N2A - Navigator Nautical Almanac
daily tables

from 01/JAN/2027 to 31/DEC/2027

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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	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
2	0	101 24.6	228 25.3	S15 36.4	298 37.5	N10 53.3	312 28.1	N13 36.0	92 45.3	N 1 03.9
	1	116 27.1	243 25.2	S15 37.0	313 39.7	N10 53.2	327 30.7	N13 36.1	107 47.7	N 1 04.0
	2	131 29.6	258 25.1	S15 37.6	328 41.9	N10 53.2	342 33.4	N13 36.2	122 50.1	N 1 04.0
	3	146 32.0	273 25.1	S15 38.2	343 44.1	N10 53.2	357 36.0	N13 36.2	137 52.5	N 1 04.1
	4	161 34.5	288 25.0	S15 38.8	358 46.3	N10 53.2	12 38.6	N13 36.3	152 54.8	N 1 04.1
S	5	176 36.9	303 24.9	S15 39.4	13 48.5	N10 53.2	27 41.2	N13 36.3	167 57.2	N 1 04.2
A										
T	6	191 39.4	318 24.8	S15 39.9	28 50.7	N10 53.2	42 43.8	N13 36.4	182 59.6	N 1 04.2
U	7	206 41.9	333 24.8	S15 40.5	43 52.9	N10 53.2	57 46.4	N13 36.5	198 02.0	N 1 04.3
R	8	221 44.3	348 24.7	S15 41.1	58 55.0	N10 53.1	72 49.1	N13 36.5	213 04.3	N 1 04.3
D	9	236 46.8	3 24.6	S15 41.7	73 57.2	N10 53.1	87 51.7	N13 36.6	228 06.7	N 1 04.4
A	10	251 49.3	18 24.5	S15 42.3	88 59.4	N10 53.1	102 54.3	N13 36.7	243 09.1	N 1 04.4
Y	11	266 51.7	33 24.5	S15 42.9	104 01.6	N10 53.1	117 56.9	N13 36.7	258 11.5	N 1 04.5
	12	281 54.2	48 24.4	S15 43.5	119 03.8	N10 53.1	132 59.5	N13 36.8	273 13.8	N 1 04.5
	13	296 56.7	63 24.3	S15 44.1	134 06.0	N10 53.1	148 02.2	N13 36.9	288 16.2	N 1 04.6
	14	311 59.1	78 24.2	S15 44.7	149 08.2	N10 53.1	163 04.8	N13 36.9	303 18.6	N 1 04.6
	15	327 01.6	93 24.1	S15 45.3	164 10.5	N10 53.0	178 07.4	N13 37.0	318 21.0	N 1 04.7
	16	342 04.1	108 24.0	S15 45.9	179 12.7	N10 53.0	193 10.0	N13 37.1	333 23.3	N 1 04.7
	17	357 06.5	123 23.9	S15 46.5	194 14.9	N10 53.0	208 12.6	N13 37.1	348 25.7	N 1 04.8
	18	12 09.0	138 23.9	S15 47.1	209 17.1	N10 53.0	223 15.2	N13 37.2	3 28.1	N 1 04.8
	19	27 11.4	153 23.8	S15 47.7	224 19.3	N10 53.0	238 17.9	N13 37.3	18 30.5	N 1 04.9
	20	42 13.9	168 23.7	S15 48.3	239 21.5	N10 53.0	253 20.5	N13 37.3	33 32.8	N 1 04.9
	21	57 16.4	183 23.6	S15 48.9	254 23.7	N10 53.0	268 23.1	N13 37.4	48 35.2	N 1 05.0
	22	72 18.8	198 23.5	S15 49.5	269 25.9	N10 53.0	283 25.7	N13 37.5	63 37.6	N 1 05.0
	23	87 21.3	213 23.4	S15 50.1	284 28.1	N10 53.0	298 28.4	N13 37.5	78 40.0	N 1 05.1
3	0	102 23.8	228 23.3	S15 50.6	299 30.3	N10 53.0	313 31.0	N13 37.6	93 42.3	N 1 05.1
	1	117 26.2	243 23.2	S15 51.2	314 32.6	N10 53.0	328 33.6	N13 37.7	108 44.7	N 1 05.2
	2	132 28.7	258 23.1	S15 51.8	329 34.8	N10 53.0	343 36.2	N13 37.7	123 47.1	N 1 05.2
	3	147 31.2	273 23.0	S15 52.4	344 37.0	N10 53.0	358 38.8	N13 37.8	138 49.5	N 1 05.3
	4	162 33.6	288 22.9	S15 53.0	359 39.2	N10 52.9	13 41.5	N13 37.9	153 51.8	N 1 05.3
S	5	177 36.1	303 22.8	S15 53.6	14 41.4	N10 52.9	28 44.1	N13 37.9	168 54.2	N 1 05.4
U										
N	6	192 38.6	318 22.7	S15 54.2	29 43.6	N10 52.9	43 46.7	N13 38.0	183 56.6	N 1 05.4
D	7	207 41.0	333 22.6	S15 54.8	44 45.9	N10 52.9	58 49.3	N13 38.0	198 58.9	N 1 05.5
A	8	222 43.5	348 22.5	S15 55.4	59 48.1	N10 52.9	73 52.0	N13 38.1	214 01.3	N 1 05.5
Y	9	237 45.9	3 22.4	S15 56.0	74 50.3	N10 52.9	88 54.6	N13 38.2	229 03.7	N 1 05.6
	10	252 48.4	18 22.3	S15 56.6	89 52.5	N10 52.9	103 57.2	N13 38.3	244 06.1	N 1 05.6
	11	267 50.9	33 22.2	S15 57.2	104 54.8	N10 52.9	118 59.8	N13 38.3	259 08.4	N 1 05.7
	12	282 53.3	48 22.1	S15 57.7	119 57.0	N10 52.9	134 02.5	N13 38.4	274 10.8	N 1 05.7
	13	297 55.8	63 22.0	S15 58.3	134 59.2	N10 52.9	149 05.1	N13 38.5	289 13.2	N 1 05.8
	14	312 58.3	78 21.9	S15 58.9	150 01.5	N10 52.9	164 07.7	N13 38.5	304 15.5	N 1 05.8
	15	328 00.7	93 21.8	S15 59.5	165 03.7	N10 52.9	179 10.3	N13 38.6	319 17.9	N 1 05.9
	16	343 03.2	108 21.7	S16 00.1	180 05.9	N10 52.9	194 13.0	N13 38.7	334 20.3	N 1 05.9
	17	358 05.7	123 21.6	S16 00.7	195 08.2	N10 52.9	209 15.6	N13 38.7	349 22.7	N 1 06.0
	18	13 08.1	138 21.5	S16 01.3	210 10.4	N10 52.9	224 18.2	N13 38.8	4 25.0	N 1 06.0
	19	28 10.6	153 21.4	S16 01.9	225 12.6	N10 52.9	239 20.9	N13 38.9	19 27.4	N 1 06.1
	20	43 13.1	168 21.2	S16 02.5	240 14.9	N10 52.9	254 23.5	N13 38.9	34 29.8	N 1 06.1
	21	58 15.5	183 21.1	S16 03.1	255 17.1	N10 52.9	269 26.1	N13 39.0	49 32.1	N 1 06.2
	22	73 18.0	198 21.0	S16 03.6	270 19.3	N10 52.9	284 28.7	N13 39.1	64 34.5	N 1 06.2
	23	88 20.4	213 20.9	S16 04.2	285 21.6	N10 52.9	299 31.4	N13 39.1	79 36.9	N 1 06.3
			v -0.1	d 0.6	v 2.2	d 0.0	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
	° '	° '	° '	'	° '	'	'		° ' ° '
1 0	179 11.9	S23 02.2	259 22.0	13.8	S13 49.5	13.0	56.0	Acamar	315 10.3 S40 11.9
1	194 11.6	S23 02.0	273 54.8	13.8	S14 02.4	12.9	56.0	Achernar	335 18.8 S57 06.2
2	209 11.3	S23 01.8	288 27.6	13.8	S14 15.2	12.8	55.9	Acrux	172 58.2 S63 14.7
3	224 11.0	S23 01.6	303 00.3	13.8	S14 28.0	12.8	55.9	Adhara	255 04.2 S29 00.5
4	239 10.8	S23 01.4	317 33.1	13.7	S14 40.7	12.7	55.9	Albireo	67 03.1 N28 01.0
F 5	254 10.5	S23 01.2	332 05.8	13.7	S14 53.3	12.6	55.9		
R								Aldebaran	290 37.4 N16 33.9
I 6	269 10.2	S23 01.0	346 38.4	13.7	S15 05.8	12.5	55.8	Alioth	166 11.5 N55 48.5
D 7	284 09.9	S23 00.8	1 11.1	13.6	S15 18.2	12.4	55.8	Alkaid	152 50.9 N49 10.4
A 8	299 09.6	S23 00.6	15 43.7	13.6	S15 30.6	12.4	55.8	Al Na-ir	27 31.1 S46 50.0
Y 9	314 09.3	S23 00.4	30 16.3	13.6	S15 42.9	12.3	55.8	Alnilam	275 35.7 S 1 11.1
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	Alphard	217 45.8 S 8 46.6
								Alphecca	126 02.6 N26 37.2
12	359 08.4	S22 59.8	73 53.8	13.5	S16 19.3	12.0	55.7	Alpheratz	357 33.1 N29 14.6
13	14 08.1	S22 59.6	88 26.3	13.4	S16 31.3	12.0	55.6	Altair	61 58.7 N 8 56.4
14	29 07.8	S22 59.4	102 58.7	13.4	S16 43.1	11.9	55.6	Ankaa	353 05.5 S42 09.8
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	Antares	112 14.2 S26 29.5
17	74 06.9	S22 58.7	146 35.7	13.3	S17 18.3	11.6	55.5	Arcturus	145 46.6 N19 02.3
								Atria	107 07.5 S69 04.5
18	89 06.6	S22 58.5	161 08.0	13.3	S17 29.8	11.5	55.5	Avior	234 13.4 S59 35.7
19	104 06.3	S22 58.3	175 40.2	13.2	S17 41.3	11.5	55.5	Bellatrix	278 20.8 N 6 22.5
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	Betelgeuse	270 50.0 N 7 24.7
22	149 05.4	S22 57.7	219 16.7	13.1	S18 15.2	11.2	55.4	Canopus	263 51.1 S52 42.6
23	164 05.2	S22 57.4	233 48.8	13.1	S18 26.3	11.1	55.4	Capella	280 19.0 N46 01.6
2 0	179 04.9	S22 57.2	248 20.8	13.0	S18 37.3	11.0	55.4	Castor	245 54.6 N31 49.7
1	194 04.6	S22 57.0	262 52.8	13.0	S18 48.2	10.9	55.3	Deneb	49 25.1 N45 22.7
2	209 04.3	S22 56.8	277 24.7	13.0	S18 59.1	10.8	55.3		
3	224 04.0	S22 56.6	291 56.7	12.9	S19 09.8	10.7	55.3	Denebola	182 23.2 N14 25.1
4	239 03.7	S22 56.4	306 28.5	12.9	S19 20.5	10.7	55.3	Diphda	348 45.7 S17 50.3
S 5	254 03.4	S22 56.1	321 00.4	12.8	S19 31.0	10.6	55.2	Dubhe	193 38.7 N61 35.9
A								Elnath	277 59.5 N28 37.8
T 6	269 03.1	S22 55.9	335 32.1	12.8	S19 41.5	10.5	55.2	Eltanin	90 42.0 N51 29.0
U 7	284 02.8	S22 55.7	350 03.9	12.7	S19 51.9	10.4	55.2		
R 8	299 02.5	S22 55.5	4 35.6	12.7	S20 02.1	10.3	55.2	Enif	33 37.4 N 9 60.0
D 9	314 02.2	S22 55.2	19 07.2	12.7	S20 12.3	10.2	55.1	Fomalhaut	15 12.9 S29 28.9
A 10	329 01.9	S22 55.0	33 38.8	12.6	S20 22.4	10.1	55.1	Gacrux	171 49.8 S57 15.7
Y 11	344 01.6	S22 54.8	48 10.4	12.6	S20 32.4	10.0	55.1	Gienah	175 41.9 S17 41.5
								Hadar	148 34.0 S60 30.0
12	359 01.3	S22 54.6	62 41.9	12.5	S20 42.2	9.9	55.1		
13	14 01.1	S22 54.3	77 13.4	12.5	S20 52.0	9.8	55.1	Hamal	327 49.2 N23 35.6
14	29 00.8	S22 54.1	91 44.8	12.4	S21 01.7	9.7	55.0	Kaus Austr.	83 30.8 S34 22.3
15	44 00.5	S22 53.9	106 16.2	12.4	S21 11.3	9.6	55.0	Kochab	137 20.7 N74 02.3
16	59 00.2	S22 53.7	120 47.5	12.3	S21 20.8	9.5	55.0	Markab	13 28.4 N15 21.1
17	73 59.9	S22 53.4	135 18.8	12.3	S21 30.2	9.4	55.0	Menkar	314 04.2 N 4 11.8
								Menkent	147 55.9 S36 30.1
18	88 59.6	S22 53.2	149 50.1	12.2	S21 39.4	9.3	55.0	Miaplacidus	221 37.1 S69 49.5
19	103 59.3	S22 53.0	164 21.3	12.2	S21 48.6	9.2	54.9	Mirfak	308 25.6 N49 57.7
20	118 59.0	S22 52.7	178 52.4	12.2	S21 57.7	9.1	54.9	Nunki	75 46.1 S26 15.8
21	133 58.7	S22 52.5	193 23.5	12.1	S22 06.6	9.0	54.9	Peacock	53 03.6 S56 39.0
22	148 58.4	S22 52.3	207 54.6	12.1	S22 15.5	8.9	54.9		
23	163 58.1	S22 52.0	222 25.6	12.0	S22 24.2	8.8	54.9	Polaris	315 41.1 N89 22.4
3 0	178 57.9	S22 51.8	236 56.6	12.0	S22 32.9	8.6	54.8	Pollux	243 14.9 N27 57.6
1	193 57.6	S22 51.6	251 27.5	11.9	S22 41.4	8.5	54.8	Procyon	244 48.8 N 5 09.3
2	208 57.3	S22 51.3	265 58.4	11.9	S22 49.9	8.4	54.8	Rasalhague	95 57.4 N12 32.4
3	223 57.0	S22 51.1	280 29.2	11.8	S22 58.2	8.3	54.8	Regulus	207 32.5 N11 50.0
4	238 56.7	S22 50.9	294 60.0	11.8	S23 06.4	8.2	54.8		
S 5	253 56.4	S22 50.6	309 30.7	11.7	S23 14.5	8.1	54.7	Rigel	281 02.0 S 8 10.2
U								Rigil Kent	139 38.5 S60 56.6
N 6	268 56.1	S22 50.4	324 01.4	11.7	S23 22.5	8.0	54.7	Sabik	102 01.2 S15 45.5
D 7	283 55.8	S22 50.1	338 32.0	11.6	S23 30.4	7.9	54.7	Schedar	349 29.2 N56 41.4
A 8	298 55.5	S22 49.9	353 02.6	11.6	S23 38.1	7.8	54.7	Shaula	96 08.5 S37 07.4
Y 9	313 55.3	S22 49.7	7 33.2	11.6	S23 45.8	7.7	54.7	Sirius	258 24.4 S16 45.2
10	328 55.0	S22 49.4	22 03.7	11.5	S23 53.3	7.5	54.7	Spica	158 20.6 S11 18.2
11	343 54.7	S22 49.2	36 34.1	11.5	S24 00.7	7.4	54.6	Suhail	222 44.7 S43 32.4
								Vega	80 32.5 N38 48.5
12	358 54.4	S22 48.9	51 04.6	11.4	S24 08.0	7.3	54.6	Zuben-ubi	136 55.3 S16 09.3
13	13 54.1	S22 48.7	65 34.9	11.4	S24 15.2	7.2	54.6		
14	28 53.8	S22 48.4	80 05.2	11.3	S24 22.3	7.1	54.6		
15	43 53.5	S22 48.2	94 35.5	11.3	S24 29.3	7.0	54.6		
16	58 53.2	S22 47.9	109 05.8	11.2	S24 36.1	6.8	54.6		
17	73 52.9	S22 47.7	123 36.0	11.2	S24 42.8	6.7	54.6		
18	88 52.7	S22 47.4	138 06.1	11.2	S24 49.4	6.6	54.5		
19	103 52.4	S22 47.2	152 36.2	11.1	S24 55.9	6.5	54.5		
20	118 52.1	S22 46.9	167 06.3	11.1	S25 02.3	6.4	54.5		
21	133 51.8	S22 46.7	181 36.3	11.0	S25 08.5	6.2	54.5		
22	148 51.5	S22 46.4	196 06.3	11.0	S25 14.7	6.1	54.5		
23	163 51.2	S22 46.2	210 36.3	10.9	S25 20.7	6.0	54.5		
	S.D. 16.3	d 0.2	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 ° '
4	0	103 22.9	228 20.8	S16 04.8	300 23.8	N10 52.9	314 34.0	N13 39.2	94 39.3	N 1 06.3
	1	118 25.4	243 20.7	S16 05.4	315 26.1	N10 52.9	329 36.6	N13 39.3	109 41.6	N 1 06.4
	2	133 27.8	258 20.6	S16 06.0	330 28.3	N10 53.0	344 39.3	N13 39.3	124 44.0	N 1 06.4
	3	148 30.3	273 20.4	S16 06.6	345 30.6	N10 53.0	359 41.9	N13 39.4	139 46.4	N 1 06.5
	4	163 32.8	288 20.3	S16 07.2	0 32.8	N10 53.0	14 44.5	N13 39.5	154 48.7	N 1 06.5
M	5	178 35.2	303 20.2	S16 07.8	15 35.0	N10 53.0	29 47.1	N13 39.5	169 51.1	N 1 06.6
O										
N	6	193 37.7	318 20.1	S16 08.3	30 37.3	N10 53.0	44 49.8	N13 39.6	184 53.5	N 1 06.6
D	7	208 40.2	333 19.9	S16 08.9	45 39.5	N10 53.0	59 52.4	N13 39.7	199 55.8	N 1 06.7
A	8	223 42.6	348 19.8	S16 09.5	60 41.8	N10 53.0	74 55.0	N13 39.7	214 58.2	N 1 06.7
Y	9	238 45.1	3 19.7	S16 10.1	75 44.0	N10 53.0	89 57.7	N13 39.8	230 00.6	N 1 06.8
	10	253 47.5	18 19.6	S16 10.7	90 46.3	N10 53.0	105 00.3	N13 39.9	245 02.9	N 1 06.9
	11	268 50.0	33 19.5	S16 11.3	105 48.6	N10 53.0	120 02.9	N13 40.0	260 05.3	N 1 06.9
	12	283 52.5	48 19.3	S16 11.9	120 50.8	N10 53.0	135 05.6	N13 40.0	275 07.7	N 1 07.0
	13	298 54.9	63 19.2	S16 12.5	135 53.1	N10 53.0	150 08.2	N13 40.1	290 10.0	N 1 07.0
	14	313 57.4	78 19.1	S16 13.0	150 55.3	N10 53.1	165 10.8	N13 40.2	305 12.4	N 1 07.1
	15	328 59.9	93 18.9	S16 13.6	165 57.6	N10 53.1	180 13.5	N13 40.2	320 14.8	N 1 07.1
	16	344 02.3	108 18.8	S16 14.2	180 59.8	N10 53.1	195 16.1	N13 40.3	335 17.1	N 1 07.2
	17	359 04.8	123 18.7	S16 14.8	196 02.1	N10 53.1	210 18.7	N13 40.4	350 19.5	N 1 07.2
	18	14 07.3	138 18.5	S16 15.4	211 04.4	N10 53.1	225 21.4	N13 40.4	5 21.9	N 1 07.3
	19	29 09.7	153 18.4	S16 16.0	226 06.6	N10 53.1	240 24.0	N13 40.5	20 24.2	N 1 07.3
	20	44 12.2	168 18.3	S16 16.5	241 08.9	N10 53.1	255 26.6	N13 40.6	35 26.6	N 1 07.4
	21	59 14.7	183 18.1	S16 17.1	256 11.2	N10 53.1	270 29.3	N13 40.7	50 29.0	N 1 07.4
	22	74 17.1	198 18.0	S16 17.7	271 13.4	N10 53.2	285 31.9	N13 40.7	65 31.3	N 1 07.5
	23	89 19.6	213 17.9	S16 18.3	286 15.7	N10 53.2	300 34.5	N13 40.8	80 33.7	N 1 07.5
5	0	104 22.0	228 17.7	S16 18.9	301 18.0	N10 53.2	315 37.2	N13 40.9	95 36.1	N 1 07.6
	1	119 24.5	243 17.6	S16 19.5	316 20.2	N10 53.2	330 39.8	N13 40.9	110 38.4	N 1 07.6
	2	134 27.0	258 17.5	S16 20.0	331 22.5	N10 53.2	345 42.5	N13 41.0	125 40.8	N 1 07.7
	3	149 29.4	273 17.3	S16 20.6	346 24.8	N10 53.2	0 45.1	N13 41.1	140 43.2	N 1 07.8
	4	164 31.9	288 17.2	S16 21.2	1 27.0	N10 53.3	15 47.7	N13 41.2	155 45.5	N 1 07.8
T	5	179 34.4	303 17.0	S16 21.8	16 29.3	N10 53.3	30 50.4	N13 41.2	170 47.9	N 1 07.9
U										
E	6	194 36.8	318 16.9	S16 22.4	31 31.6	N10 53.3	45 53.0	N13 41.3	185 50.3	N 1 07.9
S	7	209 39.3	333 16.7	S16 23.0	46 33.9	N10 53.3	60 55.6	N13 41.4	200 52.6	N 1 08.0
D	8	224 41.8	348 16.6	S16 23.5	61 36.2	N10 53.3	75 58.3	N13 41.4	215 55.0	N 1 08.0
A	9	239 44.2	3 16.5	S16 24.1	76 38.4	N10 53.4	91 00.9	N13 41.5	230 57.4	N 1 08.1
Y	10	254 46.7	18 16.3	S16 24.7	91 40.7	N10 53.4	106 03.6	N13 41.6	245 59.7	N 1 08.1
	11	269 49.2	33 16.2	S16 25.3	106 43.0	N10 53.4	121 06.2	N13 41.7	261 02.1	N 1 08.2
	12	284 51.6	48 16.0	S16 25.9	121 45.3	N10 53.4	136 08.8	N13 41.7	276 04.5	N 1 08.2
	13	299 54.1	63 15.9	S16 26.4	136 47.6	N10 53.4	151 11.5	N13 41.8	291 06.8	N 1 08.3
	14	314 56.5	78 15.7	S16 27.0	151 49.8	N10 53.5	166 14.1	N13 41.9	306 09.2	N 1 08.3
	15	329 59.0	93 15.6	S16 27.6	166 52.1	N10 53.5	181 16.8	N13 41.9	321 11.5	N 1 08.4
	16	345 01.5	108 15.4	S16 28.2	181 54.4	N10 53.5	196 19.4	N13 42.0	336 13.9	N 1 08.5
	17	0 03.9	123 15.3	S16 28.8	196 56.7	N10 53.5	211 22.0	N13 42.1	351 16.3	N 1 08.5
	18	15 06.4	138 15.1	S16 29.3	211 59.0	N10 53.6	226 24.7	N13 42.2	6 18.6	N 1 08.6
	19	30 08.9	153 14.9	S16 29.9	227 01.3	N10 53.6	241 27.3	N13 42.2	21 21.0	N 1 08.6
	20	45 11.3	168 14.8	S16 30.5	242 03.6	N10 53.6	256 30.0	N13 42.3	36 23.4	N 1 08.7
	21	60 13.8	183 14.6	S16 31.1	257 05.9	N10 53.6	271 32.6	N13 42.4	51 25.7	N 1 08.7
	22	75 16.3	198 14.5	S16 31.7	272 08.2	N10 53.7	286 35.3	N13 42.4	66 28.1	N 1 08.8
	23	90 18.7	213 14.3	S16 32.2	287 10.5	N10 53.7	301 37.9	N13 42.5	81 30.4	N 1 08.8
6	0	105 21.2	228 14.2	S16 32.8	302 12.8	N10 53.7	316 40.5	N13 42.6	96 32.8	N 1 08.9
	1	120 23.7	243 14.0	S16 33.4	317 15.1	N10 53.7	331 43.2	N13 42.7	111 35.2	N 1 08.9
	2	135 26.1	258 13.8	S16 34.0	332 17.4	N10 53.8	346 45.8	N13 42.7	126 37.5	N 1 09.0
	3	150 28.6	273 13.7	S16 34.5	347 19.7	N10 53.8	1 48.5	N13 42.8	141 39.9	N 1 09.1
	4	165 31.0	288 13.5	S16 35.1	2 22.0	N10 53.8	16 51.1	N13 42.9	156 42.2	N 1 09.1
W	5	180 33.5	303 13.4	S16 35.7	17 24.3	N10 53.9	31 53.8	N13 43.0	171 44.6	N 1 09.2
E										
D	6	195 36.0	318 13.2	S16 36.3	32 26.6	N10 53.9	46 56.4	N13 43.0	186 47.0	N 1 09.2
N	7	210 38.4	333 13.0	S16 36.8	47 28.9	N10 53.9	61 59.1	N13 43.1	201 49.3	N 1 09.3
E	8	225 40.9	348 12.9	S16 37.4	62 31.2	N10 53.9	77 01.7	N13 43.2	216 51.7	N 1 09.3
S	9	240 43.4	3 12.7	S16 38.0	77 33.5	N10 54.0	92 04.3	N13 43.3	231 54.1	N 1 09.4
D	10	255 45.8	18 12.5	S16 38.6	92 35.8	N10 54.0	107 07.0	N13 43.3	246 56.4	N 1 09.4
A	11	270 48.3	33 12.4	S16 39.1	107 38.1	N10 54.0	122 09.6	N13 43.4	261 58.8	N 1 09.5
Y										
	12	285 50.8	48 12.2	S16 39.7	122 40.4	N10 54.1	137 12.3	N13 43.5	277 01.1	N 1 09.6
	13	300 53.2	63 12.0	S16 40.3	137 42.7	N10 54.1	152 14.9	N13 43.6	292 03.5	N 1 09.6
	14	315 55.7	78 11.8	S16 40.9	152 45.0	N10 54.1	167 17.6	N13 43.6	307 05.9	N 1 09.7
	15	330 58.2	93 11.7	S16 41.4	167 47.4	N10 54.2	182 20.2	N13 43.7	322 08.2	N 1 09.7
	16	346 00.6	108 11.5	S16 42.0	182 49.7	N10 54.2	197 22.9	N13 43.8	337 10.6	N 1 09.8
	17	1 03.1	123 11.3	S16 42.6	197 52.0	N10 54.2	212 25.5	N13 43.9	352 12.9	N 1 09.8
	18	16 05.5	138 11.2	S16 43.2	212 54.3	N10 54.3	227 28.2	N13 43.9	7 15.3	N 1 09.9
	19	31 08.0	153 11.0	S16 43.7	227 56.6	N10 54.3	242 30.8	N13 44.0	22 17.6	N 1 09.9
	20	46 10.5	168 10.8	S16 44.3	242 59.0	N10 54.4	257 33.5	N13 44.1	37 20.0	N 1 10.0
	21	61 12.9	183 10.6	S16 44.9	258 01.3	N10 54.4	272 36.1	N13 44.2	52 22.4	N 1 10.1
	22	76 15.4	198 10.4	S16 45.4	273 03.6	N10 54.4	287 38.8	N13 44.2	67 24.7	N 1 10.1
	23	91 17.9	213 10.3	S16 46.0	288 05.9	N10 54.5	302 41.4	N13 44.3	82 27.1	N 1 10.2
			v -0.1	d 0.6	v 2.3	d 0.0	v 2.6	d 0.1	v 2.4	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
4 0	178 50.9	S22 45.9	225 06.2	10.9	S25 26.5	5.9	54.4	Acamar	315 10.3	S40 11.9
1	193 50.7	S22 45.7	239 36.0	10.9	S25 32.3	5.8	54.4	Achernar	335 18.8	S57 06.2
2	208 50.4	S22 45.4	254 05.9	10.8	S25 37.9	5.6	54.4	Acrux	172 58.2	S63 14.7
3	223 50.1	S22 45.2	268 35.7	10.8	S25 43.5	5.5	54.4	Adhara	255 04.2	S29 00.5
4	238 49.8	S22 44.9	283 05.4	10.8	S25 48.9	5.4	54.4	Albireo	67 03.1	N28 01.0
M 5	253 49.5	S22 44.6	297 35.1	10.7	S25 54.1	5.3	54.4			
O								Aldebaran	290 37.4	N16 33.9
N 6	268 49.2	S22 44.4	312 04.8	10.7	S25 59.3	5.1	54.4	Alioth	166 11.5	N55 48.5
D 7	283 48.9	S22 44.1	326 34.5	10.6	S26 04.3	5.0	54.4	Alkaid	152 50.8	N49 10.3
A 8	298 48.7	S22 43.9	341 04.1	10.6	S26 09.2	4.9	54.3	Al Na-ir	27 31.1	S46 50.0
Y 9	313 48.4	S22 43.6	355 33.7	10.6	S26 13.9	4.8	54.3	Alnilam	275 35.7	S 1 11.1
10	328 48.1	S22 43.3	10 03.2	10.5	S26 18.6	4.6	54.3			
11	343 47.8	S22 43.1	24 32.7	10.5	S26 23.1	4.5	54.3	Alphard	217 45.8	S 8 46.6
								Alphecca	126 02.6	N26 37.2
12	358 47.5	S22 42.8	39 02.2	10.5	S26 27.5	4.4	54.3	Alpheratz	357 33.1	N29 14.6
13	13 47.2	S22 42.5	53 31.7	10.5	S26 31.7	4.3	54.3	Altair	61 58.7	N 8 56.4
14	28 46.9	S22 42.3	68 01.1	10.4	S26 35.8	4.1	54.3	Ankaa	353 05.6	S42 09.8
15	43 46.7	S22 42.0	82 30.5	10.4	S26 39.8	4.0	54.3			
16	58 46.4	S22 41.8	96 59.8	10.4	S26 43.7	3.9	54.3	Antares	112 14.1	S26 29.5
17	73 46.1	S22 41.5	111 29.2	10.3	S26 47.4	3.7	54.2	Arcturus	145 46.5	N19 02.3
								Atria	107 07.4	S69 04.4
18	88 45.8	S22 41.2	125 58.5	10.3	S26 51.0	3.6	54.2	Avior	234 13.4	S59 35.7
19	103 45.5	S22 40.9	140 27.8	10.3	S26 54.5	3.5	54.2	Bellatrix	278 20.8	N 6 22.5
20	118 45.2	S22 40.7	154 57.0	10.3	S26 57.9	3.3	54.2			
21	133 45.0	S22 40.4	169 26.3	10.2	S27 01.1	3.2	54.2	Betelgeuse	270 50.0	N 7 24.7
22	148 44.7	S22 40.1	183 55.5	10.2	S27 04.2	3.1	54.2	Canopus	263 51.1	S52 42.6
23	163 44.4	S22 39.9	198 24.7	10.2	S27 07.1	3.0	54.2	Capella	280 19.0	N46 01.6
5 0	178 44.1	S22 39.6	212 53.9	10.2	S27 10.0	2.8	54.2	Castor	245 54.5	N31 49.7
1	193 43.8	S22 39.3	227 23.0	10.2	S27 12.6	2.7	54.2	Deneb	49 25.1	N45 22.7
2	208 43.6	S22 39.0	241 52.2	10.1	S27 15.2	2.6	54.2			
3	223 43.3	S22 38.8	256 21.3	10.1	S27 17.6	2.4	54.1	Denebola	182 23.2	N14 25.1
4	238 43.0	S22 38.5	270 50.4	10.1	S27 19.9	2.3	54.1	Diphda	348 45.7	S17 50.3
T 5	253 42.7	S22 38.2	285 19.5	10.1	S27 22.1	2.2	54.1	Dubhe	193 38.6	N61 35.9
U								Elnath	277 59.5	N28 37.8
E 6	268 42.4	S22 37.9	299 48.6	10.1	S27 24.1	2.0	54.1	Eltanin	90 42.0	N51 28.9
S 7	283 42.1	S22 37.7	314 17.7	10.1	S27 26.0	1.9	54.1	Enif	33 37.4	N 9 60.0
D 8	298 41.9	S22 37.4	328 46.7	10.1	S27 27.8	1.8	54.1	Fomalhaut	15 12.9	S29 28.9
A 9	313 41.6	S22 37.1	343 15.8	10.0	S27 29.4	1.6	54.1	Gacrux	171 49.8	S57 15.7
Y 10	328 41.3	S22 36.8	357 44.8	10.0	S27 30.9	1.5	54.1	Gienah	175 41.8	S17 41.5
11	343 41.0	S22 36.5	12 13.8	10.0	S27 32.3	1.4	54.1	Hadar	148 33.9	S60 30.0
12	358 40.7	S22 36.3	26 42.8	10.0	S27 33.5	1.2	54.1	Hamal	327 49.2	N23 35.6
13	13 40.5	S22 36.0	41 11.9	10.0	S27 34.6	1.1	54.1	Kaus Austr.	83 30.8	S34 22.3
14	28 40.2	S22 35.7	55 40.9	10.0	S27 35.5	1.0	54.1	Kochab	137 20.6	N74 02.3
15	43 39.9	S22 35.4	70 09.9	10.0	S27 36.4	0.8	54.1	Markab	13 28.4	N15 21.1
16	58 39.6	S22 35.1	84 38.9	10.0	S27 37.0	0.7	54.1	Menkar	314 04.2	N 4 11.8
17	73 39.3	S22 34.8	99 07.9	10.0	S27 37.6	0.6	54.0			
								Menkent	147 55.8	S36 30.1
18	88 39.1	S22 34.5	113 36.9	10.0	S27 38.0	0.4	54.0	Miaplacidus	221 37.0	S69 49.5
19	103 38.8	S22 34.3	128 05.9	10.0	S27 38.3	0.3	54.0	Mirfak	308 25.6	N49 57.7
20	118 38.5	S22 34.0	142 34.9	10.0	S27 38.5	0.2	54.0	Nunki	75 46.1	S26 15.8
21	133 38.2	S22 33.7	157 03.9	10.0	S27 38.5	0.0	54.0	Peacock	53 03.6	S56 39.0
22	148 38.0	S22 33.4	171 33.0	10.0	S27 38.4	0.1	54.0			
23	163 37.7	S22 33.1	186 02.0	10.0	S27 38.1	0.2	54.0	Polaris	315 41.9	N89 22.4
6 0	178 37.4	S22 32.8	200 31.0	10.0	S27 37.7	0.4	54.0	Pollux	243 14.9	N27 57.6
1	193 37.1	S22 32.5	215 00.1	10.0	S27 37.2	0.5	54.0	Procyon	244 48.8	N 5 09.3
2	208 36.8	S22 32.2	229 29.1	10.1	S27 36.6	0.6	54.0	Rasalhague	95 57.4	N12 32.4
3	223 36.6	S22 31.9	243 58.2	10.1	S27 35.8	0.8	54.0	Regulus	207 32.4	N11 50.0
4	238 36.3	S22 31.6	258 27.2	10.1	S27 34.9	0.9	54.0			
W 5	253 36.0	S22 31.3	272 56.3	10.1	S27 33.8	1.0	54.0	Rigel	281 02.0	S 8 10.2
E								Rigil Kent	139 38.5	S60 56.6
D 6	268 35.7	S22 31.0	287 25.4	10.1	S27 32.6	1.2	54.0	Sabik	102 01.2	S15 45.5
N 7	283 35.5	S22 30.7	301 54.6	10.1	S27 31.3	1.3	54.0	Schedar	349 29.2	N56 41.4
E 8	298 35.2	S22 30.4	316 23.7	10.1	S27 29.9	1.4	54.0	Shaula	96 08.5	S37 07.4
S 9	313 34.9	S22 30.2	330 52.8	10.2	S27 28.3	1.6	54.0	Sirius	258 24.4	S16 45.2
D 10	328 34.6	S22 29.9	345 22.0	10.2	S27 26.6	1.7	54.0	Spica	158 20.6	S11 18.2
A 11	343 34.4	S22 29.6	359 51.2	10.2	S27 24.7	1.8	54.0	Suhail	222 44.7	S43 32.4
Y								Vega	80 32.5	N38 48.4
12	358 34.1	S22 29.3	14 20.4	10.2	S27 22.8	2.0	54.0	Zuben-ubi	136 55.3	S16 09.3
13	13 33.8	S22 28.9	28 49.7	10.2	S27 20.7	2.1	54.0			
14	28 33.5	S22 28.6	43 18.9	10.3	S27 18.4	2.2	54.0			
15	43 33.3	S22 28.3	57 48.2	10.3	S27 16.1	2.4	53.9			
16	58 33.0	S22 28.0	72 17.5	10.3	S27 13.6	2.5	53.9			
17	73 32.7	S22 27.7	86 46.9	10.3	S27 10.9	2.6	53.9			
18	88 32.4	S22 27.4	101 16.2	10.4	S27 08.2	2.8	53.9			
19	103 32.2	S22 27.1	115 45.6	10.4	S27 05.3	2.9	53.9			
20	118 31.9	S22 26.8	130 15.0	10.4	S27 02.3	3.0	53.9			
21	133 31.6	S22 26.5	144 44.5	10.5	S26 59.1	3.1	53.9			
22	148 31.3	S22 26.2	159 14.0	10.5	S26 55.8	3.3	53.9			
23	163 31.1	S22 25.9	173 43.5	10.5	S26 52.4	3.4	53.9			
	S.D. 16.3	d 0.3	S.D.	14.8	14.7	14.7				

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 20.3	228 10.1	S16 46.6	303 08.3	N10 54.5	317 44.1	N13 44.4	97 29.4	N 1 10.2
	1	121 22.8	243 09.9	S16 47.1	318 10.6	N10 54.5	332 46.7	N13 44.5	112 31.8	N 1 10.3
	2	136 25.3	258 09.7	S16 47.7	333 12.9	N10 54.6	347 49.4	N13 44.5	127 34.2	N 1 10.3
	3	151 27.7	273 09.5	S16 48.3	348 15.2	N10 54.6	2 52.0	N13 44.6	142 36.5	N 1 10.4
	4	166 30.2	288 09.4	S16 48.9	3 17.6	N10 54.7	17 54.7	N13 44.7	157 38.9	N 1 10.5
T	5	181 32.7	303 09.2	S16 49.4	18 19.9	N10 54.7	32 57.3	N13 44.8	172 41.2	N 1 10.5
H										
U	6	196 35.1	318 09.0	S16 50.0	33 22.2	N10 54.8	47 60.0	N13 44.8	187 43.6	N 1 10.6
R	7	211 37.6	333 08.8	S16 50.6	48 24.6	N10 54.8	63 02.6	N13 44.9	202 45.9	N 1 10.6
S	8	226 40.0	348 08.6	S16 51.1	63 26.9	N10 54.8	78 05.3	N13 45.0	217 48.3	N 1 10.7
D	9	241 42.5	3 08.4	S16 51.7	78 29.2	N10 54.9	93 07.9	N13 45.1	232 50.7	N 1 10.7
A	10	256 45.0	18 08.2	S16 52.3	93 31.6	N10 54.9	108 10.6	N13 45.1	247 53.0	N 1 10.8
Y	11	271 47.4	33 08.1	S16 52.8	108 33.9	N10 55.0	123 13.2	N13 45.2	262 55.4	N 1 10.9
	12	286 49.9	48 07.9	S16 53.4	123 36.3	N10 55.0	138 15.9	N13 45.3	277 57.7	N 1 10.9
	13	301 52.4	63 07.7	S16 54.0	138 38.6	N10 55.1	153 18.5	N13 45.4	293 00.1	N 1 11.0
	14	316 54.8	78 07.5	S16 54.5	153 40.9	N10 55.1	168 21.2	N13 45.4	308 02.4	N 1 11.0
	15	331 57.3	93 07.3	S16 55.1	168 43.3	N10 55.1	183 23.9	N13 45.5	323 04.8	N 1 11.1
	16	346 59.8	108 07.1	S16 55.7	183 45.6	N10 55.2	198 26.5	N13 45.6	338 07.1	N 1 11.1
	17	2 02.2	123 06.9	S16 56.2	198 48.0	N10 55.2	213 29.2	N13 45.7	353 09.5	N 1 11.2
	18	17 04.7	138 06.7	S16 56.8	213 50.3	N10 55.3	228 31.8	N13 45.8	8 11.9	N 1 11.3
	19	32 07.1	153 06.5	S16 57.4	228 52.7	N10 55.3	243 34.5	N13 45.8	23 14.2	N 1 11.3
	20	47 09.6	168 06.3	S16 57.9	243 55.0	N10 55.4	258 37.1	N13 45.9	38 16.6	N 1 11.4
	21	62 12.1	183 06.1	S16 58.5	258 57.4	N10 55.4	273 39.8	N13 46.0	53 18.9	N 1 11.4
	22	77 14.5	198 05.9	S16 59.1	273 59.7	N10 55.5	288 42.4	N13 46.1	68 21.3	N 1 11.5
	23	92 17.0	213 05.7	S16 59.6	289 02.1	N10 55.5	303 45.1	N13 46.1	83 23.6	N 1 11.5
8	0	107 19.5	228 05.5	S17 00.2	304 04.4	N10 55.6	318 47.8	N13 46.2	98 26.0	N 1 11.6
	1	122 21.9	243 05.3	S17 00.7	319 06.8	N10 55.6	333 50.4	N13 46.3	113 28.3	N 1 11.7
	2	137 24.4	258 05.1	S17 01.3	334 09.1	N10 55.7	348 53.1	N13 46.4	128 30.7	N 1 11.7
	3	152 26.9	273 04.9	S17 01.9	349 11.5	N10 55.7	3 55.7	N13 46.4	143 33.0	N 1 11.8
	4	167 29.3	288 04.7	S17 02.4	4 13.9	N10 55.8	18 58.4	N13 46.5	158 35.4	N 1 11.8
F	5	182 31.8	303 04.5	S17 03.0	19 16.2	N10 55.8	34 01.0	N13 46.6	173 37.7	N 1 11.9
R										
I	6	197 34.3	318 04.3	S17 03.6	34 18.6	N10 55.9	49 03.7	N13 46.7	188 40.1	N 1 12.0
D	7	212 36.7	333 04.1	S17 04.1	49 20.9	N10 56.0	64 06.4	N13 46.8	203 42.5	N 1 12.0
A	8	227 39.2	348 03.9	S17 04.7	64 23.3	N10 56.0	79 09.0	N13 46.8	218 44.8	N 1 12.1
Y	9	242 41.6	3 03.7	S17 05.2	79 25.7	N10 56.1	94 11.7	N13 46.9	233 47.2	N 1 12.1
	10	257 44.1	18 03.5	S17 05.8	94 28.0	N10 56.1	109 14.3	N13 47.0	248 49.5	N 1 12.2
	11	272 46.6	33 03.3	S17 06.4	109 30.4	N10 56.2	124 17.0	N13 47.1	263 51.9	N 1 12.2
	12	287 49.0	48 03.0	S17 06.9	124 32.8	N10 56.2	139 19.7	N13 47.2	278 54.2	N 1 12.3
	13	302 51.5	63 02.8	S17 07.5	139 35.1	N10 56.3	154 22.3	N13 47.2	293 56.6	N 1 12.4
	14	317 54.0	78 02.6	S17 08.0	154 37.5	N10 56.3	169 25.0	N13 47.3	308 58.9	N 1 12.4
	15	332 56.4	93 02.4	S17 08.6	169 39.9	N10 56.4	184 27.6	N13 47.4	324 01.3	N 1 12.5
	16	347 58.9	108 02.2	S17 09.1	184 42.3	N10 56.5	199 30.3	N13 47.5	339 03.6	N 1 12.5
	17	3 01.4	123 02.0	S17 09.7	199 44.6	N10 56.5	214 33.0	N13 47.5	354 06.0	N 1 12.6
	18	18 03.8	138 01.8	S17 10.3	214 47.0	N10 56.6	229 35.6	N13 47.6	9 08.3	N 1 12.7
	19	33 06.3	153 01.6	S17 10.8	229 49.4	N10 56.6	244 38.3	N13 47.7	24 10.7	N 1 12.7
	20	48 08.8	168 01.3	S17 11.4	244 51.8	N10 56.7	259 41.0	N13 47.8	39 13.0	N 1 12.8
	21	63 11.2	183 01.1	S17 11.9	259 54.1	N10 56.8	274 43.6	N13 47.9	54 15.4	N 1 12.8
	22	78 13.7	198 00.9	S17 12.5	274 56.5	N10 56.8	289 46.3	N13 47.9	69 17.7	N 1 12.9
	23	93 16.1	213 00.7	S17 13.0	289 58.9	N10 56.9	304 48.9	N13 48.0	84 20.1	N 1 13.0
9	0	108 18.6	228 00.5	S17 13.6	305 01.3	N10 57.0	319 51.6	N13 48.1	99 22.4	N 1 13.0
	1	123 21.1	243 00.2	S17 14.2	320 03.7	N10 57.0	334 54.3	N13 48.2	114 24.8	N 1 13.1
	2	138 23.5	258 00.0	S17 14.7	335 06.1	N10 57.1	349 56.9	N13 48.3	129 27.1	N 1 13.1
	3	153 26.0	272 59.8	S17 15.3	350 08.5	N10 57.1	4 59.6	N13 48.3	144 29.5	N 1 13.2
	4	168 28.5	287 59.6	S17 15.8	5 10.8	N10 57.2	20 02.3	N13 48.4	159 31.8	N 1 13.3
S	5	183 30.9	302 59.3	S17 16.4	20 13.2	N10 57.3	35 04.9	N13 48.5	174 34.2	N 1 13.3
A										
T	6	198 33.4	317 59.1	S17 16.9	35 15.6	N10 57.3	50 07.6	N13 48.6	189 36.5	N 1 13.4
U	7	213 35.9	332 58.9	S17 17.5	50 18.0	N10 57.4	65 10.3	N13 48.7	204 38.9	N 1 13.4
R	8	228 38.3	347 58.7	S17 18.0	65 20.4	N10 57.5	80 12.9	N13 48.7	219 41.2	N 1 13.5
D	9	243 40.8	2 58.4	S17 18.6	80 22.8	N10 57.5	95 15.6	N13 48.8	234 43.6	N 1 13.6
A	10	258 43.3	17 58.2	S17 19.1	95 25.2	N10 57.6	110 18.3	N13 48.9	249 45.9	N 1 13.6
Y	11	273 45.7	32 58.0	S17 19.7	110 27.6	N10 57.7	125 20.9	N13 49.0	264 48.3	N 1 13.7
	12	288 48.2	47 57.7	S17 20.2	125 30.0	N10 57.7	140 23.6	N13 49.1	279 50.6	N 1 13.7
	13	303 50.6	62 57.5	S17 20.8	140 32.4	N10 57.8	155 26.3	N13 49.1	294 53.0	N 1 13.8
	14	318 53.1	77 57.3	S17 21.3	155 34.8	N10 57.9	170 28.9	N13 49.2	309 55.3	N 1 13.9
	15	333 55.6	92 57.1	S17 21.9	170 37.2	N10 57.9	185 31.6	N13 49.3	324 57.7	N 1 13.9
	16	348 58.0	107 56.8	S17 22.4	185 39.6	N10 58.0	200 34.3	N13 49.4	340 00.0	N 1 14.0
	17	4 00.5	122 56.6	S17 23.0	200 42.0	N10 58.1	215 36.9	N13 49.5	355 02.4	N 1 14.0
	18	19 03.0	137 56.3	S17 23.5	215 44.4	N10 58.2	230 39.6	N13 49.6	10 04.7	N 1 14.1
	19	34 05.4	152 56.1	S17 24.1	230 46.8	N10 58.2	245 42.3	N13 49.6	25 07.1	N 1 14.2
	20	49 07.9	167 55.9	S17 24.6	245 49.2	N10 58.3	260 44.9	N13 49.7	40 09.4	N 1 14.2
	21	64 10.4	182 55.6	S17 25.2	260 51.6	N10 58.4	275 47.6	N13 49.8	55 11.7	N 1 14.3
	22	79 12.8	197 55.4	S17 25.7	275 54.0	N10 58.5	290 50.3	N13 49.9	70 14.1	N 1 14.3
	23	94 15.3	212 55.2	S17 26.3	290 56.5	N10 58.5	305 52.9	N13 50.0	85 16.4	N 1 14.4
			v -0.2	d 0.6	v 2.4	d 0.1	v 2.7	d 0.1	v 2.4	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 30.8	S22 25.6	188 13.1	10.6	S26 48.9	3.5	53.9
1	193 30.5	S22 25.3	202 42.7	10.6	S26 45.3	3.7	53.9
2	208 30.2	S22 25.0	217 12.3	10.6	S26 41.5	3.8	53.9
3	223 30.0	S22 24.6	231 42.0	10.7	S26 37.6	3.9	53.9
4	238 29.7	S22 24.3	246 11.7	10.7	S26 33.5	4.0	53.9
T 5	253 29.4	S22 24.0	260 41.4	10.7	S26 29.4	4.2	53.9
H							
U 6	268 29.2	S22 23.7	275 11.2	10.8	S26 25.1	4.3	53.9
R 7	283 28.9	S22 23.4	289 41.0	10.8	S26 20.7	4.4	53.9
S 8	298 28.6	S22 23.1	304 10.9	10.9	S26 16.1	4.5	53.9
D 9	313 28.3	S22 22.8	318 40.8	10.9	S26 11.5	4.7	53.9
A 10	328 28.1	S22 22.4	333 10.8	11.0	S26 06.7	4.8	53.9
Y 11	343 27.8	S22 22.1	347 40.7	11.0	S26 01.8	4.9	53.9
12	358 27.5	S22 21.8	2 10.8	11.0	S25 56.8	5.0	53.9
13	13 27.3	S22 21.5	16 40.9	11.1	S25 51.7	5.1	53.9
14	28 27.0	S22 21.2	31 11.0	11.1	S25 46.4	5.3	53.9
15	43 26.7	S22 20.8	45 41.2	11.2	S25 41.0	5.4	53.9
16	58 26.5	S22 20.5	60 11.4	11.2	S25 35.5	5.5	53.9
17	73 26.2	S22 20.2	74 41.7	11.3	S25 29.9	5.6	53.9
18	88 25.9	S22 19.9	89 12.0	11.3	S25 24.2	5.7	53.9
19	103 25.6	S22 19.5	103 42.4	11.4	S25 18.3	5.9	53.9
20	118 25.4	S22 19.2	118 12.8	11.4	S25 12.4	6.0	53.9
21	133 25.1	S22 18.9	132 43.3	11.5	S25 06.3	6.1	53.9
22	148 24.8	S22 18.6	147 13.8	11.5	S25 00.1	6.2	53.9
23	163 24.6	S22 18.2	161 44.4	11.6	S24 53.8	6.3	53.9
8 0	178 24.3	S22 17.9	176 15.0	11.6	S24 47.3	6.4	53.9
1	193 24.0	S22 17.6	190 45.7	11.7	S24 40.8	6.5	53.9
2	208 23.8	S22 17.3	205 16.5	11.7	S24 34.1	6.6	54.0
3	223 23.5	S22 16.9	219 47.2	11.8	S24 27.4	6.8	54.0
4	238 23.2	S22 16.6	234 18.1	11.8	S24 20.5	6.9	54.0
F 5	253 23.0	S22 16.3	248 49.0	11.9	S24 13.5	7.0	54.0
R							
I 6	268 22.7	S22 15.9	263 20.0	12.0	S24 06.4	7.1	54.0
D 7	283 22.4	S22 15.6	277 51.0	12.0	S23 59.2	7.2	54.0
A 8	298 22.2	S22 15.3	292 22.0	12.1	S23 51.9	7.3	54.0
Y 9	313 21.9	S22 14.9	306 53.2	12.1	S23 44.5	7.4	54.0
10	328 21.6	S22 14.6	321 24.3	12.2	S23 37.0	7.5	54.0
11	343 21.4	S22 14.2	335 55.6	12.2	S23 29.4	7.6	54.0
12	358 21.1	S22 13.9	350 26.9	12.3	S23 21.6	7.7	54.0
13	13 20.8	S22 13.6	4 58.2	12.3	S23 13.8	7.8	54.0
14	28 20.6	S22 13.2	19 29.6	12.4	S23 05.9	7.9	54.0
15	43 20.3	S22 12.9	34 01.1	12.5	S22 57.8	8.0	54.0
16	58 20.1	S22 12.6	48 32.6	12.5	S22 49.7	8.1	54.0
17	73 19.8	S22 12.2	63 04.2	12.6	S22 41.4	8.2	54.0
18	88 19.5	S22 11.9	77 35.8	12.6	S22 33.1	8.3	54.0
19	103 19.3	S22 11.5	92 07.5	12.7	S22 24.7	8.4	54.0
20	118 19.0	S22 11.2	106 39.3	12.8	S22 16.1	8.5	54.0
21	133 18.7	S22 10.8	121 11.1	12.8	S22 07.5	8.6	54.0
22	148 18.5	S22 10.5	135 42.9	12.9	S21 58.7	8.7	54.0
23	163 18.2	S22 10.1	150 14.9	12.9	S21 49.9	8.8	54.0
9 0	178 17.9	S22 09.8	164 46.9	13.0	S21 41.0	8.9	54.0
1	193 17.7	S22 09.5	179 18.9	13.0	S21 32.0	9.0	54.0
2	208 17.4	S22 09.1	193 51.0	13.1	S21 22.9	9.1	54.1
3	223 17.2	S22 08.8	208 23.2	13.2	S21 13.6	9.2	54.1
4	238 16.9	S22 08.4	222 55.4	13.2	S21 04.3	9.3	54.1
S 5	253 16.6	S22 08.1	237 27.6	13.3	S20 55.0	9.4	54.1
A							
T 6	268 16.4	S22 07.7	251 60.0	13.3	S20 45.5	9.5	54.1
U 7	283 16.1	S22 07.4	266 32.4	13.4	S20 35.9	9.6	54.1
R 8	298 15.9	S22 07.0	281 04.8	13.4	S20 26.2	9.7	54.1
D 9	313 15.6	S22 06.6	295 37.3	13.5	S20 16.5	9.7	54.1
A 10	328 15.3	S22 06.3	310 09.9	13.6	S20 06.7	9.8	54.1
Y 11	343 15.1	S22 05.9	324 42.5	13.6	S19 56.7	9.9	54.1
12	358 14.8	S22 05.6	339 15.2	13.7	S19 46.7	10.0	54.1
13	13 14.6	S22 05.2	353 47.9	13.7	S19 36.7	10.1	54.1
14	28 14.3	S22 04.9	8 20.7	13.8	S19 26.5	10.2	54.1
15	43 14.0	S22 04.5	22 53.5	13.8	S19 16.2	10.3	54.1
16	58 13.8	S22 04.2	37 26.4	13.9	S19 05.9	10.3	54.2
17	73 13.5	S22 03.8	51 59.4	13.9	S18 55.5	10.4	54.2
18	88 13.3	S22 03.4	66 32.4	14.0	S18 45.0	10.5	54.2
19	103 13.0	S22 03.1	81 05.4	14.1	S18 34.4	10.6	54.2
20	118 12.7	S22 02.7	95 38.5	14.1	S18 23.7	10.7	54.2
21	133 12.5	S22 02.3	110 11.7	14.2	S18 13.0	10.7	54.2
22	148 12.2	S22 02.0	124 44.9	14.2	S18 02.2	10.8	54.2
23	163 12.0	S22 01.6	139 18.2	14.3	S17 51.3	10.9	54.2
	S.D. 16.3	d 0.3	S.D. 14.7	14.7		14.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.9
Achernar	335 18.9	S57 06.2
Acrux	172 58.1	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 11.4	N55 48.4
Alkaid	152 50.8	N49 10.3
Al Na-ir	27 31.1	S46 50.0
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.6	N26 37.2
Alpheratz	357 33.2	N29 14.6
Altair	61 58.7	N 8 56.4
Ankaa	353 05.6	S42 09.8
Antares	112 14.1	S26 29.5
Arcturus	145 46.5	N19 02.3
Atria	107 07.4	S69 04.4
Avior	234 13.4	S59 35.7
Bellatrix	278 20.8	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.1	S52 42.6
Capella	280 19.0	N46 01.6
Castor	245 54.5	N31 49.7
Deneb	49 25.1	N45 22.7
Denebola	182 23.1	N14 25.1
Diphda	348 45.7	S17 50.3
Dubhe	193 38.6	N61 35.9
Elnath	277 59.4	N28 37.8
Eltanin	90 42.0	N51 28.9
Enif	33 37.4	N 9 60.0
Fomalhaut	15 12.9	S29 28.9
Gacrux	171 49.7	S57 15.7
Gienah	175 41.8	S17 41.5
Hadar	148 33.9	S60 30.0
Hamal	327 49.2	N23 35.6
Kaus Austr.	83 30.7	S34 22.3
Kochab	137 20.6	N74 02.3
Markab	13 28.4	N15 21.1
Menkar	314 04.2	N 4 11.8
Menkent	147 55.8	S36 30.1
Miaplacidus	221 37.0	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 42.9	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.7	N 5 09.3
Rasalhague	95 57.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.0	S 8 10.2
Rigil Kent	139 38.4	S60 56.6
Sabik	102 01.2	S15 45.5
Schedar	349 29.2	N56 41.4
Shaula	96 08.5	S37 07.4
Sirius	258 24.4	S16 45.2
Spica	158 20.6	S11 18.2
Suhail	222 44.7	S43 32.4
Vega	80 32.5	N38 48.4
Zuben-ubi	136 55.2	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 ° '
10	0	109 17.8	227 54.9	S17 26.8	305 58.9	N10 58.6	320 55.6	N13 50.0	100 18.8	N 1 14.5
	1	124 20.2	242 54.7	S17 27.4	321 01.3	N10 58.7	335 58.3	N13 50.1	115 21.1	N 1 14.5
	2	139 22.7	257 54.4	S17 27.9	336 03.7	N10 58.8	351 01.0	N13 50.2	130 23.5	N 1 14.6
	3	154 25.1	272 54.2	S17 28.4	351 06.1	N10 58.8	6 03.6	N13 50.3	145 25.8	N 1 14.7
	4	169 27.6	287 53.9	S17 29.0	6 08.5	N10 58.9	21 06.3	N13 50.4	160 28.2	N 1 14.7
S	5	184 30.1	302 53.7	S17 29.5	21 11.0	N10 59.0	36 09.0	N13 50.5	175 30.5	N 1 14.8
U										
N	6	199 32.5	317 53.5	S17 30.1	36 13.4	N10 59.1	51 11.6	N13 50.5	190 32.9	N 1 14.8
D	7	214 35.0	332 53.2	S17 30.6	51 15.8	N10 59.1	66 14.3	N13 50.6	205 35.2	N 1 14.9
A	8	229 37.5	347 53.0	S17 31.2	66 18.2	N10 59.2	81 17.0	N13 50.7	220 37.6	N 1 15.0
Y	9	244 39.9	2 52.7	S17 31.7	81 20.6	N10 59.3	96 19.7	N13 50.8	235 39.9	N 1 15.0
	10	259 42.4	17 52.5	S17 32.2	96 23.1	N10 59.4	111 22.3	N13 50.9	250 42.2	N 1 15.1
	11	274 44.9	32 52.2	S17 32.8	111 25.5	N10 59.5	126 25.0	N13 51.0	265 44.6	N 1 15.1
	12	289 47.3	47 52.0	S17 33.3	126 27.9	N10 59.5	141 27.7	N13 51.0	280 46.9	N 1 15.2
	13	304 49.8	62 51.7	S17 33.9	141 30.4	N10 59.6	156 30.4	N13 51.1	295 49.3	N 1 15.3
	14	319 52.2	77 51.5	S17 34.4	156 32.8	N10 59.7	171 33.0	N13 51.2	310 51.6	N 1 15.3
	15	334 54.7	92 51.2	S17 35.0	171 35.2	N10 59.8	186 35.7	N13 51.3	325 54.0	N 1 15.4
	16	349 57.2	107 51.0	S17 35.5	186 37.7	N10 59.9	201 38.4	N13 51.4	340 56.3	N 1 15.5
	17	4 59.6	122 50.7	S17 36.0	201 40.1	N10 59.9	216 41.1	N13 51.5	355 58.7	N 1 15.5
	18	20 02.1	137 50.5	S17 36.6	216 42.5	N11 00.0	231 43.7	N13 51.5	11 01.0	N 1 15.6
	19	35 04.6	152 50.2	S17 37.1	231 45.0	N11 00.1	246 46.4	N13 51.6	26 03.3	N 1 15.6
	20	50 07.0	167 49.9	S17 37.6	246 47.4	N11 00.2	261 49.1	N13 51.7	41 05.7	N 1 15.7
	21	65 09.5	182 49.7	S17 38.2	261 49.8	N11 00.3	276 51.8	N13 51.8	56 08.0	N 1 15.8
	22	80 12.0	197 49.4	S17 38.7	276 52.3	N11 00.4	291 54.4	N13 51.9	71 10.4	N 1 15.8
	23	95 14.4	212 49.2	S17 39.3	291 54.7	N11 00.4	306 57.1	N13 52.0	86 12.7	N 1 15.9
11	0	110 16.9	227 48.9	S17 39.8	306 57.2	N11 00.5	321 59.8	N13 52.0	101 15.1	N 1 16.0
	1	125 19.4	242 48.7	S17 40.3	321 59.6	N11 00.6	337 02.5	N13 52.1	116 17.4	N 1 16.0
	2	140 21.8	257 48.4	S17 40.9	337 02.1	N11 00.7	352 05.1	N13 52.2	131 19.7	N 1 16.1
	3	155 24.3	272 48.1	S17 41.4	352 04.5	N11 00.8	7 07.8	N13 52.3	146 22.1	N 1 16.1
	4	170 26.7	287 47.9	S17 41.9	7 06.9	N11 00.9	22 10.5	N13 52.4	161 24.4	N 1 16.2
M	5	185 29.2	302 47.6	S17 42.5	22 09.4	N11 01.0	37 13.2	N13 52.5	176 26.8	N 1 16.3
O										
N	6	200 31.7	317 47.3	S17 43.0	37 11.8	N11 01.1	52 15.9	N13 52.5	191 29.1	N 1 16.3
D	7	215 34.1	332 47.1	S17 43.5	52 14.3	N11 01.2	67 18.5	N13 52.6	206 31.5	N 1 16.4
A	8	230 36.6	347 46.8	S17 44.1	67 16.8	N11 01.2	82 21.2	N13 52.7	221 33.8	N 1 16.5
Y	9	245 39.1	2 46.5	S17 44.6	82 19.2	N11 01.3	97 23.9	N13 52.8	236 36.1	N 1 16.5
	10	260 41.5	17 46.3	S17 45.1	97 21.7	N11 01.4	112 26.6	N13 52.9	251 38.5	N 1 16.6
	11	275 44.0	32 46.0	S17 45.7	112 24.1	N11 01.5	127 29.2	N13 53.0	266 40.8	N 1 16.6
	12	290 46.5	47 45.7	S17 46.2	127 26.6	N11 01.6	142 31.9	N13 53.1	281 43.2	N 1 16.7
	13	305 48.9	62 45.5	S17 46.7	142 29.0	N11 01.7	157 34.6	N13 53.1	296 45.5	N 1 16.8
	14	320 51.4	77 45.2	S17 47.3	157 31.5	N11 01.8	172 37.3	N13 53.2	311 47.8	N 1 16.8
	15	335 53.9	92 44.9	S17 47.8	172 34.0	N11 01.9	187 40.0	N13 53.3	326 50.2	N 1 16.9
	16	350 56.3	107 44.6	S17 48.3	187 36.4	N11 02.0	202 42.7	N13 53.4	341 52.5	N 1 17.0
	17	5 58.8	122 44.4	S17 48.8	202 38.9	N11 02.1	217 45.3	N13 53.5	356 54.9	N 1 17.0
	18	21 01.2	137 44.1	S17 49.4	217 41.4	N11 02.2	232 48.0	N13 53.6	11 57.2	N 1 17.1
	19	36 03.7	152 43.8	S17 49.9	232 43.8	N11 02.3	247 50.7	N13 53.6	26 59.5	N 1 17.2
	20	51 06.2	167 43.6	S17 50.4	247 46.3	N11 02.4	262 53.4	N13 53.7	42 01.9	N 1 17.2
	21	66 08.6	182 43.3	S17 51.0	262 48.8	N11 02.5	277 56.1	N13 53.8	57 04.2	N 1 17.3
	22	81 11.1	197 43.0	S17 51.5	277 51.2	N11 02.6	292 58.7	N13 53.9	72 06.6	N 1 17.3
	23	96 13.6	212 42.7	S17 52.0	292 53.7	N11 02.7	308 01.4	N13 54.0	87 08.9	N 1 17.4
12	0	111 16.0	227 42.4	S17 52.5	307 56.2	N11 02.8	323 04.1	N13 54.1	102 11.2	N 1 17.5
	1	126 18.5	242 42.2	S17 53.1	322 58.6	N11 02.9	338 06.8	N13 54.2	117 13.6	N 1 17.5
	2	141 21.0	257 41.9	S17 53.6	338 01.1	N11 03.0	353 09.5	N13 54.2	132 15.9	N 1 17.6
	3	156 23.4	272 41.6	S17 54.1	353 03.6	N11 03.1	8 12.2	N13 54.3	147 18.2	N 1 17.7
	4	171 25.9	287 41.3	S17 54.6	8 06.1	N11 03.2	23 14.8	N13 54.4	162 20.6	N 1 17.7
T	5	186 28.4	302 41.0	S17 55.2	23 08.6	N11 03.3	38 17.5	N13 54.5	177 22.9	N 1 17.8
U										
E	6	201 30.8	317 40.8	S17 55.7	38 11.0	N11 03.4	53 20.2	N13 54.6	192 25.3	N 1 17.9
S	7	216 33.3	332 40.5	S17 56.2	53 13.5	N11 03.5	68 22.9	N13 54.7	207 27.6	N 1 17.9
D	8	231 35.7	347 40.2	S17 56.7	68 16.0	N11 03.6	83 25.6	N13 54.8	222 29.9	N 1 18.0
A	9	246 38.2	2 39.9	S17 57.3	83 18.5	N11 03.7	98 28.3	N13 54.9	237 32.3	N 1 18.1
Y	10	261 40.7	17 39.6	S17 57.8	98 21.0	N11 03.8	113 31.0	N13 54.9	252 34.6	N 1 18.1
	11	276 43.1	32 39.3	S17 58.3	113 23.5	N11 03.9	128 33.6	N13 55.0	267 37.0	N 1 18.2
	12	291 45.6	47 39.0	S17 58.8	128 26.0	N11 04.0	143 36.3	N13 55.1	282 39.3	N 1 18.3
	13	306 48.1	62 38.8	S17 59.3	143 28.4	N11 04.1	158 39.0	N13 55.2	297 41.6	N 1 18.3
	14	321 50.5	77 38.5	S17 59.9	158 30.9	N11 04.2	173 41.7	N13 55.3	312 44.0	N 1 18.4
	15	336 53.0	92 38.2	S18 00.4	173 33.4	N11 04.3	188 44.4	N13 55.4	327 46.3	N 1 18.4
	16	351 55.5	107 37.9	S18 00.9	188 35.9	N11 04.4	203 47.1	N13 55.5	342 48.6	N 1 18.5
	17	6 57.9	122 37.6	S18 01.4	203 38.4	N11 04.5	218 49.8	N13 55.6	357 51.0	N 1 18.6
	18	22 00.4	137 37.3	S18 01.9	218 40.9	N11 04.6	233 52.4	N13 55.6	12 53.3	N 1 18.6
	19	37 02.8	152 37.0	S18 02.5	233 43.4	N11 04.7	248 55.1	N13 55.7	27 55.6	N 1 18.7
	20	52 05.3	167 36.7	S18 03.0	248 45.9	N11 04.8	263 57.8	N13 55.8	42 58.0	N 1 18.8
	21	67 07.8	182 36.4	S18 03.5	263 48.4	N11 04.9	279 00.5	N13 55.9	58 00.3	N 1 18.8
	22	82 10.2	197 36.1	S18 04.0	278 50.9	N11 05.1	294 03.2	N13 56.0	73 02.7	N 1 18.9
	23	97 12.7	212 35.8	S18 04.5	293 53.4	N11 05.2	309 05.9	N13 56.1	88 05.0	N 1 19.0
			v -0.3	d 0.5	v 2.5	d 0.1	v 2.7	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 '
10	0	178 11.7	S22 01.3	153 51.5	14.3	S17 40.3	11.0	54.2
	1	193 11.5	S22 00.9	168 24.9	14.4	S17 29.3	11.0	54.2
	2	208 11.2	S22 00.5	182 58.3	14.4	S17 18.2	11.1	54.2
	3	223 10.9	S22 00.2	197 31.7	14.5	S17 07.0	11.2	54.3
	4	238 10.7	S21 59.8	212 05.3	14.5	S16 55.7	11.3	54.3
S	5	253 10.4	S21 59.4	226 38.8	14.6	S16 44.4	11.3	54.3
U								
N	6	268 10.2	S21 59.1	241 12.5	14.6	S16 33.0	11.4	54.3
D	7	283 09.9	S21 58.7	255 46.1	14.7	S16 21.5	11.5	54.3
A	8	298 09.7	S21 58.3	270 19.8	14.7	S16 10.0	11.5	54.3
Y	9	313 09.4	S21 57.9	284 53.6	14.8	S15 58.4	11.6	54.3
	10	328 09.2	S21 57.6	299 27.4	14.8	S15 46.7	11.7	54.3
	11	343 08.9	S21 57.2	314 01.3	14.9	S15 34.9	11.7	54.3
	12	358 08.7	S21 56.8	328 35.2	14.9	S15 23.1	11.8	54.4
	13	13 08.4	S21 56.4	343 09.1	14.9	S15 11.3	11.9	54.4
	14	28 08.1	S21 56.1	357 43.1	15.0	S14 59.3	11.9	54.4
	15	43 07.9	S21 55.7	12 17.1	15.0	S14 47.3	12.0	54.4
	16	58 07.6	S21 55.3	26 51.2	15.1	S14 35.3	12.1	54.4
	17	73 07.4	S21 54.9	41 25.3	15.1	S14 23.1	12.1	54.4
	18	88 07.1	S21 54.6	55 59.5	15.2	S14 11.0	12.2	54.4
	19	103 06.9	S21 54.2	70 33.6	15.2	S13 58.7	12.2	54.4
	20	118 06.6	S21 53.8	85 07.9	15.2	S13 46.4	12.3	54.5
	21	133 06.4	S21 53.4	99 42.2	15.3	S13 34.0	12.4	54.5
	22	148 06.1	S21 53.0	114 16.5	15.3	S13 21.6	12.4	54.5
	23	163 05.9	S21 52.7	128 50.8	15.3	S13 09.1	12.5	54.5
11	0	178 05.6	S21 52.3	143 25.2	15.4	S12 56.6	12.5	54.5
	1	193 05.4	S21 51.9	157 59.6	15.4	S12 44.0	12.6	54.5
	2	208 05.1	S21 51.5	172 34.1	15.5	S12 31.4	12.6	54.5
	3	223 04.9	S21 51.1	187 08.6	15.5	S12 18.7	12.7	54.5
	4	238 04.6	S21 50.7	201 43.1	15.5	S12 05.9	12.8	54.6
M	5	253 04.4	S21 50.4	216 17.6	15.6	S11 53.1	12.8	54.6
O								
N	6	268 04.1	S21 50.0	230 52.2	15.6	S11 40.3	12.9	54.6
D	7	283 03.9	S21 49.6	245 26.8	15.6	S11 27.4	12.9	54.6
A	8	298 03.6	S21 49.2	260 01.5	15.6	S11 14.4	13.0	54.6
Y	9	313 03.4	S21 48.8	274 36.2	15.7	S11 01.4	13.0	54.6
	10	328 03.1	S21 48.4	289 10.9	15.7	S10 48.3	13.1	54.6
	11	343 02.9	S21 48.0	303 45.6	15.7	S10 35.2	13.1	54.7
	12	358 02.6	S21 47.6	318 20.4	15.8	S10 22.1	13.1	54.7
	13	13 02.4	S21 47.2	332 55.1	15.8	S10 08.9	13.2	54.7
	14	28 02.1	S21 46.9	347 30.0	15.8	S 9 55.7	13.2	54.7
	15	43 01.9	S21 46.5	2 04.8	15.8	S 9 42.4	13.3	54.7
	16	58 01.7	S21 46.1	16 39.6	15.9	S 9 29.1	13.3	54.7
	17	73 01.4	S21 45.7	31 14.5	15.9	S 9 15.7	13.4	54.8
	18	88 01.2	S21 45.3	45 49.4	15.9	S 9 02.3	13.4	54.8
	19	103 00.9	S21 44.9	60 24.3	15.9	S 8 48.8	13.5	54.8
	20	118 00.7	S21 44.5	74 59.3	15.9	S 8 35.3	13.5	54.8
	21	133 00.4	S21 44.1	89 34.2	16.0	S 8 21.8	13.5	54.8
	22	148 00.2	S21 43.7	104 09.2	16.0	S 8 08.2	13.6	54.8
	23	162 59.9	S21 43.3	118 44.2	16.0	S 7 54.6	13.6	54.9
12	0	177 59.7	S21 42.9	133 19.2	16.0	S 7 41.0	13.6	54.9
	1	192 59.4	S21 42.5	147 54.2	16.0	S 7 27.3	13.7	54.9
	2	207 59.2	S21 42.1	162 29.2	16.0	S 7 13.6	13.7	54.9
	3	222 59.0	S21 41.7	177 04.3	16.0	S 6 59.8	13.8	54.9
	4	237 58.7	S21 41.3	191 39.3	16.1	S 6 46.0	13.8	55.0
T	5	252 58.5	S21 40.9	206 14.4	16.1	S 6 32.2	13.8	55.0
U								
E	6	267 58.2	S21 40.5	220 49.5	16.1	S 6 18.3	13.9	55.0
S	7	282 58.0	S21 40.1	235 24.6	16.1	S 6 04.4	13.9	55.0
D	8	297 57.7	S21 39.7	249 59.6	16.1	S 5 50.5	13.9	55.0
A	9	312 57.5	S21 39.2	264 34.7	16.1	S 5 36.6	14.0	55.0
Y	10	327 57.3	S21 38.8	279 09.8	16.1	S 5 22.6	14.0	55.1
	11	342 57.0	S21 38.4	293 44.9	16.1	S 5 08.6	14.0	55.1
	12	357 56.8	S21 38.0	308 20.0	16.1	S 4 54.5	14.0	55.1
	13	12 56.5	S21 37.6	322 55.1	16.1	S 4 40.5	14.1	55.1
	14	27 56.3	S21 37.2	337 30.3	16.1	S 4 26.4	14.1	55.1
	15	42 56.1	S21 36.8	352 05.4	16.1	S 4 12.2	14.1	55.2
	16	57 55.8	S21 36.4	6 40.5	16.1	S 3 58.1	14.1	55.2
	17	72 55.6	S21 36.0	21 15.6	16.1	S 3 43.9	14.2	55.2
	18	87 55.3	S21 35.6	35 50.7	16.1	S 3 29.7	14.2	55.2
	19	102 55.1	S21 35.1	50 25.8	16.1	S 3 15.5	14.2	55.3
	20	117 54.9	S21 34.7	65 00.8	16.1	S 3 01.3	14.2	55.3
	21	132 54.6	S21 34.3	79 35.9	16.1	S 2 47.0	14.3	55.3
	22	147 54.4	S21 33.9	94 11.0	16.1	S 2 32.7	14.3	55.3
	23	162 54.1	S21 33.5	108 46.1	16.1	S 2 18.4	14.3	55.3
		S.D. 16.3	d 0.4	S.D.	14.8	14.9	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.9
Achernar	335 18.9	S57 06.2
Acrux	172 58.1	S63 14.7
Adhara	255 04.2	S29 00.6
Albireo	67 03.1	N28 00.9
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.4	N55 48.4
Alkaid	152 50.8	N49 10.3
Al Na-ir	27 31.1	S46 49.9
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.5	N26 37.2
Alpheratz	357 33.2	N29 14.6
Altair	61 58.7	N 8 56.3
Ankaa	353 05.6	S42 09.8
Antares	112 14.1	S26 29.5
Arcturus	145 46.5	N19 02.3
Atria	107 07.4	S69 04.4
Avior	234 13.4	S59 35.7
Bellatrix	278 20.8	N 6 22.4
Betelgeuse	270 49.9	N 7 24.7
Canopus	263 51.1	S52 42.7
Capella	280 19.0	N46 01.6
Castor	245 54.5	N31 49.7
Deneb	49 25.1	N45 22.7
Denebola	182 23.1	N14 25.1
Diphda	348 45.7	S17 50.4
Dubhe	193 38.5	N61 35.9
Elnath	277 59.4	N28 37.8
Eltanin	90 41.9	N51 28.9
Enif	33 37.4	N 9 60.0
Fomalhaut	15 12.9	S29 28.9
Gacrux	171 49.7	S57 15.7
Gienah	175 41.8	S17 41.5
Hadar	148 33.8	S60 30.0
Hamal	327 49.3	N23 35.6
Kaus Austr.	83 30.7	S34 22.3
Kochab	137 20.5	N74 02.2
Markab	13 28.4	N15 21.1
Menkar	314 04.2	N 4 11.8
Menkent	147 55.8	S36 30.1
Miaplacidus	221 37.0	S69 49.6
Mirfak	308 25.6	N49 57.7
Nunki	75 46.1	S26 15.8
Peacock	53 03.6	S56 39.0
Polaris	315 44.1	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.7	N 5 09.3
Rasalhague	95 57.3	N12 32.3
Regulus	207 32.4	N11 50.0
Rigel	281 02.0	S 8 10.3
Rigil Kent	139 38.4	S60 56.6
Sabik	102 01.2	S15 45.5
Schedar	349 29.2	N56 41.4
Shaula	96 08.5	S37 07.4
Sirius	258 24.4	S16 45.2
Spica	158 20.6	S11 18.2
Suhail	222 44.6	S43 32.4
Vega	80 32.5	N38 48.4
Zuben-ubi	136 55.2	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 ° '
13	0	112 15.2	227 35.5	S18 05.0	308 55.9	N11 05.3	324 08.6	N13 56.2	103 07.3	N 1 19.0
	1	127 17.6	242 35.2	S18 05.5	323 58.4	N11 05.4	339 11.3	N13 56.3	118 09.7	N 1 19.1
	2	142 20.1	257 34.9	S18 06.1	339 00.9	N11 05.5	354 14.0	N13 56.3	133 12.0	N 1 19.2
	3	157 22.6	272 34.6	S18 06.6	354 03.4	N11 05.6	9 16.6	N13 56.4	148 14.3	N 1 19.2
	4	172 25.0	287 34.3	S18 07.1	9 05.9	N11 05.7	24 19.3	N13 56.5	163 16.7	N 1 19.3
W	5	187 27.5	302 34.0	S18 07.6	24 08.5	N11 05.8	39 22.0	N13 56.6	178 19.0	N 1 19.4
E										
D	6	202 30.0	317 33.7	S18 08.1	39 11.0	N11 05.9	54 24.7	N13 56.7	193 21.3	N 1 19.4
N	7	217 32.4	332 33.4	S18 08.6	54 13.5	N11 06.1	69 27.4	N13 56.8	208 23.7	N 1 19.5
E	8	232 34.9	347 33.1	S18 09.1	69 16.0	N11 06.2	84 30.1	N13 56.9	223 26.0	N 1 19.6
S	9	247 37.3	2 32.8	S18 09.6	84 18.5	N11 06.3	99 32.8	N13 57.0	238 28.3	N 1 19.6
D	10	262 39.8	17 32.5	S18 10.2	99 21.0	N11 06.4	114 35.5	N13 57.0	253 30.7	N 1 19.7
A	11	277 42.3	32 32.2	S18 10.7	114 23.5	N11 06.5	129 38.2	N13 57.1	268 33.0	N 1 19.8
Y										
	12	292 44.7	47 31.9	S18 11.2	129 26.1	N11 06.6	144 40.9	N13 57.2	283 35.3	N 1 19.8
	13	307 47.2	62 31.6	S18 11.7	144 28.6	N11 06.8	159 43.6	N13 57.3	298 37.7	N 1 19.9
	14	322 49.7	77 31.3	S18 12.2	159 31.1	N11 06.9	174 46.3	N13 57.4	313 40.0	N 1 20.0
	15	337 52.1	92 31.0	S18 12.7	174 33.6	N11 07.0	189 48.9	N13 57.5	328 42.3	N 1 20.0
	16	352 54.6	107 30.7	S18 13.2	189 36.2	N11 07.1	204 51.6	N13 57.6	343 44.7	N 1 20.1
	17	7 57.1	122 30.4	S18 13.7	204 38.7	N11 07.2	219 54.3	N13 57.7	358 47.0	N 1 20.2
	18	22 59.5	137 30.0	S18 14.2	219 41.2	N11 07.3	234 57.0	N13 57.8	13 49.3	N 1 20.2
	19	38 02.0	152 29.7	S18 14.7	234 43.7	N11 07.5	249 59.7	N13 57.8	28 51.7	N 1 20.3
	20	53 04.5	167 29.4	S18 15.2	249 46.3	N11 07.6	265 02.4	N13 57.9	43 54.0	N 1 20.4
	21	68 06.9	182 29.1	S18 15.7	264 48.8	N11 07.7	280 05.1	N13 58.0	58 56.3	N 1 20.4
	22	83 09.4	197 28.8	S18 16.2	279 51.3	N11 07.8	295 07.8	N13 58.1	73 58.7	N 1 20.5
	23	98 11.8	212 28.5	S18 16.7	294 53.9	N11 07.9	310 10.5	N13 58.2	89 01.0	N 1 20.6
14	0	113 14.3	227 28.2	S18 17.2	309 56.4	N11 08.1	325 13.2	N13 58.3	104 03.3	N 1 20.6
	1	128 16.8	242 27.8	S18 17.8	324 58.9	N11 08.2	340 15.9	N13 58.4	119 05.7	N 1 20.7
	2	143 19.2	257 27.5	S18 18.3	340 01.5	N11 08.3	355 18.6	N13 58.5	134 08.0	N 1 20.8
	3	158 21.7	272 27.2	S18 18.8	355 04.0	N11 08.4	10 21.3	N13 58.6	149 10.3	N 1 20.8
	4	173 24.2	287 26.9	S18 19.3	10 06.5	N11 08.6	25 24.0	N13 58.7	164 12.6	N 1 20.9
T	5	188 26.6	302 26.6	S18 19.8	25 09.1	N11 08.7	40 26.7	N13 58.7	179 15.0	N 1 21.0
H										
U	6	203 29.1	317 26.3	S18 20.3	40 11.6	N11 08.8	55 29.4	N13 58.8	194 17.3	N 1 21.0
R	7	218 31.6	332 25.9	S18 20.8	55 14.2	N11 08.9	70 32.1	N13 58.9	209 19.6	N 1 21.1
S	8	233 34.0	347 25.6	S18 21.3	70 16.7	N11 09.1	85 34.8	N13 59.0	224 22.0	N 1 21.2
D	9	248 36.5	2 25.3	S18 21.8	85 19.3	N11 09.2	100 37.5	N13 59.1	239 24.3	N 1 21.2
A	10	263 38.9	17 25.0	S18 22.3	100 21.8	N11 09.3	115 40.2	N13 59.2	254 26.6	N 1 21.3
Y	11	278 41.4	32 24.6	S18 22.8	115 24.4	N11 09.4	130 42.9	N13 59.3	269 29.0	N 1 21.4
	12	293 43.9	47 24.3	S18 23.3	130 26.9	N11 09.6	145 45.6	N13 59.4	284 31.3	N 1 21.4
	13	308 46.3	62 24.0	S18 23.7	145 29.5	N11 09.7	160 48.3	N13 59.5	299 33.6	N 1 21.5
	14	323 48.8	77 23.7	S18 24.2	160 32.0	N11 09.8	175 51.0	N13 59.6	314 35.9	N 1 21.6
	15	338 51.3	92 23.3	S18 24.7	175 34.6	N11 10.0	190 53.6	N13 59.7	329 38.3	N 1 21.6
	16	353 53.7	107 23.0	S18 25.2	190 37.1	N11 10.1	205 56.3	N13 59.7	344 40.6	N 1 21.7
	17	8 56.2	122 22.7	S18 25.7	205 39.7	N11 10.2	220 59.0	N13 59.8	359 42.9	N 1 21.8
	18	23 58.7	137 22.4	S18 26.2	220 42.2	N11 10.4	236 01.7	N13 59.9	14 45.3	N 1 21.8
	19	39 01.1	152 22.0	S18 26.7	235 44.8	N11 10.5	251 04.4	N14 00.0	29 47.6	N 1 21.9
	20	54 03.6	167 21.7	S18 27.2	250 47.4	N11 10.6	266 07.1	N14 00.1	44 49.9	N 1 22.0
	21	69 06.1	182 21.4	S18 27.7	265 49.9	N11 10.8	281 09.8	N14 00.2	59 52.3	N 1 22.1
	22	84 08.5	197 21.0	S18 28.2	280 52.5	N11 10.9	296 12.5	N14 00.3	74 54.6	N 1 22.1
	23	99 11.0	212 20.7	S18 28.7	295 55.0	N11 11.0	311 15.2	N14 00.4	89 56.9	N 1 22.2
15	0	114 13.4	227 20.4	S18 29.2	310 57.6	N11 11.2	326 17.9	N14 00.5	104 59.2	N 1 22.3
	1	129 15.9	242 20.0	S18 29.7	326 00.2	N11 11.3	341 20.7	N14 00.6	120 01.6	N 1 22.3
	2	144 18.4	257 19.7	S18 30.2	341 02.7	N11 11.4	356 23.4	N14 00.7	135 03.9	N 1 22.4
	3	159 20.8	272 19.4	S18 30.7	356 05.3	N11 11.6	11 26.1	N14 00.7	150 06.2	N 1 22.5
	4	174 23.3	287 19.0	S18 31.1	11 07.9	N11 11.7	26 28.8	N14 00.8	165 08.5	N 1 22.5
F	5	189 25.8	302 18.7	S18 31.6	26 10.5	N11 11.8	41 31.5	N14 00.9	180 10.9	N 1 22.6
R										
I	6	204 28.2	317 18.3	S18 32.1	41 13.0	N11 12.0	56 34.2	N14 01.0	195 13.2	N 1 22.7
D	7	219 30.7	332 18.0	S18 32.6	56 15.6	N11 12.1	71 36.9	N14 01.1	210 15.5	N 1 22.7
A	8	234 33.2	347 17.7	S18 33.1	71 18.2	N11 12.2	86 39.6	N14 01.2	225 17.9	N 1 22.8
Y	9	249 35.6	2 17.3	S18 33.6	86 20.8	N11 12.4	101 42.3	N14 01.3	240 20.2	N 1 22.9
	10	264 38.1	17 17.0	S18 34.1	101 23.3	N11 12.5	116 45.0	N14 01.4	255 22.5	N 1 22.9
	11	279 40.5	32 16.6	S18 34.5	116 25.9	N11 12.7	131 47.7	N14 01.5	270 24.8	N 1 23.0
	12	294 43.0	47 16.3	S18 35.0	131 28.5	N11 12.8	146 50.4	N14 01.6	285 27.2	N 1 23.1
	13	309 45.5	62 16.0	S18 35.5	146 31.1	N11 12.9	161 53.1	N14 01.7	300 29.5	N 1 23.2
	14	324 47.9	77 15.6	S18 36.0	161 33.7	N11 13.1	176 55.8	N14 01.8	315 31.8	N 1 23.2
	15	339 50.4	92 15.3	S18 36.5	176 36.3	N11 13.2	191 58.5	N14 01.9	330 34.1	N 1 23.3
	16	354 52.9	107 14.9	S18 37.0	191 38.8	N11 13.4	207 01.2	N14 01.9	345 36.5	N 1 23.4
	17	9 55.3	122 14.6	S18 37.5	206 41.4	N11 13.5	222 03.9	N14 02.0	0 38.8	N 1 23.4
	18	24 57.8	137 14.2	S18 37.9	221 44.0	N11 13.7	237 06.6	N14 02.1	15 41.1	N 1 23.5
	19	40 00.3	152 13.9	S18 38.4	236 46.6	N11 13.8	252 09.3	N14 02.2	30 43.4	N 1 23.6
	20	55 02.7	167 13.5	S18 38.9	251 49.2	N11 13.9	267 12.0	N14 02.3	45 45.8	N 1 23.6
	21	70 05.2	182 13.2	S18 39.4	266 51.8	N11 14.1	282 14.7	N14 02.4	60 48.1	N 1 23.7
	22	85 07.7	197 12.8	S18 39.9	281 54.4	N11 14.2	297 17.4	N14 02.5	75 50.4	N 1 23.8
	23	100 10.1	212 12.5	S18 40.3	296 57.0	N11 14.4	312 20.1	N14 02.6	90 52.7	N 1 23.9
			v -0.3	d 0.5	v 2.6	d 0.1	v 2.7	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
	° '	° '	° '	'	° '	'	'		° '	° '
13 0	177 53.9	S21 33.1	123 21.1	16.1	S 2 04.1	14.3	55.4	Acamar	315 10.3	S40 12.0
1	192 53.7	S21 32.6	137 56.1	16.0	S 1 49.7	14.3	55.4	Achernar	335 18.9	S57 06.2
2	207 53.4	S21 32.2	152 31.2	16.0	S 1 35.4	14.4	55.4	Acrux	172 58.0	S63 14.7
3	222 53.2	S21 31.8	167 06.2	16.0	S 1 21.0	14.4	55.4	Adhara	255 04.2	S29 00.6
4	237 53.0	S21 31.4	181 41.2	16.0	S 1 06.6	14.4	55.5	Albireo	67 03.1	N28 00.9
W 5	252 52.7	S21 31.0	196 16.2	16.0	S 0 52.2	14.4	55.5			
E								Aldebaran	290 37.4	N16 33.9
D 6	267 52.5	S21 30.5	210 51.1	16.0	S 0 37.8	14.4	55.5	Alioth	166 11.4	N55 48.4
N 7	282 52.2	S21 30.1	225 26.1	15.9	S 0 23.3	14.4	55.5	Alkaid	152 50.7	N49 10.3
E 8	297 52.0	S21 29.7	240 01.0	15.9	S 0 08.9	14.5	55.6	Al Na-ir	27 31.1	S46 49.9
S 9	312 51.8	S21 29.3	254 35.9	15.9	N 0 05.6	14.5	55.6	Alnilam	275 35.7	S 1 11.1
D 10	327 51.5	S21 28.8	269 10.8	15.9	N 0 20.1	14.5	55.6			
A 11	342 51.3	S21 28.4	283 45.6	15.9	N 0 34.5	14.5	55.6	Alphard	217 45.8	S 8 46.6
Y								Alphecca	126 02.5	N26 37.2
12	357 51.1	S21 28.0	298 20.5	15.8	N 0 49.0	14.5	55.7	Alpheratz	357 33.2	N29 14.6
13	12 50.8	S21 27.6	312 55.3	15.8	N 1 03.5	14.5	55.7	Altair	61 58.7	N 8 56.3
14	27 50.6	S21 27.1	327 30.0	15.8	N 1 18.0	14.5	55.7	Ankaa	353 05.6	S42 09.8
15	42 50.4	S21 26.7	342 04.8	15.7	N 1 32.6	14.5	55.7			
16	57 50.1	S21 26.3	356 39.5	15.7	N 1 47.1	14.5	55.8	Antares	112 14.1	S26 29.5
17	72 49.9	S21 25.9	11 14.2	15.7	N 2 01.6	14.5	55.8	Arcturus	145 46.5	N19 02.3
								Atria	107 07.3	S69 04.4
18	87 49.7	S21 25.4	25 48.8	15.7	N 2 16.2	14.5	55.8	Avior	234 13.4	S59 35.7
19	102 49.4	S21 25.0	40 23.5	15.6	N 2 30.7	14.5	55.8	Bellatrix	278 20.8	N 6 22.4
20	117 49.2	S21 24.6	54 58.1	15.6	N 2 45.2	14.5	55.9			
21	132 49.0	S21 24.1	69 32.6	15.6	N 2 59.8	14.5	55.9	Betelgeuse	270 50.0	N 7 24.7
22	147 48.7	S21 23.7	84 07.1	15.5	N 3 14.3	14.5	55.9	Canopus	263 51.1	S52 42.7
23	162 48.5	S21 23.3	98 41.6	15.5	N 3 28.9	14.5	55.9	Capella	280 19.0	N46 01.6
14 0	177 48.3	S21 22.8	113 16.0	15.4	N 3 43.4	14.5	56.0	Castor	245 54.5	N31 49.7
1	192 48.0	S21 22.4	127 50.4	15.4	N 3 58.0	14.5	56.0	Deneb	49 25.1	N45 22.7
2	207 47.8	S21 22.0	142 24.8	15.4	N 4 12.5	14.5	56.0			
3	222 47.6	S21 21.5	156 59.1	15.3	N 4 27.0	14.5	56.1	Denebola	182 23.1	N14 25.1
4	237 47.4	S21 21.1	171 33.3	15.3	N 4 41.6	14.5	56.1	Diphda	348 45.7	S17 50.4
T 5	252 47.1	S21 20.6	186 07.6	15.2	N 4 56.1	14.5	56.1	Dubhe	193 38.5	N61 35.9
H								Elnath	277 59.5	N28 37.8
U 6	267 46.9	S21 20.2	200 41.7	15.2	N 5 10.6	14.5	56.1	Eltanin	90 41.9	N51 28.9
R 7	282 46.7	S21 19.8	215 15.8	15.1	N 5 25.1	14.5	56.2	Enif	33 37.4	N 9 60.0
S 8	297 46.4	S21 19.3	229 49.9	15.1	N 5 39.7	14.5	56.2	Fomalhaut	15 12.9	S29 28.9
D 9	312 46.2	S21 18.9	244 23.9	15.0	N 5 54.2	14.5	56.2	Gacrux	171 49.7	S57 15.7
A 10	327 46.0	S21 18.4	258 57.9	15.0	N 6 08.7	14.5	56.3	Gienah	175 41.8	S17 41.5
Y 11	342 45.8	S21 18.0	273 31.8	14.9	N 6 23.1	14.5	56.3	Hadar	148 33.8	S60 30.0
12	357 45.5	S21 17.6	288 05.7	14.9	N 6 37.6	14.5	56.3	Hamal	327 49.3	N23 35.6
13	12 45.3	S21 17.1	302 39.5	14.8	N 6 52.1	14.5	56.3	Kaus Austr.	83 30.7	S34 22.3
14	27 45.1	S21 16.7	317 13.2	14.7	N 7 06.5	14.4	56.4	Kochab	137 20.5	N74 02.2
15	42 44.8	S21 16.2	331 46.9	14.7	N 7 20.9	14.4	56.4	Markab	13 28.4	N15 21.1
16	57 44.6	S21 15.8	346 20.5	14.6	N 7 35.3	14.4	56.4	Menkar	314 04.2	N 4 11.8
17	72 44.4	S21 15.3	0 54.0	14.6	N 7 49.7	14.4	56.5			
								Menkent	147 55.7	S36 30.1
18	87 44.2	S21 14.9	15 27.5	14.5	N 8 04.1	14.4	56.5	Miaplacidus	221 37.0	S69 49.6
19	102 43.9	S21 14.4	30 01.0	14.4	N 8 18.5	14.4	56.5	Mirfak	308 25.6	N49 57.7
20	117 43.7	S21 14.0	44 34.3	14.4	N 8 32.8	14.3	56.6	Nunki	75 46.1	S26 15.8
21	132 43.5	S21 13.5	59 07.6	14.3	N 8 47.1	14.3	56.6	Peacock	53 03.6	S56 39.0
22	147 43.3	S21 13.1	73 40.8	14.2	N 9 01.4	14.3	56.6			
23	162 43.0	S21 12.6	88 14.0	14.2	N 9 15.7	14.3	56.7	Polaris	315 45.2	N89 22.4
15 0	177 42.8	S21 12.2	102 47.1	14.1	N 9 29.9	14.2	56.7	Pollux	243 14.9	N27 57.6
1	192 42.6	S21 11.7	117 20.1	14.0	N 9 44.2	14.2	56.7	Procyon	244 48.7	N 5 09.3
2	207 42.4	S21 11.3	131 53.0	13.9	N 9 58.4	14.2	56.7	Rasalhague	95 57.3	N12 32.3
3	222 42.1	S21 10.8	146 25.9	13.9	N10 12.5	14.2	56.8	Regulus	207 32.4	N11 50.0
4	237 41.9	S21 10.4	160 58.6	13.8	N10 26.7	14.1	56.8	Rigel	281 02.0	S 8 10.3
F 5	252 41.7	S21 09.9	175 31.4	13.7	N10 40.8	14.1	56.8	Rigil Kent	139 38.3	S60 56.6
R								Sabik	102 01.2	S15 45.6
I 6	267 41.5	S21 09.4	190 04.0	13.6	N10 54.9	14.1	56.9	Schedar	349 29.2	N56 41.4
D 7	282 41.3	S21 09.0	204 36.5	13.5	N11 08.9	14.0	56.9	Shaula	96 08.5	S37 07.4
A 8	297 41.0	S21 08.5	219 09.0	13.5	N11 22.9	14.0	56.9			
Y 9	312 40.8	S21 08.1	233 41.3	13.4	N11 36.9	14.0	57.0	Sirius	258 24.4	S16 45.2
10	327 40.6	S21 07.6	248 13.6	13.3	N11 50.9	13.9	57.0	Spica	158 20.5	S11 18.2
11	342 40.4	S21 07.2	262 45.8	13.2	N12 04.8	13.9	57.0	Suhail	222 44.6	S43 32.5
								Vega	80 32.5	N38 48.4
12	357 40.1	S21 06.7	277 18.0	13.1	N12 18.6	13.9	57.1	Zuben-ubi	136 55.2	S16 09.3
13	12 39.9	S21 06.2	291 50.0	13.0	N12 32.5	13.8	57.1			
14	27 39.7	S21 05.8	306 21.9	12.9	N12 46.2	13.8	57.1			
15	42 39.5	S21 05.3	320 53.8	12.8	N12 60.0	13.7	57.2			
16	57 39.3	S21 04.9	335 25.5	12.7	N13 13.7	13.7	57.2			
17	72 39.1	S21 04.4	349 57.2	12.7	N13 27.4	13.7	57.3			
18	87 38.8	S21 03.9	4 28.7	12.6	N13 41.0	13.6	57.3			
19	102 38.6	S21 03.5	19 00.2	12.5	N13 54.5	13.6	57.3			
20	117 38.4	S21 03.0	33 31.5	12.4	N14 08.0	13.5	57.4			
21	132 38.2	S21 02.5	48 02.8	12.3	N14 21.5	13.5	57.4			
22	147 38.0	S21 02.1	62 34.0	12.2	N14 34.9	13.4	57.4			
23	162 37.7	S21 01.6	77 05.0	12.1	N14 48.3	13.4	57.5			
	S.D. 16.3	d 0.4	S.D.	15.2	15.3	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 ° '
16	0	115 12.6	227 12.1	S18 40.8	311 59.6	N11 14.5	327 22.8	N14 02.7	105 55.1	N 1 23.9
	1	130 15.0	242 11.8	S18 41.3	327 02.2	N11 14.7	342 25.6	N14 02.8	120 57.4	N 1 24.0
	2	145 17.5	257 11.4	S18 41.8	342 04.8	N11 14.8	357 28.3	N14 02.9	135 59.7	N 1 24.1
	3	160 20.0	272 11.1	S18 42.2	357 07.4	N11 15.0	12 31.0	N14 03.0	151 02.0	N 1 24.1
	4	175 22.4	287 10.7	S18 42.7	12 10.0	N11 15.1	27 33.7	N14 03.1	166 04.4	N 1 24.2
S	5	190 24.9	302 10.4	S18 43.2	27 12.6	N11 15.3	42 36.4	N14 03.2	181 06.7	N 1 24.3
A										
T	6	205 27.4	317 10.0	S18 43.7	42 15.2	N11 15.4	57 39.1	N14 03.3	196 09.0	N 1 24.3
U	7	220 29.8	332 09.7	S18 44.1	57 17.8	N11 15.6	72 41.8	N14 03.3	211 11.3	N 1 24.4
R	8	235 32.3	347 09.3	S18 44.6	72 20.4	N11 15.7	87 44.5	N14 03.4	226 13.7	N 1 24.5
D	9	250 34.8	2 09.0	S18 45.1	87 23.0	N11 15.9	102 47.2	N14 03.5	241 16.0	N 1 24.6
A	10	265 37.2	17 08.6	S18 45.6	102 25.6	N11 16.0	117 49.9	N14 03.6	256 18.3	N 1 24.6
Y	11	280 39.7	32 08.2	S18 46.0	117 28.2	N11 16.2	132 52.6	N14 03.7	271 20.6	N 1 24.7
	12	295 42.2	47 07.9	S18 46.5	132 30.8	N11 16.3	147 55.3	N14 03.8	286 22.9	N 1 24.8
	13	310 44.6	62 07.5	S18 47.0	147 33.5	N11 16.5	162 58.1	N14 03.9	301 25.3	N 1 24.8
	14	325 47.1	77 07.2	S18 47.4	162 36.1	N11 16.6	178 00.8	N14 04.0	316 27.6	N 1 24.9
	15	340 49.5	92 06.8	S18 47.9	177 38.7	N11 16.8	193 03.5	N14 04.1	331 29.9	N 1 25.0
	16	355 52.0	107 06.4	S18 48.4	192 41.3	N11 16.9	208 06.2	N14 04.2	346 32.2	N 1 25.1
	17	10 54.5	122 06.1	S18 48.9	207 43.9	N11 17.1	223 08.9	N14 04.3	1 34.6	N 1 25.1
	18	25 56.9	137 05.7	S18 49.3	222 46.5	N11 17.2	238 11.6	N14 04.4	16 36.9	N 1 25.2
	19	40 59.4	152 05.3	S18 49.8	237 49.2	N11 17.4	253 14.3	N14 04.5	31 39.2	N 1 25.3
	20	56 01.9	167 05.0	S18 50.3	252 51.8	N11 17.6	268 17.0	N14 04.6	46 41.5	N 1 25.3
	21	71 04.3	182 04.6	S18 50.7	267 54.4	N11 17.7	283 19.7	N14 04.7	61 43.8	N 1 25.4
	22	86 06.8	197 04.2	S18 51.2	282 57.0	N11 17.9	298 22.5	N14 04.8	76 46.2	N 1 25.5
	23	101 09.3	212 03.9	S18 51.7	297 59.7	N11 18.0	313 25.2	N14 04.9	91 48.5	N 1 25.5
17	0	116 11.7	227 03.5	S18 52.1	313 02.3	N11 18.2	328 27.9	N14 05.0	106 50.8	N 1 25.6
	1	131 14.2	242 03.1	S18 52.6	328 04.9	N11 18.3	343 30.6	N14 05.0	121 53.1	N 1 25.7
	2	146 16.7	257 02.8	S18 53.0	343 07.6	N11 18.5	358 33.3	N14 05.1	136 55.4	N 1 25.8
	3	161 19.1	272 02.4	S18 53.5	358 10.2	N11 18.7	13 36.0	N14 05.2	151 57.8	N 1 25.8
	4	176 21.6	287 02.0	S18 54.0	13 12.8	N11 18.8	28 38.7	N14 05.3	167 00.1	N 1 25.9
S	5	191 24.0	302 01.7	S18 54.4	28 15.5	N11 19.0	43 41.4	N14 05.4	182 02.4	N 1 26.0
U										
N	6	206 26.5	317 01.3	S18 54.9	43 18.1	N11 19.1	58 44.2	N14 05.5	197 04.7	N 1 26.1
D	7	221 29.0	332 00.9	S18 55.4	58 20.7	N11 19.3	73 46.9	N14 05.6	212 07.0	N 1 26.1
A	8	236 31.4	347 00.5	S18 55.8	73 23.4	N11 19.5	88 49.6	N14 05.7	227 09.4	N 1 26.2
Y	9	251 33.9	2 00.2	S18 56.3	88 26.0	N11 19.6	103 52.3	N14 05.8	242 11.7	N 1 26.3
	10	266 36.4	16 59.8	S18 56.7	103 28.7	N11 19.8	118 55.0	N14 05.9	257 14.0	N 1 26.3
	11	281 38.8	31 59.4	S18 57.2	118 31.3	N11 20.0	133 57.7	N14 06.0	272 16.3	N 1 26.4
	12	296 41.3	46 59.0	S18 57.7	133 33.9	N11 20.1	149 00.4	N14 06.1	287 18.6	N 1 26.5
	13	311 43.8	61 58.7	S18 58.1	148 36.6	N11 20.3	164 03.2	N14 06.2	302 21.0	N 1 26.6
	14	326 46.2	76 58.3	S18 58.6	163 39.2	N11 20.5	179 05.9	N14 06.3	317 23.3	N 1 26.6
	15	341 48.7	91 57.9	S18 59.0	178 41.9	N11 20.6	194 08.6	N14 06.4	332 25.6	N 1 26.7
	16	356 51.1	106 57.5	S18 59.5	193 44.5	N11 20.8	209 11.3	N14 06.5	347 27.9	N 1 26.8
	17	11 53.6	121 57.1	S18 59.9	208 47.2	N11 20.9	224 14.0	N14 06.6	2 30.2	N 1 26.8
	18	26 56.1	136 56.8	S19 00.4	223 49.8	N11 21.1	239 16.7	N14 06.7	17 32.6	N 1 26.9
	19	41 58.5	151 56.4	S19 00.8	238 52.5	N11 21.3	254 19.4	N14 06.8	32 34.9	N 1 27.0
	20	57 01.0	166 56.0	S19 01.3	253 55.1	N11 21.5	269 22.2	N14 06.9	47 37.2	N 1 27.1
	21	72 03.5	181 55.6	S19 01.7	268 57.8	N11 21.6	284 24.9	N14 07.0	62 39.5	N 1 27.1
	22	87 05.9	196 55.2	S19 02.2	284 00.5	N11 21.8	299 27.6	N14 07.1	77 41.8	N 1 27.2
	23	102 08.4	211 54.8	S19 02.7	299 03.1	N11 22.0	314 30.3	N14 07.2	92 44.1	N 1 27.3
18	0	117 10.9	226 54.5	S19 03.1	314 05.8	N11 22.1	329 33.0	N14 07.2	107 46.5	N 1 27.4
	1	132 13.3	241 54.1	S19 03.6	329 08.4	N11 22.3	344 35.8	N14 07.3	122 48.8	N 1 27.4
	2	147 15.8	256 53.7	S19 04.0	344 11.1	N11 22.5	359 38.5	N14 07.4	137 51.1	N 1 27.5
	3	162 18.3	271 53.3	S19 04.4	359 13.8	N11 22.6	14 41.2	N14 07.5	152 53.4	N 1 27.6
	4	177 20.7	286 52.9	S19 04.9	14 16.4	N11 22.8	29 43.9	N14 07.6	167 55.7	N 1 27.6
M	5	192 23.2	301 52.5	S19 05.3	29 19.1	N11 23.0	44 46.6	N14 07.7	182 58.0	N 1 27.7
O										
N	6	207 25.6	316 52.1	S19 05.8	44 21.8	N11 23.2	59 49.3	N14 07.8	198 00.4	N 1 27.8
D	7	222 28.1	331 51.7	S19 06.2	59 24.4	N11 23.3	74 52.1	N14 07.9	213 02.7	N 1 27.9
A	8	237 30.6	346 51.3	S19 06.7	74 27.1	N11 23.5	89 54.8	N14 08.0	228 05.0	N 1 27.9
Y	9	252 33.0	1 51.0	S19 07.1	89 29.8	N11 23.7	104 57.5	N14 08.1	243 07.3	N 1 28.0
	10	267 35.5	16 50.6	S19 07.6	104 32.4	N11 23.9	120 00.2	N14 08.2	258 09.6	N 1 28.1
	11	282 38.0	31 50.2	S19 08.0	119 35.1	N11 24.0	135 02.9	N14 08.3	273 11.9	N 1 28.2
	12	297 40.4	46 49.8	S19 08.5	134 37.8	N11 24.2	150 05.7	N14 08.4	288 14.3	N 1 28.2
	13	312 42.9	61 49.4	S19 08.9	149 40.5	N11 24.4	165 08.4	N14 08.5	303 16.6	N 1 28.3
	14	327 45.4	76 49.0	S19 09.3	164 43.1	N11 24.6	180 11.1	N14 08.6	318 18.9	N 1 28.4
	15	342 47.8	91 48.6	S19 09.8	179 45.8	N11 24.7	195 13.8	N14 08.7	333 21.2	N 1 28.5
	16	357 50.3	106 48.2	S19 10.2	194 48.5	N11 24.9	210 16.5	N14 08.8	348 23.5	N 1 28.5
	17	12 52.8	121 47.8	S19 10.7	209 51.2	N11 25.1	225 19.3	N14 08.9	3 25.8	N 1 28.6
	18	27 55.2	136 47.4	S19 11.1	224 53.9	N11 25.3	240 22.0	N14 09.0	18 28.1	N 1 28.7
	19	42 57.7	151 47.0	S19 11.5	239 56.6	N11 25.4	255 24.7	N14 09.1	33 30.5	N 1 28.7
	20	58 00.1	166 46.6	S19 12.0	254 59.2	N11 25.6	270 27.4	N14 09.2	48 32.8	N 1 28.8
	21	73 02.6	181 46.2	S19 12.4	270 01.9	N11 25.8	285 30.2	N14 09.3	63 35.1	N 1 28.9
	22	88 05.1	196 45.8	S19 12.9	285 04.6	N11 26.0	300 32.9	N14 09.4	78 37.4	N 1 29.0
	23	103 07.5	211 45.4	S19 13.3	300 07.3	N11 26.2	315 35.6	N14 09.5	93 39.7	N 1 29.0
			v -0.4	d 0.5	v 2.6	d 0.2	v 2.7	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 37.5	S21 01.1	91 36.0	12.0	N15 01.6	13.3	57.5	Acamar	315 10.3	S40 12.0
1	192 37.3	S21 00.7	106 06.8	11.9	N15 14.8	13.2	57.5	Achernar	335 18.9	S57 06.2
2	207 37.1	S21 00.2	120 37.6	11.7	N15 28.0	13.2	57.6	Acrux	172 58.0	S63 14.7
3	222 36.9	S20 59.7	135 08.2	11.6	N15 41.2	13.1	57.6	Adhara	255 04.2	S29 00.6
4	237 36.7	S20 59.2	149 38.8	11.5	N15 54.2	13.1	57.6	Albireo	67 03.1	N28 00.9
S 5	252 36.4	S20 58.8	164 09.2	11.4	N16 07.2	13.0	57.7			
A								Aldebaran	290 37.4	N16 33.9
T 6	267 36.2	S20 58.3	178 39.5	11.3	N16 20.2	12.9	57.7	Alioth	166 11.3	N55 48.4
U 7	282 36.0	S20 57.8	193 09.7	11.2	N16 33.1	12.9	57.7	Alkaid	152 50.7	N49 10.3
R 8	297 35.8	S20 57.3	207 39.8	11.1	N16 45.9	12.8	57.8	Al Na-ir	27 31.1	S46 49.9
D 9	312 35.6	S20 56.9	222 09.7	11.0	N16 58.6	12.7	57.8	Alnilam	275 35.7	S 1 11.1
A 10	327 35.4	S20 56.4	236 39.6	10.9	N17 11.3	12.7	57.9			
Y 11	342 35.2	S20 55.9	251 09.3	10.7	N17 23.9	12.6	57.9	Alphard	217 45.8	S 8 46.6
								Alphecca	126 02.5	N26 37.2
12	357 34.9	S20 55.4	265 39.0	10.6	N17 36.4	12.5	57.9	Alpheratz	357 33.2	N29 14.6
13	12 34.7	S20 55.0	280 08.5	10.5	N17 48.9	12.5	58.0	Altair	61 58.6	N 8 56.3
14	27 34.5	S20 54.5	294 37.9	10.4	N18 01.3	12.4	58.0	Ankaa	353 05.6	S42 09.8
15	42 34.3	S20 54.0	309 07.1	10.3	N18 13.6	12.3	58.0			
16	57 34.1	S20 53.5	323 36.3	10.1	N18 25.8	12.2	58.1	Antares	112 14.0	S26 29.5
17	72 33.9	S20 53.0	338 05.3	10.0	N18 38.0	12.1	58.1	Arcturus	145 46.4	N19 02.2
								Atria	107 07.3	S69 04.4
18	87 33.7	S20 52.6	352 34.2	9.9	N18 50.0	12.1	58.2	Avior	234 13.4	S59 35.8
19	102 33.5	S20 52.1	7 03.0	9.8	N19 02.0	12.0	58.2	Bellatrix	278 20.8	N 6 22.4
20	117 33.2	S20 51.6	21 31.6	9.6	N19 13.9	11.9	58.2			
21	132 33.0	S20 51.1	36 00.1	9.5	N19 25.7	11.8	58.3	Betelgeuse	270 50.0	N 7 24.7
22	147 32.8	S20 50.6	50 28.5	9.4	N19 37.4	11.7	58.3	Canopus	263 51.1	S52 42.7
23	162 32.6	S20 50.2	64 56.8	9.3	N19 49.0	11.6	58.3	Capella	280 19.0	N46 01.6
17 0	177 32.4	S20 49.7	79 24.9	9.1	N20 00.5	11.5	58.4	Castor	245 54.5	N31 49.7
1	192 32.2	S20 49.2	93 52.9	9.0	N20 12.0	11.4	58.4	Deneb	49 25.1	N45 22.6
2	207 32.0	S20 48.7	108 20.8	8.9	N20 23.3	11.3	58.5	Denebola	182 23.1	N14 25.0
3	222 31.8	S20 48.2	122 48.6	8.7	N20 34.5	11.2	58.5	Diphda	348 45.7	S17 50.4
4	237 31.6	S20 47.7	137 16.2	8.6	N20 45.7	11.1	58.5	Dubhe	193 38.5	N61 35.9
S 5	252 31.4	S20 47.2	151 43.7	8.5	N20 56.7	11.0	58.6	Elnath	277 59.5	N28 37.8
U								Eltanin	90 41.9	N51 28.9
N 6	267 31.2	S20 46.7	166 11.0	8.4	N21 07.6	10.9	58.6			
D 7	282 30.9	S20 46.2	180 38.2	8.2	N21 18.4	10.8	58.6	Enif	33 37.4	N 9 60.0
A 8	297 30.7	S20 45.8	195 05.3	8.1	N21 29.1	10.7	58.7	Fomalhaut	15 12.9	S29 28.9
Y 9	312 30.5	S20 45.3	209 32.3	8.0	N21 39.7	10.6	58.7	Gacrux	171 49.6	S57 15.7
10	327 30.3	S20 44.8	223 59.1	7.8	N21 50.2	10.5	58.8	Gienah	175 41.7	S17 41.5
11	342 30.1	S20 44.3	238 25.8	7.7	N22 00.6	10.4	58.8	Hadar	148 33.8	S60 30.0
12	357 29.9	S20 43.8	252 52.3	7.6	N22 10.9	10.3	58.8	Hamal	327 49.3	N23 35.6
13	12 29.7	S20 43.3	267 18.8	7.4	N22 21.0	10.1	58.9	Kaus Austr.	83 30.7	S34 22.3
14	27 29.5	S20 42.8	281 45.0	7.3	N22 31.0	10.0	58.9	Kochab	137 20.4	N74 02.2
15	42 29.3	S20 42.3	296 11.2	7.1	N22 40.9	9.9	58.9	Markab	13 28.4	N15 21.1
16	57 29.1	S20 41.8	310 37.2	7.0	N22 50.7	9.8	59.0	Menkar	314 04.2	N 4 11.8
17	72 28.9	S20 41.3	325 03.1	6.9	N23 00.3	9.6	59.0			
								Menkent	147 55.7	S36 30.1
18	87 28.7	S20 40.8	339 28.8	6.7	N23 09.8	9.5	59.1	Miaplacidus	221 36.9	S69 49.6
19	102 28.5	S20 40.3	353 54.4	6.6	N23 19.2	9.4	59.1	Mirfak	308 25.6	N49 57.7
20	117 28.3	S20 39.8	8 19.9	6.5	N23 28.5	9.3	59.1	Nunki	75 46.0	S26 15.8
21	132 28.1	S20 39.3	22 45.2	6.3	N23 37.6	9.1	59.2	Peacock	53 03.6	S56 38.9
22	147 27.9	S20 38.8	37 10.4	6.2	N23 46.6	9.0	59.2			
23	162 27.7	S20 38.3	51 35.5	6.1	N23 55.4	8.8	59.2	Polaris	315 46.3	N89 22.4
18 0	177 27.5	S20 37.8	66 00.4	5.9	N24 04.1	8.7	59.3	Pollux	243 14.9	N27 57.6
1	192 27.3	S20 37.3	80 25.2	5.8	N24 12.7	8.6	59.3	Procyon	244 48.7	N 5 09.3
2	207 27.1	S20 36.8	94 49.9	5.7	N24 21.1	8.4	59.3	Rasalhague	95 57.3	N12 32.3
3	222 26.9	S20 36.3	109 14.5	5.5	N24 29.4	8.3	59.4	Regulus	207 32.4	N11 49.9
4	237 26.7	S20 35.8	123 38.9	5.4	N24 37.5	8.1	59.4			
M 5	252 26.5	S20 35.3	138 03.1	5.3	N24 45.5	8.0	59.5	Rigel	281 02.0	S 8 10.3
O								Rigil Kent	139 38.3	S60 56.6
								Sabik	102 01.1	S15 45.6
N 6	267 26.3	S20 34.8	152 27.3	5.1	N24 53.3	7.8	59.5	Schedar	349 29.3	N56 41.4
D 7	282 26.1	S20 34.3	166 51.3	5.0	N25 01.0	7.7	59.5	Shaula	96 08.4	S37 07.4
A 8	297 25.9	S20 33.8	181 15.2	4.9	N25 08.5	7.5	59.6			
Y 9	312 25.7	S20 33.3	195 38.9	4.8	N25 15.9	7.4	59.6	Sirius	258 24.4	S16 45.3
10	327 25.5	S20 32.8	210 02.6	4.6	N25 23.1	7.2	59.6	Spica	158 20.5	S11 18.2
11	342 25.3	S20 32.3	224 26.1	4.5	N25 30.1	7.0	59.7	Suhail	222 44.6	S43 32.5
								Vega	80 32.5	N38 48.4
12	357 25.1	S20 31.7	238 49.5	4.4	N25 37.0	6.9	59.7	Zuben-ubi	136 55.2	S16 09.3
13	12 24.9	S20 31.2	253 12.7	4.3	N25 43.7	6.7	59.7			
14	27 24.7	S20 30.7	267 35.9	4.1	N25 50.2	6.5	59.8			
15	42 24.5	S20 30.2	281 58.9	4.0	N25 56.6	6.4	59.8			
16	57 24.3	S20 29.7	296 21.8	3.9	N26 02.8	6.2	59.8			
17	72 24.1	S20 29.2	310 44.6	3.8	N26 08.8	6.0	59.9			
18	87 23.9	S20 28.7	325 07.3	3.7	N26 14.7	5.9	59.9			
19	102 23.7	S20 28.2	339 29.8	3.6	N26 20.3	5.7	59.9			
20	117 23.5	S20 27.6	353 52.3	3.4	N26 25.8	5.5	60.0			
21	132 23.3	S20 27.1	8 14.6	3.3	N26 31.2	5.3	60.0			
22	147 23.1	S20 26.6	22 36.8	3.2	N26 36.3	5.1	60.0			
23	162 22.9	S20 26.1	36 58.9	3.1	N26 41.2	5.0	60.1			
	S.D. 16.3	d 0.5	S.D.	15.8	16.0	16.3				

