 25.3	318 06.9	0.4	N27 29.3	1.8	61.4			
22	150 11.1	S23 25.3	332 26.3	0.4	N27 27.3	2.0	61.4			
23	165 10.8	S23 25.2	346 45.7	0.4	N27 25.0	2.2	61.5			
	S.D. 16.3	d 0.0	S.D.	16.4	16.6	16.7				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
24	0	92 32.4	228 17.0	S13 27.0	291 09.2	N11 07.3	303 10.6	N13 24.8	84 07.9	N 0 55.1
	1	107 34.8	243 17.2	S13 27.6	306 11.2	N11 07.2	318 13.2	N13 24.8	99 10.3	N 0 55.2
	2	122 37.3	258 17.3	S13 28.2	321 13.2	N11 07.0	333 15.7	N13 24.9	114 12.7	N 0 55.2
	3	137 39.8	273 17.5	S13 28.8	336 15.1	N11 06.9	348 18.3	N13 24.9	129 15.1	N 0 55.2
	4	152 42.2	288 17.6	S13 29.4	351 17.1	N11 06.8	3 20.8	N13 25.0	144 17.5	N 0 55.3
T	5	167 44.7	303 17.8	S13 30.0	6 19.1	N11 06.7	18 23.4	N13 25.0	159 19.9	N 0 55.3
H										
U	6	182 47.2	318 17.9	S13 30.6	21 21.0	N11 06.6	33 25.9	N13 25.0	174 22.4	N 0 55.3
R	7	197 49.6	333 18.1	S13 31.2	36 23.0	N11 06.5	48 28.5	N13 25.1	189 24.8	N 0 55.4
S	8	212 52.1	348 18.2	S13 31.7	51 25.0	N11 06.4	63 31.0	N13 25.1	204 27.2	N 0 55.4
D	9	227 54.6	3 18.4	S13 32.3	66 27.0	N11 06.3	78 33.6	N13 25.2	219 29.6	N 0 55.4
A	10	242 57.0	18 18.5	S13 32.9	81 29.0	N11 06.2	93 36.1	N13 25.2	234 32.0	N 0 55.5
Y	11	257 59.5	33 18.7	S13 33.5	96 30.9	N11 06.1	108 38.7	N13 25.2	249 34.4	N 0 55.5
	12	273 01.9	48 18.8	S13 34.1	111 32.9	N11 06.0	123 41.2	N13 25.3	264 36.8	N 0 55.5
	13	288 04.4	63 19.0	S13 34.7	126 34.9	N11 05.9	138 43.8	N13 25.3	279 39.2	N 0 55.6
	14	303 06.9	78 19.1	S13 35.3	141 36.9	N11 05.8	153 46.3	N13 25.4	294 41.6	N 0 55.6
	15	318 09.3	93 19.2	S13 35.9	156 38.9	N11 05.7	168 48.9	N13 25.4	309 44.1	N 0 55.6
	16	333 11.8	108 19.4	S13 36.5	171 40.8	N11 05.6	183 51.4	N13 25.4	324 46.5	N 0 55.7
	17	348 14.3	123 19.5	S13 37.1	186 42.8	N11 05.5	198 54.0	N13 25.5	339 48.9	N 0 55.7
	18	3 16.7	138 19.6	S13 37.7	201 44.8	N11 05.4	213 56.5	N13 25.5	354 51.3	N 0 55.7
	19	18 19.2	153 19.8	S13 38.3	216 46.8	N11 05.3	228 59.1	N13 25.6	9 53.7	N 0 55.8
	20	33 21.7	168 19.9	S13 38.8	231 48.8	N11 05.2	244 01.6	N13 25.6	24 56.1	N 0 55.8
	21	48 24.1	183 20.0	S13 39.4	246 50.8	N11 05.1	259 04.2	N13 25.7	39 58.5	N 0 55.8
	22	63 26.6	198 20.2	S13 40.0	261 52.8	N11 05.0	274 06.7	N13 25.7	55 00.9	N 0 55.9
	23	78 29.0	213 20.3	S13 40.6	276 54.8	N11 04.9	289 09.3	N13 25.7	70 03.3	N 0 55.9
25	0	93 31.5	228 20.4	S13 41.2	291 56.7	N11 04.8	304 11.9	N13 25.8	85 05.8	N 0 55.9
	1	108 34.0	243 20.6	S13 41.8	306 58.7	N11 04.7	319 14.4	N13 25.8	100 08.2	N 0 56.0
	2	123 36.4	258 20.7	S13 42.4	322 00.7	N11 04.6	334 17.0	N13 25.9	115 10.6	N 0 56.0
	3	138 38.9	273 20.8	S13 43.0	337 02.7	N11 04.5	349 19.5	N13 25.9	130 13.0	N 0 56.0
	4	153 41.4	288 20.9	S13 43.6	352 04.7	N11 04.4	4 22.1	N13 26.0	145 15.4	N 0 56.1
F	5	168 43.8	303 21.0	S13 44.2	7 06.7	N11 04.3	19 24.6	N13 26.0	160 17.8	N 0 56.1
R										
I	6	183 46.3	318 21.2	S13 44.8	22 08.7	N11 04.2	34 27.2	N13 26.0	175 20.2	N 0 56.1
D	7	198 48.8	333 21.3	S13 45.4	37 10.7	N11 04.1	49 29.7	N13 26.1	190 22.6	N 0 56.2
A	8	213 51.2	348 21.4	S13 46.0	52 12.7	N11 04.0	64 32.3	N13 26.1	205 25.0	N 0 56.2
Y	9	228 53.7	3 21.5	S13 46.6	67 14.7	N11 03.9	79 34.9	N13 26.2	220 27.4	N 0 56.3
	10	243 56.2	18 21.6	S13 47.2	82 16.7	N11 03.8	94 37.4	N13 26.2	235 29.8	N 0 56.3
	11	258 58.6	33 21.8	S13 47.8	97 18.7	N11 03.7	109 40.0	N13 26.3	250 32.3	N 0 56.3
	12	274 01.1	48 21.9	S13 48.4	112 20.7	N11 03.6	124 42.5	N13 26.3	265 34.7	N 0 56.4
	13	289 03.5	63 22.0	S13 49.0	127 22.7	N11 03.5	139 45.1	N13 26.4	280 37.1	N 0 56.4
	14	304 06.0	78 22.1	S13 49.5	142 24.7	N11 03.4	154 47.6	N13 26.4	295 39.5	N 0 56.4
	15	319 08.5	93 22.2	S13 50.1	157 26.7	N11 03.3	169 50.2	N13 26.4	310 41.9	N 0 56.5
	16	334 10.9	108 22.3	S13 50.7	172 28.7	N11 03.2	184 52.8	N13 26.5	325 44.3	N 0 56.5
	17	349 13.4	123 22.4	S13 51.3	187 30.7	N11 03.1	199 55.3	N13 26.5	340 46.7	N 0 56.5
	18	4 15.9	138 22.5	S13 51.9	202 32.7	N11 03.0	214 57.9	N13 26.6	355 49.1	N 0 56.6
	19	19 18.3	153 22.6	S13 52.5	217 34.8	N11 02.9	230 00.4	N13 26.6	10 51.5	N 0 56.6
	20	34 20.8	168 22.7	S13 53.1	232 36.8	N11 02.8	245 03.0	N13 26.7	25 53.9	N 0 56.6
	21	49 23.3	183 22.9	S13 53.7	247 38.8	N11 02.7	260 05.6	N13 26.7	40 56.3	N 0 56.7
	22	64 25.7	198 23.0	S13 54.3	262 40.8	N11 02.7	275 08.1	N13 26.8	55 58.7	N 0 56.7
	23	79 28.2	213 23.1	S13 54.9	277 42.8	N11 02.6	290 10.7	N13 26.8	71 01.1	N 0 56.8
26	0	94 30.7	228 23.2	S13 55.5	292 44.8	N11 02.5	305 13.2	N13 26.8	86 03.5	N 0 56.8
	1	109 33.1	243 23.3	S13 56.1	307 46.8	N11 02.4	320 15.8	N13 26.9	101 05.9	N 0 56.8