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 10.0	226 45.0	S19 13.7	315 10.0	N11 26.4	330 38.3	N14 09.6	108 42.0	N 1 29.1
	1	133 12.5	241 44.6	S19 14.2	330 12.7	N11 26.5	345 41.0	N14 09.7	123 44.3	N 1 29.2
	2	148 14.9	256 44.2	S19 14.6	345 15.4	N11 26.7	0 43.8	N14 09.8	138 46.7	N 1 29.3
	3	163 17.4	271 43.8	S19 15.0	0 18.1	N11 26.9	15 46.5	N14 09.9	153 49.0	N 1 29.3
	4	178 19.9	286 43.4	S19 15.5	15 20.8	N11 27.1	30 49.2	N14 10.0	168 51.3	N 1 29.4
T	5	193 22.3	301 43.0	S19 15.9	30 23.5	N11 27.3	45 51.9	N14 10.1	183 53.6	N 1 29.5
U										
E	6	208 24.8	316 42.6	S19 16.3	45 26.2	N11 27.5	60 54.7	N14 10.2	198 55.9	N 1 29.6
S	7	223 27.3	331 42.2	S19 16.8	60 28.9	N11 27.6	75 57.4	N14 10.3	213 58.2	N 1 29.6
D	8	238 29.7	346 41.8	S19 17.2	75 31.6	N11 27.8	91 00.1	N14 10.4	229 00.5	N 1 29.7
A	9	253 32.2	1 41.4	S19 17.6	90 34.3	N11 28.0	106 02.8	N14 10.5	244 02.9	N 1 29.8
Y	10	268 34.6	16 40.9	S19 18.1	105 37.0	N11 28.2	121 05.6	N14 10.6	259 05.2	N 1 29.9
	11	283 37.1	31 40.5	S19 18.5	120 39.7	N11 28.4	136 08.3	N14 10.7	274 07.5	N 1 29.9
	12	298 39.6	46 40.1	S19 18.9	135 42.4	N11 28.6	151 11.0	N14 10.8	289 09.8	N 1 30.0
	13	313 42.0	61 39.7	S19 19.3	150 45.1	N11 28.8	166 13.7	N14 10.9	304 12.1	N 1 30.1
	14	328 44.5	76 39.3	S19 19.8	165 47.8	N11 28.9	181 16.5	N14 11.0	319 14.4	N 1 30.2
	15	343 47.0	91 38.9	S19 20.2	180 50.5	N11 29.1	196 19.2	N14 11.1	334 16.7	N 1 30.2
	16	358 49.4	106 38.5	S19 20.6	195 53.2	N11 29.3	211 21.9	N14 11.2	349 19.0	N 1 30.3
	17	13 51.9	121 38.1	S19 21.1	210 56.0	N11 29.5	226 24.6	N14 11.3	4 21.3	N 1 30.4
	18	28 54.4	136 37.7	S19 21.5	225 58.7	N11 29.7	241 27.4	N14 11.4	19 23.7	N 1 30.5
	19	43 56.8	151 37.2	S19 21.9	241 01.4	N11 29.9	256 30.1	N14 11.5	34 26.0	N 1 30.5
	20	58 59.3	166 36.8	S19 22.3	256 04.1	N11 30.1	271 32.8	N14 11.6	49 28.3	N 1 30.6
	21	74 01.7	181 36.4	S19 22.7	271 06.8	N11 30.3	286 35.5	N14 11.7	64 30.6	N 1 30.7
	22	89 04.2	196 36.0	S19 23.2	286 09.5	N11 30.5	301 38.3	N14 11.8	79 32.9	N 1 30.8
	23	104 06.7	211 35.6	S19 23.6	301 12.3	N11 30.7	316 41.0	N14 11.9	94 35.2	N 1 30.8
20	0	119 09.1	226 35.2	S19 24.0	316 15.0	N11 30.9	331 43.7	N14 12.0	109 37.5	N 1 30.9
	1	134 11.6	241 34.7	S19 24.4	331 17.7	N11 31.0	346 46.5	N14 12.1	124 39.8	N 1 31.0
	2	149 14.1	256 34.3	S19 24.8	346 20.4	N11 31.2	1 49.2	N14 12.2	139 42.1	N 1 31.1
	3	164 16.5	271 33.9	S19 25.3	1 23.2	N11 31.4	16 51.9	N14 12.2	154 44.5	N 1 31.1
	4	179 19.0	286 33.5	S19 25.7	16 25.9	N11 31.6	31 54.6	N14 12.3	169 46.8	N 1 31.2
W	5	194 21.5	301 33.1	S19 26.1	31 28.6	N11 31.8	46 57.4	N14 12.4	184 49.1	N 1 31.3
E										
D	6	209 23.9	316 32.6	S19 26.5	46 31.4	N11 32.0	62 00.1	N14 12.5	199 51.4	N 1 31.4
N	7	224 26.4	331 32.2	S19 26.9	61 34.1	N11 32.2	77 02.8	N14 12.6	214 53.7	N 1 31.4
E	8	239 28.9	346 31.8	S19 27.4	76 36.8	N11 32.4	92 05.6	N14 12.7	229 56.0	N 1 31.5
S	9	254 31.3	1 31.4	S19 27.8	91 39.6	N11 32.6	107 08.3	N14 12.8	244 58.3	N 1 31.6
D	10	269 33.8	16 30.9	S19 28.2	106 42.3	N11 32.8	122 11.0	N14 12.9	260 00.6	N 1 31.7
A	11	284 36.2	31 30.5	S19 28.6	121 45.0	N11 33.0	137 13.8	N14 13.0	275 02.9	N 1 31.8
Y										
	12	299 38.7	46 30.1	S19 29.0	136 47.8	N11 33.2	152 16.5	N14 13.1	290 05.2	N 1 31.8
	13	314 41.2	61 29.7	S19 29.4	151 50.5	N11 33.4	167 19.2	N14 13.2	305 07.5	N 1 31.9
	14	329 43.6	76 29.2	S19 29.8	166 53.3	N11 33.6	182 21.9	N14 13.3	320 09.9	N 1 32.0
	15	344 46.1	91 28.8	S19 30.2	181 56.0	N11 33.8	197 24.7	N14 13.4	335 12.2	N 1 32.1
	16	359 48.6	106 28.4	S19 30.7	196 58.7	N11 34.0	212 27.4	N14 13.6	350 14.5	N 1 32.1
	17	14 51.0	121 28.0	S19 31.1	212 01.5	N11 34.2	227 30.1	N14 13.7	5 16.8	N 1 32.2
	18	29 53.5	136 27.5	S19 31.5	227 04.2	N11 34.4	242 32.9	N14 13.8	20 19.1	N 1 32.3
	19	44 56.0	151 27.1	S19 31.9	242 07.0	N11 34.6	257 35.6	N14 13.9	35 21.4	N 1 32.4
	20	59 58.4	166 26.7	S19 32.3	257 09.7	N11 34.8	272 38.3	N14 14.0	50 23.7	N 1 32.4
	21	75 00.9	181 26.2	S19 32.7	272 12.5	N11 35.0	287 41.1	N14 14.1	65 26.0	N 1 32.5
	22	90 03.4	196 25.8	S19 33.1	287 15.2	N11 35.2	302 43.8	N14 14.2	80 28.3	N 1 32.6
	23	105 05.8	211 25.4	S19 33.5	302 18.0	N11 35.4	317 46.5	N14 14.3	95 30.6	N 1 32.7
21	0	120 08.3	226 24.9	S19 33.9	317 20.7	N11 35.6	332 49.3	N14 14.4	110 32.9	N 1 32.7
	1	135 10.7	241 24.5	S19 34.3	332 23.5	N11 35.8	347 52.0	N14 14.5	125 35.2	N 1 32.8
	2	150 13.2	256 24.1	S19 34.7	347 26.3	N11 36.0	2 54.7	N14 14.6	140 37.5	N 1 32.9
	3	165 15.7	271 23.6	S19 35.1	2 29.0	N11 36.3	17 57.5	N14 14.7	155 39.9	N 1 33.0
	4	180 18.1	286 23.2	S19 35.5	17 31.8	N11 36.5	33 00.2	N14 14.8	170 42.2	N 1 33.1
T	5	195 20.6	301 22.8	S19 35.9	32 34.5	N11 36.7	48 02.9	N14 14.9	185 44.5	N 1 33.1
H										
U	6	210 23.1	316 22.3	S19 36.3	47 37.3	N11 36.9	63 05.7	N14 15.0	200 46.8	N 1 33.2
R	7	225 25.5	331 21.9	S19 36.7	62 40.1	N11 37.1	78 08.4	N14 15.1	215 49.1	N 1 33.3
S	8	240 28.0	346 21.4	S19 37.1	77 42.8	N11 37.3	93 11.1	N14 15.2	230 51.4	N 1 33.4
D	9	255 30.5	1 21.0	S19 37.5	92 45.6	N11 37.5	108 13.9	N14 15.3	245 53.7	N 1 33.4
A	10	270 32.9	16 20.6	S19 37.9	107 48.4	N11 37.7	123 16.6	N14 15.4	260 56.0	N 1 33.5
Y	11	285 35.4	31 20.1	S19 38.3	122 51.1	N11 37.9	138 19.3	N14 15.5	275 58.3	N 1 33.6
	12	300 37.9	46 19.7	S19 38.7	137 53.9	N11 38.1	153 22.1	N14 15.6	291 00.6	N 1 33.7
	13	315 40.3	61 19.2	S19 39.1	152 56.7	N11 38.3	168 24.8	N14 15.7	306 02.9	N 1 33.8
	14	330 42.8	76 18.8	S19 39.5	167 59.5	N11 38.5	183 27.5	N14 15.8	321 05.2	N 1 33.8
	15	345 45.2	91 18.3	S19 39.9	183 02.2	N11 38.8	198 30.3	N14 15.9	336 07.5	N 1 33.9
	16	0 47.7	106 17.9	S19 40.3	198 05.0	N11 39.0	213 33.0	N14 16.0	351 09.8	N 1 34.0
	17	15 50.2	121 17.5	S19 40.7	213 07.8	N11 39.2	228 35.7	N14 16.1	6 12.1	N 1 34.1
	18	30 52.6	136 17.0	S19 41.1	228 10.6	N11 39.4	243 38.5	N14 16.2	21 14.4	N 1 34.1
	19	45 55.1	151 16.6	S19 41.5	243 13.3	N11 39.6	258 41.2	N14 16.3	36 16.7	N 1 34.2
	20	60 57.6	166 16.1	S19 41.9	258 16.1	N11 39.8	273 44.0	N14 16.4	51 19.0	N 1 34.3
	21	76 00.0	181 15.7	S19 42.3	273 18.9	N11 40.0	288 46.7	N14 16.5	66 21.3	N 1 34.4
	22	91 02.5	196 15.2	S19 42.6	288 21.7	N11 40.3	303 49.4	N14 16.6	81 23.7	N 1 34.5
	23	106 05.0	211 14.8	S19 43.0	303 24.5	N11 40.5	318 52.2	N14 16.7	96 26.0	N 1 34.5
			v -0.4	d 0.4	v 2.7	d 0.2	v 2.7	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
	° '	° '	° '	'	° '	'	'		° ' ° '
19 0	177 22.7	S20 25.6	51 21.0	3.0	N26 46.0	4.8	60.1	Acamar	315 10.3 S40 12.0
1	192 22.5	S20 25.1	65 42.9	2.9	N26 50.6	4.6	60.1	Achernar	335 19.0 S57 06.2
2	207 22.3	S20 24.5	80 04.7	2.8	N26 55.0	4.4	60.2	Acrux	172 58.0 S63 14.7
3	222 22.1	S20 24.0	94 26.4	2.7	N26 59.2	4.2	60.2	Adhara	255 04.2 S29 00.6
4	237 21.9	S20 23.5	108 48.0	2.6	N27 03.2	4.0	60.2	Albireo	67 03.1 N28 00.9
T 5	252 21.7	S20 23.0	123 09.6	2.5	N27 07.0	3.8	60.3		
U								Aldebaran	290 37.4 N16 33.9
E 6	267 21.6	S20 22.5	137 31.0	2.4	N27 10.6	3.6	60.3	Alioth	166 11.3 N55 48.4
S 7	282 21.4	S20 21.9	151 52.3	2.3	N27 14.1	3.4	60.3	Alkaid	152 50.7 N49 10.3
D 8	297 21.2	S20 21.4	166 13.6	2.3	N27 17.3	3.2	60.4	Al Na-ir	27 31.1 S46 49.9
A 9	312 21.0	S20 20.9	180 34.8	2.2	N27 20.3	3.0	60.4	Alnilam	275 35.7 S 1 11.1
Y 10	327 20.8	S20 20.4	194 55.9	2.1	N27 23.2	2.8	60.4		
11	342 20.6	S20 19.8	209 16.9	2.0	N27 25.8	2.6	60.4	Alphard	217 45.7 S 8 46.7
								Alphecca	126 02.5 N26 37.1
12	357 20.4	S20 19.3	223 37.9	1.9	N27 28.2	2.4	60.5	Alpheratz	357 33.2 N29 14.6
13	12 20.2	S20 18.8	237 58.7	1.9	N27 30.5	2.2	60.5	Altair	61 58.6 N 8 56.3
14	27 20.0	S20 18.3	252 19.5	1.8	N27 32.5	2.0	60.5	Ankaa	353 05.6 S42 09.8
15	42 19.8	S20 17.7	266 40.3	1.7	N27 34.3	1.8	60.6		
16	57 19.6	S20 17.2	281 01.0	1.7	N27 35.9	1.6	60.6	Antares	112 14.0 S26 29.5
17	72 19.5	S20 16.7	295 21.6	1.6	N27 37.3	1.4	60.6	Arcturus	145 46.4 N19 02.2
								Atria	107 07.2 S69 04.4
18	87 19.3	S20 16.1	309 42.2	1.6	N27 38.5	1.2	60.6	Avior	234 13.4 S59 35.8
19	102 19.1	S20 15.6	324 02.7	1.5	N27 39.5	1.0	60.7	Bellatrix	278 20.8 N 6 22.4
20	117 18.9	S20 15.1	338 23.1	1.5	N27 40.3	0.8	60.7		
21	132 18.7	S20 14.5	352 43.5	1.4	N27 40.8	0.6	60.7	Betelgeuse	270 50.0 N 7 24.7
22	147 18.5	S20 14.0	7 03.9	1.4	N27 41.2	0.4	60.7	Canopus	263 51.1 S52 42.7
23	162 18.3	S20 13.5	21 24.2	1.3	N27 41.3	0.1	60.8	Capella	280 19.0 N46 01.6
20 0	177 18.1	S20 13.0	35 44.5	1.3	N27 41.2	0.1	60.8	Castor	245 54.5 N31 49.7
1	192 18.0	S20 12.4	50 04.8	1.3	N27 41.0	0.3	60.8	Deneb	49 25.1 N45 22.6
2	207 17.8	S20 11.9	64 25.0	1.2	N27 40.5	0.5	60.8		
3	222 17.6	S20 11.3	78 45.2	1.2	N27 39.7	0.7	60.9	Denebola	182 23.0 N14 25.0
4	237 17.4	S20 10.8	93 05.4	1.2	N27 38.8	0.9	60.9	Diphda	348 45.7 S17 50.4
W 5	252 17.2	S20 10.3	107 25.5	1.2	N27 37.7	1.1	60.9	Dubhe	193 38.4 N61 35.9
E								Elnath	277 59.5 N28 37.8
D 6	267 17.0	S20 09.7	121 45.7	1.1	N27 36.3	1.4	60.9	Eltanin	90 41.9 N51 28.9
N 7	282 16.8	S20 09.2	136 05.8	1.1	N27 34.7	1.6	60.9		
E 8	297 16.7	S20 08.7	150 25.9	1.1	N27 33.0	1.8	61.0	Enif	33 37.4 N 9 60.0
S 9	312 16.5	S20 08.1	164 46.0	1.1	N27 31.0	2.0	61.0	Fomalhaut	15 12.9 S29 28.8
D 10	327 16.3	S20 07.6	179 06.1	1.1	N27 28.7	2.2	61.0	Gacrux	171 49.6 S57 15.7
A 11	342 16.1	S20 07.0	193 26.2	1.1	N27 26.3	2.4	61.0	Gienah	175 41.7 S17 41.6
Y								Hadar	148 33.7 S60 30.0
12	357 15.9	S20 06.5	207 46.3	1.1	N27 23.6	2.7	61.0		
13	12 15.7	S20 06.0	222 06.4	1.1	N27 20.8	2.9	61.1	Hamal	327 49.3 N23 35.6
14	27 15.6	S20 05.4	236 26.6	1.1	N27 17.7	3.1	61.1	Kaus Austr.	83 30.7 S34 22.3
15	42 15.4	S20 04.9	250 46.7	1.1	N27 14.4	3.3	61.1	Kochab	137 20.3 N74 02.2
16	57 15.2	S20 04.3	265 06.9	1.2	N27 10.9	3.5	61.1	Markab	13 28.4 N15 21.1
17	72 15.0	S20 03.8	279 27.0	1.2	N27 07.2	3.7	61.1	Menkar	314 04.2 N 4 11.8
								Menkent	147 55.7 S36 30.2
18	87 14.8	S20 03.2	293 47.2	1.2	N27 03.2	3.9	61.2	Miaplacidus	221 36.9 S69 49.6
19	102 14.7	S20 02.7	308 07.5	1.2	N26 59.1	4.1	61.2	Mirfak	308 25.7 N49 57.7
20	117 14.5	S20 02.1	322 27.7	1.3	N26 54.7	4.4	61.2	Nunki	75 46.0 S26 15.8
21	132 14.3	S20 01.6	336 48.0	1.3	N26 50.2	4.6	61.2	Peacock	53 03.6 S56 38.9
22	147 14.1	S20 01.0	351 08.3	1.3	N26 45.4	4.8	61.2		
23	162 13.9	S20 00.5	5 28.7	1.4	N26 40.4	5.0	61.2	Polaris	315 47.2 N89 22.5
21 0	177 13.8	S19 59.9	19 49.1	1.4	N26 35.2	5.2	61.2	Pollux	243 14.8 N27 57.6
1	192 13.6	S19 59.4	34 09.5	1.5	N26 29.8	5.4	61.2	Procyon	244 48.7 N 5 09.3
2	207 13.4	S19 58.8	48 30.1	1.5	N26 24.1	5.6	61.3	Rasalhague	95 57.3 N12 32.3
3	222 13.2	S19 58.3	62 50.6	1.6	N26 18.3	5.8	61.3	Regulus	207 32.3 N11 49.9
4	237 13.1	S19 57.7	77 11.2	1.6	N26 12.3	6.0	61.3		
T 5	252 12.9	S19 57.2	91 31.9	1.7	N26 06.1	6.2	61.3	Rigel	281 02.0 S 8 10.3
H								Rigil Kent	139 38.2 S60 56.6
U 6	267 12.7	S19 56.6	105 52.6	1.7	N25 59.6	6.4	61.3	Sabik	102 01.1 S15 45.6
R 7	282 12.5	S19 56.1	120 13.4	1.8	N25 53.0	6.6	61.3	Schedar	349 29.3 N56 41.4
S 8	297 12.3	S19 55.5	134 34.2	1.9	N25 46.1	6.8	61.3	Shaula	96 08.4 S37 07.4
D 9	312 12.2	S19 55.0	148 55.2	1.9	N25 39.1	7.0	61.3	Sirius	258 24.4 S16 45.3
A 10	327 12.0	S19 54.4	163 16.2	2.0	N25 31.9	7.2	61.3	Spica	158 20.5 S11 18.2
Y 11	342 11.8	S19 53.9	177 37.2	2.1	N25 24.4	7.4	61.3	Suhail	222 44.6 S43 32.5
								Vega	80 32.5 N38 48.4
12	357 11.6	S19 53.3	191 58.4	2.1	N25 16.8	7.6	61.3	Zuben-ubi	136 55.1 S16 09.3
13	12 11.5	S19 52.7	206 19.6	2.2	N25 09.0	7.8	61.4		
14	27 11.3	S19 52.2	220 40.9	2.3	N25 01.0	8.0	61.4		
15	42 11.1	S19 51.6	235 02.3	2.4	N24 52.8	8.2	61.4		
16	57 10.9	S19 51.1	249 23.8	2.5	N24 44.4	8.4	61.4		
17	72 10.8	S19 50.5	263 45.3	2.6	N24 35.8	8.6	61.4		
18	87 10.6	S19 50.0	278 07.0	2.6	N24 27.0	8.8	61.4		
19	102 10.4	S19 49.4	292 28.7	2.7	N24 18.1	8.9	61.4		
20	117 10.3	S19 48.8	306 50.5	2.8	N24 09.0	9.1	61.4		
21	132 10.1	S19 48.3	321 12.5	2.9	N23 59.7	9.3	61.4		
22	147 09.9	S19 47.7	335 34.5	3.0	N23 50.2	9.5	61.4		
23	162 09.7	S19 47.1	349 56.6	3.1	N23 40.5	9.7	61.4		
	S.D. 16.3	d 0.5	S.D.	16.5	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 ° '
22	0	121 07.4	226 14.3	S19 43.4	318 27.3	N11 40.7	333 54.9	N14 16.8	111 28.3	N 1 34.6
	1	136 09.9	241 13.9	S19 43.8	333 30.1	N11 40.9	348 57.6	N14 16.9	126 30.6	N 1 34.7
	2	151 12.4	256 13.4	S19 44.2	348 32.8	N11 41.1	4 00.4	N14 17.0	141 32.9	N 1 34.8
	3	166 14.8	271 13.0	S19 44.6	3 35.6	N11 41.3	19 03.1	N14 17.1	156 35.2	N 1 34.8
	4	181 17.3	286 12.5	S19 45.0	18 38.4	N11 41.6	34 05.9	N14 17.2	171 37.5	N 1 34.9
F	5	196 19.7	301 12.1	S19 45.4	33 41.2	N11 41.8	49 08.6	N14 17.3	186 39.8	N 1 35.0
R										
I	6	211 22.2	316 11.6	S19 45.7	48 44.0	N11 42.0	64 11.3	N14 17.4	201 42.1	N 1 35.1
D	7	226 24.7	331 11.2	S19 46.1	63 46.8	N11 42.2	79 14.1	N14 17.5	216 44.4	N 1 35.2
A	8	241 27.1	346 10.7	S19 46.5	78 49.6	N11 42.4	94 16.8	N14 17.6	231 46.7	N 1 35.2
Y	9	256 29.6	1 10.3	S19 46.9	93 52.4	N11 42.7	109 19.5	N14 17.7	246 49.0	N 1 35.3
	10	271 32.1	16 09.8	S19 47.3	108 55.2	N11 42.9	124 22.3	N14 17.8	261 51.3	N 1 35.4
	11	286 34.5	31 09.3	S19 47.6	123 58.0	N11 43.1	139 25.0	N14 17.9	276 53.6	N 1 35.5
	12	301 37.0	46 08.9	S19 48.0	139 00.8	N11 43.3	154 27.8	N14 18.0	291 55.9	N 1 35.6
	13	316 39.5	61 08.4	S19 48.4	154 03.6	N11 43.5	169 30.5	N14 18.1	306 58.2	N 1 35.6
	14	331 41.9	76 08.0	S19 48.8	169 06.4	N11 43.8	184 33.2	N14 18.2	322 00.5	N 1 35.7
	15	346 44.4	91 07.5	S19 49.2	184 09.2	N11 44.0	199 36.0	N14 18.3	337 02.8	N 1 35.8
	16	1 46.9	106 07.0	S19 49.5	199 12.0	N11 44.2	214 38.7	N14 18.4	352 05.1	N 1 35.9
	17	16 49.3	121 06.6	S19 49.9	214 14.8	N11 44.4	229 41.5	N14 18.5	7 07.4	N 1 35.9
	18	31 51.8	136 06.1	S19 50.3	229 17.7	N11 44.7	244 44.2	N14 18.6	22 09.7	N 1 36.0
	19	46 54.2	151 05.7	S19 50.7	244 20.5	N11 44.9	259 46.9	N14 18.7	37 12.0	N 1 36.1
	20	61 56.7	166 05.2	S19 51.0	259 23.3	N11 45.1	274 49.7	N14 18.8	52 14.3	N 1 36.2
	21	76 59.2	181 04.7	S19 51.4	274 26.1	N11 45.3	289 52.4	N14 18.9	67 16.6	N 1 36.3
	22	92 01.6	196 04.3	S19 51.8	289 28.9	N11 45.6	304 55.2	N14 19.1	82 18.9	N 1 36.3
	23	107 04.1	211 03.8	S19 52.2	304 31.7	N11 45.8	319 57.9	N14 19.2	97 21.2	N 1 36.4
23	0	122 06.6	226 03.4	S19 52.5	319 34.6	N11 46.0	335 00.7	N14 19.3	112 23.5	N 1 36.5
	1	137 09.0	241 02.9	S19 52.9	334 37.4	N11 46.2	350 03.4	N14 19.4	127 25.8	N 1 36.6
	2	152 11.5	256 02.4	S19 53.3	349 40.2	N11 46.5	5 06.1	N14 19.5	142 28.1	N 1 36.7
	3	167 14.0	271 02.0	S19 53.6	4 43.0	N11 46.7	20 08.9	N14 19.6	157 30.4	N 1 36.7
	4	182 16.4	286 01.5	S19 54.0	19 45.8	N11 46.9	35 11.6	N14 19.7	172 32.7	N 1 36.8
S	5	197 18.9	301 01.0	S19 54.4	34 48.7	N11 47.2	50 14.4	N14 19.8	187 35.0	N 1 36.9
A										
T	6	212 21.3	316 00.6	S19 54.7	49 51.5	N11 47.4	65 17.1	N14 19.9	202 37.3	N 1 37.0
U	7	227 23.8	331 00.1	S19 55.1	64 54.3	N11 47.6	80 19.9	N14 20.0	217 39.6	N 1 37.1
R	8	242 26.3	345 59.6	S19 55.5	79 57.2	N11 47.8	95 22.6	N14 20.1	232 41.9	N 1 37.1
D	9	257 28.7	0 59.1	S19 55.8	94 60.0	N11 48.1	110 25.3	N14 20.2	247 44.2	N 1 37.2
A	10	272 31.2	15 58.7	S19 56.2	110 02.8	N11 48.3	125 28.1	N14 20.3	262 46.5	N 1 37.3
Y	11	287 33.7	30 58.2	S19 56.6	125 05.6	N11 48.5	140 30.8	N14 20.4	277 48.8	N 1 37.4
	12	302 36.1	45 57.7	S19 56.9	140 08.5	N11 48.8	155 33.6	N14 20.5	292 51.1	N 1 37.5
	13	317 38.6	60 57.3	S19 57.3	155 11.3	N11 49.0	170 36.3	N14 20.6	307 53.4	N 1 37.5
	14	332 41.1	75 56.8	S19 57.7	170 14.2	N11 49.2	185 39.1	N14 20.7	322 55.7	N 1 37.6
	15	347 43.5	90 56.3	S19 58.0	185 17.0	N11 49.5	200 41.8	N14 20.8	337 58.0	N 1 37.7
	16	2 46.0	105 55.8	S19 58.4	200 19.8	N11 49.7	215 44.5	N14 20.9	353 00.3	N 1 37.8
	17	17 48.5	120 55.4	S19 58.7	215 22.7	N11 49.9	230 47.3	N14 21.0	8 02.6	N 1 37.9
	18	32 50.9	135 54.9	S19 59.1	230 25.5	N11 50.2	245 50.0	N14 21.1	23 04.9	N 1 37.9
	19	47 53.4	150 54.4	S19 59.5	245 28.4	N11 50.4	260 52.8	N14 21.2	38 07.2	N 1 38.0
	20	62 55.8	165 53.9	S19 59.8	260 31.2	N11 50.7	275 55.5	N14 21.3	53 09.5	N 1 38.1
	21	77 58.3	180 53.5	S20 00.2	275 34.1	N11 50.9	290 58.3	N14 21.4	68 11.8	N 1 38.2
	22	93 00.8	195 53.0	S20 00.5	290 36.9	N11 51.1	306 01.0	N14 21.5	83 14.1	N 1 38.3
	23	108 03.2	210 52.5	S20 00.9	305 39.8	N11 51.4	321 03.8	N14 21.7	98 16.4	N 1 38.3
24	0	123 05.7	225 52.0	S20 01.2	320 42.6	N11 51.6	336 06.5	N14 21.8	113 18.7	N 1 38.4
	1	138 08.2	240 51.5	S20 01.6	335 45.5	N11 51.8	351 09.3	N14 21.9	128 21.0	N 1 38.5
	2	153 10.6	255 51.1	S20 01.9	350 48.3	N11 52.1	6 12.0	N14 22.0	143 23.3	N 1 38.6
	3	168 13.1	270 50.6	S20 02.3	5 51.2	N11 52.3	21 14.8	N14 22.1	158 25.6	N 1 38.7
	4	183 15.6	285 50.1	S20 02.6	20 54.0	N11 52.6	36 17.5	N14 22.2	173 27.9	N 1 38.8
S	5	198 18.0	300 49.6	S20 03.0	35 56.9	N11 52.8	51 20.2	N14 22.3	188 30.2	N 1 38.8
U										
N	6	213 20.5	315 49.1	S20 03.3	50 59.7	N11 53.0	66 23.0	N14 22.4	203 32.5	N 1 38.9
D	7	228 23.0	330 48.6	S20 03.7	66 02.6	N11 53.3	81 25.7	N14 22.5	218 34.8	N 1 39.0
A	8	243 25.4	345 48.2	S20 04.0	81 05.5	N11 53.5	96 28.5	N14 22.6	233 37.0	N 1 39.1
Y	9	258 27.9	0 47.7	S20 04.4	96 08.3	N11 53.8	111 31.2	N14 22.7	248 39.3	N 1 39.2
	10	273 30.3	15 47.2	S20 04.7	111 11.2	N11 54.0	126 34.0	N14 22.8	263 41.6	N 1 39.2
	11	288 32.8	30 46.7	S20 05.1	126 14.1	N11 54.2	141 36.7	N14 22.9	278 43.9	N 1 39.3
	12	303 35.3	45 46.2	S20 05.4	141 16.9	N11 54.5	156 39.5	N14 23.0	293 46.2	N 1 39.4
	13	318 37.7	60 45.7	S20 05.8	156 19.8	N11 54.7	171 42.2	N14 23.1	308 48.5	N 1 39.5
	14	333 40.2	75 45.3	S20 06.1	171 22.7	N11 55.0	186 45.0	N14 23.2	323 50.8	N 1 39.6
	15	348 42.7	90 44.8	S20 06.5	186 25.5	N11 55.2	201 47.7	N14 23.3	338 53.1	N 1 39.6
	16	3 45.1	105 44.3	S20 06.8	201 28.4	N11 55.5	216 50.5	N14 23.4	353 55.4	N 1 39.7
	17	18 47.6	120 43.8	S20 07.1	216 31.3	N11 55.7	231 53.2	N14 23.5	8 57.7	N 1 39.8
	18	33 50.1	135 43.3	S20 07.5	231 34.1	N11 56.0	246 56.0	N14 23.6	24 00.0	N 1 39.9
	19	48 52.5	150 42.8	S20 07.8	246 37.0	N11 56.2	261 58.7	N14 23.8	39 02.3	N 1 40.0
	20	63 55.0	165 42.3	S20 08.2	261 39.9	N11 56.5	277 01.5	N14 23.9	54 04.6	N 1 40.1
	21	78 57.5	180 41.8	S20 08.5	276 42.8	N11 56.7	292 04.2	N14 24.0	69 06.9	N 1 40.1
	22	93 59.9	195 41.3	S20 08.8	291 45.7	N11 57.0	307 07.0	N14 24.1	84 09.2	N 1 40.2
	23	109 02.4	210 40.8	S20 09.2	306 48.5	N11 57.2	322 09.7	N14 24.2	99 11.5	N 1 40.3
			v -0.5	d 0.4	v 2.8	d 0.2	v 2.7	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
	° '	° '	° '	'	° '	'	'		° '	° '
22 0	177 09.6	S19 46.6	4 18.8	3.2	N23 30.7	9.8	61.4	Acamar	315 10.3	S40 12.0
1	192 09.4	S19 46.0	18 41.2	3.3	N23 20.7	10.0	61.4	Achernar	335 19.0	S57 06.2
2	207 09.2	S19 45.4	33 03.6	3.4	N23 10.5	10.2	61.4	Acrux	172 57.9	S63 14.7
3	222 09.1	S19 44.9	47 26.1	3.5	N23 00.2	10.3	61.4	Adhara	255 04.2	S29 00.6
4	237 08.9	S19 44.3	61 48.8	3.6	N22 49.7	10.5	61.4	Albireo	67 03.1	N28 00.9
F 5	252 08.7	S19 43.7	76 11.5	3.7	N22 39.0	10.7	61.4			
R								Aldebaran	290 37.4	N16 33.9
I 6	267 08.6	S19 43.2	90 34.4	3.9	N22 28.2	10.8	61.4	Alioth	166 11.3	N55 48.4
D 7	282 08.4	S19 42.6	104 57.3	4.0	N22 17.2	11.0	61.3	Alkaid	152 50.6	N49 10.3
A 8	297 08.2	S19 42.0	119 20.4	4.1	N22 06.0	11.1	61.3	Al Na-ir	27 31.1	S46 49.9
Y 9	312 08.1	S19 41.5	133 43.6	4.2	N21 54.7	11.3	61.3	Alnilam	275 35.7	S 1 11.1
10	327 07.9	S19 40.9	148 06.9	4.3	N21 43.2	11.5	61.3			
11	342 07.7	S19 40.3	162 30.3	4.4	N21 31.6	11.6	61.3	Alphard	217 45.7	S 8 46.7
								Alphecca	126 02.4	N26 37.1
12	357 07.6	S19 39.7	176 53.9	4.5	N21 19.9	11.8	61.3	Alpheratz	357 33.2	N29 14.6
13	12 07.4	S19 39.2	191 17.5	4.6	N21 08.0	11.9	61.3	Altair	61 58.6	N 8 56.3
14	27 07.2	S19 38.6	205 41.3	4.8	N20 55.9	12.0	61.3	Ankaa	353 05.6	S42 09.8
15	42 07.1	S19 38.0	220 05.1	4.9	N20 43.8	12.2	61.3			
16	57 06.9	S19 37.5	234 29.1	5.0	N20 31.4	12.3	61.3	Antares	112 14.0	S26 29.5
17	72 06.7	S19 36.9	248 53.2	5.1	N20 19.0	12.5	61.3	Arcturus	145 46.4	N19 02.2
								Atria	107 07.1	S69 04.4
18	87 06.6	S19 36.3	263 17.5	5.2	N20 06.4	12.6	61.3	Avior	234 13.4	S59 35.8
19	102 06.4	S19 35.7	277 41.8	5.3	N19 53.6	12.7	61.2	Bellatrix	278 20.8	N 6 22.4
20	117 06.2	S19 35.1	292 06.3	5.5	N19 40.8	12.9	61.2			
21	132 06.1	S19 34.6	306 30.9	5.6	N19 27.8	13.0	61.2	Betelgeuse	270 49.9	N 7 24.7
22	147 05.9	S19 34.0	320 55.6	5.7	N19 14.7	13.1	61.2	Canopus	263 51.1	S52 42.7
23	162 05.7	S19 33.4	335 20.4	5.8	N19 01.5	13.2	61.2	Capella	280 19.0	N46 01.6
23 0	177 05.6	S19 32.8	349 45.3	5.9	N18 48.1	13.4	61.2	Castor	245 54.5	N31 49.7
1	192 05.4	S19 32.3	4 10.4	6.1	N18 34.6	13.5	61.2	Deneb	49 25.1	N45 22.6
2	207 05.3	S19 31.7	18 35.6	6.2	N18 21.0	13.6	61.1			
3	222 05.1	S19 31.1	33 00.9	6.3	N18 07.3	13.7	61.1	Denebola	182 23.0	N14 25.0
4	237 04.9	S19 30.5	47 26.3	6.4	N17 53.5	13.8	61.1	Diphda	348 45.7	S17 50.4
S 5	252 04.8	S19 29.9	61 51.8	6.5	N17 39.6	13.9	61.1	Dubhe	193 38.4	N61 35.9
A								Elnath	277 59.5	N28 37.8
T 6	267 04.6	S19 29.3	76 17.5	6.7	N17 25.6	14.0	61.1	Eltanin	90 41.9	N51 28.8
U 7	282 04.4	S19 28.8	90 43.2	6.8	N17 11.5	14.1	61.1			
R 8	297 04.3	S19 28.2	105 09.1	6.9	N16 57.2	14.2	61.0	Enif	33 37.4	N 9 59.9
D 9	312 04.1	S19 27.6	119 35.1	7.0	N16 42.9	14.3	61.0	Fomalhaut	15 12.9	S29 28.8
A 10	327 04.0	S19 27.0	134 01.3	7.1	N16 28.5	14.4	61.0	Gacrux	171 49.5	S57 15.7
Y 11	342 03.8	S19 26.4	148 27.5	7.2	N16 14.0	14.5	61.0	Gienah	175 41.7	S17 41.6
								Hadar	148 33.7	S60 30.0
12	357 03.6	S19 25.8	162 53.8	7.4	N15 59.3	14.6	61.0			
13	12 03.5	S19 25.2	177 20.3	7.5	N15 44.6	14.7	60.9	Hamal	327 49.3	N23 35.6
14	27 03.3	S19 24.6	191 46.9	7.6	N15 29.9	14.8	60.9	Kaus Austr.	83 30.6	S34 22.3
15	42 03.2	S19 24.1	206 13.6	7.7	N15 15.0	14.9	60.9	Kochab	137 20.3	N74 02.2
16	57 03.0	S19 23.5	220 40.4	7.8	N15 00.0	15.0	60.9	Markab	13 28.4	N15 21.1
17	72 02.9	S19 22.9	235 07.3	7.9	N14 45.0	15.0	60.8	Menkar	314 04.3	N 4 11.8
								Menkent	147 55.6	S36 30.2
18	87 02.7	S19 22.3	249 34.3	8.0	N14 29.9	15.1	60.8	Miaplacidus	221 36.9	S69 49.6
19	102 02.5	S19 21.7	264 01.5	8.1	N14 14.7	15.2	60.8	Mirfak	308 25.7	N49 57.7
20	117 02.4	S19 21.1	278 28.7	8.3	N13 59.4	15.3	60.8	Nunki	75 46.0	S26 15.8
21	132 02.2	S19 20.5	292 56.1	8.4	N13 44.1	15.3	60.7	Peacock	53 03.6	S56 38.9
22	147 02.1	S19 19.9	307 23.6	8.5	N13 28.7	15.4	60.7			
23	162 01.9	S19 19.3	321 51.2	8.6	N13 13.2	15.5	60.7	Polaris	315 48.4	N89 22.5
24 0	177 01.8	S19 18.7	336 18.8	8.7	N12 57.7	15.5	60.7	Pollux	243 14.8	N27 57.6
1	192 01.6	S19 18.1	350 46.6	8.8	N12 42.1	15.6	60.6	Procyon	244 48.7	N 5 09.3
2	207 01.5	S19 17.5	5 14.5	8.9	N12 26.5	15.7	60.6	Rasalhague	95 57.3	N12 32.3
3	222 01.3	S19 16.9	19 42.5	9.0	N12 10.7	15.7	60.6	Regulus	207 32.3	N11 49.9
4	237 01.2	S19 16.3	34 10.6	9.1	N11 55.0	15.8	60.5			
S 5	252 01.0	S19 15.7	48 38.8	9.2	N11 39.2	15.8	60.5	Rigel	281 02.0	S 8 10.3
U								Rigil Kent	139 38.2	S60 56.6
N 6	267 00.8	S19 15.1	63 07.1	9.3	N11 23.3	15.9	60.5	Sabik	102 01.1	S15 45.6
D 7	282 00.7	S19 14.5	77 35.5	9.4	N11 07.4	15.9	60.5	Schedar	349 29.3	N56 41.4
A 8	297 00.5	S19 13.9	92 04.0	9.5	N10 51.4	16.0	60.4	Shaula	96 08.4	S37 07.4
Y 9	312 00.4	S19 13.3	106 32.6	9.6	N10 35.4	16.0	60.4			
10	327 00.2	S19 12.7	121 01.3	9.7	N10 19.3	16.1	60.4	Sirius	258 24.4	S16 45.3
11	342 00.1	S19 12.1	135 30.1	9.8	N10 03.2	16.1	60.3	Spica	158 20.4	S11 18.2
								Suhail	222 44.6	S43 32.5
12	356 59.9	S19 11.5	149 58.9	9.9	N 9 47.1	16.1	60.3	Vega	80 32.5	N38 48.3
13	11 59.8	S19 10.9	164 27.9	10.0	N 9 30.9	16.2	60.3	Zuben-ubi	136 55.1	S16 09.3
14	26 59.6	S19 10.3	178 57.0	10.1	N 9 14.7	16.2	60.2			
15	41 59.5	S19 09.7	193 26.1	10.1	N 8 58.5	16.2	60.2			
16	56 59.3	S19 09.1	207 55.4	10.2	N 8 42.2	16.3	60.2			
17	71 59.2	S19 08.5	222 24.7	10.3	N 8 25.9	16.3	60.1			
18	86 59.0	S19 07.9	236 54.1	10.4	N 8 09.6	16.3	60.1			
19	101 58.9	S19 07.3	251 23.6	10.5	N 7 53.2	16.4	60.1			
20	116 58.7	S19 06.7	265 53.2	10.6	N 7 36.9	16.4	60.0			
21	131 58.6	S19 06.1	280 22.8	10.7	N 7 20.5	16.4	60.0			
22	146 58.4	S19 05.5	294 52.6	10.7	N 7 04.0	16.4	60.0			
23	161 58.3	S19 04.9	309 22.4	10.8	N 6 47.6	16.4	59.9			
	S.D. 16.3	d 0.6	S.D.	16.7		16.6	16.4			

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
25 0	124 04.8	225 40.3	S20 09.5	321 51.4	N11 57.5	337 12.5	N14 24.3	114 13.8	N 1 40.4
1	139 07.3	240 39.8	S20 09.8	336 54.3	N11 57.7	352 15.2	N14 24.4	129 16.1	N 1 40.5
2	154 09.8	255 39.4	S20 10.2	351 57.2	N11 57.9	7 18.0	N14 24.5	144 18.4	N 1 40.5
3	169 12.2	270 38.9	S20 10.5	7 00.1	N11 58.2	22 20.7	N14 24.6	159 20.6	N 1 40.6
4	184 14.7	285 38.4	S20 10.8	22 03.0	N11 58.5	37 23.5	N14 24.7	174 22.9	N 1 40.7
M 5	199 17.2	300 37.9	S20 11.2	37 05.9	N11 58.7	52 26.2	N14 24.8	189 25.2	N 1 40.8
O									
N 6	214 19.6	315 37.4	S20 11.5	52 08.7	N11 59.0	67 29.0	N14 24.9	204 27.5	N 1 40.9
D 7	229 22.1	330 36.9	S20 11.8	67 11.6	N11 59.2	82 31.7	N14 25.0	219 29.8	N 1 41.0
A 8	244 24.6	345 36.4	S20 12.2	82 14.5	N11 59.5	97 34.5	N14 25.1	234 32.1	N 1 41.0
Y 9	259 27.0	0 35.9	S20 12.5	97 17.4	N11 59.7	112 37.2	N14 25.2	249 34.4	N 1 41.1
10	274 29.5	15 35.4	S20 12.8	112 20.3	N11 60.0	127 40.0	N14 25.3	264 36.7	N 1 41.2
11	289 31.9	30 34.9	S20 13.2	127 23.2	N12 00.2	142 42.7	N14 25.4	279 39.0	N 1 41.3
12	304 34.4	45 34.4	S20 13.5	142 26.1	N12 00.5	157 45.5	N14 25.6	294 41.3	N 1 41.4
13	319 36.9	60 33.9	S20 13.8	157 29.0	N12 00.7	172 48.2	N14 25.7	309 43.6	N 1 41.5
14	334 39.3	75 33.4	S20 14.1	172 31.9	N12 01.0	187 51.0	N14 25.8	324 45.9	N 1 41.5
15	349 41.8	90 32.9	S20 14.5	187 34.8	N12 01.2	202 53.7	N14 25.9	339 48.2	N 1 41.6
16	4 44.3	105 32.4	S20 14.8	202 37.7	N12 01.5	217 56.5	N14 26.0	354 50.5	N 1 41.7
17	19 46.7	120 31.9	S20 15.1	217 40.6	N12 01.7	232 59.3	N14 26.1	9 52.7	N 1 41.8
18	34 49.2	135 31.4	S20 15.4	232 43.5	N12 02.0	248 02.0	N14 26.2	24 55.0	N 1 41.9
19	49 51.7	150 30.9	S20 15.7	247 46.4	N12 02.3	263 04.8	N14 26.3	39 57.3	N 1 42.0
20	64 54.1	165 30.4	S20 16.1	262 49.4	N12 02.5	278 07.5	N14 26.4	54 59.6	N 1 42.0
21	79 56.6	180 29.8	S20 16.4	277 52.3	N12 02.8	293 10.3	N14 26.5	70 01.9	N 1 42.1
22	94 59.1	195 29.3	S20 16.7	292 55.2	N12 03.0	308 13.0	N14 26.6	85 04.2	N 1 42.2
23	110 01.5	210 28.8	S20 17.0	307 58.1	N12 03.3	323 15.8	N14 26.7	100 06.5	N 1 42.3
26 0	125 04.0	225 28.3	S20 17.3	323 01.0	N12 03.6	338 18.5	N14 26.8	115 08.8	N 1 42.4
1	140 06.4	240 27.8	S20 17.7	338 03.9	N12 03.8	353 21.3	N14 26.9	130 11.1	N 1 42.5
2	155 08.9	255 27.3	S20 18.0	353 06.8	N12 04.1	8 24.0	N14 27.0	145 13.4	N 1 42.5
3	170 11.4	270 26.8	S20 18.3	8 09.8	N12 04.3	23 26.8	N14 27.1	160 15.7	N 1 42.6
4	185 13.8	285 26.3	S20 18.6	23 12.7	N12 04.6	38 29.6	N14 27.3	175 17.9	N 1 42.7
T 5	200 16.3	300 25.8	S20 18.9	38 15.6	N12 04.9	53 32.3	N14 27.4	190 20.2	N 1 42.8
U									
E 6	215 18.8	315 25.3	S20 19.2	53 18.5	N12 05.1	68 35.1	N14 27.5	205 22.5	N 1 42.9
S 7	230 21.2	330 24.8	S20 19.5	68 21.4	N12 05.4	83 37.8	N14 27.6	220 24.8	N 1 43.0
D 8	245 23.7	345 24.3	S20 19.8	83 24.4	N12 05.6	98 40.6	N14 27.7	235 27.1	N 1 43.0
A 9	260 26.2	0 23.7	S20 20.2	98 27.3	N12 05.9	113 43.3	N14 27.8	250 29.4	N 1 43.1
Y 10	275 28.6	15 23.2	S20 20.5	113 30.2	N12 06.2	128 46.1	N14 27.9	265 31.7	N 1 43.2
11	290 31.1	30 22.7	S20 20.8	128 33.1	N12 06.4	143 48.8	N14 28.0	280 34.0	N 1 43.3
12	305 33.6	45 22.2	S20 21.1	143 36.1	N12 06.7	158 51.6	N14 28.1	295 36.3	N 1 43.4
13	320 36.0	60 21.7	S20 21.4	158 39.0	N12 07.0	173 54.4	N14 28.2	310 38.5	N 1 43.5
14	335 38.5	75 21.2	S20 21.7	173 41.9	N12 07.2	188 57.1	N14 28.3	325 40.8	N 1 43.5
15	350 40.9	90 20.7	S20 22.0	188 44.9	N12 07.5	203 59.9	N14 28.4	340 43.1	N 1 43.6
16	5 43.4	105 20.1	S20 22.3	203 47.8	N12 07.8	219 02.6	N14 28.5	355 45.4	N 1 43.7
17	20 45.9	120 19.6	S20 22.6	218 50.7	N12 08.0	234 05.4	N14 28.6	10 47.7	N 1 43.8
18	35 48.3	135 19.1	S20 22.9	233 53.7	N12 08.3	249 08.1	N14 28.8	25 50.0	N 1 43.9
19	50 50.8	150 18.6	S20 23.2	248 56.6	N12 08.6	264 10.9	N14 28.9	40 52.3	N 1 44.0
20	65 53.3	165 18.1	S20 23.5	263 59.6	N12 08.8	279 13.7	N14 29.0	55 54.6	N 1 44.0
21	80 55.7	180 17.6	S20 23.8	279 02.5	N12 09.1	294 16.4	N14 29.1	70 56.9	N 1 44.1
22	95 58.2	195 17.0	S20 24.1	294 05.5	N12 09.4	309 19.2	N14 29.2	85 59.1	N 1 44.2
23	111 00.7	210 16.5	S20 24.4	309 08.4	N12 09.6	324 21.9	N14 29.3	101 01.4	N 1 44.3
27 0	126 03.1	225 16.0	S20 24.7	324 11.3	N12 09.9	339 24.7	N14 29.4	116 03.7	N 1 44.4
1	141 05.6	240 15.5	S20 25.0	339 14.3	N12 10.2	354 27.4	N14 29.5	131 06.0	N 1 44.5
2	156 08.0	255 14.9	S20 25.3	354 17.2	N12 10.5	9 30.2	N14 29.6	146 08.3	N 1 44.5
3	171 10.5	270 14.4	S20 25.6	9 20.2	N12 10.7	24 33.0	N14 29.7	161 10.6	N 1 44.6
4	186 13.0	285 13.9	S20 25.9	24 23.1	N12 11.0	39 35.7	N14 29.8	176 12.9	N 1 44.7
W 5	201 15.4	300 13.4	S20 26.2	39 26.1	N12 11.3	54 38.5	N14 29.9	191 15.2	N 1 44.8
E									
D 6	216 17.9	315 12.9	S20 26.5	54 29.0	N12 11.5	69 41.2	N14 30.0	206 17.4	N 1 44.9
N 7	231 20.4	330 12.3	S20 26.8	69 32.0	N12 11.8	84 44.0	N14 30.2	221 19.7	N 1 45.0
E 8	246 22.8	345 11.8	S20 27.1	84 35.0	N12 12.1	99 46.8	N14 30.3	236 22.0	N 1 45.1
S 9	261 25.3	0 11.3	S20 27.4	99 37.9	N12 12.4	114 49.5	N14 30.4	251 24.3	N 1 45.1
D 10	276 27.8	15 10.8	S20 27.7	114 40.9	N12 12.6	129 52.3	N14 30.5	266 26.6	N 1 45.2
A 11	291 30.2	30 10.2	S20 28.0	129 43.8	N12 12.9	144 55.0	N14 30.6	281 28.9	N 1 45.3
Y									
12	306 32.7	45 09.7	S20 28.2	144 46.8	N12 13.2	159 57.8	N14 30.7	296 31.2	N 1 45.4
13	321 35.2	60 09.2	S20 28.5	159 49.8	N12 13.5	175 00.6	N14 30.8	311 33.4	N 1 45.5
14	336 37.6	75 08.6	S20 28.8	174 52.7	N12 13.7	190 03.3	N14 30.9	326 35.7	N 1 45.6
15	351 40.1	90 08.1	S20 29.1	189 55.7	N12 14.0	205 06.1	N14 31.0	341 38.0	N 1 45.7
16	6 42.5	105 07.6	S20 29.4	204 58.7	N12 14.3	220 08.8	N14 31.1	356 40.3	N 1 45.7
17	21 45.0	120 07.1	S20 29.7	220 01.6	N12 14.6	235 11.6	N14 31.2	11 42.6	N 1 45.8
18	36 47.5	135 06.5	S20 30.0	235 04.6	N12 14.8	250 14.4	N14 31.3	26 44.9	N 1 45.9
19	51 49.9	150 06.0	S20 30.2	250 07.6	N12 15.1	265 17.1	N14 31.5	41 47.2	N 1 46.0
20	66 52.4	165 05.5	S20 30.5	265 10.5	N12 15.4	280 19.9	N14 31.6	56 49.4	N 1 46.1
21	81 54.9	180 04.9	S20 30.8	280 13.5	N12 15.7	295 22.6	N14 31.7	71 51.7	N 1 46.2
22	96 57.3	195 04.4	S20 31.1	295 16.5	N12 15.9	310 25.4	N14 31.8	86 54.0	N 1 46.3
23	111 59.8	210 03.9	S20 31.4	310 19.5	N12 16.2	325 28.2	N14 31.9	101 56.3	N 1 46.3
		v -0.5	d 0.3	v 2.9	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 '
25	0	176 58.2	S19 04.3	323 52.3	10.9 N	6 31.2	16.4	59.9
	1	191 58.0	S19 03.7	338 22.3	11.0 N	6 14.7	16.5	59.9
	2	206 57.9	S19 03.0	352 52.3	11.1 N	5 58.2	16.5	59.8
	3	221 57.7	S19 02.4	7 22.5	11.1 N	5 41.7	16.5	59.8
	4	236 57.6	S19 01.8	21 52.7	11.2 N	5 25.2	16.5	59.7
M	5	251 57.4	S19 01.2	36 22.9	11.3 N	5 08.7	16.5	59.7
O								
N	6	266 57.3	S19 00.6	50 53.3	11.3 N	4 52.2	16.5	59.7
D	7	281 57.1	S18 60.0	65 23.7	11.4 N	4 35.7	16.5	59.6
A	8	296 57.0	S18 59.4	79 54.2	11.5 N	4 19.2	16.5	59.6
Y	9	311 56.9	S18 58.8	94 24.7	11.5 N	4 02.7	16.5	59.6
	10	326 56.7	S18 58.1	108 55.3	11.6 N	3 46.2	16.5	59.5
	11	341 56.6	S18 57.5	123 26.0	11.7 N	3 29.7	16.5	59.5
	12	356 56.4	S18 56.9	137 56.7	11.7 N	3 13.2	16.5	59.4
	13	11 56.3	S18 56.3	152 27.5	11.8 N	2 56.7	16.5	59.4
	14	26 56.1	S18 55.7	166 58.4	11.9 N	2 40.2	16.5	59.4
	15	41 56.0	S18 55.1	181 29.3	11.9 N	2 23.7	16.5	59.3
	16	56 55.9	S18 54.4	196 00.2	12.0 N	2 07.3	16.5	59.3
	17	71 55.7	S18 53.8	210 31.3	12.0 N	1 50.8	16.5	59.3
	18	86 55.6	S18 53.2	225 02.3	12.1 N	1 34.4	16.4	59.2
	19	101 55.4	S18 52.6	239 33.5	12.1 N	1 17.9	16.4	59.2
	20	116 55.3	S18 51.9	254 04.6	12.2 N	1 01.5	16.4	59.1
	21	131 55.2	S18 51.3	268 35.9	12.2 N	0 45.1	16.4	59.1
	22	146 55.0	S18 50.7	283 07.2	12.3 N	0 28.7	16.4	59.1
	23	161 54.9	S18 50.1	297 38.5	12.3 N	0 12.4	16.4	59.0
26	0	176 54.7	S18 49.5	312 09.9	12.4 S	0 03.9	16.3	59.0
	1	191 54.6	S18 48.8	326 41.3	12.4 S	0 20.2	16.3	58.9
	2	206 54.5	S18 48.2	341 12.7	12.5 S	0 36.5	16.3	58.9
	3	221 54.3	S18 47.6	355 44.2	12.5 S	0 52.8	16.3	58.9
	4	236 54.2	S18 47.0	10 15.8	12.5 S	1 09.0	16.2	58.8
T	5	251 54.0	S18 46.3	24 47.4	12.6 S	1 25.2	16.2	58.8
U								
E	6	266 53.9	S18 45.7	39 19.0	12.6 S	1 41.4	16.2	58.7
S	7	281 53.8	S18 45.1	53 50.6	12.7 S	1 57.5	16.1	58.7
D	8	296 53.6	S18 44.4	68 22.3	12.7 S	2 13.6	16.1	58.6
A	9	311 53.5	S18 43.8	82 54.1	12.7 S	2 29.7	16.1	58.6
Y	10	326 53.4	S18 43.2	97 25.8	12.8 S	2 45.7	16.0	58.6
	11	341 53.2	S18 42.6	111 57.6	12.8 S	3 01.7	16.0	58.5
	12	356 53.1	S18 41.9	126 29.4	12.8 S	3 17.6	16.0	58.5
	13	11 53.0	S18 41.3	141 01.3	12.8 S	3 33.6	15.9	58.4
	14	26 52.8	S18 40.7	155 33.1	12.9 S	3 49.4	15.9	58.4
	15	41 52.7	S18 40.0	170 05.1	12.9 S	4 05.3	15.8	58.4
	16	56 52.6	S18 39.4	184 37.0	12.9 S	4 21.1	15.8	58.3
	17	71 52.4	S18 38.8	199 08.9	13.0 S	4 36.8	15.7	58.3
	18	86 52.3	S18 38.1	213 40.9	13.0 S	4 52.5	15.7	58.2
	19	101 52.2	S18 37.5	228 12.9	13.0 S	5 08.2	15.7	58.2
	20	116 52.0	S18 36.9	242 44.9	13.0 S	5 23.8	15.6	58.2
	21	131 51.9	S18 36.2	257 17.0	13.0 S	5 39.4	15.6	58.1
	22	146 51.8	S18 35.6	271 49.0	13.1 S	5 54.9	15.5	58.1
	23	161 51.6	S18 34.9	286 21.1	13.1 S	6 10.3	15.5	58.0
27	0	176 51.5	S18 34.3	300 53.2	13.1 S	6 25.7	15.4	58.0
	1	191 51.4	S18 33.7	315 25.3	13.1 S	6 41.1	15.4	57.9
	2	206 51.3	S18 33.0	329 57.4	13.1 S	6 56.4	15.3	57.9
	3	221 51.1	S18 32.4	344 29.5	13.1 S	7 11.7	15.3	57.9
	4	236 51.0	S18 31.7	359 01.6	13.1 S	7 26.8	15.2	57.8
W	5	251 50.9	S18 31.1	13 33.8	13.1 S	7 42.0	15.1	57.8
E								
D	6	266 50.7	S18 30.5	28 05.9	13.2 S	7 57.1	15.1	57.7
N	7	281 50.6	S18 29.8	42 38.1	13.2 S	8 12.1	15.0	57.7
E	8	296 50.5	S18 29.2	57 10.3	13.2 S	8 27.0	15.0	57.7
S	9	311 50.4	S18 28.5	71 42.5	13.2 S	8 42.0	14.9	57.6
D	10	326 50.2	S18 27.9	86 14.6	13.2 S	8 56.8	14.8	57.6
A	11	341 50.1	S18 27.2	100 46.8	13.2 S	9 11.6	14.8	57.5
Y								
	12	356 50.0	S18 26.6	115 19.0	13.2 S	9 26.3	14.7	57.5
	13	11 49.9	S18 26.0	129 51.2	13.2 S	9 40.9	14.6	57.5
	14	26 49.7	S18 25.3	144 23.4	13.2 S	9 55.5	14.6	57.4
	15	41 49.6	S18 24.7	158 55.5	13.2 S10	10.0	14.5	57.4
	16	56 49.5	S18 24.0	173 27.7	13.2 S10	24.5	14.5	57.3
	17	71 49.4	S18 23.4	187 59.9	13.2 S10	38.9	14.4	57.3
	18	86 49.2	S18 22.7	202 32.1	13.2 S10	53.2	14.3	57.3
	19	101 49.1	S18 22.1	217 04.2	13.2 S11	07.4	14.2	57.2
	20	116 49.0	S18 21.4	231 36.4	13.2 S11	21.6	14.2	57.2
	21	131 48.9	S18 20.8	246 08.6	13.2 S11	35.7	14.1	57.1
	22	146 48.7	S18 20.1	260 40.7	13.1 S11	49.7	14.0	57.1
	23	161 48.6	S18 19.5	275 12.8	13.1 S12	03.7	14.0	57.1
		S.D. 16.2	d 0.6	S.D.	16.2	15.9	15.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.4	S40 12.0
Achernar	335 19.0	S57 06.2
Acrux	172 57.9	S63 14.8
Adhara	255 04.2	S29 00.6
Albireo	67 03.0	N28 00.9
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.2	N55 48.4
Alkaid	152 50.6	N49 10.3
Al Na-ir	27 31.1	S46 49.9
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.7	S 8 46.7
Alphecca	126 02.4	N26 37.1
Alpheratz	357 33.2	N29 14.6
Altair	61 58.6	N 8 56.3
Ankaa	353 05.6	S42 09.7
Antares	112 14.0	S26 29.5
Arcturus	145 46.3	N19 02.2
Atria	107 07.1	S69 04.4
Avior	234 13.4	S59 35.8
Bellatrix	278 20.8	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.1	S52 42.7
Capella	280 19.0	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.1	N45 22.6
Denebola	182 23.0	N14 25.0
Diphda	348 45.7	S17 50.4
Dubhe	193 38.4	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.8	N51 28.8
Enif	33 37.4	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.5	S57 15.8
Gienah	175 41.7	S17 41.6
Hadar	148 33.6	S60 30.0
Hamal	327 49.3	N23 35.6
Kaus Austr.	83 30.6	S34 22.3
Kochab	137 20.2	N74 02.2
Markab	13 28.4	N15 21.1
Menkar	314 04.3	N 4 11.8
Menkent	147 55.6	S36 30.2
Miaplacidus	221 36.9	S69 49.7
Mirfak	308 25.7	N49 57.7
Nunki	75 46.0	S26 15.8
Peacock	53 03.6	S56 38.9
Polaris	315 49.7	N89 22.5
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.3
Rasalhague	95 57.3	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.0	S 8 10.3
Rigil Kent	139 38.2	S60 56.6
Sabik	102 01.1	S15 45.6
Schedar	349 29.3	N56 41.4
Shaula	96 08.4	S37 07.4
Sirius	258 24.4	S16 45.3
Spica	158 20.4	S11 18.3
Suhail	222 44.6	S43 32.5
Vega	80 32.4	N38 48.3
Zuben-ubi	136 55.1	S16 09.3

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
28	0	127 02.3	225 03.3	S20 31.6	325 22.4	N12 16.5	340 30.9	N14 32.0	116 58.6	N 1 46.4
	1	142 04.7	240 02.8	S20 31.9	340 25.4	N12 16.8	355 33.7	N14 32.1	132 00.9	N 1 46.5
	2	157 07.2	255 02.3	S20 32.2	355 28.4	N12 17.1	10 36.4	N14 32.2	147 03.1	N 1 46.6
	3	172 09.6	270 01.7	S20 32.5	10 31.4	N12 17.3	25 39.2	N14 32.3	162 05.4	N 1 46.7
	4	187 12.1	285 01.2	S20 32.7	25 34.4	N12 17.6	40 42.0	N14 32.4	177 07.7	N 1 46.8
T	5	202 14.6	300 00.7	S20 33.0	40 37.3	N12 17.9	55 44.7	N14 32.5	192 10.0	N 1 46.9
H										
U	6	217 17.0	315 00.1	S20 33.3	55 40.3	N12 18.2	70 47.5	N14 32.6	207 12.3	N 1 46.9
R	7	232 19.5	329 59.6	S20 33.6	70 43.3	N12 18.5	85 50.3	N14 32.8	222 14.6	N 1 47.0
S	8	247 22.0	344 59.1	S20 33.8	85 46.3	N12 18.8	100 53.0	N14 32.9	237 16.8	N 1 47.1
D	9	262 24.4	359 58.5	S20 34.1	100 49.3	N12 19.0	115 55.8	N14 33.0	252 19.1	N 1 47.2
A	10	277 26.9	14 58.0	S20 34.4	115 52.3	N12 19.3	130 58.5	N14 33.1	267 21.4	N 1 47.3
Y	11	292 29.4	29 57.4	S20 34.7	130 55.3	N12 19.6	146 01.3	N14 33.2	282 23.7	N 1 47.4
	12	307 31.8	44 56.9	S20 34.9	145 58.3	N12 19.9	161 04.1	N14 33.3	297 26.0	N 1 47.5
	13	322 34.3	59 56.4	S20 35.2	161 01.3	N12 20.2	176 06.8	N14 33.4	312 28.3	N 1 47.5
	14	337 36.8	74 55.8	S20 35.5	176 04.3	N12 20.5	191 09.6	N14 33.5	327 30.5	N 1 47.6
	15	352 39.2	89 55.3	S20 35.7	191 07.2	N12 20.7	206 12.4	N14 33.6	342 32.8	N 1 47.7
	16	7 41.7	104 54.7	S20 36.0	206 10.2	N12 21.0	221 15.1	N14 33.7	357 35.1	N 1 47.8
	17	22 44.1	119 54.2	S20 36.3	221 13.2	N12 21.3	236 17.9	N14 33.8	12 37.4	N 1 47.9
	18	37 46.6	134 53.7	S20 36.5	236 16.2	N12 21.6	251 20.7	N14 34.0	27 39.7	N 1 48.0
	19	52 49.1	149 53.1	S20 36.8	251 19.2	N12 21.9	266 23.4	N14 34.1	42 42.0	N 1 48.1
	20	67 51.5	164 52.6	S20 37.0	266 22.3	N12 22.2	281 26.2	N14 34.2	57 44.2	N 1 48.1
	21	82 54.0	179 52.0	S20 37.3	281 25.3	N12 22.5	296 28.9	N14 34.3	72 46.5	N 1 48.2
	22	97 56.5	194 51.5	S20 37.6	296 28.3	N12 22.8	311 31.7	N14 34.4	87 48.8	N 1 48.3
	23	112 58.9	209 50.9	S20 37.8	311 31.3	N12 23.0	326 34.5	N14 34.5	102 51.1	N 1 48.4
29	0	128 01.4	224 50.4	S20 38.1	326 34.3	N12 23.3	341 37.2	N14 34.6	117 53.4	N 1 48.5
	1	143 03.9	239 49.8	S20 38.3	341 37.3	N12 23.6	356 40.0	N14 34.7	132 55.6	N 1 48.6
	2	158 06.3	254 49.3	S20 38.6	356 40.3	N12 23.9	11 42.8	N14 34.8	147 57.9	N 1 48.7
	3	173 08.8	269 48.7	S20 38.9	11 43.3	N12 24.2	26 45.5	N14 34.9	163 00.2	N 1 48.8
	4	188 11.3	284 48.2	S20 39.1	26 46.3	N12 24.5	41 48.3	N14 35.0	178 02.5	N 1 48.8
F	5	203 13.7	299 47.6	S20 39.4	41 49.3	N12 24.8	56 51.1	N14 35.2	193 04.8	N 1 48.9
R										
I	6	218 16.2	314 47.1	S20 39.6	56 52.4	N12 25.1	71 53.8	N14 35.3	208 07.0	N 1 49.0
D	7	233 18.6	329 46.6	S20 39.9	71 55.4	N12 25.4	86 56.6	N14 35.4	223 09.3	N 1 49.1
A	8	248 21.1	344 46.0	S20 40.1	86 58.4	N12 25.7	101 59.4	N14 35.5	238 11.6	N 1 49.2
Y	9	263 23.6	359 45.5	S20 40.4	102 01.4	N12 26.0	117 02.1	N14 35.6	253 13.9	N 1 49.3
	10	278 26.0	14 44.9	S20 40.6	117 04.4	N12 26.2	132 04.9	N14 35.7	268 16.2	N 1 49.4
	11	293 28.5	29 44.4	S20 40.9	132 07.5	N12 26.5	147 07.7	N14 35.8	283 18.4	N 1 49.5
	12	308 31.0	44 43.8	S20 41.1	147 10.5	N12 26.8	162 10.4	N14 35.9	298 20.7	N 1 49.5
	13	323 33.4	59 43.2	S20 41.4	162 13.5	N12 27.1	177 13.2	N14 36.0	313 23.0	N 1 49.6
	14	338 35.9	74 42.7	S20 41.6	177 16.5	N12 27.4	192 16.0	N14 36.1	328 25.3	N 1 49.7
	15	353 38.4	89 42.1	S20 41.9	192 19.6	N12 27.7	207 18.7	N14 36.3	343 27.6	N 1 49.8
	16	8 40.8	104 41.6	S20 42.1	207 22.6	N12 28.0	222 21.5	N14 36.4	358 29.8	N 1 49.9
	17	23 43.3	119 41.0	S20 42.4	222 25.6	N12 28.3	237 24.3	N14 36.5	13 32.1	N 1 50.0
	18	38 45.7	134 40.5	S20 42.6	237 28.6	N12 28.6	252 27.0	N14 36.6	28 34.4	N 1 50.1
	19	53 48.2	149 39.9	S20 42.9	252 31.7	N12 28.9	267 29.8	N14 36.7	43 36.7	N 1 50.2
	20	68 50.7	164 39.4	S20 43.1	267 34.7	N12 29.2	282 32.6	N14 36.8	58 39.0	N 1 50.2
	21	83 53.1	179 38.8	S20 43.3	282 37.7	N12 29.5	297 35.3	N14 36.9	73 41.2	N 1 50.3
	22	98 55.6	194 38.3	S20 43.6	297 40.8	N12 29.8	312 38.1	N14 37.0	88 43.5	N 1 50.4
	23	113 58.1	209 37.7	S20 43.8	312 43.8	N12 30.1	327 40.9	N14 37.1	103 45.8	N 1 50.5
30	0	129 00.5	224 37.1	S20 44.1	327 46.9	N12 30.4	342 43.6	N14 37.2	118 48.1	N 1 50.6
	1	144 03.0	239 36.6	S20 44.3	342 49.9	N12 30.7	357 46.4	N14 37.4	133 50.4	N 1 50.7
	2	159 05.5	254 36.0	S20 44.5	357 52.9	N12 31.0	12 49.2	N14 37.5	148 52.6	N 1 50.8
	3	174 07.9	269 35.5	S20 44.8	12 56.0	N12 31.3	27 51.9	N14 37.6	163 54.9	N 1 50.9
	4	189 10.4	284 34.9	S20 45.0	27 59.0	N12 31.6	42 54.7	N14 37.7	178 57.2	N 1 50.9
S	5	204 12.9	299 34.4	S20 45.2	43 02.1	N12 31.9	57 57.5	N14 37.8	193 59.5	N 1 51.0
A										
T	6	219 15.3	314 33.8	S20 45.5	58 05.1	N12 32.2	73 00.3	N14 37.9	209 01.7	N 1 51.1
U	7	234 17.8	329 33.2	S20 45.7	73 08.2	N12 32.5	88 03.0	N14 38.0	224 04.0	N 1 51.2
R	8	249 20.2	344 32.7	S20 45.9	88 11.2	N12 32.8	103 05.8	N14 38.1	239 06.3	N 1 51.3
D	9	264 22.7	359 32.1	S20 46.2	103 14.3	N12 33.1	118 08.6	N14 38.2	254 08.6	N 1 51.4
A	10	279 25.2	14 31.5	S20 46.4	118 17.3	N12 33.4	133 11.3	N14 38.3	269 10.8	N 1 51.5
Y	11	294 27.6	29 31.0	S20 46.6	133 20.4	N12 33.7	148 14.1	N14 38.5	284 13.1	N 1 51.6
	12	309 30.1	44 30.4	S20 46.9	148 23.4	N12 34.0	163 16.9	N14 38.6	299 15.4	N 1 51.7
	13	324 32.6	59 29.9	S20 47.1	163 26.5	N12 34.3	178 19.6	N14 38.7	314 17.7	N 1 51.7
	14	339 35.0	74 29.3	S20 47.3	178 29.5	N12 34.6	193 22.4	N14 38.8	329 20.0	N 1 51.8
	15	354 37.5	89 28.7	S20 47.5	193 32.6	N12 34.9	208 25.2	N14 38.9	344 22.2	N 1 51.9
	16	9 40.0	104 28.2	S20 47.8	208 35.6	N12 35.2	223 27.9	N14 39.0	359 24.5	N 1 52.0
	17	24 42.4	119 27.6	S20 48.0	223 38.7	N12 35.5	238 30.7	N14 39.1	14 26.8	N 1 52.1
	18	39 44.9	134 27.0	S20 48.2	238 41.8	N12 35.8	253 33.5	N14 39.2	29 29.1	N 1 52.2
	19	54 47.4	149 26.5	S20 48.4	253 44.8	N12 36.1	268 36.3	N14 39.3	44 31.3	N 1 52.3
	20	69 49.8	164 25.9	S20 48.6	268 47.9	N12 36.4	283 39.0	N14 39.4	59 33.6	N 1 52.4
	21	84 52.3	179 25.3	S20 48.9	283 51.0	N12 36.7	298 41.8	N14 39.6	74 35.9	N 1 52.5
	22	99 54.7	194 24.8	S20 49.1	298 54.0	N12 37.0	313 44.6	N14 39.7	89 38.2	N 1 52.5
	23	114 57.2	209 24.2	S20 49.3	313 57.1	N12 37.3	328 47.3	N14 39.8	104 40.4	N 1 52.6
			v -0.6	d 0.2	v 3.0	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
	° '	° '	° '	'	° '	'	'		° '	° '
28 0	176 48.5	S18 18.8	289 45.0	13.1	S12 17.6	13.9	57.0	Acamar	315 10.4	S40 12.0
1	191 48.4	S18 18.2	304 17.1	13.1	S12 31.4	13.8	57.0	Achernar	335 19.0	S57 06.2
2	206 48.2	S18 17.5	318 49.2	13.1	S12 45.1	13.7	57.0	Acrux	172 57.8	S63 14.8
3	221 48.1	S18 16.8	333 21.3	13.1	S12 58.8	13.7	56.9	Adhara	255 04.2	S29 00.6
4	236 48.0	S18 16.2	347 53.4	13.1	S13 12.3	13.6	56.9	Albireo	67 03.0	N28 00.9
T 5	251 47.9	S18 15.5	2 25.4	13.1	S13 25.8	13.5	56.8			
H								Aldebaran	290 37.5	N16 33.9
U 6	266 47.8	S18 14.9	16 57.5	13.0	S13 39.3	13.4	56.8	Alioth	166 11.2	N55 48.4
R 7	281 47.6	S18 14.2	31 29.5	13.0	S13 52.6	13.3	56.8	Alkaid	152 50.6	N49 10.3
S 8	296 47.5	S18 13.6	46 01.5	13.0	S14 05.9	13.3	56.7	Al Na-ir	27 31.2	S46 49.9
D 9	311 47.4	S18 12.9	60 33.5	13.0	S14 19.0	13.2	56.7	Alnilam	275 35.7	S 1 11.1
A 10	326 47.3	S18 12.3	75 05.5	13.0	S14 32.1	13.1	56.7			
Y 11	341 47.2	S18 11.6	89 37.5	13.0	S14 45.1	13.0	56.6	Alphard	217 45.7	S 8 46.7
								Alphecca	126 02.4	N26 37.1
12	356 47.1	S18 10.9	104 09.4	12.9	S14 58.1	12.9	56.6	Alpheratz	357 33.2	N29 14.6
13	11 46.9	S18 10.3	118 41.3	12.9	S15 10.9	12.8	56.5	Altair	61 58.6	N 8 56.3
14	26 46.8	S18 09.6	133 13.2	12.9	S15 23.7	12.8	56.5	Ankaa	353 05.7	S42 09.7
15	41 46.7	S18 09.0	147 45.1	12.9	S15 36.4	12.7	56.5			
16	56 46.6	S18 08.3	162 16.9	12.9	S15 48.9	12.6	56.4	Antares	112 13.9	S26 29.5
17	71 46.5	S18 07.6	176 48.8	12.8	S16 01.4	12.5	56.4	Arcturus	145 46.3	N19 02.2
								Atria	107 07.0	S69 04.4
18	86 46.3	S18 07.0	191 20.6	12.8	S16 13.8	12.4	56.4	Avior	234 13.4	S59 35.8
19	101 46.2	S18 06.3	205 52.3	12.8	S16 26.2	12.3	56.3	Bellatrix	278 20.8	N 6 22.4
20	116 46.1	S18 05.6	220 24.1	12.8	S16 38.4	12.2	56.3			
21	131 46.0	S18 05.0	234 55.8	12.7	S16 50.5	12.1	56.3	Betelgeuse	270 50.0	N 7 24.7
22	146 45.9	S18 04.3	249 27.5	12.7	S17 02.6	12.0	56.2	Canopus	263 51.1	S52 42.8
23	161 45.8	S18 03.6	263 59.2	12.7	S17 14.5	12.0	56.2	Capella	280 19.0	N46 01.7
29 0	176 45.7	S18 03.0	278 30.8	12.6	S17 26.4	11.9	56.2	Castor	245 54.5	N31 49.7
1	191 45.5	S18 02.3	293 02.4	12.6	S17 38.2	11.8	56.1	Deneb	49 25.1	N45 22.6
2	206 45.4	S18 01.6	307 34.0	12.6	S17 49.9	11.7	56.1			
3	221 45.3	S18 01.0	322 05.6	12.6	S18 01.4	11.6	56.1	Denebola	182 23.0	N14 25.0
4	236 45.2	S18 00.3	336 37.1	12.5	S18 12.9	11.5	56.0	Diphda	348 45.8	S17 50.4
F 5	251 45.1	S17 59.6	351 08.6	12.5	S18 24.3	11.4	56.0	Dubhe	193 38.3	N61 36.0
R								Elnath	277 59.5	N28 37.8
I 6	266 45.0	S17 59.0	5 40.0	12.5	S18 35.6	11.3	56.0	Eltanin	90 41.8	N51 28.8
D 7	281 44.9	S17 58.3	20 11.5	12.4	S18 46.8	11.2	55.9			
A 8	296 44.8	S17 57.6	34 42.9	12.4	S18 57.9	11.1	55.9	Enif	33 37.4	N 9 59.9
Y 9	311 44.7	S17 57.0	49 14.2	12.4	S19 08.9	11.0	55.9	Fomalhaut	15 12.9	S29 28.8
10	326 44.5	S17 56.3	63 45.5	12.3	S19 19.8	10.9	55.8	Gacrux	171 49.5	S57 15.8
11	341 44.4	S17 55.6	78 16.8	12.3	S19 30.6	10.8	55.8	Gienah	175 41.6	S17 41.6
								Hadar	148 33.6	S60 30.0
12	356 44.3	S17 54.9	92 48.1	12.3	S19 41.3	10.7	55.8			
13	11 44.2	S17 54.3	107 19.3	12.2	S19 51.9	10.6	55.7	Hamal	327 49.3	N23 35.6
14	26 44.1	S17 53.6	121 50.5	12.2	S20 02.4	10.5	55.7	Kaus Austr.	83 30.6	S34 22.3
15	41 44.0	S17 52.9	136 21.7	12.2	S20 12.8	10.4	55.7	Kochab	137 20.1	N74 02.2
16	56 43.9	S17 52.3	150 52.8	12.1	S20 23.1	10.3	55.7	Markab	13 28.5	N15 21.1
17	71 43.8	S17 51.6	165 23.9	12.1	S20 33.2	10.2	55.6	Menkar	314 04.3	N 4 11.8
								Menkent	147 55.6	S36 30.2
18	86 43.7	S17 50.9	179 54.9	12.0	S20 43.3	10.1	55.6	Miaplacidus	221 36.9	S69 49.7
19	101 43.6	S17 50.2	194 25.9	12.0	S20 53.3	10.0	55.6	Mirfak	308 25.7	N49 57.7
20	116 43.5	S17 49.5	208 56.9	12.0	S21 03.2	9.9	55.5	Nunki	75 46.0	S26 15.8
21	131 43.3	S17 48.9	223 27.8	11.9	S21 12.9	9.8	55.5	Peacock	53 03.6	S56 38.9
22	146 43.2	S17 48.2	237 58.7	11.9	S21 22.6	9.7	55.5			
23	161 43.1	S17 47.5	252 29.6	11.9	S21 32.1	9.5	55.5	Polaris	315 50.9	N89 22.5
30 0	176 43.0	S17 46.8	267 00.4	11.8	S21 41.5	9.4	55.4	Pollux	243 14.8	N27 57.6
1	191 42.9	S17 46.2	281 31.2	11.8	S21 50.9	9.3	55.4	Procyon	244 48.7	N 5 09.2
2	206 42.8	S17 45.5	296 01.9	11.7	S22 00.1	9.2	55.4	Rasalhague	95 57.2	N12 32.3
3	221 42.7	S17 44.8	310 32.6	11.7	S22 09.2	9.1	55.3	Regulus	207 32.3	N11 49.9
4	236 42.6	S17 44.1	325 03.3	11.7	S22 18.2	9.0	55.3			
S 5	251 42.5	S17 43.4	339 34.0	11.6	S22 27.1	8.9	55.3	Rigel	281 02.0	S 8 10.3
A								Rigil Kent	139 38.1	S60 56.6
T 6	266 42.4	S17 42.7	354 04.6	11.6	S22 35.8	8.8	55.3	Sabik	102 01.1	S15 45.6
U 7	281 42.3	S17 42.1	8 35.1	11.6	S22 44.5	8.7	55.2	Schedar	349 29.3	N56 41.4
R 8	296 42.2	S17 41.4	23 05.6	11.5	S22 53.0	8.5	55.2	Shaula	96 08.3	S37 07.4
D 9	311 42.1	S17 40.7	37 36.1	11.5	S23 01.4	8.4	55.2			
A 10	326 42.0	S17 40.0	52 06.6	11.4	S23 09.8	8.3	55.2	Sirius	258 24.4	S16 45.3
Y 11	341 41.9	S17 39.3	66 37.0	11.4	S23 18.0	8.2	55.1	Spica	158 20.4	S11 18.3
								Suhail	222 44.6	S43 32.6
12	356 41.8	S17 38.6	81 07.3	11.4	S23 26.0	8.1	55.1	Vega	80 32.4	N38 48.3
13	11 41.7	S17 37.9	95 37.7	11.3	S23 34.0	8.0	55.1	Zuben-ubi	136 55.1	S16 09.3
14	26 41.6	S17 37.3	110 08.0	11.3	S23 41.9	7.8	55.1			
15	41 41.5	S17 36.6	124 38.2	11.3	S23 49.6	7.7	55.0			
16	56 41.4	S17 35.9	139 08.4	11.2	S23 57.2	7.6	55.0			
17	71 41.3	S17 35.2	153 38.6	11.2	S24 04.7	7.5	55.0			
18	86 41.2	S17 34.5	168 08.8	11.1	S24 12.1	7.4	55.0			
19	101 41.1	S17 33.8	182 38.9	11.1	S24 19.3	7.3	54.9			
20	116 41.0	S17 33.1	197 08.9	11.1	S24 26.5	7.1	54.9			
21	131 40.9	S17 32.4	211 39.0	11.0	S24 33.5	7.0	54.9			
22	146 40.8	S17 31.7	226 09.0	11.0	S24 40.4	6.9	54.9			
23	161 40.7	S17 31.1	240 39.0	11.0	S24 47.1	6.8	54.9			
	S.D. 16.2	d 0.7	S.D.	15.4	15.2		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 ° '
31	0	129 59.7	224 23.6	S20 49.5	329 00.2	N12 37.7	343 50.1	N14 39.9	119 42.7	N 1 52.7
	1	145 02.1	239 23.1	S20 49.7	344 03.2	N12 38.0	358 52.9	N14 40.0	134 45.0	N 1 52.8
	2	160 04.6	254 22.5	S20 50.0	359 06.3	N12 38.3	13 55.7	N14 40.1	149 47.3	N 1 52.9
	3	175 07.1	269 21.9	S20 50.2	14 09.4	N12 38.6	28 58.4	N14 40.2	164 49.5	N 1 53.0
	4	190 09.5	284 21.4	S20 50.4	29 12.4	N12 38.9	44 01.2	N14 40.3	179 51.8	N 1 53.1
S	5	205 12.0	299 20.8	S20 50.6	44 15.5	N12 39.2	59 04.0	N14 40.4	194 54.1	N 1 53.2
U										
N	6	220 14.5	314 20.2	S20 50.8	59 18.6	N12 39.5	74 06.7	N14 40.6	209 56.4	N 1 53.3
D	7	235 16.9	329 19.6	S20 51.0	74 21.7	N12 39.8	89 09.5	N14 40.7	224 58.6	N 1 53.4
A	8	250 19.4	344 19.1	S20 51.2	89 24.8	N12 40.1	104 12.3	N14 40.8	240 00.9	N 1 53.4
Y	9	265 21.8	359 18.5	S20 51.4	104 27.8	N12 40.4	119 15.1	N14 40.9	255 03.2	N 1 53.5
	10	280 24.3	14 17.9	S20 51.7	119 30.9	N12 40.7	134 17.8	N14 41.0	270 05.5	N 1 53.6
	11	295 26.8	29 17.3	S20 51.9	134 34.0	N12 41.1	149 20.6	N14 41.1	285 07.7	N 1 53.7
	12	310 29.2	44 16.8	S20 52.1	149 37.1	N12 41.4	164 23.4	N14 41.2	300 10.0	N 1 53.8
	13	325 31.7	59 16.2	S20 52.3	164 40.2	N12 41.7	179 26.1	N14 41.3	315 12.3	N 1 53.9
	14	340 34.2	74 15.6	S20 52.5	179 43.3	N12 42.0	194 28.9	N14 41.4	330 14.5	N 1 54.0
	15	355 36.6	89 15.0	S20 52.7	194 46.3	N12 42.3	209 31.7	N14 41.6	345 16.8	N 1 54.1
	16	10 39.1	104 14.5	S20 52.9	209 49.4	N12 42.6	224 34.5	N14 41.7	0 19.1	N 1 54.2
	17	25 41.6	119 13.9	S20 53.1	224 52.5	N12 42.9	239 37.2	N14 41.8	15 21.4	N 1 54.3
	18	40 44.0	134 13.3	S20 53.3	239 55.6	N12 43.2	254 40.0	N14 41.9	30 23.6	N 1 54.3
	19	55 46.5	149 12.7	S20 53.5	254 58.7	N12 43.6	269 42.8	N14 42.0	45 25.9	N 1 54.4
	20	70 49.0	164 12.2	S20 53.7	270 01.8	N12 43.9	284 45.6	N14 42.1	60 28.2	N 1 54.5
	21	85 51.4	179 11.6	S20 53.9	285 04.9	N12 44.2	299 48.3	N14 42.2	75 30.5	N 1 54.6
	22	100 53.9	194 11.0	S20 54.1	300 08.0	N12 44.5	314 51.1	N14 42.3	90 32.7	N 1 54.7
	23	115 56.3	209 10.4	S20 54.3	315 11.1	N12 44.8	329 53.9	N14 42.4	105 35.0	N 1 54.8
1	0	130 58.8	224 09.9	S20 54.5	330 14.2	N12 45.1	344 56.7	N14 42.6	120 37.3	N 1 54.9
	1	146 01.3	239 09.3	S20 54.7	345 17.3	N12 45.4	359 59.4	N14 42.7	135 39.5	N 1 55.0
	2	161 03.7	254 08.7	S20 54.9	0 20.4	N12 45.8	15 02.2	N14 42.8	150 41.8	N 1 55.1
	3	176 06.2	269 08.1	S20 55.1	15 23.5	N12 46.1	30 05.0	N14 42.9	165 44.1	N 1 55.2
	4	191 08.7	284 07.5	S20 55.3	30 26.6	N12 46.4	45 07.8	N14 43.0	180 46.4	N 1 55.2
M	5	206 11.1	299 07.0	S20 55.5	45 29.7	N12 46.7	60 10.5	N14 43.1	195 48.6	N 1 55.3
O										
N	6	221 13.6	314 06.4	S20 55.7	60 32.8	N12 47.0	75 13.3	N14 43.2	210 50.9	N 1 55.4
D	7	236 16.1	329 05.8	S20 55.8	75 35.9	N12 47.3	90 16.1	N14 43.3	225 53.2	N 1 55.5
A	8	251 18.5	344 05.2	S20 56.0	90 39.0	N12 47.7	105 18.8	N14 43.4	240 55.4	N 1 55.6
Y	9	266 21.0	359 04.6	S20 56.2	105 42.1	N12 48.0	120 21.6	N14 43.6	255 57.7	N 1 55.7
	10	281 23.5	14 04.0	S20 56.4	120 45.2	N12 48.3	135 24.4	N14 43.7	270 60.0	N 1 55.8
	11	296 25.9	29 03.5	S20 56.6	135 48.3	N12 48.6	150 27.2	N14 43.8	286 02.3	N 1 55.9
	12	311 28.4	44 02.9	S20 56.8	150 51.5	N12 48.9	165 29.9	N14 43.9	301 04.5	N 1 56.0
	13	326 30.8	59 02.3	S20 57.0	165 54.6	N12 49.2	180 32.7	N14 44.0	316 06.8	N 1 56.1
	14	341 33.3	74 01.7	S20 57.2	180 57.7	N12 49.6	195 35.5	N14 44.1	331 09.1	N 1 56.2
	15	356 35.8	89 01.1	S20 57.3	196 00.8	N12 49.9	210 38.3	N14 44.2	346 11.3	N 1 56.2
	16	11 38.2	104 00.5	S20 57.5	211 03.9	N12 50.2	225 41.0	N14 44.3	1 13.6	N 1 56.3
	17	26 40.7	118 59.9	S20 57.7	226 07.0	N12 50.5	240 43.8	N14 44.4	16 15.9	N 1 56.4
	18	41 43.2	133 59.4	S20 57.9	241 10.2	N12 50.8	255 46.6	N14 44.6	31 18.2	N 1 56.5
	19	56 45.6	148 58.8	S20 58.1	256 13.3	N12 51.2	270 49.4	N14 44.7	46 20.4	N 1 56.6
	20	71 48.1	163 58.2	S20 58.2	271 16.4	N12 51.5	285 52.2	N14 44.8	61 22.7	N 1 56.7
	21	86 50.6	178 57.6	S20 58.4	286 19.5	N12 51.8	300 54.9	N14 44.9	76 25.0	N 1 56.8
	22	101 53.0	193 57.0	S20 58.6	301 22.6	N12 52.1	315 57.7	N14 45.0	91 27.2	N 1 56.9
	23	116 55.5	208 56.4	S20 58.8	316 25.8	N12 52.5	331 00.5	N14 45.1	106 29.5	N 1 57.0
2	0	131 58.0	223 55.8	S20 59.0	331 28.9	N12 52.8	346 03.3	N14 45.2	121 31.8	N 1 57.1
	1	147 00.4	238 55.2	S20 59.1	346 32.0	N12 53.1	1 06.0	N14 45.3	136 34.0	N 1 57.2
	2	162 02.9	253 54.7	S20 59.3	1 35.2	N12 53.4	16 08.8	N14 45.4	151 36.3	N 1 57.3
	3	177 05.3	268 54.1	S20 59.5	16 38.3	N12 53.8	31 11.6	N14 45.6	166 38.6	N 1 57.3
	4	192 07.8	283 53.5	S20 59.6	31 41.4	N12 54.1	46 14.4	N14 45.7	181 40.8	N 1 57.4
T	5	207 10.3	298 52.9	S20 59.8	46 44.6	N12 54.4	61 17.1	N14 45.8	196 43.1	N 1 57.5
U										
E	6	222 12.7	313 52.3	S20 60.0	61 47.7	N12 54.7	76 19.9	N14 45.9	211 45.4	N 1 57.6
S	7	237 15.2	328 51.7	S21 00.2	76 50.8	N12 55.0	91 22.7	N14 46.0	226 47.7	N 1 57.7
D	8	252 17.7	343 51.1	S21 00.3	91 54.0	N12 55.4	106 25.5	N14 46.1	241 49.9	N 1 57.8
A	9	267 20.1	358 50.5	S21 00.5	106 57.1	N12 55.7	121 28.2	N14 46.2	256 52.2	N 1 57.9
Y	10	282 22.6	13 49.9	S21 00.7	122 00.2	N12 56.0	136 31.0	N14 46.3	271 54.5	N 1 58.0
	11	297 25.1	28 49.3	S21 00.8	137 03.4	N12 56.4	151 33.8	N14 46.5	286 56.7	N 1 58.1
	12	312 27.5	43 48.7	S21 01.0	152 06.5	N12 56.7	166 36.6	N14 46.6	301 59.0	N 1 58.2
	13	327 30.0	58 48.1	S21 01.2	167 09.7	N12 57.0	181 39.4	N14 46.7	317 01.3	N 1 58.3
	14	342 32.5	73 47.5	S21 01.3	182 12.8	N12 57.3	196 42.1	N14 46.8	332 03.5	N 1 58.4
	15	357 34.9	88 46.9	S21 01.5	197 15.9	N12 57.7	211 44.9	N14 46.9	347 05.8	N 1 58.4
	16	12 37.4	103 46.4	S21 01.6	212 19.1	N12 58.0	226 47.7	N14 47.0	2 08.1	N 1 58.5
	17	27 39.8	118 45.8	S21 01.8	227 22.2	N12 58.3	241 50.5	N14 47.1	17 10.3	N 1 58.6
	18	42 42.3	133 45.2	S21 02.0	242 25.4	N12 58.6	256 53.2	N14 47.2	32 12.6	N 1 58.7
	19	57 44.8	148 44.6	S21 02.1	257 28.5	N12 59.0	271 56.0	N14 47.3	47 14.9	N 1 58.8
	20	72 47.2	163 44.0	S21 02.3	272 31.7	N12 59.3	286 58.8	N14 47.5	62 17.1	N 1 58.9
	21	87 49.7	178 43.4	S21 02.4	287 34.8	N12 59.6	302 01.6	N14 47.6	77 19.4	N 1 59.0
	22	102 52.2	193 42.8	S21 02.6	302 38.0	N12 60.0	317 04.4	N14 47.7	92 21.7	N 1 59.1
	23	117 54.6	208 42.2	S21 02.7	317 41.1	N13 00.3	332 07.1	N14 47.8	107 23.9	N 1 59.2
			v -0.6	d 0.2	v 3.1	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
31	0	176 40.6	S17 30.4	255 08.9	10.9	S24 53.8	6.7	54.8
	1	191 40.5	S17 29.7	269 38.8	10.9	S25 00.3	6.5	54.8
	2	206 40.4	S17 29.0	284 08.6	10.9	S25 06.7	6.4	54.8
	3	221 40.3	S17 28.3	298 38.5	10.8	S25 13.0	6.3	54.8
	4	236 40.2	S17 27.6	313 08.3	10.8	S25 19.2	6.2	54.8
S	5	251 40.1	S17 26.9	327 38.0	10.8	S25 25.2	6.0	54.7
U								
N	6	266 40.0	S17 26.2	342 07.8	10.7	S25 31.1	5.9	54.7
D	7	281 39.9	S17 25.5	356 37.5	10.7	S25 36.9	5.8	54.7
A	8	296 39.8	S17 24.8	11 07.1	10.7	S25 42.6	5.7	54.7
Y	9	311 39.7	S17 24.1	25 36.8	10.6	S25 48.1	5.5	54.7
	10	326 39.6	S17 23.4	40 06.4	10.6	S25 53.5	5.4	54.6
	11	341 39.6	S17 22.7	54 36.0	10.6	S25 58.8	5.3	54.6
	12	356 39.5	S17 22.0	69 05.5	10.5	S26 03.9	5.2	54.6
	13	11 39.4	S17 21.3	83 35.0	10.5	S26 09.0	5.0	54.6
	14	26 39.3	S17 20.6	98 04.5	10.5	S26 13.9	4.9	54.6
	15	41 39.2	S17 19.9	112 34.0	10.5	S26 18.6	4.8	54.6
	16	56 39.1	S17 19.2	127 03.4	10.4	S26 23.3	4.6	54.5
	17	71 39.0	S17 18.5	141 32.8	10.4	S26 27.8	4.5	54.5
	18	86 38.9	S17 17.8	156 02.2	10.4	S26 32.2	4.4	54.5
	19	101 38.8	S17 17.1	170 31.6	10.4	S26 36.4	4.3	54.5
	20	116 38.7	S17 16.4	185 00.9	10.3	S26 40.5	4.1	54.5
	21	131 38.6	S17 15.7	199 30.3	10.3	S26 44.5	4.0	54.5
	22	146 38.5	S17 15.0	213 59.5	10.3	S26 48.4	3.9	54.4
	23	161 38.5	S17 14.3	228 28.8	10.3	S26 52.1	3.7	54.4
1	0	176 38.4	S17 13.6	242 58.1	10.3	S26 55.7	3.6	54.4
	1	191 38.3	S17 12.9	257 27.3	10.2	S26 59.2	3.5	54.4
	2	206 38.2	S17 12.2	271 56.5	10.2	S27 02.5	3.3	54.4
	3	221 38.1	S17 11.5	286 25.7	10.2	S27 05.7	3.2	54.4
	4	236 38.0	S17 10.7	300 54.9	10.2	S27 08.8	3.1	54.4
M	5	251 37.9	S17 10.0	315 24.1	10.2	S27 11.7	2.9	54.3
O								
N	6	266 37.8	S17 09.3	329 53.2	10.2	S27 14.6	2.8	54.3
D	7	281 37.8	S17 08.6	344 22.4	10.1	S27 17.2	2.7	54.3
A	8	296 37.7	S17 07.9	358 51.5	10.1	S27 19.8	2.5	54.3
Y	9	311 37.6	S17 07.2	13 20.6	10.1	S27 22.2	2.4	54.3
	10	326 37.5	S17 06.5	27 49.7	10.1	S27 24.5	2.3	54.3
	11	341 37.4	S17 05.8	42 18.8	10.1	S27 26.6	2.1	54.3
	12	356 37.3	S17 05.1	56 47.9	10.1	S27 28.6	2.0	54.3
	13	11 37.2	S17 04.4	71 16.9	10.1	S27 30.5	1.9	54.2
	14	26 37.2	S17 03.6	85 46.0	10.1	S27 32.2	1.7	54.2
	15	41 37.1	S17 02.9	100 15.1	10.1	S27 33.9	1.6	54.2
	16	56 37.0	S17 02.2	114 44.1	10.1	S27 35.3	1.5	54.2
	17	71 36.9	S17 01.5	129 13.1	10.0	S27 36.7	1.3	54.2
	18	86 36.8	S17 00.8	143 42.2	10.0	S27 37.9	1.2	54.2
	19	101 36.7	S17 00.1	158 11.2	10.0	S27 39.0	1.1	54.2
	20	116 36.7	S16 59.4	172 40.3	10.0	S27 39.9	0.9	54.2
	21	131 36.6	S16 58.6	187 09.3	10.0	S27 40.7	0.8	54.2
	22	146 36.5	S16 57.9	201 38.3	10.0	S27 41.4	0.7	54.2
	23	161 36.4	S16 57.2	216 07.4	10.0	S27 41.9	0.5	54.1
2	0	176 36.3	S16 56.5	230 36.4	10.0	S27 42.3	0.4	54.1
	1	191 36.3	S16 55.8	245 05.5	10.0	S27 42.6	0.3	54.1
	2	206 36.2	S16 55.0	259 34.5	10.1	S27 42.7	0.1	54.1
	3	221 36.1	S16 54.3	274 03.6	10.1	S27 42.7	0.0	54.1
	4	236 36.0	S16 53.6	288 32.7	10.1	S27 42.6	0.1	54.1
T	5	251 35.9	S16 52.9	303 01.7	10.1	S27 42.4	0.3	54.1
U								
E	6	266 35.9	S16 52.2	317 30.8	10.1	S27 42.0	0.4	54.1
S	7	281 35.8	S16 51.4	331 59.9	10.1	S27 41.4	0.5	54.1
D	8	296 35.7	S16 50.7	346 29.0	10.1	S27 40.8	0.7	54.1
A	9	311 35.6	S16 50.0	0 58.1	10.1	S27 40.0	0.8	54.1
Y	10	326 35.5	S16 49.3	15 27.3	10.1	S27 39.0	0.9	54.1
	11	341 35.5	S16 48.6	29 56.4	10.1	S27 38.0	1.1	54.1
	12	356 35.4	S16 47.8	44 25.6	10.2	S27 36.8	1.2	54.1
	13	11 35.3	S16 47.1	58 54.7	10.2	S27 35.5	1.3	54.0
	14	26 35.2	S16 46.4	73 23.9	10.2	S27 34.0	1.5	54.0
	15	41 35.2	S16 45.7	87 53.1	10.2	S27 32.4	1.6	54.0
	16	56 35.1	S16 44.9	102 22.4	10.2	S27 30.7	1.7	54.0
	17	71 35.0	S16 44.2	116 51.6	10.3	S27 28.8	1.9	54.0
	18	86 34.9	S16 43.5	131 20.9	10.3	S27 26.9	2.0	54.0
	19	101 34.9	S16 42.7	145 50.2	10.3	S27 24.7	2.1	54.0
	20	116 34.8	S16 42.0	160 19.5	10.3	S27 22.5	2.2	54.0
	21	131 34.7	S16 41.3	174 48.8	10.3	S27 20.1	2.4	54.0
	22	146 34.6	S16 40.6	189 18.2	10.4	S27 17.6	2.5	54.0
	23	161 34.6	S16 39.8	203 47.6	10.4	S27 15.0	2.6	54.0
		S.D. 16.2	d 0.7	S.D. 14.9		14.8	14.7	

Name	SHA	Dec
Acamar	315 10.4	S40 12.0
Achernar	335 19.1	S57 06.2
Acrux	172 57.8	S63 14.8
Adhara	255 04.2	S29 00.7
Albireo	67 03.0	N28 00.9
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.2	N55 48.4
Alkaid	152 50.5	N49 10.3
Al Na-ir	27 31.1	S46 49.9
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.7	S 8 46.7
Alphecca	126 02.4	N26 37.1
Alpheratz	357 33.2	N29 14.6
Altair	61 58.6	N 8 56.3
Ankaa	353 05.7	S42 09.7
Antares	112 13.9	S26 29.5
Arcturus	145 46.3	N19 02.2
Atria	107 07.0	S69 04.4
Avior	234 13.4	S59 35.9
Bellatrix	278 20.8	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.2	S52 42.8
Capella	280 19.1	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.1	N45 22.6
Denebola	182 23.0	N14 25.0
Diphda	348 45.8	S17 50.4
Dubhe	193 38.3	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.8	N51 28.8
Enif	33 37.4	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.4	S57 15.8
Gienah	175 41.6	S17 41.6
Hadar	148 33.5	S60 30.0
Hamal	327 49.3	N23 35.6
Kaus Austr.	83 30.6	S34 22.3
Kochab	137 20.1	N74 02.2
Markab	13 28.5	N15 21.1
Menkar	314 04.3	N 4 11.8
Menkent	147 55.5	S36 30.2
Miaplacidus	221 36.9	S69 49.7
Mirfak	308 25.7	N49 57.7
Nunki	75 46.0	S26 15.8
Peacock	53 03.5	S56 38.9
Polaris	315 51.9	N89 22.5
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.2	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.0	S 8 10.3
Rigil Kent	139 38.1	S60 56.6
Sabik	102 01.0	S15 45.6
Schedar	349 29.4	N56 41.4
Shaula	96 08.3	S37 07.4
Sirius	258 24.4	S16 45.3
Spica	158 20.4	S11 18.3
Suhail	222 44.6	S43 32.6
Vega	80 32.4	N38 48.3
Zuben-ubi	136 55.0	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 ° '
3	0	132 57.1	223 41.6	S21 02.9	332 44.3	N13 00.6	347 09.9	N14 47.9	122 26.2	N 1 59.3
	1	147 59.6	238 41.0	S21 03.0	347 47.5	N13 00.9	2 12.7	N14 48.0	137 28.5	N 1 59.4
	2	163 02.0	253 40.4	S21 03.2	2 50.6	N13 01.3	17 15.5	N14 48.1	152 30.7	N 1 59.5
	3	178 04.5	268 39.8	S21 03.3	17 53.8	N13 01.6	32 18.3	N14 48.2	167 33.0	N 1 59.6
	4	193 06.9	283 39.2	S21 03.5	32 56.9	N13 01.9	47 21.0	N14 48.4	182 35.3	N 1 59.6
W	5	208 09.4	298 38.6	S21 03.6	48 00.1	N13 02.3	62 23.8	N14 48.5	197 37.5	N 1 59.7
E										
D	6	223 11.9	313 38.0	S21 03.8	63 03.3	N13 02.6	77 26.6	N14 48.6	212 39.8	N 1 59.8
N	7	238 14.3	328 37.4	S21 03.9	78 06.4	N13 02.9	92 29.4	N14 48.7	227 42.1	N 1 59.9
E	8	253 16.8	343 36.8	S21 04.1	93 09.6	N13 03.3	107 32.1	N14 48.8	242 44.3	N 2 00.0
S	9	268 19.3	358 36.2	S21 04.2	108 12.7	N13 03.6	122 34.9	N14 48.9	257 46.6	N 2 00.1
D	10	283 21.7	13 35.6	S21 04.4	123 15.9	N13 03.9	137 37.7	N14 49.0	272 48.9	N 2 00.2
A	11	298 24.2	28 35.0	S21 04.5	138 19.1	N13 04.3	152 40.5	N14 49.1	287 51.1	N 2 00.3
Y										
	12	313 26.7	43 34.4	S21 04.7	153 22.2	N13 04.6	167 43.3	N14 49.3	302 53.4	N 2 00.4
	13	328 29.1	58 33.8	S21 04.8	168 25.4	N13 04.9	182 46.0	N14 49.4	317 55.6	N 2 00.5
	14	343 31.6	73 33.2	S21 04.9	183 28.6	N13 05.3	197 48.8	N14 49.5	332 57.9	N 2 00.6
	15	358 34.1	88 32.6	S21 05.1	198 31.8	N13 05.6	212 51.6	N14 49.6	348 00.2	N 2 00.7
	16	13 36.5	103 32.0	S21 05.2	213 34.9	N13 05.9	227 54.4	N14 49.7	3 02.4	N 2 00.8
	17	28 39.0	118 31.3	S21 05.4	228 38.1	N13 06.3	242 57.2	N14 49.8	18 04.7	N 2 00.9
	18	43 41.4	133 30.7	S21 05.5	243 41.3	N13 06.6	257 59.9	N14 49.9	33 07.0	N 2 01.0
	19	58 43.9	148 30.1	S21 05.6	258 44.5	N13 06.9	273 02.7	N14 50.0	48 09.2	N 2 01.0
	20	73 46.4	163 29.5	S21 05.8	273 47.6	N13 07.3	288 05.5	N14 50.1	63 11.5	N 2 01.1
	21	88 48.8	178 28.9	S21 05.9	288 50.8	N13 07.6	303 08.3	N14 50.3	78 13.8	N 2 01.2
	22	103 51.3	193 28.3	S21 06.0	303 54.0	N13 07.9	318 11.1	N14 50.4	93 16.0	N 2 01.3
	23	118 53.8	208 27.7	S21 06.2	318 57.2	N13 08.3	333 13.8	N14 50.5	108 18.3	N 2 01.4
4	0	133 56.2	223 27.1	S21 06.3	334 00.4	N13 08.6	348 16.6	N14 50.6	123 20.5	N 2 01.5
	1	148 58.7	238 26.5	S21 06.4	349 03.5	N13 09.0	3 19.4	N14 50.7	138 22.8	N 2 01.6
	2	164 01.2	253 25.9	S21 06.6	4 06.7	N13 09.3	18 22.2	N14 50.8	153 25.1	N 2 01.7
	3	179 03.6	268 25.3	S21 06.7	19 09.9	N13 09.6	33 25.0	N14 50.9	168 27.3	N 2 01.8
	4	194 06.1	283 24.7	S21 06.8	34 13.1	N13 10.0	48 27.7	N14 51.0	183 29.6	N 2 01.9
T	5	209 08.6	298 24.1	S21 06.9	49 16.3	N13 10.3	63 30.5	N14 51.2	198 31.9	N 2 02.0
H										
U	6	224 11.0	313 23.5	S21 07.1	64 19.5	N13 10.6	78 33.3	N14 51.3	213 34.1	N 2 02.1
R	7	239 13.5	328 22.8	S21 07.2	79 22.7	N13 11.0	93 36.1	N14 51.4	228 36.4	N 2 02.2
S	8	254 15.9	343 22.2	S21 07.3	94 25.9	N13 11.3	108 38.9	N14 51.5	243 38.7	N 2 02.3
D	9	269 18.4	358 21.6	S21 07.4	109 29.0	N13 11.7	123 41.7	N14 51.6	258 40.9	N 2 02.4
A	10	284 20.9	13 21.0	S21 07.6	124 32.2	N13 12.0	138 44.4	N14 51.7	273 43.2	N 2 02.5
Y	11	299 23.3	28 20.4	S21 07.7	139 35.4	N13 12.3	153 47.2	N14 51.8	288 45.4	N 2 02.5
	12	314 25.8	43 19.8	S21 07.8	154 38.6	N13 12.7	168 50.0	N14 51.9	303 47.7	N 2 02.6
	13	329 28.3	58 19.2	S21 07.9	169 41.8	N13 13.0	183 52.8	N14 52.1	318 50.0	N 2 02.7
	14	344 30.7	73 18.6	S21 08.0	184 45.0	N13 13.4	198 55.6	N14 52.2	333 52.2	N 2 02.8
	15	359 33.2	88 18.0	S21 08.2	199 48.2	N13 13.7	213 58.3	N14 52.3	348 54.5	N 2 02.9
	16	14 35.7	103 17.3	S21 08.3	214 51.4	N13 14.0	229 01.1	N14 52.4	3 56.7	N 2 03.0
	17	29 38.1	118 16.7	S21 08.4	229 54.6	N13 14.4	244 03.9	N14 52.5	18 59.0	N 2 03.1
	18	44 40.6	133 16.1	S21 08.5	244 57.8	N13 14.7	259 06.7	N14 52.6	34 01.3	N 2 03.2
	19	59 43.1	148 15.5	S21 08.6	260 01.0	N13 15.1	274 09.5	N14 52.7	49 03.5	N 2 03.3
	20	74 45.5	163 14.9	S21 08.7	275 04.2	N13 15.4	289 12.3	N14 52.8	64 05.8	N 2 03.4
	21	89 48.0	178 14.3	S21 08.8	290 07.4	N13 15.7	304 15.0	N14 53.0	79 08.1	N 2 03.5
	22	104 50.4	193 13.7	S21 09.0	305 10.6	N13 16.1	319 17.8	N14 53.1	94 10.3	N 2 03.6
	23	119 52.9	208 13.0	S21 09.1	320 13.8	N13 16.4	334 20.6	N14 53.2	109 12.6	N 2 03.7
5	0	134 55.4	223 12.4	S21 09.2	335 17.1	N13 16.8	349 23.4	N14 53.3	124 14.8	N 2 03.8
	1	149 57.8	238 11.8	S21 09.3	350 20.3	N13 17.1	4 26.2	N14 53.4	139 17.1	N 2 03.9
	2	165 00.3	253 11.2	S21 09.4	5 23.5	N13 17.4	19 28.9	N14 53.5	154 19.4	N 2 04.0
	3	180 02.8	268 10.6	S21 09.5	20 26.7	N13 17.8	34 31.7	N14 53.6	169 21.6	N 2 04.1
	4	195 05.2	283 10.0	S21 09.6	35 29.9	N13 18.1	49 34.5	N14 53.7	184 23.9	N 2 04.2
F	5	210 07.7	298 09.3	S21 09.7	50 33.1	N13 18.5	64 37.3	N14 53.9	199 26.1	N 2 04.3
R										
I	6	225 10.2	313 08.7	S21 09.8	65 36.3	N13 18.8	79 40.1	N14 54.0	214 28.4	N 2 04.3
D	7	240 12.6	328 08.1	S21 09.9	80 39.5	N13 19.2	94 42.9	N14 54.1	229 30.7	N 2 04.4
A	8	255 15.1	343 07.5	S21 10.0	95 42.8	N13 19.5	109 45.6	N14 54.2	244 32.9	N 2 04.5
Y	9	270 17.6	358 06.9	S21 10.1	110 46.0	N13 19.9	124 48.4	N14 54.3	259 35.2	N 2 04.6
	10	285 20.0	13 06.3	S21 10.2	125 49.2	N13 20.2	139 51.2	N14 54.4	274 37.4	N 2 04.7
	11	300 22.5	28 05.6	S21 10.3	140 52.4	N13 20.5	154 54.0	N14 54.5	289 39.7	N 2 04.8
	12	315 24.9	43 05.0	S21 10.4	155 55.6	N13 20.9	169 56.8	N14 54.6	304 42.0	N 2 04.9
	13	330 27.4	58 04.4	S21 10.5	170 58.9	N13 21.2	184 59.6	N14 54.8	319 44.2	N 2 05.0
	14	345 29.9	73 03.8	S21 10.6	186 02.1	N13 21.6	200 02.3	N14 54.9	334 46.5	N 2 05.1
	15	0 32.3	88 03.2	S21 10.7	201 05.3	N13 21.9	215 05.1	N14 55.0	349 48.7	N 2 05.2
	16	15 34.8	103 02.5	S21 10.8	216 08.5	N13 22.3	230 07.9	N14 55.1	4 51.0	N 2 05.3
	17	30 37.3	118 01.9	S21 10.9	231 11.7	N13 22.6	245 10.7	N14 55.2	19 53.2	N 2 05.4
	18	45 39.7	133 01.3	S21 11.0	246 15.0	N13 23.0	260 13.5	N14 55.3	34 55.5	N 2 05.5
	19	60 42.2	148 00.7	S21 11.1	261 18.2	N13 23.3	275 16.3	N14 55.4	49 57.8	N 2 05.6
	20	75 44.7	163 00.0	S21 11.2	276 21.4	N13 23.7	290 19.0	N14 55.5	65 00.0	N 2 05.7
	21	90 47.1	177 59.4	S21 11.3	291 24.7	N13 24.0	305 21.8	N14 55.7	80 02.3	N 2 05.8
	22	105 49.6	192 58.8	S21 11.3	306 27.9	N13 24.3	320 24.6	N14 55.8	95 04.5	N 2 05.9
	23	120 52.0	207 58.2	S21 11.4	321 31.1	N13 24.7	335 27.4	N14 55.9	110 06.8	N 2 06.0
			v -0.6	d 0.1	v 3.2	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 '
3	0	176 34.5	S16 39.1	218 17.0	10.4	S27 12.2	2.8	54.0
	1	191 34.4	S16 38.4	232 46.5	10.5	S27 09.3	2.9	54.0
	2	206 34.4	S16 37.6	247 16.0	10.5	S27 06.3	3.0	54.0
	3	221 34.3	S16 36.9	261 45.5	10.5	S27 03.2	3.2	54.0
	4	236 34.2	S16 36.2	276 15.0	10.5	S26 59.9	3.3	54.0
W	5	251 34.1	S16 35.4	290 44.6	10.6	S26 56.5	3.4	54.0
E								
D	6	266 34.1	S16 34.7	305 14.2	10.6	S26 52.9	3.5	54.0
N	7	281 34.0	S16 34.0	319 43.8	10.6	S26 49.3	3.7	54.0
E	8	296 33.9	S16 33.2	334 13.5	10.7	S26 45.5	3.8	54.0
S	9	311 33.9	S16 32.5	348 43.2	10.7	S26 41.6	3.9	54.0
D	10	326 33.8	S16 31.8	3 12.9	10.7	S26 37.5	4.0	54.0
A	11	341 33.7	S16 31.0	17 42.7	10.8	S26 33.4	4.2	54.0
Y								
	12	356 33.7	S16 30.3	32 12.6	10.8	S26 29.1	4.3	54.0
	13	11 33.6	S16 29.6	46 42.4	10.9	S26 24.7	4.4	54.0
	14	26 33.5	S16 28.8	61 12.3	10.9	S26 20.1	4.5	54.0
	15	41 33.5	S16 28.1	75 42.2	10.9	S26 15.5	4.7	54.0
	16	56 33.4	S16 27.3	90 12.2	11.0	S26 10.7	4.8	54.0
	17	71 33.3	S16 26.6	104 42.3	11.0	S26 05.8	4.9	54.0
	18	86 33.3	S16 25.9	119 12.3	11.1	S26 00.8	5.0	54.0
	19	101 33.2	S16 25.1	133 42.4	11.1	S25 55.6	5.1	54.0
	20	116 33.1	S16 24.4	148 12.6	11.2	S25 50.4	5.3	54.0
	21	131 33.1	S16 23.6	162 42.8	11.2	S25 45.0	5.4	54.0
	22	146 33.0	S16 22.9	177 13.0	11.2	S25 39.5	5.5	54.0
	23	161 32.9	S16 22.2	191 43.3	11.3	S25 33.9	5.6	54.0
4	0	176 32.9	S16 21.4	206 13.6	11.3	S25 28.1	5.7	54.0
	1	191 32.8	S16 20.7	220 44.0	11.4	S25 22.3	5.9	54.0
	2	206 32.7	S16 19.9	235 14.4	11.4	S25 16.3	6.0	54.0
	3	221 32.7	S16 19.2	249 44.9	11.5	S25 10.2	6.1	54.0
	4	236 32.6	S16 18.4	264 15.4	11.5	S25 04.0	6.2	54.0
T	5	251 32.6	S16 17.7	278 46.0	11.6	S24 57.7	6.3	54.0
H								
U	6	266 32.5	S16 17.0	293 16.6	11.6	S24 51.3	6.4	54.0
R	7	281 32.4	S16 16.2	307 47.3	11.7	S24 44.7	6.5	54.0
S	8	296 32.4	S16 15.5	322 18.0	11.7	S24 38.0	6.7	54.0
D	9	311 32.3	S16 14.7	336 48.8	11.8	S24 31.3	6.8	54.0
A	10	326 32.3	S16 14.0	351 19.6	11.8	S24 24.4	6.9	54.0
Y	11	341 32.2	S16 13.2	5 50.5	11.9	S24 17.4	7.0	54.0
	12	356 32.1	S16 12.5	20 21.4	11.9	S24 10.3	7.1	54.0
	13	11 32.1	S16 11.7	34 52.4	12.0	S24 03.1	7.2	54.0
	14	26 32.0	S16 11.0	49 23.4	12.0	S23 55.7	7.3	54.0
	15	41 32.0	S16 10.2	63 54.5	12.1	S23 48.3	7.4	54.0
	16	56 31.9	S16 09.5	78 25.6	12.1	S23 40.8	7.5	54.0
	17	71 31.8	S16 08.7	92 56.8	12.2	S23 33.1	7.6	54.1
	18	86 31.8	S16 08.0	107 28.0	12.2	S23 25.4	7.8	54.1
	19	101 31.7	S16 07.2	121 59.3	12.3	S23 17.5	7.9	54.1
	20	116 31.7	S16 06.5	136 30.7	12.3	S23 09.5	8.0	54.1
	21	131 31.6	S16 05.7	151 02.1	12.4	S23 01.5	8.1	54.1
	22	146 31.6	S16 05.0	165 33.5	12.5	S22 53.3	8.2	54.1
	23	161 31.5	S16 04.2	180 05.0	12.5	S22 45.0	8.3	54.1
5	0	176 31.4	S16 03.5	194 36.6	12.6	S22 36.7	8.4	54.1
	1	191 31.4	S16 02.7	209 08.2	12.6	S22 28.2	8.5	54.1
	2	206 31.3	S16 01.9	223 39.9	12.7	S22 19.6	8.6	54.1
	3	221 31.3	S16 01.2	238 11.6	12.7	S22 10.9	8.7	54.1
	4	236 31.2	S16 00.4	252 43.4	12.8	S22 02.2	8.8	54.1
F	5	251 31.2	S15 59.7	267 15.2	12.8	S21 53.3	8.9	54.1
R								
I	6	266 31.1	S15 58.9	281 47.1	12.9	S21 44.3	9.0	54.1
D	7	281 31.1	S15 58.2	296 19.1	12.9	S21 35.3	9.1	54.1
A	8	296 31.0	S15 57.4	310 51.1	13.0	S21 26.1	9.2	54.1
Y	9	311 31.0	S15 56.6	325 23.1	13.1	S21 16.9	9.3	54.2
	10	326 30.9	S15 55.9	339 55.2	13.1	S21 07.5	9.3	54.2
	11	341 30.9	S15 55.1	354 27.4	13.2	S20 58.1	9.4	54.2
	12	356 30.8	S15 54.4	8 59.6	13.2	S20 48.5	9.5	54.2
	13	11 30.8	S15 53.6	23 31.9	13.3	S20 38.9	9.6	54.2
	14	26 30.7	S15 52.8	38 04.2	13.3	S20 29.2	9.7	54.2
	15	41 30.7	S15 52.1	52 36.6	13.4	S20 19.4	9.8	54.2
	16	56 30.6	S15 51.3	67 09.0	13.4	S20 09.5	9.9	54.2
	17	71 30.6	S15 50.6	81 41.5	13.5	S19 59.5	10.0	54.2
	18	86 30.5	S15 49.8	96 14.0	13.5	S19 49.5	10.1	54.2
	19	101 30.5	S15 49.0	110 46.6	13.6	S19 39.3	10.2	54.2
	20	116 30.4	S15 48.3	125 19.3	13.6	S19 29.1	10.2	54.2
	21	131 30.4	S15 47.5	139 52.0	13.7	S19 18.7	10.3	54.3
	22	146 30.3	S15 46.7	154 24.7	13.7	S19 08.3	10.4	54.3
	23	161 30.3	S15 46.0	168 57.5	13.8	S18 57.8	10.5	54.3
		S.D. 16.2	d 0.7	S.D. 14.7		14.7	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.4	S40 12.0
Achernar	335 19.1	S57 06.2
Acrux	172 57.8	S63 14.8
Adhara	255 04.2	S29 00.7
Albireo	67 03.0	N28 00.8
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.1	N55 48.4
Alkaid	152 50.5	N49 10.3
Al Na-ir	27 31.1	S46 49.9
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.7	S 8 46.7
Alphecca	126 02.3	N26 37.1
Alpheratz	357 33.2	N29 14.6
Altair	61 58.6	N 8 56.3
Ankaa	353 05.7	S42 09.7
Antares	112 13.9	S26 29.5
Arcturus	145 46.3	N19 02.2
Atria	107 06.9	S69 04.4
Avior	234 13.4	S59 35.9
Bellatrix	278 20.8	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.2	S52 42.8
Capella	280 19.1	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.1	N45 22.6
Denebola	182 22.9	N14 25.0
Diphda	348 45.8	S17 50.4
Dubhe	193 38.3	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.8	N51 28.8
Enif	33 37.4	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.4	S57 15.8
Gienah	175 41.6	S17 41.6
Hadar	148 33.5	S60 30.1
Hamal	327 49.3	N23 35.6
Kaus Austr.	83 30.6	S34 22.3
Kochab	137 20.0	N74 02.2
Markab	13 28.5	N15 21.1
Menkar	314 04.3	N 4 11.8
Menkent	147 55.5	S36 30.2
Miaplacidus	221 36.9	S69 49.7
Mirfak	308 25.7	N49 57.7
Nunki	75 45.9	S26 15.8
Peacock	53 03.5	S56 38.9
Polaris	315 53.0	N89 22.5
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.2	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.0	S 8 10.3
Rigil Kent	139 38.0	S60 56.7
Sabik	102 01.0	S15 45.6
Schedar	349 29.4	N56 41.4
Shaula	96 08.3	S37 07.4
Sirius	258 24.4	S16 45.3
Spica	158 20.4	S11 18.3
Suhail	222 44.6	S43 32.6
Vega	80 32.4	N38 48.3
Zuben-ubi	136 55.0	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	135 54.5	222 57.6	S21 11.5	336 34.4	N13 25.0	350 30.2	N14 56.0	125 09.1	N 2 06.1
	1	150 57.0	237 56.9	S21 11.6	351 37.6	N13 25.4	5 33.0	N14 56.1	140 11.3	N 2 06.2
	2	165 59.4	252 56.3	S21 11.7	6 40.8	N13 25.7	20 35.7	N14 56.2	155 13.6	N 2 06.3
	3	181 01.9	267 55.7	S21 11.8	21 44.1	N13 26.1	35 38.5	N14 56.3	170 15.8	N 2 06.4
	4	196 04.4	282 55.1	S21 11.9	36 47.3	N13 26.4	50 41.3	N14 56.4	185 18.1	N 2 06.4
SAT	5	211 06.8	297 54.4	S21 11.9	51 50.5	N13 26.8	65 44.1	N14 56.6	200 20.3	N 2 06.5
T	6	226 09.3	312 53.8	S21 12.0	66 53.8	N13 27.1	80 46.9	N14 56.7	215 22.6	N 2 06.6
U	7	241 11.8	327 53.2	S21 12.1	81 57.0	N13 27.5	95 49.7	N14 56.8	230 24.9	N 2 06.7
R	8	256 14.2	342 52.6	S21 12.2	97 00.3	N13 27.8	110 52.4	N14 56.9	245 27.1	N 2 06.8
D	9	271 16.7	357 51.9	S21 12.3	112 03.5	N13 28.2	125 55.2	N14 57.0	260 29.4	N 2 06.9
A	10	286 19.2	12 51.3	S21 12.3	127 06.7	N13 28.5	140 58.0	N14 57.1	275 31.6	N 2 07.0
Y	11	301 21.6	27 50.7	S21 12.4	142 10.0	N13 28.9	156 00.8	N14 57.2	290 33.9	N 2 07.1
	12	316 24.1	42 50.1	S21 12.5	157 13.2	N13 29.2	171 03.6	N14 57.3	305 36.1	N 2 07.2
	13	331 26.5	57 49.4	S21 12.6	172 16.5	N13 29.6	186 06.4	N14 57.5	320 38.4	N 2 07.3
	14	346 29.0	72 48.8	S21 12.6	187 19.7	N13 29.9	201 09.2	N14 57.6	335 40.7	N 2 07.4
	15	1 31.5	87 48.2	S21 12.7	202 23.0	N13 30.3	216 11.9	N14 57.7	350 42.9	N 2 07.5
	16	16 33.9	102 47.5	S21 12.8	217 26.2	N13 30.6	231 14.7	N14 57.8	5 45.2	N 2 07.6
	17	31 36.4	117 46.9	S21 12.8	232 29.5	N13 31.0	246 17.5	N14 57.9	20 47.4	N 2 07.7
	18	46 38.9	132 46.3	S21 12.9	247 32.7	N13 31.3	261 20.3	N14 58.0	35 49.7	N 2 07.8
	19	61 41.3	147 45.7	S21 13.0	262 36.0	N13 31.7	276 23.1	N14 58.1	50 51.9	N 2 07.9
	20	76 43.8	162 45.0	S21 13.0	277 39.2	N13 32.0	291 25.9	N14 58.2	65 54.2	N 2 08.0
	21	91 46.3	177 44.4	S21 13.1	292 42.5	N13 32.4	306 28.6	N14 58.4	80 56.4	N 2 08.1
	22	106 48.7	192 43.8	S21 13.2	307 45.7	N13 32.7	321 31.4	N14 58.5	95 58.7	N 2 08.2
	23	121 51.2	207 43.1	S21 13.2	322 49.0	N13 33.1	336 34.2	N14 58.6	111 01.0	N 2 08.3
7	0	136 53.7	222 42.5	S21 13.3	337 52.3	N13 33.4	351 37.0	N14 58.7	126 03.2	N 2 08.4
	1	151 56.1	237 41.9	S21 13.4	352 55.5	N13 33.8	6 39.8	N14 58.8	141 05.5	N 2 08.5
	2	166 58.6	252 41.3	S21 13.4	7 58.8	N13 34.1	21 42.6	N14 58.9	156 07.7	N 2 08.6
	3	182 01.0	267 40.6	S21 13.5	23 02.0	N13 34.5	36 45.4	N14 59.0	171 10.0	N 2 08.7
	4	197 03.5	282 40.0	S21 13.5	38 05.3	N13 34.8	51 48.1	N14 59.1	186 12.2	N 2 08.8
SUN	5	212 06.0	297 39.4	S21 13.6	53 08.6	N13 35.2	66 50.9	N14 59.3	201 14.5	N 2 08.9
N	6	227 08.4	312 38.7	S21 13.7	68 11.8	N13 35.6	81 53.7	N14 59.4	216 16.7	N 2 09.0
D	7	242 10.9	327 38.1	S21 13.7	83 15.1	N13 35.9	96 56.5	N14 59.5	231 19.0	N 2 09.1
A	8	257 13.4	342 37.5	S21 13.8	98 18.3	N13 36.3	111 59.3	N14 59.6	246 21.2	N 2 09.2
Y	9	272 15.8	357 36.8	S21 13.8	113 21.6	N13 36.6	127 02.1	N14 59.7	261 23.5	N 2 09.3
	10	287 18.3	12 36.2	S21 13.9	128 24.9	N13 37.0	142 04.9	N14 59.8	276 25.8	N 2 09.3
	11	302 20.8	27 35.6	S21 13.9	143 28.1	N13 37.3	157 07.6	N14 59.9	291 28.0	N 2 09.4
	12	317 23.2	42 34.9	S21 14.0	158 31.4	N13 37.7	172 10.4	N15 00.0	306 30.3	N 2 09.5
	13	332 25.7	57 34.3	S21 14.0	173 34.7	N13 38.0	187 13.2	N15 00.2	321 32.5	N 2 09.6
	14	347 28.2	72 33.7	S21 14.1	188 38.0	N13 38.4	202 16.0	N15 00.3	336 34.8	N 2 09.7
	15	2 30.6	87 33.0	S21 14.1	203 41.2	N13 38.7	217 18.8	N15 00.4	351 37.0	N 2 09.8
	16	17 33.1	102 32.4	S21 14.2	218 44.5	N13 39.1	232 21.6	N15 00.5	6 39.3	N 2 09.9
	17	32 35.5	117 31.8	S21 14.2	233 47.8	N13 39.4	247 24.4	N15 00.6	21 41.5	N 2 10.0
	18	47 38.0	132 31.1	S21 14.3	248 51.0	N13 39.8	262 27.1	N15 00.7	36 43.8	N 2 10.1
	19	62 40.5	147 30.5	S21 14.3	263 54.3	N13 40.2	277 29.9	N15 00.8	51 46.0	N 2 10.2
	20	77 42.9	162 29.9	S21 14.4	278 57.6	N13 40.5	292 32.7	N15 00.9	66 48.3	N 2 10.3
	21	92 45.4	177 29.2	S21 14.4	294 00.9	N13 40.9	307 35.5	N15 01.1	81 50.5	N 2 10.4
	22	107 47.9	192 28.6	S21 14.5	309 04.2	N13 41.2	322 38.3	N15 01.2	96 52.8	N 2 10.5
	23	122 50.3	207 27.9	S21 14.5	324 07.4	N13 41.6	337 41.1	N15 01.3	111 55.0	N 2 10.6
8	0	137 52.8	222 27.3	S21 14.5	339 10.7	N13 41.9	352 43.9	N15 01.4	126 57.3	N 2 10.7
	1	152 55.3	237 26.7	S21 14.6	354 14.0	N13 42.3	7 46.6	N15 01.5	141 59.5	N 2 10.8
	2	167 57.7	252 26.0	S21 14.6	9 17.3	N13 42.6	22 49.4	N15 01.6	157 01.8	N 2 10.9
	3	183 00.2	267 25.4	S21 14.7	24 20.6	N13 43.0	37 52.2	N15 01.7	172 04.0	N 2 11.0
	4	198 02.6	282 24.8	S21 14.7	39 23.8	N13 43.4	52 55.0	N15 01.8	187 06.3	N 2 11.1
MON	5	213 05.1	297 24.1	S21 14.7	54 27.1	N13 43.7	67 57.8	N15 02.0	202 08.6	N 2 11.2
N	6	228 07.6	312 23.5	S21 14.8	69 30.4	N13 44.1	83 00.6	N15 02.1	217 10.8	N 2 11.3
D	7	243 10.0	327 22.8	S21 14.8	84 33.7	N13 44.4	98 03.4	N15 02.2	232 13.1	N 2 11.4
A	8	258 12.5	342 22.2	S21 14.8	99 37.0	N13 44.8	113 06.1	N15 02.3	247 15.3	N 2 11.5
Y	9	273 15.0	357 21.6	S21 14.9	114 40.3	N13 45.1	128 08.9	N15 02.4	262 17.6	N 2 11.6
	10	288 17.4	12 20.9	S21 14.9	129 43.6	N13 45.5	143 11.7	N15 02.5	277 19.8	N 2 11.7
	11	303 19.9	27 20.3	S21 14.9	144 46.8	N13 45.9	158 14.5	N15 02.6	292 22.1	N 2 11.8
	12	318 22.4	42 19.7	S21 15.0	159 50.1	N13 46.2	173 17.3	N15 02.7	307 24.3	N 2 11.9
	13	333 24.8	57 19.0	S21 15.0	174 53.4	N13 46.6	188 20.1	N15 02.9	322 26.6	N 2 12.0
	14	348 27.3	72 18.4	S21 15.0	189 56.7	N13 46.9	203 22.9	N15 03.0	337 28.8	N 2 12.1
	15	3 29.8	87 17.7	S21 15.0	205 00.0	N13 47.3	218 25.7	N15 03.1	352 31.1	N 2 12.2
	16	18 32.2	102 17.1	S21 15.1	220 03.3	N13 47.6	233 28.4	N15 03.2	7 33.3	N 2 12.3
	17	33 34.7	117 16.5	S21 15.1	235 06.6	N13 48.0	248 31.2	N15 03.3	22 35.6	N 2 12.4
	18	48 37.1	132 15.8	S21 15.1	250 09.9	N13 48.4	263 34.0	N15 03.4	37 37.8	N 2 12.5
	19	63 39.6	147 15.2	S21 15.1	265 13.2	N13 48.7	278 36.8	N15 03.5	52 40.1	N 2 12.6
	20	78 42.1	162 14.5	S21 15.1	280 16.5	N13 49.1	293 39.6	N15 03.6	67 42.3	N 2 12.7
	21	93 44.5	177 13.9	S21 15.2	295 19.8	N13 49.4	308 42.4	N15 03.8	82 44.6	N 2 12.8
	22	108 47.0	192 13.2	S21 15.2	310 23.1	N13 49.8	323 45.2	N15 03.9	97 46.8	N 2 12.9
	23	123 49.5	207 12.6	S21 15.2	325 26.4	N13 50.2	338 48.0	N15 04.0	112 49.1	N 2 13.0
			v -0.6	d 0.1	v 3.3	d 0.4	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 '
6	0	176 30.2	S15 45.2	183 30.3	13.9	S18 47.3	10.6	54.3
	1	191 30.2	S15 44.4	198 03.3	13.9	S18 36.6	10.7	54.3
	2	206 30.1	S15 43.7	212 36.2	14.0	S18 25.9	10.7	54.3
	3	221 30.1	S15 42.9	227 09.2	14.0	S18 15.0	10.8	54.3
	4	236 30.0	S15 42.1	241 42.3	14.1	S18 04.1	10.9	54.3
S	5	251 30.0	S15 41.4	256 15.4	14.1	S17 53.2	11.0	54.3
A								
T	6	266 29.9	S15 40.6	270 48.5	14.2	S17 42.1	11.1	54.3
U	7	281 29.9	S15 39.8	285 21.7	14.2	S17 31.0	11.1	54.4
R	8	296 29.9	S15 39.1	299 55.0	14.2	S17 19.8	11.2	54.4
D	9	311 29.8	S15 38.3	314 28.3	14.3	S17 08.5	11.3	54.4
A	10	326 29.8	S15 37.5	329 01.6	14.3	S16 57.1	11.4	54.4
Y	11	341 29.7	S15 36.8	343 35.0	14.4	S16 45.7	11.4	54.4
	12	356 29.7	S15 36.0	358 08.4	14.4	S16 34.2	11.5	54.4
	13	11 29.6	S15 35.2	12 41.9	14.5	S16 22.6	11.6	54.4
	14	26 29.6	S15 34.4	27 15.4	14.5	S16 11.0	11.6	54.4
	15	41 29.6	S15 33.7	41 49.0	14.6	S15 59.3	11.7	54.4
	16	56 29.5	S15 32.9	56 22.6	14.6	S15 47.5	11.8	54.4
	17	71 29.5	S15 32.1	70 56.3	14.7	S15 35.7	11.9	54.5
	18	86 29.4	S15 31.4	85 30.0	14.7	S15 23.7	11.9	54.5
	19	101 29.4	S15 30.6	100 03.8	14.7	S15 11.8	12.0	54.5
	20	116 29.3	S15 29.8	114 37.5	14.8	S14 59.7	12.1	54.5
	21	131 29.3	S15 29.0	129 11.4	14.8	S14 47.6	12.1	54.5
	22	146 29.3	S15 28.3	143 45.3	14.9	S14 35.4	12.2	54.5
	23	161 29.2	S15 27.5	158 19.2	14.9	S14 23.2	12.2	54.5
7	0	176 29.2	S15 26.7	172 53.1	15.0	S14 10.9	12.3	54.5
	1	191 29.2	S15 25.9	187 27.1	15.0	S13 58.5	12.4	54.6
	2	206 29.1	S15 25.1	202 01.1	15.0	S13 46.1	12.4	54.6
	3	221 29.1	S15 24.4	216 35.2	15.1	S13 33.6	12.5	54.6
	4	236 29.0	S15 23.6	231 09.3	15.1	S13 21.0	12.5	54.6
S	5	251 29.0	S15 22.8	245 43.5	15.1	S13 08.4	12.6	54.6
U								
N	6	266 29.0	S15 22.0	260 17.6	15.2	S12 55.8	12.7	54.6
D	7	281 28.9	S15 21.3	274 51.8	15.2	S12 43.0	12.7	54.6
A	8	296 28.9	S15 20.5	289 26.1	15.2	S12 30.3	12.8	54.6
Y	9	311 28.9	S15 19.7	304 00.4	15.3	S12 17.4	12.8	54.7
	10	326 28.8	S15 18.9	318 34.7	15.3	S12 04.6	12.9	54.7
	11	341 28.8	S15 18.1	333 09.0	15.3	S11 51.6	12.9	54.7
	12	356 28.8	S15 17.3	347 43.4	15.4	S11 38.6	13.0	54.7
	13	11 28.7	S15 16.6	2 17.8	15.4	S11 25.6	13.0	54.7
	14	26 28.7	S15 15.8	16 52.2	15.4	S11 12.5	13.1	54.7
	15	41 28.7	S15 15.0	31 26.7	15.5	S10 59.4	13.1	54.7
	16	56 28.6	S15 14.2	46 01.2	15.5	S10 46.2	13.2	54.8
	17	71 28.6	S15 13.4	60 35.7	15.5	S10 32.9	13.2	54.8
	18	86 28.6	S15 12.6	75 10.3	15.5	S10 19.6	13.3	54.8
	19	101 28.5	S15 11.9	89 44.8	15.6	S10 06.3	13.3	54.8
	20	116 28.5	S15 11.1	104 19.4	15.6	S 9 52.9	13.4	54.8
	21	131 28.5	S15 10.3	118 54.0	15.6	S 9 39.5	13.4	54.8
	22	146 28.4	S15 09.5	133 28.7	15.6	S 9 26.0	13.5	54.8
	23	161 28.4	S15 08.7	148 03.4	15.7	S 9 12.5	13.5	54.9
8	0	176 28.4	S15 07.9	162 38.0	15.7	S 8 59.0	13.6	54.9
	1	191 28.3	S15 07.1	177 12.8	15.7	S 8 45.4	13.6	54.9
	2	206 28.3	S15 06.3	191 47.5	15.7	S 8 31.8	13.6	54.9
	3	221 28.3	S15 05.6	206 22.2	15.7	S 8 18.1	13.7	54.9
	4	236 28.2	S15 04.8	220 57.0	15.8	S 8 04.4	13.7	54.9
M	5	251 28.2	S15 04.0	235 31.8	15.8	S 7 50.6	13.8	55.0
O								
N	6	266 28.2	S15 03.2	250 06.6	15.8	S 7 36.8	13.8	55.0
D	7	281 28.2	S15 02.4	264 41.4	15.8	S 7 23.0	13.8	55.0
A	8	296 28.1	S15 01.6	279 16.2	15.8	S 7 09.1	13.9	55.0
Y	9	311 28.1	S15 00.8	293 51.1	15.8	S 6 55.2	13.9	55.0
	10	326 28.1	S15 00.0	308 25.9	15.9	S 6 41.3	13.9	55.0
	11	341 28.1	S14 59.2	323 00.8	15.9	S 6 27.4	14.0	55.0
	12	356 28.0	S14 58.4	337 35.7	15.9	S 6 13.4	14.0	55.1
	13	11 28.0	S14 57.6	352 10.5	15.9	S 5 59.3	14.0	55.1
	14	26 28.0	S14 56.9	6 45.4	15.9	S 5 45.3	14.1	55.1
	15	41 27.9	S14 56.1	21 20.3	15.9	S 5 31.2	14.1	55.1
	16	56 27.9	S14 55.3	35 55.3	15.9	S 5 17.1	14.1	55.1
	17	71 27.9	S14 54.5	50 30.2	15.9	S 5 02.9	14.1	55.1
	18	86 27.9	S14 53.7	65 05.1	15.9	S 4 48.8	14.2	55.2
	19	101 27.9	S14 52.9	79 40.0	15.9	S 4 34.6	14.2	55.2
	20	116 27.8	S14 52.1	94 14.9	15.9	S 4 20.4	14.2	55.2
	21	131 27.8	S14 51.3	108 49.9	15.9	S 4 06.1	14.2	55.2
	22	146 27.8	S14 50.5	123 24.8	15.9	S 3 51.8	14.3	55.2
	23	161 27.8	S14 49.7	137 59.7	15.9	S 3 37.6	14.3	55.3
		S.D. 16.2	d 0.8	S.D.	14.8	14.9	15.0	

Name	SHA ° '	Dec ° '
Acamar	315 10.4	S40 12.0
Achernar	335 19.1	S57 06.2
Acrux	172 57.7	S63 14.8
Adhara	255 04.2	S29 00.7
Albireo	67 03.0	N28 00.8
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.1	N55 48.4
Alkaid	152 50.5	N49 10.3
Al Na-ir	27 31.1	S46 49.9
Alnilam	275 35.7	S 1 11.1
Alphard	217 45.7	S 8 46.7
Alphecca	126 02.3	N26 37.1
Alpheratz	357 33.2	N29 14.5
Altair	61 58.6	N 8 56.3
Ankaa	353 05.7	S42 09.7
Antares	112 13.8	S26 29.5
Arcturus	145 46.2	N19 02.2
Atria	107 06.9	S69 04.4
Avior	234 13.4	S59 35.9
Bellatrix	278 20.8	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.2	S52 42.8
Capella	280 19.1	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.1	N45 22.5
Denebola	182 22.9	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.2	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.8	N51 28.8
Enif	33 37.4	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.4	S57 15.8
Gienah	175 41.6	S17 41.6
Hadar	148 33.4	S60 30.1
Hamal	327 49.3	N23 35.6
Kaus Austr.	83 30.5	S34 22.3
Kochab	137 19.9	N74 02.2
Markab	13 28.5	N15 21.1
Menkar	314 04.3	N 4 11.8
Menkent	147 55.5	S36 30.2
Miaplacidus	221 36.9	S69 49.7
Mirfak	308 25.8	N49 57.7
Nunki	75 45.9	S26 15.8
Peacock	53 03.5	S56 38.9
Polaris	315 54.3	N89 22.5
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.2	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.0	S 8 10.3
Rigil Kent	139 38.0	S60 56.7
Sabik	102 01.0	S15 45.6
Schedar	349 29.4	N56 41.4
Shaula	96 08.2	S37 07.4
Sirius	258 24.4	S16 45.3
Spica	158 20.3	S11 18.3
Suhail	222 44.6	S43 32.6
Vega	80 32.4	N38 48.3
Zuben-ubi	136 55.0	S16 09.4

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	138 51.9	222 12.0	S21 15.2	340 29.7	N13 50.5	353 50.7	N15 04.1	127 51.3	N 2 13.1
	1	153 54.4	237 11.3	S21 15.2	355 33.0	N13 50.9	8 53.5	N15 04.2	142 53.6	N 2 13.2
	2	168 56.9	252 10.7	S21 15.2	10 36.3	N13 51.2	23 56.3	N15 04.3	157 55.8	N 2 13.3
	3	183 59.3	267 10.0	S21 15.3	25 39.6	N13 51.6	38 59.1	N15 04.4	172 58.1	N 2 13.4
	4	199 01.8	282 09.4	S21 15.3	40 42.9	N13 52.0	54 01.9	N15 04.5	188 00.3	N 2 13.5
T	5	214 04.2	297 08.7	S21 15.3	55 46.2	N13 52.3	69 04.7	N15 04.7	203 02.6	N 2 13.6
U										
E	6	229 06.7	312 08.1	S21 15.3	70 49.5	N13 52.7	84 07.5	N15 04.8	218 04.8	N 2 13.7
S	7	244 09.2	327 07.5	S21 15.3	85 52.8	N13 53.0	99 10.2	N15 04.9	233 07.1	N 2 13.8
D	8	259 11.6	342 06.8	S21 15.3	100 56.1	N13 53.4	114 13.0	N15 05.0	248 09.3	N 2 13.9
A	9	274 14.1	357 06.2	S21 15.3	115 59.4	N13 53.7	129 15.8	N15 05.1	263 11.6	N 2 14.0
Y	10	289 16.6	12 05.5	S21 15.3	131 02.8	N13 54.1	144 18.6	N15 05.2	278 13.8	N 2 14.1
	11	304 19.0	27 04.9	S21 15.3	146 06.1	N13 54.5	159 21.4	N15 05.3	293 16.1	N 2 14.2
	12	319 21.5	42 04.2	S21 15.3	161 09.4	N13 54.8	174 24.2	N15 05.4	308 18.3	N 2 14.3
	13	334 24.0	57 03.6	S21 15.4	176 12.7	N13 55.2	189 27.0	N15 05.6	323 20.6	N 2 14.4
	14	349 26.4	72 02.9	S21 15.4	191 16.0	N13 55.5	204 29.8	N15 05.7	338 22.8	N 2 14.5
	15	4 28.9	87 02.3	S21 15.4	206 19.3	N13 55.9	219 32.5	N15 05.8	353 25.0	N 2 14.6
	16	19 31.4	102 01.7	S21 15.4	221 22.6	N13 56.3	234 35.3	N15 05.9	8 27.3	N 2 14.7
	17	34 33.8	117 01.0	S21 15.4	236 25.9	N13 56.6	249 38.1	N15 06.0	23 29.5	N 2 14.8
	18	49 36.3	132 00.4	S21 15.4	251 29.3	N13 57.0	264 40.9	N15 06.1	38 31.8	N 2 14.9
	19	64 38.7	146 59.7	S21 15.4	266 32.6	N13 57.4	279 43.7	N15 06.2	53 34.0	N 2 15.0
	20	79 41.2	161 59.1	S21 15.4	281 35.9	N13 57.7	294 46.5	N15 06.3	68 36.3	N 2 15.1
	21	94 43.7	176 58.4	S21 15.4	296 39.2	N13 58.1	309 49.3	N15 06.5	83 38.5	N 2 15.2
	22	109 46.1	191 57.8	S21 15.3	311 42.5	N13 58.4	324 52.1	N15 06.6	98 40.8	N 2 15.3
	23	124 48.6	206 57.1	S21 15.3	326 45.8	N13 58.8	339 54.8	N15 06.7	113 43.0	N 2 15.4
10	0	139 51.1	221 56.5	S21 15.3	341 49.2	N13 59.2	354 57.6	N15 06.8	128 45.3	N 2 15.5
	1	154 53.5	236 55.8	S21 15.3	356 52.5	N13 59.5	10 00.4	N15 06.9	143 47.5	N 2 15.6
	2	169 56.0	251 55.2	S21 15.3	11 55.8	N13 59.9	25 03.2	N15 07.0	158 49.8	N 2 15.7
	3	184 58.5	266 54.5	S21 15.3	26 59.1	N14 00.2	40 06.0	N15 07.1	173 52.0	N 2 15.8
	4	200 00.9	281 53.9	S21 15.3	42 02.5	N14 00.6	55 08.8	N15 07.2	188 54.3	N 2 15.9
W	5	215 03.4	296 53.2	S21 15.3	57 05.8	N14 01.0	70 11.6	N15 07.4	203 56.5	N 2 16.0
E										
D	6	230 05.9	311 52.6	S21 15.3	72 09.1	N14 01.3	85 14.4	N15 07.5	218 58.8	N 2 16.1
N	7	245 08.3	326 51.9	S21 15.3	87 12.4	N14 01.7	100 17.1	N15 07.6	234 01.0	N 2 16.2
E	8	260 10.8	341 51.3	S21 15.2	102 15.8	N14 02.0	115 19.9	N15 07.7	249 03.2	N 2 16.3
S	9	275 13.2	356 50.6	S21 15.2	117 19.1	N14 02.4	130 22.7	N15 07.8	264 05.5	N 2 16.4
D	10	290 15.7	11 50.0	S21 15.2	132 22.4	N14 02.8	145 25.5	N15 07.9	279 07.7	N 2 16.5
A	11	305 18.2	26 49.3	S21 15.2	147 25.8	N14 03.1	160 28.3	N15 08.0	294 10.0	N 2 16.6
Y										
	12	320 20.6	41 48.7	S21 15.2	162 29.1	N14 03.5	175 31.1	N15 08.1	309 12.2	N 2 16.7
	13	335 23.1	56 48.0	S21 15.2	177 32.4	N14 03.9	190 33.9	N15 08.2	324 14.5	N 2 16.8
	14	350 25.6	71 47.4	S21 15.1	192 35.7	N14 04.2	205 36.7	N15 08.4	339 16.7	N 2 16.9
	15	5 28.0	86 46.7	S21 15.1	207 39.1	N14 04.6	220 39.4	N15 08.5	354 19.0	N 2 17.0
	16	20 30.5	101 46.1	S21 15.1	222 42.4	N14 04.9	235 42.2	N15 08.6	9 21.2	N 2 17.1
	17	35 33.0	116 45.4	S21 15.1	237 45.7	N14 05.3	250 45.0	N15 08.7	24 23.5	N 2 17.2
	18	50 35.4	131 44.8	S21 15.0	252 49.1	N14 05.7	265 47.8	N15 08.8	39 25.7	N 2 17.3
	19	65 37.9	146 44.1	S21 15.0	267 52.4	N14 06.0	280 50.6	N15 08.9	54 27.9	N 2 17.4
	20	80 40.3	161 43.5	S21 15.0	282 55.8	N14 06.4	295 53.4	N15 09.0	69 30.2	N 2 17.5
	21	95 42.8	176 42.8	S21 15.0	297 59.1	N14 06.8	310 56.2	N15 09.1	84 32.4	N 2 17.6
	22	110 45.3	191 42.2	S21 14.9	313 02.4	N14 07.1	325 59.0	N15 09.3	99 34.7	N 2 17.7
	23	125 47.7	206 41.5	S21 14.9	328 05.8	N14 07.5	341 01.7	N15 09.4	114 36.9	N 2 17.8
11	0	140 50.2	221 40.9	S21 14.9	343 09.1	N14 07.8	356 04.5	N15 09.5	129 39.2	N 2 17.9
	1	155 52.7	236 40.2	S21 14.8	358 12.4	N14 08.2	11 07.3	N15 09.6	144 41.4	N 2 18.0
	2	170 55.1	251 39.6	S21 14.8	13 15.8	N14 08.6	26 10.1	N15 09.7	159 43.7	N 2 18.1
	3	185 57.6	266 38.9	S21 14.8	28 19.1	N14 08.9	41 12.9	N15 09.8	174 45.9	N 2 18.2
	4	201 00.1	281 38.3	S21 14.8	43 22.5	N14 09.3	56 15.7	N15 09.9	189 48.1	N 2 18.3
T	5	216 02.5	296 37.6	S21 14.7	58 25.8	N14 09.7	71 18.5	N15 10.0	204 50.4	N 2 18.4
H										
U	6	231 05.0	311 37.0	S21 14.7	73 29.2	N14 10.0	86 21.3	N15 10.2	219 52.6	N 2 18.5
R	7	246 07.5	326 36.3	S21 14.6	88 32.5	N14 10.4	101 24.0	N15 10.3	234 54.9	N 2 18.6
S	8	261 09.9	341 35.6	S21 14.6	103 35.8	N14 10.7	116 26.8	N15 10.4	249 57.1	N 2 18.7
D	9	276 12.4	356 35.0	S21 14.6	118 39.2	N14 11.1	131 29.6	N15 10.5	264 59.4	N 2 18.8
A	10	291 14.8	11 34.3	S21 14.5	133 42.5	N14 11.5	146 32.4	N15 10.6	280 01.6	N 2 18.9
Y	11	306 17.3	26 33.7	S21 14.5	148 45.9	N14 11.8	161 35.2	N15 10.7	295 03.9	N 2 19.0
	12	321 19.8	41 33.0	S21 14.4	163 49.2	N14 12.2	176 38.0	N15 10.8	310 06.1	N 2 19.1
	13	336 22.2	56 32.4	S21 14.4	178 52.6	N14 12.6	191 40.8	N15 10.9	325 08.3	N 2 19.2
	14	351 24.7	71 31.7	S21 14.4	193 55.9	N14 12.9	206 43.6	N15 11.0	340 10.6	N 2 19.3
	15	6 27.2	86 31.1	S21 14.3	208 59.3	N14 13.3	221 46.4	N15 11.2	355 12.8	N 2 19.4
	16	21 29.6	101 30.4	S21 14.3	224 02.6	N14 13.6	236 49.1	N15 11.3	10 15.1	N 2 19.5
	17	36 32.1	116 29.8	S21 14.2	239 06.0	N14 14.0	251 51.9	N15 11.4	25 17.3	N 2 19.6
	18	51 34.6	131 29.1	S21 14.2	254 09.3	N14 14.4	266 54.7	N15 11.5	40 19.6	N 2 19.7
	19	66 37.0	146 28.4	S21 14.1	269 12.7	N14 14.7	281 57.5	N15 11.6	55 21.8	N 2 19.8
	20	81 39.5	161 27.8	S21 14.1	284 16.0	N14 15.1	297 00.3	N15 11.7	70 24.0	N 2 19.9
	21	96 41.9	176 27.1	S21 14.0	299 19.4	N14 15.5	312 03.1	N15 11.8	85 26.3	N 2 20.0
	22	111 44.4	191 26.5	S21 14.0	314 22.8	N14 15.8	327 05.9	N15 11.9	100 28.5	N 2 20.1
	23	126 46.9	206 25.8	S21 13.9	329 26.1	N14 16.2	342 08.7	N15 12.0	115 30.8	N 2 20.2
			v -0.7	d 0.0	v 3.3	d 0.4	v 2.8	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
	° '	° '	° '	'	° '	'	'		° '	° '
9 0	176 27.7	S14 48.9	152 34.7	15.9	S 3 23.2	14.3	55.3	Acamar	315 10.5	S40 12.0
1	191 27.7	S14 48.1	167 09.6	15.9	S 3 08.9	14.3	55.3	Achernar	335 19.1	S57 06.2
2	206 27.7	S14 47.3	181 44.5	15.9	S 2 54.6	14.4	55.3	Acrux	172 57.7	S63 14.8
3	221 27.7	S14 46.5	196 19.4	15.9	S 2 40.2	14.4	55.3	Adhara	255 04.2	S29 00.7
4	236 27.7	S14 45.7	210 54.4	15.9	S 2 25.8	14.4	55.3	Albireo	67 03.0	N28 00.8
T 5	251 27.6	S14 44.9	225 29.3	15.9	S 2 11.4	14.4	55.4			
U								Aldebaran	290 37.5	N16 33.9
E 6	266 27.6	S14 44.1	240 04.2	15.9	S 1 56.9	14.4	55.4	Alioth	166 11.1	N55 48.4
S 7	281 27.6	S14 43.3	254 39.1	15.9	S 1 42.5	14.4	55.4	Alkaid	152 50.4	N49 10.3
D 8	296 27.6	S14 42.5	269 14.0	15.9	S 1 28.0	14.5	55.4	Al Na-ir	27 31.1	S46 49.8
A 9	311 27.6	S14 41.7	283 48.8	15.9	S 1 13.6	14.5	55.4	Alnilam	275 35.7	S 1 11.1
Y 10	326 27.5	S14 40.9	298 23.7	15.9	S 0 59.1	14.5	55.4			
11	341 27.5	S14 40.1	312 58.5	15.9	S 0 44.6	14.5	55.5	Alphard	217 45.7	S 8 46.7
								Alphecca	126 02.3	N26 37.1
12	356 27.5	S14 39.3	327 33.4	15.8	S 0 30.1	14.5	55.5	Alpheratz	357 33.3	N29 14.5
13	11 27.5	S14 38.5	342 08.2	15.8	S 0 15.6	14.5	55.5	Altair	61 58.6	N 8 56.3
14	26 27.5	S14 37.7	356 43.0	15.8	S 0 01.0	14.5	55.5	Ankaa	353 05.7	S42 09.7
15	41 27.4	S14 36.9	11 17.8	15.8	N 0 13.5	14.5	55.5			
16	56 27.4	S14 36.1	25 52.6	15.8	N 0 28.1	14.5	55.6	Antares	112 13.8	S26 29.5
17	71 27.4	S14 35.3	40 27.3	15.8	N 0 42.6	14.6	55.6	Arcturus	145 46.2	N19 02.2
								Atria	107 06.8	S69 04.4
18	86 27.4	S14 34.5	55 02.1	15.7	N 0 57.2	14.6	55.6	Avior	234 13.4	S59 35.9
19	101 27.4	S14 33.7	69 36.8	15.7	N 1 11.7	14.6	55.6	Bellatrix	278 20.8	N 6 22.4
20	116 27.4	S14 32.8	84 11.5	15.7	N 1 26.3	14.6	55.6			
21	131 27.4	S14 32.0	98 46.2	15.7	N 1 40.9	14.6	55.7	Betelgeuse	270 50.0	N 7 24.7
22	146 27.3	S14 31.2	113 20.8	15.6	N 1 55.5	14.6	55.7	Canopus	263 51.2	S52 42.8
23	161 27.3	S14 30.4	127 55.4	15.6	N 2 10.0	14.6	55.7	Capella	280 19.1	N46 01.7
10 0	176 27.3	S14 29.6	142 30.0	15.6	N 2 24.6	14.6	55.7	Castor	245 54.5	N31 49.7
1	191 27.3	S14 28.8	157 04.6	15.6	N 2 39.2	14.6	55.7	Deneb	49 25.1	N45 22.5
2	206 27.3	S14 28.0	171 39.1	15.5	N 2 53.8	14.6	55.8	Denebola	182 22.9	N14 25.0
3	221 27.3	S14 27.2	186 13.6	15.5	N 3 08.3	14.6	55.8	Diphda	348 45.8	S17 50.3
4	236 27.3	S14 26.4	200 48.1	15.5	N 3 22.9	14.6	55.8	Dubhe	193 38.2	N61 36.0
W 5	251 27.2	S14 25.6	215 22.5	15.4	N 3 37.5	14.6	55.8	Elnath	277 59.5	N28 37.8
E								Eltanin	90 41.7	N51 28.8
D 6	266 27.2	S14 24.8	229 56.9	15.4	N 3 52.0	14.6	55.8			
N 7	281 27.2	S14 23.9	244 31.3	15.4	N 4 06.6	14.6	55.9	Enif	33 37.4	N 9 59.9
E 8	296 27.2	S14 23.1	259 05.7	15.3	N 4 21.1	14.6	55.9	Fomalhaut	15 12.9	S29 28.8
S 9	311 27.2	S14 22.3	273 40.0	15.3	N 4 35.7	14.5	55.9	Gacrux	171 49.3	S57 15.8
D 10	326 27.2	S14 21.5	288 14.2	15.3	N 4 50.2	14.5	55.9	Gienah	175 41.6	S17 41.6
A 11	341 27.2	S14 20.7	302 48.5	15.2	N 5 04.7	14.5	55.9	Hadar	148 33.4	S60 30.1
Y										
12	356 27.2	S14 19.9	317 22.6	15.2	N 5 19.3	14.5	56.0	Hamal	327 49.4	N23 35.6
13	11 27.2	S14 19.1	331 56.8	15.1	N 5 33.8	14.5	56.0	Kaus Austr.	83 30.5	S34 22.3
14	26 27.1	S14 18.3	346 30.9	15.1	N 5 48.2	14.5	56.0	Kochab	137 19.9	N74 02.2
15	41 27.1	S14 17.4	1 04.9	15.1	N 6 02.7	14.5	56.0	Markab	13 28.5	N15 21.0
16	56 27.1	S14 16.6	15 39.0	15.0	N 6 17.2	14.5	56.1	Menkar	314 04.3	N 4 11.7
17	71 27.1	S14 15.8	30 12.9	15.0	N 6 31.6	14.4	56.1			
								Menkent	147 55.5	S36 30.2
18	86 27.1	S14 15.0	44 46.8	14.9	N 6 46.1	14.4	56.1	Miaplacidus	221 36.9	S69 49.8
19	101 27.1	S14 14.2	59 20.7	14.9	N 7 00.5	14.4	56.1	Mirfak	308 25.8	N49 57.7
20	116 27.1	S14 13.4	73 54.5	14.8	N 7 14.9	14.4	56.1	Nunki	75 45.9	S26 15.8
21	131 27.1	S14 12.5	88 28.3	14.8	N 7 29.2	14.4	56.2	Peacock	53 03.5	S56 38.8
22	146 27.1	S14 11.7	103 02.0	14.7	N 7 43.6	14.4	56.2			
23	161 27.1	S14 10.9	117 35.7	14.7	N 7 57.9	14.3	56.2	Polaris	315 55.5	N89 22.5
11 0	176 27.1	S14 10.1	132 09.3	14.6	N 8 12.2	14.3	56.2	Pollux	243 14.8	N27 57.6
1	191 27.1	S14 09.3	146 42.8	14.6	N 8 26.5	14.3	56.3	Procyon	244 48.7	N 5 09.2
2	206 27.1	S14 08.5	161 16.3	14.5	N 8 40.8	14.3	56.3	Rasalhague	95 57.2	N12 32.2
3	221 27.1	S14 07.6	175 49.8	14.4	N 8 55.0	14.2	56.3	Regulus	207 32.3	N11 49.9
4	236 27.1	S14 06.8	190 23.2	14.4	N 9 09.2	14.2	56.3	Rigel	281 02.0	S 8 10.3
T 5	251 27.1	S14 06.0	204 56.5	14.3	N 9 23.4	14.2	56.3	Rigil Kent	139 38.0	S60 56.7
H								Sabik	102 01.0	S15 45.6
U 6	266 27.0	S14 05.2	219 29.8	14.3	N 9 37.5	14.1	56.4	Schedar	349 29.4	N56 41.4
R 7	281 27.0	S14 04.4	234 02.9	14.2	N 9 51.6	14.1	56.4	Shaula	96 08.2	S37 07.4
S 8	296 27.0	S14 03.5	248 36.1	14.1	N10 05.7	14.1	56.4			
D 9	311 27.0	S14 02.7	263 09.2	14.1	N10 19.8	14.1	56.4	Sirius	258 24.4	S16 45.3
A 10	326 27.0	S14 01.9	277 42.2	14.0	N10 33.8	14.0	56.5	Spica	158 20.3	S11 18.3
Y 11	341 27.0	S14 01.1	292 15.1	13.9	N10 47.8	14.0	56.5	Suhail	222 44.6	S43 32.6
								Vega	80 32.4	N38 48.3
12	356 27.0	S14 00.2	306 48.0	13.9	N11 01.7	13.9	56.5	Zuben-ubi	136 55.0	S16 09.4
13	11 27.0	S13 59.4	321 20.8	13.8	N11 15.6	13.9	56.5			
14	26 27.0	S13 58.6	335 53.5	13.7	N11 29.5	13.9	56.6			
15	41 27.0	S13 57.8	350 26.1	13.7	N11 43.3	13.8	56.6			
16	56 27.0	S13 57.0	4 58.7	13.6	N11 57.1	13.8	56.6			
17	71 27.0	S13 56.1	19 31.2	13.5	N12 10.9	13.7	56.6			
18	86 27.0	S13 55.3	34 03.6	13.4	N12 24.6	13.7	56.7			
19	101 27.0	S13 54.5	48 36.0	13.4	N12 38.2	13.7	56.7			
20	116 27.0	S13 53.6	63 08.3	13.3	N12 51.9	13.6	56.7			
21	131 27.0	S13 52.8	77 40.5	13.2	N13 05.4	13.6	56.7			
22	146 27.0	S13 52.0	92 12.6	13.1	N13 19.0	13.5	56.8			
23	161 27.0	S13 51.2	106 44.6	13.0	N13 32.4	13.5	56.8			
	S.D. 16.2	d 0.8	S.D.	15.1	15.3	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 ° '
12	0	141 49.3	221 25.2	S21 13.9	344 29.5	N14 16.6	357 11.4	N15 12.2	130 33.0	N 2 20.3
	1	156 51.8	236 24.5	S21 13.8	359 32.8	N14 16.9	12 14.2	N15 12.3	145 35.2	N 2 20.4
	2	171 54.3	251 23.8	S21 13.7	14 36.2	N14 17.3	27 17.0	N15 12.4	160 37.5	N 2 20.5
	3	186 56.7	266 23.2	S21 13.7	29 39.5	N14 17.6	42 19.8	N15 12.5	175 39.7	N 2 20.6
	4	201 59.2	281 22.5	S21 13.6	44 42.9	N14 18.0	57 22.6	N15 12.6	190 42.0	N 2 20.7
F	5	217 01.7	296 21.9	S21 13.6	59 46.3	N14 18.4	72 25.4	N15 12.7	205 44.2	N 2 20.8
R										
I	6	232 04.1	311 21.2	S21 13.5	74 49.6	N14 18.7	87 28.2	N15 12.8	220 46.5	N 2 20.9
D	7	247 06.6	326 20.6	S21 13.5	89 53.0	N14 19.1	102 31.0	N15 12.9	235 48.7	N 2 21.0
A	8	262 09.1	341 19.9	S21 13.4	104 56.3	N14 19.5	117 33.7	N15 13.0	250 50.9	N 2 21.1
Y	9	277 11.5	356 19.2	S21 13.3	119 59.7	N14 19.8	132 36.5	N15 13.2	265 53.2	N 2 21.2
	10	292 14.0	11 18.6	S21 13.3	135 03.1	N14 20.2	147 39.3	N15 13.3	280 55.4	N 2 21.3
	11	307 16.4	26 17.9	S21 13.2	150 06.4	N14 20.6	162 42.1	N15 13.4	295 57.7	N 2 21.4
	12	322 18.9	41 17.3	S21 13.1	165 09.8	N14 20.9	177 44.9	N15 13.5	310 59.9	N 2 21.5
	13	337 21.4	56 16.6	S21 13.1	180 13.2	N14 21.3	192 47.7	N15 13.6	326 02.1	N 2 21.6
	14	352 23.8	71 16.0	S21 13.0	195 16.5	N14 21.6	207 50.5	N15 13.7	341 04.4	N 2 21.7
	15	7 26.3	86 15.3	S21 12.9	210 19.9	N14 22.0	222 53.3	N15 13.8	356 06.6	N 2 21.8
	16	22 28.8	101 14.6	S21 12.9	225 23.3	N14 22.4	237 56.0	N15 13.9	11 08.9	N 2 21.9
	17	37 31.2	116 14.0	S21 12.8	240 26.6	N14 22.7	252 58.8	N15 14.0	26 11.1	N 2 22.0
	18	52 33.7	131 13.3	S21 12.7	255 30.0	N14 23.1	268 01.6	N15 14.2	41 13.3	N 2 22.1
	19	67 36.2	146 12.7	S21 12.6	270 33.4	N14 23.5	283 04.4	N15 14.3	56 15.6	N 2 22.2
	20	82 38.6	161 12.0	S21 12.6	285 36.7	N14 23.8	298 07.2	N15 14.4	71 17.8	N 2 22.3
	21	97 41.1	176 11.3	S21 12.5	300 40.1	N14 24.2	313 10.0	N15 14.5	86 20.1	N 2 22.4
	22	112 43.6	191 10.7	S21 12.4	315 43.5	N14 24.5	328 12.8	N15 14.6	101 22.3	N 2 22.5
	23	127 46.0	206 10.0	S21 12.3	330 46.8	N14 24.9	343 15.6	N15 14.7	116 24.5	N 2 22.6
13	0	142 48.5	221 09.4	S21 12.3	345 50.2	N14 25.3	358 18.3	N15 14.8	131 26.8	N 2 22.7
	1	157 50.9	236 08.7	S21 12.2	0 53.6	N14 25.6	13 21.1	N15 14.9	146 29.0	N 2 22.8
	2	172 53.4	251 08.0	S21 12.1	15 57.0	N14 26.0	28 23.9	N15 15.0	161 31.3	N 2 22.9
	3	187 55.9	266 07.4	S21 12.0	31 00.3	N14 26.4	43 26.7	N15 15.2	176 33.5	N 2 23.0
	4	202 58.3	281 06.7	S21 11.9	46 03.7	N14 26.7	58 29.5	N15 15.3	191 35.7	N 2 23.1
S	5	218 00.8	296 06.1	S21 11.9	61 07.1	N14 27.1	73 32.3	N15 15.4	206 38.0	N 2 23.2
A										
T	6	233 03.3	311 05.4	S21 11.8	76 10.4	N14 27.5	88 35.1	N15 15.5	221 40.2	N 2 23.3
U	7	248 05.7	326 04.7	S21 11.7	91 13.8	N14 27.8	103 37.9	N15 15.6	236 42.5	N 2 23.4
R	8	263 08.2	341 04.1	S21 11.6	106 17.2	N14 28.2	118 40.6	N15 15.7	251 44.7	N 2 23.6
D	9	278 10.7	356 03.4	S21 11.5	121 20.6	N14 28.5	133 43.4	N15 15.8	266 46.9	N 2 23.7
A	10	293 13.1	11 02.8	S21 11.4	136 24.0	N14 28.9	148 46.2	N15 15.9	281 49.2	N 2 23.8
Y	11	308 15.6	26 02.1	S21 11.3	151 27.3	N14 29.3	163 49.0	N15 16.0	296 51.4	N 2 23.9
	12	323 18.0	41 01.4	S21 11.2	166 30.7	N14 29.6	178 51.8	N15 16.2	311 53.6	N 2 24.0
	13	338 20.5	56 00.8	S21 11.2	181 34.1	N14 30.0	193 54.6	N15 16.3	326 55.9	N 2 24.1
	14	353 23.0	71 00.1	S21 11.1	196 37.5	N14 30.4	208 57.4	N15 16.4	341 58.1	N 2 24.2
	15	8 25.4	85 59.4	S21 11.0	211 40.8	N14 30.7	224 00.2	N15 16.5	357 00.4	N 2 24.3
	16	23 27.9	100 58.8	S21 10.9	226 44.2	N14 31.1	239 02.9	N15 16.6	12 02.6	N 2 24.4
	17	38 30.4	115 58.1	S21 10.8	241 47.6	N14 31.4	254 05.7	N15 16.7	27 04.8	N 2 24.5
	18	53 32.8	130 57.5	S21 10.7	256 51.0	N14 31.8	269 08.5	N15 16.8	42 07.1	N 2 24.6
	19	68 35.3	145 56.8	S21 10.6	271 54.4	N14 32.2	284 11.3	N15 16.9	57 09.3	N 2 24.7
	20	83 37.8	160 56.1	S21 10.5	286 57.8	N14 32.5	299 14.1	N15 17.0	72 11.6	N 2 24.8
	21	98 40.2	175 55.5	S21 10.4	302 01.1	N14 32.9	314 16.9	N15 17.1	87 13.8	N 2 24.9
	22	113 42.7	190 54.8	S21 10.3	317 04.5	N14 33.3	329 19.7	N15 17.3	102 16.0	N 2 25.0
	23	128 45.2	205 54.1	S21 10.2	332 07.9	N14 33.6	344 22.5	N15 17.4	117 18.3	N 2 25.1
14	0	143 47.6	220 53.5	S21 10.1	347 11.3	N14 34.0	359 25.2	N15 17.5	132 20.5	N 2 25.2
	1	158 50.1	235 52.8	S21 10.0	2 14.7	N14 34.3	14 28.0	N15 17.6	147 22.7	N 2 25.3
	2	173 52.5	250 52.2	S21 09.9	17 18.1	N14 34.7	29 30.8	N15 17.7	162 25.0	N 2 25.4
	3	188 55.0	265 51.5	S21 09.8	32 21.5	N14 35.1	44 33.6	N15 17.8	177 27.2	N 2 25.5
	4	203 57.5	280 50.8	S21 09.7	47 24.8	N14 35.4	59 36.4	N15 17.9	192 29.4	N 2 25.6
S	5	218 59.9	295 50.2	S21 09.6	62 28.2	N14 35.8	74 39.2	N15 18.0	207 31.7	N 2 25.7
U										
N	6	234 02.4	310 49.5	S21 09.5	77 31.6	N14 36.2	89 42.0	N15 18.1	222 33.9	N 2 25.8
D	7	249 04.9	325 48.8	S21 09.3	92 35.0	N14 36.5	104 44.7	N15 18.2	237 36.2	N 2 25.9
A	8	264 07.3	340 48.2	S21 09.2	107 38.4	N14 36.9	119 47.5	N15 18.4	252 38.4	N 2 26.0
Y	9	279 09.8	355 47.5	S21 09.1	122 41.8	N14 37.2	134 50.3	N15 18.5	267 40.6	N 2 26.1
	10	294 12.3	10 46.8	S21 09.0	137 45.2	N14 37.6	149 53.1	N15 18.6	282 42.9	N 2 26.2
	11	309 14.7	25 46.2	S21 08.9	152 48.6	N14 38.0	164 55.9	N15 18.7	297 45.1	N 2 26.3
	12	324 17.2	40 45.5	S21 08.8	167 52.0	N14 38.3	179 58.7	N15 18.8	312 47.3	N 2 26.4
	13	339 19.7	55 44.9	S21 08.7	182 55.3	N14 38.7	195 01.5	N15 18.9	327 49.6	N 2 26.5
	14	354 22.1	70 44.2	S21 08.6	197 58.7	N14 39.1	210 04.3	N15 19.0	342 51.8	N 2 26.6
	15	9 24.6	85 43.5	S21 08.4	213 02.1	N14 39.4	225 07.0	N15 19.1	357 54.0	N 2 26.8
	16	24 27.0	100 42.9	S21 08.3	228 05.5	N14 39.8	240 09.8	N15 19.2	12 56.3	N 2 26.9
	17	39 29.5	115 42.2	S21 08.2	243 08.9	N14 40.1	255 12.6	N15 19.3	27 58.5	N 2 27.0
	18	54 32.0	130 41.5	S21 08.1	258 12.3	N14 40.5	270 15.4	N15 19.5	43 00.8	N 2 27.1
	19	69 34.4	145 40.9	S21 08.0	273 15.7	N14 40.9	285 18.2	N15 19.6	58 03.0	N 2 27.2
	20	84 36.9	160 40.2	S21 07.8	288 19.1	N14 41.2	300 21.0	N15 19.7	73 05.2	N 2 27.3
	21	99 39.4	175 39.5	S21 07.7	303 22.5	N14 41.6	315 23.8	N15 19.8	88 07.5	N 2 27.4
	22	114 41.8	190 38.9	S21 07.6	318 25.9	N14 41.9	330 26.5	N15 19.9	103 09.7	N 2 27.5
	23	129 44.3	205 38.2	S21 07.5	333 29.3	N14 42.3	345 29.3	N15 20.0	118 11.9	N 2 27.6
			v -0.7	d 0.1	v 3.4	d 0.4	v 2.8	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
12	0	176 27.0	S13 50.3	121 16.6	13.0	N13 45.8	13.4	56.8
	1	191 27.0	S13 49.5	135 48.5	12.9	N13 59.2	13.4	56.8
	2	206 27.0	S13 48.7	150 20.2	12.8	N14 12.5	13.3	56.9
	3	221 27.0	S13 47.9	164 51.9	12.7	N14 25.8	13.3	56.9
	4	236 27.1	S13 47.0	179 23.6	12.6	N14 39.0	13.2	56.9
F	5	251 27.1	S13 46.2	193 55.1	12.5	N14 52.2	13.2	56.9
R								
I	6	266 27.1	S13 45.4	208 26.5	12.4	N15 05.2	13.1	57.0
D	7	281 27.1	S13 44.5	222 57.9	12.3	N15 18.3	13.0	57.0
A	8	296 27.1	S13 43.7	237 29.1	12.3	N15 31.2	13.0	57.0
Y	9	311 27.1	S13 42.9	252 00.3	12.2	N15 44.2	12.9	57.0
	10	326 27.1	S13 42.0	266 31.4	12.1	N15 57.0	12.8	57.1
	11	341 27.1	S13 41.2	281 02.3	12.0	N16 09.8	12.8	57.1
	12	356 27.1	S13 40.4	295 33.2	11.9	N16 22.5	12.7	57.1
	13	11 27.1	S13 39.5	310 04.0	11.8	N16 35.1	12.6	57.1
	14	26 27.1	S13 38.7	324 34.7	11.7	N16 47.7	12.6	57.2
	15	41 27.1	S13 37.9	339 05.3	11.6	N17 00.2	12.5	57.2
	16	56 27.1	S13 37.0	353 35.8	11.5	N17 12.7	12.4	57.2
	17	71 27.1	S13 36.2	8 06.2	11.4	N17 25.0	12.4	57.3
	18	86 27.1	S13 35.4	22 36.5	11.3	N17 37.3	12.3	57.3
	19	101 27.1	S13 34.5	37 06.6	11.2	N17 49.5	12.2	57.3
	20	116 27.2	S13 33.7	51 36.7	11.1	N18 01.7	12.1	57.3
	21	131 27.2	S13 32.9	66 06.7	11.0	N18 13.7	12.1	57.4
	22	146 27.2	S13 32.0	80 36.6	10.9	N18 25.7	12.0	57.4
	23	161 27.2	S13 31.2	95 06.4	10.8	N18 37.6	11.9	57.4
13	0	176 27.2	S13 30.4	109 36.0	10.7	N18 49.4	11.8	57.4
	1	191 27.2	S13 29.5	124 05.6	10.6	N19 01.1	11.7	57.5
	2	206 27.2	S13 28.7	138 35.0	10.5	N19 12.7	11.6	57.5
	3	221 27.2	S13 27.8	153 04.4	10.3	N19 24.3	11.5	57.5
	4	236 27.2	S13 27.0	167 33.6	10.2	N19 35.8	11.5	57.6
S	5	251 27.3	S13 26.2	182 02.8	10.1	N19 47.1	11.4	57.6
A								
T	6	266 27.3	S13 25.3	196 31.8	10.0	N19 58.4	11.3	57.6
U	7	281 27.3	S13 24.5	211 00.7	9.9	N20 09.6	11.2	57.6
R	8	296 27.3	S13 23.6	225 29.5	9.8	N20 20.7	11.1	57.7
D	9	311 27.3	S13 22.8	239 58.2	9.7	N20 31.6	11.0	57.7
A	10	326 27.3	S13 22.0	254 26.7	9.6	N20 42.5	10.9	57.7
Y	11	341 27.3	S13 21.1	268 55.2	9.5	N20 53.3	10.8	57.8
	12	356 27.3	S13 20.3	283 23.5	9.3	N21 04.0	10.7	57.8
	13	11 27.4	S13 19.4	297 51.8	9.2	N21 14.6	10.6	57.8
	14	26 27.4	S13 18.6	312 19.9	9.1	N21 25.1	10.5	57.8
	15	41 27.4	S13 17.8	326 47.9	9.0	N21 35.4	10.4	57.9
	16	56 27.4	S13 16.9	341 15.8	8.9	N21 45.7	10.3	57.9
	17	71 27.4	S13 16.1	355 43.5	8.8	N21 55.8	10.1	57.9
	18	86 27.4	S13 15.2	10 11.2	8.7	N22 05.9	10.0	58.0
	19	101 27.5	S13 14.4	24 38.7	8.5	N22 15.8	9.9	58.0
	20	116 27.5	S13 13.5	39 06.1	8.4	N22 25.6	9.8	58.0
	21	131 27.5	S13 12.7	53 33.4	8.3	N22 35.3	9.7	58.0
	22	146 27.5	S13 11.8	68 00.6	8.2	N22 44.9	9.6	58.1
	23	161 27.5	S13 11.0	82 27.7	8.1	N22 54.3	9.5	58.1
14	0	176 27.5	S13 10.2	96 54.6	8.0	N23 03.7	9.3	58.1
	1	191 27.6	S13 09.3	111 21.5	7.8	N23 12.9	9.2	58.2
	2	206 27.6	S13 08.5	125 48.2	7.7	N23 21.9	9.1	58.2
	3	221 27.6	S13 07.6	140 14.8	7.6	N23 30.9	9.0	58.2
	4	236 27.6	S13 06.8	154 41.3	7.5	N23 39.7	8.8	58.2
S	5	251 27.6	S13 05.9	169 07.7	7.4	N23 48.4	8.7	58.3
U								
N	6	266 27.7	S13 05.1	183 33.9	7.3	N23 57.0	8.6	58.3
D	7	281 27.7	S13 04.2	198 00.1	7.1	N24 05.4	8.4	58.3
A	8	296 27.7	S13 03.4	212 26.1	7.0	N24 13.7	8.3	58.4
Y	9	311 27.7	S13 02.5	226 52.0	6.9	N24 21.9	8.2	58.4
	10	326 27.8	S13 01.7	241 17.8	6.8	N24 29.9	8.0	58.4
	11	341 27.8	S13 00.8	255 43.5	6.7	N24 37.8	7.9	58.4
	12	356 27.8	S12 60.0	270 09.0	6.6	N24 45.5	7.7	58.5
	13	11 27.8	S12 59.1	284 34.5	6.5	N24 53.1	7.6	58.5
	14	26 27.8	S12 58.3	298 59.8	6.3	N25 00.6	7.5	58.5
	15	41 27.9	S12 57.4	313 25.1	6.2	N25 07.9	7.3	58.6
	16	56 27.9	S12 56.6	327 50.2	6.1	N25 15.0	7.2	58.6
	17	71 27.9	S12 55.7	342 15.2	6.0	N25 22.0	7.0	58.6
	18	86 27.9	S12 54.9	356 40.1	5.9	N25 28.9	6.9	58.7
	19	101 28.0	S12 54.0	11 04.9	5.8	N25 35.6	6.7	58.7
	20	116 28.0	S12 53.2	25 29.6	5.7	N25 42.1	6.5	58.7
	21	131 28.0	S12 52.3	39 54.2	5.6	N25 48.5	6.4	58.7
	22	146 28.0	S12 51.5	54 18.6	5.5	N25 54.8	6.2	58.8
	23	161 28.1	S12 50.6	68 43.0	5.4	N26 00.8	6.1	58.8
		S.D. 16.2	d 0.8	S.D.	15.6	15.7	15.9	