	2	124 35.6	258 23.4	S13 56.7	322 48.8	N11 02.3	335 18.4	N13 26.9	116 08.4	N 0 56.9
	3	139 38.0	273 23.5	S13 57.3	337 50.9	N11 02.2	350 20.9	N13 27.0	131 10.8	N 0 56.9
	4	154 40.5	288 23.6	S13 57.9	352 52.9	N11 02.1	5 23.5	N13 27.0	146 13.2	N 0 56.9
S	5	169 43.0	303 23.7	S13 58.5	7 54.9	N11 02.0	20 26.1	N13 27.1	161 15.6	N 0 57.0
A										
T	6	184 45.4	318 23.7	S13 59.1	22 56.9	N11 01.9	35 28.6	N13 27.1	176 18.0	N 0 57.0
U	7	199 47.9	333 23.8	S13 59.7	37 58.9	N11 01.9	50 31.2	N13 27.2	191 20.4	N 0 57.0
R	8	214 50.4	348 23.9	S14 00.3	53 01.0	N11 01.8	65 33.8	N13 27.2	206 22.8	N 0 57.1
D	9	229 52.8	3 24.0	S14 00.9	68 03.0	N11 01.7	80 36.3	N13 27.3	221 25.2	N 0 57.1
A	10	244 55.3	18 24.1	S14 01.5	83 05.0	N11 01.6	95 38.9	N13 27.3	236 27.6	N 0 57.2
Y	11	259 57.8	33 24.2	S14 02.1	98 07.0	N11 01.5	110 41.5	N13 27.4	251 30.0	N 0 57.2
	12	275 00.2	48 24.3	S14 02.7	113 09.1	N11 01.4	125 44.0	N13 27.4	266 32.4	N 0 57.2
	13	290 02.7	63 24.4	S14 03.3	128 11.1	N11 01.3	140 46.6	N13 27.4	281 34.8	N 0 57.3
	14	305 05.2	78 24.5	S14 03.9	143 13.1	N11 01.3	155 49.1	N13 27.5	296 37.2	N 0 57.3
	15	320 07.6	93 24.5	S14 04.5	158 15.1	N11 01.2	170 51.7	N13 27.5	311 39.6	N 0 57.3
	16	335 10.1	108 24.6	S14 05.1	173 17.2	N11 01.1	185 54.3	N13 27.6	326 42.0	N 0 57.4
	17	350 12.5	123 24.7	S14 05.7	188 19.2	N11 01.0	200 56.8	N13 27.6	341 44.4	N 0 57.4
	18	5 15.0	138 24.8	S14 06.3	203 21.2	N11 00.9	215 59.4	N13 27.7	356 46.8	N 0 57.5
	19	20 17.5	153 24.9	S14 06.9	218 23.3	N11 00.8	231 02.0	N13 27.7	11 49.2	N 0 57.5
	20	35 19.9	168 25.0	S14 07.5	233 25.3	N11 00.8	246 04.6	N13 27.8	26 51.6	N 0 57.5
	21	50 22.4	183 25.0	S14 08.1	248 27.3	N11 00.7	261 07.1	N13 27.8	41 54.0	N 0 57.6
	22	65 24.9	198 25.1	S14 08.7	263 29.4	N11 00.6	276 09.7	N13 27.9	56 56.4	N 0 57.6
	23	80 27.3	213 25.2	S14 09.3	278 31.4	N11 00.5	291 12.3	N13 27.9	71 58.8	N 0 57.7
			v 0.1	d 0.6	v 2.0	d 0.1	v 2.6	d 0.0	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
24	0	180 10.4	S23 25.2	1 05.2	0.5	N27 22.6	2.5	61.5
	1	195 10.1	S23 25.1	15 24.7	0.5	N27 19.9	2.7	61.5
	2	210 09.8	S23 25.1	29 44.2	0.5	N27 17.0	2.9	61.5
	3	225 09.5	S23 25.1	44 03.7	0.5	N27 13.9	3.1	61.5
	4	240 09.2	S23 25.0	58 23.3	0.6	N27 10.6	3.3	61.5
T	5	255 08.9	S23 25.0	72 42.9	0.6	N27 07.0	3.6	61.5
H								
U	6	270 08.6	S23 24.9	87 02.5	0.7	N27 03.2	3.8	61.5
R	7	285 08.3	S23 24.9	101 22.3	0.7	N26 59.2	4.0	61.5
S	8	300 08.0	S23 24.8	115 42.0	0.8	N26 55.0	4.2	61.5
D	9	315 07.7	S23 24.8	130 01.8	0.8	N26 50.6	4.4	61.5
A	10	330 07.3	S23 24.7	144 21.7	0.9	N26 46.0	4.6	61.5
Y	11	345 07.0	S23 24.7	158 41.6	0.9	N26 41.2	4.8	61.5
	12	0 06.7	S23 24.6	173 01.6	1.0	N26 36.1	5.1	61.5
	13	15 06.4	S23 24.6	187 21.7	1.1	N26 30.9	5.3	61.5
	14	30 06.1	S23 24.5	201 41.8	1.1	N26 25.4	5.5	61.5
	15	45 05.8	S23 24.5	216 02.0	1.2	N26 19.7	5.7	61.5
	16	60 05.5	S23 24.4	230 22.3	1.3	N26 13.8	5.9	61.5
	17	75 05.2	S23 24.4	244 42.7	1.4	N26 07.7	6.1	61.5
	18	90 04.9	S23 24.3	259 03.1	1.4	N26 01.5	6.3	61.5
	19	105 04.6	S23 24.2	273 23.6	1.5	N25 55.0	6.5	61.4
	20	120 04.3	S23 24.2	287 44.2	1.6	N25 48.3	6.7	61.4
	21	135 03.9	S23 24.1	302 05.0	1.7	N25 41.4	6.9	61.4
	22	150 03.6	S23 24.1	316 25.8	1.8	N25 34.3	7.1	61.4
	23	165 03.3	S23 24.0	330 46.6	1.9	N25 27.0	7.3	61.4
25	0	180 03.0	S23 23.9	345 07.6	2.0	N25 19.6	7.5	61.4
	1	195 02.7	S23 23.9	359 28.7	2.1	N25 11.9	7.7	61.4
	2	210 02.4	S23 23.8	13 49.9	2.2	N25 04.1	7.8	61.4
	3	225 02.1	S23 23.8	28 11.2	2.3	N24 56.0	8.0	61.4
	4	240 01.8	S23 23.7	42 32.6	2.4	N24 47.8	8.2	61.4
F	5	255 01.5	S23 23.6	56 54.1	2.5	N24 39.4	8.4	61.4
R								
I	6	270 01.2	S23 23.6	71 15.8	2.6	N24 30.8	8.6	61.3
D	7	285 00.9	S23 23.5	85 37.5	2.7	N24 22.0	8.8	61.3
A	8	300 00.5	S23 23.4	99 59.4	2.9	N24 13.1	8.9	61.3
Y	9	315 00.2	S23 23.4	114 21.3	3.0	N24 04.0	9.1	61.3
	10	329 59.9	S23 23.3	128 43.4	3.1	N23 54.7	9.3	61.3
	11	344 59.6	S23 23.2	143 05.6	3.2	N23 45.2	9.5	61.3
	12	359 59.3	S23 23.1	157 27.9	3.3	N23 35.6	9.6	61.3
	13	14 59.0	S23 23.1	171 50.4	3.4	N23 25.8	9.8	61.2
	14	29 58.7	S23 23.0	186 13.0	3.6	N23 15.8	10.0	61.2
	15	44 58.4	S23 22.9	200 35.6	3.7	N23 05.7	10.1	61.2
	16	59 58.1	S23 22.9	214 58.5	3.8	N22 55.4	10.3	61.2
	17	74 57.8	S23 22.8	229 21.4	3.9	N22 45.0	10.4	61.2
	18	89 57.5	S23 22.7	243 44.5	4.1	N22 34.4	10.6	61.2
	19	104 57.2	S23 22.6	258 07.7	4.2	N22 23.7	10.7	61.1
	20	119 56.8	S23 22.6	272 31.0	4.3	N22 12.8	10.9	61.1
	21	134 56.5	S23 22.5	286 54.5	4.5	N22 01.7	11.0	61.1
	22	149 56.2	S23 22.4	301 18.1	4.6	N21 50.5	11.2	61.1