STARS Name	SHA	Dec
Acamar	315 10.5	S40 12.0
Achernar	335 19.1	S57 06.2
Acrux	172 57.7	S63 14.8
Adhara	255 04.2	S29 00.7
Albireo	67 03.0	N28 00.8
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.0	N55 48.4
Alkaid	152 50.4	N49 10.3
Al Na-ir	27 31.1	S46 49.8
Alnilam	275 35.8	S 1 11.1
Alphard	217 45.7	S 8 46.7
Alphecca	126 02.3	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.5	N 8 56.3
Ankaa	353 05.7	S42 09.7
Antares	112 13.8	S26 29.5
Arcturus	145 46.2	N19 02.2
Atria	107 06.8	S69 04.4
Avior	234 13.4	S59 35.9
Bellatrix	278 20.8	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.2	S52 42.8
Capella	280 19.1	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.1	N45 22.5
Denebola	182 22.9	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.2	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.7	N51 28.8
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.3	S57 15.8
Gienah	175 41.5	S17 41.6
Hadar	148 33.4	S60 30.1
Hamal	327 49.4	N23 35.6
Kaus Austr.	83 30.5	S34 22.3
Kochab	137 19.8	N74 02.2
Markab	13 28.5	N15 21.0
Menkar	314 04.3	N 4 11.7
Menkent	147 55.4	S36 30.2
Miaplacidus	221 36.9	S69 49.8
Mirfak	308 25.8	N49 57.7
Nunki	75 45.9	S26 15.8
Peacock	53 03.5	S56 38.8
Polaris	315 56.6	N89 22.5
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.1	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.0	S 8 10.3
Rigil Kent	139 37.9	S60 56.7
Sabik	102 00.9	S15 45.6
Schedar	349 29.4	N56 41.4
Shaula	96 08.2	S37 07.4
Sirius	258 24.4	S16 45.3
Spica	158 20.3	S11 18.3
Suhail	222 44.6	S43 32.6
Vega	80 32.3	N38 48.3
Zuben-ubi	136 54.9	S16 09.4

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	144 46.8	220 37.5	S21 07.3	348 32.7	N14 42.7	0 32.1	N15 20.1	133 14.2	N 2 27.7
	1	159 49.2	235 36.9	S21 07.2	3 36.1	N14 43.0	15 34.9	N15 20.2	148 16.4	N 2 27.8
	2	174 51.7	250 36.2	S21 07.1	18 39.5	N14 43.4	30 37.7	N15 20.3	163 18.6	N 2 27.9
	3	189 54.2	265 35.5	S21 07.0	33 42.9	N14 43.7	45 40.5	N15 20.4	178 20.9	N 2 28.0
	4	204 56.6	280 34.9	S21 06.8	48 46.3	N14 44.1	60 43.3	N15 20.6	193 23.1	N 2 28.1
M	5	219 59.1	295 34.2	S21 06.7	63 49.7	N14 44.5	75 46.1	N15 20.7	208 25.3	N 2 28.2
O										
N	6	235 01.5	310 33.5	S21 06.6	78 53.1	N14 44.8	90 48.8	N15 20.8	223 27.6	N 2 28.3
D	7	250 04.0	325 32.9	S21 06.4	93 56.5	N14 45.2	105 51.6	N15 20.9	238 29.8	N 2 28.4
A	8	265 06.5	340 32.2	S21 06.3	108 59.9	N14 45.5	120 54.4	N15 21.0	253 32.0	N 2 28.5
Y	9	280 08.9	355 31.6	S21 06.2	124 03.3	N14 45.9	135 57.2	N15 21.1	268 34.3	N 2 28.6
	10	295 11.4	10 30.9	S21 06.0	139 06.7	N14 46.3	150 60.0	N15 21.2	283 36.5	N 2 28.7
	11	310 13.9	25 30.2	S21 05.9	154 10.1	N14 46.6	166 02.8	N15 21.3	298 38.7	N 2 28.8
	12	325 16.3	40 29.6	S21 05.7	169 13.5	N14 47.0	181 05.6	N15 21.4	313 41.0	N 2 28.9
	13	340 18.8	55 28.9	S21 05.6	184 16.9	N14 47.3	196 08.3	N15 21.5	328 43.2	N 2 29.0
	14	355 21.3	70 28.2	S21 05.5	199 20.3	N14 47.7	211 11.1	N15 21.6	343 45.4	N 2 29.1
	15	10 23.7	85 27.6	S21 05.3	214 23.7	N14 48.1	226 13.9	N15 21.8	358 47.7	N 2 29.3
	16	25 26.2	100 26.9	S21 05.2	229 27.1	N14 48.4	241 16.7	N15 21.9	13 49.9	N 2 29.4
	17	40 28.6	115 26.2	S21 05.0	244 30.5	N14 48.8	256 19.5	N15 22.0	28 52.1	N 2 29.5
	18	55 31.1	130 25.6	S21 04.9	259 33.9	N14 49.1	271 22.3	N15 22.1	43 54.4	N 2 29.6
	19	70 33.6	145 24.9	S21 04.7	274 37.3	N14 49.5	286 25.1	N15 22.2	58 56.6	N 2 29.7
	20	85 36.0	160 24.2	S21 04.6	289 40.7	N14 49.9	301 27.8	N15 22.3	73 58.8	N 2 29.8
	21	100 38.5	175 23.6	S21 04.5	304 44.1	N14 50.2	316 30.6	N15 22.4	89 01.1	N 2 29.9
	22	115 41.0	190 22.9	S21 04.3	319 47.5	N14 50.6	331 33.4	N15 22.5	104 03.3	N 2 30.0
	23	130 43.4	205 22.2	S21 04.2	334 50.9	N14 50.9	346 36.2	N15 22.6	119 05.5	N 2 30.1
16	0	145 45.9	220 21.5	S21 04.0	349 54.3	N14 51.3	1 39.0	N15 22.7	134 07.8	N 2 30.2
	1	160 48.4	235 20.9	S21 03.9	4 57.8	N14 51.7	16 41.8	N15 22.8	149 10.0	N 2 30.3
	2	175 50.8	250 20.2	S21 03.7	20 01.2	N14 52.0	31 44.6	N15 23.0	164 12.2	N 2 30.4
	3	190 53.3	265 19.5	S21 03.5	35 04.6	N14 52.4	46 47.3	N15 23.1	179 14.5	N 2 30.5
	4	205 55.8	280 18.9	S21 03.4	50 08.0	N14 52.7	61 50.1	N15 23.2	194 16.7	N 2 30.6
T	5	220 58.2	295 18.2	S21 03.2	65 11.4	N14 53.1	76 52.9	N15 23.3	209 18.9	N 2 30.7
U										
E	6	236 00.7	310 17.5	S21 03.1	80 14.8	N14 53.4	91 55.7	N15 23.4	224 21.2	N 2 30.8
S	7	251 03.1	325 16.9	S21 02.9	95 18.2	N14 53.8	106 58.5	N15 23.5	239 23.4	N 2 30.9
D	8	266 05.6	340 16.2	S21 02.8	110 21.6	N14 54.2	122 01.3	N15 23.6	254 25.6	N 2 31.0
A	9	281 08.1	355 15.5	S21 02.6	125 25.0	N14 54.5	137 04.0	N15 23.7	269 27.9	N 2 31.1
Y	10	296 10.5	10 14.9	S21 02.4	140 28.4	N14 54.9	152 06.8	N15 23.8	284 30.1	N 2 31.2
	11	311 13.0	25 14.2	S21 02.3	155 31.9	N14 55.2	167 09.6	N15 23.9	299 32.3	N 2 31.4
	12	326 15.5	40 13.5	S21 02.1	170 35.3	N14 55.6	182 12.4	N15 24.0	314 34.5	N 2 31.5
	13	341 17.9	55 12.9	S21 02.0	185 38.7	N14 55.9	197 15.2	N15 24.1	329 36.8	N 2 31.6
	14	356 20.4	70 12.2	S21 01.8	200 42.1	N14 56.3	212 18.0	N15 24.3	344 39.0	N 2 31.7
	15	11 22.9	85 11.5	S21 01.6	215 45.5	N14 56.7	227 20.8	N15 24.4	359 41.2	N 2 31.8
	16	26 25.3	100 10.9	S21 01.5	230 48.9	N14 57.0	242 23.5	N15 24.5	14 43.5	N 2 31.9
	17	41 27.8	115 10.2	S21 01.3	245 52.3	N14 57.4	257 26.3	N15 24.6	29 45.7	N 2 32.0
	18	56 30.3	130 09.5	S21 01.1	260 55.7	N14 57.7	272 29.1	N15 24.7	44 47.9	N 2 32.1
	19	71 32.7	145 08.9	S21 01.0	275 59.2	N14 58.1	287 31.9	N15 24.8	59 50.2	N 2 32.2
	20	86 35.2	160 08.2	S21 00.8	291 02.6	N14 58.4	302 34.7	N15 24.9	74 52.4	N 2 32.3
	21	101 37.6	175 07.5	S21 00.6	306 06.0	N14 58.8	317 37.5	N15 25.0	89 54.6	N 2 32.4
	22	116 40.1	190 06.9	S21 00.4	321 09.4	N14 59.1	332 40.2	N15 25.1	104 56.9	N 2 32.5
	23	131 42.6	205 06.2	S21 00.3	336 12.8	N14 59.5	347 43.0	N15 25.2	119 59.1	N 2 32.6
17	0	146 45.0	220 05.5	S21 00.1	351 16.2	N14 59.9	2 45.8	N15 25.3	135 01.3	N 2 32.7
	1	161 47.5	235 04.8	S20 59.9	6 19.6	N15 00.2	17 48.6	N15 25.4	150 03.5	N 2 32.8
	2	176 50.0	250 04.2	S20 59.7	21 23.1	N15 00.6	32 51.4	N15 25.6	165 05.8	N 2 32.9
	3	191 52.4	265 03.5	S20 59.6	36 26.5	N15 00.9	47 54.2	N15 25.7	180 08.0	N 2 33.0
	4	206 54.9	280 02.8	S20 59.4	51 29.9	N15 01.3	62 57.0	N15 25.8	195 10.2	N 2 33.1
W	5	221 57.4	295 02.2	S20 59.2	66 33.3	N15 01.6	77 59.7	N15 25.9	210 12.5	N 2 33.3
E										
D	6	236 59.8	310 01.5	S20 59.0	81 36.7	N15 02.0	93 02.5	N15 26.0	225 14.7	N 2 33.4
N	7	252 02.3	325 00.8	S20 58.8	96 40.1	N15 02.3	108 05.3	N15 26.1	240 16.9	N 2 33.5
E	8	267 04.8	340 00.2	S20 58.7	111 43.6	N15 02.7	123 08.1	N15 26.2	255 19.2	N 2 33.6
S	9	282 07.2	354 59.5	S20 58.5	126 47.0	N15 03.1	138 10.9	N15 26.3	270 21.4	N 2 33.7
D	10	297 09.7	9 58.8	S20 58.3	141 50.4	N15 03.4	153 13.7	N15 26.4	285 23.6	N 2 33.8
A	11	312 12.1	24 58.2	S20 58.1	156 53.8	N15 03.8	168 16.4	N15 26.5	300 25.8	N 2 33.9
Y										
	12	327 14.6	39 57.5	S20 57.9	171 57.2	N15 04.1	183 19.2	N15 26.6	315 28.1	N 2 34.0
	13	342 17.1	54 56.8	S20 57.7	187 00.7	N15 04.5	198 22.0	N15 26.7	330 30.3	N 2 34.1
	14	357 19.5	69 56.1	S20 57.5	202 04.1	N15 04.8	213 24.8	N15 26.8	345 32.5	N 2 34.2
	15	12 22.0	84 55.5	S20 57.4	217 07.5	N15 05.2	228 27.6	N15 27.0	0 34.8	N 2 34.3
	16	27 24.5	99 54.8	S20 57.2	232 10.9	N15 05.5	243 30.4	N15 27.1	15 37.0	N 2 34.4
	17	42 26.9	114 54.1	S20 57.0	247 14.3	N15 05.9	258 33.1	N15 27.2	30 39.2	N 2 34.5
	18	57 29.4	129 53.5	S20 56.8	262 17.8	N15 06.2	273 35.9	N15 27.3	45 41.4	N 2 34.6
	19	72 31.9	144 52.8	S20 56.6	277 21.2	N15 06.6	288 38.7	N15 27.4	60 43.7	N 2 34.7
	20	87 34.3	159 52.1	S20 56.4	292 24.6	N15 06.9	303 41.5	N15 27.5	75 45.9	N 2 34.8
	21	102 36.8	174 51.5	S20 56.2	307 28.0	N15 07.3	318 44.3	N15 27.6	90 48.1	N 2 35.0
	22	117 39.2	189 50.8	S20 56.0	322 31.4	N15 07.6	333 47.1	N15 27.7	105 50.4	N 2 35.1
	23	132 41.7	204 50.1	S20 55.8	337 34.9	N15 08.0	348 49.8	N15 27.8	120 52.6	N 2 35.2
			v -0.7	d 0.2	v 3.4	d 0.4	v 2.8	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
		° '	° '	° '	'	° '	'	'
15	0	176 28.1	S12 49.7	83 07.3	5.3	N26 06.7	5.9	58.8
	1	191 28.1	S12 48.9	97 31.4	5.2	N26 12.5	5.8	58.9
	2	206 28.1	S12 48.0	111 55.5	5.1	N26 18.1	5.6	58.9
	3	221 28.2	S12 47.2	126 19.4	5.0	N26 23.5	5.4	58.9
	4	236 28.2	S12 46.3	140 43.3	4.9	N26 28.8	5.3	58.9
M	5	251 28.2	S12 45.5	155 07.1	4.8	N26 33.9	5.1	59.0
O								
N	6	266 28.3	S12 44.6	169 30.8	4.7	N26 38.8	4.9	59.0
D	7	281 28.3	S12 43.8	183 54.3	4.6	N26 43.5	4.7	59.0
A	8	296 28.3	S12 42.9	198 17.8	4.5	N26 48.1	4.6	59.1
Y	9	311 28.3	S12 42.0	212 41.2	4.4	N26 52.5	4.4	59.1
	10	326 28.4	S12 41.2	227 04.5	4.3	N26 56.7	4.2	59.1
	11	341 28.4	S12 40.3	241 27.7	4.2	N27 00.8	4.0	59.1
	12	356 28.4	S12 39.5	255 50.9	4.1	N27 04.6	3.9	59.2
	13	11 28.5	S12 38.6	270 13.9	4.1	N27 08.3	3.7	59.2
	14	26 28.5	S12 37.7	284 36.9	4.0	N27 11.8	3.5	59.2
	15	41 28.5	S12 36.9	298 59.8	3.9	N27 15.2	3.3	59.3
	16	56 28.6	S12 36.0	313 22.6	3.8	N27 18.3	3.1	59.3
	17	71 28.6	S12 35.2	327 45.4	3.7	N27 21.3	3.0	59.3
	18	86 28.6	S12 34.3	342 08.0	3.7	N27 24.1	2.8	59.3
	19	101 28.6	S12 33.4	356 30.6	3.6	N27 26.6	2.6	59.4
	20	116 28.7	S12 32.6	10 53.1	3.5	N27 29.1	2.4	59.4
	21	131 28.7	S12 31.7	25 15.6	3.5	N27 31.3	2.2	59.4
	22	146 28.7	S12 30.9	39 38.0	3.4	N27 33.3	2.0	59.4
	23	161 28.8	S12 30.0	54 00.3	3.3	N27 35.1	1.8	59.5
16	0	176 28.8	S12 29.1	68 22.6	3.3	N27 36.8	1.6	59.5
	1	191 28.9	S12 28.3	82 44.8	3.2	N27 38.2	1.5	59.5
	2	206 28.9	S12 27.4	97 07.0	3.2	N27 39.5	1.3	59.6
	3	221 28.9	S12 26.5	111 29.1	3.1	N27 40.6	1.1	59.6
	4	236 29.0	S12 25.7	125 51.2	3.1	N27 41.4	0.9	59.6
T	5	251 29.0	S12 24.8	140 13.2	3.0	N27 42.1	0.7	59.6
U								
E	6	266 29.0	S12 23.9	154 35.2	3.0	N27 42.6	0.5	59.7
S	7	281 29.1	S12 23.1	168 57.1	2.9	N27 42.9	0.3	59.7
D	8	296 29.1	S12 22.2	183 19.0	2.9	N27 43.0	0.1	59.7
A	9	311 29.1	S12 21.3	197 40.8	2.9	N27 42.9	0.1	59.7
Y	10	326 29.2	S12 20.5	212 02.6	2.8	N27 42.6	0.3	59.8
	11	341 29.2	S12 19.6	226 24.4	2.8	N27 42.1	0.5	59.8
	12	356 29.2	S12 18.7	240 46.2	2.8	N27 41.4	0.7	59.8
	13	11 29.3	S12 17.9	255 07.9	2.7	N27 40.5	0.9	59.8
	14	26 29.3	S12 17.0	269 29.6	2.7	N27 39.4	1.1	59.9
	15	41 29.4	S12 16.1	283 51.3	2.7	N27 38.1	1.3	59.9
	16	56 29.4	S12 15.3	298 13.0	2.7	N27 36.6	1.5	59.9
	17	71 29.4	S12 14.4	312 34.6	2.7	N27 34.9	1.7	59.9
	18	86 29.5	S12 13.5	326 56.3	2.6	N27 33.0	1.9	59.9
	19	101 29.5	S12 12.7	341 17.9	2.6	N27 30.9	2.1	60.0
	20	116 29.6	S12 11.8	355 39.6	2.6	N27 28.6	2.3	60.0
	21	131 29.6	S12 10.9	10 01.2	2.6	N27 26.1	2.5	60.0
	22	146 29.6	S12 10.0	24 22.8	2.6	N27 23.4	2.7	60.0
	23	161 29.7	S12 09.2	38 44.4	2.6	N27 20.5	2.9	60.1
17	0	176 29.7	S12 08.3	53 06.0	2.6	N27 17.4	3.1	60.1
	1	191 29.8	S12 07.4	67 27.7	2.6	N27 14.1	3.3	60.1
	2	206 29.8	S12 06.6	81 49.3	2.6	N27 10.6	3.5	60.1
	3	221 29.9	S12 05.7	96 11.0	2.7	N27 06.9	3.7	60.1
	4	236 29.9	S12 04.8	110 32.7	2.7	N27 03.0	3.9	60.2
W	5	251 29.9	S12 03.9	124 54.3	2.7	N26 58.9	4.1	60.2
E								
D	6	266 30.0	S12 03.1	139 16.0	2.7	N26 54.6	4.3	60.2
N	7	281 30.0	S12 02.2	153 37.8	2.7	N26 50.1	4.5	60.2
E	8	296 30.1	S12 01.3	167 59.5	2.8	N26 45.4	4.7	60.2
S	9	311 30.1	S12 00.5	182 21.3	2.8	N26 40.5	4.9	60.3
D	10	326 30.2	S11 59.6	196 43.1	2.8	N26 35.4	5.1	60.3
A	11	341 30.2	S11 58.7	211 05.0	2.8	N26 30.1	5.3	60.3
Y								
	12	356 30.2	S11 57.8	225 26.9	2.9	N26 24.7	5.5	60.3
	13	11 30.3	S11 57.0	239 48.8	2.9	N26 19.0	5.7	60.3
	14	26 30.3	S11 56.1	254 10.8	3.0	N26 13.1	5.9	60.4
	15	41 30.4	S11 55.2	268 32.8	3.0	N26 07.1	6.1	60.4
	16	56 30.4	S11 54.3	282 54.8	3.1	N26 00.8	6.3	60.4
	17	71 30.5	S11 53.4	297 16.9	3.1	N25 54.4	6.4	60.4
	18	86 30.5	S11 52.6	311 39.1	3.1	N25 47.7	6.6	60.4
	19	101 30.6	S11 51.7	326 01.3	3.2	N25 40.9	6.8	60.4
	20	116 30.6	S11 50.8	340 23.5	3.3	N25 33.9	7.0	60.5
	21	131 30.7	S11 49.9	354 45.8	3.3	N25 26.7	7.2	60.5
	22	146 30.7	S11 49.1	9 08.2	3.4	N25 19.3	7.4	60.5
	23	161 30.8	S11 48.2	23 30.6	3.4	N25 11.8	7.6	60.5
		S.D. 16.2	d 0.9	S.D.	16.1	16.3	16.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 12.0
Achernar	335 19.2	S57 06.1
Acrux	172 57.6	S63 14.9
Adhara	255 04.2	S29 00.7
Albireo	67 02.9	N28 00.8
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.0	N55 48.4
Alkaid	152 50.4	N49 10.3
Al Na-ir	27 31.1	S46 49.8
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.7
Alphecca	126 02.2	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.5	N 8 56.3
Ankaa	353 05.7	S42 09.7
Antares	112 13.8	S26 29.5
Arcturus	145 46.2	N19 02.2
Atria	107 06.7	S69 04.4
Avior	234 13.4	S59 36.0
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.2	S52 42.8
Capella	280 19.1	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.0	N45 22.5
Denebola	182 22.9	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.2	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.7	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.3	S57 15.9
Gienah	175 41.5	S17 41.7
Hadar	148 33.3	S60 30.1
Hamal	327 49.4	N23 35.6
Kaus Austr.	83 30.5	S34 22.3
Kochab	137 19.8	N74 02.2
Markab	13 28.5	N15 21.0
Menkar	314 04.3	N 4 11.7
Menkent	147 55.4	S36 30.2
Miaplacidus	221 36.9	S69 49.8
Mirfak	308 25.8	N49 57.7
Nunki	75 45.9	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	315 57.6	N89 22.4
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.1	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.0	S 8 10.3
Rigil Kent	139 37.9	S60 56.7
Sabik	102 00.9	S15 45.6
Schedar	349 29.4	N56 41.4
Shaula	96 08.2	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.3	S11 18.3
Suhail	222 44.6	S43 32.7
Vega	80 32.3	N38 48.2
Zuben-ubi	136 54.9	S16 09.4

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 44.2	219 49.5	S20 55.6	352 38.3	N15 08.3	3 52.6	N15 27.9	135 54.8	N 2 35.3
	1	162 46.6	234 48.8	S20 55.4	7 41.7	N15 08.7	18 55.4	N15 28.0	150 57.0	N 2 35.4
	2	177 49.1	249 48.1	S20 55.2	22 45.1	N15 09.0	33 58.2	N15 28.1	165 59.3	N 2 35.5
	3	192 51.6	264 47.4	S20 55.0	37 48.6	N15 09.4	49 01.0	N15 28.2	181 01.5	N 2 35.6
	4	207 54.0	279 46.8	S20 54.8	52 52.0	N15 09.7	64 03.8	N15 28.3	196 03.7	N 2 35.7
T	5	222 56.5	294 46.1	S20 54.6	67 55.4	N15 10.1	79 06.5	N15 28.5	211 05.9	N 2 35.8
H										
U	6	237 59.0	309 45.4	S20 54.4	82 58.8	N15 10.4	94 09.3	N15 28.6	226 08.2	N 2 35.9
R	7	253 01.4	324 44.8	S20 54.2	98 02.3	N15 10.8	109 12.1	N15 28.7	241 10.4	N 2 36.0
S	8	268 03.9	339 44.1	S20 54.0	113 05.7	N15 11.1	124 14.9	N15 28.8	256 12.6	N 2 36.1
D	9	283 06.4	354 43.4	S20 53.8	128 09.1	N15 11.5	139 17.7	N15 28.9	271 14.9	N 2 36.2
A	10	298 08.8	9 42.8	S20 53.6	143 12.5	N15 11.8	154 20.4	N15 29.0	286 17.1	N 2 36.3
Y	11	313 11.3	24 42.1	S20 53.3	158 15.9	N15 12.2	169 23.2	N15 29.1	301 19.3	N 2 36.4
	12	328 13.7	39 41.4	S20 53.1	173 19.4	N15 12.5	184 26.0	N15 29.2	316 21.5	N 2 36.6
	13	343 16.2	54 40.7	S20 52.9	188 22.8	N15 12.9	199 28.8	N15 29.3	331 23.8	N 2 36.7
	14	358 18.7	69 40.1	S20 52.7	203 26.2	N15 13.2	214 31.6	N15 29.4	346 26.0	N 2 36.8
	15	13 21.1	84 39.4	S20 52.5	218 29.6	N15 13.6	229 34.4	N15 29.5	1 28.2	N 2 36.9
	16	28 23.6	99 38.7	S20 52.3	233 33.1	N15 13.9	244 37.1	N15 29.6	16 30.4	N 2 37.0
	17	43 26.1	114 38.1	S20 52.1	248 36.5	N15 14.3	259 39.9	N15 29.7	31 32.7	N 2 37.1
	18	58 28.5	129 37.4	S20 51.8	263 39.9	N15 14.6	274 42.7	N15 29.8	46 34.9	N 2 37.2
	19	73 31.0	144 36.7	S20 51.6	278 43.4	N15 15.0	289 45.5	N15 29.9	61 37.1	N 2 37.3
	20	88 33.5	159 36.1	S20 51.4	293 46.8	N15 15.3	304 48.3	N15 30.1	76 39.3	N 2 37.4
	21	103 35.9	174 35.4	S20 51.2	308 50.2	N15 15.7	319 51.0	N15 30.2	91 41.6	N 2 37.5
	22	118 38.4	189 34.7	S20 51.0	323 53.6	N15 16.0	334 53.8	N15 30.3	106 43.8	N 2 37.6
	23	133 40.9	204 34.0	S20 50.7	338 57.1	N15 16.4	349 56.6	N15 30.4	121 46.0	N 2 37.7
19	0	148 43.3	219 33.4	S20 50.5	354 00.5	N15 16.7	4 59.4	N15 30.5	136 48.3	N 2 37.8
	1	163 45.8	234 32.7	S20 50.3	9 03.9	N15 17.1	20 02.2	N15 30.6	151 50.5	N 2 37.9
	2	178 48.2	249 32.0	S20 50.1	24 07.3	N15 17.4	35 05.0	N15 30.7	166 52.7	N 2 38.1
	3	193 50.7	264 31.4	S20 49.8	39 10.8	N15 17.8	50 07.7	N15 30.8	181 54.9	N 2 38.2
	4	208 53.2	279 30.7	S20 49.6	54 14.2	N15 18.1	65 10.5	N15 30.9	196 57.2	N 2 38.3
F	5	223 55.6	294 30.0	S20 49.4	69 17.6	N15 18.5	80 13.3	N15 31.0	211 59.4	N 2 38.4
R										
I	6	238 58.1	309 29.4	S20 49.2	84 21.1	N15 18.8	95 16.1	N15 31.1	227 01.6	N 2 38.5
D	7	254 00.6	324 28.7	S20 48.9	99 24.5	N15 19.1	110 18.9	N15 31.2	242 03.8	N 2 38.6
A	8	269 03.0	339 28.0	S20 48.7	114 27.9	N15 19.5	125 21.6	N15 31.3	257 06.1	N 2 38.7
Y	9	284 05.5	354 27.3	S20 48.5	129 31.3	N15 19.8	140 24.4	N15 31.4	272 08.3	N 2 38.8
	10	299 08.0	9 26.7	S20 48.2	144 34.8	N15 20.2	155 27.2	N15 31.5	287 10.5	N 2 38.9
	11	314 10.4	24 26.0	S20 48.0	159 38.2	N15 20.5	170 30.0	N15 31.6	302 12.7	N 2 39.0
	12	329 12.9	39 25.3	S20 47.8	174 41.6	N15 20.9	185 32.8	N15 31.8	317 15.0	N 2 39.1
	13	344 15.4	54 24.7	S20 47.5	189 45.1	N15 21.2	200 35.5	N15 31.9	332 17.2	N 2 39.2
	14	359 17.8	69 24.0	S20 47.3	204 48.5	N15 21.6	215 38.3	N15 32.0	347 19.4	N 2 39.3
	15	14 20.3	84 23.3	S20 47.0	219 51.9	N15 21.9	230 41.1	N15 32.1	2 21.6	N 2 39.4
	16	29 22.7	99 22.7	S20 46.8	234 55.3	N15 22.3	245 43.9	N15 32.2	17 23.9	N 2 39.6
	17	44 25.2	114 22.0	S20 46.6	249 58.8	N15 22.6	260 46.7	N15 32.3	32 26.1	N 2 39.7
	18	59 27.7	129 21.3	S20 46.3	265 02.2	N15 22.9	275 49.4	N15 32.4	47 28.3	N 2 39.8
	19	74 30.1	144 20.6	S20 46.1	280 05.6	N15 23.3	290 52.2	N15 32.5	62 30.5	N 2 39.9
	20	89 32.6	159 20.0	S20 45.8	295 09.1	N15 23.6	305 55.0	N15 32.6	77 32.7	N 2 40.0
	21	104 35.1	174 19.3	S20 45.6	310 12.5	N15 24.0	320 57.8	N15 32.7	92 35.0	N 2 40.1
	22	119 37.5	189 18.6	S20 45.4	325 15.9	N15 24.3	336 00.6	N15 32.8	107 37.2	N 2 40.2
	23	134 40.0	204 18.0	S20 45.1	340 19.4	N15 24.7	351 03.3	N15 32.9	122 39.4	N 2 40.3
20	0	149 42.5	219 17.3	S20 44.9	355 22.8	N15 25.0	6 06.1	N15 33.0	137 41.6	N 2 40.4
	1	164 44.9	234 16.6	S20 44.6	10 26.2	N15 25.3	21 08.9	N15 33.1	152 43.9	N 2 40.5
	2	179 47.4	249 16.0	S20 44.4	25 29.6	N15 25.7	36 11.7	N15 33.2	167 46.1	N 2 40.6
	3	194 49.8	264 15.3	S20 44.1	40 33.1	N15 26.0	51 14.5	N15 33.3	182 48.3	N 2 40.7
	4	209 52.3	279 14.6	S20 43.9	55 36.5	N15 26.4	66 17.2	N15 33.4	197 50.5	N 2 40.9
S	5	224 54.8	294 13.9	S20 43.6	70 39.9	N15 26.7	81 20.0	N15 33.5	212 52.8	N 2 41.0
A										
T	6	239 57.2	309 13.3	S20 43.4	85 43.4	N15 27.0	96 22.8	N15 33.6	227 55.0	N 2 41.1
U	7	254 59.7	324 12.6	S20 43.1	100 46.8	N15 27.4	111 25.6	N15 33.8	242 57.2	N 2 41.2
R	8	270 02.2	339 11.9	S20 42.8	115 50.2	N15 27.7	126 28.4	N15 33.9	257 59.4	N 2 41.3
D	9	285 04.6	354 11.3	S20 42.6	130 53.7	N15 28.1	141 31.1	N15 34.0	273 01.7	N 2 41.4
A	10	300 07.1	9 10.6	S20 42.3	145 57.1	N15 28.4	156 33.9	N15 34.1	288 03.9	N 2 41.5
Y	11	315 09.6	24 09.9	S20 42.1	161 00.5	N15 28.7	171 36.7	N15 34.2	303 06.1	N 2 41.6
	12	330 12.0	39 09.3	S20 41.8	176 04.0	N15 29.1	186 39.5	N15 34.3	318 08.3	N 2 41.7
	13	345 14.5	54 08.6	S20 41.5	191 07.4	N15 29.4	201 42.2	N15 34.4	333 10.5	N 2 41.8
	14	0 17.0	69 07.9	S20 41.3	206 10.8	N15 29.8	216 45.0	N15 34.5	348 12.8	N 2 41.9
	15	15 19.4	84 07.3	S20 41.0	221 14.2	N15 30.1	231 47.8	N15 34.6	3 15.0	N 2 42.0
	16	30 21.9	99 06.6	S20 40.8	236 17.7	N15 30.4	246 50.6	N15 34.7	18 17.2	N 2 42.1
	17	45 24.3	114 05.9	S20 40.5	251 21.1	N15 30.8	261 53.4	N15 34.8	33 19.4	N 2 42.3
	18	60 26.8	129 05.2	S20 40.2	266 24.5	N15 31.1	276 56.1	N15 34.9	48 21.7	N 2 42.4
	19	75 29.3	144 04.6	S20 40.0	281 28.0	N15 31.4	291 58.9	N15 35.0	63 23.9	N 2 42.5
	20	90 31.7	159 03.9	S20 39.7	296 31.4	N15 31.8	307 01.7	N15 35.1	78 26.1	N 2 42.6
	21	105 34.2	174 03.2	S20 39.4	311 34.8	N15 32.1	322 04.5	N15 35.2	93 28.3	N 2 42.7
	22	120 36.7	189 02.6	S20 39.2	326 38.3	N15 32.5	337 07.2	N15 35.3	108 30.5	N 2 42.8
	23	135 39.1	204 01.9	S20 38.9	341 41.7	N15 32.8	352 10.0	N15 35.4	123 32.8	N 2 42.9
			v -0.7	d 0.2	v 3.4	d 0.3	v 2.8	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 '
18	0	176 30.8	S11 47.3	37 53.1	3.5	N25 04.0	7.8	60.5
	1	191 30.9	S11 46.4	52 15.7	3.6	N24 56.1	7.9	60.5
	2	206 30.9	S11 45.5	66 38.3	3.6	N24 48.0	8.1	60.5
	3	221 31.0	S11 44.7	81 01.0	3.7	N24 39.7	8.3	60.6
	4	236 31.0	S11 43.8	95 23.7	3.8	N24 31.2	8.5	60.6
T	5	251 31.1	S11 42.9	109 46.6	3.8	N24 22.5	8.6	60.6
H								
U	6	266 31.1	S11 42.0	124 09.5	3.9	N24 13.7	8.8	60.6
R	7	281 31.2	S11 41.1	138 32.4	4.0	N24 04.7	9.0	60.6
S	8	296 31.2	S11 40.3	152 55.5	4.1	N23 55.6	9.2	60.6
D	9	311 31.3	S11 39.4	167 18.6	4.1	N23 46.2	9.3	60.6
A	10	326 31.3	S11 38.5	181 41.8	4.2	N23 36.7	9.5	60.6
Y	11	341 31.4	S11 37.6	196 05.1	4.3	N23 27.0	9.7	60.6
	12	356 31.4	S11 36.7	210 28.5	4.4	N23 17.2	9.8	60.7
	13	11 31.5	S11 35.8	224 51.9	4.5	N23 07.2	10.0	60.7
	14	26 31.5	S11 35.0	239 15.5	4.5	N22 57.0	10.2	60.7
	15	41 31.6	S11 34.1	253 39.1	4.6	N22 46.7	10.3	60.7
	16	56 31.6	S11 33.2	268 02.8	4.7	N22 36.2	10.5	60.7
	17	71 31.7	S11 32.3	282 26.6	4.8	N22 25.5	10.7	60.7
	18	86 31.8	S11 31.4	296 50.5	4.9	N22 14.7	10.8	60.7
	19	101 31.8	S11 30.5	311 14.5	5.0	N22 03.7	11.0	60.7
	20	116 31.9	S11 29.7	325 38.5	5.1	N21 52.6	11.1	60.7
	21	131 31.9	S11 28.8	340 02.7	5.2	N21 41.4	11.3	60.7
	22	146 32.0	S11 27.9	354 26.9	5.2	N21 30.0	11.4	60.7
	23	161 32.0	S11 27.0	8 51.3	5.3	N21 18.4	11.6	60.7
19	0	176 32.1	S11 26.1	23 15.7	5.4	N21 06.7	11.7	60.7
	1	191 32.1	S11 25.2	37 40.2	5.5	N20 54.8	11.8	60.7
	2	206 32.2	S11 24.3	52 04.8	5.6	N20 42.9	12.0	60.7
	3	221 32.3	S11 23.4	66 29.5	5.7	N20 30.7	12.1	60.7
	4	236 32.3	S11 22.6	80 54.4	5.8	N20 18.5	12.3	60.7
F	5	251 32.4	S11 21.7	95 19.3	5.9	N20 06.1	12.4	60.7
R								
I	6	266 32.4	S11 20.8	109 44.3	6.0	N19 53.5	12.5	60.7
D	7	281 32.5	S11 19.9	124 09.4	6.1	N19 40.9	12.7	60.7
A	8	296 32.5	S11 19.0	138 34.6	6.2	N19 28.1	12.8	60.7
Y	9	311 32.6	S11 18.1	152 59.8	6.3	N19 15.1	12.9	60.7
	10	326 32.7	S11 17.2	167 25.2	6.4	N19 02.1	13.0	60.7
	11	341 32.7	S11 16.3	181 50.7	6.5	N18 48.9	13.2	60.7
	12	356 32.8	S11 15.4	196 16.3	6.6	N18 35.6	13.3	60.7
	13	11 32.8	S11 14.6	210 42.0	6.7	N18 22.2	13.4	60.7
	14	26 32.9	S11 13.7	225 07.8	6.8	N18 08.7	13.5	60.7
	15	41 33.0	S11 12.8	239 33.6	6.9	N17 55.1	13.6	60.7
	16	56 33.0	S11 11.9	253 59.6	7.0	N17 41.3	13.8	60.7
	17	71 33.1	S11 11.0	268 25.7	7.1	N17 27.4	13.9	60.7
	18	86 33.1	S11 10.1	282 51.8	7.2	N17 13.5	14.0	60.7
	19	101 33.2	S11 09.2	297 18.1	7.3	N16 59.4	14.1	60.7
	20	116 33.3	S11 08.3	311 44.4	7.4	N16 45.2	14.2	60.7
	21	131 33.3	S11 07.4	326 10.9	7.5	N16 30.9	14.3	60.7
	22	146 33.4	S11 06.5	340 37.4	7.5	N16 16.5	14.4	60.7
	23	161 33.5	S11 05.6	355 04.1	7.6	N16 02.1	14.5	60.7
20	0	176 33.5	S11 04.7	9 30.8	7.7	N15 47.5	14.6	60.7
	1	191 33.6	S11 03.8	23 57.6	7.8	N15 32.8	14.7	60.7
	2	206 33.7	S11 02.9	38 24.6	7.9	N15 18.0	14.8	60.7
	3	221 33.7	S11 02.0	52 51.6	8.0	N15 03.2	14.9	60.6
	4	236 33.8	S11 01.2	67 18.7	8.1	N14 48.3	14.9	60.6
S	5	251 33.8	S11 00.3	81 45.9	8.2	N14 33.2	15.0	60.6
A								
T	6	266 33.9	S10 59.4	96 13.2	8.3	N14 18.1	15.1	60.6
U	7	281 34.0	S10 58.5	110 40.6	8.4	N14 02.9	15.2	60.6
R	8	296 34.0	S10 57.6	125 08.0	8.5	N13 47.7	15.3	60.6
D	9	311 34.1	S10 56.7	139 35.6	8.6	N13 32.3	15.3	60.6
A	10	326 34.2	S10 55.8	154 03.2	8.7	N13 16.9	15.4	60.6
Y	11	341 34.2	S10 54.9	168 31.0	8.7	N13 01.4	15.5	60.6
	12	356 34.3	S10 54.0	182 58.8	8.8	N12 45.9	15.6	60.5
	13	11 34.4	S10 53.1	197 26.7	8.9	N12 30.2	15.6	60.5
	14	26 34.4	S10 52.2	211 54.7	9.0	N12 14.5	15.7	60.5
	15	41 34.5	S10 51.3	226 22.8	9.1	N11 58.8	15.8	60.5
	16	56 34.6	S10 50.4	240 51.0	9.2	N11 43.0	15.8	60.5
	17	71 34.6	S10 49.5	255 19.2	9.2	N11 27.1	15.9	60.5
	18	86 34.7	S10 48.6	269 47.5	9.3	N11 11.1	15.9	60.5
	19	101 34.8	S10 47.7	284 15.9	9.4	N10 55.2	16.0	60.4
	20	116 34.8	S10 46.8	298 44.4	9.5	N10 39.1	16.0	60.4
	21	131 34.9	S10 45.9	313 13.0	9.6	N10 23.0	16.1	60.4
	22	146 35.0	S10 45.0	327 41.7	9.6	N10 06.9	16.1	60.4
	23	161 35.1	S10 44.1	342 10.4	9.7	N 9 50.7	16.2	60.4
		S.D. 16.2	d 0.9	S.D. 16.5		16.5	16.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 12.0
Achernar	335 19.2	S57 06.1
Acrux	172 57.6	S63 14.9
Adhara	255 04.2	S29 00.7
Albireo	67 02.9	N28 00.8
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.0	N55 48.4
Alkaid	152 50.3	N49 10.3
Al Na-ir	27 31.1	S46 49.8
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.2	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.5	N 8 56.3
Ankaa	353 05.7	S42 09.7
Antares	112 13.7	S26 29.5
Arcturus	145 46.2	N19 02.2
Atria	107 06.6	S69 04.4
Avior	234 13.4	S59 36.0
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.3	S52 42.8
Capella	280 19.1	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.0	N45 22.5
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.2	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.6	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.3	S57 15.9
Gienah	175 41.5	S17 41.7
Hadar	148 33.3	S60 30.1
Hamal	327 49.4	N23 35.6
Kaus Austr.	83 30.4	S34 22.3
Kochab	137 19.7	N74 02.2
Markab	13 28.5	N15 21.0
Menkar	314 04.3	N 4 11.7
Menkent	147 55.4	S36 30.3
Miaplacidus	221 36.9	S69 49.8
Mirfak	308 25.8	N49 57.7
Nunki	75 45.8	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	315 58.7	N89 22.4
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.1	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.1	S 8 10.3
Rigil Kent	139 37.8	S60 56.7
Sabik	102 00.9	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 08.1	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.2	S11 18.3
Suhail	222 44.6	S43 32.7
Vega	80 32.3	N38 48.2
Zuben-ubi	136 54.9	S16 09.4

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	150 41.6	219 01.2	S20 38.6	356 45.1	N15 33.1	7 12.8	N15 35.5	138 35.0	N 2 43.0
	1	165 44.1	234 00.6	S20 38.3	11 48.6	N15 33.5	22 15.6	N15 35.6	153 37.2	N 2 43.1
	2	180 46.5	248 59.9	S20 38.1	26 52.0	N15 33.8	37 18.4	N15 35.7	168 39.4	N 2 43.2
	3	195 49.0	263 59.2	S20 37.8	41 55.4	N15 34.1	52 21.1	N15 35.8	183 41.6	N 2 43.3
	4	210 51.5	278 58.5	S20 37.5	56 58.9	N15 34.5	67 23.9	N15 35.9	198 43.9	N 2 43.5
S	5	225 53.9	293 57.9	S20 37.2	72 02.3	N15 34.8	82 26.7	N15 36.1	213 46.1	N 2 43.6
U										
N	6	240 56.4	308 57.2	S20 37.0	87 05.7	N15 35.1	97 29.5	N15 36.2	228 48.3	N 2 43.7
D	7	255 58.8	323 56.5	S20 36.7	102 09.2	N15 35.5	112 32.2	N15 36.3	243 50.5	N 2 43.8
A	8	271 01.3	338 55.9	S20 36.4	117 12.6	N15 35.8	127 35.0	N15 36.4	258 52.8	N 2 43.9
Y	9	286 03.8	353 55.2	S20 36.1	132 16.0	N15 36.1	142 37.8	N15 36.5	273 55.0	N 2 44.0
	10	301 06.2	8 54.5	S20 35.8	147 19.5	N15 36.5	157 40.6	N15 36.6	288 57.2	N 2 44.1
	11	316 08.7	23 53.9	S20 35.6	162 22.9	N15 36.8	172 43.3	N15 36.7	303 59.4	N 2 44.2
	12	331 11.2	38 53.2	S20 35.3	177 26.3	N15 37.1	187 46.1	N15 36.8	319 01.6	N 2 44.3
	13	346 13.6	53 52.5	S20 35.0	192 29.7	N15 37.5	202 48.9	N15 36.9	334 03.9	N 2 44.4
	14	1 16.1	68 51.9	S20 34.7	207 33.2	N15 37.8	217 51.7	N15 37.0	349 06.1	N 2 44.5
	15	16 18.6	83 51.2	S20 34.4	222 36.6	N15 38.1	232 54.5	N15 37.1	4 08.3	N 2 44.7
	16	31 21.0	98 50.5	S20 34.1	237 40.0	N15 38.5	247 57.2	N15 37.2	19 10.5	N 2 44.8
	17	46 23.5	113 49.9	S20 33.8	252 43.5	N15 38.8	263 00.0	N15 37.3	34 12.7	N 2 44.9
	18	61 25.9	128 49.2	S20 33.5	267 46.9	N15 39.1	278 02.8	N15 37.4	49 15.0	N 2 45.0
	19	76 28.4	143 48.5	S20 33.3	282 50.3	N15 39.5	293 05.6	N15 37.5	64 17.2	N 2 45.1
	20	91 30.9	158 47.8	S20 33.0	297 53.8	N15 39.8	308 08.3	N15 37.6	79 19.4	N 2 45.2
	21	106 33.3	173 47.2	S20 32.7	312 57.2	N15 40.1	323 11.1	N15 37.7	94 21.6	N 2 45.3
	22	121 35.8	188 46.5	S20 32.4	328 00.6	N15 40.5	338 13.9	N15 37.8	109 23.8	N 2 45.4
	23	136 38.3	203 45.8	S20 32.1	343 04.1	N15 40.8	353 16.7	N15 37.9	124 26.1	N 2 45.5
22	0	151 40.7	218 45.2	S20 31.8	358 07.5	N15 41.1	8 19.4	N15 38.0	139 28.3	N 2 45.6
	1	166 43.2	233 44.5	S20 31.5	13 10.9	N15 41.4	23 22.2	N15 38.1	154 30.5	N 2 45.7
	2	181 45.7	248 43.8	S20 31.2	28 14.4	N15 41.8	38 25.0	N15 38.2	169 32.7	N 2 45.9
	3	196 48.1	263 43.2	S20 30.9	43 17.8	N15 42.1	53 27.8	N15 38.3	184 34.9	N 2 46.0
	4	211 50.6	278 42.5	S20 30.6	58 21.2	N15 42.4	68 30.5	N15 38.4	199 37.1	N 2 46.1
M	5	226 53.1	293 41.8	S20 30.3	73 24.7	N15 42.8	83 33.3	N15 38.5	214 39.4	N 2 46.2
O										
N	6	241 55.5	308 41.2	S20 30.0	88 28.1	N15 43.1	98 36.1	N15 38.6	229 41.6	N 2 46.3
D	7	256 58.0	323 40.5	S20 29.7	103 31.5	N15 43.4	113 38.9	N15 38.7	244 43.8	N 2 46.4
A	8	272 00.4	338 39.8	S20 29.4	118 34.9	N15 43.7	128 41.6	N15 38.8	259 46.0	N 2 46.5
Y	9	287 02.9	353 39.2	S20 29.1	133 38.4	N15 44.1	143 44.4	N15 38.9	274 48.2	N 2 46.6
	10	302 05.4	8 38.5	S20 28.8	148 41.8	N15 44.4	158 47.2	N15 39.0	289 50.5	N 2 46.7
	11	317 07.8	23 37.8	S20 28.5	163 45.2	N15 44.7	173 49.9	N15 39.1	304 52.7	N 2 46.8
	12	332 10.3	38 37.2	S20 28.2	178 48.7	N15 45.1	188 52.7	N15 39.2	319 54.9	N 2 46.9
	13	347 12.8	53 36.5	S20 27.8	193 52.1	N15 45.4	203 55.5	N15 39.4	334 57.1	N 2 47.1
	14	2 15.2	68 35.8	S20 27.5	208 55.5	N15 45.7	218 58.3	N15 39.5	349 59.3	N 2 47.2
	15	17 17.7	83 35.2	S20 27.2	223 59.0	N15 46.0	234 01.0	N15 39.6	5 01.6	N 2 47.3
	16	32 20.2	98 34.5	S20 26.9	239 02.4	N15 46.4	249 03.8	N15 39.7	20 03.8	N 2 47.4
	17	47 22.6	113 33.8	S20 26.6	254 05.8	N15 46.7	264 06.6	N15 39.8	35 06.0	N 2 47.5
	18	62 25.1	128 33.2	S20 26.3	269 09.3	N15 47.0	279 09.4	N15 39.9	50 08.2	N 2 47.6
	19	77 27.6	143 32.5	S20 26.0	284 12.7	N15 47.3	294 12.1	N15 40.0	65 10.4	N 2 47.7
	20	92 30.0	158 31.8	S20 25.7	299 16.1	N15 47.7	309 14.9	N15 40.1	80 12.6	N 2 47.8
	21	107 32.5	173 31.2	S20 25.3	314 19.5	N15 48.0	324 17.7	N15 40.2	95 14.9	N 2 47.9
	22	122 34.9	188 30.5	S20 25.0	329 23.0	N15 48.3	339 20.5	N15 40.3	110 17.1	N 2 48.0
	23	137 37.4	203 29.8	S20 24.7	344 26.4	N15 48.6	354 23.2	N15 40.4	125 19.3	N 2 48.2
23	0	152 39.9	218 29.2	S20 24.4	359 29.8	N15 48.9	9 26.0	N15 40.5	140 21.5	N 2 48.3
	1	167 42.3	233 28.5	S20 24.1	14 33.3	N15 49.3	24 28.8	N15 40.6	155 23.7	N 2 48.4
	2	182 44.8	248 27.8	S20 23.7	29 36.7	N15 49.6	39 31.5	N15 40.7	170 25.9	N 2 48.5
	3	197 47.3	263 27.2	S20 23.4	44 40.1	N15 49.9	54 34.3	N15 40.8	185 28.2	N 2 48.6
	4	212 49.7	278 26.5	S20 23.1	59 43.5	N15 50.2	69 37.1	N15 40.9	200 30.4	N 2 48.7
T	5	227 52.2	293 25.8	S20 22.8	74 47.0	N15 50.6	84 39.9	N15 41.0	215 32.6	N 2 48.8
U										
E	6	242 54.7	308 25.2	S20 22.4	89 50.4	N15 50.9	99 42.6	N15 41.1	230 34.8	N 2 48.9
S	7	257 57.1	323 24.5	S20 22.1	104 53.8	N15 51.2	114 45.4	N15 41.2	245 37.0	N 2 49.0
D	8	272 59.6	338 23.8	S20 21.8	119 57.3	N15 51.5	129 48.2	N15 41.3	260 39.2	N 2 49.1
A	9	288 02.0	353 23.2	S20 21.5	135 00.7	N15 51.8	144 50.9	N15 41.4	275 41.5	N 2 49.3
Y	10	303 04.5	8 22.5	S20 21.1	150 04.1	N15 52.2	159 53.7	N15 41.5	290 43.7	N 2 49.4
	11	318 07.0	23 21.8	S20 20.8	165 07.5	N15 52.5	174 56.5	N15 41.6	305 45.9	N 2 49.5
	12	333 09.4	38 21.2	S20 20.5	180 11.0	N15 52.8	189 59.3	N15 41.7	320 48.1	N 2 49.6
	13	348 11.9	53 20.5	S20 20.1	195 14.4	N15 53.1	205 02.0	N15 41.8	335 50.3	N 2 49.7
	14	3 14.4	68 19.8	S20 19.8	210 17.8	N15 53.4	220 04.8	N15 41.9	350 52.5	N 2 49.8
	15	18 16.8	83 19.2	S20 19.5	225 21.2	N15 53.7	235 07.6	N15 42.0	5 54.8	N 2 49.9
	16	33 19.3	98 18.5	S20 19.1	240 24.7	N15 54.1	250 10.3	N15 42.1	20 57.0	N 2 50.0
	17	48 21.8	113 17.8	S20 18.8	255 28.1	N15 54.4	265 13.1	N15 42.2	35 59.2	N 2 50.1
	18	63 24.2	128 17.2	S20 18.4	270 31.5	N15 54.7	280 15.9	N15 42.3	51 01.4	N 2 50.2
	19	78 26.7	143 16.5	S20 18.1	285 35.0	N15 55.0	295 18.7	N15 42.4	66 03.6	N 2 50.4
	20	93 29.2	158 15.8	S20 17.8	300 38.4	N15 55.3	310 21.4	N15 42.5	81 05.8	N 2 50.5
	21	108 31.6	173 15.2	S20 17.4	315 41.8	N15 55.6	325 24.2	N15 42.6	96 08.1	N 2 50.6
	22	123 34.1	188 14.5	S20 17.1	330 45.2	N15 56.0	340 27.0	N15 42.7	111 10.3	N 2 50.7
	23	138 36.5	203 13.8	S20 16.7	345 48.7	N15 56.3	355 29.7	N15 42.8	126 12.5	N 2 50.8
			v -0.7	d 0.3	v 3.4	d 0.3	v 2.8	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 '
21	0	176 35.1	S10 43.2	356 39.2	9.8	N 9 34.4	16.2	60.3
	1	191 35.2	S10 42.3	11 08.1	9.9	N 9 18.1	16.3	60.3
	2	206 35.3	S10 41.4	25 37.0	10.0	N 9 01.8	16.3	60.3
	3	221 35.3	S10 40.5	40 06.0	10.0	N 8 45.5	16.4	60.3
	4	236 35.4	S10 39.6	54 35.1	10.1	N 8 29.0	16.4	60.3
S	5	251 35.5	S10 38.7	69 04.3	10.2	N 8 12.6	16.4	60.2
U								
N	6	266 35.6	S10 37.8	83 33.5	10.2	N 7 56.1	16.5	60.2
D	7	281 35.6	S10 36.9	98 02.8	10.3	N 7 39.6	16.5	60.2
A	8	296 35.7	S10 36.0	112 32.2	10.4	N 7 23.1	16.5	60.2
Y	9	311 35.8	S10 35.1	127 01.6	10.4	N 7 06.5	16.6	60.2
	10	326 35.8	S10 34.2	141 31.1	10.5	N 6 50.0	16.6	60.1
	11	341 35.9	S10 33.3	156 00.7	10.6	N 6 33.3	16.6	60.1
	12	356 36.0	S10 32.4	170 30.3	10.6	N 6 16.7	16.6	60.1
	13	11 36.1	S10 31.4	185 00.0	10.7	N 6 00.1	16.7	60.1
	14	26 36.1	S10 30.5	199 29.8	10.8	N 5 43.4	16.7	60.0
	15	41 36.2	S10 29.6	213 59.6	10.8	N 5 26.7	16.7	60.0
	16	56 36.3	S10 28.7	228 29.5	10.9	N 5 10.0	16.7	60.0
	17	71 36.4	S10 27.8	242 59.4	10.9	N 4 53.3	16.7	60.0
	18	86 36.4	S10 26.9	257 29.4	11.0	N 4 36.6	16.7	59.9
	19	101 36.5	S10 26.0	271 59.4	11.0	N 4 19.8	16.7	59.9
	20	116 36.6	S10 25.1	286 29.5	11.1	N 4 03.1	16.7	59.9
	21	131 36.7	S10 24.2	300 59.7	11.1	N 3 46.3	16.7	59.8
	22	146 36.7	S10 23.3	315 29.9	11.2	N 3 29.6	16.8	59.8
	23	161 36.8	S10 22.4	330 00.1	11.2	N 3 12.8	16.8	59.8
22	0	176 36.9	S10 21.5	344 30.4	11.3	N 2 56.1	16.8	59.8
	1	191 37.0	S10 20.6	359 00.8	11.3	N 2 39.3	16.8	59.7
	2	206 37.0	S10 19.7	13 31.2	11.4	N 2 22.6	16.7	59.7
	3	221 37.1	S10 18.8	28 01.6	11.4	N 2 05.8	16.7	59.7
	4	236 37.2	S10 17.8	42 32.1	11.5	N 1 49.1	16.7	59.6
M	5	251 37.3	S10 16.9	57 02.6	11.5	N 1 32.4	16.7	59.6
O								
N	6	266 37.4	S10 16.0	71 33.2	11.6	N 1 15.6	16.7	59.6
D	7	281 37.4	S10 15.1	86 03.8	11.6	N 0 58.9	16.7	59.6
A	8	296 37.5	S10 14.2	100 34.4	11.6	N 0 42.2	16.7	59.5
Y	9	311 37.6	S10 13.3	115 05.1	11.7	N 0 25.6	16.7	59.5
	10	326 37.7	S10 12.4	129 35.8	11.7	N 0 08.9	16.7	59.5
	11	341 37.8	S10 11.5	144 06.6	11.8	S 0 07.8	16.6	59.4
	12	356 37.8	S10 10.6	158 37.4	11.8	S 0 24.4	16.6	59.4
	13	11 37.9	S10 09.7	173 08.2	11.8	S 0 41.0	16.6	59.4
	14	26 38.0	S10 08.7	187 39.1	11.9	S 0 57.6	16.6	59.3
	15	41 38.1	S10 07.8	202 10.0	11.9	S 1 14.1	16.6	59.3
	16	56 38.2	S10 06.9	216 40.9	11.9	S 1 30.7	16.5	59.3
	17	71 38.2	S10 06.0	231 11.9	12.0	S 1 47.2	16.5	59.2
	18	86 38.3	S10 05.1	245 42.8	12.0	S 2 03.7	16.5	59.2
	19	101 38.4	S10 04.2	260 13.8	12.0	S 2 20.1	16.4	59.2
	20	116 38.5	S10 03.3	274 44.9	12.0	S 2 36.5	16.4	59.1
	21	131 38.6	S10 02.4	289 15.9	12.1	S 2 52.9	16.4	59.1
	22	146 38.7	S10 01.4	303 47.0	12.1	S 3 09.3	16.3	59.1
	23	161 38.7	S10 00.5	318 18.1	12.1	S 3 25.6	16.3	59.0
23	0	176 38.8	S 9 59.6	332 49.2	12.1	S 3 41.9	16.3	59.0
	1	191 38.9	S 9 58.7	347 20.4	12.1	S 3 58.1	16.2	59.0
	2	206 39.0	S 9 57.8	1 51.5	12.2	S 4 14.3	16.2	58.9
	3	221 39.1	S 9 56.9	16 22.7	12.2	S 4 30.4	16.2	58.9
	4	236 39.2	S 9 55.9	30 53.9	12.2	S 4 46.6	16.1	58.9
T	5	251 39.2	S 9 55.0	45 25.1	12.2	S 5 02.6	16.1	58.8
U								
E	6	266 39.3	S 9 54.1	59 56.3	12.2	S 5 18.6	16.0	58.8
S	7	281 39.4	S 9 53.2	74 27.6	12.2	S 5 34.6	16.0	58.7
D	8	296 39.5	S 9 52.3	88 58.8	12.2	S 5 50.6	15.9	58.7
A	9	311 39.6	S 9 51.4	103 30.1	12.3	S 6 06.4	15.9	58.7
Y	10	326 39.7	S 9 50.5	118 01.3	12.3	S 6 22.3	15.8	58.6
	11	341 39.8	S 9 49.5	132 32.6	12.3	S 6 38.0	15.8	58.6
	12	356 39.8	S 9 48.6	147 03.9	12.3	S 6 53.8	15.7	58.6
	13	11 39.9	S 9 47.7	161 35.2	12.3	S 7 09.4	15.7	58.5
	14	26 40.0	S 9 46.8	176 06.5	12.3	S 7 25.0	15.6	58.5
	15	41 40.1	S 9 45.9	190 37.8	12.3	S 7 40.6	15.6	58.5
	16	56 40.2	S 9 44.9	205 09.1	12.3	S 7 56.1	15.5	58.4
	17	71 40.3	S 9 44.0	219 40.4	12.3	S 8 11.5	15.4	58.4
	18	86 40.4	S 9 43.1	234 11.7	12.3	S 8 26.9	15.4	58.3
	19	101 40.5	S 9 42.2	248 43.1	12.3	S 8 42.2	15.3	58.3
	20	116 40.5	S 9 41.3	263 14.4	12.3	S 8 57.5	15.3	58.3
	21	131 40.6	S 9 40.3	277 45.7	12.3	S 9 12.7	15.2	58.2
	22	146 40.7	S 9 39.4	292 17.0	12.3	S 9 27.8	15.1	58.2
	23	161 40.8	S 9 38.5	306 48.3	12.3	S 9 42.8	15.1	58.2
		S.D. 16.2	d 0.9	S.D.	16.4		16.2	16.0

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 12.0
Achernar	335 19.2	S57 06.1
Acrux	172 57.6	S63 14.9
Adhara	255 04.2	S29 00.7
Albireo	67 02.9	N28 00.8
Aldebaran	290 37.5	N16 33.9
Alioth	166 10.9	N55 48.5
Alkaid	152 50.3	N49 10.3
Al Na-ir	27 31.1	S46 49.8
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.2	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.5	N 8 56.3
Ankaa	353 05.7	S42 09.7
Antares	112 13.7	S26 29.5
Arcturus	145 46.1	N19 02.2
Atria	107 06.6	S69 04.4
Avior	234 13.4	S59 36.0
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.3	S52 42.8
Capella	280 19.1	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.0	N45 22.5
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.0
Elnath	277 59.5	N28 37.8
Eltanin	90 41.6	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.2	S57 15.9
Gienah	175 41.5	S17 41.7
Hadar	148 33.3	S60 30.1
Hamal	327 49.4	N23 35.6
Kaus Austr.	83 30.4	S34 22.3
Kochab	137 19.6	N74 02.2
Markab	13 28.5	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.4	S36 30.3
Miaplacidus	221 36.9	S69 49.8
Mirfak	308 25.9	N49 57.7
Nunki	75 45.8	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	315 59.9	N89 22.4
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.1	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.1	S 8 10.3
Rigil Kent	139 37.8	S60 56.7
Sabik	102 00.9	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 08.1	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.2	S11 18.3
Suhail	222 44.6	S43 32.7
Vega	80 32.3	N38 48.2
Zuben-ubi	136 54.9	S16 09.4

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	153 39.0	218 13.2	S20 16.4	0 52.1	N15 56.6	10 32.5	N15 42.9	141 14.7	N 2 50.9
	1	168 41.5	233 12.5	S20 16.0	15 55.5	N15 56.9	25 35.3	N15 43.0	156 16.9	N 2 51.0
	2	183 43.9	248 11.8	S20 15.7	30 58.9	N15 57.2	40 38.0	N15 43.1	171 19.1	N 2 51.1
	3	198 46.4	263 11.2	S20 15.4	46 02.4	N15 57.5	55 40.8	N15 43.2	186 21.3	N 2 51.2
	4	213 48.9	278 10.5	S20 15.0	61 05.8	N15 57.9	70 43.6	N15 43.3	201 23.6	N 2 51.4
W	5	228 51.3	293 09.9	S20 14.7	76 09.2	N15 58.2	85 46.4	N15 43.4	216 25.8	N 2 51.5
E										
D	6	243 53.8	308 09.2	S20 14.3	91 12.6	N15 58.5	100 49.1	N15 43.5	231 28.0	N 2 51.6
N	7	258 56.3	323 08.5	S20 14.0	106 16.1	N15 58.8	115 51.9	N15 43.6	246 30.2	N 2 51.7
E	8	273 58.7	338 07.9	S20 13.6	121 19.5	N15 59.1	130 54.7	N15 43.7	261 32.4	N 2 51.8
S	9	289 01.2	353 07.2	S20 13.3	136 22.9	N15 59.4	145 57.4	N15 43.8	276 34.6	N 2 51.9
D	10	304 03.6	8 06.5	S20 12.9	151 26.3	N15 59.7	161 00.2	N15 43.9	291 36.9	N 2 52.0
A	11	319 06.1	23 05.9	S20 12.5	166 29.7	N16 00.0	176 03.0	N15 44.0	306 39.1	N 2 52.1
Y										
	12	334 08.6	38 05.2	S20 12.2	181 33.2	N16 00.4	191 05.7	N15 44.1	321 41.3	N 2 52.2
	13	349 11.0	53 04.5	S20 11.8	196 36.6	N16 00.7	206 08.5	N15 44.2	336 43.5	N 2 52.4
	14	4 13.5	68 03.9	S20 11.5	211 40.0	N16 01.0	221 11.3	N15 44.3	351 45.7	N 2 52.5
	15	19 16.0	83 03.2	S20 11.1	226 43.4	N16 01.3	236 14.0	N15 44.4	6 47.9	N 2 52.6
	16	34 18.4	98 02.6	S20 10.8	241 46.9	N16 01.6	251 16.8	N15 44.5	21 50.1	N 2 52.7
	17	49 20.9	113 01.9	S20 10.4	256 50.3	N16 01.9	266 19.6	N15 44.6	36 52.4	N 2 52.8
	18	64 23.4	128 01.2	S20 10.0	271 53.7	N16 02.2	281 22.3	N15 44.7	51 54.6	N 2 52.9
	19	79 25.8	143 00.6	S20 09.7	286 57.1	N16 02.5	296 25.1	N15 44.8	66 56.8	N 2 53.0
	20	94 28.3	157 59.9	S20 09.3	302 00.5	N16 02.8	311 27.9	N15 44.9	81 59.0	N 2 53.1
	21	109 30.8	172 59.2	S20 08.9	317 04.0	N16 03.1	326 30.6	N15 45.0	97 01.2	N 2 53.2
	22	124 33.2	187 58.6	S20 08.6	332 07.4	N16 03.4	341 33.4	N15 45.1	112 03.4	N 2 53.4
	23	139 35.7	202 57.9	S20 08.2	347 10.8	N16 03.8	356 36.2	N15 45.2	127 05.6	N 2 53.5
25	0	154 38.1	217 57.3	S20 07.8	2 14.2	N16 04.1	11 38.9	N15 45.3	142 07.8	N 2 53.6
	1	169 40.6	232 56.6	S20 07.5	17 17.6	N16 04.4	26 41.7	N15 45.4	157 10.1	N 2 53.7
	2	184 43.1	247 55.9	S20 07.1	32 21.1	N16 04.7	41 44.5	N15 45.5	172 12.3	N 2 53.8
	3	199 45.5	262 55.3	S20 06.7	47 24.5	N16 05.0	56 47.2	N15 45.6	187 14.5	N 2 53.9
	4	214 48.0	277 54.6	S20 06.3	62 27.9	N16 05.3	71 50.0	N15 45.7	202 16.7	N 2 54.0
T	5	229 50.5	292 53.9	S20 06.0	77 31.3	N16 05.6	86 52.8	N15 45.8	217 18.9	N 2 54.1
H										
U	6	244 52.9	307 53.3	S20 05.6	92 34.7	N16 05.9	101 55.5	N15 45.9	232 21.1	N 2 54.2
R	7	259 55.4	322 52.6	S20 05.2	107 38.2	N16 06.2	116 58.3	N15 46.0	247 23.3	N 2 54.4
S	8	274 57.9	337 52.0	S20 04.9	122 41.6	N16 06.5	132 01.1	N15 46.1	262 25.6	N 2 54.5
D	9	290 00.3	352 51.3	S20 04.5	137 45.0	N16 06.8	147 03.8	N15 46.2	277 27.8	N 2 54.6
A	10	305 02.8	7 50.6	S20 04.1	152 48.4	N16 07.1	162 06.6	N15 46.3	292 30.0	N 2 54.7
Y	11	320 05.2	22 50.0	S20 03.7	167 51.8	N16 07.4	177 09.4	N15 46.4	307 32.2	N 2 54.8
	12	335 07.7	37 49.3	S20 03.3	182 55.2	N16 07.7	192 12.1	N15 46.5	322 34.4	N 2 54.9
	13	350 10.2	52 48.7	S20 03.0	197 58.7	N16 08.0	207 14.9	N15 46.6	337 36.6	N 2 55.0
	14	5 12.6	67 48.0	S20 02.6	213 02.1	N16 08.3	222 17.7	N15 46.7	352 38.8	N 2 55.1
	15	20 15.1	82 47.3	S20 02.2	228 05.5	N16 08.6	237 20.4	N15 46.8	7 41.0	N 2 55.2
	16	35 17.6	97 46.7	S20 01.8	243 08.9	N16 08.9	252 23.2	N15 46.9	22 43.3	N 2 55.4
	17	50 20.0	112 46.0	S20 01.4	258 12.3	N16 09.2	267 26.0	N15 47.0	37 45.5	N 2 55.5
	18	65 22.5	127 45.4	S20 01.0	273 15.7	N16 09.5	282 28.7	N15 47.1	52 47.7	N 2 55.6
	19	80 25.0	142 44.7	S20 00.6	288 19.1	N16 09.8	297 31.5	N15 47.2	67 49.9	N 2 55.7
	20	95 27.4	157 44.0	S20 00.3	303 22.6	N16 10.1	312 34.3	N15 47.3	82 52.1	N 2 55.8
	21	110 29.9	172 43.4	S19 59.9	318 26.0	N16 10.4	327 37.0	N15 47.4	97 54.3	N 2 55.9
	22	125 32.4	187 42.7	S19 59.5	333 29.4	N16 10.7	342 39.8	N15 47.5	112 56.5	N 2 56.0
	23	140 34.8	202 42.1	S19 59.1	348 32.8	N16 11.0	357 42.6	N15 47.6	127 58.7	N 2 56.1
26	0	155 37.3	217 41.4	S19 58.7	3 36.2	N16 11.3	12 45.3	N15 47.7	143 00.9	N 2 56.3
	1	170 39.7	232 40.7	S19 58.3	18 39.6	N16 11.6	27 48.1	N15 47.8	158 03.2	N 2 56.4
	2	185 42.2	247 40.1	S19 57.9	33 43.0	N16 11.9	42 50.8	N15 47.9	173 05.4	N 2 56.5
	3	200 44.7	262 39.4	S19 57.5	48 46.4	N16 12.2	57 53.6	N15 48.0	188 07.6	N 2 56.6
	4	215 47.1	277 38.8	S19 57.1	63 49.8	N16 12.5	72 56.4	N15 48.1	203 09.8	N 2 56.7
F	5	230 49.6	292 38.1	S19 56.7	78 53.3	N16 12.8	87 59.1	N15 48.1	218 12.0	N 2 56.8
R										
I	6	245 52.1	307 37.4	S19 56.3	93 56.7	N16 13.1	103 01.9	N15 48.2	233 14.2	N 2 56.9
D	7	260 54.5	322 36.8	S19 55.9	109 00.1	N16 13.4	118 04.7	N15 48.3	248 16.4	N 2 57.0
A	8	275 57.0	337 36.1	S19 55.5	124 03.5	N16 13.7	133 07.4	N15 48.4	263 18.6	N 2 57.1
Y	9	290 59.5	352 35.5	S19 55.1	139 06.9	N16 14.0	148 10.2	N15 48.5	278 20.8	N 2 57.3
	10	306 01.9	7 34.8	S19 54.7	154 10.3	N16 14.3	163 12.9	N15 48.6	293 23.1	N 2 57.4
	11	321 04.4	22 34.2	S19 54.3	169 13.7	N16 14.6	178 15.7	N15 48.7	308 25.3	N 2 57.5
	12	336 06.9	37 33.5	S19 53.9	184 17.1	N16 14.9	193 18.5	N15 48.8	323 27.5	N 2 57.6
	13	351 09.3	52 32.8	S19 53.5	199 20.5	N16 15.2	208 21.2	N15 48.9	338 29.7	N 2 57.7
	14	6 11.8	67 32.2	S19 53.1	214 23.9	N16 15.4	223 24.0	N15 49.0	353 31.9	N 2 57.8
	15	21 14.2	82 31.5	S19 52.7	229 27.3	N16 15.7	238 26.8	N15 49.1	8 34.1	N 2 57.9
	16	36 16.7	97 30.9	S19 52.3	244 30.7	N16 16.0	253 29.5	N15 49.2	23 36.3	N 2 58.0
	17	51 19.2	112 30.2	S19 51.9	259 34.2	N16 16.3	268 32.3	N15 49.3	38 38.5	N 2 58.2
	18	66 21.6	127 29.6	S19 51.5	274 37.6	N16 16.6	283 35.0	N15 49.4	53 40.7	N 2 58.3
	19	81 24.1	142 28.9	S19 51.1	289 41.0	N16 16.9	298 37.8	N15 49.5	68 43.0	N 2 58.4
	20	96 26.6	157 28.2	S19 50.6	304 44.4	N16 17.2	313 40.6	N15 49.6	83 45.2	N 2 58.5
	21	111 29.0	172 27.6	S19 50.2	319 47.8	N16 17.5	328 43.3	N15 49.7	98 47.4	N 2 58.6
	22	126 31.5	187 26.9	S19 49.8	334 51.2	N16 17.8	343 46.1	N15 49.8	113 49.6	N 2 58.7
	23	141 34.0	202 26.3	S19 49.4	349 54.6	N16 18.1	358 48.8	N15 49.9	128 51.8	N 2 58.8
			v -0.7	d 0.4	v 3.4	d 0.3	v 2.8	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 '
24	0	176 40.9	S 9 37.6	321 19.6	12.3	S 9 57.8	15.0	58.1
	1	191 41.0	S 9 36.7	335 50.9	12.3	S10 12.7	14.9	58.1
	2	206 41.1	S 9 35.7	350 22.2	12.3	S10 27.6	14.8	58.0
	3	221 41.2	S 9 34.8	4 53.5	12.3	S10 42.4	14.8	58.0
	4	236 41.3	S 9 33.9	19 24.8	12.3	S10 57.1	14.7	58.0
W	5	251 41.3	S 9 33.0	33 56.0	12.3	S11 11.7	14.6	57.9
E								
D	6	266 41.4	S 9 32.1	48 27.3	12.3	S11 26.3	14.6	57.9
N	7	281 41.5	S 9 31.1	62 58.6	12.3	S11 40.7	14.5	57.9
E	8	296 41.6	S 9 30.2	77 29.8	12.2	S11 55.1	14.4	57.8
S	9	311 41.7	S 9 29.3	92 01.0	12.2	S12 09.5	14.3	57.8
D	10	326 41.8	S 9 28.4	106 32.2	12.2	S12 23.7	14.3	57.7
A	11	341 41.9	S 9 27.4	121 03.5	12.2	S12 37.9	14.2	57.7
Y								
	12	356 42.0	S 9 26.5	135 34.6	12.2	S12 52.0	14.1	57.7
	13	11 42.1	S 9 25.6	150 05.8	12.2	S13 06.0	14.0	57.6
	14	26 42.2	S 9 24.7	164 37.0	12.2	S13 19.9	13.9	57.6
	15	41 42.3	S 9 23.7	179 08.1	12.1	S13 33.8	13.8	57.5
	16	56 42.4	S 9 22.8	193 39.2	12.1	S13 47.5	13.8	57.5
	17	71 42.5	S 9 21.9	208 10.4	12.1	S14 01.2	13.7	57.5
	18	86 42.5	S 9 21.0	222 41.4	12.1	S14 14.8	13.6	57.4
	19	101 42.6	S 9 20.0	237 12.5	12.1	S14 28.3	13.5	57.4
	20	116 42.7	S 9 19.1	251 43.6	12.1	S14 41.7	13.4	57.4
	21	131 42.8	S 9 18.2	266 14.6	12.0	S14 55.0	13.3	57.3
	22	146 42.9	S 9 17.3	280 45.6	12.0	S15 08.3	13.2	57.3
	23	161 43.0	S 9 16.3	295 16.6	12.0	S15 21.4	13.1	57.2
25	0	176 43.1	S 9 15.4	309 47.6	12.0	S15 34.4	13.0	57.2
	1	191 43.2	S 9 14.5	324 18.5	11.9	S15 47.4	13.0	57.2
	2	206 43.3	S 9 13.6	338 49.4	11.9	S16 00.3	12.9	57.1
	3	221 43.4	S 9 12.6	353 20.3	11.9	S16 13.0	12.8	57.1
	4	236 43.5	S 9 11.7	7 51.2	11.9	S16 25.7	12.7	57.1
T	5	251 43.6	S 9 10.8	22 22.0	11.8	S16 38.3	12.6	57.0
H								
U	6	266 43.7	S 9 09.8	36 52.9	11.8	S16 50.8	12.5	57.0
R	7	281 43.8	S 9 08.9	51 23.7	11.8	S17 03.1	12.4	57.0
S	8	296 43.9	S 9 08.0	65 54.4	11.8	S17 15.4	12.3	56.9
D	9	311 44.0	S 9 07.1	80 25.2	11.7	S17 27.6	12.2	56.9
A	10	326 44.1	S 9 06.1	94 55.9	11.7	S17 39.7	12.1	56.8
Y	11	341 44.2	S 9 05.2	109 26.6	11.7	S17 51.7	12.0	56.8
	12	356 44.3	S 9 04.3	123 57.2	11.7	S18 03.6	11.9	56.8
	13	11 44.4	S 9 03.3	138 27.9	11.6	S18 15.3	11.8	56.7
	14	26 44.5	S 9 02.4	152 58.5	11.6	S18 27.0	11.7	56.7
	15	41 44.6	S 9 01.5	167 29.0	11.6	S18 38.6	11.6	56.7
	16	56 44.7	S 9 00.6	181 59.6	11.5	S18 50.1	11.5	56.6
	17	71 44.8	S 8 59.6	196 30.1	11.5	S19 01.4	11.4	56.6
	18	86 44.9	S 8 58.7	211 00.6	11.5	S19 12.7	11.3	56.6
	19	101 45.0	S 8 57.8	225 31.0	11.4	S19 23.8	11.1	56.5
	20	116 45.1	S 8 56.8	240 01.4	11.4	S19 34.8	11.0	56.5
	21	131 45.2	S 8 55.9	254 31.8	11.4	S19 45.8	10.9	56.5
	22	146 45.3	S 8 55.0	269 02.2	11.4	S19 56.6	10.8	56.4
	23	161 45.4	S 8 54.0	283 32.5	11.3	S20 07.3	10.7	56.4
26	0	176 45.5	S 8 53.1	298 02.8	11.3	S20 17.9	10.6	56.3
	1	191 45.6	S 8 52.2	312 33.1	11.3	S20 28.4	10.5	56.3
	2	206 45.7	S 8 51.2	327 03.3	11.2	S20 38.8	10.4	56.3
	3	221 45.8	S 8 50.3	341 33.5	11.2	S20 49.0	10.3	56.2
	4	236 45.9	S 8 49.4	356 03.6	11.2	S20 59.2	10.1	56.2
F	5	251 46.0	S 8 48.4	10 33.8	11.1	S21 09.2	10.0	56.2
R								
I	6	266 46.1	S 8 47.5	25 03.9	11.1	S21 19.1	9.9	56.1
D	7	281 46.2	S 8 46.6	39 33.9	11.1	S21 28.9	9.8	56.1
A	8	296 46.3	S 8 45.6	54 04.0	11.0	S21 38.6	9.7	56.1
Y	9	311 46.4	S 8 44.7	68 34.0	11.0	S21 48.2	9.6	56.0
	10	326 46.5	S 8 43.8	83 04.0	11.0	S21 57.6	9.5	56.0
	11	341 46.6	S 8 42.8	97 33.9	10.9	S22 07.0	9.3	56.0
	12	356 46.7	S 8 41.9	112 03.8	10.9	S22 16.2	9.2	56.0
	13	11 46.8	S 8 41.0	126 33.7	10.9	S22 25.3	9.1	55.9
	14	26 46.9	S 8 40.0	141 03.5	10.8	S22 34.3	9.0	55.9
	15	41 47.0	S 8 39.1	155 33.3	10.8	S22 43.1	8.9	55.9
	16	56 47.1	S 8 38.2	170 03.1	10.8	S22 51.9	8.7	55.8
	17	71 47.2	S 8 37.2	184 32.8	10.7	S23 00.5	8.6	55.8
	18	86 47.3	S 8 36.3	199 02.5	10.7	S23 09.0	8.5	55.8
	19	101 47.5	S 8 35.3	213 32.2	10.7	S23 17.3	8.4	55.7
	20	116 47.6	S 8 34.4	228 01.9	10.6	S23 25.6	8.2	55.7
	21	131 47.7	S 8 33.5	242 31.5	10.6	S23 33.7	8.1	55.7
	22	146 47.8	S 8 32.5	257 01.1	10.6	S23 41.7	8.0	55.6
	23	161 47.9	S 8 31.6	271 30.6	10.6	S23 49.6	7.9	55.6
		S.D. 16.2	d 0.9	S.D. 15.7		15.5	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 12.0
Achernar	335 19.2	S57 06.1
Acrux	172 57.6	S63 14.9
Adhara	255 04.2	S29 00.7
Albireo	67 02.9	N28 00.8
Aldebaran	290 37.6	N16 33.9
Alioth	166 10.9	N55 48.5
Alkaid	152 50.3	N49 10.3
Al Na-ir	27 31.1	S46 49.8
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.2	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.5	N 8 56.2
Ankaa	353 05.7	S42 09.7
Antares	112 13.7	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.5	S69 04.4
Avior	234 13.5	S59 36.0
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.3	S52 42.9
Capella	280 19.2	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.0	N45 22.5
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.6	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.2	S57 15.9
Gienah	175 41.5	S17 41.7
Hadar	148 33.2	S60 30.1
Hamal	327 49.4	N23 35.6
Kaus Austr.	83 30.4	S34 22.3
Kochab	137 19.6	N74 02.2
Markab	13 28.5	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.3	S36 30.3
Miaplacidus	221 36.9	S69 49.9
Mirfak	308 25.9	N49 57.7
Nunki	75 45.8	S26 15.8
Peacock	53 03.4	S56 38.8
Polaris	316 01.0	N89 22.4
Pollux	243 14.8	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.0	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.1	S 8 10.3
Rigil Kent	139 37.7	S60 56.7
Sabik	102 00.8	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 08.1	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.2	S11 18.3
Suhail	222 44.6	S43 32.7
Vega	80 32.3	N38 48.2
Zuben-ubi	136 54.8	S16 09.4

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 36.4	217 25.6	S19 49.0	4 58.0	N16 18.4	13 51.6	N15 50.0	143 54.0	N 2 58.9
	1	171 38.9	232 25.0	S19 48.6	20 01.4	N16 18.6	28 54.4	N15 50.1	158 56.2	N 2 59.1
	2	186 41.3	247 24.3	S19 48.2	35 04.8	N16 18.9	43 57.1	N15 50.2	173 58.4	N 2 59.2
	3	201 43.8	262 23.6	S19 47.7	50 08.2	N16 19.2	58 59.9	N15 50.3	189 00.6	N 2 59.3
	4	216 46.3	277 23.0	S19 47.3	65 11.6	N16 19.5	74 02.6	N15 50.4	204 02.8	N 2 59.4
S	5	231 48.7	292 22.3	S19 46.9	80 15.0	N16 19.8	89 05.4	N15 50.5	219 05.0	N 2 59.5
A										
T	6	246 51.2	307 21.7	S19 46.5	95 18.4	N16 20.1	104 08.2	N15 50.6	234 07.3	N 2 59.6
U	7	261 53.7	322 21.0	S19 46.1	110 21.8	N16 20.4	119 10.9	N15 50.7	249 09.5	N 2 59.7
R	8	276 56.1	337 20.4	S19 45.6	125 25.2	N16 20.7	134 13.7	N15 50.8	264 11.7	N 2 59.8
D	9	291 58.6	352 19.7	S19 45.2	140 28.6	N16 20.9	149 16.4	N15 50.9	279 13.9	N 2 60.0
A	10	307 01.1	7 19.1	S19 44.8	155 32.0	N16 21.2	164 19.2	N15 50.9	294 16.1	N 3 00.1
Y	11	322 03.5	22 18.4	S19 44.4	170 35.4	N16 21.5	179 22.0	N15 51.0	309 18.3	N 3 00.2
	12	337 06.0	37 17.8	S19 43.9	185 38.8	N16 21.8	194 24.7	N15 51.1	324 20.5	N 3 00.3
	13	352 08.5	52 17.1	S19 43.5	200 42.2	N16 22.1	209 27.5	N15 51.2	339 22.7	N 3 00.4
	14	7 10.9	67 16.4	S19 43.1	215 45.6	N16 22.4	224 30.2	N15 51.3	354 24.9	N 3 00.5
	15	22 13.4	82 15.8	S19 42.6	230 49.0	N16 22.6	239 33.0	N15 51.4	9 27.1	N 3 00.6
	16	37 15.8	97 15.1	S19 42.2	245 52.4	N16 22.9	254 35.8	N15 51.5	24 29.3	N 3 00.7
	17	52 18.3	112 14.5	S19 41.8	260 55.8	N16 23.2	269 38.5	N15 51.6	39 31.6	N 3 00.9
	18	67 20.8	127 13.8	S19 41.3	275 59.2	N16 23.5	284 41.3	N15 51.7	54 33.8	N 3 01.0
	19	82 23.2	142 13.2	S19 40.9	291 02.6	N16 23.8	299 44.0	N15 51.8	69 36.0	N 3 01.1
	20	97 25.7	157 12.5	S19 40.5	306 05.9	N16 24.1	314 46.8	N15 51.9	84 38.2	N 3 01.2
	21	112 28.2	172 11.9	S19 40.0	321 09.3	N16 24.3	329 49.5	N15 52.0	99 40.4	N 3 01.3
	22	127 30.6	187 11.2	S19 39.6	336 12.7	N16 24.6	344 52.3	N15 52.1	114 42.6	N 3 01.4
	23	142 33.1	202 10.6	S19 39.2	351 16.1	N16 24.9	359 55.1	N15 52.2	129 44.8	N 3 01.5
28	0	157 35.6	217 09.9	S19 38.7	6 19.5	N16 25.2	14 57.8	N15 52.3	144 47.0	N 3 01.7
	1	172 38.0	232 09.3	S19 38.3	21 22.9	N16 25.4	30 00.6	N15 52.4	159 49.2	N 3 01.8
	2	187 40.5	247 08.6	S19 37.8	36 26.3	N16 25.7	45 03.3	N15 52.5	174 51.4	N 3 01.9
	3	202 43.0	262 08.0	S19 37.4	51 29.7	N16 26.0	60 06.1	N15 52.6	189 53.6	N 3 02.0
	4	217 45.4	277 07.3	S19 37.0	66 33.1	N16 26.3	75 08.8	N15 52.7	204 55.8	N 3 02.1
S	5	232 47.9	292 06.7	S19 36.5	81 36.5	N16 26.6	90 11.6	N15 52.8	219 58.0	N 3 02.2
U										
N	6	247 50.3	307 06.0	S19 36.1	96 39.9	N16 26.8	105 14.4	N15 52.8	235 00.3	N 3 02.3
D	7	262 52.8	322 05.4	S19 35.6	111 43.2	N16 27.1	120 17.1	N15 52.9	250 02.5	N 3 02.4
A	8	277 55.3	337 04.7	S19 35.2	126 46.6	N16 27.4	135 19.9	N15 53.0	265 04.7	N 3 02.6
Y	9	292 57.7	352 04.1	S19 34.7	141 50.0	N16 27.7	150 22.6	N15 53.1	280 06.9	N 3 02.7
	10	308 00.2	7 03.4	S19 34.3	156 53.4	N16 27.9	165 25.4	N15 53.2	295 09.1	N 3 02.8
	11	323 02.7	22 02.8	S19 33.8	171 56.8	N16 28.2	180 28.1	N15 53.3	310 11.3	N 3 02.9
	12	338 05.1	37 02.1	S19 33.4	187 00.2	N16 28.5	195 30.9	N15 53.4	325 13.5	N 3 03.0
	13	353 07.6	52 01.5	S19 32.9	202 03.6	N16 28.8	210 33.6	N15 53.5	340 15.7	N 3 03.1
	14	8 10.1	67 00.8	S19 32.5	217 06.9	N16 29.0	225 36.4	N15 53.6	355 17.9	N 3 03.2
	15	23 12.5	82 00.2	S19 32.0	232 10.3	N16 29.3	240 39.1	N15 53.7	10 20.1	N 3 03.4
	16	38 15.0	96 59.5	S19 31.6	247 13.7	N16 29.6	255 41.9	N15 53.8	25 22.3	N 3 03.5
	17	53 17.4	111 58.9	S19 31.1	262 17.1	N16 29.9	270 44.7	N15 53.9	40 24.5	N 3 03.6
	18	68 19.9	126 58.2	S19 30.6	277 20.5	N16 30.1	285 47.4	N15 54.0	55 26.7	N 3 03.7
	19	83 22.4	141 57.6	S19 30.2	292 23.9	N16 30.4	300 50.2	N15 54.1	70 28.9	N 3 03.8
	20	98 24.8	156 56.9	S19 29.7	307 27.2	N16 30.7	315 52.9	N15 54.2	85 31.2	N 3 03.9
	21	113 27.3	171 56.3	S19 29.3	322 30.6	N16 30.9	330 55.7	N15 54.3	100 33.4	N 3 04.0
	22	128 29.8	186 55.6	S19 28.8	337 34.0	N16 31.2	345 58.4	N15 54.3	115 35.6	N 3 04.1
	23	143 32.2	201 55.0	S19 28.3	352 37.4	N16 31.5	1 01.2	N15 54.4	130 37.8	N 3 04.3
1	0	158 34.7	216 54.3	S19 27.9	7 40.8	N16 31.7	16 03.9	N15 54.5	145 40.0	N 3 04.4
	1	173 37.2	231 53.7	S19 27.4	22 44.1	N16 32.0	31 06.7	N15 54.6	160 42.2	N 3 04.5
	2	188 39.6	246 53.0	S19 27.0	37 47.5	N16 32.3	46 09.4	N15 54.7	175 44.4	N 3 04.6
	3	203 42.1	261 52.4	S19 26.5	52 50.9	N16 32.6	61 12.2	N15 54.8	190 46.6	N 3 04.7
	4	218 44.6	276 51.7	S19 26.0	67 54.3	N16 32.8	76 14.9	N15 54.9	205 48.8	N 3 04.8
M	5	233 47.0	291 51.1	S19 25.6	82 57.6	N16 33.1	91 17.7	N15 55.0	220 51.0	N 3 04.9
O										
N	6	248 49.5	306 50.4	S19 25.1	98 01.0	N16 33.4	106 20.4	N15 55.1	235 53.2	N 3 05.1
D	7	263 51.9	321 49.8	S19 24.6	113 04.4	N16 33.6	121 23.2	N15 55.2	250 55.4	N 3 05.2
A	8	278 54.4	336 49.1	S19 24.1	128 07.8	N16 33.9	136 26.0	N15 55.3	265 57.6	N 3 05.3
Y	9	293 56.9	351 48.5	S19 23.7	143 11.1	N16 34.1	151 28.7	N15 55.4	280 59.8	N 3 05.4
	10	308 59.3	6 47.9	S19 23.2	158 14.5	N16 34.4	166 31.5	N15 55.5	296 02.0	N 3 05.5
	11	324 01.8	21 47.2	S19 22.7	173 17.9	N16 34.7	181 34.2	N15 55.6	311 04.2	N 3 05.6
	12	339 04.3	36 46.6	S19 22.3	188 21.3	N16 34.9	196 37.0	N15 55.6	326 06.4	N 3 05.7
	13	354 06.7	51 45.9	S19 21.8	203 24.6	N16 35.2	211 39.7	N15 55.7	341 08.6	N 3 05.9
	14	9 09.2	66 45.3	S19 21.3	218 28.0	N16 35.5	226 42.5	N15 55.8	356 10.9	N 3 06.0
	15	24 11.7	81 44.6	S19 20.8	233 31.4	N16 35.7	241 45.2	N15 55.9	11 13.1	N 3 06.1
	16	39 14.1	96 44.0	S19 20.4	248 34.7	N16 36.0	256 48.0	N15 56.0	26 15.3	N 3 06.2
	17	54 16.6	111 43.3	S19 19.9	263 38.1	N16 36.3	271 50.7	N15 56.1	41 17.5	N 3 06.3
	18	69 19.1	126 42.7	S19 19.4	278 41.5	N16 36.5	286 53.5	N15 56.2	56 19.7	N 3 06.4
	19	84 21.5	141 42.1	S19 18.9	293 44.8	N16 36.8	301 56.2	N15 56.3	71 21.9	N 3 06.5
	20	99 24.0	156 41.4	S19 18.4	308 48.2	N16 37.0	316 59.0	N15 56.4	86 24.1	N 3 06.7
	21	114 26.4	171 40.8	S19 17.9	323 51.6	N16 37.3	332 01.7	N15 56.5	101 26.3	N 3 06.8
	22	129 28.9	186 40.1	S19 17.5	338 54.9	N16 37.6	347 04.5	N15 56.6	116 28.5	N 3 06.9
	23	144 31.4	201 39.5	S19 17.0	353 58.3	N16 37.8	2 07.2	N15 56.7	131 30.7	N 3 07.0
			v -0.6	d 0.5	v 3.4	d 0.3	v 2.8	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
27	0	176 48.0	S 8 30.7	286 00.2	10.5	S23 57.3	7.7	55.6
	1	191 48.1	S 8 29.7	300 29.7	10.5	S24 05.0	7.6	55.6
	2	206 48.2	S 8 28.8	314 59.1	10.5	S24 12.5	7.5	55.5
	3	221 48.3	S 8 27.8	329 28.6	10.4	S24 19.8	7.4	55.5
	4	236 48.4	S 8 26.9	343 58.0	10.4	S24 27.1	7.2	55.5
S	5	251 48.5	S 8 26.0	358 27.4	10.4	S24 34.2	7.1	55.4
A								
T	6	266 48.6	S 8 25.0	12 56.7	10.4	S24 41.2	7.0	55.4
U	7	281 48.7	S 8 24.1	27 26.0	10.3	S24 48.0	6.9	55.4
R	8	296 48.9	S 8 23.1	41 55.3	10.3	S24 54.8	6.7	55.4
D	9	311 49.0	S 8 22.2	56 24.6	10.3	S25 01.4	6.6	55.3
A	10	326 49.1	S 8 21.3	70 53.9	10.2	S25 07.8	6.5	55.3
Y	11	341 49.2	S 8 20.3	85 23.1	10.2	S25 14.2	6.3	55.3
	12	356 49.3	S 8 19.4	99 52.3	10.2	S25 20.4	6.2	55.3
	13	11 49.4	S 8 18.4	114 21.5	10.2	S25 26.5	6.1	55.2
	14	26 49.5	S 8 17.5	128 50.6	10.1	S25 32.4	6.0	55.2
	15	41 49.6	S 8 16.6	143 19.7	10.1	S25 38.3	5.8	55.2
	16	56 49.7	S 8 15.6	157 48.8	10.1	S25 44.0	5.7	55.2
	17	71 49.8	S 8 14.7	172 17.9	10.1	S25 49.5	5.6	55.1
	18	86 50.0	S 8 13.7	186 47.0	10.1	S25 54.9	5.4	55.1
	19	101 50.1	S 8 12.8	201 16.0	10.0	S26 00.2	5.3	55.1
	20	116 50.2	S 8 11.9	215 45.0	10.0	S26 05.4	5.2	55.1
	21	131 50.3	S 8 10.9	230 14.0	10.0	S26 10.4	5.0	55.0
	22	146 50.4	S 8 10.0	244 43.0	10.0	S26 15.3	4.9	55.0
	23	161 50.5	S 8 09.0	259 12.0	10.0	S26 20.1	4.8	55.0
28	0	176 50.6	S 8 08.1	273 40.9	9.9	S26 24.7	4.6	55.0
	1	191 50.7	S 8 07.1	288 09.8	9.9	S26 29.2	4.5	54.9
	2	206 50.9	S 8 06.2	302 38.7	9.9	S26 33.6	4.4	54.9
	3	221 51.0	S 8 05.2	317 07.6	9.9	S26 37.8	4.2	54.9
	4	236 51.1	S 8 04.3	331 36.5	9.9	S26 41.9	4.1	54.9
S	5	251 51.2	S 8 03.4	346 05.4	9.9	S26 45.8	4.0	54.9
U								
N	6	266 51.3	S 8 02.4	0 34.2	9.9	S26 49.6	3.8	54.8
D	7	281 51.4	S 8 01.5	15 03.1	9.8	S26 53.3	3.7	54.8
A	8	296 51.5	S 8 00.5	29 31.9	9.8	S26 56.9	3.5	54.8
Y	9	311 51.6	S 7 59.6	44 00.7	9.8	S27 00.3	3.4	54.8
	10	326 51.8	S 7 58.6	58 29.6	9.8	S27 03.6	3.3	54.8
	11	341 51.9	S 7 57.7	72 58.4	9.8	S27 06.7	3.1	54.7
	12	356 52.0	S 7 56.7	87 27.2	9.8	S27 09.7	3.0	54.7
	13	11 52.1	S 7 55.8	101 56.0	9.8	S27 12.6	2.9	54.7
	14	26 52.2	S 7 54.9	116 24.7	9.8	S27 15.3	2.7	54.7
	15	41 52.3	S 7 53.9	130 53.5	9.8	S27 17.9	2.6	54.7
	16	56 52.5	S 7 53.0	145 22.3	9.8	S27 20.4	2.5	54.6
	17	71 52.6	S 7 52.0	159 51.1	9.8	S27 22.7	2.3	54.6
	18	86 52.7	S 7 51.1	174 19.9	9.8	S27 24.9	2.2	54.6
	19	101 52.8	S 7 50.1	188 48.6	9.8	S27 26.9	2.1	54.6
	20	116 52.9	S 7 49.2	203 17.4	9.8	S27 28.9	1.9	54.6
	21	131 53.0	S 7 48.2	217 46.2	9.8	S27 30.6	1.8	54.6
	22	146 53.2	S 7 47.3	232 14.9	9.8	S27 32.3	1.6	54.5
	23	161 53.3	S 7 46.3	246 43.7	9.8	S27 33.8	1.5	54.5
1	0	176 53.4	S 7 45.4	261 12.5	9.8	S27 35.2	1.4	54.5
	1	191 53.5	S 7 44.4	275 41.3	9.8	S27 36.4	1.2	54.5
	2	206 53.6	S 7 43.5	290 10.1	9.8	S27 37.5	1.1	54.5
	3	221 53.7	S 7 42.5	304 38.9	9.8	S27 38.5	1.0	54.5
	4	236 53.9	S 7 41.6	319 07.7	9.8	S27 39.3	0.8	54.5
M	5	251 54.0	S 7 40.6	333 36.5	9.8	S27 40.0	0.7	54.4
O								
N	6	266 54.1	S 7 39.7	348 05.3	9.8	S27 40.5	0.6	54.4
D	7	281 54.2	S 7 38.7	2 34.2	9.8	S27 41.0	0.4	54.4
A	8	296 54.3	S 7 37.8	17 03.0	9.8	S27 41.3	0.3	54.4
Y	9	311 54.5	S 7 36.8	31 31.9	9.9	S27 41.4	0.2	54.4
	10	326 54.6	S 7 35.9	46 00.7	9.9	S27 41.4	0.0	54.4
	11	341 54.7	S 7 34.9	60 29.6	9.9	S27 41.3	0.1	54.4
	12	356 54.8	S 7 34.0	74 58.5	9.9	S27 41.0	0.3	54.4
	13	11 54.9	S 7 33.0	89 27.4	9.9	S27 40.7	0.4	54.3
	14	26 55.1	S 7 32.1	103 56.4	9.9	S27 40.1	0.5	54.3
	15	41 55.2	S 7 31.1	118 25.3	10.0	S27 39.5	0.7	54.3
	16	56 55.3	S 7 30.2	132 54.3	10.0	S27 38.7	0.8	54.3
	17	71 55.4	S 7 29.2	147 23.3	10.0	S27 37.8	0.9	54.3
	18	86 55.5	S 7 28.3	161 52.3	10.0	S27 36.7	1.1	54.3
	19	101 55.7	S 7 27.3	176 21.4	10.0	S27 35.5	1.2	54.3
	20	116 55.8	S 7 26.4	190 50.4	10.1	S27 34.2	1.3	54.3
	21	131 55.9	S 7 25.4	205 19.5	10.1	S27 32.7	1.5	54.3
	22	146 56.0	S 7 24.5	219 48.6	10.1	S27 31.1	1.6	54.3
	23	161 56.2	S 7 23.5	234 17.7	10.1	S27 29.4	1.7	54.2
		S.D. 16.1	d 0.9	S.D. 15.1		14.9	14.8	