	23	164 55.9	S23 22.3	315 41.8	4.7	N21 39.2	11.3	61.0
26	0	179 55.6	S23 22.2	330 05.6	4.9	N21 27.7	11.5	61.0
	1	194 55.3	S23 22.2	344 29.6	5.0	N21 16.1	11.6	61.0
	2	209 55.0	S23 22.1	358 53.8	5.1	N21 04.4	11.7	61.0
	3	224 54.7	S23 22.0	13 18.0	5.3	N20 52.5	11.9	61.0
	4	239 54.4	S23 21.9	27 42.4	5.4	N20 40.5	12.0	60.9
S	5	254 54.1	S23 21.8	42 06.9	5.5	N20 28.3	12.1	60.9
A								
T	6	269 53.8	S23 21.7	56 31.6	5.7	N20 16.1	12.3	60.9
U	7	284 53.5	S23 21.7	70 56.3	5.8	N20 03.7	12.4	60.9
R	8	299 53.2	S23 21.6	85 21.3	5.9	N19 51.2	12.5	60.8
D	9	314 52.8	S23 21.5	99 46.3	6.1	N19 38.5	12.6	60.8
A	10	329 52.5	S23 21.4	114 11.5	6.2	N19 25.8	12.8	60.8
Y	11	344 52.2	S23 21.3	128 36.8	6.3	N19 12.9	12.9	60.8
	12	359 51.9	S23 21.2	143 02.3	6.5	N18 59.9	13.0	60.7
	13	14 51.6	S23 21.1	157 27.9	6.6	N18 46.8	13.1	60.7
	14	29 51.3	S23 21.0	171 53.6	6.7	N18 33.6	13.2	60.7
	15	44 51.0	S23 20.9	186 19.4	6.8	N18 20.3	13.3	60.6
	16	59 50.7	S23 20.8	200 45.4	7.0	N18 06.9	13.4	60.6
	17	74 50.4	S23 20.7	215 11.5	7.1	N17 53.4	13.5	60.6
	18	89 50.1	S23 20.7	229 37.8	7.2	N17 39.8	13.6	60.6
	19	104 49.8	S23 20.6	244 04.1	7.4	N17 26.1	13.7	60.5
	20	119 49.5	S23 20.5	258 30.6	7.5	N17 12.4	13.8	60.5
	21	134 49.2	S23 20.4	272 57.3	7.6	N16 58.5	13.9	60.5
	22	149 48.8	S23 20.3	287 24.0	7.8	N16 44.5	14.0	60.4
	23	164 48.5	S23 20.2	301 50.9	7.9	N16 30.4	14.1	60.4
		S.D. 16.3	d 0.1	S.D.	16.8	16.7	16.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.9
Achernar	335 18.7	S57 06.2
Acrux	172 58.3	S63 14.6
Adhara	255 04.2	S29 00.5
Albireo	67 03.1	N28 01.0
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.6	N55 48.5
Alkaid	152 50.9	N49 10.4
Al Na-ir	27 31.1	S46 50.0
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.9	S 8 46.6
Alphecca	126 02.7	N26 37.3
Alpheratz	357 33.1	N29 14.6
Altair	61 58.7	N 8 56.4
Ankaa	353 05.5	S42 09.8
Antares	112 14.2	S26 29.5
Arcturus	145 46.6	N19 02.3
Atria	107 07.6	S69 04.5
Avior	234 13.5	S59 35.6
Bellatrix	278 20.8	N 6 22.5
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.1	S52 42.6
Capella	280 19.0	N46 01.6
Castor	245 54.6	N31 49.7
Deneb	49 25.1	N45 22.8
Denebola	182 23.2	N14 25.1
Diphda	348 45.6	S17 50.3
Dubhe	193 38.8	N61 35.9
Elnath	277 59.5	N28 37.8
Eltanin	90 42.0	N51 29.0
Enif	33 37.4	N10 00.0
Fomalhaut	15 12.8	S29 28.9
Gacrux	171 49.9	S57 15.6
Gienah	175 41.9	S17 41.5
Hadar	148 34.1	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.4
Kochab	137 20.8	N74 02.3
Markab	13 28.4	N15 21.1
Menkar	314 04.2	N 4 11.8
Menkent	147 55.9	S36 30.1
Miaplacidus	221 37.1	S69 49.5
Mirfak	308 25.6	N49 57.6
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 39.0
Polaris	315 38.4	N89 22.4
Pollux	243 15.0	N27 57.6
Procyon	244 48.8	N 5 09.3
Rasalhague	95 57.4	N12 32.4
Regulus	207 32.5	N11 50.0
Rigel	281 02.0	S 8 10.2
Rigil Kent	139 38.6	S60 56.6
Sabik	102 01.3	S15 45.5
Schedar	349 29.1	N56 41.4
Shaula	96 08.6	S37 07.4
Sirius	258 24.5	S16 45.2
Spica	158 20.7	S11 18.1
Suhail	222 44.8	S43 32.4
Vega	80 32.6	N38 48.5
Zuben-ubi	136 55.3	S16 09.2

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
27	0	95 29.8	228 25.3	S14 09.9	293 33.4	N11 00.4	306 14.8	N13 28.0	87 01.2	N 0 57.7
	1	110 32.3	243 25.3	S14 10.5	308 35.5	N11 00.3	321 17.4	N13 28.0	102 03.6	N 0 57.7
	2	125 34.7	258 25.4	S14 11.1	323 37.5	N11 00.3	336 20.0	N13 28.1	117 06.0	N 0 57.8
	3	140 37.2	273 25.5	S14 11.7	338 39.6	N11 00.2	351 22.5	N13 28.1	132 08.4	N 0 57.8
	4	155 39.7	288 25.6	S14 12.3	353 41.6	N11 00.1	6 25.1	N13 28.2	147 10.8	N 0 57.8
S	5	170 42.1	303 25.6	S14 12.9	8 43.6	N11 00.0	21 27.7	N13 28.2	162 13.2	N 0 57.9
U										
N	6	185 44.6	318 25.7	S14 13.5	23 45.7	N10 60.0	36 30.3	N13 28.3	177 15.6	N 0 57.9
D	7	200 47.0	333 25.8	S14 14.1	38 47.7	N10 59.9	51 32.8	N13 28.3	192 18.0	N 0 58.0
A	8	215 49.5	348 25.8	S14 14.7	53 49.8	N10 59.8	66 35.4	N13 28.4	207 20.4	N 0 58.0
Y	9	230 52.0	3 25.9	S14 15.3	68 51.8	N10 59.7	81 38.0	N13 28.4	222 22.8	N 0 58.0
	10	245 54.4	18 26.0	S14 15.9	83 53.9	N10 59.6	96 40.5	N13 28.5	237 25.2	N 0 58.1
	11	260 56.9	33 26.0	S14 16.5	98 55.9	N10 59.6	111 43.1	N13 28.5	252 27.6	N 0 58.1
	12	275 59.4	48 26.1	S14 17.1	113 58.0	N10 59.5	126 45.7	N13 28.6	267 30.0	N 0 58.2
	13	291 01.8	63 26.1	S14 17.7	129 00.0	N10 59.4	141 48.3	N13 28.6	282 32.4	N 0 58.2
	14	306 04.3	78 26.2	S14 18.3	144 02.1	N10 59.3	156 50.8	N13 28.7	297 34.8	N 0 58.2
	15	321 06.8	93 26.3	S14 18.9	159 04.1	N10 59.3	171 53.4	N13 28.7	312 37.2	N 0 58.3
	16	336 09.2	108 26.3	S14 19.5	174 06.2	N10 59.2	186 56.0	N13 28.8	327 39.6	N 0 58.3
	17	351 11.7	123 26.4	S14 20.1	189 08.2	N10 59.1	201 58.6	N13 28.8	342 42.0	N 0 58.3
	18	6 14.2	138 26.4	S14 20.7	204 10.3	N10 59.0	217 01.1	N13 28.9	357 44.4	N 0 58.4
	19	21 16.6	153 26.5	S14 21.3	219 12.3	N10 59.0	232 03.7	N13 28.9	12 46.8	N 0 58.4
	20	36 19.1	168 26.5	S14 21.9	234 14.4	N10 58.9	247 06.3	N13 29.0	27 49.2	N 0 58.5
	21	51 21.5	183 26.6	S14 22.5	249 16.5	N10 58.8	262 08.9	N13 29.0	42 51.6	N 0 58.5
	22	66 24.0	198 26.6	S14 23.1	264 18.5	N10 58.8	277 11.4	N13 29.1	57 54.0	N 0 58.5
	23	81 26.5	213 26.7	S14 23.7	279 20.6	N10 58.7	292 14.0	N13 29.1	72 56.4	N 0 58.6
28	0	96 28.9	228 26.8	S14 24.3	294 22.6	N10 58.6	307 16.6	N13 29.2	87 58.8	N 0 58.6
	1	111 31.4	243 26.8	S14 24.9	309 24.7	N10 58.5	322 19.2	N13 29.2	103 01.2	N 0 58.7
	2	126 33.9	258 26.8	S14 25.5	324 26.8	N10 58.5	337 21.7	N13 29.3	118 03.6	N 0 58.7
	3	141 36.3	273 26.9	S14 26.1	339 28.8	N10 58.4	352 24.3	N13 29.3	133 06.0	N 0 58.7
	4	156 38.8	288 26.9	S14 26.7	354 30.9	N10 58.3	7 26.9	N13 29.4	148 08.4	N 0 58.8
M	5	171 41.3	303 27.0	S14 27.3	9 33.0	N10 58.3	22 29.5	N13 29.4	163 10.8	N 0 58.8
O										
N	6	186 43.7	318 27.0	S14 27.9	24 35.0	N10 58.2	37 32.1	N13 29.5	178 13.2	N 0 58.9
D	7	201 46.2	333 27.1	S14 28.5	39 37.1	N10 58.1	52 34.6	N13 29.5	193 15.6	N 0 58.9
A	8	216 48.6	348 27.1	S14 29.1	54 39.2	N10 58.1	67 37.2	N13 29.6	208 18.0	N 0 58.9
Y	9	231 51.1	3 27.2	S14 29.7	69 41.2	N10 58.0	82 39.8	N13 29.6	223 20.4	N 0 59.0
	10	246 53.6	18 27.2	S14 30.3	84 43.3	N10 57.9	97 42.4	N13 29.7	238 22.8	N 0 59.0
	11	261 56.0	33 27.2	S14 30.9	99 45.4	N10 57.9	112 45.0	N13 29.7	253 25.2	N 0 59.1
	12	276 58.5	48 27.3	S14 31.5	114 47.5	N10 57.8	127 47.5	N13 29.8	268 27.6	N 0 59.1
	13	292 01.0	63 27.3	S14 32.1	129 49.5	N10 57.7	142 50.1	N13 29.8	283 30.0	N 0 59.2
	14	307 03.4	78 27.3	S14 32.7	144 51.6	N10 57.7	157 52.7	N13 29.9	298 32.4	N 0 59.2
	15	322 05.9	93 27.4	S14 33.3	159 53.7	N10 57.6	172 55.3	N13 29.9	313 34.8	N 0 59.2
	16	337 08.4	108 27.4	S14 33.9	174 55.8	N10 57.5	187 57.9	N13 30.0	328 37.2	N 0 59.3
	17	352 10.8	123 27.4	S14 34.5	189 57.8	N10 57.5	203 00.5	N13 30.0	343 39.6	N 0 59.3
	18	7 13.3	138 27.5	S14 35.1	204 59.9	N10 57.4	218 03.0	N13 30.1	358 42.0	N 0 59.4
	19	22 15.8	153 27.5	S14 35.7	220 02.0	N10 57.3	233 05.6	N13 30.1	13 44.3	N 0 59.4
	20	37 18.2	168 27.5	S14 36.3	235 04.1	N10 57.3	248 08.2	N13 30.2	28 46.7	N 0 59.4
	21	52 20.7	183 27.6	S14 36.9	250 06.2	N10 57.2	263 10.8	N13 30.3	43 49.1	N 0 59.5
	22	67 23.1	198 27.6	S14 37.5	265 08.2	N10 57.2	278 13.4	N13 30.3	58 51.5	N 0 59.5
	23	82 25.6	213 27.6	S14 38.1	280 10.3	N10 57.1	293 16.0	N13 30.4	73 53.9	N 0 59.6
29	0	97 28.1	228 27.6	S14 38.7	295 12.4	N10 57.0	308 18.5	N13 30.4	88 56.3	N 0 59.6
	1	112 30.5	243 27.7	S14 39.3	310 14.5	N10 57.0	323 21.1	N13 30.5	103 58.7	N 0 59.6
	2	127 33.0	258 27.7	S14 39.9	325 16.6	N10 56.9	338 23.7	N13 30.5	119 01.1	N 0 59.7
	3	142 35.5	273 27.7	S14 40.5	340 18.7	N10 56.9	353 26.3	N13 30.6	134 03.5	N 0 59.7
	4	157 37.9	288 27.7	S14 41.1	355 20.8	N10 56.8	8 28.9	N13 30.6	149 05.9	N 0 59.8
T	5	172 40.4	303 27.7	S14 41.7	10 22.9	N10 56.7	23 31.5	N13 30.7	164 08.3	N 0 59.8
U										
E	6	187 42.9	318 27.8	S14 42.3	25 24.9	N10 56.7	38 34.1	N13 30.7	179 10.7	N 0 59.9
S	7	202 45.3	333 27.8	S14 42.9	40 27.0	N10 56.6	53 36.6	N13 30.8	194 13.1	N 0 59.9
D	8	217 47.8	348 27.8	S14 43.6	55 29.1	N10 56.6	68 39.2	N13 30.8	209 15.5	N 0 59.9
A	9	232 50.3	3 27.8	S14 44.2	70 31.2	N10 56.5	83 41.8	N13 30.9	224 17.9	N 0 60.0
Y	10	247 52.7	18 27.8	S14 44.8	85 33.3	N10 56.5	98 44.4	N13 30.9	239 20.2	N 1 00.0
	11	262 55.2	33 27.8	S14 45.4	100 35.4	N10 56.4	113 47.0	N13 31.0	254 22.6	N 1 00.1
	12	277 57.6	48 27.8	S14 46.0	115 37.5	N10 56.3	128 49.6	N13 31.1	269 25.0	N 1 00.1
	13	293 00.1	63 27.9	S14 46.6	130 39.6	N10 56.3	143 52.2	N13 31.1	284 27.4	N 1 00.2
	14	308 02.6	78 27.9	S14 47.2	145 41.7	N10 56.2	158 54.8	N13 31.2	299 29.8	N 1 00.2
	15	323 05.0	93 27.9	S14 47.8	160 43.8	N10 56.2	173 57.4	N13 31.2	314 32.2	N 1 00.2
	16	338 07.5	108 27.9	S14 48.4	175 45.9	N10 56.1	188 59.9	N13 31.3	329 34.6	N 1 00.3
	17	353 10.0	123 27.9	S14 49.0	190 48.0	N10 56.1	204 02.5	N13 31.3	344 37.0	N 1 00.3
	18	8 12.4	138 27.9	S14 49.6	205 50.1	N10 56.0	219 05.1	N13 31.4	359 39.4	N 1 00.4
	19	23 14.9	153 27.9	S14 50.2	220 52.2	N10 56.0	234 07.7	N13 31.4	14 41.8	N 1 00.4
	20	38 17.4	168 27.9	S14 50.8	235 54.3	N10 55.9	249 10.3	N13 31.5	29 44.2	N 1 00.5