STARS Name	SHA	Dec
Acamar	315 10.6	S40 12.0
Achernar	335 19.2	S57 06.1
Acrux	172 57.5	S63 14.9
Adhara	255 04.2	S29 00.7
Albireo	67 02.9	N28 00.8
Aldebaran	290 37.6	N16 33.8
Alioth	166 10.9	N55 48.5
Alkaid	152 50.3	N49 10.3
Al Na-ir	27 31.1	S46 49.8
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.1	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.5	N 8 56.2
Ankaa	353 05.7	S42 09.7
Antares	112 13.7	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.4	S69 04.4
Avior	234 13.5	S59 36.0
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.0	N 7 24.7
Canopus	263 51.3	S52 42.9
Capella	280 19.2	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.0	N45 22.5
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.6	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.2	S57 15.9
Gienah	175 41.5	S17 41.7
Hadar	148 33.2	S60 30.1
Hamal	327 49.4	N23 35.6
Kaus Austr.	83 30.4	S34 22.3
Kochab	137 19.5	N74 02.2
Markab	13 28.5	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.3	S36 30.3
Miaplacidus	221 37.0	S69 49.9
Mirfak	308 25.9	N49 57.7
Nunki	75 45.8	S26 15.8
Peacock	53 03.3	S56 38.8
Polaris	316 01.8	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.0	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.1	S 8 10.3
Rigil Kent	139 37.7	S60 56.7
Sabik	102 00.8	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 08.1	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.2	S11 18.3
Suhail	222 44.6	S43 32.7
Vega	80 32.2	N38 48.2
Zuben-ubi	136 54.8	S16 09.4

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
2 0	159 33.8	216 38.8	S19 16.5	9 01.7	N16 38.1	17 10.0	N15 56.8	146 32.9	N 3 07.1
1	174 36.3	231 38.2	S19 16.0	24 05.0	N16 38.3	32 12.7	N15 56.8	161 35.1	N 3 07.2
2	189 38.8	246 37.6	S19 15.5	39 08.4	N16 38.6	47 15.5	N15 56.9	176 37.3	N 3 07.3
3	204 41.2	261 36.9	S19 15.0	54 11.8	N16 38.8	62 18.2	N15 57.0	191 39.5	N 3 07.5
4	219 43.7	276 36.3	S19 14.5	69 15.1	N16 39.1	77 21.0	N15 57.1	206 41.7	N 3 07.6
T 5	234 46.2	291 35.6	S19 14.1	84 18.5	N16 39.4	92 23.7	N15 57.2	221 43.9	N 3 07.7
U									
E 6	249 48.6	306 35.0	S19 13.6	99 21.9	N16 39.6	107 26.5	N15 57.3	236 46.1	N 3 07.8
S 7	264 51.1	321 34.3	S19 13.1	114 25.2	N16 39.9	122 29.2	N15 57.4	251 48.3	N 3 07.9
D 8	279 53.6	336 33.7	S19 12.6	129 28.6	N16 40.1	137 31.9	N15 57.5	266 50.5	N 3 08.0
A 9	294 56.0	351 33.1	S19 12.1	144 31.9	N16 40.4	152 34.7	N15 57.6	281 52.7	N 3 08.1
Y 10	309 58.5	6 32.4	S19 11.6	159 35.3	N16 40.6	167 37.4	N15 57.7	296 54.9	N 3 08.3
11	325 00.9	21 31.8	S19 11.1	174 38.6	N16 40.9	182 40.2	N15 57.8	311 57.1	N 3 08.4
12	340 03.4	36 31.1	S19 10.6	189 42.0	N16 41.1	197 42.9	N15 57.8	326 59.3	N 3 08.5
13	355 05.9	51 30.5	S19 10.1	204 45.4	N16 41.4	212 45.7	N15 57.9	342 01.5	N 3 08.6
14	10 08.3	66 29.9	S19 09.6	219 48.7	N16 41.6	227 48.4	N15 58.0	357 03.8	N 3 08.7
15	25 10.8	81 29.2	S19 09.1	234 52.1	N16 41.9	242 51.2	N15 58.1	12 06.0	N 3 08.8
16	40 13.3	96 28.6	S19 08.6	249 55.4	N16 42.1	257 53.9	N15 58.2	27 08.2	N 3 08.9
17	55 15.7	111 27.9	S19 08.1	264 58.8	N16 42.4	272 56.7	N15 58.3	42 10.4	N 3 09.1
18	70 18.2	126 27.3	S19 07.6	280 02.1	N16 42.7	287 59.4	N15 58.4	57 12.6	N 3 09.2
19	85 20.7	141 26.7	S19 07.1	295 05.5	N16 42.9	303 02.2	N15 58.5	72 14.8	N 3 09.3
20	100 23.1	156 26.0	S19 06.6	310 08.8	N16 43.2	318 04.9	N15 58.6	87 17.0	N 3 09.4
21	115 25.6	171 25.4	S19 06.1	325 12.2	N16 43.4	333 07.7	N15 58.7	102 19.2	N 3 09.5
22	130 28.1	186 24.7	S19 05.6	340 15.5	N16 43.6	348 10.4	N15 58.7	117 21.4	N 3 09.6
23	145 30.5	201 24.1	S19 05.1	355 18.9	N16 43.9	3 13.1	N15 58.8	132 23.6	N 3 09.7
3 0	160 33.0	216 23.5	S19 04.6	10 22.2	N16 44.1	18 15.9	N15 58.9	147 25.8	N 3 09.9
1	175 35.4	231 22.8	S19 04.0	25 25.6	N16 44.4	33 18.6	N15 59.0	162 28.0	N 3 10.0
2	190 37.9	246 22.2	S19 03.5	40 28.9	N16 44.6	48 21.4	N15 59.1	177 30.2	N 3 10.1
3	205 40.4	261 21.6	S19 03.0	55 32.3	N16 44.9	63 24.1	N15 59.2	192 32.4	N 3 10.2
4	220 42.8	276 20.9	S19 02.5	70 35.6	N16 45.1	78 26.9	N15 59.3	207 34.6	N 3 10.3
W 5	235 45.3	291 20.3	S19 02.0	85 39.0	N16 45.4	93 29.6	N15 59.4	222 36.8	N 3 10.4
E									
D 6	250 47.8	306 19.6	S19 01.5	100 42.3	N16 45.6	108 32.4	N15 59.5	237 39.0	N 3 10.5
N 7	265 50.2	321 19.0	S19 01.0	115 45.7	N16 45.9	123 35.1	N15 59.6	252 41.2	N 3 10.7
E 8	280 52.7	336 18.4	S19 00.5	130 49.0	N16 46.1	138 37.8	N15 59.6	267 43.4	N 3 10.8
S 9	295 55.2	351 17.7	S18 59.9	145 52.3	N16 46.4	153 40.6	N15 59.7	282 45.6	N 3 10.9
D 10	310 57.6	6 17.1	S18 59.4	160 55.7	N16 46.6	168 43.3	N15 59.8	297 47.8	N 3 11.0
A 11	326 00.1	21 16.5	S18 58.9	175 59.0	N16 46.8	183 46.1	N15 59.9	312 50.0	N 3 11.1
Y									
12	341 02.5	36 15.8	S18 58.4	191 02.4	N16 47.1	198 48.8	N16 00.0	327 52.2	N 3 11.2
13	356 05.0	51 15.2	S18 57.9	206 05.7	N16 47.3	213 51.6	N16 00.1	342 54.4	N 3 11.3
14	11 07.5	66 14.6	S18 57.3	221 09.0	N16 47.6	228 54.3	N16 00.2	357 56.6	N 3 11.5
15	26 09.9	81 13.9	S18 56.8	236 12.4	N16 47.8	243 57.0	N16 00.3	12 58.8	N 3 11.6
16	41 12.4	96 13.3	S18 56.3	251 15.7	N16 48.0	258 59.8	N16 00.4	28 01.0	N 3 11.7
17	56 14.9	111 12.7	S18 55.8	266 19.0	N16 48.3	274 02.5	N16 00.4	43 03.2	N 3 11.8
18	71 17.3	126 12.0	S18 55.2	281 22.4	N16 48.5	289 05.3	N16 00.5	58 05.4	N 3 11.9
19	86 19.8	141 11.4	S18 54.7	296 25.7	N16 48.8	304 08.0	N16 00.6	73 07.6	N 3 12.0
20	101 22.3	156 10.8	S18 54.2	311 29.0	N16 49.0	319 10.7	N16 00.7	88 09.8	N 3 12.2
21	116 24.7	171 10.1	S18 53.7	326 32.4	N16 49.2	334 13.5	N16 00.8	103 12.0	N 3 12.3
22	131 27.2	186 09.5	S18 53.1	341 35.7	N16 49.5	349 16.2	N16 00.9	118 14.2	N 3 12.4
23	146 29.7	201 08.9	S18 52.6	356 39.0	N16 49.7	4 19.0	N16 01.0	133 16.4	N 3 12.5
4 0	161 32.1	216 08.2	S18 52.1	11 42.4	N16 49.9	19 21.7	N16 01.1	148 18.6	N 3 12.6
1	176 34.6	231 07.6	S18 51.5	26 45.7	N16 50.2	34 24.5	N16 01.2	163 20.8	N 3 12.7
2	191 37.0	246 07.0	S18 51.0	41 49.0	N16 50.4	49 27.2	N16 01.2	178 23.0	N 3 12.8
3	206 39.5	261 06.3	S18 50.5	56 52.4	N16 50.7	64 29.9	N16 01.3	193 25.2	N 3 13.0
4	221 42.0	276 05.7	S18 49.9	71 55.7	N16 50.9	79 32.7	N16 01.4	208 27.4	N 3 13.1
T 5	236 44.4	291 05.1	S18 49.4	86 59.0	N16 51.1	94 35.4	N16 01.5	223 29.6	N 3 13.2
H									
U 6	251 46.9	306 04.4	S18 48.9	102 02.3	N16 51.4	109 38.2	N16 01.6	238 31.8	N 3 13.3
R 7	266 49.4	321 03.8	S18 48.3	117 05.7	N16 51.6	124 40.9	N16 01.7	253 34.0	N 3 13.4
S 8	281 51.8	336 03.2	S18 47.8	132 09.0	N16 51.8	139 43.6	N16 01.8	268 36.2	N 3 13.5
D 9	296 54.3	351 02.6	S18 47.2	147 12.3	N16 52.1	154 46.4	N16 01.9	283 38.4	N 3 13.7
A 10	311 56.8	6 01.9	S18 46.7	162 15.6	N16 52.3	169 49.1	N16 01.9	298 40.6	N 3 13.8
Y 11	326 59.2	21 01.3	S18 46.2	177 19.0	N16 52.5	184 51.8	N16 02.0	313 42.8	N 3 13.9
12	342 01.7	36 00.7	S18 45.6	192 22.3	N16 52.7	199 54.6	N16 02.1	328 45.0	N 3 14.0
13	357 04.2	51 00.0	S18 45.1	207 25.6	N16 53.0	214 57.3	N16 02.2	343 47.2	N 3 14.1
14	12 06.6	65 59.4	S18 44.5	222 28.9	N16 53.2	230 00.1	N16 02.3	358 49.4	N 3 14.2
15	27 09.1	80 58.8	S18 44.0	237 32.2	N16 53.4	245 02.8	N16 02.4	13 51.6	N 3 14.3
16	42 11.5	95 58.1	S18 43.4	252 35.6	N16 53.7	260 05.5	N16 02.5	28 53.8	N 3 14.5
17	57 14.0	110 57.5	S18 42.9	267 38.9	N16 53.9	275 08.3	N16 02.6	43 56.0	N 3 14.6
18	72 16.5	125 56.9	S18 42.3	282 42.2	N16 54.1	290 11.0	N16 02.6	58 58.2	N 3 14.7
19	87 18.9	140 56.3	S18 41.8	297 45.5	N16 54.3	305 13.7	N16 02.7	74 00.4	N 3 14.8
20	102 21.4	155 55.6	S18 41.2	312 48.8	N16 54.6	320 16.5	N16 02.8	89 02.6	N 3 14.9
21	117 23.9	170 55.0	S18 40.7	327 52.1	N16 54.8	335 19.2	N16 02.9	104 04.8	N 3 15.0
22	132 26.3	185 54.4	S18 40.1	342 55.5	N16 55.0	350 22.0	N16 03.0	119 07.0	N 3 15.2
23	147 28.8	200 53.8	S18 39.6	357 58.8	N16 55.2	5 24.7	N16 03.1	134 09.2	N 3 15.3
		v -0.6	d 0.5	v 3.3	d 0.2	v 2.7	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
2	0	176 56.3	S 7 22.6	248 46.9	10.2	S27 27.6	1.9	54.2
	1	191 56.4	S 7 21.6	263 16.1	10.2	S27 25.6	2.0	54.2
	2	206 56.5	S 7 20.7	277 45.3	10.2	S27 23.5	2.1	54.2
	3	221 56.7	S 7 19.7	292 14.6	10.2	S27 21.2	2.2	54.2
	4	236 56.8	S 7 18.8	306 43.8	10.3	S27 18.8	2.4	54.2
T	5	251 56.9	S 7 17.8	321 13.1	10.3	S27 16.3	2.5	54.2
U								
E	6	266 57.0	S 7 16.9	335 42.5	10.3	S27 13.7	2.6	54.2
S	7	281 57.2	S 7 15.9	350 11.9	10.4	S27 10.9	2.8	54.2
D	8	296 57.3	S 7 14.9	4 41.3	10.4	S27 08.0	2.9	54.2
A	9	311 57.4	S 7 14.0	19 10.7	10.4	S27 05.0	3.0	54.2
Y	10	326 57.5	S 7 13.0	33 40.2	10.5	S27 01.9	3.2	54.2
	11	341 57.6	S 7 12.1	48 09.7	10.5	S26 58.6	3.3	54.2
	12	356 57.8	S 7 11.1	62 39.2	10.5	S26 55.2	3.4	54.2
	13	11 57.9	S 7 10.2	77 08.8	10.6	S26 51.7	3.5	54.1
	14	26 58.0	S 7 09.2	91 38.4	10.6	S26 48.0	3.7	54.1
	15	41 58.2	S 7 08.3	106 08.1	10.7	S26 44.2	3.8	54.1
	16	56 58.3	S 7 07.3	120 37.8	10.7	S26 40.3	3.9	54.1
	17	71 58.4	S 7 06.4	135 07.5	10.7	S26 36.3	4.0	54.1
	18	86 58.5	S 7 05.4	149 37.3	10.8	S26 32.1	4.2	54.1
	19	101 58.7	S 7 04.4	164 07.1	10.8	S26 27.8	4.3	54.1
	20	116 58.8	S 7 03.5	178 37.0	10.9	S26 23.4	4.4	54.1
	21	131 58.9	S 7 02.5	193 06.9	10.9	S26 18.9	4.5	54.1
	22	146 59.0	S 7 01.6	207 36.9	10.9	S26 14.3	4.6	54.1
	23	161 59.2	S 7 00.6	222 06.8	11.0	S26 09.5	4.8	54.1
3	0	176 59.3	S 6 59.7	236 36.9	11.0	S26 04.6	4.9	54.1
	1	191 59.4	S 6 58.7	251 07.0	11.1	S25 59.6	5.0	54.1
	2	206 59.6	S 6 57.7	265 37.1	11.1	S25 54.4	5.1	54.1
	3	221 59.7	S 6 56.8	280 07.3	11.2	S25 49.2	5.3	54.1
	4	236 59.8	S 6 55.8	294 37.5	11.2	S25 43.8	5.4	54.1
W	5	251 59.9	S 6 54.9	309 07.8	11.3	S25 38.3	5.5	54.1
E								
D	6	267 00.1	S 6 53.9	323 38.1	11.3	S25 32.7	5.6	54.1
N	7	282 00.2	S 6 53.0	338 08.4	11.4	S25 27.0	5.7	54.1
E	8	297 00.3	S 6 52.0	352 38.8	11.4	S25 21.2	5.8	54.1
S	9	312 00.5	S 6 51.0	7 09.3	11.5	S25 15.2	6.0	54.1
D	10	327 00.6	S 6 50.1	21 39.8	11.5	S25 09.1	6.1	54.1
A	11	342 00.7	S 6 49.1	36 10.4	11.6	S25 02.9	6.2	54.1
Y								
	12	357 00.8	S 6 48.2	50 41.0	11.6	S24 56.6	6.3	54.1
	13	12 01.0	S 6 47.2	65 11.6	11.7	S24 50.2	6.4	54.1
	14	27 01.1	S 6 46.2	79 42.3	11.7	S24 43.7	6.5	54.1
	15	42 01.2	S 6 45.3	94 13.1	11.8	S24 37.1	6.6	54.1
	16	57 01.4	S 6 44.3	108 43.9	11.8	S24 30.3	6.8	54.1
	17	72 01.5	S 6 43.4	123 14.8	11.9	S24 23.4	6.9	54.1
	18	87 01.6	S 6 42.4	137 45.7	11.9	S24 16.5	7.0	54.1
	19	102 01.8	S 6 41.4	152 16.6	12.0	S24 09.4	7.1	54.1
	20	117 01.9	S 6 40.5	166 47.7	12.0	S24 02.2	7.2	54.1
	21	132 02.0	S 6 39.5	181 18.7	12.1	S23 54.9	7.3	54.1
	22	147 02.2	S 6 38.6	195 49.8	12.1	S23 47.5	7.4	54.1
	23	162 02.3	S 6 37.6	210 21.0	12.2	S23 40.0	7.5	54.2
4	0	177 02.4	S 6 36.6	224 52.2	12.2	S23 32.3	7.6	54.2
	1	192 02.6	S 6 35.7	239 23.5	12.3	S23 24.6	7.7	54.2
	2	207 02.7	S 6 34.7	253 54.8	12.3	S23 16.8	7.8	54.2
	3	222 02.8	S 6 33.8	268 26.2	12.4	S23 08.8	7.9	54.2
	4	237 03.0	S 6 32.8	282 57.7	12.4	S23 00.8	8.0	54.2
T	5	252 03.1	S 6 31.8	297 29.1	12.5	S22 52.7	8.1	54.2
H								
U	6	267 03.2	S 6 30.9	312 00.7	12.5	S22 44.4	8.2	54.2
R	7	282 03.4	S 6 29.9	326 32.3	12.6	S22 36.1	8.3	54.2
S	8	297 03.5	S 6 28.9	341 03.9	12.6	S22 27.6	8.4	54.2
D	9	312 03.6	S 6 28.0	355 35.6	12.7	S22 19.1	8.5	54.2
A	10	327 03.8	S 6 27.0	10 07.4	12.8	S22 10.4	8.6	54.2
Y	11	342 03.9	S 6 26.1	24 39.2	12.8	S22 01.7	8.7	54.2
	12	357 04.0	S 6 25.1	39 11.0	12.9	S21 52.8	8.8	54.2
	13	12 04.2	S 6 24.1	53 43.0	12.9	S21 43.9	8.9	54.2
	14	27 04.3	S 6 23.2	68 14.9	13.0	S21 34.9	9.0	54.2
	15	42 04.4	S 6 22.2	82 46.9	13.0	S21 25.7	9.1	54.2
	16	57 04.6	S 6 21.2	97 19.0	13.1	S21 16.5	9.2	54.3
	17	72 04.7	S 6 20.3	111 51.1	13.1	S21 07.2	9.3	54.3
	18	87 04.8	S 6 19.3	126 23.3	13.2	S20 57.8	9.4	54.3
	19	102 05.0	S 6 18.3	140 55.5	13.2	S20 48.3	9.5	54.3
	20	117 05.1	S 6 17.4	155 27.8	13.3	S20 38.7	9.6	54.3
	21	132 05.3	S 6 16.4	170 00.1	13.3	S20 29.0	9.7	54.3
	22	147 05.4	S 6 15.5	184 32.5	13.4	S20 19.2	9.8	54.3
	23	162 05.5	S 6 14.5	199 04.9	13.4	S20 09.3	9.9	54.3
		S.D. 16.1	d 1.0	S.D.	14.8	14.7	14.8	

STARS Name	SHA	Dec
Acamar	315 10.6	S40 11.9
Achernar	335 19.3	S57 06.1
Acrux	172 57.5	S63 15.0
Adhara	255 04.3	S29 00.8
Albireo	67 02.9	N28 00.8
Aldebaran	290 37.6	N16 33.8
Alioth	166 10.9	N55 48.5
Alkaid	152 50.2	N49 10.3
Al Na-ir	27 31.1	S46 49.8
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.1	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.4	N 8 56.2
Ankaa	353 05.7	S42 09.6
Antares	112 13.6	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.4	S69 04.4
Avior	234 13.5	S59 36.0
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.4	S52 42.9
Capella	280 19.2	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 25.0	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.5	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.8
Gacrux	171 49.2	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.1	S60 30.2
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 30.3	S34 22.3
Kochab	137 19.5	N74 02.2
Markab	13 28.4	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.3	S36 30.3
Miaplacidus	221 37.0	S69 49.9
Mirfak	308 25.9	N49 57.7
Nunki	75 45.7	S26 15.8
Peacock	53 03.3	S56 38.8
Polaris	316 02.7	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.0	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.1	S 8 10.3
Rigil Kent	139 37.7	S60 56.7
Sabik	102 00.8	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 08.0	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.2	S11 18.4
Suhail	222 44.6	S43 32.7
Vega	80 32.2	N38 48.2
Zuben-ubi	136 54.8	S16 09.4

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
5 0	162 31.3	215 53.1	S18 39.0	13 02.1	N16 55.5	20 27.4	N16 03.2	149 11.4	N 3 15.4
1	177 33.7	230 52.5	S18 38.5	28 05.4	N16 55.7	35 30.2	N16 03.2	164 13.6	N 3 15.5
2	192 36.2	245 51.9	S18 37.9	43 08.7	N16 55.9	50 32.9	N16 03.3	179 15.8	N 3 15.6
3	207 38.7	260 51.3	S18 37.4	58 12.0	N16 56.1	65 35.6	N16 03.4	194 18.0	N 3 15.7
4	222 41.1	275 50.6	S18 36.8	73 15.3	N16 56.4	80 38.4	N16 03.5	209 20.2	N 3 15.8
F 5	237 43.6	290 50.0	S18 36.3	88 18.6	N16 56.6	95 41.1	N16 03.6	224 22.4	N 3 16.0
R									
I 6	252 46.0	305 49.4	S18 35.7	103 21.9	N16 56.8	110 43.8	N16 03.7	239 24.6	N 3 16.1
D 7	267 48.5	320 48.8	S18 35.1	118 25.2	N16 57.0	125 46.6	N16 03.8	254 26.8	N 3 16.2
A 8	282 51.0	335 48.1	S18 34.6	133 28.5	N16 57.3	140 49.3	N16 03.8	269 29.0	N 3 16.3
Y 9	297 53.4	350 47.5	S18 34.0	148 31.8	N16 57.5	155 52.0	N16 03.9	284 31.2	N 3 16.4
10	312 55.9	5 46.9	S18 33.5	163 35.2	N16 57.7	170 54.8	N16 04.0	299 33.4	N 3 16.5
11	327 58.4	20 46.3	S18 32.9	178 38.5	N16 57.9	185 57.5	N16 04.1	314 35.6	N 3 16.7
12	343 00.8	35 45.6	S18 32.3	193 41.8	N16 58.1	201 00.2	N16 04.2	329 37.8	N 3 16.8
13	358 03.3	50 45.0	S18 31.8	208 45.1	N16 58.4	216 03.0	N16 04.3	344 40.0	N 3 16.9
14	13 05.8	65 44.4	S18 31.2	223 48.4	N16 58.6	231 05.7	N16 04.4	359 42.2	N 3 17.0
15	28 08.2	80 43.8	S18 30.6	238 51.7	N16 58.8	246 08.4	N16 04.4	14 44.4	N 3 17.1
16	43 10.7	95 43.1	S18 30.1	253 55.0	N16 59.0	261 11.2	N16 04.5	29 46.6	N 3 17.2
17	58 13.1	110 42.5	S18 29.5	268 58.3	N16 59.2	276 13.9	N16 04.6	44 48.8	N 3 17.4
18	73 15.6	125 41.9	S18 28.9	284 01.5	N16 59.4	291 16.6	N16 04.7	59 51.0	N 3 17.5
19	88 18.1	140 41.3	S18 28.3	299 04.8	N16 59.7	306 19.4	N16 04.8	74 53.2	N 3 17.6
20	103 20.5	155 40.7	S18 27.8	314 08.1	N16 59.9	321 22.1	N16 04.9	89 55.4	N 3 17.7
21	118 23.0	170 40.0	S18 27.2	329 11.4	N17 00.1	336 24.8	N16 05.0	104 57.6	N 3 17.8
22	133 25.5	185 39.4	S18 26.6	344 14.7	N17 00.3	351 27.6	N16 05.0	119 59.8	N 3 17.9
23	148 27.9	200 38.8	S18 26.1	359 18.0	N17 00.5	6 30.3	N16 05.1	135 02.0	N 3 18.1
6 0	163 30.4	215 38.2	S18 25.5	14 21.3	N17 00.7	21 33.0	N16 05.2	150 04.2	N 3 18.2
1	178 32.9	230 37.6	S18 24.9	29 24.6	N17 00.9	36 35.8	N16 05.3	165 06.4	N 3 18.3
2	193 35.3	245 36.9	S18 24.3	44 27.9	N17 01.1	51 38.5	N16 05.4	180 08.6	N 3 18.4
3	208 37.8	260 36.3	S18 23.7	59 31.2	N17 01.4	66 41.2	N16 05.5	195 10.8	N 3 18.5
4	223 40.3	275 35.7	S18 23.2	74 34.5	N17 01.6	81 44.0	N16 05.5	210 13.0	N 3 18.6
S 5	238 42.7	290 35.1	S18 22.6	89 37.7	N17 01.8	96 46.7	N16 05.6	225 15.2	N 3 18.7
A									
T 6	253 45.2	305 34.5	S18 22.0	104 41.0	N17 02.0	111 49.4	N16 05.7	240 17.4	N 3 18.9
U 7	268 47.6	320 33.8	S18 21.4	119 44.3	N17 02.2	126 52.1	N16 05.8	255 19.6	N 3 19.0
R 8	283 50.1	335 33.2	S18 20.8	134 47.6	N17 02.4	141 54.9	N16 05.9	270 21.8	N 3 19.1
D 9	298 52.6	350 32.6	S18 20.3	149 50.9	N17 02.6	156 57.6	N16 06.0	285 24.0	N 3 19.2
A 10	313 55.0	5 32.0	S18 19.7	164 54.2	N17 02.8	172 00.3	N16 06.0	300 26.2	N 3 19.3
Y 11	328 57.5	20 31.4	S18 19.1	179 57.5	N17 03.0	187 03.1	N16 06.1	315 28.4	N 3 19.4
12	343 60.0	35 30.7	S18 18.5	195 00.7	N17 03.2	202 05.8	N16 06.2	330 30.6	N 3 19.6
13	359 02.4	50 30.1	S18 17.9	210 04.0	N17 03.4	217 08.5	N16 06.3	345 32.8	N 3 19.7
14	14 04.9	65 29.5	S18 17.3	225 07.3	N17 03.7	232 11.3	N16 06.4	0 35.0	N 3 19.8
15	29 07.4	80 28.9	S18 16.7	240 10.6	N17 03.9	247 14.0	N16 06.5	15 37.2	N 3 19.9
16	44 09.8	95 28.3	S18 16.1	255 13.8	N17 04.1	262 16.7	N16 06.6	30 39.3	N 3 20.0
17	59 12.3	110 27.7	S18 15.6	270 17.1	N17 04.3	277 19.4	N16 06.6	45 41.5	N 3 20.1
18	74 14.8	125 27.1	S18 15.0	285 20.4	N17 04.5	292 22.2	N16 06.7	60 43.7	N 3 20.3
19	89 17.2	140 26.4	S18 14.4	300 23.7	N17 04.7	307 24.9	N16 06.8	75 45.9	N 3 20.4
20	104 19.7	155 25.8	S18 13.8	315 26.9	N17 04.9	322 27.6	N16 06.9	90 48.1	N 3 20.5
21	119 22.1	170 25.2	S18 13.2	330 30.2	N17 05.1	337 30.3	N16 07.0	105 50.3	N 3 20.6
22	134 24.6	185 24.6	S18 12.6	345 33.5	N17 05.3	352 33.1	N16 07.0	120 52.5	N 3 20.7
23	149 27.1	200 24.0	S18 12.0	0 36.8	N17 05.5	7 35.8	N16 07.1	135 54.7	N 3 20.8
7 0	164 29.5	215 23.4	S18 11.4	15 40.0	N17 05.7	22 38.5	N16 07.2	150 56.9	N 3 21.0
1	179 32.0	230 22.8	S18 10.8	30 43.3	N17 05.9	37 41.3	N16 07.3	165 59.1	N 3 21.1
2	194 34.5	245 22.1	S18 10.2	45 46.6	N17 06.1	52 44.0	N16 07.4	181 01.3	N 3 21.2
3	209 36.9	260 21.5	S18 09.6	60 49.8	N17 06.3	67 46.7	N16 07.5	196 03.5	N 3 21.3
4	224 39.4	275 20.9	S18 09.0	75 53.1	N17 06.5	82 49.4	N16 07.5	211 05.7	N 3 21.4
S 5	239 41.9	290 20.3	S18 08.4	90 56.4	N17 06.7	97 52.2	N16 07.6	226 07.9	N 3 21.5
U									
N 6	254 44.3	305 19.7	S18 07.8	105 59.6	N17 06.9	112 54.9	N16 07.7	241 10.1	N 3 21.7
D 7	269 46.8	320 19.1	S18 07.2	121 02.9	N17 07.1	127 57.6	N16 07.8	256 12.3	N 3 21.8
A 8	284 49.2	335 18.5	S18 06.6	136 06.1	N17 07.3	143 00.3	N16 07.9	271 14.5	N 3 21.9
Y 9	299 51.7	350 17.9	S18 06.0	151 09.4	N17 07.5	158 03.1	N16 08.0	286 16.7	N 3 22.0
10	314 54.2	5 17.2	S18 05.4	166 12.7	N17 07.7	173 05.8	N16 08.0	301 18.9	N 3 22.1
11	329 56.6	20 16.6	S18 04.8	181 15.9	N17 07.9	188 08.5	N16 08.1	316 21.1	N 3 22.2
12	344 59.1	35 16.0	S18 04.2	196 19.2	N17 08.1	203 11.2	N16 08.2	331 23.3	N 3 22.4
13	0 01.6	50 15.4	S18 03.5	211 22.4	N17 08.2	218 13.9	N16 08.3	346 25.5	N 3 22.5
14	15 04.0	65 14.8	S18 02.9	226 25.7	N17 08.4	233 16.7	N16 08.4	1 27.7	N 3 22.6
15	30 06.5	80 14.2	S18 02.3	241 28.9	N17 08.6	248 19.4	N16 08.4	16 29.9	N 3 22.7
16	45 09.0	95 13.6	S18 01.7	256 32.2	N17 08.8	263 22.1	N16 08.5	31 32.1	N 3 22.8
17	60 11.4	110 13.0	S18 01.1	271 35.4	N17 09.0	278 24.8	N16 08.6	46 34.2	N 3 22.9
18	75 13.9	125 12.4	S18 00.5	286 38.7	N17 09.2	293 27.6	N16 08.7	61 36.4	N 3 23.1
19	90 16.4	140 11.8	S17 59.9	301 42.0	N17 09.4	308 30.3	N16 08.8	76 38.6	N 3 23.2
20	105 18.8	155 11.2	S17 59.3	316 45.2	N17 09.6	323 33.0	N16 08.8	91 40.8	N 3 23.3
21	120 21.3	170 10.5	S17 58.6	331 48.5	N17 09.8	338 35.7	N16 08.9	106 43.0	N 3 23.4
22	135 23.7	185 09.9	S17 58.0	346 51.7	N17 10.0	353 38.5	N16 09.0	121 45.2	N 3 23.5
23	150 26.2	200 09.3	S17 57.4	1 54.9	N17 10.2	8 41.2	N16 09.1	136 47.4	N 3 23.6
		v -0.6	d 0.6	v 3.3	d 0.2	v 2.7	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 '
5	0	177 05.7	S 6 13.5	213 37.4	13.5	S19 59.4	10.0	54.3
	1	192 05.8	S 6 12.6	228 09.9	13.5	S19 49.3	10.0	54.3
	2	207 05.9	S 6 11.6	242 42.5	13.6	S19 39.2	10.1	54.3
	3	222 06.1	S 6 10.6	257 15.1	13.6	S19 29.0	10.2	54.4
	4	237 06.2	S 6 09.7	271 47.8	13.7	S19 18.6	10.3	54.4
F	5	252 06.4	S 6 08.7	286 20.5	13.7	S19 08.3	10.4	54.4
R								
I	6	267 06.5	S 6 07.7	300 53.3	13.8	S18 57.8	10.5	54.4
D	7	282 06.6	S 6 06.8	315 26.1	13.8	S18 47.2	10.6	54.4
A	8	297 06.8	S 6 05.8	329 59.0	13.9	S18 36.6	10.6	54.4
Y	9	312 06.9	S 6 04.8	344 31.9	13.9	S18 25.8	10.7	54.4
	10	327 07.0	S 6 03.9	359 04.8	14.0	S18 15.0	10.8	54.4
	11	342 07.2	S 6 02.9	13 37.8	14.0	S18 04.1	10.9	54.4
	12	357 07.3	S 6 01.9	28 10.9	14.1	S17 53.2	11.0	54.5
	13	12 07.5	S 6 01.0	42 44.0	14.1	S17 42.1	11.0	54.5
	14	27 07.6	S 6 00.0	57 17.1	14.1	S17 31.0	11.1	54.5
	15	42 07.7	S 5 59.0	71 50.3	14.2	S17 19.8	11.2	54.5
	16	57 07.9	S 5 58.1	86 23.5	14.2	S17 08.5	11.3	54.5
	17	72 08.0	S 5 57.1	100 56.8	14.3	S16 57.2	11.4	54.5
	18	87 08.2	S 5 56.1	115 30.1	14.3	S16 45.7	11.4	54.5
	19	102 08.3	S 5 55.2	130 03.5	14.4	S16 34.2	11.5	54.5
	20	117 08.4	S 5 54.2	144 36.9	14.4	S16 22.7	11.6	54.6
	21	132 08.6	S 5 53.2	159 10.3	14.4	S16 11.0	11.7	54.6
	22	147 08.7	S 5 52.3	173 43.8	14.5	S15 59.3	11.7	54.6
	23	162 08.9	S 5 51.3	188 17.3	14.5	S15 47.5	11.8	54.6
6	0	177 09.0	S 5 50.3	202 50.9	14.6	S15 35.6	11.9	54.6
	1	192 09.2	S 5 49.4	217 24.5	14.6	S15 23.7	11.9	54.6
	2	207 09.3	S 5 48.4	231 58.1	14.6	S15 11.7	12.0	54.6
	3	222 09.4	S 5 47.4	246 31.8	14.7	S14 59.6	12.1	54.7
	4	237 09.6	S 5 46.5	261 05.5	14.7	S14 47.5	12.1	54.7
S	5	252 09.7	S 5 45.5	275 39.3	14.8	S14 35.3	12.2	54.7
A								
T	6	267 09.9	S 5 44.5	290 13.1	14.8	S14 23.0	12.3	54.7
U	7	282 10.0	S 5 43.5	304 46.9	14.8	S14 10.7	12.3	54.7
R	8	297 10.2	S 5 42.6	319 20.8	14.9	S13 58.3	12.4	54.7
D	9	312 10.3	S 5 41.6	333 54.6	14.9	S13 45.8	12.5	54.7
A	10	327 10.4	S 5 40.6	348 28.6	14.9	S13 33.3	12.5	54.8
Y	11	342 10.6	S 5 39.7	3 02.5	15.0	S13 20.7	12.6	54.8
	12	357 10.7	S 5 38.7	17 36.5	15.0	S13 08.0	12.6	54.8
	13	12 10.9	S 5 37.7	32 10.5	15.0	S12 55.3	12.7	54.8
	14	27 11.0	S 5 36.8	46 44.6	15.0	S12 42.6	12.8	54.8
	15	42 11.2	S 5 35.8	61 18.7	15.1	S12 29.7	12.8	54.8
	16	57 11.3	S 5 34.8	75 52.8	15.1	S12 16.9	12.9	54.9
	17	72 11.5	S 5 33.8	90 26.9	15.1	S12 03.9	12.9	54.9
	18	87 11.6	S 5 32.9	105 01.1	15.2	S11 50.9	13.0	54.9
	19	102 11.7	S 5 31.9	119 35.2	15.2	S11 37.9	13.0	54.9
	20	117 11.9	S 5 30.9	134 09.5	15.2	S11 24.8	13.1	54.9
	21	132 12.0	S 5 30.0	148 43.7	15.2	S11 11.6	13.2	54.9
	22	147 12.2	S 5 29.0	163 18.0	15.3	S10 58.4	13.2	55.0
	23	162 12.3	S 5 28.0	177 52.2	15.3	S10 45.1	13.3	55.0
7	0	177 12.5	S 5 27.0	192 26.6	15.3	S10 31.8	13.3	55.0
	1	192 12.6	S 5 26.1	207 00.9	15.3	S10 18.5	13.4	55.0
	2	207 12.8	S 5 25.1	221 35.2	15.4	S10 05.1	13.4	55.0
	3	222 12.9	S 5 24.1	236 09.6	15.4	S 9 51.6	13.5	55.0
	4	237 13.1	S 5 23.2	250 44.0	15.4	S 9 38.1	13.5	55.1
S	5	252 13.2	S 5 22.2	265 18.4	15.4	S 9 24.5	13.6	55.1
U								
N	6	267 13.3	S 5 21.2	279 52.8	15.4	S 9 10.9	13.6	55.1
D	7	282 13.5	S 5 20.2	294 27.3	15.4	S 8 57.3	13.6	55.1
A	8	297 13.6	S 5 19.3	309 01.7	15.5	S 8 43.6	13.7	55.1
Y	9	312 13.8	S 5 18.3	323 36.2	15.5	S 8 29.9	13.7	55.1
	10	327 13.9	S 5 17.3	338 10.7	15.5	S 8 16.1	13.8	55.2
	11	342 14.1	S 5 16.4	352 45.2	15.5	S 8 02.3	13.8	55.2
	12	357 14.2	S 5 15.4	7 19.7	15.5	S 7 48.4	13.9	55.2
	13	12 14.4	S 5 14.4	21 54.3	15.5	S 7 34.5	13.9	55.2
	14	27 14.5	S 5 13.4	36 28.8	15.5	S 7 20.6	13.9	55.2
	15	42 14.7	S 5 12.5	51 03.3	15.5	S 7 06.6	14.0	55.3
	16	57 14.8	S 5 11.5	65 37.9	15.6	S 6 52.6	14.0	55.3
	17	72 15.0	S 5 10.5	80 12.5	15.6	S 6 38.5	14.0	55.3
	18	87 15.1	S 5 09.5	94 47.0	15.6	S 6 24.5	14.1	55.3
	19	102 15.3	S 5 08.6	109 21.6	15.6	S 6 10.3	14.1	55.3
	20	117 15.4	S 5 07.6	123 56.2	15.6	S 5 56.2	14.2	55.3
	21	132 15.6	S 5 06.6	138 30.8	15.6	S 5 42.0	14.2	55.4
	22	147 15.7	S 5 05.6	153 05.4	15.6	S 5 27.8	14.2	55.4
	23	162 15.9	S 5 04.7	167 40.0	15.6	S 5 13.5	14.2	55.4
		S.D. 16.1	d 1.0	S.D.	14.8	14.9	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.9
Achernar	335 19.3	S57 06.1
Acrux	172 57.5	S63 15.0
Adhara	255 04.3	S29 00.8
Albireo	67 02.8	N28 00.7
Aldebaran	290 37.6	N16 33.8
Alioth	166 10.9	N55 48.5
Alkaid	152 50.2	N49 10.3
Al Na-ir	27 31.1	S46 49.7
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.1	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.4	N 8 56.2
Ankaa	353 05.7	S42 09.6
Antares	112 13.6	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.3	S69 04.4
Avior	234 13.5	S59 36.0
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.4	S52 42.9
Capella	280 19.2	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 24.9	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.5	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.7
Gacrux	171 49.2	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.1	S60 30.2
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 30.3	S34 22.3
Kochab	137 19.4	N74 02.2
Markab	13 28.4	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.3	S36 30.3
Miaplacidus	221 37.0	S69 49.9
Mirfak	308 25.9	N49 57.7
Nunki	75 45.7	S26 15.7
Peacock	53 03.3	S56 38.7
Polaris	316 03.7	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.7	N 5 09.2
Rasalhague	95 57.0	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.1	S 8 10.3
Rigil Kent	139 37.6	S60 56.8
Sabik	102 00.8	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 08.0	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.2	S11 18.4
Suhail	222 44.6	S43 32.7
Vega	80 32.2	N38 48.2
Zuben-ubi	136 54.8	S16 09.4

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 28.7	215 08.7	S17 56.8	16 58.2	N17 10.3	23 43.9	N16 09.2	151 49.6	N 3 23.8
	1	180 31.1	230 08.1	S17 56.2	32 01.4	N17 10.5	38 46.6	N16 09.3	166 51.8	N 3 23.9
	2	195 33.6	245 07.5	S17 55.6	47 04.7	N17 10.7	53 49.3	N16 09.3	181 54.0	N 3 24.0
	3	210 36.1	260 06.9	S17 54.9	62 07.9	N17 10.9	68 52.1	N16 09.4	196 56.2	N 3 24.1
	4	225 38.5	275 06.3	S17 54.3	77 11.2	N17 11.1	83 54.8	N16 09.5	211 58.4	N 3 24.2
M	5	240 41.0	290 05.7	S17 53.7	92 14.4	N17 11.3	98 57.5	N16 09.6	227 00.6	N 3 24.3
O										
N	6	255 43.5	305 05.1	S17 53.1	107 17.6	N17 11.5	114 00.2	N16 09.7	242 02.8	N 3 24.5
D	7	270 45.9	320 04.5	S17 52.4	122 20.9	N17 11.7	129 02.9	N16 09.7	257 05.0	N 3 24.6
A	8	285 48.4	335 03.9	S17 51.8	137 24.1	N17 11.8	144 05.7	N16 09.8	272 07.2	N 3 24.7
Y	9	300 50.8	350 03.3	S17 51.2	152 27.4	N17 12.0	159 08.4	N16 09.9	287 09.4	N 3 24.8
	10	315 53.3	5 02.7	S17 50.6	167 30.6	N17 12.2	174 11.1	N16 10.0	302 11.6	N 3 24.9
	11	330 55.8	20 02.1	S17 49.9	182 33.8	N17 12.4	189 13.8	N16 10.1	317 13.8	N 3 25.0
	12	345 58.2	35 01.5	S17 49.3	197 37.1	N17 12.6	204 16.5	N16 10.1	332 15.9	N 3 25.2
	13	1 00.7	50 00.9	S17 48.7	212 40.3	N17 12.8	219 19.2	N16 10.2	347 18.1	N 3 25.3
	14	16 03.2	65 00.3	S17 48.0	227 43.5	N17 12.9	234 22.0	N16 10.3	2 20.3	N 3 25.4
	15	31 05.6	79 59.7	S17 47.4	242 46.8	N17 13.1	249 24.7	N16 10.4	17 22.5	N 3 25.5
	16	46 08.1	94 59.1	S17 46.8	257 50.0	N17 13.3	264 27.4	N16 10.5	32 24.7	N 3 25.6
	17	61 10.6	109 58.5	S17 46.1	272 53.2	N17 13.5	279 30.1	N16 10.5	47 26.9	N 3 25.8
	18	76 13.0	124 57.8	S17 45.5	287 56.4	N17 13.7	294 32.8	N16 10.6	62 29.1	N 3 25.9
	19	91 15.5	139 57.2	S17 44.9	302 59.7	N17 13.8	309 35.6	N16 10.7	77 31.3	N 3 26.0
	20	106 18.0	154 56.6	S17 44.2	318 02.9	N17 14.0	324 38.3	N16 10.8	92 33.5	N 3 26.1
	21	121 20.4	169 56.0	S17 43.6	333 06.1	N17 14.2	339 41.0	N16 10.8	107 35.7	N 3 26.2
	22	136 22.9	184 55.4	S17 43.0	348 09.3	N17 14.4	354 43.7	N16 10.9	122 37.9	N 3 26.3
	23	151 25.3	199 54.8	S17 42.3	3 12.6	N17 14.5	9 46.4	N16 11.0	137 40.1	N 3 26.5
9	0	166 27.8	214 54.2	S17 41.7	18 15.8	N17 14.7	24 49.1	N16 11.1	152 42.3	N 3 26.6
	1	181 30.3	229 53.6	S17 41.0	33 19.0	N17 14.9	39 51.8	N16 11.2	167 44.5	N 3 26.7
	2	196 32.7	244 53.0	S17 40.4	48 22.2	N17 15.1	54 54.6	N16 11.2	182 46.7	N 3 26.8
	3	211 35.2	259 52.4	S17 39.8	63 25.4	N17 15.2	69 57.3	N16 11.3	197 48.9	N 3 26.9
	4	226 37.7	274 51.8	S17 39.1	78 28.7	N17 15.4	84 60.0	N16 11.4	212 51.0	N 3 27.0
T	5	241 40.1	289 51.3	S17 38.5	93 31.9	N17 15.6	100 02.7	N16 11.5	227 53.2	N 3 27.2
U										
E	6	256 42.6	304 50.7	S17 37.8	108 35.1	N17 15.8	115 05.4	N16 11.6	242 55.4	N 3 27.3
S	7	271 45.1	319 50.1	S17 37.2	123 38.3	N17 15.9	130 08.1	N16 11.6	257 57.6	N 3 27.4
D	8	286 47.5	334 49.5	S17 36.5	138 41.5	N17 16.1	145 10.9	N16 11.7	272 59.8	N 3 27.5
A	9	301 50.0	349 48.9	S17 35.9	153 44.7	N17 16.3	160 13.6	N16 11.8	288 02.0	N 3 27.6
Y	10	316 52.5	4 48.3	S17 35.2	168 47.9	N17 16.5	175 16.3	N16 11.9	303 04.2	N 3 27.7
	11	331 54.9	19 47.7	S17 34.6	183 51.1	N17 16.6	190 19.0	N16 11.9	318 06.4	N 3 27.9
	12	346 57.4	34 47.1	S17 33.9	198 54.4	N17 16.8	205 21.7	N16 12.0	333 08.6	N 3 28.0
	13	1 59.8	49 46.5	S17 33.3	213 57.6	N17 17.0	220 24.4	N16 12.1	348 10.8	N 3 28.1
	14	17 02.3	64 45.9	S17 32.6	229 00.8	N17 17.1	235 27.1	N16 12.2	3 13.0	N 3 28.2
	15	32 04.8	79 45.3	S17 32.0	244 04.0	N17 17.3	250 29.8	N16 12.3	18 15.2	N 3 28.3
	16	47 07.2	94 44.7	S17 31.3	259 07.2	N17 17.5	265 32.6	N16 12.3	33 17.4	N 3 28.4
	17	62 09.7	109 44.1	S17 30.7	274 10.4	N17 17.6	280 35.3	N16 12.4	48 19.6	N 3 28.6
	18	77 12.2	124 43.5	S17 30.0	289 13.6	N17 17.8	295 38.0	N16 12.5	63 21.7	N 3 28.7
	19	92 14.6	139 42.9	S17 29.4	304 16.8	N17 18.0	310 40.7	N16 12.6	78 23.9	N 3 28.8
	20	107 17.1	154 42.3	S17 28.7	319 20.0	N17 18.1	325 43.4	N16 12.6	93 26.1	N 3 28.9
	21	122 19.6	169 41.7	S17 28.0	334 23.2	N17 18.3	340 46.1	N16 12.7	108 28.3	N 3 29.0
	22	137 22.0	184 41.1	S17 27.4	349 26.4	N17 18.5	355 48.8	N16 12.8	123 30.5	N 3 29.2
	23	152 24.5	199 40.5	S17 26.7	4 29.6	N17 18.6	10 51.5	N16 12.9	138 32.7	N 3 29.3
10	0	167 26.9	214 39.9	S17 26.1	19 32.8	N17 18.8	25 54.2	N16 12.9	153 34.9	N 3 29.4
	1	182 29.4	229 39.3	S17 25.4	34 36.0	N17 19.0	40 57.0	N16 13.0	168 37.1	N 3 29.5
	2	197 31.9	244 38.8	S17 24.7	49 39.2	N17 19.1	55 59.7	N16 13.1	183 39.3	N 3 29.6
	3	212 34.3	259 38.2	S17 24.1	64 42.4	N17 19.3	71 02.4	N16 13.2	198 41.5	N 3 29.7
	4	227 36.8	274 37.6	S17 23.4	79 45.5	N17 19.4	86 05.1	N16 13.3	213 43.7	N 3 29.9
W	5	242 39.3	289 37.0	S17 22.7	94 48.7	N17 19.6	101 07.8	N16 13.3	228 45.9	N 3 30.0
E										
D	6	257 41.7	304 36.4	S17 22.1	109 51.9	N17 19.8	116 10.5	N16 13.4	243 48.0	N 3 30.1
N	7	272 44.2	319 35.8	S17 21.4	124 55.1	N17 19.9	131 13.2	N16 13.5	258 50.2	N 3 30.2
E	8	287 46.7	334 35.2	S17 20.7	139 58.3	N17 20.1	146 15.9	N16 13.6	273 52.4	N 3 30.3
S	9	302 49.1	349 34.6	S17 20.1	155 01.5	N17 20.2	161 18.6	N16 13.6	288 54.6	N 3 30.5
D	10	317 51.6	4 34.0	S17 19.4	170 04.7	N17 20.4	176 21.3	N16 13.7	303 56.8	N 3 30.6
A	11	332 54.1	19 33.4	S17 18.7	185 07.9	N17 20.6	191 24.0	N16 13.8	318 59.0	N 3 30.7
Y										
	12	347 56.5	34 32.9	S17 18.1	200 11.0	N17 20.7	206 26.8	N16 13.9	334 01.2	N 3 30.8
	13	2 59.0	49 32.3	S17 17.4	215 14.2	N17 20.9	221 29.5	N16 13.9	349 03.4	N 3 30.9
	14	18 01.4	64 31.7	S17 16.7	230 17.4	N17 21.0	236 32.2	N16 14.0	4 05.6	N 3 31.0
	15	33 03.9	79 31.1	S17 16.0	245 20.6	N17 21.2	251 34.9	N16 14.1	19 07.8	N 3 31.2
	16	48 06.4	94 30.5	S17 15.4	260 23.8	N17 21.3	266 37.6	N16 14.2	34 10.0	N 3 31.3
	17	63 08.8	109 29.9	S17 14.7	275 26.9	N17 21.5	281 40.3	N16 14.2	49 12.2	N 3 31.4
	18	78 11.3	124 29.3	S17 14.0	290 30.1	N17 21.6	296 43.0	N16 14.3	64 14.3	N 3 31.5
	19	93 13.8	139 28.7	S17 13.3	305 33.3	N17 21.8	311 45.7	N16 14.4	79 16.5	N 3 31.6
	20	108 16.2	154 28.2	S17 12.7	320 36.5	N17 22.0	326 48.4	N16 14.5	94 18.7	N 3 31.7
	21	123 18.7	169 27.6	S17 12.0	335 39.6	N17 22.1	341 51.1	N16 14.5	109 20.9	N 3 31.9
	22	138 21.2	184 27.0	S17 11.3	350 42.8	N17 22.3	356 53.8	N16 14.6	124 23.1	N 3 32.0
	23	153 23.6	199 26.4	S17 10.6	5 46.0	N17 22.4	11 56.5	N16 14.7	139 25.3	N 3 32.1
			v -0.6	d 0.7	v 3.2	d 0.2	v 2.7	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 '
8	0	177 16.0	S 5 03.7	182 14.6	15.6	S 4 59.3	14.3	55.4
	1	192 16.2	S 5 02.7	196 49.2	15.6	S 4 45.0	14.3	55.4
	2	207 16.3	S 5 01.7	211 23.8	15.6	S 4 30.6	14.3	55.5
	3	222 16.5	S 5 00.8	225 58.4	15.6	S 4 16.3	14.4	55.5
	4	237 16.6	S 4 59.8	240 33.0	15.6	S 4 01.9	14.4	55.5
M	5	252 16.8	S 4 58.8	255 07.5	15.6	S 3 47.4	14.4	55.5
O								
N	6	267 16.9	S 4 57.8	269 42.1	15.6	S 3 33.0	14.4	55.5
D	7	282 17.1	S 4 56.9	284 16.7	15.6	S 3 18.5	14.5	55.6
A	8	297 17.2	S 4 55.9	298 51.3	15.6	S 3 04.1	14.5	55.6
Y	9	312 17.4	S 4 54.9	313 25.8	15.6	S 2 49.5	14.5	55.6
	10	327 17.5	S 4 53.9	328 00.4	15.6	S 2 35.0	14.5	55.6
	11	342 17.7	S 4 53.0	342 35.0	15.6	S 2 20.5	14.6	55.6
	12	357 17.8	S 4 52.0	357 09.5	15.5	S 2 05.9	14.6	55.7
	13	12 18.0	S 4 51.0	11 44.0	15.5	S 1 51.3	14.6	55.7
	14	27 18.1	S 4 50.0	26 18.5	15.5	S 1 36.7	14.6	55.7
	15	42 18.3	S 4 49.1	40 53.0	15.5	S 1 22.1	14.6	55.7
	16	57 18.4	S 4 48.1	55 27.5	15.5	S 1 07.4	14.6	55.7
	17	72 18.6	S 4 47.1	70 02.0	15.5	S 0 52.8	14.7	55.8
	18	87 18.7	S 4 46.1	84 36.5	15.5	S 0 38.1	14.7	55.8
	19	102 18.9	S 4 45.2	99 10.9	15.4	S 0 23.4	14.7	55.8
	20	117 19.1	S 4 44.2	113 45.3	15.4	S 0 08.7	14.7	55.8
	21	132 19.2	S 4 43.2	128 19.7	15.4	N 0 06.0	14.7	55.8
	22	147 19.4	S 4 42.2	142 54.1	15.4	N 0 20.7	14.7	55.9
	23	162 19.5	S 4 41.3	157 28.5	15.4	N 0 35.4	14.7	55.9
9	0	177 19.7	S 4 40.3	172 02.8	15.3	N 0 50.1	14.7	55.9
	1	192 19.8	S 4 39.3	186 37.2	15.3	N 1 04.8	14.7	55.9
	2	207 20.0	S 4 38.3	201 11.4	15.3	N 1 19.6	14.7	55.9
	3	222 20.1	S 4 37.3	215 45.7	15.3	N 1 34.3	14.7	56.0
	4	237 20.3	S 4 36.4	230 20.0	15.2	N 1 49.1	14.7	56.0
T	5	252 20.4	S 4 35.4	244 54.2	15.2	N 2 03.8	14.8	56.0
U								
E	6	267 20.6	S 4 34.4	259 28.4	15.2	N 2 18.6	14.8	56.0
S	7	282 20.7	S 4 33.4	274 02.5	15.2	N 2 33.3	14.8	56.0
D	8	297 20.9	S 4 32.5	288 36.6	15.1	N 2 48.1	14.8	56.1
A	9	312 21.1	S 4 31.5	303 10.7	15.1	N 3 02.8	14.8	56.1
Y	10	327 21.2	S 4 30.5	317 44.8	15.1	N 3 17.6	14.7	56.1
	11	342 21.4	S 4 29.5	332 18.8	15.0	N 3 32.3	14.7	56.1
	12	357 21.5	S 4 28.5	346 52.8	15.0	N 3 47.1	14.7	56.1
	13	12 21.7	S 4 27.6	1 26.8	15.0	N 4 01.8	14.7	56.2
	14	27 21.8	S 4 26.6	16 00.7	14.9	N 4 16.5	14.7	56.2
	15	42 22.0	S 4 25.6	30 34.6	14.9	N 4 31.3	14.7	56.2
	16	57 22.1	S 4 24.6	45 08.4	14.8	N 4 46.0	14.7	56.2
	17	72 22.3	S 4 23.6	59 42.3	14.8	N 5 00.7	14.7	56.2
	18	87 22.5	S 4 22.7	74 16.0	14.8	N 5 15.4	14.7	56.3
	19	102 22.6	S 4 21.7	88 49.7	14.7	N 5 30.0	14.7	56.3
	20	117 22.8	S 4 20.7	103 23.4	14.7	N 5 44.7	14.7	56.3
	21	132 22.9	S 4 19.7	117 57.1	14.6	N 5 59.4	14.7	56.3
	22	147 23.1	S 4 18.8	132 30.6	14.6	N 6 14.0	14.6	56.3
	23	162 23.2	S 4 17.8	147 04.2	14.5	N 6 28.6	14.6	56.4
10	0	177 23.4	S 4 16.8	161 37.7	14.5	N 6 43.2	14.6	56.4
	1	192 23.6	S 4 15.8	176 11.1	14.4	N 6 57.8	14.6	56.4
	2	207 23.7	S 4 14.8	190 44.5	14.4	N 7 12.4	14.6	56.4
	3	222 23.9	S 4 13.9	205 17.9	14.3	N 7 26.9	14.5	56.4
	4	237 24.0	S 4 12.9	219 51.2	14.3	N 7 41.4	14.5	56.5
W	5	252 24.2	S 4 11.9	234 24.4	14.2	N 7 55.9	14.5	56.5
E								
D	6	267 24.4	S 4 10.9	248 57.6	14.2	N 8 10.4	14.5	56.5
N	7	282 24.5	S 4 09.9	263 30.7	14.1	N 8 24.8	14.4	56.5
E	8	297 24.7	S 4 09.0	278 03.8	14.1	N 8 39.2	14.4	56.5
S	9	312 24.8	S 4 08.0	292 36.8	14.0	N 8 53.6	14.4	56.6
D	10	327 25.0	S 4 07.0	307 09.8	14.0	N 9 08.0	14.4	56.6
A	11	342 25.1	S 4 06.0	321 42.7	13.9	N 9 22.3	14.3	56.6
Y								
	12	357 25.3	S 4 05.0	336 15.5	13.8	N 9 36.6	14.3	56.6
	13	12 25.5	S 4 04.1	350 48.3	13.8	N 9 50.9	14.3	56.6
	14	27 25.6	S 4 03.1	5 21.0	13.7	N10 05.1	14.2	56.7
	15	42 25.8	S 4 02.1	19 53.7	13.7	N10 19.3	14.2	56.7
	16	57 25.9	S 4 01.1	34 26.3	13.6	N10 33.5	14.2	56.7
	17	72 26.1	S 4 00.1	48 58.8	13.5	N10 47.6	14.1	56.7
	18	87 26.3	S 3 59.1	63 31.3	13.5	N11 01.7	14.1	56.7
	19	102 26.4	S 3 58.2	78 03.7	13.4	N11 15.7	14.0	56.8
	20	117 26.6	S 3 57.2	92 36.0	13.3	N11 29.7	14.0	56.8
	21	132 26.7	S 3 56.2	107 08.2	13.3	N11 43.7	14.0	56.8
	22	147 26.9	S 3 55.2	121 40.4	13.2	N11 57.6	13.9	56.8
	23	162 27.1	S 3 54.2	136 12.5	13.1	N12 11.5	13.9	56.8
		S.D. 16.1	d 1.0	S.D.	15.2	15.3	15.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.9
Achernar	335 19.3	S57 06.1
Acrux	172 57.5	S63 15.0
Adhara	255 04.3	S29 00.8
Albireo	67 02.8	N28 00.7
Aldebaran	290 37.6	N16 33.8
Alioth	166 10.8	N55 48.5
Alkaid	152 50.2	N49 10.3
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 35.8	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.1	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.4	N 8 56.2
Ankaa	353 05.7	S42 09.6
Antares	112 13.6	S26 29.6
Arcturus	145 46.0	N19 02.2
Atria	107 06.3	S69 04.4
Avior	234 13.5	S59 36.1
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.4	S52 42.9
Capella	280 19.2	N46 01.7
Castor	245 54.5	N31 49.7
Deneb	49 24.9	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.5	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.7
Gacrux	171 49.1	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.1	S60 30.2
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 30.3	S34 22.3
Kochab	137 19.3	N74 02.2
Markab	13 28.4	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.2	S36 30.3
Miaplacidus	221 37.0	S69 49.9
Mirfak	308 25.9	N49 57.7
Nunki	75 45.7	S26 15.7
Peacock	53 03.3	S56 38.7
Polaris	316 04.7	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.9	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.1	S 8 10.3
Rigil Kent	139 37.6	S60 56.8
Sabik	102 00.7	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 08.0	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.6	S43 32.8
Vega	80 32.2	N38 48.2
Zuben-ubi	136 54.8	S16 09.4

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 26.1	214 25.8	S17 09.9	20 49.1	N17 22.6	26 59.2	N16 14.8	154 27.5	N 3 32.2
	1	183 28.5	229 25.2	S17 09.3	35 52.3	N17 22.7	42 01.9	N16 14.8	169 29.7	N 3 32.3
	2	198 31.0	244 24.6	S17 08.6	50 55.5	N17 22.9	57 04.6	N16 14.9	184 31.9	N 3 32.5
	3	213 33.5	259 24.1	S17 07.9	65 58.6	N17 23.0	72 07.3	N16 15.0	199 34.1	N 3 32.6
	4	228 35.9	274 23.5	S17 07.2	81 01.8	N17 23.2	87 10.0	N16 15.1	214 36.2	N 3 32.7
T	5	243 38.4	289 22.9	S17 06.5	96 05.0	N17 23.3	102 12.7	N16 15.1	229 38.4	N 3 32.8
H										
U	6	258 40.9	304 22.3	S17 05.8	111 08.1	N17 23.5	117 15.4	N16 15.2	244 40.6	N 3 32.9
R	7	273 43.3	319 21.7	S17 05.1	126 11.3	N17 23.6	132 18.1	N16 15.3	259 42.8	N 3 33.0
S	8	288 45.8	334 21.1	S17 04.5	141 14.4	N17 23.7	147 20.9	N16 15.4	274 45.0	N 3 33.2
D	9	303 48.3	349 20.6	S17 03.8	156 17.6	N17 23.9	162 23.6	N16 15.4	289 47.2	N 3 33.3
A	10	318 50.7	4 20.0	S17 03.1	171 20.8	N17 24.0	177 26.3	N16 15.5	304 49.4	N 3 33.4
Y	11	333 53.2	19 19.4	S17 02.4	186 23.9	N17 24.2	192 29.0	N16 15.6	319 51.6	N 3 33.5
	12	348 55.7	34 18.8	S17 01.7	201 27.1	N17 24.3	207 31.7	N16 15.6	334 53.8	N 3 33.6
	13	3 58.1	49 18.2	S17 01.0	216 30.2	N17 24.5	222 34.4	N16 15.7	349 56.0	N 3 33.8
	14	19 00.6	64 17.7	S17 00.3	231 33.4	N17 24.6	237 37.1	N16 15.8	4 58.2	N 3 33.9
	15	34 03.0	79 17.1	S16 59.6	246 36.5	N17 24.8	252 39.8	N16 15.9	20 00.3	N 3 34.0
	16	49 05.5	94 16.5	S16 58.9	261 39.7	N17 24.9	267 42.5	N16 15.9	35 02.5	N 3 34.1
	17	64 08.0	109 15.9	S16 58.2	276 42.8	N17 25.0	282 45.2	N16 16.0	50 04.7	N 3 34.2
	18	79 10.4	124 15.3	S16 57.5	291 46.0	N17 25.2	297 47.9	N16 16.1	65 06.9	N 3 34.3
	19	94 12.9	139 14.8	S16 56.8	306 49.1	N17 25.3	312 50.6	N16 16.2	80 09.1	N 3 34.5
	20	109 15.4	154 14.2	S16 56.1	321 52.3	N17 25.5	327 53.3	N16 16.2	95 11.3	N 3 34.6
	21	124 17.8	169 13.6	S16 55.4	336 55.4	N17 25.6	342 56.0	N16 16.3	110 13.5	N 3 34.7
	22	139 20.3	184 13.0	S16 54.7	351 58.6	N17 25.7	357 58.7	N16 16.4	125 15.7	N 3 34.8
	23	154 22.8	199 12.5	S16 54.0	7 01.7	N17 25.9	13 01.4	N16 16.5	140 17.9	N 3 34.9
12	0	169 25.2	214 11.9	S16 53.3	22 04.8	N17 26.0	28 04.1	N16 16.5	155 20.0	N 3 35.1
	1	184 27.7	229 11.3	S16 52.6	37 08.0	N17 26.2	43 06.8	N16 16.6	170 22.2	N 3 35.2
	2	199 30.1	244 10.7	S16 51.9	52 11.1	N17 26.3	58 09.5	N16 16.7	185 24.4	N 3 35.3
	3	214 32.6	259 10.1	S16 51.2	67 14.3	N17 26.4	73 12.2	N16 16.7	200 26.6	N 3 35.4
	4	229 35.1	274 09.6	S16 50.5	82 17.4	N17 26.6	88 14.9	N16 16.8	215 28.8	N 3 35.5
F	5	244 37.5	289 09.0	S16 49.8	97 20.5	N17 26.7	103 17.6	N16 16.9	230 31.0	N 3 35.6
R										
I	6	259 40.0	304 08.4	S16 49.1	112 23.7	N17 26.8	118 20.3	N16 17.0	245 33.2	N 3 35.8
D	7	274 42.5	319 07.8	S16 48.4	127 26.8	N17 27.0	133 22.9	N16 17.0	260 35.4	N 3 35.9
A	8	289 44.9	334 07.3	S16 47.7	142 29.9	N17 27.1	148 25.6	N16 17.1	275 37.6	N 3 36.0
Y	9	304 47.4	349 06.7	S16 47.0	157 33.1	N17 27.2	163 28.3	N16 17.2	290 39.8	N 3 36.1
	10	319 49.9	4 06.1	S16 46.3	172 36.2	N17 27.4	178 31.0	N16 17.2	305 41.9	N 3 36.2
	11	334 52.3	19 05.5	S16 45.6	187 39.3	N17 27.5	193 33.7	N16 17.3	320 44.1	N 3 36.4
	12	349 54.8	34 05.0	S16 44.9	202 42.4	N17 27.6	208 36.4	N16 17.4	335 46.3	N 3 36.5
	13	4 57.3	49 04.4	S16 44.1	217 45.6	N17 27.8	223 39.1	N16 17.5	350 48.5	N 3 36.6
	14	19 59.7	64 03.8	S16 43.4	232 48.7	N17 27.9	238 41.8	N16 17.5	5 50.7	N 3 36.7
	15	35 02.2	79 03.3	S16 42.7	247 51.8	N17 28.0	253 44.5	N16 17.6	20 52.9	N 3 36.8
	16	50 04.6	94 02.7	S16 42.0	262 54.9	N17 28.2	268 47.2	N16 17.7	35 55.1	N 3 37.0
	17	65 07.1	109 02.1	S16 41.3	277 58.1	N17 28.3	283 49.9	N16 17.7	50 57.3	N 3 37.1
	18	80 09.6	124 01.5	S16 40.6	293 01.2	N17 28.4	298 52.6	N16 17.8	65 59.4	N 3 37.2
	19	95 12.0	139 01.0	S16 39.9	308 04.3	N17 28.6	313 55.3	N16 17.9	81 01.6	N 3 37.3
	20	110 14.5	154 00.4	S16 39.1	323 07.4	N17 28.7	328 58.0	N16 18.0	96 03.8	N 3 37.4
	21	125 17.0	168 59.8	S16 38.4	338 10.5	N17 28.8	344 00.7	N16 18.0	111 06.0	N 3 37.5
	22	140 19.4	183 59.3	S16 37.7	353 13.6	N17 28.9	359 03.4	N16 18.1	126 08.2	N 3 37.7
	23	155 21.9	198 58.7	S16 37.0	8 16.8	N17 29.1	14 06.1	N16 18.2	141 10.4	N 3 37.8
13	0	170 24.4	213 58.1	S16 36.3	23 19.9	N17 29.2	29 08.8	N16 18.2	156 12.6	N 3 37.9
	1	185 26.8	228 57.6	S16 35.5	38 23.0	N17 29.3	44 11.5	N16 18.3	171 14.8	N 3 38.0
	2	200 29.3	243 57.0	S16 34.8	53 26.1	N17 29.4	59 14.1	N16 18.4	186 17.0	N 3 38.1
	3	215 31.8	258 56.4	S16 34.1	68 29.2	N17 29.6	74 16.8	N16 18.4	201 19.1	N 3 38.3
	4	230 34.2	273 55.8	S16 33.4	83 32.3	N17 29.7	89 19.5	N16 18.5	216 21.3	N 3 38.4
S	5	245 36.7	288 55.3	S16 32.6	98 35.4	N17 29.8	104 22.2	N16 18.6	231 23.5	N 3 38.5
A										
T	6	260 39.1	303 54.7	S16 31.9	113 38.5	N17 29.9	119 24.9	N16 18.7	246 25.7	N 3 38.6
U	7	275 41.6	318 54.1	S16 31.2	128 41.6	N17 30.0	134 27.6	N16 18.7	261 27.9	N 3 38.7
R	8	290 44.1	333 53.6	S16 30.5	143 44.7	N17 30.2	149 30.3	N16 18.8	276 30.1	N 3 38.8
D	9	305 46.5	348 53.0	S16 29.7	158 47.8	N17 30.3	164 33.0	N16 18.9	291 32.3	N 3 39.0
A	10	320 49.0	3 52.4	S16 29.0	173 50.9	N17 30.4	179 35.7	N16 18.9	306 34.5	N 3 39.1
Y	11	335 51.5	18 51.9	S16 28.3	188 54.0	N17 30.5	194 38.4	N16 19.0	321 36.6	N 3 39.2
	12	350 53.9	33 51.3	S16 27.5	203 57.1	N17 30.6	209 41.1	N16 19.1	336 38.8	N 3 39.3
	13	5 56.4	48 50.8	S16 26.8	219 00.2	N17 30.8	224 43.7	N16 19.1	351 41.0	N 3 39.4
	14	20 58.9	63 50.2	S16 26.1	234 03.3	N17 30.9	239 46.4	N16 19.2	6 43.2	N 3 39.6
	15	36 01.3	78 49.6	S16 25.3	249 06.4	N17 31.0	254 49.1	N16 19.3	21 45.4	N 3 39.7
	16	51 03.8	93 49.1	S16 24.6	264 09.5	N17 31.1	269 51.8	N16 19.3	36 47.6	N 3 39.8
	17	66 06.2	108 48.5	S16 23.9	279 12.6	N17 31.2	284 54.5	N16 19.4	51 49.8	N 3 39.9
	18	81 08.7	123 47.9	S16 23.1	294 15.7	N17 31.4	299 57.2	N16 19.5	66 52.0	N 3 40.0
	19	96 11.2	138 47.4	S16 22.4	309 18.8	N17 31.5	314 59.9	N16 19.6	81 54.1	N 3 40.2
	20	111 13.6	153 46.8	S16 21.7	324 21.9	N17 31.6	330 02.6	N16 19.6	96 56.3	N 3 40.3
	21	126 16.1	168 46.2	S16 20.9	339 25.0	N17 31.7	345 05.3	N16 19.7	111 58.5	N 3 40.4
	22	141 18.6	183 45.7	S16 20.2	354 28.0	N17 31.8	0 07.9	N16 19.8	127 00.7	N 3 40.5
	23	156 21.0	198 45.1	S16 19.4	9 31.1	N17 31.9	15 10.6	N16 19.8	142 02.9	N 3 40.6
			v -0.6	d 0.7	v 3.1	d 0.1	v 2.7	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 '
11	0	177 27.2	S 3 53.3	150 44.6	13.0	N12 25.3	13.8	56.9
	1	192 27.4	S 3 52.3	165 16.5	13.0	N12 39.1	13.8	56.9
	2	207 27.6	S 3 51.3	179 48.4	12.9	N12 52.8	13.7	56.9
	3	222 27.7	S 3 50.3	194 20.2	12.8	N13 06.5	13.7	56.9
	4	237 27.9	S 3 49.3	208 52.0	12.7	N13 20.1	13.6	56.9
T	5	252 28.0	S 3 48.4	223 23.6	12.7	N13 33.7	13.6	57.0
H								
U	6	267 28.2	S 3 47.4	237 55.2	12.6	N13 47.2	13.5	57.0
R	7	282 28.4	S 3 46.4	252 26.7	12.5	N14 00.6	13.5	57.0
S	8	297 28.5	S 3 45.4	266 58.1	12.4	N14 14.0	13.4	57.0
D	9	312 28.7	S 3 44.4	281 29.5	12.3	N14 27.4	13.3	57.1
A	10	327 28.8	S 3 43.4	296 00.8	12.3	N14 40.7	13.3	57.1
Y	11	342 29.0	S 3 42.5	310 31.9	12.2	N14 53.9	13.2	57.1
	12	357 29.2	S 3 41.5	325 03.0	12.1	N15 07.0	13.2	57.1
	13	12 29.3	S 3 40.5	339 34.0	12.0	N15 20.1	13.1	57.1
	14	27 29.5	S 3 39.5	354 05.0	11.9	N15 33.2	13.0	57.2
	15	42 29.7	S 3 38.5	8 35.8	11.8	N15 46.1	13.0	57.2
	16	57 29.8	S 3 37.5	23 06.5	11.7	N15 59.0	12.9	57.2
	17	72 30.0	S 3 36.6	37 37.2	11.7	N16 11.8	12.8	57.2
	18	87 30.2	S 3 35.6	52 07.8	11.6	N16 24.6	12.8	57.2
	19	102 30.3	S 3 34.6	66 38.3	11.5	N16 37.3	12.7	57.3
	20	117 30.5	S 3 33.6	81 08.7	11.4	N16 49.9	12.6	57.3
	21	132 30.6	S 3 32.6	95 39.0	11.3	N17 02.4	12.5	57.3
	22	147 30.8	S 3 31.6	110 09.2	11.2	N17 14.9	12.5	57.3
	23	162 31.0	S 3 30.7	124 39.3	11.1	N17 27.2	12.4	57.3
12	0	177 31.1	S 3 29.7	139 09.3	11.0	N17 39.5	12.3	57.4
	1	192 31.3	S 3 28.7	153 39.2	10.9	N17 51.7	12.2	57.4
	2	207 31.5	S 3 27.7	168 09.1	10.8	N18 03.9	12.1	57.4
	3	222 31.6	S 3 26.7	182 38.8	10.7	N18 15.9	12.0	57.4
	4	237 31.8	S 3 25.7	197 08.5	10.6	N18 27.9	12.0	57.4
F	5	252 32.0	S 3 24.8	211 38.0	10.5	N18 39.7	11.9	57.5
R								
I	6	267 32.1	S 3 23.8	226 07.5	10.5	N18 51.5	11.8	57.5
D	7	282 32.3	S 3 22.8	240 36.8	10.4	N19 03.2	11.7	57.5
A	8	297 32.5	S 3 21.8	255 06.1	10.3	N19 14.8	11.6	57.5
Y	9	312 32.6	S 3 20.8	269 35.2	10.2	N19 26.3	11.5	57.5
	10	327 32.8	S 3 19.8	284 04.3	10.1	N19 37.8	11.4	57.6
	11	342 33.0	S 3 18.9	298 33.2	10.0	N19 49.1	11.3	57.6
	12	357 33.1	S 3 17.9	313 02.1	9.9	N20 00.3	11.2	57.6
	13	12 33.3	S 3 16.9	327 30.9	9.8	N20 11.4	11.1	57.6
	14	27 33.5	S 3 15.9	341 59.5	9.7	N20 22.4	11.0	57.6
	15	42 33.6	S 3 14.9	356 28.1	9.6	N20 33.4	10.9	57.7
	16	57 33.8	S 3 13.9	10 56.5	9.5	N20 44.2	10.8	57.7
	17	72 34.0	S 3 13.0	25 24.9	9.4	N20 54.9	10.7	57.7
	18	87 34.1	S 3 12.0	39 53.1	9.3	N21 05.5	10.6	57.7
	19	102 34.3	S 3 11.0	54 21.3	9.1	N21 16.0	10.5	57.7
	20	117 34.5	S 3 10.0	68 49.3	9.0	N21 26.4	10.4	57.8
	21	132 34.6	S 3 09.0	83 17.3	8.9	N21 36.6	10.3	57.8
	22	147 34.8	S 3 08.0	97 45.1	8.8	N21 46.8	10.2	57.8
	23	162 35.0	S 3 07.0	112 12.9	8.7	N21 56.8	10.0	57.8
13	0	177 35.1	S 3 06.1	126 40.5	8.6	N22 06.8	9.9	57.8
	1	192 35.3	S 3 05.1	141 08.0	8.5	N22 16.6	9.8	57.9
	2	207 35.5	S 3 04.1	155 35.5	8.4	N22 26.3	9.7	57.9
	3	222 35.6	S 3 03.1	170 02.8	8.3	N22 35.8	9.6	57.9
	4	237 35.8	S 3 02.1	184 30.0	8.2	N22 45.3	9.4	57.9
S	5	252 36.0	S 3 01.1	198 57.1	8.1	N22 54.6	9.3	57.9
A								
T	6	267 36.1	S 3 00.2	213 24.2	8.0	N23 03.8	9.2	57.9
U	7	282 36.3	S 2 59.2	227 51.1	7.9	N23 12.9	9.1	58.0
R	8	297 36.5	S 2 58.2	242 17.9	7.8	N23 21.8	8.9	58.0
D	9	312 36.6	S 2 57.2	256 44.6	7.7	N23 30.6	8.8	58.0
A	10	327 36.8	S 2 56.2	271 11.2	7.6	N23 39.3	8.7	58.0
Y	11	342 37.0	S 2 55.2	285 37.8	7.5	N23 47.9	8.6	58.0
	12	357 37.1	S 2 54.2	300 04.2	7.4	N23 56.3	8.4	58.1
	13	12 37.3	S 2 53.3	314 30.5	7.3	N24 04.6	8.3	58.1
	14	27 37.5	S 2 52.3	328 56.7	7.2	N24 12.7	8.1	58.1
	15	42 37.7	S 2 51.3	343 22.8	7.1	N24 20.7	8.0	58.1
	16	57 37.8	S 2 50.3	357 48.9	7.0	N24 28.6	7.9	58.1
	17	72 38.0	S 2 49.3	12 14.8	6.9	N24 36.3	7.7	58.2
	18	87 38.2	S 2 48.3	26 40.6	6.8	N24 43.9	7.6	58.2
	19	102 38.3	S 2 47.3	41 06.3	6.7	N24 51.3	7.4	58.2
	20	117 38.5	S 2 46.4	55 32.0	6.6	N24 58.6	7.3	58.2
	21	132 38.7	S 2 45.4	69 57.5	6.5	N25 05.8	7.1	58.2
	22	147 38.8	S 2 44.4	84 23.0	6.5	N25 12.8	7.0	58.3
	23	162 39.0	S 2 43.4	98 48.3	6.4	N25 19.6	6.8	58.3
		S.D. 16.1	d 1.0	S.D.	15.6	15.7	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.9
Achernar	335 19.3	S57 06.0
Acrux	172 57.5	S63 15.0
Adhara	255 04.3	S29 00.8
Albireo	67 02.8	N28 00.7
Aldebaran	290 37.6	N16 33.8
Alioth	166 10.8	N55 48.5
Alkaid	152 50.2	N49 10.3
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 35.9	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.1	N26 37.1
Alpheratz	357 33.3	N29 14.5
Altair	61 58.4	N 8 56.2
Ankaa	353 05.8	S42 09.6
Antares	112 13.6	S26 29.6
Arcturus	145 46.0	N19 02.2
Atria	107 06.2	S69 04.4
Avior	234 13.6	S59 36.1
Bellatrix	278 20.9	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.4	S52 42.9
Capella	280 19.3	N46 01.7
Castor	245 54.6	N31 49.7
Deneb	49 24.9	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.4	N51 28.7
Enif	33 37.3	N 9 59.9
Fomalhaut	15 12.9	S29 28.7
Gacrux	171 49.1	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.1	S60 30.2
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.3	S34 22.3
Kochab	137 19.3	N74 02.2
Markab	13 28.4	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.2	S36 30.3
Miaplacidus	221 37.1	S69 49.9
Mirfak	308 26.0	N49 57.7
Nunki	75 45.7	S26 15.7
Peacock	53 03.2	S56 38.7
Polaris	316 05.5	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.9	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.6	S60 56.8
Sabik	102 00.7	S15 45.6
Schedar	349 29.5	N56 41.3
Shaula	96 07.9	S37 07.4
Sirius	258 24.5	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.6	S43 32.8
Vega	80 32.1	N38 48.2
Zuben-ubi	136 54.7	S16 09.4

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 23.5	213 44.6	S16 18.7	24 34.2	N17 32.0	30 13.3	N16 19.9	157 05.1	N 3 40.8
	1	186 26.0	228 44.0	S16 18.0	39 37.3	N17 32.2	45 16.0	N16 20.0	172 07.3	N 3 40.9
	2	201 28.4	243 43.4	S16 17.2	54 40.4	N17 32.3	60 18.7	N16 20.0	187 09.5	N 3 41.0
	3	216 30.9	258 42.9	S16 16.5	69 43.5	N17 32.4	75 21.4	N16 20.1	202 11.6	N 3 41.1
	4	231 33.4	273 42.3	S16 15.7	84 46.5	N17 32.5	90 24.1	N16 20.2	217 13.8	N 3 41.2
S	5	246 35.8	288 41.8	S16 15.0	99 49.6	N17 32.6	105 26.7	N16 20.2	232 16.0	N 3 41.3
U										
N	6	261 38.3	303 41.2	S16 14.2	114 52.7	N17 32.7	120 29.4	N16 20.3	247 18.2	N 3 41.5
D	7	276 40.7	318 40.6	S16 13.5	129 55.8	N17 32.8	135 32.1	N16 20.4	262 20.4	N 3 41.6
A	8	291 43.2	333 40.1	S16 12.7	144 58.8	N17 32.9	150 34.8	N16 20.4	277 22.6	N 3 41.7
Y	9	306 45.7	348 39.5	S16 12.0	160 01.9	N17 33.0	165 37.5	N16 20.5	292 24.8	N 3 41.8
	10	321 48.1	3 39.0	S16 11.3	175 05.0	N17 33.1	180 40.2	N16 20.6	307 26.9	N 3 41.9
	11	336 50.6	18 38.4	S16 10.5	190 08.0	N17 33.2	195 42.8	N16 20.6	322 29.1	N 3 42.1
	12	351 53.1	33 37.9	S16 09.8	205 11.1	N17 33.4	210 45.5	N16 20.7	337 31.3	N 3 42.2
	13	6 55.5	48 37.3	S16 09.0	220 14.2	N17 33.5	225 48.2	N16 20.8	352 33.5	N 3 42.3
	14	21 58.0	63 36.7	S16 08.2	235 17.2	N17 33.6	240 50.9	N16 20.8	7 35.7	N 3 42.4
	15	37 00.5	78 36.2	S16 07.5	250 20.3	N17 33.7	255 53.6	N16 20.9	22 37.9	N 3 42.5
	16	52 02.9	93 35.6	S16 06.7	265 23.4	N17 33.8	270 56.3	N16 21.0	37 40.1	N 3 42.7
	17	67 05.4	108 35.1	S16 06.0	280 26.4	N17 33.9	285 58.9	N16 21.0	52 42.3	N 3 42.8
	18	82 07.9	123 34.5	S16 05.2	295 29.5	N17 34.0	301 01.6	N16 21.1	67 44.4	N 3 42.9
	19	97 10.3	138 34.0	S16 04.5	310 32.6	N17 34.1	316 04.3	N16 21.2	82 46.6	N 3 43.0
	20	112 12.8	153 33.4	S16 03.7	325 35.6	N17 34.2	331 07.0	N16 21.2	97 48.8	N 3 43.1
	21	127 15.2	168 32.9	S16 03.0	340 38.7	N17 34.3	346 09.7	N16 21.3	112 51.0	N 3 43.3
	22	142 17.7	183 32.3	S16 02.2	355 41.7	N17 34.4	1 12.4	N16 21.4	127 53.2	N 3 43.4
	23	157 20.2	198 31.7	S16 01.4	10 44.8	N17 34.5	16 15.0	N16 21.4	142 55.4	N 3 43.5
15	0	172 22.6	213 31.2	S16 00.7	25 47.8	N17 34.6	31 17.7	N16 21.5	157 57.6	N 3 43.6
	1	187 25.1	228 30.6	S15 59.9	40 50.9	N17 34.7	46 20.4	N16 21.6	172 59.7	N 3 43.7
	2	202 27.6	243 30.1	S15 59.2	55 53.9	N17 34.8	61 23.1	N16 21.6	188 01.9	N 3 43.8
	3	217 30.0	258 29.5	S15 58.4	70 57.0	N17 34.9	76 25.8	N16 21.7	203 04.1	N 3 44.0
	4	232 32.5	273 29.0	S15 57.6	86 00.0	N17 35.0	91 28.4	N16 21.8	218 06.3	N 3 44.1
M	5	247 35.0	288 28.4	S15 56.9	101 03.1	N17 35.1	106 31.1	N16 21.8	233 08.5	N 3 44.2
O										
N	6	262 37.4	303 27.9	S15 56.1	116 06.1	N17 35.2	121 33.8	N16 21.9	248 10.7	N 3 44.3
D	7	277 39.9	318 27.3	S15 55.3	131 09.2	N17 35.3	136 36.5	N16 22.0	263 12.9	N 3 44.4
A	8	292 42.4	333 26.8	S15 54.6	146 12.2	N17 35.4	151 39.2	N16 22.0	278 15.0	N 3 44.6
Y	9	307 44.8	348 26.2	S15 53.8	161 15.3	N17 35.5	166 41.8	N16 22.1	293 17.2	N 3 44.7
	10	322 47.3	3 25.7	S15 53.0	176 18.3	N17 35.6	181 44.5	N16 22.2	308 19.4	N 3 44.8
	11	337 49.7	18 25.1	S15 52.3	191 21.3	N17 35.7	196 47.2	N16 22.2	323 21.6	N 3 44.9
	12	352 52.2	33 24.6	S15 51.5	206 24.4	N17 35.8	211 49.9	N16 22.3	338 23.8	N 3 45.0
	13	7 54.7	48 24.0	S15 50.7	221 27.4	N17 35.8	226 52.5	N16 22.3	353 26.0	N 3 45.2
	14	22 57.1	63 23.5	S15 50.0	236 30.4	N17 35.9	241 55.2	N16 22.4	8 28.2	N 3 45.3
	15	37 59.6	78 22.9	S15 49.2	251 33.5	N17 36.0	256 57.9	N16 22.5	23 30.3	N 3 45.4
	16	53 02.1	93 22.4	S15 48.4	266 36.5	N17 36.1	272 00.6	N16 22.5	38 32.5	N 3 45.5
	17	68 04.5	108 21.8	S15 47.7	281 39.5	N17 36.2	287 03.2	N16 22.6	53 34.7	N 3 45.6
	18	83 07.0	123 21.3	S15 46.9	296 42.6	N17 36.3	302 05.9	N16 22.7	68 36.9	N 3 45.8
	19	98 09.5	138 20.8	S15 46.1	311 45.6	N17 36.4	317 08.6	N16 22.7	83 39.1	N 3 45.9
	20	113 11.9	153 20.2	S15 45.3	326 48.6	N17 36.5	332 11.3	N16 22.8	98 41.3	N 3 46.0
	21	128 14.4	168 19.7	S15 44.6	341 51.7	N17 36.6	347 13.9	N16 22.9	113 43.4	N 3 46.1
	22	143 16.8	183 19.1	S15 43.8	356 54.7	N17 36.7	2 16.6	N16 22.9	128 45.6	N 3 46.2
	23	158 19.3	198 18.6	S15 43.0	11 57.7	N17 36.8	17 19.3	N16 23.0	143 47.8	N 3 46.4
16	0	173 21.8	213 18.0	S15 42.2	27 00.7	N17 36.8	32 22.0	N16 23.1	158 50.0	N 3 46.5
	1	188 24.2	228 17.5	S15 41.4	42 03.8	N17 36.9	47 24.6	N16 23.1	173 52.2	N 3 46.6
	2	203 26.7	243 16.9	S15 40.7	57 06.8	N17 37.0	62 27.3	N16 23.2	188 54.4	N 3 46.7
	3	218 29.2	258 16.4	S15 39.9	72 09.8	N17 37.1	77 30.0	N16 23.2	203 56.6	N 3 46.8
	4	233 31.6	273 15.8	S15 39.1	87 12.8	N17 37.2	92 32.7	N16 23.3	218 58.7	N 3 46.9
T	5	248 34.1	288 15.3	S15 38.3	102 15.8	N17 37.3	107 35.3	N16 23.4	234 00.9	N 3 47.1
U										
E	6	263 36.6	303 14.8	S15 37.5	117 18.8	N17 37.4	122 38.0	N16 23.4	249 03.1	N 3 47.2
S	7	278 39.0	318 14.2	S15 36.7	132 21.9	N17 37.4	137 40.7	N16 23.5	264 05.3	N 3 47.3
D	8	293 41.5	333 13.7	S15 36.0	147 24.9	N17 37.5	152 43.4	N16 23.6	279 07.5	N 3 47.4
A	9	308 44.0	348 13.1	S15 35.2	162 27.9	N17 37.6	167 46.0	N16 23.6	294 09.7	N 3 47.5
Y	10	323 46.4	3 12.6	S15 34.4	177 30.9	N17 37.7	182 48.7	N16 23.7	309 11.8	N 3 47.7
	11	338 48.9	18 12.1	S15 33.6	192 33.9	N17 37.8	197 51.4	N16 23.7	324 14.0	N 3 47.8
	12	353 51.3	33 11.5	S15 32.8	207 36.9	N17 37.9	212 54.0	N16 23.8	339 16.2	N 3 47.9
	13	8 53.8	48 11.0	S15 32.0	222 39.9	N17 37.9	227 56.7	N16 23.9	354 18.4	N 3 48.0
	14	23 56.3	63 10.4	S15 31.2	237 42.9	N17 38.0	242 59.4	N16 23.9	9 20.6	N 3 48.1
	15	38 58.7	78 09.9	S15 30.5	252 45.9	N17 38.1	258 02.0	N16 24.0	24 22.8	N 3 48.3
	16	54 01.2	93 09.4	S15 29.7	267 48.9	N17 38.2	273 04.7	N16 24.1	39 25.0	N 3 48.4
	17	69 03.7	108 08.8	S15 28.9	282 51.9	N17 38.3	288 07.4	N16 24.1	54 27.1	N 3 48.5
	18	84 06.1	123 08.3	S15 28.1	297 54.9	N17 38.3	303 10.1	N16 24.2	69 29.3	N 3 48.6
	19	99 08.6	138 07.7	S15 27.3	312 57.9	N17 38.4	318 12.7	N16 24.2	84 31.5	N 3 48.7
	20	114 11.1	153 07.2	S15 26.5	328 00.9	N17 38.5	333 15.4	N16 24.3	99 33.7	N 3 48.9
	21	129 13.5	168 06.7	S15 25.7	343 03.9	N17 38.6	348 18.1	N16 24.4	114 35.9	N 3 49.0
	22	144 16.0	183 06.1	S15 24.9	358 06.9	N17 38.6	3 20.7	N16 24.4	129 38.1	N 3 49.1
	23	159 18.5	198 05.6	S15 24.1	13 09.9	N17 38.7	18 23.4	N16 24.5	144 40.2	N 3 49.2
			v -0.5	d 0.8	v 3.0	d 0.1	v 2.7	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
14	0	177 39.2	S 2 42.4	113 13.6	6.3	N25 26.3	6.7	58.3
	1	192 39.4	S 2 41.4	127 38.8	6.2	N25 32.9	6.5	58.3
	2	207 39.5	S 2 40.4	142 03.9	6.1	N25 39.2	6.4	58.3
	3	222 39.7	S 2 39.5	156 28.9	6.0	N25 45.5	6.2	58.4
	4	237 39.9	S 2 38.5	170 53.8	5.9	N25 51.5	6.1	58.4
S	5	252 40.0	S 2 37.5	185 18.6	5.8	N25 57.5	5.9	58.4
U								
N	6	267 40.2	S 2 36.5	199 43.3	5.7	N26 03.2	5.8	58.4
D	7	282 40.4	S 2 35.5	214 08.0	5.7	N26 08.8	5.6	58.4
A	8	297 40.6	S 2 34.5	228 32.6	5.6	N26 14.3	5.4	58.4
Y	9	312 40.7	S 2 33.5	242 57.1	5.5	N26 19.5	5.3	58.5
	10	327 40.9	S 2 32.5	257 21.5	5.4	N26 24.6	5.1	58.5
	11	342 41.1	S 2 31.6	271 45.8	5.3	N26 29.6	4.9	58.5
	12	357 41.2	S 2 30.6	286 10.1	5.3	N26 34.4	4.8	58.5
	13	12 41.4	S 2 29.6	300 34.3	5.2	N26 39.0	4.6	58.5
	14	27 41.6	S 2 28.6	314 58.4	5.1	N26 43.4	4.4	58.6
	15	42 41.8	S 2 27.6	329 22.4	5.0	N26 47.7	4.3	58.6
	16	57 41.9	S 2 26.6	343 46.4	5.0	N26 51.8	4.1	58.6
	17	72 42.1	S 2 25.6	358 10.3	4.9	N26 55.7	3.9	58.6
	18	87 42.3	S 2 24.7	12 34.1	4.8	N26 59.5	3.8	58.6
	19	102 42.4	S 2 23.7	26 57.9	4.8	N27 03.1	3.6	58.6
	20	117 42.6	S 2 22.7	41 21.6	4.7	N27 06.5	3.4	58.7
	21	132 42.8	S 2 21.7	55 45.3	4.6	N27 09.7	3.2	58.7
	22	147 43.0	S 2 20.7	70 08.8	4.6	N27 12.8	3.1	58.7
	23	162 43.1	S 2 19.7	84 32.4	4.5	N27 15.6	2.9	58.7
15	0	177 43.3	S 2 18.7	98 55.9	4.5	N27 18.3	2.7	58.7
	1	192 43.5	S 2 17.7	113 19.3	4.4	N27 20.9	2.5	58.8
	2	207 43.7	S 2 16.8	127 42.6	4.4	N27 23.2	2.3	58.8
	3	222 43.8	S 2 15.8	142 06.0	4.3	N27 25.4	2.2	58.8
	4	237 44.0	S 2 14.8	156 29.2	4.3	N27 27.4	2.0	58.8
M	5	252 44.2	S 2 13.8	170 52.5	4.2	N27 29.1	1.8	58.8
O								
N	6	267 44.4	S 2 12.8	185 15.7	4.2	N27 30.8	1.6	58.8
D	7	282 44.5	S 2 11.8	199 38.8	4.1	N27 32.2	1.4	58.9
A	8	297 44.7	S 2 10.8	214 01.9	4.1	N27 33.4	1.2	58.9
Y	9	312 44.9	S 2 09.8	228 25.0	4.1	N27 34.5	1.1	58.9
	10	327 45.1	S 2 08.9	242 48.0	4.0	N27 35.4	0.9	58.9
	11	342 45.2	S 2 07.9	257 11.0	4.0	N27 36.1	0.7	58.9
	12	357 45.4	S 2 06.9	271 34.0	4.0	N27 36.6	0.5	58.9
	13	12 45.6	S 2 05.9	285 57.0	4.0	N27 36.9	0.3	59.0
	14	27 45.8	S 2 04.9	300 19.9	3.9	N27 37.1	0.1	59.0
	15	42 45.9	S 2 03.9	314 42.8	3.9	N27 37.0	0.1	59.0
	16	57 46.1	S 2 02.9	329 05.7	3.9	N27 36.8	0.2	59.0
	17	72 46.3	S 2 01.9	343 28.5	3.9	N27 36.3	0.4	59.0
	18	87 46.5	S 2 01.0	357 51.4	3.8	N27 35.7	0.6	59.0
	19	102 46.6	S 1 60.0	12 14.2	3.8	N27 34.9	0.8	59.1
	20	117 46.8	S 1 59.0	26 37.1	3.8	N27 33.9	1.0	59.1
	21	132 47.0	S 1 58.0	40 59.9	3.8	N27 32.8	1.2	59.1
	22	147 47.2	S 1 57.0	55 22.7	3.8	N27 31.4	1.4	59.1
	23	162 47.3	S 1 56.0	69 45.5	3.8	N27 29.9	1.6	59.1
16	0	177 47.5	S 1 55.0	84 08.3	3.8	N27 28.1	1.7	59.1
	1	192 47.7	S 1 54.0	98 31.1	3.8	N27 26.2	1.9	59.2
	2	207 47.9	S 1 53.1	112 53.9	3.8	N27 24.1	2.1	59.2
	3	222 48.0	S 1 52.1	127 16.7	3.8	N27 21.8	2.3	59.2
	4	237 48.2	S 1 51.1	141 39.5	3.8	N27 19.3	2.5	59.2
T	5	252 48.4	S 1 50.1	156 02.4	3.8	N27 16.6	2.7	59.2
U								
E	6	267 48.6	S 1 49.1	170 25.2	3.8	N27 13.7	2.9	59.2
S	7	282 48.7	S 1 48.1	184 48.1	3.9	N27 10.7	3.1	59.2
D	8	297 48.9	S 1 47.1	199 10.9	3.9	N27 07.4	3.2	59.3
A	9	312 49.1	S 1 46.1	213 33.8	3.9	N27 04.0	3.4	59.3
Y	10	327 49.3	S 1 45.2	227 56.7	3.9	N27 00.4	3.6	59.3
	11	342 49.5	S 1 44.2	242 19.7	3.9	N26 56.6	3.8	59.3
	12	357 49.6	S 1 43.2	256 42.6	4.0	N26 52.6	4.0	59.3
	13	12 49.8	S 1 42.2	271 05.6	4.0	N26 48.4	4.2	59.3
	14	27 50.0	S 1 41.2	285 28.6	4.0	N26 44.1	4.4	59.3
	15	42 50.2	S 1 40.2	299 51.7	4.0	N26 39.5	4.5	59.4
	16	57 50.3	S 1 39.2	314 14.8	4.1	N26 34.8	4.7	59.4
	17	72 50.5	S 1 38.2	328 37.9	4.1	N26 29.9	4.9	59.4
	18	87 50.7	S 1 37.3	343 01.0	4.2	N26 24.8	5.1	59.4
	19	102 50.9	S 1 36.3	357 24.2	4.2	N26 19.5	5.3	59.4
	20	117 51.1	S 1 35.3	11 47.5	4.2	N26 14.1	5.4	59.4
	21	132 51.2	S 1 34.3	26 10.8	4.3	N26 08.5	5.6	59.4
	22	147 51.4	S 1 33.3	40 34.1	4.3	N26 02.6	5.8	59.5
	23	162 51.6	S 1 32.3	54 57.5	4.4	N25 56.7	6.0	59.5
		S.D. 16.1	d 1.0	S.D. 15.9		16.1		16.2