	21	53 19.8	183 27.9	S14 51.4	250 56.4	N10 55.9	264 12.9	N13 31.6	44 46.5	N 1 00.5
	22	68 22.3	198 27.9	S14 52.0	265 58.6	N10 55.8	279 15.5	N13 31.6	59 48.9	N 1 00.5
	23	83 24.8	213 27.9	S14 52.6	281 00.7	N10 55.8	294 18.1	N13 31.7	74 51.3	N 1 00.6
			v 0.0	d 0.6	v 2.1	d 0.1	v 2.6	d 0.1	v 2.4	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
27 0	179 48.2	S23 20.1	316 17.9	8.0	N16 16.3	14.1	60.4	Acamar	315 10.2 S40 11.9
1	194 47.9	S23 20.0	330 45.1	8.1	N16 02.1	14.2	60.3	Achernar	335 18.8 S57 06.2
2	209 47.6	S23 19.9	345 12.3	8.3	N15 47.8	14.3	60.3	Acrux	172 58.3 S63 14.7
3	224 47.3	S23 19.8	359 39.7	8.4	N15 33.4	14.4	60.3	Adhara	255 04.2 S29 00.5
4	239 47.0	S23 19.7	14 07.2	8.5	N15 18.9	14.5	60.2	Albireo	67 03.1 N28 01.0
S 5	254 46.7	S23 19.6	28 34.8	8.6	N15 04.4	14.5	60.2		
U								Aldebaran	290 37.4 N16 33.9
N 6	269 46.4	S23 19.4	43 02.6	8.8	N14 49.8	14.6	60.2	Alioth	166 11.6 N55 48.5
D 7	284 46.1	S23 19.3	57 30.5	8.9	N14 35.1	14.7	60.1	Alkaid	152 50.9 N49 10.4
A 8	299 45.8	S23 19.2	71 58.5	9.0	N14 20.4	14.7	60.1	Al Na-ir	27 31.1 S46 50.0
Y 9	314 45.5	S23 19.1	86 26.6	9.1	N14 05.6	14.8	60.1	Alnilam	275 35.7 S 1 11.1
10	329 45.2	S23 19.0	100 54.8	9.2	N13 50.7	14.9	60.0		
11	344 44.9	S23 18.9	115 23.1	9.3	N13 35.8	14.9	60.0	Alphard	217 45.9 S 8 46.6
								Alphecca	126 02.6 N26 37.2
12	359 44.6	S23 18.8	129 51.6	9.5	N13 20.8	15.0	60.0	Alpheratz	357 33.1 N29 14.6
13	14 44.2	S23 18.7	144 20.1	9.6	N13 05.8	15.0	59.9	Altair	61 58.7 N 8 56.4
14	29 43.9	S23 18.6	158 48.8	9.7	N12 50.7	15.1	59.9	Ankaa	353 05.5 S42 09.8
15	44 43.6	S23 18.5	173 17.6	9.8	N12 35.5	15.1	59.9		
16	59 43.3	S23 18.4	187 46.5	9.9	N12 20.3	15.2	59.8	Antares	112 14.2 S26 29.5
17	74 43.0	S23 18.2	202 15.5	10.0	N12 05.1	15.2	59.8	Arcturus	145 46.6 N19 02.3
								Atria	107 07.6 S69 04.5
18	89 42.7	S23 18.1	216 44.6	10.1	N11 49.8	15.3	59.8	Avior	234 13.5 S59 35.6
19	104 42.4	S23 18.0	231 13.9	10.2	N11 34.5	15.3	59.7	Bellatrix	278 20.8 N 6 22.5
20	119 42.1	S23 17.9	245 43.2	10.3	N11 19.1	15.4	59.7		
21	134 41.8	S23 17.8	260 12.6	10.4	N11 03.7	15.4	59.6	Betelgeuse	270 50.0 N 7 24.7
22	149 41.5	S23 17.7	274 42.1	10.5	N10 48.2	15.5	59.6	Canopus	263 51.1 S52 42.6
23	164 41.2	S23 17.5	289 11.8	10.6	N10 32.7	15.5	59.6	Capella	280 19.0 N46 01.6
28 0	179 40.9	S23 17.4	303 41.5	10.7	N10 17.1	15.5	59.5	Castor	245 54.6 N31 49.7
1	194 40.6	S23 17.3	318 11.3	10.8	N10 01.6	15.6	59.5	Deneb	49 25.1 N45 22.7
2	209 40.3	S23 17.2	332 41.2	10.9	N 9 46.0	15.6	59.5		
3	224 40.0	S23 17.1	347 11.3	11.0	N 9 30.3	15.6	59.4	Denebola	182 23.2 N14 25.1
4	239 39.7	S23 16.9	1 41.4	11.1	N 9 14.7	15.7	59.4	Diphda	348 45.7 S17 50.3
M 5	254 39.4	S23 16.8	16 11.6	11.2	N 8 59.0	15.7	59.3	Dubhe	193 38.7 N61 35.9
O								Elnath	277 59.5 N28 37.8
N 6	269 39.0	S23 16.7	30 41.9	11.3	N 8 43.3	15.7	59.3	Eltanin	90 42.0 N51 29.0
D 7	284 38.7	S23 16.6	45 12.2	11.4	N 8 27.5	15.7	59.3		
A 8	299 38.4	S23 16.4	59 42.7	11.5	N 8 11.8	15.8	59.2	Enif	33 37.4 N10 00.0
Y 9	314 38.1	S23 16.3	74 13.3	11.6	N 7 56.0	15.8	59.2	Fomalhaut	15 12.8 S29 28.9
10	329 37.8	S23 16.2	88 43.9	11.6	N 7 40.2	15.8	59.1	Gacrux	171 49.9 S57 15.7
11	344 37.5	S23 16.1	103 14.6	11.7	N 7 24.4	15.8	59.1	Gienah	175 41.9 S17 41.5
								Hadar	148 34.0 S60 30.0
12	359 37.2	S23 15.9	117 45.4	11.8	N 7 08.6	15.8	59.1		
13	14 36.9	S23 15.8	132 16.3	11.9	N 6 52.7	15.8	59.0	Hamal	327 49.2 N23 35.6
14	29 36.6	S23 15.7	146 47.3	12.0	N 6 36.9	15.9	59.0	Kaus Austr.	83 30.8 S34 22.4
15	44 36.3	S23 15.5	161 18.3	12.0	N 6 21.0	15.9	58.9	Kochab	137 20.8 N74 02.3
16	59 36.0	S23 15.4	175 49.4	12.1	N 6 05.1	15.9	58.9	Markab	13 28.4 N15 21.1
17	74 35.7	S23 15.3	190 20.6	12.2	N 5 49.2	15.9	58.9	Menkar	314 04.2 N 4 11.8
								Menkent	147 55.9 S36 30.1
18	89 35.4	S23 15.1	204 51.9	12.3	N 5 33.3	15.9	58.8	Miaplacidus	221 37.1 S69 49.5
19	104 35.1	S23 15.0	219 23.2	12.3	N 5 17.4	15.9	58.8	Mirfak	308 25.6 N49 57.7
20	119 34.8	S23 14.9	233 54.6	12.4	N 5 01.5	15.9	58.8	Nunki	75 46.1 S26 15.8
21	134 34.5	S23 14.7	248 26.1	12.5	N 4 45.6	15.9	58.7	Peacock	53 03.6 S56 39.0
22	149 34.2	S23 14.6	262 57.7	12.5	N 4 29.7	15.9	58.7		
23	164 33.9	S23 14.5	277 29.3	12.6	N 4 13.8	15.9	58.6	Polaris	315 39.4 N89 22.4
29 0	179 33.6	S23 14.3	292 00.9	12.7	N 3 57.9	15.9	58.6	Pollux	243 14.9 N27 57.6
1	194 33.3	S23 14.2	306 32.7	12.7	N 3 42.0	15.9	58.6	Procyon	244 48.8 N 5 09.3
2	209 33.0	S23 14.0	321 04.5	12.8	N 3 26.1	15.9	58.5	Rasalhague	95 57.4 N12 32.4
3	224 32.7	S23 13.9	335 36.3	12.9	N 3 10.2	15.9	58.5	Regulus	207 32.5 N11 50.0
4	239 32.4	S23 13.7	350 08.3	12.9	N 2 54.4	15.9	58.4		
T 5	254 32.0	S23 13.6	4 40.2	13.0	N 2 38.5	15.9	58.4	Rigel	281 02.0 S 8 10.2
U								Rigil Kent	139 38.6 S60 56.6
E 6	269 31.7	S23 13.5	19 12.3	13.0	N 2 22.6	15.9	58.4	Sabik	102 01.3 S15 45.5
S 7	284 31.4	S23 13.3	33 44.3	13.1	N 2 06.8	15.9	58.3	Schedar	349 29.1 N56 41.4
D 8	299 31.1	S23 13.2	48 16.5	13.1	N 1 50.9	15.8	58.3	Shaula	96 08.6 S37 07.4
A 9	314 30.8	S23 13.0	62 48.7	13.2	N 1 35.1	15.8	58.2	Sirius	258 24.4 S16 45.2
Y 10	329 30.5	S23 12.9	77 20.9	13.2	N 1 19.3	15.8	58.2	Spica	158 20.7 S11 18.2
11	344 30.2	S23 12.7	91 53.2	13.3	N 1 03.5	15.8	58.2	Suhail	222 44.7 S43 32.4
								Vega	80 32.6 N38 48.5
12	359 29.9	S23 12.6	106 25.5	13.3	N 0 47.7	15.8	58.1	Zuben-ubi	136 55.3 S16 09.3
13	14 29.6	S23 12.4	120 57.9	13.4	N 0 32.0	15.8	58.1		
14	29 29.3	S23 12.3	135 30.3	13.4	N 0 16.2	15.7	58.0		
15	44 29.0	S23 12.1	150 02.8	13.5	N 0 00.5	15.7	58.0		
16	59 28.7	S23 12.0	164 35.3	13.5	S 0 15.2	15.7	58.0		
17	74 28.4	S23 11.8	179 07.8	13.5	S 0 30.9	15.7	57.9		
18	89 28.1	S23 11.7	193 40.4	13.6	S 0 46.5	15.7	57.9		
19	104 27.8	S23 11.5	208 13.1	13.6	S 1 02.2	15.6	57.9		
20	119 27.5	S23 11.4	222 45.7	13.7	S 1 17.8	15.6	57.8		
21	134 27.2	S23 11.2	237 18.4	13.7	S 1 33.3	15.6	57.8		
22	149 26.9	S23 11.1	251 51.1	13.7	S 1 48.9	15.5	57.7		
23	164 26.6	S23 10.9	266 23.9	13.8	S 2 04.4	15.5	57.7		
	S.D. 16.3	d 0.1	S.D.	16.3	16.1	15.8			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
30	0	98 27.2	228 27.9	S14 53.2	296 02.8	N10 55.7	309 20.7	N13 31.7	89 53.7	N 1 00.6
	1	113 29.7	243 27.9	S14 53.8	311 04.9	N10 55.7	324 23.3	N13 31.8	104 56.1	N 1 00.7
	2	128 32.1	258 27.9	S14 54.4	326 07.0	N10 55.6	339 25.9	N13 31.8	119 58.5	N 1 00.7
	3	143 34.6	273 27.9	S14 55.0	341 09.1	N10 55.6	354 28.4	N13 31.9	135 00.9	N 1 00.8
	4	158 37.1	288 27.9	S14 55.6	356 11.2	N10 55.5	9 31.0	N13 31.9	150 03.3	N 1 00.8
W	5	173 39.5	303 27.9	S14 56.2	11 13.3	N10 55.5	24 33.6	N13 32.0	165 05.7	N 1 00.8
E										
D	6	188 42.0	318 27.9	S14 56.8	26 15.5	N10 55.4	39 36.2	N13 32.1	180 08.0	N 1 00.9
N	7	203 44.5	333 27.9	S14 57.4	41 17.6	N10 55.4	54 38.8	N13 32.1	195 10.4	N 1 00.9
E	8	218 46.9	348 27.9	S14 58.0	56 19.7	N10 55.3	69 41.4	N13 32.2	210 12.8	N 1 01.0
S	9	233 49.4	3 27.9	S14 58.6	71 21.8	N10 55.3	84 44.0	N13 32.2	225 15.2	N 1 01.0
D	10	248 51.9	18 27.9	S14 59.2	86 23.9	N10 55.2	99 46.6	N13 32.3	240 17.6	N 1 01.1
A	11	263 54.3	33 27.8	S14 59.8	101 26.1	N10 55.2	114 49.2	N13 32.3	255 20.0	N 1 01.1
Y										
	12	278 56.8	48 27.8	S15 00.4	116 28.2	N10 55.1	129 51.8	N13 32.4	270 22.4	N 1 01.2
	13	293 59.2	63 27.8	S15 01.0	131 30.3	N10 55.1	144 54.4	N13 32.5	285 24.8	N 1 01.2
	14	309 01.7	78 27.8	S15 01.6	146 32.4	N10 55.1	159 57.0	N13 32.5	300 27.2	N 1 01.2
	15	324 04.2	93 27.8	S15 02.2	161 34.6	N10 55.0	174 59.6	N13 32.6	315 29.5	N 1 01.3
	16	339 06.6	108 27.8	S15 02.8	176 36.7	N10 55.0	190 02.2	N13 32.6	330 31.9	N 1 01.3
	17	354 09.1	123 27.8	S15 03.4	191 38.8	N10 54.9	205 04.8	N13 32.7	345 34.3	N 1 01.4
	18	9 11.6	138 27.7	S15 04.0	206 40.9	N10 54.9	220 07.4	N13 32.7	0 36.7	N 1 01.4
	19	24 14.0	153 27.7	S15 04.6	221 43.1	N10 54.8	235 10.0	N13 32.8	15 39.1	N 1 01.5
	20	39 16.5	168 27.7	S15 05.2	236 45.2	N10 54.8	250 12.6	N13 32.9	30 41.5	N 1 01.5
	21	54 19.0	183 27.7	S15 05.8	251 47.3	N10 54.8	265 15.2	N13 32.9	45 43.9	N 1 01.6
	22	69 21.4	198 27.7	S15 06.4	266 49.5	N10 54.7	280 17.8	N13 33.0	60 46.2	N 1 01.6
	23	84 23.9	213 27.6	S15 07.0	281 51.6	N10 54.7	295 20.4	N13 33.0	75 48.6	N 1 01.6
31	0	99 26.4	228 27.6	S15 07.6	296 53.7	N10 54.6	310 23.0	N13 33.1	90 51.0	N 1 01.7
	1	114 28.8	243 27.6	S15 08.2	311 55.9	N10 54.6	325 25.6	N13 33.2	105 53.4	N 1 01.7
	2	129 31.3	258 27.6	S15 08.8	326 58.0	N10 54.6	340 28.2	N13 33.2	120 55.8	N 1 01.8
	3	144 33.7	273 27.5	S15 09.4	342 00.1	N10 54.5	355 30.8	N13 33.3	135 58.2	N 1 01.8
	4	159 36.2	288 27.5	S15 10.0	357 02.3	N10 54.5	10 33.4	N13 33.3	151 00.6	N 1 01.9
T	5	174 38.7	303 27.5	S15 10.6	12 04.4	N10 54.5	25 36.0	N13 33.4	166 02.9	N 1 01.9
H										
U	6	189 41.1	318 27.4	S15 11.2	27 06.6	N10 54.4	40 38.6	N13 33.5	181 05.3	N 1 02.0
R	7	204 43.6	333 27.4	S15 11.8	42 08.7	N10 54.4	55 41.2	N13 33.5	196 07.7	N 1 02.0
S	8	219 46.1	348 27.4	S15 12.4	57 10.9	N10 54.3	70 43.8	N13 33.6	211 10.1	N 1 02.1
D	9	234 48.5	3 27.3	S15 13.0	72 13.0	N10 54.3	85 46.4	N13 33.6	226 12.5	N 1 02.1