Name	SHA	Dec
Acamar	315 10.6	S40 11.9
Achernar	335 19.3	S57 06.0
Acrux	172 57.4	S63 15.0
Adhara	255 04.3	S29 00.8
Albireo	67 02.8	N28 00.7
Aldebaran	290 37.6	N16 33.8
Alioth	166 10.8	N55 48.5
Alkaid	152 50.2	N49 10.3
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 35.9	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.0	N26 37.1
Alpheratz	357 33.3	N29 14.4
Altair	61 58.4	N 8 56.2
Ankaa	353 05.8	S42 09.6
Antares	112 13.5	S26 29.6
Arcturus	145 46.0	N19 02.2
Atria	107 06.1	S69 04.4
Avior	234 13.6	S59 36.1
Bellatrix	278 21.0	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.5	S52 42.9
Capella	280 19.3	N46 01.7
Castor	245 54.6	N31 49.7
Deneb	49 24.9	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.4	N51 28.7
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.9	S29 28.7
Gacrux	171 49.1	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.0	S60 30.2
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.2	S34 22.3
Kochab	137 19.2	N74 02.3
Markab	13 28.4	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.2	S36 30.3
Miaplacidus	221 37.1	S69 50.0
Mirfak	308 26.0	N49 57.6
Nunki	75 45.6	S26 15.7
Peacock	53 03.2	S56 38.7
Polaris	316 06.1	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.9	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.5	S60 56.8
Sabik	102 00.7	S15 45.6
Schedar	349 29.5	N56 41.2
Shaula	96 07.9	S37 07.4
Sirius	258 24.6	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.6	S43 32.8
Vega	80 32.1	N38 48.2
Zuben-ubi	136 54.7	S16 09.4

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
17	0	174 20.9	213 05.1	S15 23.3	28 12.9	N17 38.8	33 26.1	N16 24.6	159 42.4	N 3 49.3
	1	189 23.4	228 04.5	S15 22.5	43 15.9	N17 38.9	48 28.7	N16 24.6	174 44.6	N 3 49.5
	2	204 25.8	243 04.0	S15 21.7	58 18.9	N17 38.9	63 31.4	N16 24.7	189 46.8	N 3 49.6
	3	219 28.3	258 03.4	S15 20.9	73 21.9	N17 39.0	78 34.1	N16 24.7	204 49.0	N 3 49.7
	4	234 30.8	273 02.9	S15 20.1	88 24.8	N17 39.1	93 36.7	N16 24.8	219 51.2	N 3 49.8
W	5	249 33.2	288 02.4	S15 19.3	103 27.8	N17 39.2	108 39.4	N16 24.9	234 53.3	N 3 49.9
E										
D	6	264 35.7	303 01.8	S15 18.5	118 30.8	N17 39.2	123 42.1	N16 24.9	249 55.5	N 3 50.1
N	7	279 38.2	318 01.3	S15 17.7	133 33.8	N17 39.3	138 44.7	N16 25.0	264 57.7	N 3 50.2
E	8	294 40.6	333 00.8	S15 16.9	148 36.8	N17 39.4	153 47.4	N16 25.0	279 59.9	N 3 50.3
S	9	309 43.1	348 00.2	S15 16.1	163 39.8	N17 39.4	168 50.1	N16 25.1	295 02.1	N 3 50.4
D	10	324 45.6	2 59.7	S15 15.3	178 42.7	N17 39.5	183 52.7	N16 25.2	310 04.3	N 3 50.5
A	11	339 48.0	17 59.2	S15 14.5	193 45.7	N17 39.6	198 55.4	N16 25.2	325 06.4	N 3 50.7
Y										
	12	354 50.5	32 58.6	S15 13.7	208 48.7	N17 39.7	213 58.1	N16 25.3	340 08.6	N 3 50.8
	13	9 53.0	47 58.1	S15 12.9	223 51.7	N17 39.7	229 00.7	N16 25.3	355 10.8	N 3 50.9
	14	24 55.4	62 57.6	S15 12.1	238 54.6	N17 39.8	244 03.4	N16 25.4	10 13.0	N 3 51.0
	15	39 57.9	77 57.0	S15 11.3	253 57.6	N17 39.9	259 06.0	N16 25.5	25 15.2	N 3 51.1
	16	55 00.3	92 56.5	S15 10.5	269 00.6	N17 39.9	274 08.7	N16 25.5	40 17.4	N 3 51.3
	17	70 02.8	107 56.0	S15 09.6	284 03.6	N17 40.0	289 11.4	N16 25.6	55 19.5	N 3 51.4
	18	85 05.3	122 55.5	S15 08.8	299 06.5	N17 40.1	304 14.0	N16 25.6	70 21.7	N 3 51.5
	19	100 07.7	137 54.9	S15 08.0	314 09.5	N17 40.1	319 16.7	N16 25.7	85 23.9	N 3 51.6
	20	115 10.2	152 54.4	S15 07.2	329 12.5	N17 40.2	334 19.4	N16 25.8	100 26.1	N 3 51.7
	21	130 12.7	167 53.9	S15 06.4	344 15.4	N17 40.3	349 22.0	N16 25.8	115 28.3	N 3 51.9
	22	145 15.1	182 53.3	S15 05.6	359 18.4	N17 40.3	4 24.7	N16 25.9	130 30.5	N 3 52.0
	23	160 17.6	197 52.8	S15 04.8	14 21.3	N17 40.4	19 27.3	N16 25.9	145 32.6	N 3 52.1
18	0	175 20.1	212 52.3	S15 04.0	29 24.3	N17 40.4	34 30.0	N16 26.0	160 34.8	N 3 52.2
	1	190 22.5	227 51.8	S15 03.1	44 27.3	N17 40.5	49 32.7	N16 26.1	175 37.0	N 3 52.3
	2	205 25.0	242 51.2	S15 02.3	59 30.2	N17 40.6	64 35.3	N16 26.1	190 39.2	N 3 52.5
	3	220 27.4	257 50.7	S15 01.5	74 33.2	N17 40.6	79 38.0	N16 26.2	205 41.4	N 3 52.6
	4	235 29.9	272 50.2	S15 00.7	89 36.1	N17 40.7	94 40.6	N16 26.2	220 43.6	N 3 52.7
T	5	250 32.4	287 49.6	S14 59.9	104 39.1	N17 40.8	109 43.3	N16 26.3	235 45.7	N 3 52.8
H										
U	6	265 34.8	302 49.1	S14 59.1	119 42.0	N17 40.8	124 46.0	N16 26.4	250 47.9	N 3 52.9
R	7	280 37.3	317 48.6	S14 58.2	134 45.0	N17 40.9	139 48.6	N16 26.4	265 50.1	N 3 53.1
S	8	295 39.8	332 48.1	S14 57.4	149 47.9	N17 40.9	154 51.3	N16 26.5	280 52.3	N 3 53.2
D	9	310 42.2	347 47.5	S14 56.6	164 50.9	N17 41.0	169 53.9	N16 26.5	295 54.5	N 3 53.3
A	10	325 44.7	2 47.0	S14 55.8	179 53.8	N17 41.1	184 56.6	N16 26.6	310 56.6	N 3 53.4
Y	11	340 47.2	17 46.5	S14 55.0	194 56.8	N17 41.1	199 59.3	N16 26.6	325 58.8	N 3 53.5
	12	355 49.6	32 46.0	S14 54.1	209 59.7	N17 41.2	215 01.9	N16 26.7	341 01.0	N 3 53.7
	13	10 52.1	47 45.4	S14 53.3	225 02.7	N17 41.2	230 04.6	N16 26.8	356 03.2	N 3 53.8
	14	25 54.6	62 44.9	S14 52.5	240 05.6	N17 41.3	245 07.2	N16 26.8	11 05.4	N 3 53.9
	15	40 57.0	77 44.4	S14 51.7	255 08.6	N17 41.3	260 09.9	N16 26.9	26 07.6	N 3 54.0
	16	55 59.5	92 43.9	S14 50.8	270 11.5	N17 41.4	275 12.5	N16 26.9	41 09.7	N 3 54.1
	17	71 01.9	107 43.4	S14 50.0	285 14.4	N17 41.4	290 15.2	N16 27.0	56 11.9	N 3 54.3
	18	86 04.4	122 42.8	S14 49.2	300 17.4	N17 41.5	305 17.9	N16 27.0	71 14.1	N 3 54.4
	19	101 06.9	137 42.3	S14 48.3	315 20.3	N17 41.6	320 20.5	N16 27.1	86 16.3	N 3 54.5
	20	116 09.3	152 41.8	S14 47.5	330 23.2	N17 41.6	335 23.2	N16 27.2	101 18.5	N 3 54.6
	21	131 11.8	167 41.3	S14 46.7	345 26.2	N17 41.7	350 25.8	N16 27.2	116 20.7	N 3 54.7
	22	146 14.3	182 40.8	S14 45.9	0 29.1	N17 41.7	5 28.5	N16 27.3	131 22.8	N 3 54.9
	23	161 16.7	197 40.2	S14 45.0	15 32.0	N17 41.8	20 31.1	N16 27.3	146 25.0	N 3 55.0
19	0	176 19.2	212 39.7	S14 44.2	30 35.0	N17 41.8	35 33.8	N16 27.4	161 27.2	N 3 55.1
	1	191 21.7	227 39.2	S14 43.4	45 37.9	N17 41.9	50 36.4	N16 27.4	176 29.4	N 3 55.2
	2	206 24.1	242 38.7	S14 42.5	60 40.8	N17 41.9	65 39.1	N16 27.5	191 31.6	N 3 55.3
	3	221 26.6	257 38.2	S14 41.7	75 43.7	N17 42.0	80 41.8	N16 27.6	206 33.7	N 3 55.5
	4	236 29.1	272 37.6	S14 40.9	90 46.7	N17 42.0	95 44.4	N16 27.6	221 35.9	N 3 55.6
F	5	251 31.5	287 37.1	S14 40.0	105 49.6	N17 42.1	110 47.1	N16 27.7	236 38.1	N 3 55.7
R										
I	6	266 34.0	302 36.6	S14 39.2	120 52.5	N17 42.1	125 49.7	N16 27.7	251 40.3	N 3 55.8
D	7	281 36.4	317 36.1	S14 38.3	135 55.4	N17 42.2	140 52.4	N16 27.8	266 42.5	N 3 55.9
A	8	296 38.9	332 35.6	S14 37.5	150 58.3	N17 42.2	155 55.0	N16 27.8	281 44.6	N 3 56.1
Y	9	311 41.4	347 35.0	S14 36.7	166 01.3	N17 42.2	170 57.7	N16 27.9	296 46.8	N 3 56.2
	10	326 43.8	2 34.5	S14 35.8	181 04.2	N17 42.3	186 00.3	N16 28.0	311 49.0	N 3 56.3
	11	341 46.3	17 34.0	S14 35.0	196 07.1	N17 42.3	201 03.0	N16 28.0	326 51.2	N 3 56.4
	12	356 48.8	32 33.5	S14 34.1	211 10.0	N17 42.4	216 05.6	N16 28.1	341 53.4	N 3 56.5
	13	11 51.2	47 33.0	S14 33.3	226 12.9	N17 42.4	231 08.3	N16 28.1	356 55.6	N 3 56.7
	14	26 53.7	62 32.5	S14 32.5	241 15.8	N17 42.5	246 10.9	N16 28.2	11 57.7	N 3 56.8
	15	41 56.2	77 32.0	S14 31.6	256 18.7	N17 42.5	261 13.6	N16 28.2	26 59.9	N 3 56.9
	16	56 58.6	92 31.4	S14 30.8	271 21.6	N17 42.6	276 16.2	N16 28.3	42 02.1	N 3 57.0
	17	72 01.1	107 30.9	S14 29.9	286 24.6	N17 42.6	291 18.9	N16 28.3	57 04.3	N 3 57.1
	18	87 03.6	122 30.4	S14 29.1	301 27.5	N17 42.6	306 21.5	N16 28.4	72 06.5	N 3 57.3
	19	102 06.0	137 29.9	S14 28.2	316 30.4	N17 42.7	321 24.2	N16 28.4	87 08.6	N 3 57.4
	20	117 08.5	152 29.4	S14 27.4	331 33.3	N17 42.7	336 26.8	N16 28.5	102 10.8	N 3 57.5
	21	132 10.9	167 28.9	S14 26.6	346 36.2	N17 42.8	351 29.5	N16 28.6	117 13.0	N 3 57.6
	22	147 13.4	182 28.4	S14 25.7	1 39.1	N17 42.8	6 32.1	N16 28.6	132 15.2	N 3 57.7
	23	162 15.9	197 27.8	S14 24.9	16 42.0	N17 42.8	21 34.8	N16 28.7	147 17.4	N 3 57.9
			v -0.5	d 0.8	v 2.9	d 0.1	v 2.7	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 '
17	0	177 51.8	S 1 31.3	69 20.9	4.4	N25 50.5	6.2	59.5
	1	192 51.9	S 1 30.3	83 44.3	4.5	N25 44.2	6.3	59.5
	2	207 52.1	S 1 29.3	98 07.9	4.5	N25 37.6	6.5	59.5
	3	222 52.3	S 1 28.4	112 31.5	4.6	N25 30.9	6.7	59.5
	4	237 52.5	S 1 27.4	126 55.1	4.6	N25 24.1	6.9	59.5
W	5	252 52.7	S 1 26.4	141 18.8	4.7	N25 17.0	7.0	59.5
E								
D	6	267 52.8	S 1 25.4	155 42.5	4.8	N25 09.8	7.2	59.6
N	7	282 53.0	S 1 24.4	170 06.4	4.8	N25 02.5	7.4	59.6
E	8	297 53.2	S 1 23.4	184 30.2	4.9	N24 54.9	7.5	59.6
S	9	312 53.4	S 1 22.4	198 54.2	4.9	N24 47.2	7.7	59.6
D	10	327 53.6	S 1 21.4	213 18.2	5.0	N24 39.3	7.9	59.6
A	11	342 53.7	S 1 20.5	227 42.2	5.1	N24 31.3	8.1	59.6
Y								
	12	357 53.9	S 1 19.5	242 06.4	5.1	N24 23.0	8.2	59.6
	13	12 54.1	S 1 18.5	256 30.6	5.2	N24 14.7	8.4	59.6
	14	27 54.3	S 1 17.5	270 54.8	5.3	N24 06.1	8.5	59.6
	15	42 54.5	S 1 16.5	285 19.2	5.3	N23 57.4	8.7	59.6
	16	57 54.6	S 1 15.5	299 43.6	5.4	N23 48.6	8.9	59.7
	17	72 54.8	S 1 14.5	314 08.1	5.5	N23 39.5	9.0	59.7
	18	87 55.0	S 1 13.5	328 32.7	5.6	N23 30.4	9.2	59.7
	19	102 55.2	S 1 12.5	342 57.3	5.6	N23 21.0	9.3	59.7
	20	117 55.4	S 1 11.6	357 22.0	5.7	N23 11.5	9.5	59.7
	21	132 55.5	S 1 10.6	11 46.8	5.8	N23 01.9	9.6	59.7
	22	147 55.7	S 1 09.6	26 11.7	5.9	N22 52.1	9.8	59.7
	23	162 55.9	S 1 08.6	40 36.6	5.9	N22 42.2	9.9	59.7
18	0	177 56.1	S 1 07.6	55 01.6	6.0	N22 32.1	10.1	59.7
	1	192 56.3	S 1 06.6	69 26.8	6.1	N22 21.8	10.2	59.7
	2	207 56.4	S 1 05.6	83 51.9	6.2	N22 11.4	10.4	59.7
	3	222 56.6	S 1 04.6	98 17.2	6.3	N22 00.9	10.5	59.7
	4	237 56.8	S 1 03.6	112 42.6	6.3	N21 50.3	10.7	59.8
T	5	252 57.0	S 1 02.7	127 08.0	6.4	N21 39.4	10.8	59.8
H								
U	6	267 57.2	S 1 01.7	141 33.5	6.5	N21 28.5	11.0	59.8
R	7	282 57.4	S 1 00.7	155 59.1	6.6	N21 17.4	11.1	59.8
S	8	297 57.5	S 0 59.7	170 24.8	6.7	N21 06.2	11.2	59.8
D	9	312 57.7	S 0 58.7	184 50.5	6.8	N20 54.8	11.4	59.8
A	10	327 57.9	S 0 57.7	199 16.4	6.8	N20 43.3	11.5	59.8
Y	11	342 58.1	S 0 56.7	213 42.3	6.9	N20 31.7	11.6	59.8
	12	357 58.3	S 0 55.7	228 08.3	7.0	N20 19.9	11.8	59.8
	13	12 58.4	S 0 54.8	242 34.4	7.1	N20 08.1	11.9	59.8
	14	27 58.6	S 0 53.8	257 00.6	7.2	N19 56.0	12.0	59.8
	15	42 58.8	S 0 52.8	271 26.9	7.3	N19 43.9	12.1	59.8
	16	57 59.0	S 0 51.8	285 53.2	7.4	N19 31.7	12.3	59.8
	17	72 59.2	S 0 50.8	300 19.7	7.4	N19 19.3	12.4	59.8
	18	87 59.3	S 0 49.8	314 46.2	7.5	N19 06.8	12.5	59.8
	19	102 59.5	S 0 48.8	329 12.8	7.6	N18 54.2	12.6	59.8
	20	117 59.7	S 0 47.8	343 39.5	7.7	N18 41.4	12.7	59.8
	21	132 59.9	S 0 46.8	358 06.2	7.8	N18 28.6	12.8	59.8
	22	148 00.1	S 0 45.9	12 33.1	7.9	N18 15.6	13.0	59.8
	23	163 00.3	S 0 44.9	27 00.0	7.9	N18 02.5	13.1	59.8
19	0	178 00.4	S 0 43.9	41 27.1	8.0	N17 49.4	13.2	59.8
	1	193 00.6	S 0 42.9	55 54.2	8.1	N17 36.1	13.3	59.8
	2	208 00.8	S 0 41.9	70 21.4	8.2	N17 22.7	13.4	59.8
	3	223 01.0	S 0 40.9	84 48.6	8.3	N17 09.2	13.5	59.8
	4	238 01.2	S 0 39.9	99 16.0	8.4	N16 55.6	13.6	59.8
F	5	253 01.4	S 0 38.9	113 43.4	8.4	N16 41.9	13.7	59.8
R								
I	6	268 01.5	S 0 38.0	128 11.0	8.5	N16 28.1	13.8	59.8
D	7	283 01.7	S 0 37.0	142 38.6	8.6	N16 14.2	13.9	59.8
A	8	298 01.9	S 0 36.0	157 06.2	8.7	N16 00.2	14.0	59.8
Y	9	313 02.1	S 0 35.0	171 34.0	8.8	N15 46.1	14.1	59.8
	10	328 02.3	S 0 34.0	186 01.8	8.8	N15 31.9	14.2	59.8
	11	343 02.5	S 0 33.0	200 29.8	8.9	N15 17.7	14.3	59.8
	12	358 02.6	S 0 32.0	214 57.8	9.0	N15 03.3	14.4	59.8
	13	13 02.8	S 0 31.0	229 25.8	9.1	N14 48.9	14.4	59.8
	14	28 03.0	S 0 30.0	243 54.0	9.2	N14 34.3	14.5	59.8
	15	43 03.2	S 0 29.1	258 22.2	9.2	N14 19.7	14.6	59.8
	16	58 03.4	S 0 28.1	272 50.5	9.3	N14 05.0	14.7	59.8
	17	73 03.6	S 0 27.1	287 18.9	9.4	N13 50.3	14.8	59.8
	18	88 03.7	S 0 26.1	301 47.3	9.5	N13 35.4	14.8	59.8
	19	103 03.9	S 0 25.1	316 15.9	9.5	N13 20.5	14.9	59.8
	20	118 04.1	S 0 24.1	330 44.5	9.6	N13 05.5	15.0	59.8
	21	133 04.3	S 0 23.1	345 13.1	9.7	N12 50.4	15.1	59.8
	22	148 04.5	S 0 22.1	359 41.9	9.7	N12 35.3	15.1	59.8
	23	163 04.7	S 0 21.2	14 10.7	9.8	N12 20.1	15.2	59.8
		S.D. 16.1	d 1.0	S.D. 16.2		16.3	16.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.9
Achernar	335 19.3	S57 06.0
Acrux	172 57.4	S63 15.0
Adhara	255 04.3	S29 00.8
Albireo	67 02.7	N28 00.7
Aldebaran	290 37.6	N16 33.8
Alioth	166 10.8	N55 48.5
Alkaid	152 50.1	N49 10.3
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 35.9	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.0	N26 37.1
Alpheratz	357 33.3	N29 14.4
Altair	61 58.3	N 8 56.2
Ankaa	353 05.7	S42 09.6
Antares	112 13.5	S26 29.6
Arcturus	145 46.0	N19 02.2
Atria	107 06.1	S69 04.4
Avior	234 13.6	S59 36.1
Bellatrix	278 21.0	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.5	S52 42.9
Capella	280 19.3	N46 01.7
Castor	245 54.6	N31 49.8
Deneb	49 24.9	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.1
Elnath	277 59.6	N28 37.8
Eltanin	90 41.4	N51 28.7
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 49.1	S57 16.0
Gienah	175 41.4	S17 41.8
Hadar	148 33.0	S60 30.2
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.2	S34 22.3
Kochab	137 19.2	N74 02.3
Markab	13 28.4	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.2	S36 30.4
Miaplacidus	221 37.1	S69 50.0
Mirfak	308 26.0	N49 57.6
Nunki	75 45.6	S26 15.7
Peacock	53 03.2	S56 38.7
Polaris	316 06.9	N89 22.4
Pollux	243 14.9	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.9	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.5	S60 56.8
Sabik	102 00.7	S15 45.6
Schedar	349 29.5	N56 41.2
Shaula	96 07.9	S37 07.4
Sirius	258 24.6	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.6	S43 32.8
Vega	80 32.1	N38 48.2
Zuben-ubi	136 54.7	S16 09.4

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	177 18.3	212 27.3	S14 24.0	31 44.9	N17 42.9	36 37.4	N16 28.7	162 19.5	N 3 58.0
	1	192 20.8	227 26.8	S14 23.2	46 47.8	N17 42.9	51 40.1	N16 28.8	177 21.7	N 3 58.1
	2	207 23.3	242 26.3	S14 22.3	61 50.7	N17 43.0	66 42.7	N16 28.8	192 23.9	N 3 58.2
	3	222 25.7	257 25.8	S14 21.5	76 53.5	N17 43.0	81 45.4	N16 28.9	207 26.1	N 3 58.3
	4	237 28.2	272 25.3	S14 20.6	91 56.4	N17 43.0	96 48.0	N16 28.9	222 28.3	N 3 58.5
S	5	252 30.7	287 24.8	S14 19.7	106 59.3	N17 43.1	111 50.6	N16 29.0	237 30.5	N 3 58.6
A										
T	6	267 33.1	302 24.3	S14 18.9	122 02.2	N17 43.1	126 53.3	N16 29.0	252 32.6	N 3 58.7
U	7	282 35.6	317 23.8	S14 18.0	137 05.1	N17 43.1	141 55.9	N16 29.1	267 34.8	N 3 58.8
R	8	297 38.0	332 23.3	S14 17.2	152 08.0	N17 43.2	156 58.6	N16 29.2	282 37.0	N 3 58.9
D	9	312 40.5	347 22.7	S14 16.3	167 10.9	N17 43.2	172 01.2	N16 29.2	297 39.2	N 3 59.1
A	10	327 43.0	2 22.2	S14 15.5	182 13.8	N17 43.3	187 03.9	N16 29.3	312 41.4	N 3 59.2
Y	11	342 45.4	17 21.7	S14 14.6	197 16.6	N17 43.3	202 06.5	N16 29.3	327 43.5	N 3 59.3
	12	357 47.9	32 21.2	S14 13.8	212 19.5	N17 43.3	217 09.2	N16 29.4	342 45.7	N 3 59.4
	13	12 50.4	47 20.7	S14 12.9	227 22.4	N17 43.3	232 11.8	N16 29.4	357 47.9	N 3 59.5
	14	27 52.8	62 20.2	S14 12.0	242 25.3	N17 43.4	247 14.4	N16 29.5	12 50.1	N 3 59.7
	15	42 55.3	77 19.7	S14 11.2	257 28.2	N17 43.4	262 17.1	N16 29.5	27 52.3	N 3 59.8
	16	57 57.8	92 19.2	S14 10.3	272 31.0	N17 43.4	277 19.7	N16 29.6	42 54.4	N 3 59.9
	17	73 00.2	107 18.7	S14 09.5	287 33.9	N17 43.5	292 22.4	N16 29.6	57 56.6	N 4 00.0
	18	88 02.7	122 18.2	S14 08.6	302 36.8	N17 43.5	307 25.0	N16 29.7	72 58.8	N 4 00.1
	19	103 05.2	137 17.7	S14 07.7	317 39.7	N17 43.5	322 27.7	N16 29.7	88 01.0	N 4 00.3
	20	118 07.6	152 17.2	S14 06.9	332 42.5	N17 43.6	337 30.3	N16 29.8	103 03.2	N 4 00.4
	21	133 10.1	167 16.7	S14 06.0	347 45.4	N17 43.6	352 32.9	N16 29.8	118 05.3	N 4 00.5
	22	148 12.5	182 16.2	S14 05.1	2 48.3	N17 43.6	7 35.6	N16 29.9	133 07.5	N 4 00.6
	23	163 15.0	197 15.7	S14 04.3	17 51.1	N17 43.7	22 38.2	N16 30.0	148 09.7	N 4 00.7
21	0	178 17.5	212 15.2	S14 03.4	32 54.0	N17 43.7	37 40.9	N16 30.0	163 11.9	N 4 00.9
	1	193 19.9	227 14.7	S14 02.5	47 56.9	N17 43.7	52 43.5	N16 30.1	178 14.1	N 4 01.0
	2	208 22.4	242 14.2	S14 01.7	62 59.7	N17 43.7	67 46.1	N16 30.1	193 16.2	N 4 01.1
	3	223 24.9	257 13.7	S14 00.8	78 02.6	N17 43.8	82 48.8	N16 30.2	208 18.4	N 4 01.2
	4	238 27.3	272 13.2	S13 59.9	93 05.4	N17 43.8	97 51.4	N16 30.2	223 20.6	N 4 01.3
S	5	253 29.8	287 12.7	S13 59.1	108 08.3	N17 43.8	112 54.1	N16 30.3	238 22.8	N 4 01.5
U										
N	6	268 32.3	302 12.1	S13 58.2	123 11.2	N17 43.8	127 56.7	N16 30.3	253 25.0	N 4 01.6
D	7	283 34.7	317 11.6	S13 57.3	138 14.0	N17 43.9	142 59.3	N16 30.4	268 27.1	N 4 01.7
A	8	298 37.2	332 11.1	S13 56.5	153 16.9	N17 43.9	158 02.0	N16 30.4	283 29.3	N 4 01.8
Y	9	313 39.6	347 10.6	S13 55.6	168 19.7	N17 43.9	173 04.6	N16 30.5	298 31.5	N 4 01.9
	10	328 42.1	2 10.1	S13 54.7	183 22.6	N17 43.9	188 07.3	N16 30.5	313 33.7	N 4 02.1
	11	343 44.6	17 09.6	S13 53.8	198 25.4	N17 43.9	203 09.9	N16 30.6	328 35.9	N 4 02.2
	12	358 47.0	32 09.1	S13 53.0	213 28.3	N17 44.0	218 12.5	N16 30.6	343 38.0	N 4 02.3
	13	13 49.5	47 08.7	S13 52.1	228 31.1	N17 44.0	233 15.2	N16 30.7	358 40.2	N 4 02.4
	14	28 52.0	62 08.2	S13 51.2	243 34.0	N17 44.0	248 17.8	N16 30.7	13 42.4	N 4 02.5
	15	43 54.4	77 07.7	S13 50.3	258 36.8	N17 44.0	263 20.4	N16 30.8	28 44.6	N 4 02.7
	16	58 56.9	92 07.2	S13 49.5	273 39.7	N17 44.0	278 23.1	N16 30.8	43 46.8	N 4 02.8
	17	73 59.4	107 06.7	S13 48.6	288 42.5	N17 44.1	293 25.7	N16 30.9	58 48.9	N 4 02.9
	18	89 01.8	122 06.2	S13 47.7	303 45.3	N17 44.1	308 28.3	N16 30.9	73 51.1	N 4 03.0
	19	104 04.3	137 05.7	S13 46.8	318 48.2	N17 44.1	323 31.0	N16 31.0	88 53.3	N 4 03.1
	20	119 06.8	152 05.2	S13 45.9	333 51.0	N17 44.1	338 33.6	N16 31.0	103 55.5	N 4 03.3
	21	134 09.2	167 04.7	S13 45.1	348 53.9	N17 44.1	353 36.3	N16 31.1	118 57.7	N 4 03.4
	22	149 11.7	182 04.2	S13 44.2	3 56.7	N17 44.2	8 38.9	N16 31.1	133 59.8	N 4 03.5
	23	164 14.1	197 03.7	S13 43.3	18 59.5	N17 44.2	23 41.5	N16 31.2	149 02.0	N 4 03.6
22	0	179 16.6	212 03.2	S13 42.4	34 02.4	N17 44.2	38 44.2	N16 31.2	164 04.2	N 4 03.7
	1	194 19.1	227 02.7	S13 41.5	49 05.2	N17 44.2	53 46.8	N16 31.3	179 06.4	N 4 03.9
	2	209 21.5	242 02.2	S13 40.7	64 08.0	N17 44.2	68 49.4	N16 31.3	194 08.5	N 4 04.0
	3	224 24.0	257 01.7	S13 39.8	79 10.9	N17 44.2	83 52.1	N16 31.4	209 10.7	N 4 04.1
	4	239 26.5	272 01.2	S13 38.9	94 13.7	N17 44.2	98 54.7	N16 31.4	224 12.9	N 4 04.2
M	5	254 28.9	287 00.7	S13 38.0	109 16.5	N17 44.3	113 57.3	N16 31.5	239 15.1	N 4 04.3
O										
N	6	269 31.4	302 00.2	S13 37.1	124 19.3	N17 44.3	128 60.0	N16 31.5	254 17.3	N 4 04.5
D	7	284 33.9	316 59.7	S13 36.2	139 22.2	N17 44.3	144 02.6	N16 31.6	269 19.4	N 4 04.6
A	8	299 36.3	331 59.2	S13 35.3	154 25.0	N17 44.3	159 05.2	N16 31.6	284 21.6	N 4 04.7
Y	9	314 38.8	346 58.7	S13 34.4	169 27.8	N17 44.3	174 07.8	N16 31.7	299 23.8	N 4 04.8
	10	329 41.2	1 58.3	S13 33.6	184 30.6	N17 44.3	189 10.5	N16 31.7	314 26.0	N 4 05.0
	11	344 43.7	16 57.8	S13 32.7	199 33.4	N17 44.3	204 13.1	N16 31.8	329 28.2	N 4 05.1
	12	359 46.2	31 57.3	S13 31.8	214 36.3	N17 44.3	219 15.7	N16 31.8	344 30.3	N 4 05.2
	13	14 48.6	46 56.8	S13 30.9	229 39.1	N17 44.3	234 18.4	N16 31.9	359 32.5	N 4 05.3
	14	29 51.1	61 56.3	S13 30.0	244 41.9	N17 44.4	249 21.0	N16 31.9	14 34.7	N 4 05.4
	15	44 53.6	76 55.8	S13 29.1	259 44.7	N17 44.4	264 23.6	N16 32.0	29 36.9	N 4 05.6
	16	59 56.0	91 55.3	S13 28.2	274 47.5	N17 44.4	279 26.3	N16 32.0	44 39.1	N 4 05.7
	17	74 58.5	106 54.8	S13 27.3	289 50.3	N17 44.4	294 28.9	N16 32.1	59 41.2	N 4 05.8
	18	90 01.0	121 54.3	S13 26.4	304 53.1	N17 44.4	309 31.5	N16 32.1	74 43.4	N 4 05.9
	19	105 03.4	136 53.8	S13 25.5	319 55.9	N17 44.4	324 34.1	N16 32.2	89 45.6	N 4 06.0
	20	120 05.9	151 53.4	S13 24.6	334 58.7	N17 44.4	339 36.8	N16 32.2	104 47.8	N 4 06.2
	21	135 08.4	166 52.9	S13 23.7	350 01.6	N17 44.4	354 39.4	N16 32.3	119 49.9	N 4 06.3
	22	150 10.8	181 52.4	S13 22.8	5 04.4	N17 44.4	9 42.0	N16 32.3	134 52.1	N 4 06.4
	23	165 13.3	196 51.9	S13 21.9	20 07.2	N17 44.4	24 44.7	N16 32.3	149 54.3	N 4 06.5
			v -0.5	d 0.9	v 2.8	d 0.0	v 2.6	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 '
20	0	178 04.8	S 0 20.2	28 39.6	9.9	N12 04.8	15.3	59.8
	1	193 05.0	S 0 19.2	43 08.5	9.9	N11 49.5	15.3	59.8
	2	208 05.2	S 0 18.2	57 37.5	10.0	N11 34.1	15.4	59.8
	3	223 05.4	S 0 17.2	72 06.6	10.1	N11 18.6	15.5	59.8
	4	238 05.6	S 0 16.2	86 35.8	10.1	N11 03.1	15.5	59.8
S	5	253 05.8	S 0 15.2	101 05.0	10.2	N10 47.5	15.6	59.7
A								
T	6	268 06.0	S 0 14.2	115 34.3	10.3	N10 31.9	15.6	59.7
U	7	283 06.1	S 0 13.2	130 03.6	10.3	N10 16.2	15.7	59.7
R	8	298 06.3	S 0 12.3	144 33.0	10.4	N10 00.5	15.7	59.7
D	9	313 06.5	S 0 11.3	159 02.5	10.5	N 9 44.7	15.8	59.7
A	10	328 06.7	S 0 10.3	173 32.0	10.5	N 9 28.9	15.8	59.7
Y	11	343 06.9	S 0 09.3	188 01.6	10.6	N 9 13.0	15.9	59.7
	12	358 07.1	S 0 08.3	202 31.2	10.6	N 8 57.0	15.9	59.7
	13	13 07.3	S 0 07.3	217 00.9	10.7	N 8 41.1	16.0	59.7
	14	28 07.4	S 0 06.3	231 30.7	10.8	N 8 25.1	16.0	59.7
	15	43 07.6	S 0 05.3	246 00.5	10.8	N 8 09.0	16.1	59.7
	16	58 07.8	S 0 04.4	260 30.3	10.9	N 7 52.9	16.1	59.6
	17	73 08.0	S 0 03.4	275 00.3	10.9	N 7 36.8	16.1	59.6
	18	88 08.2	S 0 02.4	289 30.2	11.0	N 7 20.6	16.2	59.6
	19	103 08.4	S 0 01.4	304 00.3	11.0	N 7 04.4	16.2	59.6
	20	118 08.6	S 0 00.4	318 30.3	11.1	N 6 48.2	16.2	59.6
	21	133 08.7	N 0 00.6	333 00.4	11.1	N 6 31.9	16.3	59.6
	22	148 08.9	N 0 01.6	347 30.6	11.2	N 6 15.6	16.3	59.6
	23	163 09.1	N 0 02.6	2 00.8	11.2	N 5 59.3	16.3	59.6
21	0	178 09.3	N 0 03.5	16 31.1	11.3	N 5 43.0	16.3	59.5
	1	193 09.5	N 0 04.5	31 01.4	11.3	N 5 26.6	16.4	59.5
	2	208 09.7	N 0 05.5	45 31.7	11.3	N 5 10.3	16.4	59.5
	3	223 09.9	N 0 06.5	60 02.1	11.4	N 4 53.9	16.4	59.5
	4	238 10.0	N 0 07.5	74 32.5	11.4	N 4 37.4	16.4	59.5
S	5	253 10.2	N 0 08.5	89 03.0	11.5	N 4 21.0	16.4	59.5
U								
N	6	268 10.4	N 0 09.5	103 33.5	11.5	N 4 04.6	16.4	59.4
D	7	283 10.6	N 0 10.5	118 04.0	11.5	N 3 48.1	16.5	59.4
A	8	298 10.8	N 0 11.4	132 34.6	11.6	N 3 31.6	16.5	59.4
Y	9	313 11.0	N 0 12.4	147 05.2	11.6	N 3 15.2	16.5	59.4
	10	328 11.2	N 0 13.4	161 35.9	11.6	N 2 58.7	16.5	59.4
	11	343 11.3	N 0 14.4	176 06.6	11.7	N 2 42.2	16.5	59.4
	12	358 11.5	N 0 15.4	190 37.3	11.7	N 2 25.7	16.5	59.3
	13	13 11.7	N 0 16.4	205 08.0	11.7	N 2 09.2	16.5	59.3
	14	28 11.9	N 0 17.4	219 38.8	11.8	N 1 52.7	16.5	59.3
	15	43 12.1	N 0 18.4	234 09.6	11.8	N 1 36.2	16.5	59.3
	16	58 12.3	N 0 19.3	248 40.4	11.8	N 1 19.7	16.5	59.3
	17	73 12.5	N 0 20.3	263 11.3	11.9	N 1 03.2	16.5	59.3
	18	88 12.6	N 0 21.3	277 42.2	11.9	N 0 46.7	16.5	59.2
	19	103 12.8	N 0 22.3	292 13.1	11.9	N 0 30.2	16.5	59.2
	20	118 13.0	N 0 23.3	306 44.0	11.9	N 0 13.8	16.5	59.2
	21	133 13.2	N 0 24.3	321 15.0	12.0	S 0 02.7	16.5	59.2
	22	148 13.4	N 0 25.3	335 45.9	12.0	S 0 19.1	16.5	59.2
	23	163 13.6	N 0 26.3	350 16.9	12.0	S 0 35.6	16.4	59.1
22	0	178 13.8	N 0 27.2	4 47.9	12.0	S 0 52.0	16.4	59.1
	1	193 14.0	N 0 28.2	19 19.0	12.0	S 1 08.4	16.4	59.1
	2	208 14.1	N 0 29.2	33 50.0	12.0	S 1 24.8	16.4	59.1
	3	223 14.3	N 0 30.2	48 21.1	12.1	S 1 41.2	16.4	59.0
	4	238 14.5	N 0 31.2	62 52.2	12.1	S 1 57.5	16.3	59.0
M	5	253 14.7	N 0 32.2	77 23.3	12.1	S 2 13.8	16.3	59.0
O								
N	6	268 14.9	N 0 33.2	91 54.4	12.1	S 2 30.1	16.3	59.0
D	7	283 15.1	N 0 34.1	106 25.5	12.1	S 2 46.4	16.3	59.0
A	8	298 15.3	N 0 35.1	120 56.6	12.1	S 3 02.7	16.2	58.9
Y	9	313 15.5	N 0 36.1	135 27.7	12.1	S 3 18.9	16.2	58.9
	10	328 15.6	N 0 37.1	149 58.9	12.1	S 3 35.1	16.2	58.9
	11	343 15.8	N 0 38.1	164 30.0	12.1	S 3 51.2	16.2	58.9
	12	358 16.0	N 0 39.1	179 01.2	12.2	S 4 07.4	16.1	58.8
	13	13 16.2	N 0 40.1	193 32.3	12.2	S 4 23.5	16.1	58.8
	14	28 16.4	N 0 41.0	208 03.5	12.2	S 4 39.5	16.1	58.8
	15	43 16.6	N 0 42.0	222 34.7	12.2	S 4 55.5	16.0	58.8
	16	58 16.8	N 0 43.0	237 05.8	12.2	S 5 11.5	16.0	58.7
	17	73 17.0	N 0 44.0	251 37.0	12.2	S 5 27.5	15.9	58.7
	18	88 17.1	N 0 45.0	266 08.2	12.2	S 5 43.4	15.9	58.7
	19	103 17.3	N 0 46.0	280 39.3	12.2	S 5 59.2	15.9	58.7
	20	118 17.5	N 0 47.0	295 10.5	12.2	S 6 15.0	15.8	58.6
	21	133 17.7	N 0 48.0	309 41.7	12.2	S 6 30.8	15.8	58.6
	22	148 17.9	N 0 48.9	324 12.8	12.2	S 6 46.5	15.7	58.6
	23	163 18.1	N 0 49.9	338 44.0	12.2	S 7 02.2	15.7	58.5
		S.D. 16.1	d 1.0	S.D.	16.3	16.2	16.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.9
Achernar	335 19.3	S57 06.0
Acrux	172 57.4	S63 15.1
Adhara	255 04.3	S29 00.8
Albireo	67 02.7	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.8	N55 48.5
Alkaid	152 50.1	N49 10.4
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 35.9	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.0	N26 37.1
Alpheratz	357 33.3	N29 14.4
Altair	61 58.3	N 8 56.2
Ankaa	353 05.7	S42 09.6
Antares	112 13.5	S26 29.6
Arcturus	145 46.0	N19 02.2
Atria	107 06.0	S69 04.4
Avior	234 13.6	S59 36.1
Bellatrix	278 21.0	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.5	S52 42.9
Capella	280 19.3	N46 01.7
Castor	245 54.6	N31 49.8
Deneb	49 24.8	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.2
Elnath	277 59.7	N28 37.8
Eltanin	90 41.3	N51 28.7
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 49.1	S57 16.1
Gienah	175 41.4	S17 41.8
Hadar	148 33.0	S60 30.2
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.2	S34 22.3
Kochab	137 19.1	N74 02.3
Markab	13 28.4	N15 21.0
Menkar	314 04.4	N 4 11.7
Menkent	147 55.2	S36 30.4
Miaplacidus	221 37.2	S69 50.0
Mirfak	308 26.0	N49 57.6
Nunki	75 45.6	S26 15.7
Peacock	53 03.1	S56 38.7
Polaris	316 07.7	N89 22.3
Pollux	243 14.9	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.9	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.5	S60 56.8
Sabik	102 00.6	S15 45.6
Schedar	349 29.5	N56 41.2
Shaula	96 07.9	S37 07.4
Sirius	258 24.6	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.7	S43 32.8
Vega	80 32.1	N38 48.2
Zuben-ubi	136 54.7	S16 09.5

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 15.7	211 51.4	S13 21.0	35 10.0	N17 44.4	39 47.3	N16 32.4	164 56.5	N 4 06.6
	1	195 18.2	226 50.9	S13 20.1	50 12.8	N17 44.4	54 49.9	N16 32.4	179 58.7	N 4 06.8
	2	210 20.7	241 50.4	S13 19.2	65 15.6	N17 44.4	69 52.5	N16 32.5	195 00.8	N 4 06.9
	3	225 23.1	256 49.9	S13 18.3	80 18.4	N17 44.4	84 55.2	N16 32.5	210 03.0	N 4 07.0
	4	240 25.6	271 49.5	S13 17.4	95 21.2	N17 44.4	99 57.8	N16 32.6	225 05.2	N 4 07.1
T	5	255 28.1	286 49.0	S13 16.5	110 23.9	N17 44.4	115 00.4	N16 32.6	240 07.4	N 4 07.2
U										
E	6	270 30.5	301 48.5	S13 15.6	125 26.7	N17 44.4	130 03.0	N16 32.7	255 09.5	N 4 07.4
S	7	285 33.0	316 48.0	S13 14.7	140 29.5	N17 44.4	145 05.7	N16 32.7	270 11.7	N 4 07.5
D	8	300 35.5	331 47.5	S13 13.8	155 32.3	N17 44.4	160 08.3	N16 32.8	285 13.9	N 4 07.6
A	9	315 37.9	346 47.0	S13 12.9	170 35.1	N17 44.4	175 10.9	N16 32.8	300 16.1	N 4 07.7
Y	10	330 40.4	1 46.6	S13 12.0	185 37.9	N17 44.4	190 13.5	N16 32.9	315 18.3	N 4 07.8
	11	345 42.9	16 46.1	S13 11.1	200 40.7	N17 44.4	205 16.2	N16 32.9	330 20.4	N 4 08.0
	12	0 45.3	31 45.6	S13 10.2	215 43.5	N17 44.4	220 18.8	N16 33.0	345 22.6	N 4 08.1
	13	15 47.8	46 45.1	S13 09.3	230 46.3	N17 44.4	235 21.4	N16 33.0	0 24.8	N 4 08.2
	14	30 50.2	61 44.6	S13 08.4	245 49.0	N17 44.4	250 24.0	N16 33.0	15 27.0	N 4 08.3
	15	45 52.7	76 44.1	S13 07.5	260 51.8	N17 44.4	265 26.6	N16 33.1	30 29.2	N 4 08.4
	16	60 55.2	91 43.7	S13 06.6	275 54.6	N17 44.4	280 29.3	N16 33.1	45 31.3	N 4 08.6
	17	75 57.6	106 43.2	S13 05.7	290 57.4	N17 44.4	295 31.9	N16 33.2	60 33.5	N 4 08.7
	18	91 00.1	121 42.7	S13 04.8	306 00.2	N17 44.4	310 34.5	N16 33.2	75 35.7	N 4 08.8
	19	106 02.6	136 42.2	S13 03.8	321 02.9	N17 44.4	325 37.1	N16 33.3	90 37.9	N 4 08.9
	20	121 05.0	151 41.7	S13 02.9	336 05.7	N17 44.4	340 39.7	N16 33.3	105 40.0	N 4 09.0
	21	136 07.5	166 41.3	S13 02.0	351 08.5	N17 44.4	355 42.4	N16 33.4	120 42.2	N 4 09.2
	22	151 10.0	181 40.8	S13 01.1	6 11.2	N17 44.4	10 45.0	N16 33.4	135 44.4	N 4 09.3
	23	166 12.4	196 40.3	S13 00.2	21 14.0	N17 44.4	25 47.6	N16 33.5	150 46.6	N 4 09.4
24	0	181 14.9	211 39.8	S12 59.3	36 16.8	N17 44.4	40 50.2	N16 33.5	165 48.8	N 4 09.5
	1	196 17.3	226 39.3	S12 58.4	51 19.6	N17 44.4	55 52.8	N16 33.5	180 50.9	N 4 09.7
	2	211 19.8	241 38.9	S12 57.5	66 22.3	N17 44.4	70 55.5	N16 33.6	195 53.1	N 4 09.8
	3	226 22.3	256 38.4	S12 56.5	81 25.1	N17 44.4	85 58.1	N16 33.6	210 55.3	N 4 09.9
	4	241 24.7	271 37.9	S12 55.6	96 27.9	N17 44.4	101 00.7	N16 33.7	225 57.5	N 4 10.0
W	5	256 27.2	286 37.4	S12 54.7	111 30.6	N17 44.3	116 03.3	N16 33.7	240 59.6	N 4 10.1
E										
D	6	271 29.7	301 36.9	S12 53.8	126 33.4	N17 44.3	131 05.9	N16 33.8	256 01.8	N 4 10.3
N	7	286 32.1	316 36.5	S12 52.9	141 36.1	N17 44.3	146 08.6	N16 33.8	271 04.0	N 4 10.4
E	8	301 34.6	331 36.0	S12 52.0	156 38.9	N17 44.3	161 11.2	N16 33.9	286 06.2	N 4 10.5
S	9	316 37.1	346 35.5	S12 51.0	171 41.7	N17 44.3	176 13.8	N16 33.9	301 08.3	N 4 10.6
D	10	331 39.5	1 35.0	S12 50.1	186 44.4	N17 44.3	191 16.4	N16 33.9	316 10.5	N 4 10.7
A	11	346 42.0	16 34.6	S12 49.2	201 47.2	N17 44.3	206 19.0	N16 34.0	331 12.7	N 4 10.9
Y										
	12	1 44.5	31 34.1	S12 48.3	216 49.9	N17 44.3	221 21.6	N16 34.0	346 14.9	N 4 11.0
	13	16 46.9	46 33.6	S12 47.3	231 52.7	N17 44.3	236 24.3	N16 34.1	1 17.1	N 4 11.1
	14	31 49.4	61 33.1	S12 46.4	246 55.4	N17 44.2	251 26.9	N16 34.1	16 19.2	N 4 11.2
	15	46 51.8	76 32.7	S12 45.5	261 58.2	N17 44.2	266 29.5	N16 34.2	31 21.4	N 4 11.3
	16	61 54.3	91 32.2	S12 44.6	277 00.9	N17 44.2	281 32.1	N16 34.2	46 23.6	N 4 11.5
	17	76 56.8	106 31.7	S12 43.7	292 03.7	N17 44.2	296 34.7	N16 34.3	61 25.8	N 4 11.6
	18	91 59.2	121 31.2	S12 42.7	307 06.4	N17 44.2	311 37.3	N16 34.3	76 27.9	N 4 11.7
	19	107 01.7	136 30.8	S12 41.8	322 09.2	N17 44.2	326 39.9	N16 34.3	91 30.1	N 4 11.8
	20	122 04.2	151 30.3	S12 40.9	337 11.9	N17 44.2	341 42.6	N16 34.4	106 32.3	N 4 11.9
	21	137 06.6	166 29.8	S12 39.9	352 14.6	N17 44.1	356 45.2	N16 34.4	121 34.5	N 4 12.1
	22	152 09.1	181 29.4	S12 39.0	7 17.4	N17 44.1	11 47.8	N16 34.5	136 36.7	N 4 12.2
	23	167 11.6	196 28.9	S12 38.1	22 20.1	N17 44.1	26 50.4	N16 34.5	151 38.8	N 4 12.3
25	0	182 14.0	211 28.4	S12 37.2	37 22.8	N17 44.1	41 53.0	N16 34.6	166 41.0	N 4 12.4
	1	197 16.5	226 27.9	S12 36.2	52 25.6	N17 44.1	56 55.6	N16 34.6	181 43.2	N 4 12.5
	2	212 18.9	241 27.5	S12 35.3	67 28.3	N17 44.0	71 58.2	N16 34.6	196 45.4	N 4 12.7
	3	227 21.4	256 27.0	S12 34.4	82 31.1	N17 44.0	87 00.8	N16 34.7	211 47.5	N 4 12.8
	4	242 23.9	271 26.5	S12 33.4	97 33.8	N17 44.0	102 03.5	N16 34.7	226 49.7	N 4 12.9
T	5	257 26.3	286 26.1	S12 32.5	112 36.5	N17 44.0	117 06.1	N16 34.8	241 51.9	N 4 13.0
H										
U	6	272 28.8	301 25.6	S12 31.6	127 39.2	N17 44.0	132 08.7	N16 34.8	256 54.1	N 4 13.1
R	7	287 31.3	316 25.1	S12 30.6	142 42.0	N17 43.9	147 11.3	N16 34.9	271 56.2	N 4 13.3
S	8	302 33.7	331 24.7	S12 29.7	157 44.7	N17 43.9	162 13.9	N16 34.9	286 58.4	N 4 13.4
D	9	317 36.2	346 24.2	S12 28.8	172 47.4	N17 43.9	177 16.5	N16 34.9	302 00.6	N 4 13.5
A	10	332 38.7	1 23.7	S12 27.8	187 50.1	N17 43.9	192 19.1	N16 35.0	317 02.8	N 4 13.6
Y	11	347 41.1	16 23.3	S12 26.9	202 52.9	N17 43.9	207 21.7	N16 35.0	332 05.0	N 4 13.8
	12	2 43.6	31 22.8	S12 26.0	217 55.6	N17 43.8	222 24.3	N16 35.1	347 07.1	N 4 13.9
	13	17 46.1	46 22.3	S12 25.0	232 58.3	N17 43.8	237 26.9	N16 35.1	2 09.3	N 4 14.0
	14	32 48.5	61 21.9	S12 24.1	248 01.0	N17 43.8	252 29.5	N16 35.1	17 11.5	N 4 14.1
	15	47 51.0	76 21.4	S12 23.2	263 03.7	N17 43.8	267 32.2	N16 35.2	32 13.7	N 4 14.2
	16	62 53.4	91 20.9	S12 22.2	278 06.5	N17 43.7	282 34.8	N16 35.2	47 15.8	N 4 14.4
	17	77 55.9	106 20.5	S12 21.3	293 09.2	N17 43.7	297 37.4	N16 35.3	62 18.0	N 4 14.5
	18	92 58.4	121 20.0	S12 20.3	308 11.9	N17 43.7	312 40.0	N16 35.3	77 20.2	N 4 14.6
	19	108 00.8	136 19.5	S12 19.4	323 14.6	N17 43.7	327 42.6	N16 35.3	92 22.4	N 4 14.7
	20	123 03.3	151 19.1	S12 18.5	338 17.3	N17 43.6	342 45.2	N16 35.4	107 24.5	N 4 14.8
	21	138 05.8	166 18.6	S12 17.5	353 20.0	N17 43.6	357 47.8	N16 35.4	122 26.7	N 4 15.0
	22	153 08.2	181 18.1	S12 16.6	8 22.7	N17 43.6	12 50.4	N16 35.5	137 28.9	N 4 15.1
	23	168 10.7	196 17.7	S12 15.6	23 25.4	N17 43.5	27 53.0	N16 35.5	152 31.1	N 4 15.2
			v -0.5	d 0.9	v 2.8	d 0.0	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
23	0	178 18.3	N 0 50.9	353 15.1	12.1	S 7 17.8	15.6	58.5
	1	193 18.5	N 0 51.9	7 46.3	12.1	S 7 33.4	15.6	58.5
	2	208 18.6	N 0 52.9	22 17.4	12.1	S 7 48.9	15.5	58.5
	3	223 18.8	N 0 53.9	36 48.5	12.1	S 8 04.4	15.5	58.4
	4	238 19.0	N 0 54.9	51 19.6	12.1	S 8 19.8	15.4	58.4
T	5	253 19.2	N 0 55.8	65 50.7	12.1	S 8 35.1	15.4	58.4
U								
E	6	268 19.4	N 0 56.8	80 21.8	12.1	S 8 50.4	15.3	58.4
S	7	283 19.6	N 0 57.8	94 52.9	12.1	S 9 05.7	15.2	58.3
D	8	298 19.8	N 0 58.8	109 24.0	12.1	S 9 20.8	15.2	58.3
A	9	313 20.0	N 0 59.8	123 55.1	12.1	S 9 35.9	15.1	58.3
Y	10	328 20.1	N 1 00.8	138 26.1	12.0	S 9 51.0	15.1	58.2
	11	343 20.3	N 1 01.8	152 57.1	12.0	S10 06.0	15.0	58.2
	12	358 20.5	N 1 02.7	167 28.1	12.0	S10 20.9	14.9	58.2
	13	13 20.7	N 1 03.7	181 59.1	12.0	S10 35.8	14.9	58.1
	14	28 20.9	N 1 04.7	196 30.1	12.0	S10 50.5	14.8	58.1
	15	43 21.1	N 1 05.7	211 01.1	12.0	S11 05.3	14.7	58.1
	16	58 21.3	N 1 06.7	225 32.0	11.9	S11 19.9	14.6	58.1
	17	73 21.5	N 1 07.7	240 02.9	11.9	S11 34.5	14.6	58.0
	18	88 21.7	N 1 08.6	254 33.8	11.9	S11 49.0	14.5	58.0
	19	103 21.8	N 1 09.6	269 04.7	11.9	S12 03.4	14.4	58.0
	20	118 22.0	N 1 10.6	283 35.5	11.9	S12 17.8	14.4	57.9
	21	133 22.2	N 1 11.6	298 06.4	11.8	S12 32.0	14.3	57.9
	22	148 22.4	N 1 12.6	312 37.2	11.8	S12 46.2	14.2	57.9
	23	163 22.6	N 1 13.6	327 08.0	11.8	S13 00.4	14.1	57.8
24	0	178 22.8	N 1 14.6	341 38.7	11.8	S13 14.4	14.0	57.8
	1	193 23.0	N 1 15.5	356 09.4	11.7	S13 28.4	14.0	57.8
	2	208 23.2	N 1 16.5	10 40.2	11.7	S13 42.2	13.9	57.8
	3	223 23.4	N 1 17.5	25 10.8	11.7	S13 56.0	13.8	57.7
	4	238 23.5	N 1 18.5	39 41.5	11.7	S14 09.7	13.7	57.7
W	5	253 23.7	N 1 19.5	54 12.1	11.6	S14 23.4	13.6	57.7
E								
D	6	268 23.9	N 1 20.5	68 42.7	11.6	S14 36.9	13.5	57.6
N	7	283 24.1	N 1 21.4	83 13.3	11.6	S14 50.3	13.4	57.6
E	8	298 24.3	N 1 22.4	97 43.8	11.5	S15 03.7	13.4	57.6
S	9	313 24.5	N 1 23.4	112 14.3	11.5	S15 17.0	13.3	57.5
D	10	328 24.7	N 1 24.4	126 44.8	11.5	S15 30.1	13.2	57.5
A	11	343 24.9	N 1 25.4	141 15.2	11.4	S15 43.2	13.1	57.5
Y								
	12	358 25.1	N 1 26.4	155 45.7	11.4	S15 56.2	13.0	57.4
	13	13 25.2	N 1 27.4	170 16.0	11.4	S16 09.1	12.9	57.4
	14	28 25.4	N 1 28.3	184 46.4	11.4	S16 21.9	12.8	57.4
	15	43 25.6	N 1 29.3	199 16.7	11.3	S16 34.6	12.7	57.3
	16	58 25.8	N 1 30.3	213 47.0	11.3	S16 47.2	12.6	57.3
	17	73 26.0	N 1 31.3	228 17.3	11.3	S16 59.7	12.5	57.3
	18	88 26.2	N 1 32.3	242 47.5	11.2	S17 12.2	12.4	57.2
	19	103 26.4	N 1 33.3	257 17.7	11.2	S17 24.5	12.3	57.2
	20	118 26.6	N 1 34.2	271 47.8	11.2	S17 36.7	12.2	57.2
	21	133 26.8	N 1 35.2	286 17.9	11.1	S17 48.8	12.1	57.2
	22	148 26.9	N 1 36.2	300 48.0	11.1	S18 00.8	12.0	57.1
	23	163 27.1	N 1 37.2	315 18.1	11.0	S18 12.7	11.9	57.1
25	0	178 27.3	N 1 38.2	329 48.1	11.0	S18 24.5	11.8	57.1
	1	193 27.5	N 1 39.2	344 18.1	11.0	S18 36.2	11.7	57.0
	2	208 27.7	N 1 40.1	358 48.0	10.9	S18 47.7	11.6	57.0
	3	223 27.9	N 1 41.1	13 17.9	10.9	S18 59.2	11.5	57.0
	4	238 28.1	N 1 42.1	27 47.8	10.9	S19 10.6	11.4	56.9
T	5	253 28.3	N 1 43.1	42 17.6	10.8	S19 21.8	11.3	56.9
H								
U	6	268 28.5	N 1 44.1	56 47.4	10.8	S19 33.0	11.1	56.9
R	7	283 28.6	N 1 45.1	71 17.2	10.8	S19 44.0	11.0	56.8
S	8	298 28.8	N 1 46.0	85 46.9	10.7	S19 54.9	10.9	56.8
D	9	313 29.0	N 1 47.0	100 16.6	10.7	S20 05.7	10.8	56.8
A	10	328 29.2	N 1 48.0	114 46.3	10.7	S20 16.4	10.7	56.7
Y	11	343 29.4	N 1 49.0	129 15.9	10.6	S20 27.0	10.6	56.7
	12	358 29.6	N 1 50.0	143 45.5	10.6	S20 37.5	10.5	56.7
	13	13 29.8	N 1 51.0	158 15.0	10.5	S20 47.8	10.3	56.6
	14	28 30.0	N 1 51.9	172 44.5	10.5	S20 58.0	10.2	56.6
	15	43 30.2	N 1 52.9	187 14.0	10.5	S21 08.2	10.1	56.6
	16	58 30.3	N 1 53.9	201 43.4	10.4	S21 18.1	10.0	56.6
	17	73 30.5	N 1 54.9	216 12.8	10.4	S21 28.0	9.9	56.5
	18	88 30.7	N 1 55.9	230 42.2	10.4	S21 37.8	9.8	56.5
	19	103 30.9	N 1 56.8	245 11.6	10.3	S21 47.4	9.6	56.5
	20	118 31.1	N 1 57.8	259 40.9	10.3	S21 56.9	9.5	56.4
	21	133 31.3	N 1 58.8	274 10.1	10.3	S22 06.3	9.4	56.4
	22	148 31.5	N 1 59.8	288 39.4	10.2	S22 15.6	9.3	56.4
	23	163 31.7	N 2 00.8	303 08.5	10.2	S22 24.7	9.1	56.3
		S.D. 16.0	d 1.0	S.D. 15.9		15.7	15.4	

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.9
Achernar	335 19.4	S57 06.0
Acrux	172 57.4	S63 15.1
Adhara	255 04.4	S29 00.8
Albireo	67 02.7	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.8	N55 48.6
Alkaid	152 50.1	N49 10.4
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 35.9	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.0	N26 37.1
Alpheratz	357 33.3	N29 14.4
Altair	61 58.3	N 8 56.2
Ankaa	353 05.7	S42 09.6
Antares	112 13.5	S26 29.6
Arcturus	145 46.0	N19 02.2
Atria	107 06.0	S69 04.4
Avior	234 13.7	S59 36.1
Bellatrix	278 21.0	N 6 22.4
Betelgeuse	270 50.1	N 7 24.7
Canopus	263 51.5	S52 42.9
Capella	280 19.3	N46 01.7
Castor	245 54.6	N31 49.8
Deneb	49 24.8	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.2
Elnath	277 59.7	N28 37.8
Eltanin	90 41.3	N51 28.7
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 49.1	S57 16.1
Gienah	175 41.4	S17 41.8
Hadar	148 33.0	S60 30.3
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.1	S34 22.3
Kochab	137 19.1	N74 02.3
Markab	13 28.4	N15 21.0
Menkar	314 04.5	N 4 11.7
Menkent	147 55.2	S36 30.4
Miaplacidus	221 37.2	S69 50.0
Mirfak	308 26.0	N49 57.6
Nunki	75 45.6	S26 15.7
Peacock	53 03.1	S56 38.7
Polaris	316 08.4	N89 22.3
Pollux	243 14.9	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.8	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.4	S60 56.8
Sabik	102 00.6	S15 45.6
Schedar	349 29.5	N56 41.2
Shaula	96 07.8	S37 07.4
Sirius	258 24.6	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.7	S43 32.8
Vega	80 32.0	N38 48.2
Zuben-ubi	136 54.7	S16 09.5

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
26	0	183 13.2	211 17.2	S12 14.7	38 28.1	N17 43.5	42 55.6	N16 35.6	167 33.2	N 4 15.3
	1	198 15.6	226 16.7	S12 13.7	53 30.8	N17 43.5	57 58.2	N16 35.6	182 35.4	N 4 15.4
	2	213 18.1	241 16.3	S12 12.8	68 33.5	N17 43.5	73 00.8	N16 35.6	197 37.6	N 4 15.6
	3	228 20.5	256 15.8	S12 11.8	83 36.3	N17 43.4	88 03.4	N16 35.7	212 39.8	N 4 15.7
	4	243 23.0	271 15.4	S12 10.9	98 39.0	N17 43.4	103 06.0	N16 35.7	227 41.9	N 4 15.8
F	5	258 25.5	286 14.9	S12 10.0	113 41.7	N17 43.4	118 08.6	N16 35.8	242 44.1	N 4 15.9
R										
I	6	273 27.9	301 14.4	S12 09.0	128 44.3	N17 43.3	133 11.2	N16 35.8	257 46.3	N 4 16.0
D	7	288 30.4	316 14.0	S12 08.1	143 47.0	N17 43.3	148 13.8	N16 35.8	272 48.5	N 4 16.2
A	8	303 32.9	331 13.5	S12 07.1	158 49.7	N17 43.3	163 16.4	N16 35.9	287 50.7	N 4 16.3
Y	9	318 35.3	346 13.1	S12 06.2	173 52.4	N17 43.2	178 19.0	N16 35.9	302 52.8	N 4 16.4
	10	333 37.8	1 12.6	S12 05.2	188 55.1	N17 43.2	193 21.6	N16 36.0	317 55.0	N 4 16.5
	11	348 40.3	16 12.1	S12 04.3	203 57.8	N17 43.2	208 24.3	N16 36.0	332 57.2	N 4 16.7
	12	3 42.7	31 11.7	S12 03.3	219 00.5	N17 43.1	223 26.9	N16 36.0	347 59.4	N 4 16.8
	13	18 45.2	46 11.2	S12 02.4	234 03.2	N17 43.1	238 29.5	N16 36.1	3 01.5	N 4 16.9
	14	33 47.7	61 10.8	S12 01.4	249 05.9	N17 43.1	253 32.1	N16 36.1	18 03.7	N 4 17.0
	15	48 50.1	76 10.3	S12 00.5	264 08.6	N17 43.0	268 34.7	N16 36.1	33 05.9	N 4 17.1
	16	63 52.6	91 09.8	S11 59.5	279 11.2	N17 43.0	283 37.3	N16 36.2	48 08.1	N 4 17.3
	17	78 55.0	106 09.4	S11 58.5	294 13.9	N17 43.0	298 39.9	N16 36.2	63 10.2	N 4 17.4
	18	93 57.5	121 08.9	S11 57.6	309 16.6	N17 42.9	313 42.5	N16 36.3	78 12.4	N 4 17.5
	19	108 60.0	136 08.5	S11 56.6	324 19.3	N17 42.9	328 45.1	N16 36.3	93 14.6	N 4 17.6
	20	124 02.4	151 08.0	S11 55.7	339 22.0	N17 42.8	343 47.7	N16 36.3	108 16.8	N 4 17.7
	21	139 04.9	166 07.6	S11 54.7	354 24.6	N17 42.8	358 50.3	N16 36.4	123 18.9	N 4 17.9
	22	154 07.4	181 07.1	S11 53.8	9 27.3	N17 42.8	13 52.8	N16 36.4	138 21.1	N 4 18.0
	23	169 09.8	196 06.6	S11 52.8	24 30.0	N17 42.7	28 55.4	N16 36.5	153 23.3	N 4 18.1
27	0	184 12.3	211 06.2	S11 51.8	39 32.7	N17 42.7	43 58.0	N16 36.5	168 25.5	N 4 18.2
	1	199 14.8	226 05.7	S11 50.9	54 35.3	N17 42.6	59 00.6	N16 36.5	183 27.6	N 4 18.3
	2	214 17.2	241 05.3	S11 49.9	69 38.0	N17 42.6	74 03.2	N16 36.6	198 29.8	N 4 18.5
	3	229 19.7	256 04.8	S11 49.0	84 40.7	N17 42.6	89 05.8	N16 36.6	213 32.0	N 4 18.6
	4	244 22.2	271 04.4	S11 48.0	99 43.4	N17 42.5	104 08.4	N16 36.6	228 34.2	N 4 18.7
S	5	259 24.6	286 03.9	S11 47.1	114 46.0	N17 42.5	119 11.0	N16 36.7	243 36.3	N 4 18.8
A										
T	6	274 27.1	301 03.5	S11 46.1	129 48.7	N17 42.4	134 13.6	N16 36.7	258 38.5	N 4 18.9
U	7	289 29.5	316 03.0	S11 45.1	144 51.4	N17 42.4	149 16.2	N16 36.8	273 40.7	N 4 19.1
R	8	304 32.0	331 02.6	S11 44.2	159 54.0	N17 42.4	164 18.8	N16 36.8	288 42.9	N 4 19.2
D	9	319 34.5	346 02.1	S11 43.2	174 56.7	N17 42.3	179 21.4	N16 36.8	303 45.0	N 4 19.3
A	10	334 36.9	1 01.7	S11 42.2	189 59.3	N17 42.3	194 24.0	N16 36.9	318 47.2	N 4 19.4
Y	11	349 39.4	16 01.2	S11 41.3	205 02.0	N17 42.2	209 26.6	N16 36.9	333 49.4	N 4 19.5
	12	4 41.9	31 00.7	S11 40.3	220 04.7	N17 42.2	224 29.2	N16 36.9	348 51.6	N 4 19.7
	13	19 44.3	46 00.3	S11 39.3	235 07.3	N17 42.1	239 31.8	N16 37.0	3 53.7	N 4 19.8
	14	34 46.8	60 59.8	S11 38.4	250 10.0	N17 42.1	254 34.4	N16 37.0	18 55.9	N 4 19.9
	15	49 49.3	75 59.4	S11 37.4	265 12.6	N17 42.0	269 37.0	N16 37.0	33 58.1	N 4 20.0
	16	64 51.7	90 58.9	S11 36.4	280 15.3	N17 42.0	284 39.6	N16 37.1	49 00.3	N 4 20.2
	17	79 54.2	105 58.5	S11 35.5	295 17.9	N17 42.0	299 42.2	N16 37.1	64 02.4	N 4 20.3
	18	94 56.7	120 58.0	S11 34.5	310 20.6	N17 41.9	314 44.8	N16 37.2	79 04.6	N 4 20.4
	19	109 59.1	135 57.6	S11 33.5	325 23.2	N17 41.9	329 47.3	N16 37.2	94 06.8	N 4 20.5
	20	125 01.6	150 57.1	S11 32.6	340 25.9	N17 41.8	344 49.9	N16 37.2	109 09.0	N 4 20.6
	21	140 04.0	165 56.7	S11 31.6	355 28.5	N17 41.8	359 52.5	N16 37.3	124 11.1	N 4 20.8
	22	155 06.5	180 56.2	S11 30.6	10 31.2	N17 41.7	14 55.1	N16 37.3	139 13.3	N 4 20.9
	23	170 09.0	195 55.8	S11 29.7	25 33.8	N17 41.7	29 57.7	N16 37.3	154 15.5	N 4 21.0
28	0	185 11.4	210 55.4	S11 28.7	40 36.4	N17 41.6	45 00.3	N16 37.4	169 17.7	N 4 21.1
	1	200 13.9	225 54.9	S11 27.7	55 39.1	N17 41.6	60 02.9	N16 37.4	184 19.8	N 4 21.2
	2	215 16.4	240 54.5	S11 26.7	70 41.7	N17 41.5	75 05.5	N16 37.4	199 22.0	N 4 21.4
	3	230 18.8	255 54.0	S11 25.8	85 44.4	N17 41.5	90 08.1	N16 37.5	214 24.2	N 4 21.5
	4	245 21.3	270 53.6	S11 24.8	100 47.0	N17 41.4	105 10.7	N16 37.5	229 26.4	N 4 21.6
S	5	260 23.8	285 53.1	S11 23.8	115 49.6	N17 41.4	120 13.2	N16 37.5	244 28.5	N 4 21.7
U										
N	6	275 26.2	300 52.7	S11 22.8	130 52.3	N17 41.3	135 15.8	N16 37.6	259 30.7	N 4 21.8
D	7	290 28.7	315 52.2	S11 21.9	145 54.9	N17 41.2	150 18.4	N16 37.6	274 32.9	N 4 22.0
A	8	305 31.1	330 51.8	S11 20.9	160 57.5	N17 41.2	165 21.0	N16 37.7	289 35.1	N 4 22.1
Y	9	320 33.6	345 51.3	S11 19.9	176 00.2	N17 41.1	180 23.6	N16 37.7	304 37.2	N 4 22.2
	10	335 36.1	0 50.9	S11 18.9	191 02.8	N17 41.1	195 26.2	N16 37.7	319 39.4	N 4 22.3
	11	350 38.5	15 50.4	S11 18.0	206 05.4	N17 41.0	210 28.8	N16 37.8	334 41.6	N 4 22.4
	12	5 41.0	30 50.0	S11 17.0	221 08.0	N17 41.0	225 31.4	N16 37.8	349 43.8	N 4 22.6
	13	20 43.5	45 49.6	S11 16.0	236 10.7	N17 40.9	240 33.9	N16 37.8	4 45.9	N 4 22.7
	14	35 45.9	60 49.1	S11 15.0	251 13.3	N17 40.9	255 36.5	N16 37.9	19 48.1	N 4 22.8
	15	50 48.4	75 48.7	S11 14.0	266 15.9	N17 40.8	270 39.1	N16 37.9	34 50.3	N 4 22.9
	16	65 50.9	90 48.2	S11 13.1	281 18.5	N17 40.8	285 41.7	N16 37.9	49 52.5	N 4 23.1
	17	80 53.3	105 47.8	S11 12.1	296 21.2	N17 40.7	300 44.3	N16 38.0	64 54.6	N 4 23.2
	18	95 55.8	120 47.3	S11 11.1	311 23.8	N17 40.6	315 46.9	N16 38.0	79 56.8	N 4 23.3
	19	110 58.3	135 46.9	S11 10.1	326 26.4	N17 40.6	330 49.5	N16 38.0	94 59.0	N 4 23.4
	20	126 00.7	150 46.5	S11 09.1	341 29.0	N17 40.5	345 52.0	N16 38.1	110 01.2	N 4 23.5
	21	141 03.2	165 46.0	S11 08.1	356 31.6	N17 40.5	0 54.6	N16 38.1	125 03.3	N 4 23.7
	22	156 05.6	180 45.6	S11 07.2	11 34.2	N17 40.4	15 57.2	N16 38.1	140 05.5	N 4 23.8
	23	171 08.1	195 45.1	S11 06.2	26 36.8	N17 40.3	30 59.8	N16 38.2	155 07.7	N 4 23.9
			v -0.5	d 1.0	v 2.7	d 0.0	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
26	0	178 31.9	N 2 01.8	317 37.7	10.2	S22 33.7	9.0	56.3
	1	193 32.0	N 2 02.7	332 06.8	10.1	S22 42.6	8.9	56.3
	2	208 32.2	N 2 03.7	346 35.9	10.1	S22 51.4	8.8	56.2
	3	223 32.4	N 2 04.7	1 05.0	10.1	S23 00.0	8.6	56.2
	4	238 32.6	N 2 05.7	15 34.0	10.0	S23 08.5	8.5	56.2
F	5	253 32.8	N 2 06.7	30 03.0	10.0	S23 16.9	8.4	56.2
R								
I	6	268 33.0	N 2 07.6	44 32.0	10.0	S23 25.2	8.3	56.1
D	7	283 33.2	N 2 08.6	59 00.9	9.9	S23 33.3	8.1	56.1
A	8	298 33.4	N 2 09.6	73 29.8	9.9	S23 41.3	8.0	56.1
Y	9	313 33.6	N 2 10.6	87 58.7	9.9	S23 49.2	7.9	56.0
	10	328 33.7	N 2 11.6	102 27.6	9.8	S23 56.9	7.7	56.0
	11	343 33.9	N 2 12.5	116 56.4	9.8	S24 04.5	7.6	56.0
	12	358 34.1	N 2 13.5	131 25.2	9.8	S24 12.0	7.5	56.0
	13	13 34.3	N 2 14.5	145 53.9	9.8	S24 19.3	7.3	55.9
	14	28 34.5	N 2 15.5	160 22.7	9.7	S24 26.5	7.2	55.9
	15	43 34.7	N 2 16.5	174 51.4	9.7	S24 33.6	7.1	55.9
	16	58 34.9	N 2 17.5	189 20.1	9.7	S24 40.6	6.9	55.8
	17	73 35.1	N 2 18.4	203 48.7	9.7	S24 47.4	6.8	55.8
	18	88 35.3	N 2 19.4	218 17.4	9.6	S24 54.1	6.7	55.8
	19	103 35.5	N 2 20.4	232 46.0	9.6	S25 00.6	6.5	55.8
	20	118 35.6	N 2 21.4	247 14.5	9.6	S25 07.0	6.4	55.7
	21	133 35.8	N 2 22.4	261 43.1	9.6	S25 13.3	6.3	55.7
	22	148 36.0	N 2 23.3	276 11.7	9.5	S25 19.4	6.1	55.7
	23	163 36.2	N 2 24.3	290 40.2	9.5	S25 25.4	6.0	55.6
27	0	178 36.4	N 2 25.3	305 08.7	9.5	S25 31.3	5.9	55.6
	1	193 36.6	N 2 26.3	319 37.1	9.5	S25 37.0	5.7	55.6
	2	208 36.8	N 2 27.3	334 05.6	9.5	S25 42.6	5.6	55.6
	3	223 37.0	N 2 28.2	348 34.1	9.4	S25 48.1	5.5	55.5
	4	238 37.2	N 2 29.2	3 02.5	9.4	S25 53.4	5.3	55.5
S	5	253 37.3	N 2 30.2	17 30.9	9.4	S25 58.6	5.2	55.5
A								
T	6	268 37.5	N 2 31.2	31 59.3	9.4	S26 03.6	5.0	55.5
U	7	283 37.7	N 2 32.1	46 27.7	9.4	S26 08.5	4.9	55.4
R	8	298 37.9	N 2 33.1	60 56.0	9.4	S26 13.3	4.8	55.4
D	9	313 38.1	N 2 34.1	75 24.4	9.4	S26 17.9	4.6	55.4
A	10	328 38.3	N 2 35.1	89 52.7	9.3	S26 22.4	4.5	55.4
Y	11	343 38.5	N 2 36.1	104 21.1	9.3	S26 26.7	4.3	55.3
	12	358 38.7	N 2 37.0	118 49.4	9.3	S26 30.9	4.2	55.3
	13	13 38.9	N 2 38.0	133 17.7	9.3	S26 35.0	4.1	55.3
	14	28 39.0	N 2 39.0	147 46.0	9.3	S26 38.9	3.9	55.3
	15	43 39.2	N 2 40.0	162 14.3	9.3	S26 42.7	3.8	55.2
	16	58 39.4	N 2 41.0	176 42.6	9.3	S26 46.3	3.6	55.2
	17	73 39.6	N 2 41.9	191 10.9	9.3	S26 49.9	3.5	55.2
	18	88 39.8	N 2 42.9	205 39.2	9.3	S26 53.2	3.4	55.2
	19	103 40.0	N 2 43.9	220 07.5	9.3	S26 56.4	3.2	55.1
	20	118 40.2	N 2 44.9	234 35.7	9.3	S26 59.5	3.1	55.1
	21	133 40.4	N 2 45.8	249 04.0	9.3	S27 02.5	2.9	55.1
	22	148 40.6	N 2 46.8	263 32.3	9.3	S27 05.3	2.8	55.1
	23	163 40.7	N 2 47.8	278 00.6	9.3	S27 07.9	2.7	55.1
28	0	178 40.9	N 2 48.8	292 28.9	9.3	S27 10.5	2.5	55.0
	1	193 41.1	N 2 49.8	306 57.2	9.3	S27 12.9	2.4	55.0
	2	208 41.3	N 2 50.7	321 25.5	9.3	S27 15.1	2.2	55.0
	3	223 41.5	N 2 51.7	335 53.8	9.3	S27 17.2	2.1	55.0
	4	238 41.7	N 2 52.7	350 22.1	9.3	S27 19.2	2.0	55.0
S	5	253 41.9	N 2 53.7	4 50.4	9.3	S27 21.0	1.8	54.9
U								
N	6	268 42.1	N 2 54.6	19 18.7	9.3	S27 22.7	1.7	54.9
D	7	283 42.3	N 2 55.6	33 47.0	9.3	S27 24.2	1.5	54.9
A	8	298 42.4	N 2 56.6	48 15.4	9.3	S27 25.6	1.4	54.9
Y	9	313 42.6	N 2 57.6	62 43.7	9.4	S27 26.9	1.3	54.9
	10	328 42.8	N 2 58.6	77 12.1	9.4	S27 28.0	1.1	54.8
	11	343 43.0	N 2 59.5	91 40.5	9.4	S27 29.0	1.0	54.8
	12	358 43.2	N 3 00.5	106 08.9	9.4	S27 29.9	0.8	54.8
	13	13 43.4	N 3 01.5	120 37.3	9.4	S27 30.6	0.7	54.8
	14	28 43.6	N 3 02.5	135 05.7	9.4	S27 31.1	0.6	54.8
	15	43 43.8	N 3 03.4	149 34.2	9.4	S27 31.6	0.4	54.7
	16	58 44.0	N 3 04.4	164 02.6	9.5	S27 31.9	0.3	54.7
	17	73 44.1	N 3 05.4	178 31.1	9.5	S27 32.0	0.2	54.7
	18	88 44.3	N 3 06.4	192 59.6	9.5	S27 32.0	0.0	54.7
	19	103 44.5	N 3 07.3	207 28.2	9.5	S27 31.9	0.1	54.7
	20	118 44.7	N 3 08.3	221 56.7	9.6	S27 31.7	0.3	54.7
	21	133 44.9	N 3 09.3	236 25.3	9.6	S27 31.3	0.4	54.6
	22	148 45.1	N 3 10.3	250 53.9	9.6	S27 30.7	0.5	54.6
	23	163 45.3	N 3 11.2	265 22.5	9.6	S27 30.1	0.7	54.6
		S.D. 16.0	d 1.0	S.D.	15.2	15.1	14.9	

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.9
Achernar	335 19.4	S57 06.0
Acrux	172 57.4	S63 15.1
Adhara	255 04.4	S29 00.8
Albireo	67 02.7	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.8	N55 48.6
Alkaid	152 50.1	N49 10.4
Al Na-ir	27 31.0	S46 49.7
Alnilam	275 35.9	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 02.0	N26 37.1
Alpheratz	357 33.3	N29 14.4
Altair	61 58.3	N 8 56.2
Ankaa	353 05.7	S42 09.5
Antares	112 13.4	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.9	S69 04.4
Avior	234 13.7	S59 36.1
Bellatrix	278 21.0	N 6 22.4
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 51.6	S52 42.9
Capella	280 19.3	N46 01.7
Castor	245 54.6	N31 49.8
Deneb	49 24.8	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.3
Dubhe	193 38.1	N61 36.2
Elnath	277 59.7	N28 37.8
Eltanin	90 41.3	N51 28.7
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 49.1	S57 16.1
Gienah	175 41.4	S17 41.8
Hadar	148 32.9	S60 30.3
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.1	S34 22.3
Kochab	137 19.1	N74 02.3
Markab	13 28.4	N15 21.0
Menkar	314 04.5	N 4 11.7
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.2	S69 50.0
Mirfak	308 26.0	N49 57.6
Nunki	75 45.5	S26 15.7
Peacock	53 03.1	S56 38.7
Polaris	316 08.8	N89 22.3
Pollux	243 15.0	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.8	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.4	S60 56.8
Sabik	102 00.6	S15 45.6
Schedar	349 29.5	N56 41.2
Shaula	96 07.8	S37 07.4
Sirius	258 24.6	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.7	S43 32.8
Vega	80 32.0	N38 48.2
Zuben-ubi	136 54.6	S16 09.5