A	10	249 51.0	18 27.3	S15 13.6	87 15.1	N10 54.3	100 49.0	N13 33.7	241 14.9	N 1 02.1
Y	11	264 53.5	33 27.3	S15 14.2	102 17.3	N10 54.2	115 51.6	N13 33.7	256 17.2	N 1 02.2
	12	279 55.9	48 27.2	S15 14.8	117 19.4	N10 54.2	130 54.2	N13 33.8	271 19.6	N 1 02.2
	13	294 58.4	63 27.2	S15 15.4	132 21.6	N10 54.2	145 56.8	N13 33.9	286 22.0	N 1 02.3
	14	310 00.8	78 27.2	S15 16.0	147 23.7	N10 54.1	160 59.4	N13 33.9	301 24.4	N 1 02.3
	15	325 03.3	93 27.1	S15 16.6	162 25.9	N10 54.1	176 02.0	N13 34.0	316 26.8	N 1 02.4
	16	340 05.8	108 27.1	S15 17.2	177 28.0	N10 54.1	191 04.6	N13 34.0	331 29.2	N 1 02.4
	17	355 08.2	123 27.0	S15 17.8	192 30.2	N10 54.0	206 07.2	N13 34.1	346 31.5	N 1 02.5
	18	10 10.7	138 27.0	S15 18.4	207 32.4	N10 54.0	221 09.8	N13 34.2	1 33.9	N 1 02.5
	19	25 13.2	153 27.0	S15 19.0	222 34.5	N10 54.0	236 12.4	N13 34.2	16 36.3	N 1 02.6
	20	40 15.6	168 26.9	S15 19.6	237 36.7	N10 53.9	251 15.0	N13 34.3	31 38.7	N 1 02.6
	21	55 18.1	183 26.9	S15 20.2	252 38.8	N10 53.9	266 17.6	N13 34.4	46 41.1	N 1 02.6
	22	70 20.6	198 26.8	S15 20.8	267 41.0	N10 53.9	281 20.3	N13 34.4	61 43.5	N 1 02.7
	23	85 23.0	213 26.8	S15 21.4	282 43.1	N10 53.9	296 22.9	N13 34.5	76 45.8	N 1 02.7
1	0	100 25.5	228 26.7	S15 22.0	297 45.3	N10 53.8	311 25.5	N13 34.5	91 48.2	N 1 02.8
	1	115 28.0	243 26.7	S15 22.6	312 47.5	N10 53.8	326 28.1	N13 34.6	106 50.6	N 1 02.8
	2	130 30.4	258 26.6	S15 23.2	327 49.6	N10 53.8	341 30.7	N13 34.7	121 53.0	N 1 02.9
	3	145 32.9	273 26.6	S15 23.8	342 51.8	N10 53.7	356 33.3	N13 34.7	136 55.4	N 1 02.9
	4	160 35.3	288 26.5	S15 24.4	357 54.0	N10 53.7	11 35.9	N13 34.8	151 57.7	N 1 03.0
F	5	175 37.8	303 26.5	S15 25.0	12 56.1	N10 53.7	26 38.5	N13 34.8	167 00.1	N 1 03.0
R										
I	6	190 40.3	318 26.4	S15 25.6	27 58.3	N10 53.7	41 41.1	N13 34.9	182 02.5	N 1 03.1
D	7	205 42.7	333 26.4	S15 26.2	43 00.5	N10 53.6	56 43.7	N13 35.0	197 04.9	N 1 03.1
A	8	220 45.2	348 26.3	S15 26.8	58 02.6	N10 53.6	71 46.3	N13 35.0	212 07.3	N 1 03.2
Y	9	235 47.7	3 26.3	S15 27.4	73 04.8	N10 53.6	86 48.9	N13 35.1	227 09.6	N 1 03.2
	10	250 50.1	18 26.2	S15 28.0	88 07.0	N10 53.6	101 51.6	N13 35.2	242 12.0	N 1 03.3
	11	265 52.6	33 26.1	S15 28.6	103 09.2	N10 53.5	116 54.2	N13 35.2	257 14.4	N 1 03.3
	12	280 55.1	48 26.1	S15 29.2	118 11.3	N10 53.5	131 56.8	N13 35.3	272 16.8	N 1 03.4
	13	295 57.5	63 26.0	S15 29.8	133 13.5	N10 53.5	146 59.4	N13 35.3	287 19.2	N 1 03.4
	14	310 60.0	78 26.0	S15 30.4	148 15.7	N10 53.5	162 02.0	N13 35.4	302 21.5	N 1 03.4
	15	326 02.5	93 25.9	S15 31.0	163 17.9	N10 53.4	177 04.6	N13 35.5	317 23.9	N 1 03.5
	16	341 04.9	108 25.8	S15 31.6	178 20.0	N10 53.4	192 07.2	N13 35.5	332 26.3	N 1 03.5
	17	356 07.4	123 25.8	S15 32.2	193 22.2	N10 53.4	207 09.8	N13 35.6	347 28.7	N 1 03.6
	18	11 09.8	138 25.7	S15 32.8	208 24.4	N10 53.4	222 12.5	N13 35.7	2 31.1	N 1 03.6
	19	26 12.3	153 25.6	S15 33.4	223 26.6	N10 53.4	237 15.1	N13 35.7	17 33.4	N 1 03.7
	20	41 14.8	168 25.6	S15 34.0	238 28.8	N10 53.3	252 17.7	N13 35.8	32 35.8	N 1 03.7
	21	56 17.2	183 25.5	S15 34.6	253 30.9	N10 53.3	267 20.3	N13 35.8	47 38.2	N 1 03.8
	22	71 19.7	198 25.4	S15 35.2	268 33.1	N10 53.3	282 22.9	N13 35.9	62 40.6	N 1 03.8
	23	86 22.2	213 25.4	S15 35.8	283 35.3	N10 53.3	297 25.5	N13 36.0	77 42.9	N 1 03.9
			v 0.0	d 0.6	v 2.1	d 0.0	v 2.6	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
30	0	179 26.3	S23 10.7	280 56.7	13.8	S 2 19.9	15.5	57.7
	1	194 26.0	S23 10.6	295 29.5	13.8	S 2 35.4	15.5	57.6
	2	209 25.7	S23 10.4	310 02.3	13.8	S 2 50.8	15.4	57.6
	3	224 25.4	S23 10.3	324 35.2	13.9	S 3 06.2	15.4	57.5
	4	239 25.1	S23 10.1	339 08.1	13.9	S 3 21.5	15.4	57.5
W	5	254 24.8	S23 09.9	353 41.0	13.9	S 3 36.8	15.3	57.5
E								
D	6	269 24.5	S23 09.8	8 14.0	13.9	S 3 52.1	15.3	57.4
N	7	284 24.2	S23 09.6	22 46.9	14.0	S 4 07.4	15.2	57.4
E	8	299 23.9	S23 09.4	37 19.9	14.0	S 4 22.6	15.2	57.4
S	9	314 23.6	S23 09.3	51 52.9	14.0	S 4 37.8	15.2	57.3
D	10	329 23.3	S23 09.1	66 26.0	14.0	S 4 52.9	15.1	57.3
A	11	344 23.0	S23 08.9	80 59.0	14.0	S 5 08.0	15.1	57.2
Y								
	12	359 22.7	S23 08.8	95 32.0	14.1	S 5 23.0	15.0	57.2
	13	14 22.4	S23 08.6	110 05.1	14.1	S 5 38.0	15.0	57.2
	14	29 22.1	S23 08.4	124 38.2	14.1	S 5 53.0	15.0	57.1
	15	44 21.8	S23 08.3	139 11.3	14.1	S 6 07.9	14.9	57.1
	16	59 21.5	S23 08.1	153 44.4	14.1	S 6 22.8	14.9	57.1
	17	74 21.2	S23 07.9	168 17.5	14.1	S 6 37.6	14.8	57.0
	18	89 20.9	S23 07.7	182 50.6	14.1	S 6 52.4	14.8	57.0
	19	104 20.6	S23 07.6	197 23.7	14.1	S 7 07.1	14.7	57.0
	20	119 20.3	S23 07.4	211 56.9	14.1	S 7 21.8	14.7	56.9
	21	134 20.0	S23 07.2	226 30.0	14.1	S 7 36.4	14.6	56.9
	22	149 19.7	S23 07.0	241 03.1	14.1	S 7 51.0	14.6	56.9
	23	164 19.4	S23 06.9	255 36.3	14.1	S 8 05.5	14.5	56.8
31	0	179 19.1	S23 06.7	270 09.4	14.1	S 8 20.0	14.5	56.8
	1	194 18.8	S23 06.5	284 42.5	14.1	S 8 34.4	14.4	56.7
	2	209 18.5	S23 06.3	299 15.7	14.1	S 8 48.8	14.4	56.7
	3	224 18.2	S23 06.2	313 48.8	14.1	S 9 03.1	14.3	56.7
	4	239 17.9	S23 06.0	328 21.9	14.1	S 9 17.4	14.3	56.6
T	5	254 17.6	S23 05.8	342 55.0	14.1	S 9 31.6	14.2	56.6
H								
U	6	269 17.3	S23 05.6	357 28.2	14.1	S 9 45.7	14.1	56.6
R	7	284 17.0	S23 05.4	12 01.3	14.1	S 9 59.8	14.1	56.5
S	8	299 16.7	S23 05.2	26 34.4	14.1	S10 13.8	14.0	56.5
D	9	314 16.4	S23 05.1	41 07.5	14.1	S10 27.8	14.0	56.5
A	10	329 16.1	S23 04.9	55 40.5	14.1	S10 41.7	13.9	56.4
Y	11	344 15.8	S23 04.7	70 13.6	14.1	S10 55.5	13.8	56.4
	12	359 15.5	S23 04.5	84 46.7	14.1	S11 09.3	13.8	56.4
	13	14 15.2	S23 04.3	99 19.7	14.0	S11 23.0	13.7	56.3
	14	29 14.9	S23 04.1	113 52.7	14.0	S11 36.7	13.7	56.3
	15	44 14.6	S23 03.9	128 25.7	14.0	S11 50.3	13.6	56.3
	16	59 14.3	S23 03.7	142 58.7	14.0	S12 03.8	13.5	56.3
	17	74 14.0	S23 03.6	157 31.7	14.0	S12 17.3	13.5	56.2
	18	89 13.7	S23 03.4	172 04.7	14.0	S12 30.6	13.4	56.2
	19	104 13.4	S23 03.2	186 37.6	13.9	S12 44.0	13.3	56.2
	20	119 13.1	S23 03.0	201 10.5	13.9	S12 57.2	13.3	56.1
	21	134 12.8	S23 02.8	215 43.4	13.9	S13 10.4	13.2	56.1
	22	149 12.5	S23 02.6	230 16.3	13.9	S13 23.5	13.1	56.1
	23	164 12.2	S23 02.4	244 49.2	13.9	S13 36.6	13.0	56.0
1	0	179 11.9	S23 02.2	259 22.0	13.8	S13 49.5	13.0	56.0
	1	194 11.6	S23 02.0	273 54.8	13.8	S14 02.4	12.9	56.0
	2	209 11.3	S23 01.8	288 27.6	13.8	S14 15.2	12.8	55.9
	3	224 11.0	S23 01.6	303 00.3	13.8	S14 28.0	12.8	55.9
	4	239 10.8	S23 01.4	317 33.1	13.7	S14 40.7	12.7	55.9
F	5	254 10.5	S23 01.2	332 05.8	13.7	S14 53.3	12.6	55.9
R								
I	6	269 10.2	S23 01.0	346 38.4	13.7	S15 05.8	12.5	55.8
D	7	284 09.9	S23 00.8	1 11.1	13.6	S15 18.2	12.4	55.8
A	8	299 09.6	S23 00.6	15 43.7	13.6	S15 30.6	12.4	55.8
Y	9	314 09.3	S23 00.4	30 16.3	13.6	S15 42.9	12.3	55.8
	10	329 09.0	S23 00.2	44 48.8	13.5	S15 55.1	12.2	55.7
	11	344 08.7	S22 60.0	59 21.3	13.5	S16 07.2	12.1	55.7
	12	359 08.4	S22 59.8	73 53.8	13.5	S16 19.3	12.0	55.7
	13	14 08.1	S22 59.6	88 26.3	13.4	S16 31.3	12.0	55.6
	14	29 07.8	S22 59.4	102 58.7	13.4	S16 43.1	11.9	55.6
	15	44 07.5	S22 59.1	117 31.1	13.4	S16 54.9	11.8	55.6
	16	59 07.2	S22 58.9	132 03.4	13.3	S17 06.7	11.7	55.6
	17	74 06.9	S22 58.7	146 35.7	13.3	S17 18.3	11.6	55.5
	18	89 06.6	S22 58.5	161 08.0	13.3	S17 29.8	11.5	55.5
	19	104 06.3	S22 58.3	175 40.2	13.2	S17 41.3	11.5	55.5
	20	119 06.0	S22 58.1	190 12.4	13.2	S17 52.7	11.4	55.5
	21	134 05.7	S22 57.9	204 44.6	13.2	S18 04.0	11.3	55.4
	22	149 05.4	S22 57.7	219 16.7	13.1	S18 15.2	11.2	55.4
	23	164 05.2	S22 57.4	233 48.8	13.1	S18 26.3	11.1	55.4
		S.D. 16.3	d 0.2	S.D. 15.6		15.4	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.9
Achernar	335 18.8	S57 06.2
Acrux	172 58.3	S63 14.7
Adhara	255 04.2	S29 00.5
Albireo	67 03.1	N28 01.0
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.5	N55 48.5
Alkaid	152 50.9	N49 10.4
Al Na-ir	27 31.1	S46 50.0
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.9	S 8 46.6
Alphecca	126 02.6	N26 37.2
Alpheratz	357 33.1	N29 14.6
Altair	61 58.7	N 8 56.4
Ankaa	353 05.5	S42 09.8
Antares	112 14.2	S26 29.5
Arcturus	145 46.6	N19 02.3
Atria	107 07.5	S69 04.5
Avior	234 13.4	S59 35.7
Bellatrix	278 20.8	N 6 22.5
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.1	S52 42.6
Capella	280 19.0	N46 01.6
Castor	245 54.6	N31 49.7
Deneb	49 25.1	N45 22.7
Denebola	182 23.2	N14 25.1
Diphda	348 45.7	S17 50.3
Dubhe	193 38.7	N61 35.9
Elnath	277 59.5	N28 37.8
Eltanin	90 42.0	N51 29.0
Enif	33 37.4	N 9 60.0
Fomalhaut	15 12.9	S29 28.9
Gacrux	171 49.8	S57 15.7
Gienah	175 41.9	S17 41.5
Hadar	148 34.0	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.8	S34 22.3
Kochab	137 20.7	N74 02.3
Markab	13 28.4	N15 21.1
Menkar	314 04.2	N 4 11.8
Menkent	147 55.9	S36 30.1
Miaplacidus	221 37.1	S69 49.5
Mirfak	308 25.6	N49 57.7
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 39.0
Polaris	315 40.5	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.8	N 5 09.3
Rasalhague	95 57.4	N12 32.4
Regulus	207 32.5	N11 50.0
Rigel	281 02.0	S 8 10.2
Rigil Kent	139 38.5	S60 56.6
Sabik	102 01.2	S15 45.5
Schedar	349 29.1	N56 41.4
Shaula	96 08.6	S37 07.4
Sirius	258 24.4	S16 45.2
Spica	158 20.7	S11 18.2
Suhail	222 44.7	S43 32.4
Vega	80 32.5	N38 48.5
Zuben-ubi	136 55.3	S16 09.3