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
29 0	186 10.6	210 44.7	S11 05.2	41 39.5	N17 40.3	46 02.4	N16 38.2	170 09.9	N 4 24.0
1	201 13.0	225 44.3	S11 04.2	56 42.1	N17 40.2	61 05.0	N16 38.2	185 12.0	N 4 24.1
2	216 15.5	240 43.8	S11 03.2	71 44.7	N17 40.2	76 07.5	N16 38.3	200 14.2	N 4 24.3
3	231 18.0	255 43.4	S11 02.2	86 47.3	N17 40.1	91 10.1	N16 38.3	215 16.4	N 4 24.4
4	246 20.4	270 42.9	S11 01.2	101 49.9	N17 40.0	106 12.7	N16 38.3	230 18.6	N 4 24.5
M 5	261 22.9	285 42.5	S11 00.3	116 52.5	N17 40.0	121 15.3	N16 38.4	245 20.7	N 4 24.6
O									
N 6	276 25.4	300 42.1	S10 59.3	131 55.1	N17 39.9	136 17.9	N16 38.4	260 22.9	N 4 24.7
D 7	291 27.8	315 41.6	S10 58.3	146 57.7	N17 39.8	151 20.4	N16 38.4	275 25.1	N 4 24.9
A 8	306 30.3	330 41.2	S10 57.3	162 00.3	N17 39.8	166 23.0	N16 38.5	290 27.3	N 4 25.0
Y 9	321 32.8	345 40.7	S10 56.3	177 02.9	N17 39.7	181 25.6	N16 38.5	305 29.4	N 4 25.1
10	336 35.2	0 40.3	S10 55.3	192 05.5	N17 39.7	196 28.2	N16 38.5	320 31.6	N 4 25.2
11	351 37.7	15 39.9	S10 54.3	207 08.1	N17 39.6	211 30.8	N16 38.5	335 33.8	N 4 25.3
12	6 40.1	30 39.4	S10 53.3	222 10.7	N17 39.5	226 33.3	N16 38.6	350 36.0	N 4 25.5
13	21 42.6	45 39.0	S10 52.3	237 13.3	N17 39.5	241 35.9	N16 38.6	5 38.1	N 4 25.6
14	36 45.1	60 38.6	S10 51.3	252 15.9	N17 39.4	256 38.5	N16 38.6	20 40.3	N 4 25.7
15	51 47.5	75 38.1	S10 50.3	267 18.5	N17 39.3	271 41.1	N16 38.7	35 42.5	N 4 25.8
16	66 50.0	90 37.7	S10 49.4	282 21.0	N17 39.3	286 43.7	N16 38.7	50 44.7	N 4 26.0
17	81 52.5	105 37.3	S10 48.4	297 23.6	N17 39.2	301 46.2	N16 38.7	65 46.8	N 4 26.1
18	96 54.9	120 36.8	S10 47.4	312 26.2	N17 39.1	316 48.8	N16 38.8	80 49.0	N 4 26.2
19	111 57.4	135 36.4	S10 46.4	327 28.8	N17 39.1	331 51.4	N16 38.8	95 51.2	N 4 26.3
20	126 59.9	150 36.0	S10 45.4	342 31.4	N17 39.0	346 54.0	N16 38.8	110 53.3	N 4 26.4
21	142 02.3	165 35.5	S10 44.4	357 34.0	N17 38.9	1 56.5	N16 38.9	125 55.5	N 4 26.6
22	157 04.8	180 35.1	S10 43.4	12 36.5	N17 38.8	16 59.1	N16 38.9	140 57.7	N 4 26.7
23	172 07.2	195 34.7	S10 42.4	27 39.1	N17 38.8	32 01.7	N16 38.9	155 59.9	N 4 26.8
30 0	187 09.7	210 34.2	S10 41.4	42 41.7	N17 38.7	47 04.3	N16 39.0	171 02.0	N 4 26.9
1	202 12.2	225 33.8	S10 40.4	57 44.3	N17 38.6	62 06.8	N16 39.0	186 04.2	N 4 27.0
2	217 14.6	240 33.4	S10 39.4	72 46.9	N17 38.6	77 09.4	N16 39.0	201 06.4	N 4 27.2
3	232 17.1	255 32.9	S10 38.4	87 49.4	N17 38.5	92 12.0	N16 39.0	216 08.6	N 4 27.3
4	247 19.6	270 32.5	S10 37.4	102 52.0	N17 38.4	107 14.6	N16 39.1	231 10.7	N 4 27.4
T 5	262 22.0	285 32.1	S10 36.4	117 54.6	N17 38.3	122 17.1	N16 39.1	246 12.9	N 4 27.5
U									
E 6	277 24.5	300 31.6	S10 35.4	132 57.2	N17 38.3	137 19.7	N16 39.1	261 15.1	N 4 27.6
S 7	292 27.0	315 31.2	S10 34.4	147 59.7	N17 38.2	152 22.3	N16 39.2	276 17.3	N 4 27.8
D 8	307 29.4	330 30.8	S10 33.4	163 02.3	N17 38.1	167 24.9	N16 39.2	291 19.4	N 4 27.9
A 9	322 31.9	345 30.3	S10 32.4	178 04.9	N17 38.1	182 27.4	N16 39.2	306 21.6	N 4 28.0
Y 10	337 34.4	0 29.9	S10 31.4	193 07.4	N17 38.0	197 30.0	N16 39.3	321 23.8	N 4 28.1
11	352 36.8	15 29.5	S10 30.4	208 10.0	N17 37.9	212 32.6	N16 39.3	336 26.0	N 4 28.2
12	7 39.3	30 29.0	S10 29.4	223 12.6	N17 37.8	227 35.1	N16 39.3	351 28.1	N 4 28.4
13	22 41.7	45 28.6	S10 28.4	238 15.1	N17 37.7	242 37.7	N16 39.3	6 30.3	N 4 28.5
14	37 44.2	60 28.2	S10 27.4	253 17.7	N17 37.7	257 40.3	N16 39.4	21 32.5	N 4 28.6
15	52 46.7	75 27.8	S10 26.3	268 20.2	N17 37.6	272 42.9	N16 39.4	36 34.7	N 4 28.7
16	67 49.1	90 27.3	S10 25.3	283 22.8	N17 37.5	287 45.4	N16 39.4	51 36.8	N 4 28.9
17	82 51.6	105 26.9	S10 24.3	298 25.4	N17 37.4	302 48.0	N16 39.5	66 39.0	N 4 29.0
18	97 54.1	120 26.5	S10 23.3	313 27.9	N17 37.4	317 50.6	N16 39.5	81 41.2	N 4 29.1
19	112 56.5	135 26.1	S10 22.3	328 30.5	N17 37.3	332 53.1	N16 39.5	96 43.3	N 4 29.2
20	127 59.0	150 25.6	S10 21.3	343 33.0	N17 37.2	347 55.7	N16 39.5	111 45.5	N 4 29.3
21	143 01.5	165 25.2	S10 20.3	358 35.6	N17 37.1	2 58.3	N16 39.6	126 47.7	N 4 29.5
22	158 03.9	180 24.8	S10 19.3	13 38.1	N17 37.0	18 00.8	N16 39.6	141 49.9	N 4 29.6
23	173 06.4	195 24.3	S10 18.3	28 40.7	N17 37.0	33 03.4	N16 39.6	156 52.0	N 4 29.7
31 0	188 08.9	210 23.9	S10 17.3	43 43.2	N17 36.9	48 06.0	N16 39.7	171 54.2	N 4 29.8
1	203 11.3	225 23.5	S10 16.3	58 45.8	N17 36.8	63 08.5	N16 39.7	186 56.4	N 4 29.9
2	218 13.8	240 23.1	S10 15.3	73 48.3	N17 36.7	78 11.1	N16 39.7	201 58.6	N 4 30.1
3	233 16.2	255 22.6	S10 14.2	88 50.9	N17 36.6	93 13.7	N16 39.7	217 00.7	N 4 30.2
4	248 18.7	270 22.2	S10 13.2	103 53.4	N17 36.6	108 16.3	N16 39.8	232 02.9	N 4 30.3
W 5	263 21.2	285 21.8	S10 12.2	118 55.9	N17 36.5	123 18.8	N16 39.8	247 05.1	N 4 30.4
E									
D 6	278 23.6	300 21.4	S10 11.2	133 58.5	N17 36.4	138 21.4	N16 39.8	262 07.3	N 4 30.5
N 7	293 26.1	315 20.9	S10 10.2	149 01.0	N17 36.3	153 23.9	N16 39.9	277 09.4	N 4 30.7
E 8	308 28.6	330 20.5	S10 09.2	164 03.6	N17 36.2	168 26.5	N16 39.9	292 11.6	N 4 30.8
S 9	323 31.0	345 20.1	S10 08.2	179 06.1	N17 36.1	183 29.1	N16 39.9	307 13.8	N 4 30.9
D 10	338 33.5	0 19.7	S10 07.1	194 08.6	N17 36.1	198 31.6	N16 39.9	322 15.9	N 4 31.0
A 11	353 36.0	15 19.3	S10 06.1	209 11.2	N17 36.0	213 34.2	N16 40.0	337 18.1	N 4 31.1
Y									
12	8 38.4	30 18.8	S10 05.1	224 13.7	N17 35.9	228 36.8	N16 40.0	352 20.3	N 4 31.3
13	23 40.9	45 18.4	S10 04.1	239 16.2	N17 35.8	243 39.3	N16 40.0	7 22.5	N 4 31.4
14	38 43.4	60 18.0	S10 03.1	254 18.8	N17 35.7	258 41.9	N16 40.0	22 24.6	N 4 31.5
15	53 45.8	75 17.6	S10 02.1	269 21.3	N17 35.6	273 44.5	N16 40.1	37 26.8	N 4 31.6
16	68 48.3	90 17.1	S10 01.0	284 23.8	N17 35.5	288 47.0	N16 40.1	52 29.0	N 4 31.7
17	83 50.7	105 16.7	S10 00.0	299 26.3	N17 35.5	303 49.6	N16 40.1	67 31.2	N 4 31.9
18	98 53.2	120 16.3	S 9 59.0	314 28.9	N17 35.4	318 52.1	N16 40.2	82 33.3	N 4 32.0
19	113 55.7	135 15.9	S 9 58.0	329 31.4	N17 35.3	333 54.7	N16 40.2	97 35.5	N 4 32.1
20	128 58.1	150 15.5	S 9 57.0	344 33.9	N17 35.2	348 57.3	N16 40.2	112 37.7	N 4 32.2
21	144 00.6	165 15.0	S 9 55.9	359 36.4	N17 35.1	3 59.8	N16 40.2	127 39.9	N 4 32.4
22	159 03.1	180 14.6	S 9 54.9	14 39.0	N17 35.0	19 02.4	N16 40.3	142 42.0	N 4 32.5
23	174 05.5	195 14.2	S 9 53.9	29 41.5	N17 34.9	34 05.0	N16 40.3	157 44.2	N 4 32.6
		v -0.4	d 1.0	v 2.6	d 0.1	v 2.6	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
	° '	° '	° '	'	° '	'	'		° ' ° '
29 0	178 45.5	N 3 12.2	279 51.2	9.7	S27 29.3	0.8	54.6	Acamar	315 10.7 S40 11.9
1	193 45.7	N 3 13.2	294 19.9	9.7	S27 28.3	0.9	54.6	Achernar	335 19.4 S57 06.0
2	208 45.8	N 3 14.2	308 48.6	9.7	S27 27.3	1.1	54.6	Acrux	172 57.4 S63 15.1
3	223 46.0	N 3 15.1	323 17.4	9.7	S27 26.1	1.2	54.6	Adhara	255 04.4 S29 00.8
4	238 46.2	N 3 16.1	337 46.1	9.8	S27 24.7	1.3	54.5	Albireo	67 02.7 N28 00.7
M 5	253 46.4	N 3 17.1	352 15.0	9.8	S27 23.2	1.5	54.5		
O								Aldebaran	290 37.7 N16 33.8
N 6	268 46.6	N 3 18.1	6 43.8	9.8	S27 21.6	1.6	54.5	Alioth	166 10.8 N55 48.6
D 7	283 46.8	N 3 19.0	21 12.7	9.9	S27 19.9	1.7	54.5	Alkaid	152 50.1 N49 10.4
A 8	298 47.0	N 3 20.0	35 41.6	9.9	S27 18.0	1.9	54.5	Al Na-ir	27 30.9 S46 49.6
Y 9	313 47.2	N 3 21.0	50 10.5	9.9	S27 16.0	2.0	54.5	Alnilam	275 35.9 S 1 11.2
10	328 47.3	N 3 22.0	64 39.5	10.0	S27 13.9	2.1	54.5		
11	343 47.5	N 3 22.9	79 08.6	10.0	S27 11.6	2.3	54.5	Alphard	217 45.7 S 8 46.8
								Alphecca	126 01.9 N26 37.1
12	358 47.7	N 3 23.9	93 37.6	10.1	S27 09.2	2.4	54.4	Alpheratz	357 33.2 N29 14.4
13	13 47.9	N 3 24.9	108 06.7	10.1	S27 06.7	2.5	54.4	Altair	61 58.3 N 8 56.2
14	28 48.1	N 3 25.9	122 35.9	10.1	S27 04.0	2.7	54.4	Ankaa	353 05.7 S42 09.5
15	43 48.3	N 3 26.8	137 05.0	10.2	S27 01.2	2.8	54.4		
16	58 48.5	N 3 27.8	151 34.3	10.2	S26 58.3	2.9	54.4	Antares	112 13.4 S26 29.6
17	73 48.7	N 3 28.8	166 03.5	10.3	S26 55.2	3.1	54.4	Arcturus	145 45.9 N19 02.2
								Atria	107 05.9 S69 04.4
18	88 48.9	N 3 29.8	180 32.8	10.3	S26 52.1	3.2	54.4	Avior	234 13.7 S59 36.1
19	103 49.0	N 3 30.7	195 02.2	10.4	S26 48.7	3.3	54.4	Bellatrix	278 21.0 N 6 22.4
20	118 49.2	N 3 31.7	209 31.6	10.4	S26 45.3	3.4	54.4		
21	133 49.4	N 3 32.7	224 01.0	10.4	S26 41.8	3.6	54.4	Betelgeuse	270 50.2 N 7 24.7
22	148 49.6	N 3 33.6	238 30.5	10.5	S26 38.1	3.7	54.3	Canopus	263 51.6 S52 42.9
23	163 49.8	N 3 34.6	253 00.0	10.5	S26 34.3	3.8	54.3	Capella	280 19.4 N46 01.7
30 0	178 50.0	N 3 35.6	267 29.6	10.6	S26 30.3	3.9	54.3	Castor	245 54.6 N31 49.8
1	193 50.2	N 3 36.6	281 59.2	10.6	S26 26.3	4.1	54.3	Deneb	49 24.8 N45 22.4
2	208 50.4	N 3 37.5	296 28.9	10.7	S26 22.1	4.2	54.3		
3	223 50.5	N 3 38.5	310 58.6	10.7	S26 17.8	4.3	54.3	Denebola	182 22.8 N14 25.0
4	238 50.7	N 3 39.5	325 28.4	10.8	S26 13.3	4.4	54.3	Diphda	348 45.8 S17 50.3
T 5	253 50.9	N 3 40.5	339 58.2	10.8	S26 08.8	4.6	54.3	Dubhe	193 38.1 N61 36.2
U								Elnath	277 59.7 N28 37.8
E 6	268 51.1	N 3 41.4	354 28.1	10.9	S26 04.1	4.7	54.3	Eltanin	90 41.3 N51 28.7
S 7	283 51.3	N 3 42.4	8 58.0	10.9	S25 59.3	4.8	54.3	Enif	33 37.2 N 9 59.9
D 8	298 51.5	N 3 43.4	23 28.0	11.0	S25 54.4	4.9	54.3	Fomalhaut	15 12.8 S29 28.7
A 9	313 51.7	N 3 44.3	37 58.0	11.0	S25 49.4	5.0	54.3	Gacrux	171 49.1 S57 16.1
Y 10	328 51.9	N 3 45.3	52 28.1	11.1	S25 44.2	5.2	54.3	Gienah	175 41.4 S17 41.8
11	343 52.0	N 3 46.3	66 58.2	11.1	S25 38.9	5.3	54.3	Hadar	148 32.9 S60 30.3
12	358 52.2	N 3 47.3	81 28.4	11.2	S25 33.6	5.4	54.3	Hamal	327 49.5 N23 35.5
13	13 52.4	N 3 48.2	95 58.7	11.2	S25 28.1	5.5	54.3	Kaus Austr.	83 30.1 S34 22.3
14	28 52.6	N 3 49.2	110 29.0	11.3	S25 22.4	5.6	54.3	Kochab	137 19.0 N74 02.3
15	43 52.8	N 3 50.2	124 59.3	11.3	S25 16.7	5.7	54.2	Markab	13 28.4 N15 21.0
16	58 53.0	N 3 51.1	139 29.7	11.4	S25 10.8	5.9	54.2	Menkar	314 04.5 N 4 11.7
17	73 53.2	N 3 52.1	154 00.1	11.5	S25 04.9	6.0	54.2		
								Menkent	147 55.1 S36 30.4
18	88 53.4	N 3 53.1	168 30.7	11.5	S24 58.8	6.1	54.2	Miaplacidus	221 37.3 S69 50.0
19	103 53.5	N 3 54.1	183 01.2	11.6	S24 52.6	6.2	54.2	Mirfak	308 26.0 N49 57.6
20	118 53.7	N 3 55.0	197 31.8	11.6	S24 46.3	6.3	54.2	Nunki	75 45.5 S26 15.7
21	133 53.9	N 3 56.0	212 02.5	11.7	S24 39.9	6.4	54.2	Peacock	53 03.0 S56 38.7
22	148 54.1	N 3 57.0	226 33.2	11.7	S24 33.3	6.5	54.2		
23	163 54.3	N 3 57.9	241 04.0	11.8	S24 26.7	6.6	54.2	Polaris	316 09.2 N89 22.3
31 0	178 54.5	N 3 58.9	255 34.9	11.8	S24 20.0	6.7	54.2	Pollux	243 15.0 N27 57.6
1	193 54.7	N 3 59.9	270 05.8	11.9	S24 13.1	6.9	54.2	Procyon	244 48.8 N 5 09.2
2	208 54.8	N 4 00.8	284 36.7	12.0	S24 06.1	7.0	54.2	Rasalhague	95 56.8 N12 32.2
3	223 55.0	N 4 01.8	299 07.7	12.0	S23 59.0	7.1	54.2	Regulus	207 32.2 N11 49.9
4	238 55.2	N 4 02.8	313 38.8	12.1	S23 51.9	7.2	54.2		
W 5	253 55.4	N 4 03.8	328 09.9	12.1	S23 44.6	7.3	54.2	Rigel	281 02.2 S 8 10.3
E								Rigil Kent	139 37.4 S60 56.9
D 6	268 55.6	N 4 04.7	342 41.1	12.2	S23 37.2	7.4	54.2	Sabik	102 00.6 S15 45.6
N 7	283 55.8	N 4 05.7	357 12.3	12.2	S23 29.7	7.5	54.2	Schedar	349 29.5 N56 41.2
E 8	298 56.0	N 4 06.7	11 43.6	12.3	S23 22.1	7.6	54.2	Shaula	96 07.8 S37 07.4
S 9	313 56.2	N 4 07.6	26 15.0	12.3	S23 14.4	7.7	54.2	Sirius	258 24.6 S16 45.4
D 10	328 56.3	N 4 08.6	40 46.4	12.4	S23 06.6	7.8	54.2	Spica	158 20.1 S11 18.4
A 11	343 56.5	N 4 09.6	55 17.8	12.5	S22 58.7	7.9	54.2	Suhail	222 44.7 S43 32.8
Y								Vega	80 32.0 N38 48.2
12	358 56.7	N 4 10.5	69 49.3	12.5	S22 50.6	8.0	54.2	Zuben-ubi	136 54.6 S16 09.5
13	13 56.9	N 4 11.5	84 20.9	12.6	S22 42.5	8.1	54.3		
14	28 57.1	N 4 12.5	98 52.5	12.6	S22 34.3	8.2	54.3		
15	43 57.3	N 4 13.4	113 24.2	12.7	S22 26.0	8.3	54.3		
16	58 57.5	N 4 14.4	127 56.0	12.7	S22 17.6	8.4	54.3		
17	73 57.6	N 4 15.4	142 27.7	12.8	S22 09.1	8.5	54.3		
18	88 57.8	N 4 16.3	156 59.6	12.9	S22 00.5	8.6	54.3		
19	103 58.0	N 4 17.3	171 31.5	12.9	S21 51.8	8.7	54.3		
20	118 58.2	N 4 18.3	186 03.5	13.0	S21 43.0	8.8	54.3		
21	133 58.4	N 4 19.2	200 35.5	13.0	S21 34.1	8.9	54.3		
22	148 58.6	N 4 20.2	215 07.5	13.1	S21 25.1	9.0	54.3		
23	163 58.8	N 4 21.2	229 39.7	13.1	S21 16.0	9.1	54.3		
	S.D. 16.0	d 1.0	S.D.	14.8	14.8	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 ° '
1	0	189 08.0	210 13.8	S 9 52.9	44 44.0	N17 34.8	49 07.5	N16 40.3	172 46.4	N 4 32.7
	1	204 10.5	225 13.4	S 9 51.8	59 46.5	N17 34.7	64 10.1	N16 40.3	187 48.5	N 4 32.8
	2	219 12.9	240 12.9	S 9 50.8	74 49.0	N17 34.6	79 12.6	N16 40.4	202 50.7	N 4 33.0
	3	234 15.4	255 12.5	S 9 49.8	89 51.5	N17 34.6	94 15.2	N16 40.4	217 52.9	N 4 33.1
	4	249 17.9	270 12.1	S 9 48.8	104 54.0	N17 34.5	109 17.8	N16 40.4	232 55.1	N 4 33.2
T	5	264 20.3	285 11.7	S 9 47.8	119 56.6	N17 34.4	124 20.3	N16 40.4	247 57.2	N 4 33.3
H										
U	6	279 22.8	300 11.3	S 9 46.7	134 59.1	N17 34.3	139 22.9	N16 40.5	262 59.4	N 4 33.4
R	7	294 25.2	315 10.9	S 9 45.7	150 01.6	N17 34.2	154 25.4	N16 40.5	278 01.6	N 4 33.6
S	8	309 27.7	330 10.4	S 9 44.7	165 04.1	N17 34.1	169 28.0	N16 40.5	293 03.8	N 4 33.7
D	9	324 30.2	345 10.0	S 9 43.6	180 06.6	N17 34.0	184 30.5	N16 40.5	308 05.9	N 4 33.8
A	10	339 32.6	0 09.6	S 9 42.6	195 09.1	N17 33.9	199 33.1	N16 40.6	323 08.1	N 4 33.9
Y	11	354 35.1	15 09.2	S 9 41.6	210 11.6	N17 33.8	214 35.7	N16 40.6	338 10.3	N 4 34.0
	12	9 37.6	30 08.8	S 9 40.6	225 14.1	N17 33.7	229 38.2	N16 40.6	353 12.4	N 4 34.2
	13	24 40.0	45 08.4	S 9 39.5	240 16.6	N17 33.6	244 40.8	N16 40.6	8 14.6	N 4 34.3
	14	39 42.5	60 08.0	S 9 38.5	255 19.1	N17 33.5	259 43.3	N16 40.7	23 16.8	N 4 34.4
	15	54 45.0	75 07.5	S 9 37.5	270 21.6	N17 33.4	274 45.9	N16 40.7	38 19.0	N 4 34.5
	16	69 47.4	90 07.1	S 9 36.4	285 24.1	N17 33.3	289 48.4	N16 40.7	53 21.1	N 4 34.6
	17	84 49.9	105 06.7	S 9 35.4	300 26.6	N17 33.2	304 51.0	N16 40.7	68 23.3	N 4 34.8
	18	99 52.3	120 06.3	S 9 34.4	315 29.1	N17 33.1	319 53.5	N16 40.8	83 25.5	N 4 34.9
	19	114 54.8	135 05.9	S 9 33.4	330 31.6	N17 33.0	334 56.1	N16 40.8	98 27.7	N 4 35.0
	20	129 57.3	150 05.5	S 9 32.3	345 34.1	N17 32.9	349 58.6	N16 40.8	113 29.8	N 4 35.1
	21	144 59.7	165 05.1	S 9 31.3	0 36.6	N17 32.8	5 01.2	N16 40.8	128 32.0	N 4 35.2
	22	160 02.2	180 04.6	S 9 30.3	15 39.0	N17 32.7	20 03.8	N16 40.9	143 34.2	N 4 35.4
	23	175 04.7	195 04.2	S 9 29.2	30 41.5	N17 32.6	35 06.3	N16 40.9	158 36.3	N 4 35.5
2	0	190 07.1	210 03.8	S 9 28.2	45 44.0	N17 32.5	50 08.9	N16 40.9	173 38.5	N 4 35.6
	1	205 09.6	225 03.4	S 9 27.2	60 46.5	N17 32.4	65 11.4	N16 40.9	188 40.7	N 4 35.7
	2	220 12.1	240 03.0	S 9 26.1	75 49.0	N17 32.3	80 14.0	N16 40.9	203 42.9	N 4 35.9
	3	235 14.5	255 02.6	S 9 25.1	90 51.5	N17 32.2	95 16.5	N16 41.0	218 45.0	N 4 36.0
	4	250 17.0	270 02.2	S 9 24.0	105 54.0	N17 32.1	110 19.1	N16 41.0	233 47.2	N 4 36.1
F	5	265 19.5	285 01.8	S 9 23.0	120 56.4	N17 32.0	125 21.6	N16 41.0	248 49.4	N 4 36.2
R										
I	6	280 21.9	300 01.4	S 9 22.0	135 58.9	N17 31.9	140 24.2	N16 41.0	263 51.6	N 4 36.3
D	7	295 24.4	315 00.9	S 9 20.9	151 01.4	N17 31.8	155 26.7	N16 41.1	278 53.7	N 4 36.5
A	8	310 26.8	330 00.5	S 9 19.9	166 03.9	N17 31.7	170 29.3	N16 41.1	293 55.9	N 4 36.6
Y	9	325 29.3	345 00.1	S 9 18.9	181 06.3	N17 31.6	185 31.8	N16 41.1	308 58.1	N 4 36.7
	10	340 31.8	359 59.7	S 9 17.8	196 08.8	N17 31.5	200 34.4	N16 41.1	324 00.2	N 4 36.8
	11	355 34.2	14 59.3	S 9 16.8	211 11.3	N17 31.4	215 36.9	N16 41.1	339 02.4	N 4 36.9
	12	10 36.7	29 58.9	S 9 15.7	226 13.8	N17 31.3	230 39.5	N16 41.2	354 04.6	N 4 37.1
	13	25 39.2	44 58.5	S 9 14.7	241 16.2	N17 31.2	245 42.0	N16 41.2	9 06.8	N 4 37.2
	14	40 41.6	59 58.1	S 9 13.7	256 18.7	N17 31.1	260 44.6	N16 41.2	24 08.9	N 4 37.3
	15	55 44.1	74 57.7	S 9 12.6	271 21.2	N17 31.0	275 47.1	N16 41.2	39 11.1	N 4 37.4
	16	70 46.6	89 57.3	S 9 11.6	286 23.6	N17 30.9	290 49.7	N16 41.3	54 13.3	N 4 37.5
	17	85 49.0	104 56.9	S 9 10.5	301 26.1	N17 30.8	305 52.2	N16 41.3	69 15.5	N 4 37.7
	18	100 51.5	119 56.5	S 9 09.5	316 28.6	N17 30.7	320 54.8	N16 41.3	84 17.6	N 4 37.8
	19	115 54.0	134 56.0	S 9 08.5	331 31.0	N17 30.6	335 57.3	N16 41.3	99 19.8	N 4 37.9
	20	130 56.4	149 55.6	S 9 07.4	346 33.5	N17 30.5	350 59.8	N16 41.3	114 22.0	N 4 38.0
	21	145 58.9	164 55.2	S 9 06.4	1 36.0	N17 30.4	6 02.4	N16 41.4	129 24.1	N 4 38.1
	22	161 01.3	179 54.8	S 9 05.3	16 38.4	N17 30.2	21 04.9	N16 41.4	144 26.3	N 4 38.3
	23	176 03.8	194 54.4	S 9 04.3	31 40.9	N17 30.1	36 07.5	N16 41.4	159 28.5	N 4 38.4
3	0	191 06.3	209 54.0	S 9 03.2	46 43.3	N17 30.0	51 10.0	N16 41.4	174 30.7	N 4 38.5
	1	206 08.7	224 53.6	S 9 02.2	61 45.8	N17 29.9	66 12.6	N16 41.4	189 32.8	N 4 38.6
	2	221 11.2	239 53.2	S 9 01.1	76 48.2	N17 29.8	81 15.1	N16 41.5	204 35.0	N 4 38.7
	3	236 13.7	254 52.8	S 9 00.1	91 50.7	N17 29.7	96 17.7	N16 41.5	219 37.2	N 4 38.9
	4	251 16.1	269 52.4	S 8 59.0	106 53.1	N17 29.6	111 20.2	N16 41.5	234 39.3	N 4 39.0
S	5	266 18.6	284 52.0	S 8 58.0	121 55.6	N17 29.5	126 22.7	N16 41.5	249 41.5	N 4 39.1
A										
T	6	281 21.1	299 51.6	S 8 57.0	136 58.0	N17 29.4	141 25.3	N16 41.6	264 43.7	N 4 39.2
U	7	296 23.5	314 51.2	S 8 55.9	152 00.5	N17 29.2	156 27.8	N16 41.6	279 45.9	N 4 39.3
R	8	311 26.0	329 50.8	S 8 54.9	167 02.9	N17 29.1	171 30.4	N16 41.6	294 48.0	N 4 39.5
D	9	326 28.4	344 50.4	S 8 53.8	182 05.4	N17 29.0	186 32.9	N16 41.6	309 50.2	N 4 39.6
A	10	341 30.9	359 50.0	S 8 52.8	197 07.8	N17 28.9	201 35.5	N16 41.6	324 52.4	N 4 39.7
Y	11	356 33.4	14 49.6	S 8 51.7	212 10.3	N17 28.8	216 38.0	N16 41.7	339 54.6	N 4 39.8
	12	11 35.8	29 49.2	S 8 50.7	227 12.7	N17 28.7	231 40.5	N16 41.7	354 56.7	N 4 39.9
	13	26 38.3	44 48.8	S 8 49.6	242 15.1	N17 28.6	246 43.1	N16 41.7	9 58.9	N 4 40.1
	14	41 40.8	59 48.4	S 8 48.6	257 17.6	N17 28.4	261 45.6	N16 41.7	25 01.1	N 4 40.2
	15	56 43.2	74 48.0	S 8 47.5	272 20.0	N17 28.3	276 48.2	N16 41.7	40 03.2	N 4 40.3
	16	71 45.7	89 47.6	S 8 46.4	287 22.5	N17 28.2	291 50.7	N16 41.7	55 05.4	N 4 40.4
	17	86 48.2	104 47.2	S 8 45.4	302 24.9	N17 28.1	306 53.2	N16 41.8	70 07.6	N 4 40.6
	18	101 50.6	119 46.8	S 8 44.3	317 27.3	N17 28.0	321 55.8	N16 41.8	85 09.8	N 4 40.7
	19	116 53.1	134 46.4	S 8 43.3	332 29.8	N17 27.9	336 58.3	N16 41.8	100 11.9	N 4 40.8
	20	131 55.6	149 46.0	S 8 42.2	347 32.2	N17 27.8	352 00.9	N16 41.8	115 14.1	N 4 40.9
	21	146 58.0	164 45.6	S 8 41.2	2 34.6	N17 27.6	7 03.4	N16 41.8	130 16.3	N 4 41.0
	22	162 00.5	179 45.2	S 8 40.1	17 37.1	N17 27.5	22 05.9	N16 41.9	145 18.4	N 4 41.2
	23	177 02.9	194 44.8	S 8 39.1	32 39.5	N17 27.4	37 08.5	N16 41.9	160 20.6	N 4 41.3
			v -0.4	d 1.0	v 2.5	d 0.1	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 '
1	0	178 58.9	N 4 22.1	244 11.8	13.2	S21 06.8	9.2	54.3
	1	193 59.1	N 4 23.1	258 44.1	13.2	S20 57.6	9.3	54.3
	2	208 59.3	N 4 24.1	273 16.4	13.3	S20 48.2	9.4	54.3
	3	223 59.5	N 4 25.0	287 48.7	13.3	S20 38.8	9.4	54.3
	4	238 59.7	N 4 26.0	302 21.1	13.4	S20 29.2	9.5	54.3
T	5	253 59.9	N 4 27.0	316 53.5	13.4	S20 19.6	9.6	54.3
H								
U	6	269 00.1	N 4 27.9	331 26.0	13.5	S20 09.9	9.7	54.4
R	7	284 00.2	N 4 28.9	345 58.6	13.5	S20 00.1	9.8	54.4
S	8	299 00.4	N 4 29.9	0 31.2	13.6	S19 50.2	9.9	54.4
D	9	314 00.6	N 4 30.8	15 03.8	13.6	S19 40.2	10.0	54.4
A	10	329 00.8	N 4 31.8	29 36.5	13.7	S19 30.1	10.1	54.4
Y	11	344 01.0	N 4 32.8	44 09.3	13.7	S19 20.0	10.1	54.4
	12	359 01.2	N 4 33.7	58 42.0	13.8	S19 09.8	10.2	54.4
	13	14 01.4	N 4 34.7	73 14.9	13.8	S18 59.4	10.3	54.4
	14	29 01.5	N 4 35.7	87 47.8	13.9	S18 49.0	10.4	54.4
	15	44 01.7	N 4 36.6	102 20.7	13.9	S18 38.6	10.5	54.4
	16	59 01.9	N 4 37.6	116 53.7	14.0	S18 28.0	10.6	54.4
	17	74 02.1	N 4 38.6	131 26.7	14.0	S18 17.4	10.6	54.5
	18	89 02.3	N 4 39.5	145 59.8	14.1	S18 06.6	10.7	54.5
	19	104 02.5	N 4 40.5	160 33.0	14.1	S17 55.8	10.8	54.5
	20	119 02.7	N 4 41.5	175 06.1	14.2	S17 44.9	10.9	54.5
	21	134 02.8	N 4 42.4	189 39.3	14.2	S17 34.0	11.0	54.5
	22	149 03.0	N 4 43.4	204 12.6	14.3	S17 22.9	11.0	54.5
	23	164 03.2	N 4 44.3	218 45.9	14.3	S17 11.8	11.1	54.5
2	0	179 03.4	N 4 45.3	233 19.2	14.3	S17 00.6	11.2	54.5
	1	194 03.6	N 4 46.3	247 52.6	14.4	S16 49.4	11.3	54.6
	2	209 03.8	N 4 47.2	262 26.1	14.4	S16 38.0	11.3	54.6
	3	224 03.9	N 4 48.2	276 59.5	14.5	S16 26.6	11.4	54.6
	4	239 04.1	N 4 49.2	291 33.0	14.5	S16 15.2	11.5	54.6
F	5	254 04.3	N 4 50.1	306 06.6	14.5	S16 03.6	11.6	54.6
R								
I	6	269 04.5	N 4 51.1	320 40.2	14.6	S15 52.0	11.6	54.6
D	7	284 04.7	N 4 52.0	335 13.8	14.6	S15 40.3	11.7	54.6
A	8	299 04.9	N 4 53.0	349 47.5	14.7	S15 28.5	11.8	54.7
Y	9	314 05.0	N 4 54.0	4 21.2	14.7	S15 16.7	11.8	54.7
	10	329 05.2	N 4 54.9	18 54.9	14.7	S15 04.8	11.9	54.7
	11	344 05.4	N 4 55.9	33 28.7	14.8	S14 52.8	12.0	54.7
	12	359 05.6	N 4 56.9	48 02.5	14.8	S14 40.8	12.0	54.7
	13	14 05.8	N 4 57.8	62 36.3	14.8	S14 28.6	12.1	54.7
	14	29 06.0	N 4 58.8	77 10.2	14.9	S14 16.5	12.2	54.7
	15	44 06.2	N 4 59.7	91 44.1	14.9	S14 04.2	12.2	54.8
	16	59 06.3	N 5 00.7	106 18.0	14.9	S13 51.9	12.3	54.8
	17	74 06.5	N 5 01.7	120 52.0	15.0	S13 39.6	12.4	54.8
	18	89 06.7	N 5 02.6	135 26.0	15.0	S13 27.2	12.4	54.8
	19	104 06.9	N 5 03.6	150 00.0	15.0	S13 14.7	12.5	54.8
	20	119 07.1	N 5 04.5	164 34.1	15.1	S13 02.1	12.5	54.8
	21	134 07.3	N 5 05.5	179 08.2	15.1	S12 49.5	12.6	54.9
	22	149 07.4	N 5 06.5	193 42.3	15.1	S12 36.8	12.7	54.9
	23	164 07.6	N 5 07.4	208 16.4	15.1	S12 24.1	12.7	54.9
3	0	179 07.8	N 5 08.4	222 50.6	15.2	S12 11.3	12.8	54.9
	1	194 08.0	N 5 09.3	237 24.7	15.2	S11 58.5	12.8	54.9
	2	209 08.2	N 5 10.3	251 59.0	15.2	S11 45.6	12.9	55.0
	3	224 08.3	N 5 11.3	266 33.2	15.2	S11 32.6	13.0	55.0
	4	239 08.5	N 5 12.2	281 07.4	15.3	S11 19.6	13.0	55.0
S	5	254 08.7	N 5 13.2	295 41.7	15.3	S11 06.6	13.1	55.0
A								
T	6	269 08.9	N 5 14.1	310 16.0	15.3	S10 53.4	13.1	55.0
U	7	284 09.1	N 5 15.1	324 50.3	15.3	S10 40.3	13.2	55.0
R	8	299 09.3	N 5 16.1	339 24.6	15.3	S10 27.0	13.2	55.1
D	9	314 09.4	N 5 17.0	353 59.0	15.3	S10 13.8	13.3	55.1
A	10	329 09.6	N 5 18.0	8 33.4	15.4	S10 00.4	13.3	55.1
Y	11	344 09.8	N 5 18.9	23 07.7	15.4	S 9 47.1	13.4	55.1
	12	359 10.0	N 5 19.9	37 42.1	15.4	S 9 33.6	13.4	55.1
	13	14 10.2	N 5 20.8	52 16.5	15.4	S 9 20.2	13.5	55.2
	14	29 10.4	N 5 21.8	66 51.0	15.4	S 9 06.6	13.5	55.2
	15	44 10.5	N 5 22.8	81 25.4	15.4	S 8 53.1	13.6	55.2
	16	59 10.7	N 5 23.7	95 59.8	15.4	S 8 39.5	13.6	55.2
	17	74 10.9	N 5 24.7	110 34.3	15.5	S 8 25.8	13.7	55.3
	18	89 11.1	N 5 25.6	125 08.8	15.5	S 8 12.1	13.7	55.3
	19	104 11.3	N 5 26.6	139 43.2	15.5	S 7 58.4	13.7	55.3
	20	119 11.4	N 5 27.5	154 17.7	15.5	S 7 44.6	13.8	55.3
	21	134 11.6	N 5 28.5	168 52.2	15.5	S 7 30.7	13.8	55.3
	22	149 11.8	N 5 29.5	183 26.7	15.5	S 7 16.9	13.9	55.4
	23	164 12.0	N 5 30.4	198 01.2	15.5	S 7 02.9	13.9	55.4
		S.D. 16.0	d 1.0	S.D.	14.8	14.9	15.0	

Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.9
Achernar	335 19.4	S57 05.9
Acrux	172 57.4	S63 15.1
Adhara	255 04.4	S29 00.8
Albireo	67 02.6	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.7	N55 48.6
Alkaid	152 50.1	N49 10.4
Al Na-ir	27 30.9	S46 49.6
Alnilam	275 35.9	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 01.9	N26 37.1
Alpheratz	357 33.2	N29 14.4
Altair	61 58.2	N 8 56.2
Ankaa	353 05.7	S42 09.5
Antares	112 13.4	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.8	S69 04.4
Avior	234 13.7	S59 36.1
Bellatrix	278 21.0	N 6 22.4
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 51.6	S52 42.9
Capella	280 19.4	N46 01.7
Castor	245 54.6	N31 49.8
Deneb	49 24.7	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.2
Dubhe	193 38.1	N61 36.2
Elnath	277 59.7	N28 37.8
Eltanin	90 41.2	N51 28.7
Enif	33 37.2	N 9 59.9
Fomalhaut	15 12.8	S29 28.7
Gacrux	171 49.1	S57 16.1
Gienah	175 41.4	S17 41.8
Hadar	148 32.9	S60 30.3
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.1	S34 22.3
Kochab	137 19.0	N74 02.3
Markab	13 28.4	N15 21.0
Menkar	314 04.5	N 4 11.7
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.3	S69 50.0
Mirfak	308 26.1	N49 57.6
Nunki	75 45.5	S26 15.7
Peacock	53 03.0	S56 38.7
Polaris	316 09.7	N89 22.3
Pollux	243 15.0	N27 57.6
Procyon	244 48.8	N 5 09.2
Rasalhague	95 56.8	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.4	S60 56.9
Sabik	102 00.6	S15 45.6
Schedar	349 29.5	N56 41.2
Shaula	96 07.7	S37 07.4
Sirius	258 24.6	S16 45.4
Spica	158 20.1	S11 18.4
Suhail	222 44.7	S43 32.8
Vega	80 31.9	N38 48.2
Zuben-ubi	136 54.6	S16 09.5

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 05.4	209 44.4	S 8 38.0	47 41.9	N17 27.3	52 11.0	N16 41.9	175 22.8	N 4 41.4
	1	207 07.9	224 44.0	S 8 37.0	62 44.3	N17 27.2	67 13.5	N16 41.9	190 25.0	N 4 41.5
	2	222 10.3	239 43.6	S 8 35.9	77 46.8	N17 27.0	82 16.1	N16 41.9	205 27.1	N 4 41.6
	3	237 12.8	254 43.2	S 8 34.8	92 49.2	N17 26.9	97 18.6	N16 42.0	220 29.3	N 4 41.8
	4	252 15.3	269 42.8	S 8 33.8	107 51.6	N17 26.8	112 21.1	N16 42.0	235 31.5	N 4 41.9
S	5	267 17.7	284 42.4	S 8 32.7	122 54.0	N17 26.7	127 23.7	N16 42.0	250 33.6	N 4 42.0
U										
N	6	282 20.2	299 42.0	S 8 31.7	137 56.4	N17 26.6	142 26.2	N16 42.0	265 35.8	N 4 42.1
D	7	297 22.7	314 41.6	S 8 30.6	152 58.9	N17 26.4	157 28.8	N16 42.0	280 38.0	N 4 42.2
A	8	312 25.1	329 41.2	S 8 29.6	168 01.3	N17 26.3	172 31.3	N16 42.0	295 40.2	N 4 42.4
Y	9	327 27.6	344 40.8	S 8 28.5	183 03.7	N17 26.2	187 33.8	N16 42.1	310 42.3	N 4 42.5
	10	342 30.0	359 40.4	S 8 27.4	198 06.1	N17 26.1	202 36.4	N16 42.1	325 44.5	N 4 42.6
	11	357 32.5	14 40.0	S 8 26.4	213 08.5	N17 25.9	217 38.9	N16 42.1	340 46.7	N 4 42.7
	12	12 35.0	29 39.6	S 8 25.3	228 10.9	N17 25.8	232 41.4	N16 42.1	355 48.9	N 4 42.8
	13	27 37.4	44 39.2	S 8 24.3	243 13.3	N17 25.7	247 44.0	N16 42.1	10 51.0	N 4 43.0
	14	42 39.9	59 38.8	S 8 23.2	258 15.8	N17 25.6	262 46.5	N16 42.1	25 53.2	N 4 43.1
	15	57 42.4	74 38.4	S 8 22.1	273 18.2	N17 25.5	277 49.0	N16 42.2	40 55.4	N 4 43.2
	16	72 44.8	89 38.0	S 8 21.1	288 20.6	N17 25.3	292 51.5	N16 42.2	55 57.5	N 4 43.3
	17	87 47.3	104 37.6	S 8 20.0	303 23.0	N17 25.2	307 54.1	N16 42.2	70 59.7	N 4 43.4
	18	102 49.8	119 37.2	S 8 18.9	318 25.4	N17 25.1	322 56.6	N16 42.2	86 01.9	N 4 43.6
	19	117 52.2	134 36.8	S 8 17.9	333 27.8	N17 24.9	337 59.1	N16 42.2	101 04.1	N 4 43.7
	20	132 54.7	149 36.4	S 8 16.8	348 30.2	N17 24.8	353 01.7	N16 42.2	116 06.2	N 4 43.8
	21	147 57.2	164 36.0	S 8 15.8	3 32.6	N17 24.7	8 04.2	N16 42.3	131 08.4	N 4 43.9
	22	162 59.6	179 35.7	S 8 14.7	18 35.0	N17 24.6	23 06.7	N16 42.3	146 10.6	N 4 44.0
	23	178 02.1	194 35.3	S 8 13.6	33 37.4	N17 24.4	38 09.3	N16 42.3	161 12.7	N 4 44.2
5	0	193 04.5	209 34.9	S 8 12.6	48 39.8	N17 24.3	53 11.8	N16 42.3	176 14.9	N 4 44.3
	1	208 07.0	224 34.5	S 8 11.5	63 42.2	N17 24.2	68 14.3	N16 42.3	191 17.1	N 4 44.4
	2	223 09.5	239 34.1	S 8 10.4	78 44.6	N17 24.1	83 16.8	N16 42.3	206 19.3	N 4 44.5
	3	238 11.9	254 33.7	S 8 09.4	93 47.0	N17 23.9	98 19.4	N16 42.4	221 21.4	N 4 44.6
	4	253 14.4	269 33.3	S 8 08.3	108 49.4	N17 23.8	113 21.9	N16 42.4	236 23.6	N 4 44.8
M	5	268 16.9	284 32.9	S 8 07.2	123 51.7	N17 23.7	128 24.4	N16 42.4	251 25.8	N 4 44.9
O										
N	6	283 19.3	299 32.5	S 8 06.2	138 54.1	N17 23.5	143 27.0	N16 42.4	266 27.9	N 4 45.0
D	7	298 21.8	314 32.1	S 8 05.1	153 56.5	N17 23.4	158 29.5	N16 42.4	281 30.1	N 4 45.1
A	8	313 24.3	329 31.7	S 8 04.0	168 58.9	N17 23.3	173 32.0	N16 42.4	296 32.3	N 4 45.2
Y	9	328 26.7	344 31.3	S 8 02.9	184 01.3	N17 23.1	188 34.5	N16 42.5	311 34.5	N 4 45.4
	10	343 29.2	359 31.0	S 8 01.9	199 03.7	N17 23.0	203 37.1	N16 42.5	326 36.6	N 4 45.5
	11	358 31.7	14 30.6	S 8 00.8	214 06.1	N17 22.9	218 39.6	N16 42.5	341 38.8	N 4 45.6
	12	13 34.1	29 30.2	S 7 59.7	229 08.5	N17 22.7	233 42.1	N16 42.5	356 41.0	N 4 45.7
	13	28 36.6	44 29.8	S 7 58.7	244 10.8	N17 22.6	248 44.6	N16 42.5	11 43.1	N 4 45.8
	14	43 39.0	59 29.4	S 7 57.6	259 13.2	N17 22.5	263 47.2	N16 42.5	26 45.3	N 4 46.0
	15	58 41.5	74 29.0	S 7 56.5	274 15.6	N17 22.3	278 49.7	N16 42.5	41 47.5	N 4 46.1
	16	73 44.0	89 28.6	S 7 55.4	289 18.0	N17 22.2	293 52.2	N16 42.6	56 49.7	N 4 46.2
	17	88 46.4	104 28.2	S 7 54.4	304 20.4	N17 22.1	308 54.7	N16 42.6	71 51.8	N 4 46.3
	18	103 48.9	119 27.8	S 7 53.3	319 22.7	N17 21.9	323 57.3	N16 42.6	86 54.0	N 4 46.4
	19	118 51.4	134 27.5	S 7 52.2	334 25.1	N17 21.8	338 59.8	N16 42.6	101 56.2	N 4 46.6
	20	133 53.8	149 27.1	S 7 51.2	349 27.5	N17 21.7	354 02.3	N16 42.6	116 58.3	N 4 46.7
	21	148 56.3	164 26.7	S 7 50.1	4 29.8	N17 21.5	9 04.8	N16 42.6	132 00.5	N 4 46.8
	22	163 58.8	179 26.3	S 7 49.0	19 32.2	N17 21.4	24 07.4	N16 42.6	147 02.7	N 4 46.9
	23	179 01.2	194 25.9	S 7 47.9	34 34.6	N17 21.3	39 09.9	N16 42.7	162 04.9	N 4 47.0
6	0	194 03.7	209 25.5	S 7 46.9	49 37.0	N17 21.1	54 12.4	N16 42.7	177 07.0	N 4 47.2
	1	209 06.1	224 25.1	S 7 45.8	64 39.3	N17 21.0	69 14.9	N16 42.7	192 09.2	N 4 47.3
	2	224 08.6	239 24.7	S 7 44.7	79 41.7	N17 20.9	84 17.4	N16 42.7	207 11.4	N 4 47.4
	3	239 11.1	254 24.4	S 7 43.6	94 44.0	N17 20.7	99 20.0	N16 42.7	222 13.5	N 4 47.5
	4	254 13.5	269 24.0	S 7 42.6	109 46.4	N17 20.6	114 22.5	N16 42.7	237 15.7	N 4 47.6
T	5	269 16.0	284 23.6	S 7 41.5	124 48.8	N17 20.4	129 25.0	N16 42.7	252 17.9	N 4 47.8
U										
E	6	284 18.5	299 23.2	S 7 40.4	139 51.1	N17 20.3	144 27.5	N16 42.7	267 20.1	N 4 47.9
S	7	299 20.9	314 22.8	S 7 39.3	154 53.5	N17 20.2	159 30.0	N16 42.8	282 22.2	N 4 48.0
D	8	314 23.4	329 22.4	S 7 38.2	169 55.9	N17 20.0	174 32.6	N16 42.8	297 24.4	N 4 48.1
A	9	329 25.9	344 22.0	S 7 37.2	184 58.2	N17 19.9	189 35.1	N16 42.8	312 26.6	N 4 48.2
Y	10	344 28.3	359 21.7	S 7 36.1	200 00.6	N17 19.7	204 37.6	N16 42.8	327 28.7	N 4 48.4
	11	359 30.8	14 21.3	S 7 35.0	215 02.9	N17 19.6	219 40.1	N16 42.8	342 30.9	N 4 48.5
	12	14 33.3	29 20.9	S 7 33.9	230 05.3	N17 19.5	234 42.6	N16 42.8	357 33.1	N 4 48.6
	13	29 35.7	44 20.5	S 7 32.8	245 07.6	N17 19.3	249 45.1	N16 42.8	12 35.3	N 4 48.7
	14	44 38.2	59 20.1	S 7 31.8	260 10.0	N17 19.2	264 47.7	N16 42.8	27 37.4	N 4 48.8
	15	59 40.6	74 19.7	S 7 30.7	275 12.3	N17 19.0	279 50.2	N16 42.9	42 39.6	N 4 49.0
	16	74 43.1	89 19.4	S 7 29.6	290 14.7	N17 18.9	294 52.7	N16 42.9	57 41.8	N 4 49.1
	17	89 45.6	104 19.0	S 7 28.5	305 17.0	N17 18.7	309 55.2	N16 42.9	72 43.9	N 4 49.2
	18	104 48.0	119 18.6	S 7 27.4	320 19.4	N17 18.6	324 57.7	N16 42.9	87 46.1	N 4 49.3
	19	119 50.5	134 18.2	S 7 26.4	335 21.7	N17 18.5	340 00.2	N16 42.9	102 48.3	N 4 49.4
	20	134 53.0	149 17.8	S 7 25.3	350 24.1	N17 18.3	355 02.8	N16 42.9	117 50.5	N 4 49.6
	21	149 55.4	164 17.5	S 7 24.2	5 26.4	N17 18.2	10 05.3	N16 42.9	132 52.6	N 4 49.7
	22	164 57.9	179 17.1	S 7 23.1	20 28.7	N17 18.0	25 07.8	N16 42.9	147 54.8	N 4 49.8
	23	180 00.4	194 16.7	S 7 22.0	35 31.1	N17 17.9	40 10.3	N16 42.9	162 57.0	N 4 49.9
			v -0.4	d 1.1	v 2.4	d 0.1	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 '
4	0	179 12.2	N 5 31.4	212 35.7	15.5	S 6 49.0	14.0	55.4
	1	194 12.4	N 5 32.3	227 10.2	15.5	S 6 35.0	14.0	55.4
	2	209 12.5	N 5 33.3	241 44.7	15.5	S 6 21.0	14.0	55.4
	3	224 12.7	N 5 34.2	256 19.2	15.5	S 6 06.9	14.1	55.5
	4	239 12.9	N 5 35.2	270 53.7	15.5	S 5 52.8	14.1	55.5
S	5	254 13.1	N 5 36.1	285 28.2	15.5	S 5 38.7	14.1	55.5
U								
N	6	269 13.3	N 5 37.1	300 02.7	15.5	S 5 24.5	14.2	55.5
D	7	284 13.4	N 5 38.1	314 37.2	15.5	S 5 10.3	14.2	55.6
A	8	299 13.6	N 5 39.0	329 11.7	15.5	S 4 56.0	14.2	55.6
Y	9	314 13.8	N 5 40.0	343 46.1	15.5	S 4 41.8	14.3	55.6
	10	329 14.0	N 5 40.9	358 20.6	15.5	S 4 27.5	14.3	55.6
	11	344 14.2	N 5 41.9	12 55.1	15.5	S 4 13.1	14.3	55.7
	12	359 14.3	N 5 42.8	27 29.5	15.5	S 3 58.8	14.4	55.7
	13	14 14.5	N 5 43.8	42 04.0	15.5	S 3 44.4	14.4	55.7
	14	29 14.7	N 5 44.7	56 38.4	15.4	S 3 30.0	14.4	55.7
	15	44 14.9	N 5 45.7	71 12.9	15.4	S 3 15.5	14.4	55.7
	16	59 15.1	N 5 46.6	85 47.3	15.4	S 3 01.0	14.5	55.8
	17	74 15.2	N 5 47.6	100 21.7	15.4	S 2 46.5	14.5	55.8
	18	89 15.4	N 5 48.5	114 56.1	15.4	S 2 32.0	14.5	55.8
	19	104 15.6	N 5 49.5	129 30.5	15.4	S 2 17.5	14.5	55.8
	20	119 15.8	N 5 50.5	144 04.8	15.4	S 2 02.9	14.6	55.9
	21	134 16.0	N 5 51.4	158 39.1	15.3	S 1 48.3	14.6	55.9
	22	149 16.1	N 5 52.4	173 13.5	15.3	S 1 33.7	14.6	55.9
	23	164 16.3	N 5 53.3	187 47.8	15.3	S 1 19.1	14.6	55.9
5	0	179 16.5	N 5 54.3	202 22.0	15.3	S 1 04.4	14.6	56.0
	1	194 16.7	N 5 55.2	216 56.3	15.3	S 0 49.8	14.7	56.0
	2	209 16.9	N 5 56.2	231 30.5	15.2	S 0 35.1	14.7	56.0
	3	224 17.0	N 5 57.1	246 04.7	15.2	S 0 20.4	14.7	56.0
	4	239 17.2	N 5 58.1	260 38.9	15.2	S 0 05.7	14.7	56.1
M	5	254 17.4	N 5 59.0	275 13.1	15.2	N 0 09.1	14.7	56.1
O								
N	6	269 17.6	N 5 60.0	289 47.2	15.1	N 0 23.8	14.7	56.1
D	7	284 17.8	N 6 00.9	304 21.3	15.1	N 0 38.6	14.8	56.1
A	8	299 17.9	N 6 01.9	318 55.4	15.1	N 0 53.3	14.8	56.2
Y	9	314 18.1	N 6 02.8	333 29.4	15.0	N 1 08.1	14.8	56.2
	10	329 18.3	N 6 03.8	348 03.4	15.0	N 1 22.9	14.8	56.2
	11	344 18.5	N 6 04.7	2 37.4	15.0	N 1 37.7	14.8	56.2
	12	359 18.7	N 6 05.7	17 11.3	14.9	N 1 52.5	14.8	56.3
	13	14 18.8	N 6 06.6	31 45.3	14.9	N 2 07.3	14.8	56.3
	14	29 19.0	N 6 07.6	46 19.1	14.9	N 2 22.1	14.8	56.3
	15	44 19.2	N 6 08.5	60 53.0	14.8	N 2 36.9	14.8	56.3
	16	59 19.4	N 6 09.5	75 26.8	14.8	N 2 51.7	14.8	56.4
	17	74 19.5	N 6 10.4	90 00.5	14.8	N 3 06.5	14.8	56.4
	18	89 19.7	N 6 11.4	104 34.2	14.7	N 3 21.3	14.8	56.4
	19	104 19.9	N 6 12.3	119 07.9	14.7	N 3 36.1	14.8	56.4
	20	119 20.1	N 6 13.3	133 41.5	14.6	N 3 51.0	14.8	56.5
	21	134 20.3	N 6 14.2	148 15.1	14.6	N 4 05.8	14.8	56.5
	22	149 20.4	N 6 15.2	162 48.7	14.5	N 4 20.6	14.8	56.5
	23	164 20.6	N 6 16.1	177 22.2	14.5	N 4 35.4	14.8	56.5
6	0	179 20.8	N 6 17.1	191 55.6	14.4	N 4 50.2	14.8	56.6
	1	194 21.0	N 6 18.0	206 29.0	14.4	N 5 05.0	14.8	56.6
	2	209 21.1	N 6 18.9	221 02.4	14.4	N 5 19.7	14.8	56.6
	3	224 21.3	N 6 19.9	235 35.7	14.3	N 5 34.5	14.8	56.6
	4	239 21.5	N 6 20.8	250 08.9	14.3	N 5 49.3	14.8	56.7
T	5	254 21.7	N 6 21.8	264 42.1	14.2	N 6 04.0	14.7	56.7
U								
E	6	269 21.9	N 6 22.7	279 15.3	14.1	N 6 18.7	14.7	56.7
S	7	284 22.0	N 6 23.7	293 48.4	14.1	N 6 33.5	14.7	56.7
D	8	299 22.2	N 6 24.6	308 21.4	14.0	N 6 48.2	14.7	56.8
A	9	314 22.4	N 6 25.6	322 54.4	14.0	N 7 02.9	14.7	56.8
Y	10	329 22.6	N 6 26.5	337 27.3	13.9	N 7 17.5	14.7	56.8
	11	344 22.7	N 6 27.5	352 00.1	13.9	N 7 32.2	14.7	56.8
	12	359 22.9	N 6 28.4	6 32.9	13.8	N 7 46.8	14.6	56.9
	13	14 23.1	N 6 29.3	21 05.7	13.7	N 8 01.4	14.6	56.9
	14	29 23.3	N 6 30.3	35 38.4	13.7	N 8 16.0	14.6	56.9
	15	44 23.4	N 6 31.2	50 11.0	13.6	N 8 30.6	14.6	56.9
	16	59 23.6	N 6 32.2	64 43.5	13.6	N 8 45.1	14.5	57.0
	17	74 23.8	N 6 33.1	79 16.0	13.5	N 8 59.6	14.5	57.0
	18	89 24.0	N 6 34.1	93 48.4	13.4	N 9 14.1	14.5	57.0
	19	104 24.1	N 6 35.0	108 20.8	13.4	N 9 28.5	14.5	57.0
	20	119 24.3	N 6 36.0	122 53.1	13.3	N 9 43.0	14.4	57.1
	21	134 24.5	N 6 36.9	137 25.3	13.2	N 9 57.3	14.4	57.1
	22	149 24.7	N 6 37.8	151 57.4	13.1	N10 11.7	14.4	57.1
	23	164 24.9	N 6 38.8	166 29.5	13.1	N10 26.0	14.3	57.1
		S.D. 16.0	d 0.9	S.D.	15.2		15.3	15.5

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.8
Achernar	335 19.4	S57 05.9
Acrux	172 57.4	S63 15.1
Adhara	255 04.4	S29 00.8
Albireo	67 02.6	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.7	N55 48.6
Alkaid	152 50.1	N49 10.4
Al Na-ir	27 30.9	S46 49.6
Alnilam	275 36.0	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 01.9	N26 37.1
Alpheratz	357 33.2	N29 14.4
Altair	61 58.2	N 8 56.2
Ankaa	353 05.7	S42 09.5
Antares	112 13.4	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.8	S69 04.4
Avior	234 13.8	S59 36.1
Bellatrix	278 21.0	N 6 22.4
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 51.7	S52 42.9
Capella	280 19.4	N46 01.7
Castor	245 54.7	N31 49.8
Deneb	49 24.7	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.2
Dubhe	193 38.1	N61 36.2
Elnath	277 59.7	N28 37.8
Eltanin	90 41.2	N51 28.7
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.8	S29 28.6
Gacrux	171 49.1	S57 16.1
Gienah	175 41.4	S17 41.8
Hadar	148 32.9	S60 30.3
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.0	S34 22.3
Kochab	137 19.0	N74 02.3
Markab	13 28.3	N15 21.0
Menkar	314 04.5	N 4 11.7
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.3	S69 50.0
Mirfak	308 26.1	N49 57.6
Nunki	75 45.5	S26 15.7
Peacock	53 03.0	S56 38.6
Polaris	316 10.2	N89 22.3
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.7	N12 32.2
Regulus	207 32.2	N11 49.9
Rigel	281 02.2	S 8 10.3
Rigil Kent	139 37.3	S60 56.9
Sabik	102 00.5	S15 45.6
Schedar	349 29.5	N56 41.2
Shaula	96 07.7	S37 07.4
Sirius	258 24.7	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.7	S43 32.9
Vega	80 31.9	N38 48.2
Zuben-ubi	136 54.6	S16 09.5

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 02.8	209 16.3	S 7 20.9	50 33.4	N17 17.7	55 12.8	N16 43.0	177 59.1	N 4 50.0
1	210 05.3	224 15.9	S 7 19.8	65 35.8	N17 17.6	70 15.3	N16 43.0	193 01.3	N 4 50.2
2	225 07.7	239 15.5	S 7 18.8	80 38.1	N17 17.4	85 17.8	N16 43.0	208 03.5	N 4 50.3
3	240 10.2	254 15.2	S 7 17.7	95 40.4	N17 17.3	100 20.3	N16 43.0	223 05.7	N 4 50.4
4	255 12.7	269 14.8	S 7 16.6	110 42.8	N17 17.1	115 22.9	N16 43.0	238 07.8	N 4 50.5
W 5	270 15.1	284 14.4	S 7 15.5	125 45.1	N17 17.0	130 25.4	N16 43.0	253 10.0	N 4 50.6
E									
D 6	285 17.6	299 14.0	S 7 14.4	140 47.4	N17 16.8	145 27.9	N16 43.0	268 12.2	N 4 50.8
N 7	300 20.1	314 13.6	S 7 13.3	155 49.8	N17 16.7	160 30.4	N16 43.0	283 14.3	N 4 50.9
E 8	315 22.5	329 13.3	S 7 12.2	170 52.1	N17 16.5	175 32.9	N16 43.0	298 16.5	N 4 51.0
S 9	330 25.0	344 12.9	S 7 11.2	185 54.4	N17 16.4	190 35.4	N16 43.1	313 18.7	N 4 51.1
D 10	345 27.5	359 12.5	S 7 10.1	200 56.8	N17 16.2	205 37.9	N16 43.1	328 20.9	N 4 51.2
A 11	0 29.9	14 12.1	S 7 09.0	215 59.1	N17 16.1	220 40.4	N16 43.1	343 23.0	N 4 51.4
Y									
12	15 32.4	29 11.8	S 7 07.9	231 01.4	N17 15.9	235 42.9	N16 43.1	358 25.2	N 4 51.5
13	30 34.9	44 11.4	S 7 06.8	246 03.7	N17 15.8	250 45.5	N16 43.1	13 27.4	N 4 51.6
14	45 37.3	59 11.0	S 7 05.7	261 06.1	N17 15.6	265 48.0	N16 43.1	28 29.5	N 4 51.7
15	60 39.8	74 10.6	S 7 04.6	276 08.4	N17 15.5	280 50.5	N16 43.1	43 31.7	N 4 51.8
16	75 42.2	89 10.2	S 7 03.5	291 10.7	N17 15.3	295 53.0	N16 43.1	58 33.9	N 4 52.0
17	90 44.7	104 09.9	S 7 02.4	306 13.0	N17 15.2	310 55.5	N16 43.1	73 36.1	N 4 52.1
18	105 47.2	119 09.5	S 7 01.3	321 15.3	N17 15.0	325 58.0	N16 43.1	88 38.2	N 4 52.2
19	120 49.6	134 09.1	S 7 00.3	336 17.7	N17 14.9	341 00.5	N16 43.1	103 40.4	N 4 52.3
20	135 52.1	149 08.7	S 6 59.2	351 20.0	N17 14.7	356 03.0	N16 43.2	118 42.6	N 4 52.4
21	150 54.6	164 08.4	S 6 58.1	6 22.3	N17 14.6	11 05.5	N16 43.2	133 44.7	N 4 52.6
22	165 57.0	179 08.0	S 6 57.0	21 24.6	N17 14.4	26 08.0	N16 43.2	148 46.9	N 4 52.7
23	180 59.5	194 07.6	S 6 55.9	36 26.9	N17 14.3	41 10.5	N16 43.2	163 49.1	N 4 52.8
8 0	196 02.0	209 07.2	S 6 54.8	51 29.2	N17 14.1	56 13.0	N16 43.2	178 51.3	N 4 52.9
1	211 04.4	224 06.9	S 6 53.7	66 31.5	N17 14.0	71 15.5	N16 43.2	193 53.4	N 4 53.0
2	226 06.9	239 06.5	S 6 52.6	81 33.8	N17 13.8	86 18.0	N16 43.2	208 55.6	N 4 53.2
3	241 09.3	254 06.1	S 6 51.5	96 36.1	N17 13.6	101 20.6	N16 43.2	223 57.8	N 4 53.3
4	256 11.8	269 05.7	S 6 50.4	111 38.5	N17 13.5	116 23.1	N16 43.2	238 59.9	N 4 53.4
T 5	271 14.3	284 05.4	S 6 49.3	126 40.8	N17 13.3	131 25.6	N16 43.2	254 02.1	N 4 53.5
H									
U 6	286 16.7	299 05.0	S 6 48.2	141 43.1	N17 13.2	146 28.1	N16 43.2	269 04.3	N 4 53.6
R 7	301 19.2	314 04.6	S 6 47.1	156 45.4	N17 13.0	161 30.6	N16 43.2	284 06.5	N 4 53.8
S 8	316 21.7	329 04.2	S 6 46.0	171 47.7	N17 12.9	176 33.1	N16 43.3	299 08.6	N 4 53.9
D 9	331 24.1	344 03.9	S 6 44.9	186 50.0	N17 12.7	191 35.6	N16 43.3	314 10.8	N 4 54.0
A 10	346 26.6	359 03.5	S 6 43.8	201 52.3	N17 12.5	206 38.1	N16 43.3	329 13.0	N 4 54.1
Y 11	1 29.1	14 03.1	S 6 42.7	216 54.6	N17 12.4	221 40.6	N16 43.3	344 15.1	N 4 54.2
12	16 31.5	29 02.7	S 6 41.6	231 56.9	N17 12.2	236 43.1	N16 43.3	359 17.3	N 4 54.4
13	31 34.0	44 02.4	S 6 40.5	246 59.2	N17 12.1	251 45.6	N16 43.3	14 19.5	N 4 54.5
14	46 36.5	59 02.0	S 6 39.5	262 01.5	N17 11.9	266 48.1	N16 43.3	29 21.7	N 4 54.6
15	61 38.9	74 01.6	S 6 38.4	277 03.7	N17 11.7	281 50.6	N16 43.3	44 23.8	N 4 54.7
16	76 41.4	89 01.3	S 6 37.3	292 06.0	N17 11.6	296 53.1	N16 43.3	59 26.0	N 4 54.8
17	91 43.8	104 00.9	S 6 36.2	307 08.3	N17 11.4	311 55.6	N16 43.3	74 28.2	N 4 55.0
18	106 46.3	119 00.5	S 6 35.1	322 10.6	N17 11.3	326 58.1	N16 43.3	89 30.3	N 4 55.1
19	121 48.8	134 00.1	S 6 34.0	337 12.9	N17 11.1	342 00.6	N16 43.3	104 32.5	N 4 55.2
20	136 51.2	148 59.8	S 6 32.9	352 15.2	N17 10.9	357 03.1	N16 43.3	119 34.7	N 4 55.3
21	151 53.7	163 59.4	S 6 31.8	7 17.5	N17 10.8	12 05.6	N16 43.3	134 36.9	N 4 55.4
22	166 56.2	178 59.0	S 6 30.7	22 19.8	N17 10.6	27 08.1	N16 43.4	149 39.0	N 4 55.6
23	181 58.6	193 58.7	S 6 29.6	37 22.1	N17 10.5	42 10.6	N16 43.4	164 41.2	N 4 55.7
9 0	197 01.1	208 58.3	S 6 28.5	52 24.3	N17 10.3	57 13.1	N16 43.4	179 43.4	N 4 55.8
1	212 03.6	223 57.9	S 6 27.3	67 26.6	N17 10.1	72 15.6	N16 43.4	194 45.5	N 4 55.9
2	227 06.0	238 57.5	S 6 26.2	82 28.9	N17 10.0	87 18.1	N16 43.4	209 47.7	N 4 56.0
3	242 08.5	253 57.2	S 6 25.1	97 31.2	N17 09.8	102 20.6	N16 43.4	224 49.9	N 4 56.2
4	257 11.0	268 56.8	S 6 24.0	112 33.5	N17 09.6	117 23.1	N16 43.4	239 52.1	N 4 56.3
F 5	272 13.4	283 56.4	S 6 22.9	127 35.7	N17 09.5	132 25.6	N16 43.4	254 54.2	N 4 56.4
R									
I 6	287 15.9	298 56.1	S 6 21.8	142 38.0	N17 09.3	147 28.1	N16 43.4	269 56.4	N 4 56.5
D 7	302 18.3	313 55.7	S 6 20.7	157 40.3	N17 09.1	162 30.6	N16 43.4	284 58.6	N 4 56.6
A 8	317 20.8	328 55.3	S 6 19.6	172 42.6	N17 09.0	177 33.0	N16 43.4	300 00.7	N 4 56.7
Y 9	332 23.3	343 55.0	S 6 18.5	187 44.8	N17 08.8	192 35.5	N16 43.4	315 02.9	N 4 56.9
10	347 25.7	358 54.6	S 6 17.4	202 47.1	N17 08.6	207 38.0	N16 43.4	330 05.1	N 4 57.0
11	2 28.2	13 54.2	S 6 16.3	217 49.4	N17 08.5	222 40.5	N16 43.4	345 07.3	N 4 57.1
12	17 30.7	28 53.9	S 6 15.2	232 51.6	N17 08.3	237 43.0	N16 43.4	0 09.4	N 4 57.2
13	32 33.1	43 53.5	S 6 14.1	247 53.9	N17 08.1	252 45.5	N16 43.4	15 11.6	N 4 57.3
14	47 35.6	58 53.1	S 6 13.0	262 56.2	N17 08.0	267 48.0	N16 43.4	30 13.8	N 4 57.5
15	62 38.1	73 52.8	S 6 11.9	277 58.4	N17 07.8	282 50.5	N16 43.4	45 15.9	N 4 57.6
16	77 40.5	88 52.4	S 6 10.8	293 00.7	N17 07.6	297 53.0	N16 43.4	60 18.1	N 4 57.7
17	92 43.0	103 52.0	S 6 09.7	308 03.0	N17 07.5	312 55.5	N16 43.5	75 20.3	N 4 57.8
18	107 45.4	118 51.7	S 6 08.6	323 05.2	N17 07.3	327 58.0	N16 43.5	90 22.4	N 4 57.9
19	122 47.9	133 51.3	S 6 07.5	338 07.5	N17 07.1	343 00.5	N16 43.5	105 24.6	N 4 58.1
20	137 50.4	148 50.9	S 6 06.4	353 09.8	N17 07.0	358 03.0	N16 43.5	120 26.8	N 4 58.2
21	152 52.8	163 50.6	S 6 05.2	8 12.0	N17 06.8	13 05.5	N16 43.5	135 29.0	N 4 58.3
22	167 55.3	178 50.2	S 6 04.1	23 14.3	N17 06.6	28 07.9	N16 43.5	150 31.1	N 4 58.4
23	182 57.8	193 49.8	S 6 03.0	38 16.5	N17 06.4	43 10.4	N16 43.5	165 33.3	N 4 58.5
		v -0.4	d 1.1	v 2.3	d 0.2	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 '
7	0	179 25.0	N 6 39.7	181 01.5	13.0	N10 40.3	14.3	57.2
	1	194 25.2	N 6 40.7	195 33.4	12.9	N10 54.6	14.2	57.2
	2	209 25.4	N 6 41.6	210 05.3	12.8	N11 08.8	14.2	57.2
	3	224 25.5	N 6 42.6	224 37.0	12.8	N11 22.9	14.2	57.2
	4	239 25.7	N 6 43.5	239 08.7	12.7	N11 37.1	14.1	57.3
W	5	254 25.9	N 6 44.4	253 40.4	12.6	N11 51.1	14.1	57.3
E								
D	6	269 26.1	N 6 45.4	268 11.9	12.5	N12 05.2	14.0	57.3
N	7	284 26.2	N 6 46.3	282 43.4	12.5	N12 19.2	14.0	57.3
E	8	299 26.4	N 6 47.3	297 14.7	12.4	N12 33.1	13.9	57.4
S	9	314 26.6	N 6 48.2	311 46.0	12.3	N12 47.0	13.9	57.4
D	10	329 26.8	N 6 49.1	326 17.3	12.2	N13 00.8	13.8	57.4
A	11	344 26.9	N 6 50.1	340 48.4	12.1	N13 14.6	13.8	57.4
Y								
	12	359 27.1	N 6 51.0	355 19.4	12.1	N13 28.4	13.7	57.4
	13	14 27.3	N 6 52.0	9 50.4	12.0	N13 42.1	13.7	57.5
	14	29 27.5	N 6 52.9	24 21.3	11.9	N13 55.7	13.6	57.5
	15	44 27.6	N 6 53.8	38 52.1	11.8	N14 09.3	13.6	57.5
	16	59 27.8	N 6 54.8	53 22.8	11.7	N14 22.8	13.5	57.5
	17	74 28.0	N 6 55.7	67 53.4	11.6	N14 36.2	13.5	57.6
	18	89 28.2	N 6 56.7	82 23.9	11.5	N14 49.6	13.4	57.6
	19	104 28.3	N 6 57.6	96 54.4	11.4	N15 02.9	13.3	57.6
	20	119 28.5	N 6 58.5	111 24.7	11.3	N15 16.2	13.3	57.6
	21	134 28.7	N 6 59.5	125 55.0	11.3	N15 29.4	13.2	57.6
	22	149 28.9	N 7 00.4	140 25.1	11.2	N15 42.5	13.1	57.7
	23	164 29.0	N 7 01.4	154 55.2	11.1	N15 55.6	13.1	57.7
8	0	179 29.2	N 7 02.3	169 25.2	11.0	N16 08.6	13.0	57.7
	1	194 29.4	N 7 03.2	183 55.1	10.9	N16 21.5	12.9	57.7
	2	209 29.6	N 7 04.2	198 24.8	10.8	N16 34.3	12.8	57.8
	3	224 29.7	N 7 05.1	212 54.5	10.7	N16 47.1	12.8	57.8
	4	239 29.9	N 7 06.0	227 24.1	10.6	N16 59.7	12.7	57.8
T	5	254 30.1	N 7 07.0	241 53.6	10.5	N17 12.3	12.6	57.8
H								
U	6	269 30.2	N 7 07.9	256 23.0	10.4	N17 24.9	12.5	57.8
R	7	284 30.4	N 7 08.9	270 52.3	10.3	N17 37.3	12.4	57.9
S	8	299 30.6	N 7 09.8	285 21.5	10.2	N17 49.6	12.4	57.9
D	9	314 30.8	N 7 10.7	299 50.6	10.1	N18 01.9	12.3	57.9
A	10	329 30.9	N 7 11.7	314 19.6	10.0	N18 14.1	12.2	57.9
Y	11	344 31.1	N 7 12.6	328 48.5	9.9	N18 26.2	12.1	57.9
	12	359 31.3	N 7 13.5	343 17.3	9.8	N18 38.2	12.0	58.0
	13	14 31.4	N 7 14.5	357 46.0	9.7	N18 50.1	11.9	58.0
	14	29 31.6	N 7 15.4	12 14.6	9.6	N19 01.9	11.8	58.0
	15	44 31.8	N 7 16.3	26 43.1	9.5	N19 13.6	11.7	58.0
	16	59 32.0	N 7 17.3	41 11.5	9.4	N19 25.2	11.6	58.0
	17	74 32.1	N 7 18.2	55 39.8	9.3	N19 36.7	11.5	58.1
	18	89 32.3	N 7 19.1	70 08.0	9.2	N19 48.1	11.4	58.1
	19	104 32.5	N 7 20.1	84 36.1	9.1	N19 59.5	11.3	58.1
	20	119 32.6	N 7 21.0	99 04.1	9.0	N20 10.7	11.2	58.1
	21	134 32.8	N 7 21.9	113 32.0	8.9	N20 21.8	11.1	58.1
	22	149 33.0	N 7 22.9	127 59.7	8.8	N20 32.8	11.0	58.2
	23	164 33.2	N 7 23.8	142 27.4	8.7	N20 43.6	10.9	58.2
9	0	179 33.3	N 7 24.7	156 55.0	8.6	N20 54.4	10.8	58.2
	1	194 33.5	N 7 25.7	171 22.5	8.5	N21 05.1	10.7	58.2
	2	209 33.7	N 7 26.6	185 49.8	8.4	N21 15.6	10.5	58.2
	3	224 33.8	N 7 27.5	200 17.1	8.3	N21 26.1	10.4	58.3
	4	239 34.0	N 7 28.5	214 44.2	8.2	N21 36.4	10.3	58.3
F	5	254 34.2	N 7 29.4	229 11.3	8.1	N21 46.6	10.2	58.3
R								
I	6	269 34.4	N 7 30.3	243 38.3	8.0	N21 56.6	10.1	58.3
D	7	284 34.5	N 7 31.3	258 05.1	7.9	N22 06.6	10.0	58.3
A	8	299 34.7	N 7 32.2	272 31.9	7.7	N22 16.4	9.8	58.3
Y	9	314 34.9	N 7 33.1	286 58.5	7.6	N22 26.1	9.7	58.4
	10	329 35.0	N 7 34.1	301 25.0	7.5	N22 35.7	9.6	58.4
	11	344 35.2	N 7 35.0	315 51.5	7.4	N22 45.1	9.4	58.4
	12	359 35.4	N 7 35.9	330 17.8	7.3	N22 54.5	9.3	58.4
	13	14 35.5	N 7 36.8	344 44.1	7.2	N23 03.6	9.2	58.4
	14	29 35.7	N 7 37.8	359 10.2	7.1	N23 12.7	9.0	58.4
	15	44 35.9	N 7 38.7	13 36.3	7.0	N23 21.6	8.9	58.5
	16	59 36.0	N 7 39.6	28 02.2	6.9	N23 30.4	8.8	58.5
	17	74 36.2	N 7 40.6	42 28.1	6.8	N23 39.0	8.6	58.5
	18	89 36.4	N 7 41.5	56 53.8	6.7	N23 47.5	8.5	58.5
	19	104 36.6	N 7 42.4	71 19.5	6.7	N23 55.9	8.4	58.5
	20	119 36.7	N 7 43.4	85 45.0	6.6	N24 04.1	8.2	58.5
	21	134 36.9	N 7 44.3	100 10.5	6.5	N24 12.2	8.1	58.5
	22	149 37.1	N 7 45.2	114 35.8	6.4	N24 20.1	7.9	58.6
	23	164 37.2	N 7 46.1	129 01.1	6.3	N24 27.9	7.8	58.6
		S.D. 16.0	d 0.9	S.D.	15.7	15.8	15.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.8
Achernar	335 19.4	S57 05.9
Acrux	172 57.4	S63 15.2
Adhara	255 04.4	S29 00.8
Albireo	67 02.6	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.7	N55 48.6
Alkaid	152 50.1	N49 10.4
Al Na-ir	27 30.9	S46 49.6
Alnilam	275 36.0	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 01.9	N26 37.1
Alpheratz	357 33.2	N29 14.4
Altair	61 58.2	N 8 56.2
Ankaa	353 05.7	S42 09.5
Antares	112 13.4	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.7	S69 04.4
Avior	234 13.8	S59 36.1
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 51.7	S52 42.9
Capella	280 19.4	N46 01.7
Castor	245 54.7	N31 49.8
Deneb	49 24.7	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.2
Dubhe	193 38.2	N61 36.2
Elnath	277 59.7	N28 37.8
Eltanin	90 41.2	N51 28.7
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.8	S29 28.6
Gacrux	171 49.1	S57 16.1
Gienah	175 41.4	S17 41.8
Hadar	148 32.9	S60 30.3
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.0	S34 22.3
Kochab	137 18.9	N74 02.4
Markab	13 28.3	N15 21.0
Menkar	314 04.5	N 4 11.7
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.4	S69 50.1
Mirfak	308 26.1	N49 57.6
Nunki	75 45.4	S26 15.7
Peacock	53 02.9	S56 38.6
Polaris	316 10.5	N89 22.3
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.7	N12 32.2
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.3	S60 56.9
Sabik	102 00.5	S15 45.6
Schedar	349 29.5	N56 41.1
Shaula	96 07.7	S37 07.4
Sirius	258 24.7	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.7	S43 32.9
Vega	80 31.9	N38 48.2
Zuben-ubi	136 54.6	S16 09.5

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 00.2	208 49.5	S 6 01.9	53 18.8	N17 06.3	58 12.9	N16 43.5	180 35.5	N 4 58.7
	1	213 02.7	223 49.1	S 6 00.8	68 21.0	N17 06.1	73 15.4	N16 43.5	195 37.6	N 4 58.8
	2	228 05.2	238 48.7	S 5 59.7	83 23.3	N17 05.9	88 17.9	N16 43.5	210 39.8	N 4 58.9
	3	243 07.6	253 48.4	S 5 58.6	98 25.6	N17 05.7	103 20.4	N16 43.5	225 42.0	N 4 59.0
	4	258 10.1	268 48.0	S 5 57.5	113 27.8	N17 05.6	118 22.9	N16 43.5	240 44.2	N 4 59.1
S	5	273 12.6	283 47.6	S 5 56.4	128 30.1	N17 05.4	133 25.4	N16 43.5	255 46.3	N 4 59.3
A										
T	6	288 15.0	298 47.3	S 5 55.3	143 32.3	N17 05.2	148 27.9	N16 43.5	270 48.5	N 4 59.4
U	7	303 17.5	313 46.9	S 5 54.1	158 34.6	N17 05.1	163 30.3	N16 43.5	285 50.7	N 4 59.5
R	8	318 19.9	328 46.5	S 5 53.0	173 36.8	N17 04.9	178 32.8	N16 43.5	300 52.8	N 4 59.6
D	9	333 22.4	343 46.2	S 5 51.9	188 39.0	N17 04.7	193 35.3	N16 43.5	315 55.0	N 4 59.7
A	10	348 24.9	358 45.8	S 5 50.8	203 41.3	N17 04.5	208 37.8	N16 43.5	330 57.2	N 4 59.8
Y	11	3 27.3	13 45.5	S 5 49.7	218 43.5	N17 04.4	223 40.3	N16 43.5	345 59.4	N 4 60.0
	12	18 29.8	28 45.1	S 5 48.6	233 45.8	N17 04.2	238 42.8	N16 43.5	1 01.5	N 5 00.1
	13	33 32.3	43 44.7	S 5 47.5	248 48.0	N17 04.0	253 45.3	N16 43.5	16 03.7	N 5 00.2
	14	48 34.7	58 44.4	S 5 46.4	263 50.3	N17 03.8	268 47.7	N16 43.5	31 05.9	N 5 00.3
	15	63 37.2	73 44.0	S 5 45.2	278 52.5	N17 03.6	283 50.2	N16 43.5	46 08.0	N 5 00.4
	16	78 39.7	88 43.6	S 5 44.1	293 54.7	N17 03.5	298 52.7	N16 43.5	61 10.2	N 5 00.6
	17	93 42.1	103 43.3	S 5 43.0	308 57.0	N17 03.3	313 55.2	N16 43.5	76 12.4	N 5 00.7
	18	108 44.6	118 42.9	S 5 41.9	323 59.2	N17 03.1	328 57.7	N16 43.5	91 14.6	N 5 00.8
	19	123 47.1	133 42.6	S 5 40.8	339 01.4	N17 02.9	344 00.2	N16 43.5	106 16.7	N 5 00.9
	20	138 49.5	148 42.2	S 5 39.7	354 03.7	N17 02.8	359 02.7	N16 43.5	121 18.9	N 5 01.0
	21	153 52.0	163 41.8	S 5 38.6	9 05.9	N17 02.6	14 05.1	N16 43.5	136 21.1	N 5 01.2
	22	168 54.4	178 41.5	S 5 37.4	24 08.1	N17 02.4	29 07.6	N16 43.5	151 23.2	N 5 01.3
	23	183 56.9	193 41.1	S 5 36.3	39 10.4	N17 02.2	44 10.1	N16 43.5	166 25.4	N 5 01.4
11	0	198 59.4	208 40.8	S 5 35.2	54 12.6	N17 02.0	59 12.6	N16 43.5	181 27.6	N 5 01.5
	1	214 01.8	223 40.4	S 5 34.1	69 14.8	N17 01.9	74 15.1	N16 43.5	196 29.8	N 5 01.6
	2	229 04.3	238 40.0	S 5 33.0	84 17.0	N17 01.7	89 17.5	N16 43.5	211 31.9	N 5 01.8
	3	244 06.8	253 39.7	S 5 31.9	99 19.3	N17 01.5	104 20.0	N16 43.5	226 34.1	N 5 01.9
	4	259 09.2	268 39.3	S 5 30.7	114 21.5	N17 01.3	119 22.5	N16 43.5	241 36.3	N 5 02.0
S	5	274 11.7	283 39.0	S 5 29.6	129 23.7	N17 01.1	134 25.0	N16 43.5	256 38.4	N 5 02.1
U										
N	6	289 14.2	298 38.6	S 5 28.5	144 25.9	N17 01.0	149 27.5	N16 43.5	271 40.6	N 5 02.2
D	7	304 16.6	313 38.2	S 5 27.4	159 28.2	N17 00.8	164 30.0	N16 43.5	286 42.8	N 5 02.4
A	8	319 19.1	328 37.9	S 5 26.3	174 30.4	N17 00.6	179 32.4	N16 43.5	301 45.0	N 5 02.5
Y	9	334 21.6	343 37.5	S 5 25.1	189 32.6	N17 00.4	194 34.9	N16 43.5	316 47.1	N 5 02.6
	10	349 24.0	358 37.2	S 5 24.0	204 34.8	N17 00.2	209 37.4	N16 43.5	331 49.3	N 5 02.7
	11	4 26.5	13 36.8	S 5 22.9	219 37.0	N17 00.0	224 39.9	N16 43.5	346 51.5	N 5 02.8
	12	19 28.9	28 36.4	S 5 21.8	234 39.3	N16 59.9	239 42.3	N16 43.5	1 53.6	N 5 02.9
	13	34 31.4	43 36.1	S 5 20.7	249 41.5	N16 59.7	254 44.8	N16 43.5	16 55.8	N 5 03.1
	14	49 33.9	58 35.7	S 5 19.5	264 43.7	N16 59.5	269 47.3	N16 43.5	31 58.0	N 5 03.2
	15	64 36.3	73 35.4	S 5 18.4	279 45.9	N16 59.3	284 49.8	N16 43.5	47 00.2	N 5 03.3
	16	79 38.8	88 35.0	S 5 17.3	294 48.1	N16 59.1	299 52.3	N16 43.5	62 02.3	N 5 03.4
	17	94 41.3	103 34.6	S 5 16.2	309 50.3	N16 58.9	314 54.7	N16 43.5	77 04.5	N 5 03.5
	18	109 43.7	118 34.3	S 5 15.1	324 52.5	N16 58.7	329 57.2	N16 43.5	92 06.7	N 5 03.7
	19	124 46.2	133 33.9	S 5 13.9	339 54.7	N16 58.6	344 59.7	N16 43.5	107 08.8	N 5 03.8
	20	139 48.7	148 33.6	S 5 12.8	354 56.9	N16 58.4	0 02.2	N16 43.5	122 11.0	N 5 03.9
	21	154 51.1	163 33.2	S 5 11.7	9 59.1	N16 58.2	15 04.6	N16 43.5	137 13.2	N 5 04.0
	22	169 53.6	178 32.9	S 5 10.6	25 01.4	N16 58.0	30 07.1	N16 43.5	152 15.3	N 5 04.1
	23	184 56.0	193 32.5	S 5 09.4	40 03.6	N16 57.8	45 09.6	N16 43.5	167 17.5	N 5 04.3
12	0	199 58.5	208 32.2	S 5 08.3	55 05.8	N16 57.6	60 12.1	N16 43.5	182 19.7	N 5 04.4
	1	215 01.0	223 31.8	S 5 07.2	70 08.0	N16 57.4	75 14.5	N16 43.5	197 21.9	N 5 04.5
	2	230 03.4	238 31.4	S 5 06.1	85 10.2	N16 57.2	90 17.0	N16 43.5	212 24.0	N 5 04.6
	3	245 05.9	253 31.1	S 5 04.9	100 12.4	N16 57.1	105 19.5	N16 43.5	227 26.2	N 5 04.7
	4	260 08.4	268 30.7	S 5 03.8	115 14.6	N16 56.9	120 22.0	N16 43.5	242 28.4	N 5 04.8
M	5	275 10.8	283 30.4	S 5 02.7	130 16.8	N16 56.7	135 24.4	N16 43.5	257 30.5	N 5 05.0
O										
N	6	290 13.3	298 30.0	S 5 01.6	145 18.9	N16 56.5	150 26.9	N16 43.5	272 32.7	N 5 05.1
D	7	305 15.8	313 29.7	S 5 00.4	160 21.1	N16 56.3	165 29.4	N16 43.5	287 34.9	N 5 05.2
A	8	320 18.2	328 29.3	S 4 59.3	175 23.3	N16 56.1	180 31.8	N16 43.5	302 37.1	N 5 05.3
Y	9	335 20.7	343 29.0	S 4 58.2	190 25.5	N16 55.9	195 34.3	N16 43.5	317 39.2	N 5 05.4
	10	350 23.2	358 28.6	S 4 57.1	205 27.7	N16 55.7	210 36.8	N16 43.5	332 41.4	N 5 05.6
	11	5 25.6	13 28.2	S 4 55.9	220 29.9	N16 55.5	225 39.3	N16 43.5	347 43.6	N 5 05.7
	12	20 28.1	28 27.9	S 4 54.8	235 32.1	N16 55.3	240 41.7	N16 43.5	2 45.7	N 5 05.8
	13	35 30.5	43 27.5	S 4 53.7	250 34.3	N16 55.1	255 44.2	N16 43.5	17 47.9	N 5 05.9
	14	50 33.0	58 27.2	S 4 52.6	265 36.5	N16 55.0	270 46.7	N16 43.5	32 50.1	N 5 06.0
	15	65 35.5	73 26.8	S 4 51.4	280 38.7	N16 54.8	285 49.1	N16 43.5	47 52.3	N 5 06.2
	16	80 37.9	88 26.5	S 4 50.3	295 40.9	N16 54.6	300 51.6	N16 43.5	62 54.4	N 5 06.3
	17	95 40.4	103 26.1	S 4 49.2	310 43.0	N16 54.4	315 54.1	N16 43.5	77 56.6	N 5 06.4
	18	110 42.9	118 25.8	S 4 48.1	325 45.2	N16 54.2	330 56.5	N16 43.5	92 58.8	N 5 06.5
	19	125 45.3	133 25.4	S 4 46.9	340 47.4	N16 54.0	345 59.0	N16 43.5	108 00.9	N 5 06.6
	20	140 47.8	148 25.1	S 4 45.8	355 49.6	N16 53.8	1 01.5	N16 43.5	123 03.1	N 5 06.7
	21	155 50.3	163 24.7	S 4 44.7	10 51.8	N16 53.6	16 03.9	N16 43.5	138 05.3	N 5 06.9
	22	170 52.7	178 24.4	S 4 43.5	25 53.9	N16 53.4	31 06.4	N16 43.5	153 07.5	N 5 07.0
	23	185 55.2	193 24.0	S 4 42.4	40 56.1	N16 53.2	46 08.9	N16 43.5	168 09.6	N 5 07.1
			v -0.4	d 1.1	v 2.2	d 0.2	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 '
10	0	179 37.4	N 7 47.1	143 26.3	6.2	N24 35.5	7.6	58.6
	1	194 37.6	N 7 48.0	157 51.4	6.1	N24 43.0	7.5	58.6
	2	209 37.7	N 7 48.9	172 16.4	6.0	N24 50.3	7.3	58.6
	3	224 37.9	N 7 49.8	186 41.3	5.9	N24 57.4	7.2	58.6
	4	239 38.1	N 7 50.8	201 06.1	5.8	N25 04.5	7.0	58.6
S	5	254 38.2	N 7 51.7	215 30.9	5.7	N25 11.3	6.9	58.7
A								
T	6	269 38.4	N 7 52.6	229 55.5	5.7	N25 18.0	6.7	58.7
U	7	284 38.6	N 7 53.5	244 20.1	5.6	N25 24.6	6.5	58.7
R	8	299 38.7	N 7 54.5	258 44.6	5.5	N25 31.0	6.4	58.7
D	9	314 38.9	N 7 55.4	273 09.0	5.4	N25 37.2	6.2	58.7
A	10	329 39.1	N 7 56.3	287 33.3	5.3	N25 43.2	6.1	58.7
Y	11	344 39.2	N 7 57.2	301 57.6	5.3	N25 49.1	5.9	58.7
	12	359 39.4	N 7 58.2	316 21.8	5.2	N25 54.9	5.7	58.8
	13	14 39.6	N 7 59.1	330 45.9	5.1	N26 00.4	5.6	58.8
	14	29 39.7	N 8 00.0	345 09.9	5.0	N26 05.8	5.4	58.8
	15	44 39.9	N 8 00.9	359 33.9	5.0	N26 11.0	5.2	58.8
	16	59 40.1	N 8 01.9	13 57.7	4.9	N26 16.1	5.1	58.8
	17	74 40.2	N 8 02.8	28 21.6	4.8	N26 21.0	4.9	58.8
	18	89 40.4	N 8 03.7	42 45.3	4.8	N26 25.7	4.7	58.8
	19	104 40.6	N 8 04.6	57 09.0	4.7	N26 30.2	4.5	58.8
	20	119 40.7	N 8 05.6	71 32.6	4.6	N26 34.6	4.4	58.8
	21	134 40.9	N 8 06.5	85 56.2	4.6	N26 38.8	4.2	58.9
	22	149 41.1	N 8 07.4	100 19.7	4.5	N26 42.8	4.0	58.9
	23	164 41.2	N 8 08.3	114 43.1	4.5	N26 46.7	3.8	58.9
11	0	179 41.4	N 8 09.2	129 06.5	4.4	N26 50.3	3.7	58.9
	1	194 41.6	N 8 10.2	143 29.9	4.3	N26 53.8	3.5	58.9
	2	209 41.7	N 8 11.1	157 53.2	4.3	N26 57.1	3.3	58.9
	3	224 41.9	N 8 12.0	172 16.4	4.2	N27 00.3	3.1	58.9
	4	239 42.1	N 8 12.9	186 39.6	4.2	N27 03.2	2.9	58.9
S	5	254 42.2	N 8 13.9	201 02.8	4.2	N27 06.0	2.8	58.9
U								
N	6	269 42.4	N 8 14.8	215 25.9	4.1	N27 08.5	2.6	59.0
D	7	284 42.6	N 8 15.7	229 49.0	4.1	N27 10.9	2.4	59.0
A	8	299 42.7	N 8 16.6	244 12.0	4.0	N27 13.2	2.2	59.0
Y	9	314 42.9	N 8 17.5	258 35.0	4.0	N27 15.2	2.0	59.0
	10	329 43.0	N 8 18.5	272 58.0	4.0	N27 17.0	1.8	59.0
	11	344 43.2	N 8 19.4	287 20.9	3.9	N27 18.7	1.7	59.0
	12	359 43.4	N 8 20.3	301 43.8	3.9	N27 20.2	1.5	59.0
	13	14 43.5	N 8 21.2	316 06.7	3.9	N27 21.5	1.3	59.0
	14	29 43.7	N 8 22.1	330 29.6	3.9	N27 22.6	1.1	59.0
	15	44 43.9	N 8 23.0	344 52.4	3.8	N27 23.5	0.9	59.0
	16	59 44.0	N 8 24.0	359 15.2	3.8	N27 24.2	0.7	59.0
	17	74 44.2	N 8 24.9	13 38.1	3.8	N27 24.8	0.5	59.0
	18	89 44.4	N 8 25.8	28 00.8	3.8	N27 25.1	0.4	59.1
	19	104 44.5	N 8 26.7	42 23.6	3.8	N27 25.3	0.2	59.1
	20	119 44.7	N 8 27.6	56 46.4	3.8	N27 25.3	0.0	59.1
	21	134 44.8	N 8 28.5	71 09.2	3.8	N27 25.1	0.2	59.1
	22	149 45.0	N 8 29.5	85 31.9	3.8	N27 24.7	0.4	59.1
	23	164 45.2	N 8 30.4	99 54.7	3.8	N27 24.1	0.6	59.1
12	0	179 45.3	N 8 31.3	114 17.5	3.8	N27 23.4	0.8	59.1
	1	194 45.5	N 8 32.2	128 40.2	3.8	N27 22.4	1.0	59.1
	2	209 45.7	N 8 33.1	143 03.0	3.8	N27 21.3	1.1	59.1
	3	224 45.8	N 8 34.0	157 25.8	3.8	N27 19.9	1.3	59.1
	4	239 46.0	N 8 35.0	171 48.6	3.8	N27 18.4	1.5	59.1
M	5	254 46.1	N 8 35.9	186 11.4	3.8	N27 16.7	1.7	59.1
O								
N	6	269 46.3	N 8 36.8	200 34.2	3.8	N27 14.8	1.9	59.1
D	7	284 46.5	N 8 37.7	214 57.1	3.8	N27 12.8	2.1	59.1
A	8	299 46.6	N 8 38.6	229 19.9	3.9	N27 10.5	2.3	59.2
Y	9	314 46.8	N 8 39.5	243 42.8	3.9	N27 08.1	2.4	59.2
	10	329 47.0	N 8 40.4	258 05.7	3.9	N27 05.4	2.6	59.2
	11	344 47.1	N 8 41.4	272 28.6	3.9	N27 02.6	2.8	59.2
	12	359 47.3	N 8 42.3	286 51.6	4.0	N26 59.6	3.0	59.2
	13	14 47.4	N 8 43.2	301 14.6	4.0	N26 56.4	3.2	59.2
	14	29 47.6	N 8 44.1	315 37.6	4.0	N26 53.0	3.4	59.2
	15	44 47.8	N 8 45.0	330 00.7	4.1	N26 49.5	3.6	59.2
	16	59 47.9	N 8 45.9	344 23.8	4.1	N26 45.8	3.7	59.2
	17	74 48.1	N 8 46.8	358 46.9	4.1	N26 41.8	3.9	59.2
	18	89 48.2	N 8 47.7	13 10.1	4.2	N26 37.8	4.1	59.2
	19	104 48.4	N 8 48.6	27 33.3	4.2	N26 33.5	4.3	59.2
	20	119 48.6	N 8 49.6	41 56.6	4.3	N26 29.0	4.5	59.2
	21	134 48.7	N 8 50.5	56 19.9	4.3	N26 24.4	4.6	59.2
	22	149 48.9	N 8 51.4	70 43.3	4.4	N26 19.6	4.8	59.2
	23	164 49.0	N 8 52.3	85 06.7	4.4	N26 14.6	5.0	59.2
		S.D. 16.0	d 0.9	S.D.	16.0	16.1	16.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.8
Achernar	335 19.4	S57 05.9
Acrux	172 57.4	S63 15.2
Adhara	255 04.5	S29 00.8
Albireo	67 02.6	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.7	N55 48.6
Alkaid	152 50.1	N49 10.4
Al Na-ir	27 30.8	S46 49.6
Alnilam	275 36.0	S 1 11.2
Alphard	217 45.7	S 8 46.8
Alphecca	126 01.9	N26 37.1
Alpheratz	357 33.2	N29 14.4
Altair	61 58.2	N 8 56.2
Ankaa	353 05.7	S42 09.5
Antares	112 13.3	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.7	S69 04.5
Avior	234 13.8	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 51.7	S52 42.9
Capella	280 19.4	N46 01.7
Castor	245 54.7	N31 49.8
Deneb	49 24.7	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.2
Dubhe	193 38.2	N61 36.2
Elnath	277 59.8	N28 37.8
Eltanin	90 41.1	N51 28.7
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.7	S29 28.6
Gacrux	171 49.1	S57 16.2
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.4
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 30.0	S34 22.3
Kochab	137 18.9	N74 02.4
Markab	13 28.3	N15 21.0
Menkar	314 04.5	N 4 11.7
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.4	S69 50.1
Mirfak	308 26.1	N49 57.6
Nunki	75 45.4	S26 15.7
Peacock	53 02.9	S56 38.6
Polaris	316 10.5	N89 22.2
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.7	N12 32.2
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.3	S60 56.9
Sabik	102 00.5	S15 45.6
Schedar	349 29.5	N56 41.1
Shaula	96 07.7	S37 07.4
Sirius	258 24.7	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.8	S43 32.9
Vega	80 31.9	N38 48.2
Zuben-ubi	136 54.6	S16 09.5

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	200 57.7	208 23.7	S 4 41.3	55 58.3	N16 53.0	61 11.3	N16 43.5	183 11.8	N 5 07.2
	1	216 00.1	223 23.3	S 4 40.1	71 00.5	N16 52.8	76 13.8	N16 43.5	198 14.0	N 5 07.3
	2	231 02.6	238 22.9	S 4 39.0	86 02.6	N16 52.6	91 16.3	N16 43.5	213 16.1	N 5 07.5
	3	246 05.0	253 22.6	S 4 37.9	101 04.8	N16 52.4	106 18.7	N16 43.5	228 18.3	N 5 07.6
	4	261 07.5	268 22.2	S 4 36.8	116 07.0	N16 52.2	121 21.2	N16 43.5	243 20.5	N 5 07.7
T	5	276 10.0	283 21.9	S 4 35.6	131 09.2	N16 52.0	136 23.7	N16 43.4	258 22.7	N 5 07.8
U										
E	6	291 12.4	298 21.5	S 4 34.5	146 11.3	N16 51.8	151 26.1	N16 43.4	273 24.8	N 5 07.9
S	7	306 14.9	313 21.2	S 4 33.4	161 13.5	N16 51.6	166 28.6	N16 43.4	288 27.0	N 5 08.0
D	8	321 17.4	328 20.8	S 4 32.2	176 15.7	N16 51.4	181 31.1	N16 43.4	303 29.2	N 5 08.2
A	9	336 19.8	343 20.5	S 4 31.1	191 17.8	N16 51.2	196 33.5	N16 43.4	318 31.3	N 5 08.3
Y	10	351 22.3	358 20.1	S 4 30.0	206 20.0	N16 51.0	211 36.0	N16 43.4	333 33.5	N 5 08.4
	11	6 24.8	13 19.8	S 4 28.8	221 22.2	N16 50.8	226 38.4	N16 43.4	348 35.7	N 5 08.5
	12	21 27.2	28 19.4	S 4 27.7	236 24.3	N16 50.6	241 40.9	N16 43.4	3 37.9	N 5 08.6
	13	36 29.7	43 19.1	S 4 26.6	251 26.5	N16 50.4	256 43.4	N16 43.4	18 40.0	N 5 08.8
	14	51 32.2	58 18.7	S 4 25.4	266 28.7	N16 50.2	271 45.8	N16 43.4	33 42.2	N 5 08.9
	15	66 34.6	73 18.4	S 4 24.3	281 30.8	N16 50.0	286 48.3	N16 43.4	48 44.4	N 5 09.0
	16	81 37.1	88 18.0	S 4 23.2	296 33.0	N16 49.8	301 50.8	N16 43.4	63 46.5	N 5 09.1
	17	96 39.5	103 17.7	S 4 22.0	311 35.1	N16 49.6	316 53.2	N16 43.4	78 48.7	N 5 09.2
	18	111 42.0	118 17.3	S 4 20.9	326 37.3	N16 49.4	331 55.7	N16 43.4	93 50.9	N 5 09.3
	19	126 44.5	133 17.0	S 4 19.8	341 39.4	N16 49.2	346 58.1	N16 43.4	108 53.1	N 5 09.5
	20	141 46.9	148 16.6	S 4 18.6	356 41.6	N16 49.0	2 00.6	N16 43.4	123 55.2	N 5 09.6
	21	156 49.4	163 16.3	S 4 17.5	11 43.8	N16 48.8	17 03.1	N16 43.4	138 57.4	N 5 09.7
	22	171 51.9	178 15.9	S 4 16.4	26 45.9	N16 48.6	32 05.5	N16 43.4	153 59.6	N 5 09.8
	23	186 54.3	193 15.6	S 4 15.2	41 48.1	N16 48.4	47 08.0	N16 43.4	169 01.7	N 5 09.9
14	0	201 56.8	208 15.2	S 4 14.1	56 50.2	N16 48.2	62 10.4	N16 43.3	184 03.9	N 5 10.1
	1	216 59.3	223 14.9	S 4 13.0	71 52.4	N16 48.0	77 12.9	N16 43.3	199 06.1	N 5 10.2
	2	232 01.7	238 14.5	S 4 11.8	86 54.5	N16 47.8	92 15.4	N16 43.3	214 08.3	N 5 10.3
	3	247 04.2	253 14.2	S 4 10.7	101 56.7	N16 47.6	107 17.8	N16 43.3	229 10.4	N 5 10.4
	4	262 06.6	268 13.9	S 4 09.5	116 58.8	N16 47.4	122 20.3	N16 43.3	244 12.6	N 5 10.5
W	5	277 09.1	283 13.5	S 4 08.4	132 01.0	N16 47.2	137 22.7	N16 43.3	259 14.8	N 5 10.6
E										
D	6	292 11.6	298 13.2	S 4 07.3	147 03.1	N16 47.0	152 25.2	N16 43.3	274 16.9	N 5 10.8
N	7	307 14.0	313 12.8	S 4 06.1	162 05.2	N16 46.8	167 27.6	N16 43.3	289 19.1	N 5 10.9
E	8	322 16.5	328 12.5	S 4 05.0	177 07.4	N16 46.6	182 30.1	N16 43.3	304 21.3	N 5 11.0
S	9	337 19.0	343 12.1	S 4 03.9	192 09.5	N16 46.4	197 32.5	N16 43.3	319 23.5	N 5 11.1
D	10	352 21.4	358 11.8	S 4 02.7	207 11.7	N16 46.1	212 35.0	N16 43.3	334 25.6	N 5 11.2
A	11	7 23.9	13 11.4	S 4 01.6	222 13.8	N16 45.9	227 37.5	N16 43.3	349 27.8	N 5 11.4
Y										
	12	22 26.4	28 11.1	S 4 00.4	237 16.0	N16 45.7	242 39.9	N16 43.3	4 30.0	N 5 11.5
	13	37 28.8	43 10.7	S 3 59.3	252 18.1	N16 45.5	257 42.4	N16 43.3	19 32.1	N 5 11.6
	14	52 31.3	58 10.4	S 3 58.2	267 20.2	N16 45.3	272 44.8	N16 43.3	34 34.3	N 5 11.7
	15	67 33.8	73 10.0	S 3 57.0	282 22.4	N16 45.1	287 47.3	N16 43.2	49 36.5	N 5 11.8
	16	82 36.2	88 09.7	S 3 55.9	297 24.5	N16 44.9	302 49.7	N16 43.2	64 38.7	N 5 11.9
	17	97 38.7	103 09.3	S 3 54.8	312 26.6	N16 44.7	317 52.2	N16 43.2	79 40.8	N 5 12.1
	18	112 41.1	118 09.0	S 3 53.6	327 28.8	N16 44.5	332 54.6	N16 43.2	94 43.0	N 5 12.2
	19	127 43.6	133 08.7	S 3 52.5	342 30.9	N16 44.3	347 57.1	N16 43.2	109 45.2	N 5 12.3
	20	142 46.1	148 08.3	S 3 51.3	357 33.0	N16 44.1	2 59.5	N16 43.2	124 47.4	N 5 12.4
	21	157 48.5	163 08.0	S 3 50.2	12 35.2	N16 43.9	18 02.0	N16 43.2	139 49.5	N 5 12.5
	22	172 51.0	178 07.6	S 3 49.0	27 37.3	N16 43.6	33 04.4	N16 43.2	154 51.7	N 5 12.7
	23	187 53.5	193 07.3	S 3 47.9	42 39.4	N16 43.4	48 06.9	N16 43.2	169 53.9	N 5 12.8
15	0	202 55.9	208 06.9	S 3 46.8	57 41.5	N16 43.2	63 09.3	N16 43.2	184 56.0	N 5 12.9
	1	217 58.4	223 06.6	S 3 45.6	72 43.7	N16 43.0	78 11.8	N16 43.2	199 58.2	N 5 13.0
	2	233 00.9	238 06.2	S 3 44.5	87 45.8	N16 42.8	93 14.2	N16 43.2	215 00.4	N 5 13.1
	3	248 03.3	253 05.9	S 3 43.3	102 47.9	N16 42.6	108 16.7	N16 43.1	230 02.6	N 5 13.2
	4	263 05.8	268 05.5	S 3 42.2	117 50.0	N16 42.4	123 19.1	N16 43.1	245 04.7	N 5 13.4
T	5	278 08.3	283 05.2	S 3 41.1	132 52.2	N16 42.2	138 21.6	N16 43.1	260 06.9	N 5 13.5
H										
U	6	293 10.7	298 04.9	S 3 39.9	147 54.3	N16 41.9	153 24.0	N16 43.1	275 09.1	N 5 13.6
R	7	308 13.2	313 04.5	S 3 38.8	162 56.4	N16 41.7	168 26.5	N16 43.1	290 11.2	N 5 13.7
S	8	323 15.6	328 04.2	S 3 37.6	177 58.5	N16 41.5	183 28.9	N16 43.1	305 13.4	N 5 13.8
D	9	338 18.1	343 03.8	S 3 36.5	193 00.6	N16 41.3	198 31.4	N16 43.1	320 15.6	N 5 14.0
A	10	353 20.6	358 03.5	S 3 35.3	208 02.7	N16 41.1	213 33.8	N16 43.1	335 17.8	N 5 14.1
Y	11	8 23.0	13 03.1	S 3 34.2	223 04.9	N16 40.9	228 36.3	N16 43.1	350 19.9	N 5 14.2
	12	23 25.5	28 02.8	S 3 33.1	238 07.0	N16 40.7	243 38.7	N16 43.1	5 22.1	N 5 14.3
	13	38 28.0	43 02.5	S 3 31.9	253 09.1	N16 40.4	258 41.2	N16 43.1	20 24.3	N 5 14.4
	14	53 30.4	58 02.1	S 3 30.8	268 11.2	N16 40.2	273 43.6	N16 43.0	35 26.4	N 5 14.5
	15	68 32.9	73 01.8	S 3 29.6	283 13.3	N16 40.0	288 46.1	N16 43.0	50 28.6	N 5 14.7
	16	83 35.4	88 01.4	S 3 28.5	298 15.4	N16 39.8	303 48.5	N16 43.0	65 30.8	N 5 14.8
	17	98 37.8	103 01.1	S 3 27.3	313 17.5	N16 39.6	318 51.0	N16 43.0	80 33.0	N 5 14.9
	18	113 40.3	118 00.7	S 3 26.2	328 19.6	N16 39.4	333 53.4	N16 43.0	95 35.1	N 5 15.0
	19	128 42.8	133 00.4	S 3 25.0	343 21.8	N16 39.1	348 55.9	N16 43.0	110 37.3	N 5 15.1
	20	143 45.2	148 00.1	S 3 23.9	358 23.9	N16 38.9	3 58.3	N16 43.0	125 39.5	N 5 15.2
	21	158 47.7	162 59.7	S 3 22.8	13 26.0	N16 38.7	19 00.7	N16 43.0	140 41.6	N 5 15.4
	22	173 50.1	177 59.4	S 3 21.6	28 28.1	N16 38.5	34 03.2	N16 43.0	155 43.8	N 5 15.5
	23	188 52.6	192 59.0	S 3 20.5	43 30.2	N16 38.3	49 05.6	N16 42.9	170 46.0	N 5 15.6
			v -0.3	d 1.1	v 2.1	d 0.2	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 '
13	0	179 49.2	N 8 53.2	99 30.2	4.5	N26 09.4	5.2	59.2
	1	194 49.4	N 8 54.1	113 53.7	4.5	N26 04.1	5.3	59.2
	2	209 49.5	N 8 55.0	128 17.3	4.6	N25 58.6	5.5	59.2
	3	224 49.7	N 8 55.9	142 41.0	4.6	N25 52.9	5.7	59.2
	4	239 49.8	N 8 56.8	157 04.7	4.7	N25 47.0	5.9	59.2
T	5	254 50.0	N 8 57.7	171 28.4	4.8	N25 41.0	6.0	59.2
U								
E	6	269 50.2	N 8 58.7	185 52.3	4.8	N25 34.8	6.2	59.2
S	7	284 50.3	N 8 59.6	200 16.2	4.9	N25 28.4	6.4	59.2
D	8	299 50.5	N 9 00.5	214 40.1	5.0	N25 21.9	6.5	59.2
A	9	314 50.6	N 9 01.4	229 04.2	5.0	N25 15.2	6.7	59.2
Y	10	329 50.8	N 9 02.3	243 28.3	5.1	N25 08.3	6.9	59.2
	11	344 50.9	N 9 03.2	257 52.4	5.2	N25 01.2	7.0	59.3
	12	359 51.1	N 9 04.1	272 16.7	5.2	N24 54.0	7.2	59.3
	13	14 51.3	N 9 05.0	286 41.0	5.3	N24 46.7	7.4	59.3
	14	29 51.4	N 9 05.9	301 05.4	5.4	N24 39.2	7.5	59.3
	15	44 51.6	N 9 06.8	315 29.9	5.5	N24 31.5	7.7	59.3
	16	59 51.7	N 9 07.7	329 54.4	5.5	N24 23.6	7.8	59.3
	17	74 51.9	N 9 08.6	344 19.0	5.6	N24 15.6	8.0	59.3
	18	89 52.0	N 9 09.5	358 43.7	5.7	N24 07.5	8.2	59.3
	19	104 52.2	N 9 10.4	13 08.5	5.8	N23 59.2	8.3	59.3
	20	119 52.4	N 9 11.3	27 33.4	5.9	N23 50.7	8.5	59.3
	21	134 52.5	N 9 12.2	41 58.3	5.9	N23 42.1	8.6	59.3
	22	149 52.7	N 9 13.1	56 23.4	6.0	N23 33.3	8.8	59.3
	23	164 52.8	N 9 14.0	70 48.5	6.1	N23 24.4	8.9	59.3
14	0	179 53.0	N 9 15.0	85 13.7	6.2	N23 15.3	9.1	59.3
	1	194 53.1	N 9 15.9	99 39.0	6.3	N23 06.1	9.2	59.3
	2	209 53.3	N 9 16.8	114 04.3	6.4	N22 56.8	9.4	59.3
	3	224 53.5	N 9 17.7	128 29.8	6.5	N22 47.3	9.5	59.3
	4	239 53.6	N 9 18.6	142 55.3	6.5	N22 37.7	9.6	59.3
W	5	254 53.8	N 9 19.5	157 21.0	6.6	N22 27.9	9.8	59.3
E								
D	6	269 53.9	N 9 20.4	171 46.7	6.7	N22 18.0	9.9	59.3
N	7	284 54.1	N 9 21.3	186 12.5	6.8	N22 07.9	10.1	59.3
E	8	299 54.2	N 9 22.2	200 38.4	6.9	N21 57.7	10.2	59.3
S	9	314 54.4	N 9 23.1	215 04.4	7.0	N21 47.4	10.3	59.3
D	10	329 54.5	N 9 24.0	229 30.4	7.1	N21 36.9	10.5	59.3
A	11	344 54.7	N 9 24.9	243 56.6	7.2	N21 26.3	10.6	59.3
Y								
	12	359 54.9	N 9 25.8	258 22.8	7.2	N21 15.6	10.7	59.3
	13	14 55.0	N 9 26.7	272 49.2	7.3	N21 04.8	10.8	59.3
	14	29 55.2	N 9 27.6	287 15.6	7.4	N20 53.8	11.0	59.3
	15	44 55.3	N 9 28.5	301 42.1	7.5	N20 42.7	11.1	59.2
	16	59 55.5	N 9 29.4	316 08.7	7.6	N20 31.5	11.2	59.2
	17	74 55.6	N 9 30.3	330 35.4	7.7	N20 20.1	11.3	59.2
	18	89 55.8	N 9 31.2	345 02.2	7.8	N20 08.7	11.5	59.2
	19	104 55.9	N 9 32.1	359 29.1	7.9	N19 57.1	11.6	59.2
	20	119 56.1	N 9 33.0	13 56.1	8.0	N19 45.4	11.7	59.2
	21	134 56.2	N 9 33.9	28 23.1	8.1	N19 33.6	11.8	59.2
	22	149 56.4	N 9 34.8	42 50.3	8.1	N19 21.6	11.9	59.2
	23	164 56.6	N 9 35.7	57 17.5	8.2	N19 09.6	12.0	59.2
15	0	179 56.7	N 9 36.5	71 44.8	8.3	N18 57.4	12.2	59.2
	1	194 56.9	N 9 37.4	86 12.2	8.4	N18 45.2	12.3	59.2
	2	209 57.0	N 9 38.3	100 39.7	8.5	N18 32.8	12.4	59.2
	3	224 57.2	N 9 39.2	115 07.3	8.6	N18 20.3	12.5	59.2
	4	239 57.3	N 9 40.1	129 35.0	8.7	N18 07.8	12.6	59.2
T	5	254 57.5	N 9 41.0	144 02.7	8.8	N17 55.1	12.7	59.2
H								
U	6	269 57.6	N 9 41.9	158 30.6	8.8	N17 42.3	12.8	59.2
R	7	284 57.8	N 9 42.8	172 58.5	8.9	N17 29.4	12.9	59.2
S	8	299 57.9	N 9 43.7	187 26.5	9.0	N17 16.4	13.0	59.2
D	9	314 58.1	N 9 44.6	201 54.6	9.1	N17 03.4	13.1	59.2
A	10	329 58.2	N 9 45.5	216 22.8	9.2	N16 50.2	13.2	59.2
Y	11	344 58.4	N 9 46.4	230 51.1	9.3	N16 36.9	13.3	59.2
	12	359 58.5	N 9 47.3	245 19.4	9.4	N16 23.6	13.4	59.2
	13	14 58.7	N 9 48.2	259 47.9	9.4	N16 10.1	13.4	59.2
	14	29 58.8	N 9 49.1	274 16.4	9.5	N15 56.6	13.5	59.2
	15	44 59.0	N 9 50.0	288 45.0	9.6	N15 43.0	13.6	59.2
	16	59 59.1	N 9 50.9	303 13.7	9.7	N15 29.3	13.7	59.2
	17	74 59.3	N 9 51.7	317 42.4	9.8	N15 15.5	13.8	59.1
	18	89 59.4	N 9 52.6	332 11.3	9.8	N15 01.6	13.9	59.1
	19	104 59.6	N 9 53.5	346 40.2	9.9	N14 47.7	13.9	59.1
	20	119 59.7	N 9 54.4	1 09.2	10.0	N14 33.6	14.0	59.1
	21	134 59.9	N 9 55.3	15 38.2	10.1	N14 19.5	14.1	59.1
	22	150 00.0	N 9 56.2	30 07.4	10.1	N14 05.4	14.2	59.1
	23	165 00.2	N 9 57.1	44 36.6	10.2	N13 51.1	14.3	59.1
		S.D. 15.9	d 0.9	S.D. 16.1		16.1		16.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.8
Achernar	335 19.4	S57 05.9
Acrux	172 57.4	S63 15.2
Adhara	255 04.5	S29 00.8
Albireo	67 02.5	N28 00.7
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.7	N55 48.7
Alkaid	152 50.1	N49 10.5
Al Na-ir	27 30.8	S46 49.6
Alnilam	275 36.0	S 1 11.2
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.9	N26 37.1
Alpheratz	357 33.2	N29 14.4
Altair	61 58.2	N 8 56.3
Ankaa	353 05.7	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.6	S69 04.5
Avior	234 13.9	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 51.7	S52 42.9
Capella	280 19.4	N46 01.6
Castor	245 54.7	N31 49.8
Deneb	49 24.6	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.2
Dubhe	193 38.2	N61 36.2
Elnath	277 59.8	N28 37.8
Eltanin	90 41.1	N51 28.7
Enif	33 37.1	N 9 59.9
Fomalhaut	15 12.7	S29 28.6
Gacrux	171 49.1	S57 16.2
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.4
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 29.9	S34 22.3
Kochab	137 18.9	N74 02.4
Markab	13 28.3	N15 21.0
Menkar	314 04.5	N 4 11.7
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.5	S69 50.1
Mirfak	308 26.1	N49 57.6
Nunki	75 45.4	S26 15.7
Peacock	53 02.8	S56 38.6
Polaris	316 10.7	N89 22.2
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.7	N12 32.2
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.3	S60 56.9
Sabik	102 00.5	S15 45.6
Schedar	349 29.5	N56 41.1
Shaula	96 07.6	S37 07.4
Sirius	258 24.7	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.8	S43 32.9
Vega	80 31.8	N38 48.2
Zuben-ubi	136 54.6	S16 09.5

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	203 55.1	207 58.7	S 3 19.3	58 32.3	N16 38.1	64 08.1	N16 42.9	185 48.2	N 5 15.7
	1	218 57.5	222 58.3	S 3 18.2	73 34.4	N16 37.8	79 10.5	N16 42.9	200 50.3	N 5 15.8
	2	233 60.0	237 58.0	S 3 17.0	88 36.5	N16 37.6	94 13.0	N16 42.9	215 52.5	N 5 16.0
	3	249 02.5	252 57.7	S 3 15.9	103 38.6	N16 37.4	109 15.4	N16 42.9	230 54.7	N 5 16.1
	4	264 04.9	267 57.3	S 3 14.7	118 40.7	N16 37.2	124 17.8	N16 42.9	245 56.9	N 5 16.2
F	5	279 07.4	282 57.0	S 3 13.6	133 42.8	N16 37.0	139 20.3	N16 42.9	260 59.0	N 5 16.3
R										
I	6	294 09.9	297 56.6	S 3 12.4	148 44.9	N16 36.7	154 22.7	N16 42.9	276 01.2	N 5 16.4
D	7	309 12.3	312 56.3	S 3 11.3	163 47.0	N16 36.5	169 25.2	N16 42.9	291 03.4	N 5 16.5
A	8	324 14.8	327 56.0	S 3 10.1	178 49.1	N16 36.3	184 27.6	N16 42.8	306 05.5	N 5 16.7
Y	9	339 17.2	342 55.6	S 3 09.0	193 51.2	N16 36.1	199 30.0	N16 42.8	321 07.7	N 5 16.8
	10	354 19.7	357 55.3	S 3 07.8	208 53.2	N16 35.8	214 32.5	N16 42.8	336 09.9	N 5 16.9
	11	9 22.2	12 54.9	S 3 06.7	223 55.3	N16 35.6	229 34.9	N16 42.8	351 12.1	N 5 17.0
	12	24 24.6	27 54.6	S 3 05.5	238 57.4	N16 35.4	244 37.4	N16 42.8	6 14.2	N 5 17.1
	13	39 27.1	42 54.2	S 3 04.4	253 59.5	N16 35.2	259 39.8	N16 42.8	21 16.4	N 5 17.2
	14	54 29.6	57 53.9	S 3 03.3	269 01.6	N16 35.0	274 42.2	N16 42.8	36 18.6	N 5 17.4
	15	69 32.0	72 53.6	S 3 02.1	284 03.7	N16 34.7	289 44.7	N16 42.8	51 20.7	N 5 17.5
	16	84 34.5	87 53.2	S 3 01.0	299 05.8	N16 34.5	304 47.1	N16 42.7	66 22.9	N 5 17.6
	17	99 37.0	102 52.9	S 2 59.8	314 07.9	N16 34.3	319 49.6	N16 42.7	81 25.1	N 5 17.7
	18	114 39.4	117 52.5	S 2 58.7	329 09.9	N16 34.1	334 52.0	N16 42.7	96 27.3	N 5 17.8
	19	129 41.9	132 52.2	S 2 57.5	344 12.0	N16 33.8	349 54.4	N16 42.7	111 29.4	N 5 17.9
	20	144 44.4	147 51.9	S 2 56.4	359 14.1	N16 33.6	4 56.9	N16 42.7	126 31.6	N 5 18.1
	21	159 46.8	162 51.5	S 2 55.2	14 16.2	N16 33.4	19 59.3	N16 42.7	141 33.8	N 5 18.2
	22	174 49.3	177 51.2	S 2 54.1	29 18.3	N16 33.2	35 01.7	N16 42.7	156 36.0	N 5 18.3
	23	189 51.7	192 50.8	S 2 52.9	44 20.4	N16 32.9	50 04.2	N16 42.7	171 38.1	N 5 18.4
17	0	204 54.2	207 50.5	S 2 51.8	59 22.4	N16 32.7	65 06.6	N16 42.6	186 40.3	N 5 18.5
	1	219 56.7	222 50.2	S 2 50.6	74 24.5	N16 32.5	80 09.0	N16 42.6	201 42.5	N 5 18.6
	2	234 59.1	237 49.8	S 2 49.5	89 26.6	N16 32.3	95 11.5	N16 42.6	216 44.6	N 5 18.8
	3	250 01.6	252 49.5	S 2 48.3	104 28.7	N16 32.0	110 13.9	N16 42.6	231 46.8	N 5 18.9
	4	265 04.1	267 49.2	S 2 47.2	119 30.7	N16 31.8	125 16.3	N16 42.6	246 49.0	N 5 19.0
S	5	280 06.5	282 48.8	S 2 46.0	134 32.8	N16 31.6	140 18.8	N16 42.6	261 51.2	N 5 19.1
A										
T	6	295 09.0	297 48.5	S 2 44.8	149 34.9	N16 31.3	155 21.2	N16 42.6	276 53.3	N 5 19.2
U	7	310 11.5	312 48.1	S 2 43.7	164 37.0	N16 31.1	170 23.6	N16 42.5	291 55.5	N 5 19.4
R	8	325 13.9	327 47.8	S 2 42.5	179 39.0	N16 30.9	185 26.1	N16 42.5	306 57.7	N 5 19.5
D	9	340 16.4	342 47.5	S 2 41.4	194 41.1	N16 30.7	200 28.5	N16 42.5	321 59.8	N 5 19.6
A	10	355 18.9	357 47.1	S 2 40.2	209 43.2	N16 30.4	215 30.9	N16 42.5	337 02.0	N 5 19.7
Y	11	10 21.3	12 46.8	S 2 39.1	224 45.2	N16 30.2	230 33.4	N16 42.5	352 04.2	N 5 19.8
	12	25 23.8	27 46.4	S 2 37.9	239 47.3	N16 30.0	245 35.8	N16 42.5	7 06.4	N 5 19.9
	13	40 26.2	42 46.1	S 2 36.8	254 49.4	N16 29.7	260 38.2	N16 42.5	22 08.5	N 5 20.1
	14	55 28.7	57 45.8	S 2 35.6	269 51.4	N16 29.5	275 40.7	N16 42.4	37 10.7	N 5 20.2
	15	70 31.2	72 45.4	S 2 34.5	284 53.5	N16 29.3	290 43.1	N16 42.4	52 12.9	N 5 20.3
	16	85 33.6	87 45.1	S 2 33.3	299 55.6	N16 29.0	305 45.5	N16 42.4	67 15.1	N 5 20.4
	17	100 36.1	102 44.8	S 2 32.2	314 57.6	N16 28.8	320 48.0	N16 42.4	82 17.2	N 5 20.5
	18	115 38.6	117 44.4	S 2 31.0	329 59.7	N16 28.6	335 50.4	N16 42.4	97 19.4	N 5 20.6
	19	130 41.0	132 44.1	S 2 29.9	345 01.7	N16 28.4	350 52.8	N16 42.4	112 21.6	N 5 20.8
	20	145 43.5	147 43.7	S 2 28.7	0 03.8	N16 28.1	5 55.2	N16 42.4	127 23.7	N 5 20.9
	21	160 46.0	162 43.4	S 2 27.6	15 05.9	N16 27.9	20 57.7	N16 42.3	142 25.9	N 5 21.0
	22	175 48.4	177 43.1	S 2 26.4	30 07.9	N16 27.7	36 00.1	N16 42.3	157 28.1	N 5 21.1
	23	190 50.9	192 42.7	S 2 25.2	45 10.0	N16 27.4	51 02.5	N16 42.3	172 30.3	N 5 21.2
18	0	205 53.3	207 42.4	S 2 24.1	60 12.0	N16 27.2	66 05.0	N16 42.3	187 32.4	N 5 21.3
	1	220 55.8	222 42.1	S 2 22.9	75 14.1	N16 27.0	81 07.4	N16 42.3	202 34.6	N 5 21.5
	2	235 58.3	237 41.7	S 2 21.8	90 16.1	N16 26.7	96 09.8	N16 42.3	217 36.8	N 5 21.6
	3	251 00.7	252 41.4	S 2 20.6	105 18.2	N16 26.5	111 12.2	N16 42.2	232 39.0	N 5 21.7
	4	266 03.2	267 41.0	S 2 19.5	120 20.3	N16 26.3	126 14.7	N16 42.2	247 41.1	N 5 21.8
S	5	281 05.7	282 40.7	S 2 18.3	135 22.3	N16 26.0	141 17.1	N16 42.2	262 43.3	N 5 21.9
U										
N	6	296 08.1	297 40.4	S 2 17.2	150 24.4	N16 25.8	156 19.5	N16 42.2	277 45.5	N 5 22.0
D	7	311 10.6	312 40.0	S 2 16.0	165 26.4	N16 25.5	171 21.9	N16 42.2	292 47.6	N 5 22.2
A	8	326 13.1	327 39.7	S 2 14.8	180 28.4	N16 25.3	186 24.4	N16 42.2	307 49.8	N 5 22.3
Y	9	341 15.5	342 39.4	S 2 13.7	195 30.5	N16 25.1	201 26.8	N16 42.2	322 52.0	N 5 22.4
	10	356 18.0	357 39.0	S 2 12.5	210 32.5	N16 24.8	216 29.2	N16 42.1	337 54.2	N 5 22.5
	11	11 20.5	12 38.7	S 2 11.4	225 34.6	N16 24.6	231 31.6	N16 42.1	352 56.3	N 5 22.6
	12	26 22.9	27 38.4	S 2 10.2	240 36.6	N16 24.4	246 34.1	N16 42.1	7 58.5	N 5 22.7
	13	41 25.4	42 38.0	S 2 09.1	255 38.7	N16 24.1	261 36.5	N16 42.1	23 00.7	N 5 22.9
	14	56 27.8	57 37.7	S 2 07.9	270 40.7	N16 23.9	276 38.9	N16 42.1	38 02.9	N 5 23.0
	15	71 30.3	72 37.3	S 2 06.7	285 42.8	N16 23.7	291 41.3	N16 42.0	53 05.0	N 5 23.1
	16	86 32.8	87 37.0	S 2 05.6	300 44.8	N16 23.4	306 43.8	N16 42.0	68 07.2	N 5 23.2
	17	101 35.2	102 36.7	S 2 04.4	315 46.8	N16 23.2	321 46.2	N16 42.0	83 09.4	N 5 23.3
	18	116 37.7	117 36.3	S 2 03.3	330 48.9	N16 22.9	336 48.6	N16 42.0	98 11.5	N 5 23.4
	19	131 40.2	132 36.0	S 2 02.1	345 50.9	N16 22.7	351 51.0	N16 42.0	113 13.7	N 5 23.6
	20	146 42.6	147 35.7	S 2 01.0	0 53.0	N16 22.5	6 53.4	N16 42.0	128 15.9	N 5 23.7
	21	161 45.1	162 35.3	S 1 59.8	15 55.0	N16 22.2	21 55.9	N16 41.9	143 18.1	N 5 23.8
	22	176 47.6	177 35.0	S 1 58.6	30 57.0	N16 22.0	36 58.3	N16 41.9	158 20.2	N 5 23.9
	23	191 50.0	192 34.7	S 1 57.5	45 59.1	N16 21.7	52 00.7	N16 41.9	173 22.4	N 5 24.0
			v -0.3	d 1.2	v 2.1	d 0.2	v 2.4	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
	° '	° '	° '	'	° '	'	'		° ' ° '
16 0	180 00.3	N 9 58.0	59 05.9	10.3	N13 36.8	14.3	59.1	Acamar	315 10.7 S40 11.8
1	195 00.5	N 9 58.9	73 35.2	10.4	N13 22.4	14.4	59.1	Achernar	335 19.4 S57 05.8
2	210 00.6	N 9 59.8	88 04.7	10.4	N13 07.9	14.5	59.1	Acrux	172 57.4 S63 15.2
3	225 00.8	N10 00.7	102 34.2	10.5	N12 53.4	14.5	59.1	Adhara	255 04.5 S29 00.8
4	240 00.9	N10 01.5	117 03.7	10.6	N12 38.8	14.6	59.1	Albireo	67 02.5 N28 00.7
F 5	255 01.1	N10 02.4	131 33.4	10.6	N12 24.1	14.7	59.1		
R								Aldebaran	290 37.7 N16 33.8
I 6	270 01.2	N10 03.3	146 03.1	10.7	N12 09.4	14.7	59.1	Alioth	166 10.7 N55 48.7
D 7	285 01.4	N10 04.2	160 32.9	10.8	N11 54.6	14.8	59.1	Alkaid	152 50.0 N49 10.5
A 8	300 01.5	N10 05.1	175 02.7	10.8	N11 39.8	14.8	59.0	Al Na-ir	27 30.8 S46 49.6
Y 9	315 01.7	N10 06.0	189 32.6	10.9	N11 24.9	14.9	59.0	Alnilam	275 36.0 S 1 11.2
10	330 01.8	N10 06.9	204 02.6	11.0	N11 09.9	15.0	59.0		
11	345 02.0	N10 07.8	218 32.6	11.0	N10 54.9	15.0	59.0	Alphard	217 45.8 S 8 46.8
								Alphecca	126 01.8 N26 37.1
12	0 02.1	N10 08.6	233 02.7	11.1	N10 39.8	15.1	59.0	Alpheratz	357 33.2 N29 14.4
13	15 02.3	N10 09.5	247 32.9	11.2	N10 24.7	15.1	59.0	Altair	61 58.1 N 8 56.3
14	30 02.4	N10 10.4	262 03.1	11.2	N10 09.5	15.2	59.0	Ankaa	353 05.7 S42 09.4
15	45 02.6	N10 11.3	276 33.3	11.3	N 9 54.3	15.2	59.0		
16	60 02.7	N10 12.2	291 03.7	11.3	N 9 39.1	15.3	59.0	Antares	112 13.3 S26 29.6
17	75 02.9	N10 13.1	305 34.1	11.4	N 9 23.8	15.3	59.0	Arcturus	145 45.9 N19 02.2
								Atria	107 05.6 S69 04.5
18	90 03.0	N10 13.9	320 04.5	11.4	N 9 08.4	15.4	59.0	Avior	234 13.9 S59 36.2
19	105 03.2	N10 14.8	334 35.0	11.5	N 8 53.0	15.4	58.9	Bellatrix	278 21.1 N 6 22.4
20	120 03.3	N10 15.7	349 05.6	11.5	N 8 37.6	15.4	58.9		
21	135 03.4	N10 16.6	3 36.2	11.6	N 8 22.1	15.5	58.9	Betelgeuse	270 50.2 N 7 24.7
22	150 03.6	N10 17.5	18 06.8	11.7	N 8 06.6	15.5	58.9	Canopus	263 51.8 S52 42.9
23	165 03.7	N10 18.4	32 37.5	11.7	N 7 51.0	15.6	58.9	Capella	280 19.4 N46 01.6
17 0	180 03.9	N10 19.3	47 08.3	11.7	N 7 35.4	15.6	58.9	Castor	245 54.7 N31 49.8
1	195 04.0	N10 20.1	61 39.1	11.8	N 7 19.8	15.6	58.9	Deneb	49 24.6 N45 22.4
2	210 04.2	N10 21.0	76 09.9	11.8	N 7 04.2	15.7	58.9		
3	225 04.3	N10 21.9	90 40.8	11.9	N 6 48.5	15.7	58.9	Denebola	182 22.8 N14 25.0
4	240 04.5	N10 22.8	105 11.7	11.9	N 6 32.8	15.7	58.9	Diphda	348 45.8 S17 50.2
S 5	255 04.6	N10 23.7	119 42.7	12.0	N 6 17.0	15.7	58.8	Dubhe	193 38.2 N61 36.3
A								Elnath	277 59.8 N28 37.8
T 6	270 04.8	N10 24.5	134 13.7	12.0	N 6 01.3	15.8	58.8	Eltanin	90 41.1 N51 28.7
U 7	285 04.9	N10 25.4	148 44.8	12.1	N 5 45.5	15.8	58.8		
R 8	300 05.0	N10 26.3	163 15.9	12.1	N 5 29.6	15.8	58.8	Enif	33 37.1 N 9 59.9
D 9	315 05.2	N10 27.2	177 47.0	12.1	N 5 13.8	15.8	58.8	Fomalhaut	15 12.7 S29 28.6
A 10	330 05.3	N10 28.1	192 18.2	12.2	N 4 58.0	15.9	58.8	Gacrux	171 49.1 S57 16.2
Y 11	345 05.5	N10 28.9	206 49.4	12.2	N 4 42.1	15.9	58.8	Gienah	175 41.4 S17 41.8
								Hadar	148 32.8 S60 30.4
12	0 05.6	N10 29.8	221 20.6	12.2	N 4 26.2	15.9	58.8		
13	15 05.8	N10 30.7	235 51.9	12.3	N 4 10.3	15.9	58.7	Hamal	327 49.5 N23 35.5
14	30 05.9	N10 31.6	250 23.2	12.3	N 3 54.4	15.9	58.7	Kaus Austr.	83 29.9 S34 22.3
15	45 06.1	N10 32.5	264 54.5	12.3	N 3 38.4	15.9	58.7	Kochab	137 18.9 N74 02.4
16	60 06.2	N10 33.3	279 25.9	12.4	N 3 22.5	15.9	58.7	Markab	13 28.3 N15 21.0
17	75 06.3	N10 34.2	293 57.3	12.4	N 3 06.5	16.0	58.7	Menkar	314 04.5 N 4 11.8
								Menkent	147 55.1 S36 30.5
18	90 06.5	N10 35.1	308 28.7	12.4	N 2 50.5	16.0	58.7	Miaplacidus	221 37.5 S69 50.1
19	105 06.6	N10 36.0	323 00.2	12.4	N 2 34.6	16.0	58.7	Mirfak	308 26.1 N49 57.6
20	120 06.8	N10 36.8	337 31.6	12.5	N 2 18.6	16.0	58.7	Nunki	75 45.4 S26 15.7
21	135 06.9	N10 37.7	352 03.1	12.5	N 2 02.6	16.0	58.6	Peacock	53 02.8 S56 38.6
22	150 07.1	N10 38.6	6 34.6	12.5	N 1 46.6	16.0	58.6		
23	165 07.2	N10 39.5	21 06.2	12.5	N 1 30.6	16.0	58.6	Polaris	316 10.9 N89 22.2
18 0	180 07.3	N10 40.3	35 37.7	12.6	N 1 14.6	16.0	58.6	Pollux	243 15.0 N27 57.6
1	195 07.5	N10 41.2	50 09.3	12.6	N 0 58.7	16.0	58.6	Procyon	244 48.9 N 5 09.2
2	210 07.6	N10 42.1	64 40.9	12.6	N 0 42.7	16.0	58.6	Rasalhague	95 56.7 N12 32.2
3	225 07.8	N10 43.0	79 12.5	12.6	N 0 26.7	16.0	58.6	Regulus	207 32.3 N11 49.9
4	240 07.9	N10 43.8	93 44.2	12.6	N 0 10.7	16.0	58.5		
S 5	255 08.0	N10 44.7	108 15.8	12.6	S 0 05.3	16.0	58.5	Rigel	281 02.3 S 8 10.3
U								Rigil Kent	139 37.3 S60 56.9
N 6	270 08.2	N10 45.6	122 47.5	12.7	S 0 21.2	16.0	58.5	Sabik	102 00.4 S15 45.6
D 7	285 08.3	N10 46.5	137 19.2	12.7	S 0 37.2	16.0	58.5	Schedar	349 29.5 N56 41.1
A 8	300 08.5	N10 47.3	151 50.8	12.7	S 0 53.1	15.9	58.5	Shaula	96 07.6 S37 07.4
Y 9	315 08.6	N10 48.2	166 22.5	12.7	S 1 09.0	15.9	58.5	Sirius	258 24.7 S16 45.4
10	330 08.8	N10 49.1	180 54.2	12.7	S 1 25.0	15.9	58.4	Spica	158 20.0 S11 18.4
11	345 08.9	N10 50.0	195 26.0	12.7	S 1 40.9	15.9	58.4	Suhail	222 44.8 S43 32.9
								Vega	80 31.8 N38 48.2
12	0 09.0	N10 50.8	209 57.7	12.7	S 1 56.7	15.9	58.4	Zuben-ubi	136 54.5 S16 09.5
13	15 09.2	N10 51.7	224 29.4	12.7	S 2 12.6	15.9	58.4		
14	30 09.3	N10 52.6	239 01.1	12.7	S 2 28.5	15.8	58.4		
15	45 09.5	N10 53.4	253 32.9	12.7	S 2 44.3	15.8	58.4		
16	60 09.6	N10 54.3	268 04.6	12.7	S 3 00.1	15.8	58.3		
17	75 09.7	N10 55.2	282 36.3	12.7	S 3 15.9	15.8	58.3		
18	90 09.9	N10 56.1	297 08.1	12.7	S 3 31.6	15.8	58.3		
19	105 10.0	N10 56.9	311 39.8	12.7	S 3 47.4	15.7	58.3		
20	120 10.2	N10 57.8	326 11.5	12.7	S 4 03.1	15.7	58.3		
21	135 10.3	N10 58.7	340 43.3	12.7	S 4 18.8	15.7	58.3		
22	150 10.4	N10 59.5	355 15.0	12.7	S 4 34.4	15.6	58.2		
23	165 10.6	N11 00.4	9 46.7	12.7	S 4 50.0	15.6	58.2		
	S.D. 15.9	d 0.9	S.D.	16.1		16.0	15.9		

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
19 0	206 52.5	207 34.3	S 1 56.3	61 01.1	N16 21.5	67 03.1	N16 41.9	188 24.6	N 5 24.1
1	221 54.9	222 34.0	S 1 55.2	76 03.1	N16 21.3	82 05.5	N16 41.9	203 26.8	N 5 24.3
2	236 57.4	237 33.7	S 1 54.0	91 05.2	N16 21.0	97 08.0	N16 41.9	218 28.9	N 5 24.4
3	251 59.9	252 33.3	S 1 52.9	106 07.2	N16 20.8	112 10.4	N16 41.8	233 31.1	N 5 24.5
4	267 02.3	267 33.0	S 1 51.7	121 09.2	N16 20.5	127 12.8	N16 41.8	248 33.3	N 5 24.6
M 5	282 04.8	282 32.6	S 1 50.5	136 11.2	N16 20.3	142 15.2	N16 41.8	263 35.4	N 5 24.7
O									
N 6	297 07.3	297 32.3	S 1 49.4	151 13.3	N16 20.1	157 17.6	N16 41.8	278 37.6	N 5 24.8
D 7	312 09.7	312 32.0	S 1 48.2	166 15.3	N16 19.8	172 20.1	N16 41.8	293 39.8	N 5 24.9
A 8	327 12.2	327 31.6	S 1 47.1	181 17.3	N16 19.6	187 22.5	N16 41.7	308 42.0	N 5 25.1
Y 9	342 14.7	342 31.3	S 1 45.9	196 19.3	N16 19.3	202 24.9	N16 41.7	323 44.1	N 5 25.2
10	357 17.1	357 31.0	S 1 44.7	211 21.4	N16 19.1	217 27.3	N16 41.7	338 46.3	N 5 25.3
11	12 19.6	12 30.6	S 1 43.6	226 23.4	N16 18.8	232 29.7	N16 41.7	353 48.5	N 5 25.4
12	27 22.1	27 30.3	S 1 42.4	241 25.4	N16 18.6	247 32.1	N16 41.7	8 50.7	N 5 25.5
13	42 24.5	42 30.0	S 1 41.3	256 27.4	N16 18.4	262 34.6	N16 41.6	23 52.8	N 5 25.6
14	57 27.0	57 29.6	S 1 40.1	271 29.5	N16 18.1	277 37.0	N16 41.6	38 55.0	N 5 25.8
15	72 29.4	72 29.3	S 1 38.9	286 31.5	N16 17.9	292 39.4	N16 41.6	53 57.2	N 5 25.9
16	87 31.9	87 29.0	S 1 37.8	301 33.5	N16 17.6	307 41.8	N16 41.6	68 59.3	N 5 26.0
17	102 34.4	102 28.6	S 1 36.6	316 35.5	N16 17.4	322 44.2	N16 41.6	84 01.5	N 5 26.1
18	117 36.8	117 28.3	S 1 35.5	331 37.5	N16 17.1	337 46.6	N16 41.5	99 03.7	N 5 26.2
19	132 39.3	132 28.0	S 1 34.3	346 39.5	N16 16.9	352 49.0	N16 41.5	114 05.9	N 5 26.3
20	147 41.8	147 27.6	S 1 33.1	1 41.6	N16 16.6	7 51.5	N16 41.5	129 08.0	N 5 26.5
21	162 44.2	162 27.3	S 1 32.0	16 43.6	N16 16.4	22 53.9	N16 41.5	144 10.2	N 5 26.6
22	177 46.7	177 27.0	S 1 30.8	31 45.6	N16 16.1	37 56.3	N16 41.5	159 12.4	N 5 26.7
23	192 49.2	192 26.6	S 1 29.6	46 47.6	N16 15.9	52 58.7	N16 41.4	174 14.6	N 5 26.8
20 0	207 51.6	207 26.3	S 1 28.5	61 49.6	N16 15.6	68 01.1	N16 41.4	189 16.7	N 5 26.9
1	222 54.1	222 26.0	S 1 27.3	76 51.6	N16 15.4	83 03.5	N16 41.4	204 18.9	N 5 27.0
2	237 56.5	237 25.6	S 1 26.2	91 53.6	N16 15.2	98 05.9	N16 41.4	219 21.1	N 5 27.2
3	252 59.0	252 25.3	S 1 25.0	106 55.6	N16 14.9	113 08.3	N16 41.4	234 23.3	N 5 27.3
4	268 01.5	267 25.0	S 1 23.8	121 57.6	N16 14.7	128 10.8	N16 41.3	249 25.4	N 5 27.4
T 5	283 03.9	282 24.6	S 1 22.7	136 59.7	N16 14.4	143 13.2	N16 41.3	264 27.6	N 5 27.5
U									
E 6	298 06.4	297 24.3	S 1 21.5	152 01.7	N16 14.2	158 15.6	N16 41.3	279 29.8	N 5 27.6
S 7	313 08.9	312 24.0	S 1 20.3	167 03.7	N16 13.9	173 18.0	N16 41.3	294 31.9	N 5 27.7
D 8	328 11.3	327 23.6	S 1 19.2	182 05.7	N16 13.7	188 20.4	N16 41.3	309 34.1	N 5 27.8
A 9	343 13.8	342 23.3	S 1 18.0	197 07.7	N16 13.4	203 22.8	N16 41.2	324 36.3	N 5 28.0
Y 10	358 16.3	357 23.0	S 1 16.9	212 09.7	N16 13.2	218 25.2	N16 41.2	339 38.5	N 5 28.1
11	13 18.7	12 22.6	S 1 15.7	227 11.7	N16 12.9	233 27.6	N16 41.2	354 40.6	N 5 28.2
12	28 21.2	27 22.3	S 1 14.5	242 13.7	N16 12.7	248 30.0	N16 41.2	9 42.8	N 5 28.3
13	43 23.7	42 22.0	S 1 13.4	257 15.7	N16 12.4	263 32.4	N16 41.2	24 45.0	N 5 28.4
14	58 26.1	57 21.6	S 1 12.2	272 17.7	N16 12.2	278 34.9	N16 41.1	39 47.2	N 5 28.5
15	73 28.6	72 21.3	S 1 11.0	287 19.7	N16 11.9	293 37.3	N16 41.1	54 49.3	N 5 28.7
16	88 31.0	87 21.0	S 1 09.9	302 21.7	N16 11.7	308 39.7	N16 41.1	69 51.5	N 5 28.8
17	103 33.5	102 20.6	S 1 08.7	317 23.7	N16 11.4	323 42.1	N16 41.1	84 53.7	N 5 28.9
18	118 36.0	117 20.3	S 1 07.6	332 25.7	N16 11.1	338 44.5	N16 41.0	99 55.9	N 5 29.0
19	133 38.4	132 20.0	S 1 06.4	347 27.7	N16 10.9	353 46.9	N16 41.0	114 58.0	N 5 29.1
20	148 40.9	147 19.6	S 1 05.2	2 29.6	N16 10.6	8 49.3	N16 41.0	130 00.2	N 5 29.2
21	163 43.4	162 19.3	S 1 04.1	17 31.6	N16 10.4	23 51.7	N16 41.0	145 02.4	N 5 29.4
22	178 45.8	177 19.0	S 1 02.9	32 33.6	N16 10.1	38 54.1	N16 41.0	160 04.6	N 5 29.5
23	193 48.3	192 18.6	S 1 01.7	47 35.6	N16 09.9	53 56.5	N16 40.9	175 06.7	N 5 29.6
21 0	208 50.8	207 18.3	S 1 00.6	62 37.6	N16 09.6	68 58.9	N16 40.9	190 08.9	N 5 29.7
1	223 53.2	222 18.0	S 0 59.4	77 39.6	N16 09.4	84 01.3	N16 40.9	205 11.1	N 5 29.8
2	238 55.7	237 17.6	S 0 58.2	92 41.6	N16 09.1	99 03.7	N16 40.9	220 13.2	N 5 29.9
3	253 58.2	252 17.3	S 0 57.1	107 43.6	N16 08.9	114 06.1	N16 40.8	235 15.4	N 5 30.0
4	269 00.6	267 17.0	S 0 55.9	122 45.6	N16 08.6	129 08.5	N16 40.8	250 17.6	N 5 30.2
W 5	284 03.1	282 16.6	S 0 54.7	137 47.5	N16 08.4	144 10.9	N16 40.8	265 19.8	N 5 30.3
E									
D 6	299 05.5	297 16.3	S 0 53.6	152 49.5	N16 08.1	159 13.3	N16 40.8	280 21.9	N 5 30.4
N 7	314 08.0	312 16.0	S 0 52.4	167 51.5	N16 07.8	174 15.7	N16 40.7	295 24.1	N 5 30.5
E 8	329 10.5	327 15.6	S 0 51.2	182 53.5	N16 07.6	189 18.1	N16 40.7	310 26.3	N 5 30.6
S 9	344 12.9	342 15.3	S 0 50.1	197 55.5	N16 07.3	204 20.5	N16 40.7	325 28.5	N 5 30.7
D 10	359 15.4	357 15.0	S 0 48.9	212 57.5	N16 07.1	219 22.9	N16 40.7	340 30.6	N 5 30.9
A 11	14 17.9	12 14.6	S 0 47.8	227 59.4	N16 06.8	234 25.4	N16 40.7	355 32.8	N 5 31.0
Y									
12	29 20.3	27 14.3	S 0 46.6	243 01.4	N16 06.6	249 27.8	N16 40.6	10 35.0	N 5 31.1
13	44 22.8	42 14.0	S 0 45.4	258 03.4	N16 06.3	264 30.2	N16 40.6	25 37.2	N 5 31.2
14	59 25.3	57 13.7	S 0 44.3	273 05.4	N16 06.0	279 32.6	N16 40.6	40 39.3	N 5 31.3
15	74 27.7	72 13.3	S 0 43.1	288 07.3	N16 05.8	294 35.0	N16 40.6	55 41.5	N 5 31.4
16	89 30.2	87 13.0	S 0 41.9	303 09.3	N16 05.5	309 37.4	N16 40.5	70 43.7	N 5 31.5
17	104 32.6	102 12.7	S 0 40.8	318 11.3	N16 05.3	324 39.8	N16 40.5	85 45.9	N 5 31.7
18	119 35.1	117 12.3	S 0 39.6	333 13.3	N16 05.0	339 42.2	N16 40.5	100 48.0	N 5 31.8
19	134 37.6	132 12.0	S 0 38.4	348 15.2	N16 04.7	354 44.6	N16 40.5	115 50.2	N 5 31.9
20	149 40.0	147 11.7	S 0 37.3	3 17.2	N16 04.5	9 46.9	N16 40.4	130 52.4	N 5 32.0
21	164 42.5	162 11.3	S 0 36.1	18 19.2	N16 04.2	24 49.3	N16 40.4	145 54.6	N 5 32.1
22	179 45.0	177 11.0	S 0 34.9	33 21.2	N16 04.0	39 51.7	N16 40.4	160 56.7	N 5 32.2
23	194 47.4	192 10.7	S 0 33.8	48 23.1	N16 03.7	54 54.1	N16 40.4	175 58.9	N 5 32.4
		v -0.3	d 1.2	v 2.0	d 0.3	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 '
19	0	180 10.7	N11 01.3	24 18.4	12.7	S 5 05.6	15.6	58.2
	1	195 10.8	N11 02.1	38 50.1	12.7	S 5 21.2	15.6	58.2
	2	210 11.0	N11 03.0	53 21.8	12.7	S 5 36.7	15.5	58.2
	3	225 11.1	N11 03.9	67 53.5	12.7	S 5 52.2	15.5	58.1
	4	240 11.3	N11 04.7	82 25.2	12.7	S 6 07.6	15.4	58.1
M	5	255 11.4	N11 05.6	96 56.9	12.7	S 6 23.0	15.4	58.1
O								
N	6	270 11.5	N11 06.5	111 28.5	12.7	S 6 38.4	15.4	58.1
D	7	285 11.7	N11 07.3	126 00.2	12.6	S 6 53.7	15.3	58.1
A	8	300 11.8	N11 08.2	140 31.8	12.6	S 7 09.0	15.3	58.0
Y	9	315 11.9	N11 09.1	155 03.4	12.6	S 7 24.2	15.2	58.0
	10	330 12.1	N11 09.9	169 35.0	12.6	S 7 39.4	15.2	58.0
	11	345 12.2	N11 10.8	184 06.6	12.6	S 7 54.5	15.1	58.0
	12	0 12.3	N11 11.7	198 38.2	12.6	S 8 09.6	15.1	58.0
	13	15 12.5	N11 12.5	213 09.7	12.5	S 8 24.7	15.0	57.9
	14	30 12.6	N11 13.4	227 41.2	12.5	S 8 39.6	15.0	57.9
	15	45 12.8	N11 14.2	242 12.7	12.5	S 8 54.6	14.9	57.9
	16	60 12.9	N11 15.1	256 44.2	12.5	S 9 09.5	14.9	57.9
	17	75 13.0	N11 16.0	271 15.7	12.5	S 9 24.3	14.8	57.9
	18	90 13.2	N11 16.8	285 47.1	12.4	S 9 39.1	14.8	57.8
	19	105 13.3	N11 17.7	300 18.5	12.4	S 9 53.8	14.7	57.8
	20	120 13.4	N11 18.6	314 49.9	12.4	S10 08.5	14.7	57.8
	21	135 13.6	N11 19.4	329 21.3	12.4	S10 23.1	14.6	57.8
	22	150 13.7	N11 20.3	343 52.6	12.3	S10 37.6	14.5	57.8
	23	165 13.8	N11 21.1	358 23.9	12.3	S10 52.1	14.5	57.7
20	0	180 14.0	N11 22.0	12 55.2	12.3	S11 06.5	14.4	57.7
	1	195 14.1	N11 22.9	27 26.5	12.3	S11 20.9	14.4	57.7
	2	210 14.2	N11 23.7	41 57.7	12.2	S11 35.2	14.3	57.7
	3	225 14.4	N11 24.6	56 28.9	12.2	S11 49.4	14.2	57.6
	4	240 14.5	N11 25.4	71 00.1	12.2	S12 03.5	14.2	57.6
T	5	255 14.6	N11 26.3	85 31.2	12.1	S12 17.6	14.1	57.6
U								
E	6	270 14.8	N11 27.2	100 02.3	12.1	S12 31.6	14.0	57.6
S	7	285 14.9	N11 28.0	114 33.4	12.1	S12 45.6	13.9	57.6
D	8	300 15.0	N11 28.9	129 04.4	12.0	S12 59.4	13.9	57.5
A	9	315 15.2	N11 29.7	143 35.4	12.0	S13 13.2	13.8	57.5
Y	10	330 15.3	N11 30.6	158 06.4	12.0	S13 27.0	13.7	57.5
	11	345 15.4	N11 31.4	172 37.3	11.9	S13 40.6	13.6	57.5
	12	0 15.6	N11 32.3	187 08.2	11.9	S13 54.2	13.6	57.4
	13	15 15.7	N11 33.2	201 39.0	11.9	S14 07.6	13.5	57.4
	14	30 15.8	N11 34.0	216 09.9	11.8	S14 21.1	13.4	57.4
	15	45 16.0	N11 34.9	230 40.6	11.8	S14 34.4	13.3	57.4
	16	60 16.1	N11 35.7	245 11.4	11.7	S14 47.6	13.2	57.3
	17	75 16.2	N11 36.6	259 42.1	11.7	S15 00.8	13.2	57.3
	18	90 16.3	N11 37.4	274 12.8	11.7	S15 13.9	13.1	57.3
	19	105 16.5	N11 38.3	288 43.4	11.6	S15 26.8	13.0	57.3
	20	120 16.6	N11 39.1	303 14.0	11.6	S15 39.7	12.9	57.2
	21	135 16.7	N11 40.0	317 44.5	11.5	S15 52.6	12.8	57.2
	22	150 16.9	N11 40.8	332 15.0	11.5	S16 05.3	12.7	57.2
	23	165 17.0	N11 41.7	346 45.5	11.5	S16 17.9	12.6	57.2
21	0	180 17.1	N11 42.6	1 15.9	11.4	S16 30.5	12.5	57.2
	1	195 17.3	N11 43.4	15 46.3	11.4	S16 42.9	12.4	57.1
	2	210 17.4	N11 44.3	30 16.6	11.3	S16 55.3	12.4	57.1
	3	225 17.5	N11 45.1	44 46.9	11.3	S17 07.5	12.3	57.1
	4	240 17.6	N11 46.0	59 17.2	11.3	S17 19.7	12.2	57.1
W	5	255 17.8	N11 46.8	73 47.4	11.2	S17 31.8	12.1	57.0
E								
D	6	270 17.9	N11 47.7	88 17.6	11.2	S17 43.7	12.0	57.0
N	7	285 18.0	N11 48.5	102 47.7	11.1	S17 55.6	11.9	57.0
E	8	300 18.2	N11 49.4	117 17.8	11.1	S18 07.4	11.8	57.0
S	9	315 18.3	N11 50.2	131 47.8	11.0	S18 19.0	11.7	56.9
D	10	330 18.4	N11 51.1	146 17.8	11.0	S18 30.6	11.6	56.9
A	11	345 18.5	N11 51.9	160 47.8	10.9	S18 42.1	11.5	56.9
Y								
	12	0 18.7	N11 52.8	175 17.7	10.9	S18 53.4	11.4	56.9
	13	15 18.8	N11 53.6	189 47.5	10.9	S19 04.7	11.3	56.8
	14	30 18.9	N11 54.5	204 17.3	10.8	S19 15.8	11.2	56.8
	15	45 19.0	N11 55.3	218 47.1	10.8	S19 26.9	11.0	56.8
	16	60 19.2	N11 56.1	233 16.8	10.7	S19 37.8	10.9	56.8
	17	75 19.3	N11 57.0	247 46.5	10.7	S19 48.6	10.8	56.7
	18	90 19.4	N11 57.8	262 16.2	10.6	S19 59.4	10.7	56.7
	19	105 19.6	N11 58.7	276 45.7	10.6	S20 10.0	10.6	56.7
	20	120 19.7	N11 59.5	291 15.3	10.6	S20 20.5	10.5	56.7
	21	135 19.8	N12 00.4	305 44.8	10.5	S20 30.8	10.4	56.6
	22	150 19.9	N12 01.2	320 14.3	10.5	S20 41.1	10.3	56.6
	23	165 20.1	N12 02.1	334 43.7	10.4	S20 51.3	10.2	56.6
		S.D. 15.9	d 0.9	S.D. 15.8		15.6	15.5	

Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.8
Achernar	335 19.4	S57 05.8
Acrux	172 57.4	S63 15.2
Adhara	255 04.5	S29 00.8
Albireo	67 02.5	N28 00.7
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.7
Alkaid	152 50.0	N49 10.5
Al Na-ir	27 30.8	S46 49.6
Alnilam	275 36.0	S 1 11.2
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.8	N26 37.1
Alpheratz	357 33.2	N29 14.4
Altair	61 58.1	N 8 56.3
Ankaa	353 05.7	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.5	S69 04.5
Avior	234 13.9	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 51.8	S52 42.9
Capella	280 19.5	N46 01.6
Castor	245 54.7	N31 49.8
Deneb	49 24.6	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.2
Dubhe	193 38.2	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 41.1	N51 28.7
Enif	33 37.0	N 9 59.9
Fomalhaut	15 12.7	S29 28.6
Gacrux	171 49.1	S57 16.2
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.4
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 29.9	S34 22.3
Kochab	137 18.9	N74 02.4
Markab	13 28.3	N15 21.0
Menkar	314 04.5	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.5	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.3	S26 15.7
Peacock	53 02.8	S56 38.6
Polaris	316 11.0	N89 22.2
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.6	N12 32.2
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.0
Sabik	102 00.4	S15 45.6
Schedar	349 29.4	N56 41.1
Shaula	96 07.6	S37 07.4
Sirius	258 24.7	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.8	S43 32.9
Vega	80 31.8	N38 48.2
Zuben-ubi	136 54.5	S16 09.5

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	209 49.9	207 10.3	S 0 32.6	63 25.1	N16 03.4	69 56.5	N16 40.3	191 01.1	N 5 32.5
	1	224 52.4	222 10.0	S 0 31.4	78 27.1	N16 03.2	84 58.9	N16 40.3	206 03.2	N 5 32.6
	2	239 54.8	237 09.7	S 0 30.3	93 29.0	N16 02.9	100 01.3	N16 40.3	221 05.4	N 5 32.7
	3	254 57.3	252 09.3	S 0 29.1	108 31.0	N16 02.7	115 03.7	N16 40.3	236 07.6	N 5 32.8
	4	269 59.8	267 09.0	S 0 27.9	123 33.0	N16 02.4	130 06.1	N16 40.2	251 09.8	N 5 32.9
T	5	285 02.2	282 08.7	S 0 26.8	138 34.9	N16 02.1	145 08.5	N16 40.2	266 11.9	N 5 33.0
H										
U	6	300 04.7	297 08.3	S 0 25.6	153 36.9	N16 01.9	160 10.9	N16 40.2	281 14.1	N 5 33.2
R	7	315 07.1	312 08.0	S 0 24.4	168 38.9	N16 01.6	175 13.3	N16 40.2	296 16.3	N 5 33.3
S	8	330 09.6	327 07.7	S 0 23.3	183 40.8	N16 01.3	190 15.7	N16 40.1	311 18.5	N 5 33.4
D	9	345 12.1	342 07.3	S 0 22.1	198 42.8	N16 01.1	205 18.1	N16 40.1	326 20.6	N 5 33.5
A	10	0 14.5	357 07.0	S 0 20.9	213 44.7	N16 00.8	220 20.5	N16 40.1	341 22.8	N 5 33.6
Y	11	15 17.0	12 06.7	S 0 19.8	228 46.7	N16 00.6	235 22.9	N16 40.1	356 25.0	N 5 33.7
	12	30 19.5	27 06.3	S 0 18.6	243 48.7	N16 00.3	250 25.3	N16 40.0	11 27.2	N 5 33.8
	13	45 21.9	42 06.0	S 0 17.4	258 50.6	N16 00.0	265 27.7	N16 40.0	26 29.3	N 5 34.0
	14	60 24.4	57 05.7	S 0 16.2	273 52.6	N15 59.8	280 30.1	N16 40.0	41 31.5	N 5 34.1
	15	75 26.9	72 05.4	S 0 15.1	288 54.5	N15 59.5	295 32.5	N16 39.9	56 33.7	N 5 34.2
	16	90 29.3	87 05.0	S 0 13.9	303 56.5	N15 59.2	310 34.9	N16 39.9	71 35.9	N 5 34.3
	17	105 31.8	102 04.7	S 0 12.7	318 58.4	N15 59.0	325 37.2	N16 39.9	86 38.0	N 5 34.4
	18	120 34.2	117 04.4	S 0 11.6	334 00.4	N15 58.7	340 39.6	N16 39.9	101 40.2	N 5 34.5
	19	135 36.7	132 04.0	S 0 10.4	349 02.3	N15 58.4	355 42.0	N16 39.8	116 42.4	N 5 34.7
	20	150 39.2	147 03.7	S 0 09.2	4 04.3	N15 58.2	10 44.4	N16 39.8	131 44.6	N 5 34.8
	21	165 41.6	162 03.4	S 0 08.1	19 06.2	N15 57.9	25 46.8	N16 39.8	146 46.7	N 5 34.9
	22	180 44.1	177 03.0	S 0 06.9	34 08.2	N15 57.6	40 49.2	N16 39.8	161 48.9	N 5 35.0
	23	195 46.6	192 02.7	S 0 05.7	49 10.1	N15 57.4	55 51.6	N16 39.7	176 51.1	N 5 35.1
23	0	210 49.0	207 02.4	S 0 04.6	64 12.1	N15 57.1	70 54.0	N16 39.7	191 53.3	N 5 35.2
	1	225 51.5	222 02.0	S 0 03.4	79 14.0	N15 56.8	85 56.4	N16 39.7	206 55.4	N 5 35.3
	2	240 54.0	237 01.7	S 0 02.2	94 16.0	N15 56.6	100 58.8	N16 39.6	221 57.6	N 5 35.5
	3	255 56.4	252 01.4	S 0 01.1	109 17.9	N15 56.3	116 01.2	N16 39.6	236 59.8	N 5 35.6
	4	270 58.9	267 01.0	N 0 00.1	124 19.9	N15 56.0	131 03.5	N16 39.6	252 02.0	N 5 35.7
F	5	286 01.4	282 00.7	N 0 01.3	139 21.8	N15 55.8	146 05.9	N16 39.6	267 04.1	N 5 35.8
R										
I	6	301 03.8	297 00.4	N 0 02.4	154 23.8	N15 55.5	161 08.3	N16 39.5	282 06.3	N 5 35.9
D	7	316 06.3	312 00.1	N 0 03.6	169 25.7	N15 55.2	176 10.7	N16 39.5	297 08.5	N 5 36.0
A	8	331 08.7	326 59.7	N 0 04.8	184 27.6	N15 55.0	191 13.1	N16 39.5	312 10.7	N 5 36.1
Y	9	346 11.2	341 59.4	N 0 06.0	199 29.6	N15 54.7	206 15.5	N16 39.5	327 12.8	N 5 36.3
	10	1 13.7	356 59.1	N 0 07.1	214 31.5	N15 54.4	221 17.9	N16 39.4	342 15.0	N 5 36.4
	11	16 16.1	11 58.7	N 0 08.3	229 33.5	N15 54.1	236 20.3	N16 39.4	357 17.2	N 5 36.5
	12	31 18.6	26 58.4	N 0 09.5	244 35.4	N15 53.9	251 22.6	N16 39.4	12 19.4	N 5 36.6
	13	46 21.1	41 58.1	N 0 10.6	259 37.3	N15 53.6	266 25.0	N16 39.3	27 21.5	N 5 36.7
	14	61 23.5	56 57.7	N 0 11.8	274 39.3	N15 53.3	281 27.4	N16 39.3	42 23.7	N 5 36.8
	15	76 26.0	71 57.4	N 0 13.0	289 41.2	N15 53.1	296 29.8	N16 39.3	57 25.9	N 5 36.9
	16	91 28.5	86 57.1	N 0 14.1	304 43.1	N15 52.8	311 32.2	N16 39.3	72 28.1	N 5 37.1
	17	106 30.9	101 56.7	N 0 15.3	319 45.1	N15 52.5	326 34.6	N16 39.2	87 30.2	N 5 37.2
	18	121 33.4	116 56.4	N 0 16.5	334 47.0	N15 52.2	341 36.9	N16 39.2	102 32.4	N 5 37.3
	19	136 35.9	131 56.1	N 0 17.6	349 48.9	N15 52.0	356 39.3	N16 39.2	117 34.6	N 5 37.4
	20	151 38.3	146 55.7	N 0 18.8	4 50.9	N15 51.7	11 41.7	N16 39.1	132 36.8	N 5 37.5
	21	166 40.8	161 55.4	N 0 20.0	19 52.8	N15 51.4	26 44.1	N16 39.1	147 38.9	N 5 37.6
	22	181 43.2	176 55.1	N 0 21.2	34 54.7	N15 51.2	41 46.5	N16 39.1	162 41.1	N 5 37.7
	23	196 45.7	191 54.7	N 0 22.3	49 56.7	N15 50.9	56 48.9	N16 39.0	177 43.3	N 5 37.9
24	0	211 48.2	206 54.4	N 0 23.5	64 58.6	N15 50.6	71 51.2	N16 39.0	192 45.5	N 5 38.0
	1	226 50.6	221 54.1	N 0 24.7	80 00.5	N15 50.3	86 53.6	N16 39.0	207 47.6	N 5 38.1
	2	241 53.1	236 53.8	N 0 25.8	95 02.4	N15 50.1	101 56.0	N16 39.0	222 49.8	N 5 38.2
	3	256 55.6	251 53.4	N 0 27.0	110 04.4	N15 49.8	116 58.4	N16 38.9	237 52.0	N 5 38.3
	4	271 58.0	266 53.1	N 0 28.2	125 06.3	N15 49.5	132 00.8	N16 38.9	252 54.2	N 5 38.4
S	5	287 00.5	281 52.8	N 0 29.3	140 08.2	N15 49.2	147 03.2	N16 38.9	267 56.3	N 5 38.5
A										
T	6	302 03.0	296 52.4	N 0 30.5	155 10.1	N15 49.0	162 05.5	N16 38.8	282 58.5	N 5 38.7
U	7	317 05.4	311 52.1	N 0 31.7	170 12.1	N15 48.7	177 07.9	N16 38.8	298 00.7	N 5 38.8
R	8	332 07.9	326 51.8	N 0 32.9	185 14.0	N15 48.4	192 10.3	N16 38.8	313 02.9	N 5 38.9
D	9	347 10.4	341 51.4	N 0 34.0	200 15.9	N15 48.1	207 12.7	N16 38.7	328 05.0	N 5 39.0
A	10	2 12.8	356 51.1	N 0 35.2	215 17.8	N15 47.9	222 15.1	N16 38.7	343 07.2	N 5 39.1
Y	11	17 15.3	11 50.8	N 0 36.4	230 19.7	N15 47.6	237 17.4	N16 38.7	358 09.4	N 5 39.2
	12	32 17.7	26 50.4	N 0 37.5	245 21.7	N15 47.3	252 19.8	N16 38.7	13 11.6	N 5 39.3
	13	47 20.2	41 50.1	N 0 38.7	260 23.6	N15 47.0	267 22.2	N16 38.6	28 13.7	N 5 39.5
	14	62 22.7	56 49.8	N 0 39.9	275 25.5	N15 46.7	282 24.6	N16 38.6	43 15.9	N 5 39.6
	15	77 25.1	71 49.4	N 0 41.1	290 27.4	N15 46.5	297 26.9	N16 38.6	58 18.1	N 5 39.7
	16	92 27.6	86 49.1	N 0 42.2	305 29.3	N15 46.2	312 29.3	N16 38.5	73 20.3	N 5 39.8
	17	107 30.1	101 48.8	N 0 43.4	320 31.2	N15 45.9	327 31.7	N16 38.5	88 22.4	N 5 39.9
	18	122 32.5	116 48.4	N 0 44.6	335 33.1	N15 45.6	342 34.1	N16 38.5	103 24.6	N 5 40.0
	19	137 35.0	131 48.1	N 0 45.7	350 35.1	N15 45.4	357 36.5	N16 38.4	118 26.8	N 5 40.1
	20	152 37.5	146 47.8	N 0 46.9	5 37.0	N15 45.1	12 38.8	N16 38.4	133 29.0	N 5 40.3
	21	167 39.9	161 47.5	N 0 48.1	20 38.9	N15 44.8	27 41.2	N16 38.4	148 31.1	N 5 40.4
	22	182 42.4	176 47.1	N 0 49.2	35 40.8	N15 44.5	42 43.6	N16 38.3	163 33.3	N 5 40.5
	23	197 44.8	191 46.8	N 0 50.4	50 42.7	N15 44.2	57 46.0	N16 38.3	178 35.5	N 5 40.6
			v -0.3	d 1.2	v 1.9	d 0.3	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
22	0	180 20.2	N12 02.9	349 13.1	10.4	S21 01.3	10.0	56.6
	1	195 20.3	N12 03.8	3 42.4	10.3	S21 11.2	9.9	56.5
	2	210 20.4	N12 04.6	18 11.7	10.3	S21 21.0	9.8	56.5
	3	225 20.6	N12 05.4	32 40.9	10.2	S21 30.7	9.7	56.5
	4	240 20.7	N12 06.3	47 10.1	10.2	S21 40.3	9.6	56.5
T	5	255 20.8	N12 07.1	61 39.3	10.2	S21 49.7	9.4	56.4
H								
U	6	270 20.9	N12 08.0	76 08.4	10.1	S21 59.0	9.3	56.4
R	7	285 21.0	N12 08.8	90 37.5	10.1	S22 08.2	9.2	56.4
S	8	300 21.2	N12 09.7	105 06.5	10.0	S22 17.3	9.1	56.4
D	9	315 21.3	N12 10.5	119 35.5	10.0	S22 26.3	9.0	56.3
A	10	330 21.4	N12 11.3	134 04.5	10.0	S22 35.1	8.8	56.3
Y	11	345 21.5	N12 12.2	148 33.4	9.9	S22 43.8	8.7	56.3
	12	0 21.7	N12 13.0	163 02.3	9.9	S22 52.4	8.6	56.3
	13	15 21.8	N12 13.9	177 31.1	9.8	S23 00.9	8.5	56.2
	14	30 21.9	N12 14.7	191 59.9	9.8	S23 09.2	8.3	56.2
	15	45 22.0	N12 15.5	206 28.7	9.8	S23 17.4	8.2	56.2
	16	60 22.2	N12 16.4	220 57.4	9.7	S23 25.5	8.1	56.2
	17	75 22.3	N12 17.2	235 26.1	9.7	S23 33.4	7.9	56.1
	18	90 22.4	N12 18.0	249 54.7	9.7	S23 41.2	7.8	56.1
	19	105 22.5	N12 18.9	264 23.3	9.6	S23 48.9	7.7	56.1
	20	120 22.6	N12 19.7	278 51.9	9.6	S23 56.5	7.6	56.1
	21	135 22.8	N12 20.6	293 20.5	9.5	S24 03.9	7.4	56.0
	22	150 22.9	N12 21.4	307 49.0	9.5	S24 11.2	7.3	56.0
	23	165 23.0	N12 22.2	322 17.5	9.5	S24 18.4	7.2	56.0
23	0	180 23.1	N12 23.1	336 45.9	9.5	S24 25.4	7.0	56.0
	1	195 23.2	N12 23.9	351 14.3	9.4	S24 32.3	6.9	55.9
	2	210 23.4	N12 24.7	5 42.7	9.4	S24 39.0	6.8	55.9
	3	225 23.5	N12 25.6	20 11.1	9.4	S24 45.7	6.6	55.9
	4	240 23.6	N12 26.4	34 39.4	9.3	S24 52.1	6.5	55.9
F	5	255 23.7	N12 27.2	49 07.7	9.3	S24 58.5	6.4	55.8
R								
I	6	270 23.8	N12 28.1	63 36.0	9.3	S25 04.7	6.2	55.8
D	7	285 24.0	N12 28.9	78 04.3	9.3	S25 10.8	6.1	55.8
A	8	300 24.1	N12 29.7	92 32.5	9.2	S25 16.7	5.9	55.8
Y	9	315 24.2	N12 30.6	107 00.7	9.2	S25 22.5	5.8	55.7
	10	330 24.3	N12 31.4	121 28.9	9.2	S25 28.2	5.7	55.7
	11	345 24.4	N12 32.2	135 57.0	9.2	S25 33.7	5.5	55.7
	12	0 24.5	N12 33.1	150 25.2	9.1	S25 39.1	5.4	55.7
	13	15 24.7	N12 33.9	164 53.3	9.1	S25 44.4	5.3	55.6
	14	30 24.8	N12 34.7	179 21.4	9.1	S25 49.5	5.1	55.6
	15	45 24.9	N12 35.6	193 49.5	9.1	S25 54.5	5.0	55.6
	16	60 25.0	N12 36.4	208 17.6	9.1	S25 59.3	4.8	55.6
	17	75 25.1	N12 37.2	222 45.6	9.1	S26 04.0	4.7	55.6
	18	90 25.2	N12 38.1	237 13.6	9.0	S26 08.5	4.6	55.5
	19	105 25.4	N12 38.9	251 41.7	9.0	S26 12.9	4.4	55.5
	20	120 25.5	N12 39.7	266 09.7	9.0	S26 17.2	4.3	55.5
	21	135 25.6	N12 40.5	280 37.7	9.0	S26 21.3	4.1	55.5
	22	150 25.7	N12 41.4	295 05.7	9.0	S26 25.3	4.0	55.4
	23	165 25.8	N12 42.2	309 33.7	9.0	S26 29.2	3.8	55.4
24	0	180 25.9	N12 43.0	324 01.6	9.0	S26 32.9	3.7	55.4
	1	195 26.1	N12 43.9	338 29.6	9.0	S26 36.4	3.6	55.4
	2	210 26.2	N12 44.7	352 57.6	9.0	S26 39.9	3.4	55.4
	3	225 26.3	N12 45.5	7 25.5	9.0	S26 43.1	3.3	55.3
	4	240 26.4	N12 46.3	21 53.5	9.0	S26 46.3	3.1	55.3
S	5	255 26.5	N12 47.2	36 21.4	9.0	S26 49.3	3.0	55.3
A								
T	6	270 26.6	N12 48.0	50 49.4	9.0	S26 52.1	2.9	55.3
U	7	285 26.7	N12 48.8	65 17.3	9.0	S26 54.8	2.7	55.2
R	8	300 26.9	N12 49.6	79 45.3	9.0	S26 57.4	2.6	55.2
D	9	315 27.0	N12 50.5	94 13.3	9.0	S26 59.8	2.4	55.2
A	10	330 27.1	N12 51.3	108 41.2	9.0	S27 02.1	2.3	55.2
Y	11	345 27.2	N12 52.1	123 09.2	9.0	S27 04.2	2.1	55.2
	12	0 27.3	N12 52.9	137 37.2	9.0	S27 06.2	2.0	55.1
	13	15 27.4	N12 53.8	152 05.2	9.0	S27 08.1	1.9	55.1
	14	30 27.5	N12 54.6	166 33.2	9.0	S27 09.8	1.7	55.1
	15	45 27.7	N12 55.4	181 01.2	9.0	S27 11.4	1.6	55.1
	16	60 27.8	N12 56.2	195 29.2	9.0	S27 12.8	1.4	55.1
	17	75 27.9	N12 57.0	209 57.2	9.0	S27 14.1	1.3	55.0
	18	90 28.0	N12 57.9	224 25.3	9.0	S27 15.2	1.1	55.0
	19	105 28.1	N12 58.7	238 53.3	9.1	S27 16.2	1.0	55.0
	20	120 28.2	N12 59.5	253 21.4	9.1	S27 17.1	0.9	55.0
	21	135 28.3	N13 00.3	267 49.5	9.1	S27 17.8	0.7	55.0
	22	150 28.4	N13 01.1	282 17.6	9.1	S27 18.4	0.6	54.9
	23	165 28.5	N13 02.0	296 45.7	9.1	S27 18.8	0.4	54.9
		S.D. 15.9	d 0.8	S.D. 15.3		15.2		15.0

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.8
Achernar	335 19.4	S57 05.8
Acrux	172 57.4	S63 15.2
Adhara	255 04.5	S29 00.8
Albireo	67 02.5	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.7
Alkaid	152 50.0	N49 10.5
Al Na-ir	27 30.7	S46 49.5
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.8	N26 37.1
Alpheratz	357 33.2	N29 14.4
Altair	61 58.1	N 8 56.3
Ankaa	353 05.7	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.5	S69 04.5
Avior	234 13.9	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 51.8	S52 42.9
Capella	280 19.5	N46 01.6
Castor	245 54.7	N31 49.8
Deneb	49 24.6	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.8	S17 50.2
Dubhe	193 38.3	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 41.0	N51 28.8
Enif	33 37.0	N 9 59.9
Fomalhaut	15 12.7	S29 28.6
Gacrux	171 49.1	S57 16.2
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.4
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 29.9	S34 22.3
Kochab	137 18.9	N74 02.4
Markab	13 28.3	N15 21.0
Menkar	314 04.5	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.6	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.3	S26 15.7
Peacock	53 02.7	S56 38.6
Polaris	316 10.9	N89 22.2
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.6	N12 32.2
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.0
Sabik	102 00.4	S15 45.6
Schedar	349 29.4	N56 41.1
Shaula	96 07.6	S37 07.4
Sirius	258 24.7	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.8	S43 32.9
Vega	80 31.8	N38 48.2
Zuben-ubi	136 54.5	S16 09.5

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	212 47.3	206 46.5	N 0 51.6	65 44.6	N15 44.0	72 48.3	N16 38.3	193 37.7	N 5 40.7
	1	227 49.8	221 46.1	N 0 52.8	80 46.5	N15 43.7	87 50.7	N16 38.2	208 39.8	N 5 40.8
	2	242 52.2	236 45.8	N 0 53.9	95 48.4	N15 43.4	102 53.1	N16 38.2	223 42.0	N 5 40.9
	3	257 54.7	251 45.5	N 0 55.1	110 50.3	N15 43.1	117 55.5	N16 38.2	238 44.2	N 5 41.1
	4	272 57.2	266 45.1	N 0 56.3	125 52.2	N15 42.8	132 57.8	N16 38.1	253 46.4	N 5 41.2
S	5	287 59.6	281 44.8	N 0 57.4	140 54.1	N15 42.5	148 00.2	N16 38.1	268 48.6	N 5 41.3
U										
N	6	303 02.1	296 44.5	N 0 58.6	155 56.0	N15 42.3	163 02.6	N16 38.1	283 50.7	N 5 41.4
D	7	318 04.6	311 44.1	N 0 59.8	170 57.9	N15 42.0	178 05.0	N16 38.0	298 52.9	N 5 41.5
A	8	333 07.0	326 43.8	N 1 01.0	185 59.8	N15 41.7	193 07.3	N16 38.0	313 55.1	N 5 41.6
Y	9	348 09.5	341 43.5	N 1 02.1	201 01.7	N15 41.4	208 09.7	N16 38.0	328 57.3	N 5 41.7
	10	3 12.0	356 43.1	N 1 03.3	216 03.6	N15 41.1	223 12.1	N16 38.0	343 59.4	N 5 41.8
	11	18 14.4	11 42.8	N 1 04.5	231 05.5	N15 40.9	238 14.4	N16 37.9	359 01.6	N 5 42.0
	12	33 16.9	26 42.5	N 1 05.6	246 07.4	N15 40.6	253 16.8	N16 37.9	14 03.8	N 5 42.1
	13	48 19.3	41 42.1	N 1 06.8	261 09.3	N15 40.3	268 19.2	N16 37.9	29 06.0	N 5 42.2
	14	63 21.8	56 41.8	N 1 08.0	276 11.2	N15 40.0	283 21.6	N16 37.8	44 08.1	N 5 42.3
	15	78 24.3	71 41.5	N 1 09.2	291 13.1	N15 39.7	298 23.9	N16 37.8	59 10.3	N 5 42.4
	16	93 26.7	86 41.1	N 1 10.3	306 15.0	N15 39.4	313 26.3	N16 37.8	74 12.5	N 5 42.5
	17	108 29.2	101 40.8	N 1 11.5	321 16.9	N15 39.1	328 28.7	N16 37.7	89 14.7	N 5 42.6
	18	123 31.7	116 40.5	N 1 12.7	336 18.8	N15 38.9	343 31.0	N16 37.7	104 16.8	N 5 42.8
	19	138 34.1	131 40.1	N 1 13.8	351 20.7	N15 38.6	358 33.4	N16 37.6	119 19.0	N 5 42.9
	20	153 36.6	146 39.8	N 1 15.0	6 22.6	N15 38.3	13 35.8	N16 37.6	134 21.2	N 5 43.0
	21	168 39.1	161 39.5	N 1 16.2	21 24.5	N15 38.0	28 38.1	N16 37.6	149 23.4	N 5 43.1
	22	183 41.5	176 39.1	N 1 17.4	36 26.4	N15 37.7	43 40.5	N16 37.5	164 25.5	N 5 43.2
	23	198 44.0	191 38.8	N 1 18.5	51 28.3	N15 37.4	58 42.9	N16 37.5	179 27.7	N 5 43.3
26	0	213 46.5	206 38.5	N 1 19.7	66 30.2	N15 37.1	73 45.2	N16 37.5	194 29.9	N 5 43.4
	1	228 48.9	221 38.1	N 1 20.9	81 32.1	N15 36.9	88 47.6	N16 37.4	209 32.1	N 5 43.5
	2	243 51.4	236 37.8	N 1 22.0	96 33.9	N15 36.6	103 50.0	N16 37.4	224 34.3	N 5 43.7
	3	258 53.8	251 37.5	N 1 23.2	111 35.8	N15 36.3	118 52.3	N16 37.4	239 36.4	N 5 43.8
	4	273 56.3	266 37.1	N 1 24.4	126 37.7	N15 36.0	133 54.7	N16 37.3	254 38.6	N 5 43.9
M	5	288 58.8	281 36.8	N 1 25.6	141 39.6	N15 35.7	148 57.1	N16 37.3	269 40.8	N 5 44.0
O										
N	6	304 01.2	296 36.5	N 1 26.7	156 41.5	N15 35.4	163 59.4	N16 37.3	284 43.0	N 5 44.1
D	7	319 03.7	311 36.2	N 1 27.9	171 43.4	N15 35.1	179 01.8	N16 37.2	299 45.1	N 5 44.2
A	8	334 06.2	326 35.8	N 1 29.1	186 45.3	N15 34.8	194 04.2	N16 37.2	314 47.3	N 5 44.3
Y	9	349 08.6	341 35.5	N 1 30.2	201 47.1	N15 34.6	209 06.5	N16 37.2	329 49.5	N 5 44.5
	10	4 11.1	356 35.2	N 1 31.4	216 49.0	N15 34.3	224 08.9	N16 37.1	344 51.7	N 5 44.6
	11	19 13.6	11 34.8	N 1 32.6	231 50.9	N15 34.0	239 11.3	N16 37.1	359 53.8	N 5 44.7
	12	34 16.0	26 34.5	N 1 33.8	246 52.8	N15 33.7	254 13.6	N16 37.1	14 56.0	N 5 44.8
	13	49 18.5	41 34.2	N 1 34.9	261 54.7	N15 33.4	269 16.0	N16 37.0	29 58.2	N 5 44.9
	14	64 21.0	56 33.8	N 1 36.1	276 56.5	N15 33.1	284 18.4	N16 37.0	45 00.4	N 5 45.0
	15	79 23.4	71 33.5	N 1 37.3	291 58.4	N15 32.8	299 20.7	N16 37.0	60 02.6	N 5 45.1
	16	94 25.9	86 33.2	N 1 38.4	307 00.3	N15 32.5	314 23.1	N16 36.9	75 04.7	N 5 45.2
	17	109 28.3	101 32.8	N 1 39.6	322 02.2	N15 32.2	329 25.4	N16 36.9	90 06.9	N 5 45.4
	18	124 30.8	116 32.5	N 1 40.8	337 04.0	N15 31.9	344 27.8	N16 36.8	105 09.1	N 5 45.5
	19	139 33.3	131 32.2	N 1 42.0	352 05.9	N15 31.7	359 30.2	N16 36.8	120 11.3	N 5 45.6
	20	154 35.7	146 31.8	N 1 43.1	7 07.8	N15 31.4	14 32.5	N16 36.8	135 13.4	N 5 45.7
	21	169 38.2	161 31.5	N 1 44.3	22 09.7	N15 31.1	29 34.9	N16 36.7	150 15.6	N 5 45.8
	22	184 40.7	176 31.1	N 1 45.5	37 11.5	N15 30.8	44 37.3	N16 36.7	165 17.8	N 5 45.9
	23	199 43.1	191 30.8	N 1 46.6	52 13.4	N15 30.5	59 39.6	N16 36.7	180 20.0	N 5 46.0
27	0	214 45.6	206 30.5	N 1 47.8	67 15.3	N15 30.2	74 42.0	N16 36.6	195 22.1	N 5 46.1
	1	229 48.1	221 30.1	N 1 49.0	82 17.1	N15 29.9	89 44.3	N16 36.6	210 24.3	N 5 46.3
	2	244 50.5	236 29.8	N 1 50.2	97 19.0	N15 29.6	104 46.7	N16 36.6	225 26.5	N 5 46.4
	3	259 53.0	251 29.5	N 1 51.3	112 20.9	N15 29.3	119 49.1	N16 36.5	240 28.7	N 5 46.5
	4	274 55.5	266 29.1	N 1 52.5	127 22.7	N15 29.0	134 51.4	N16 36.5	255 30.9	N 5 46.6
T	5	289 57.9	281 28.8	N 1 53.7	142 24.6	N15 28.7	149 53.8	N16 36.4	270 33.0	N 5 46.7
U										
E	6	305 00.4	296 28.5	N 1 54.8	157 26.5	N15 28.4	164 56.1	N16 36.4	285 35.2	N 5 46.8
S	7	320 02.8	311 28.1	N 1 56.0	172 28.3	N15 28.1	179 58.5	N16 36.4	300 37.4	N 5 46.9
D	8	335 05.3	326 27.8	N 1 57.2	187 30.2	N15 27.8	195 00.8	N16 36.3	315 39.6	N 5 47.0
A	9	350 07.8	341 27.5	N 1 58.4	202 32.1	N15 27.5	210 03.2	N16 36.3	330 41.7	N 5 47.2
Y	10	5 10.2	356 27.1	N 1 59.5	217 33.9	N15 27.2	225 05.6	N16 36.3	345 43.9	N 5 47.3
	11	20 12.7	11 26.8	N 2 00.7	232 35.8	N15 27.0	240 07.9	N16 36.2	0 46.1	N 5 47.4
	12	35 15.2	26 26.5	N 2 01.9	247 37.7	N15 26.7	255 10.3	N16 36.2	15 48.3	N 5 47.5
	13	50 17.6	41 26.1	N 2 03.0	262 39.5	N15 26.4	270 12.6	N16 36.1	30 50.4	N 5 47.6
	14	65 20.1	56 25.8	N 2 04.2	277 41.4	N15 26.1	285 15.0	N16 36.1	45 52.6	N 5 47.7
	15	80 22.6	71 25.5	N 2 05.4	292 43.2	N15 25.8	300 17.3	N16 36.1	60 54.8	N 5 47.8
	16	95 25.0	86 25.1	N 2 06.6	307 45.1	N15 25.5	315 19.7	N16 36.0	75 57.0	N 5 48.0
	17	110 27.5	101 24.8	N 2 07.7	322 46.9	N15 25.2	330 22.1	N16 36.0	90 59.2	N 5 48.1
	18	125 29.9	116 24.5	N 2 08.9	337 48.8	N15 24.9	345 24.4	N16 36.0	106 01.3	N 5 48.2
	19	140 32.4	131 24.1	N 2 10.1	352 50.7	N15 24.6	0 26.8	N16 35.9	121 03.5	N 5 48.3
	20	155 34.9	146 23.8	N 2 11.2	7 52.5	N15 24.3	15 29.1	N16 35.9	136 05.7	N 5 48.4
	21	170 37.3	161 23.5	N 2 12.4	22 54.4	N15 24.0	30 31.5	N16 35.8	151 07.9	N 5 48.5
	22	185 39.8	176 23.1	N 2 13.6	37 56.2	N15 23.7	45 33.8	N16 35.8	166 10.0	N 5 48.6
	23	200 42.3	191 22.8	N 2 14.8	52 58.1	N15 23.4	60 36.2	N16 35.8	181 12.2	N 5 48.7
			v -0.3	d 1.2	v 1.9	d 0.3	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 '
25	0	180 28.7	N13 02.8	311 13.9	9.2	S27 19.1	0.3	54.9
	1	195 28.8	N13 03.6	325 42.1	9.2	S27 19.3	0.2	54.9
	2	210 28.9	N13 04.4	340 10.3	9.2	S27 19.3	0.0	54.9
	3	225 29.0	N13 05.2	354 38.5	9.2	S27 19.2	0.1	54.9
	4	240 29.1	N13 06.1	9 06.8	9.3	S27 18.9	0.3	54.8
S	5	255 29.2	N13 06.9	23 35.1	9.3	S27 18.6	0.4	54.8
U								
N	6	270 29.3	N13 07.7	38 03.4	9.3	S27 18.0	0.5	54.8
D	7	285 29.4	N13 08.5	52 31.7	9.3	S27 17.3	0.7	54.8
A	8	300 29.5	N13 09.3	67 00.1	9.4	S27 16.5	0.8	54.8
Y	9	315 29.6	N13 10.1	81 28.5	9.4	S27 15.6	0.9	54.8
	10	330 29.7	N13 10.9	95 56.9	9.4	S27 14.5	1.1	54.7
	11	345 29.9	N13 11.8	110 25.4	9.5	S27 13.3	1.2	54.7
	12	0 30.0	N13 12.6	124 53.9	9.5	S27 11.9	1.4	54.7
	13	15 30.1	N13 13.4	139 22.5	9.5	S27 10.4	1.5	54.7
	14	30 30.2	N13 14.2	153 51.0	9.6	S27 08.8	1.6	54.7
	15	45 30.3	N13 15.0	168 19.7	9.6	S27 07.0	1.8	54.7
	16	60 30.4	N13 15.8	182 48.3	9.7	S27 05.1	1.9	54.7
	17	75 30.5	N13 16.6	197 17.0	9.7	S27 03.1	2.0	54.6
	18	90 30.6	N13 17.5	211 45.8	9.7	S27 01.0	2.2	54.6
	19	105 30.7	N13 18.3	226 14.5	9.8	S26 58.7	2.3	54.6
	20	120 30.8	N13 19.1	240 43.4	9.8	S26 56.2	2.4	54.6
	21	135 30.9	N13 19.9	255 12.2	9.9	S26 53.7	2.6	54.6
	22	150 31.0	N13 20.7	269 41.2	9.9	S26 51.0	2.7	54.6
	23	165 31.1	N13 21.5	284 10.1	10.0	S26 48.2	2.8	54.6
26	0	180 31.2	N13 22.3	298 39.1	10.0	S26 45.2	3.0	54.5
	1	195 31.3	N13 23.1	313 08.2	10.1	S26 42.1	3.1	54.5
	2	210 31.4	N13 23.9	327 37.3	10.1	S26 38.9	3.2	54.5
	3	225 31.5	N13 24.7	342 06.4	10.2	S26 35.6	3.3	54.5
	4	240 31.7	N13 25.6	356 35.6	10.2	S26 32.1	3.5	54.5
M	5	255 31.8	N13 26.4	11 04.9	10.3	S26 28.5	3.6	54.5
O								
N	6	270 31.9	N13 27.2	25 34.2	10.3	S26 24.8	3.7	54.5
D	7	285 32.0	N13 28.0	40 03.6	10.4	S26 21.0	3.8	54.5
A	8	300 32.1	N13 28.8	54 33.0	10.4	S26 17.0	4.0	54.5
Y	9	315 32.2	N13 29.6	69 02.4	10.5	S26 12.9	4.1	54.4
	10	330 32.3	N13 30.4	83 31.9	10.5	S26 08.7	4.2	54.4
	11	345 32.4	N13 31.2	98 01.5	10.6	S26 04.4	4.3	54.4
	12	0 32.5	N13 32.0	112 31.1	10.6	S25 59.9	4.5	54.4
	13	15 32.6	N13 32.8	127 00.8	10.7	S25 55.3	4.6	54.4
	14	30 32.7	N13 33.6	141 30.6	10.7	S25 50.6	4.7	54.4
	15	45 32.8	N13 34.4	156 00.4	10.8	S25 45.8	4.8	54.4
	16	60 32.9	N13 35.2	170 30.2	10.9	S25 40.8	4.9	54.4
	17	75 33.0	N13 36.0	185 00.1	10.9	S25 35.8	5.1	54.4
	18	90 33.1	N13 36.8	199 30.1	11.0	S25 30.6	5.2	54.4
	19	105 33.2	N13 37.6	214 00.1	11.0	S25 25.3	5.3	54.4
	20	120 33.3	N13 38.4	228 30.2	11.1	S25 19.9	5.4	54.3
	21	135 33.4	N13 39.2	243 00.3	11.1	S25 14.3	5.5	54.3
	22	150 33.5	N13 40.0	257 30.5	11.2	S25 08.7	5.6	54.3
	23	165 33.6	N13 40.8	272 00.8	11.3	S25 02.9	5.8	54.3
27	0	180 33.7	N13 41.6	286 31.1	11.3	S24 57.1	5.9	54.3
	1	195 33.8	N13 42.4	301 01.5	11.4	S24 51.1	6.0	54.3
	2	210 33.9	N13 43.2	315 32.0	11.4	S24 45.0	6.1	54.3
	3	225 34.0	N13 44.0	330 02.5	11.5	S24 38.8	6.2	54.3
	4	240 34.1	N13 44.8	344 33.1	11.6	S24 32.4	6.3	54.3
T	5	255 34.2	N13 45.6	359 03.7	11.6	S24 26.0	6.4	54.3
U								
E	6	270 34.3	N13 46.4	13 34.4	11.7	S24 19.5	6.5	54.3
S	7	285 34.4	N13 47.2	28 05.1	11.8	S24 12.8	6.7	54.3
D	8	300 34.5	N13 48.0	42 35.9	11.8	S24 06.1	6.8	54.3
A	9	315 34.6	N13 48.8	57 06.8	11.9	S23 59.2	6.9	54.3
Y	10	330 34.7	N13 49.6	71 37.8	11.9	S23 52.2	7.0	54.3
	11	345 34.8	N13 50.4	86 08.8	12.0	S23 45.1	7.1	54.3
	12	0 34.9	N13 51.2	100 39.8	12.1	S23 37.9	7.2	54.3
	13	15 35.0	N13 52.0	115 11.0	12.1	S23 30.7	7.3	54.3
	14	30 35.1	N13 52.8	129 42.2	12.2	S23 23.3	7.4	54.3
	15	45 35.2	N13 53.6	144 13.4	12.3	S23 15.8	7.5	54.3
	16	60 35.3	N13 54.4	158 44.7	12.3	S23 08.2	7.6	54.3
	17	75 35.4	N13 55.2	173 16.1	12.4	S23 00.5	7.7	54.3
	18	90 35.5	N13 56.0	187 47.5	12.4	S22 52.7	7.8	54.3
	19	105 35.5	N13 56.8	202 19.0	12.5	S22 44.8	7.9	54.3
	20	120 35.6	N13 57.6	216 50.6	12.6	S22 36.8	8.0	54.3
	21	135 35.7	N13 58.4	231 22.2	12.6	S22 28.7	8.1	54.3
	22	150 35.8	N13 59.2	245 53.9	12.7	S22 20.5	8.2	54.3
	23	165 35.9	N13 59.9	260 25.7	12.7	S22 12.2	8.3	54.3
		S.D. 15.9	d 0.8	S.D.	14.9	14.8	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.8
Achernar	335 19.4	S57 05.8
Acrux	172 57.4	S63 15.3
Adhara	255 04.5	S29 00.8
Albireo	67 02.4	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.7
Alkaid	152 50.0	N49 10.5
Al Na-ir	27 30.7	S46 49.5
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.8	N26 37.2
Alpheratz	357 33.1	N29 14.4
Altair	61 58.1	N 8 56.3
Ankaa	353 05.6	S42 09.4
Antares	112 13.2	S26 29.6
Arcturus	145 45.9	N19 02.2
Atria	107 05.4	S69 04.5
Avior	234 14.0	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 51.8	S52 42.9
Capella	280 19.5	N46 01.6
Castor	245 54.7	N31 49.8
Deneb	49 24.5	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.7	S17 50.2
Dubhe	193 38.3	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 41.0	N51 28.8
Enif	33 37.0	N 9 59.9
Fomalhaut	15 12.6	S29 28.6
Gacrux	171 49.1	S57 16.2
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.4
Hamal	327 49.5	N23 35.5
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 18.9	N74 02.4
Markab	13 28.2	N15 21.0
Menkar	314 04.5	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.6	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.3	S26 15.7
Peacock	53 02.7	S56 38.6
Polaris	316 10.6	N89 22.2
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.6	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.0
Sabik	102 00.4	S15 45.6
Schedar	349 29.4	N56 41.1
Shaula	96 07.5	S37 07.4
Sirius	258 24.7	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.8	S43 32.9
Vega	80 31.7	N38 48.2
Zuben-ubi	136 54.5	S16 09.5

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 44.7	206 22.5	N 2 15.9	67 59.9	N15 23.1	75 38.5	N16 35.7	196 14.4	N 5 48.8
	1	230 47.2	221 22.1	N 2 17.1	83 01.8	N15 22.8	90 40.9	N16 35.7	211 16.6	N 5 49.0
	2	245 49.7	236 21.8	N 2 18.3	98 03.6	N15 22.5	105 43.2	N16 35.6	226 18.8	N 5 49.1
	3	260 52.1	251 21.4	N 2 19.4	113 05.5	N15 22.2	120 45.6	N16 35.6	241 20.9	N 5 49.2
	4	275 54.6	266 21.1	N 2 20.6	128 07.3	N15 21.9	135 47.9	N16 35.6	256 23.1	N 5 49.3
W	5	290 57.1	281 20.8	N 2 21.8	143 09.2	N15 21.6	150 50.3	N16 35.5	271 25.3	N 5 49.4
E										
D	6	305 59.5	296 20.4	N 2 23.0	158 11.0	N15 21.3	165 52.6	N16 35.5	286 27.5	N 5 49.5
N	7	321 02.0	311 20.1	N 2 24.1	173 12.9	N15 21.0	180 55.0	N16 35.5	301 29.6	N 5 49.6
E	8	336 04.4	326 19.8	N 2 25.3	188 14.7	N15 20.7	195 57.3	N16 35.4	316 31.8	N 5 49.7
S	9	351 06.9	341 19.4	N 2 26.5	203 16.6	N15 20.4	210 59.7	N16 35.4	331 34.0	N 5 49.9
D	10	6 09.4	356 19.1	N 2 27.6	218 18.4	N15 20.1	226 02.0	N16 35.3	346 36.2	N 5 50.0
A	11	21 11.8	11 18.8	N 2 28.8	233 20.2	N15 19.8	241 04.4	N16 35.3	1 38.4	N 5 50.1
Y										
	12	36 14.3	26 18.4	N 2 30.0	248 22.1	N15 19.5	256 06.7	N16 35.3	16 40.5	N 5 50.2
	13	51 16.8	41 18.1	N 2 31.1	263 23.9	N15 19.2	271 09.1	N16 35.2	31 42.7	N 5 50.3
	14	66 19.2	56 17.8	N 2 32.3	278 25.8	N15 18.9	286 11.4	N16 35.2	46 44.9	N 5 50.4
	15	81 21.7	71 17.4	N 2 33.5	293 27.6	N15 18.6	301 13.8	N16 35.1	61 47.1	N 5 50.5
	16	96 24.2	86 17.1	N 2 34.7	308 29.5	N15 18.3	316 16.1	N16 35.1	76 49.3	N 5 50.6
	17	111 26.6	101 16.7	N 2 35.8	323 31.3	N15 18.0	331 18.5	N16 35.1	91 51.4	N 5 50.8
	18	126 29.1	116 16.4	N 2 37.0	338 33.1	N15 17.7	346 20.8	N16 35.0	106 53.6	N 5 50.9
	19	141 31.6	131 16.1	N 2 38.2	353 35.0	N15 17.4	1 23.2	N16 35.0	121 55.8	N 5 51.0
	20	156 34.0	146 15.7	N 2 39.3	8 36.8	N15 17.1	16 25.5	N16 34.9	136 58.0	N 5 51.1
	21	171 36.5	161 15.4	N 2 40.5	23 38.6	N15 16.7	31 27.9	N16 34.9	152 00.1	N 5 51.2
	22	186 38.9	176 15.1	N 2 41.7	38 40.5	N15 16.4	46 30.2	N16 34.8	167 02.3	N 5 51.3
	23	201 41.4	191 14.7	N 2 42.8	53 42.3	N15 16.1	61 32.6	N16 34.8	182 04.5	N 5 51.4
29	0	216 43.9	206 14.4	N 2 44.0	68 44.1	N15 15.8	76 34.9	N16 34.8	197 06.7	N 5 51.5
	1	231 46.3	221 14.0	N 2 45.2	83 46.0	N15 15.5	91 37.3	N16 34.7	212 08.9	N 5 51.6
	2	246 48.8	236 13.7	N 2 46.4	98 47.8	N15 15.2	106 39.6	N16 34.7	227 11.0	N 5 51.8
	3	261 51.3	251 13.4	N 2 47.5	113 49.6	N15 14.9	121 42.0	N16 34.6	242 13.2	N 5 51.9
	4	276 53.7	266 13.0	N 2 48.7	128 51.5	N15 14.6	136 44.3	N16 34.6	257 15.4	N 5 52.0
T	5	291 56.2	281 12.7	N 2 49.9	143 53.3	N15 14.3	151 46.6	N16 34.6	272 17.6	N 5 52.1
H										
U	6	306 58.7	296 12.4	N 2 51.0	158 55.1	N15 14.0	166 49.0	N16 34.5	287 19.8	N 5 52.2
R	7	322 01.1	311 12.0	N 2 52.2	173 57.0	N15 13.7	181 51.3	N16 34.5	302 21.9	N 5 52.3
S	8	337 03.6	326 11.7	N 2 53.4	188 58.8	N15 13.4	196 53.7	N16 34.4	317 24.1	N 5 52.4
D	9	352 06.1	341 11.3	N 2 54.5	204 00.6	N15 13.1	211 56.0	N16 34.4	332 26.3	N 5 52.5
A	10	7 08.5	356 11.0	N 2 55.7	219 02.4	N15 12.8	226 58.4	N16 34.4	347 28.5	N 5 52.7
Y	11	22 11.0	11 10.7	N 2 56.9	234 04.3	N15 12.5	242 00.7	N16 34.3	2 30.6	N 5 52.8
	12	37 13.4	26 10.3	N 2 58.1	249 06.1	N15 12.2	257 03.0	N16 34.3	17 32.8	N 5 52.9
	13	52 15.9	41 10.0	N 2 59.2	264 07.9	N15 11.8	272 05.4	N16 34.2	32 35.0	N 5 53.0
	14	67 18.4	56 09.7	N 3 00.4	279 09.7	N15 11.5	287 07.7	N16 34.2	47 37.2	N 5 53.1
	15	82 20.8	71 09.3	N 3 01.6	294 11.6	N15 11.2	302 10.1	N16 34.1	62 39.4	N 5 53.2
	16	97 23.3	86 09.0	N 3 02.7	309 13.4	N15 10.9	317 12.4	N16 34.1	77 41.5	N 5 53.3
	17	112 25.8	101 08.6	N 3 03.9	324 15.2	N15 10.6	332 14.8	N16 34.1	92 43.7	N 5 53.4
	18	127 28.2	116 08.3	N 3 05.1	339 17.0	N15 10.3	347 17.1	N16 34.0	107 45.9	N 5 53.5
	19	142 30.7	131 08.0	N 3 06.2	354 18.8	N15 10.0	2 19.4	N16 34.0	122 48.1	N 5 53.7
	20	157 33.2	146 07.6	N 3 07.4	9 20.7	N15 09.7	17 21.8	N16 33.9	137 50.3	N 5 53.8
	21	172 35.6	161 07.3	N 3 08.6	24 22.5	N15 09.4	32 24.1	N16 33.9	152 52.4	N 5 53.9
	22	187 38.1	176 06.9	N 3 09.7	39 24.3	N15 09.1	47 26.5	N16 33.8	167 54.6	N 5 54.0
	23	202 40.5	191 06.6	N 3 10.9	54 26.1	N15 08.7	62 28.8	N16 33.8	182 56.8	N 5 54.1
30	0	217 43.0	206 06.3	N 3 12.1	69 27.9	N15 08.4	77 31.1	N16 33.8	197 59.0	N 5 54.2
	1	232 45.5	221 05.9	N 3 13.2	84 29.8	N15 08.1	92 33.5	N16 33.7	213 01.2	N 5 54.3
	2	247 47.9	236 05.6	N 3 14.4	99 31.6	N15 07.8	107 35.8	N16 33.7	228 03.3	N 5 54.4
	3	262 50.4	251 05.2	N 3 15.6	114 33.4	N15 07.5	122 38.1	N16 33.6	243 05.5	N 5 54.5
	4	277 52.9	266 04.9	N 3 16.8	129 35.2	N15 07.2	137 40.5	N16 33.6	258 07.7	N 5 54.7
F	5	292 55.3	281 04.6	N 3 17.9	144 37.0	N15 06.9	152 42.8	N16 33.5	273 09.9	N 5 54.8
R										
I	6	307 57.8	296 04.2	N 3 19.1	159 38.8	N15 06.6	167 45.2	N16 33.5	288 12.1	N 5 54.9
D	7	323 00.3	311 03.9	N 3 20.3	174 40.6	N15 06.2	182 47.5	N16 33.5	303 14.2	N 5 55.0
A	8	338 02.7	326 03.5	N 3 21.4	189 42.4	N15 05.9	197 49.8	N16 33.4	318 16.4	N 5 55.1
Y	9	353 05.2	341 03.2	N 3 22.6	204 44.3	N15 05.6	212 52.2	N16 33.4	333 18.6	N 5 55.2
	10	8 07.7	356 02.9	N 3 23.8	219 46.1	N15 05.3	227 54.5	N16 33.3	348 20.8	N 5 55.3
	11	23 10.1	11 02.5	N 3 24.9	234 47.9	N15 05.0	242 56.8	N16 33.3	3 23.0	N 5 55.4
	12	38 12.6	26 02.2	N 3 26.1	249 49.7	N15 04.7	257 59.2	N16 33.2	18 25.1	N 5 55.5
	13	53 15.0	41 01.8	N 3 27.3	264 51.5	N15 04.4	273 01.5	N16 33.2	33 27.3	N 5 55.7
	14	68 17.5	56 01.5	N 3 28.4	279 53.3	N15 04.1	288 03.8	N16 33.1	48 29.5	N 5 55.8
	15	83 20.0	71 01.2	N 3 29.6	294 55.1	N15 03.7	303 06.2	N16 33.1	63 31.7	N 5 55.9
	16	98 22.4	86 00.8	N 3 30.8	309 56.9	N15 03.4	318 08.5	N16 33.1	78 33.9	N 5 56.0
	17	113 24.9	101 00.5	N 3 31.9	324 58.7	N15 03.1	333 10.8	N16 33.0	93 36.0	N 5 56.1
	18	128 27.4	116 00.1	N 3 33.1	340 00.5	N15 02.8	348 13.2	N16 33.0	108 38.2	N 5 56.2
	19	143 29.8	130 59.8	N 3 34.3	355 02.3	N15 02.5	3 15.5	N16 32.9	123 40.4	N 5 56.3
	20	158 32.3	145 59.4	N 3 35.4	10 04.1	N15 02.2	18 17.8	N16 32.9	138 42.6	N 5 56.4
	21	173 34.8	160 59.1	N 3 36.6	25 05.9	N15 01.8	33 20.2	N16 32.8	153 44.8	N 5 56.5
	22	188 37.2	175 58.8	N 3 37.8	40 07.7	N15 01.5	48 22.5	N16 32.8	168 46.9	N 5 56.6
	23	203 39.7	190 58.4	N 3 38.9	55 09.5	N15 01.2	63 24.8	N16 32.7	183 49.1	N 5 56.8
			v -0.3	d 1.2	v 1.8	d 0.3	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
28	0	180 36.0	N14 00.7	274 57.5	12.8	S22 03.8	8.4	54.3
	1	195 36.1	N14 01.5	289 29.3	12.9	S21 55.3	8.5	54.3
	2	210 36.2	N14 02.3	304 01.3	12.9	S21 46.8	8.6	54.3
	3	225 36.3	N14 03.1	318 33.3	13.0	S21 38.1	8.7	54.3
	4	240 36.4	N14 03.9	333 05.3	13.0	S21 29.3	8.8	54.3
W	5	255 36.5	N14 04.7	347 37.4	13.1	S21 20.5	8.9	54.3
E								
D	6	270 36.6	N14 05.5	2 09.6	13.2	S21 11.6	8.9	54.3
N	7	285 36.7	N14 06.3	16 41.8	13.2	S21 02.5	9.0	54.3
E	8	300 36.8	N14 07.0	31 14.1	13.3	S20 53.4	9.1	54.3
S	9	315 36.9	N14 07.8	45 46.4	13.3	S20 44.2	9.2	54.3
D	10	330 37.0	N14 08.6	60 18.8	13.4	S20 34.9	9.3	54.3
A	11	345 37.0	N14 09.4	74 51.3	13.5	S20 25.5	9.4	54.3
Y								
	12	0 37.1	N14 10.2	89 23.8	13.5	S20 16.0	9.5	54.3
	13	15 37.2	N14 11.0	103 56.4	13.6	S20 06.5	9.6	54.3
	14	30 37.3	N14 11.8	118 29.0	13.6	S19 56.8	9.6	54.3
	15	45 37.4	N14 12.6	133 01.7	13.7	S19 47.1	9.7	54.3
	16	60 37.5	N14 13.3	147 34.5	13.7	S19 37.3	9.8	54.3
	17	75 37.6	N14 14.1	162 07.2	13.8	S19 27.4	9.9	54.3
	18	90 37.7	N14 14.9	176 40.1	13.9	S19 17.4	10.0	54.3
	19	105 37.8	N14 15.7	191 13.0	13.9	S19 07.3	10.1	54.3
	20	120 37.9	N14 16.5	205 46.0	14.0	S18 57.2	10.1	54.3
	21	135 38.0	N14 17.3	220 19.0	14.0	S18 46.9	10.2	54.3
	22	150 38.0	N14 18.0	234 52.0	14.1	S18 36.6	10.3	54.3
	23	165 38.1	N14 18.8	249 25.1	14.1	S18 26.3	10.4	54.4
29	0	180 38.2	N14 19.6	263 58.3	14.2	S18 15.8	10.5	54.4
	1	195 38.3	N14 20.4	278 31.5	14.2	S18 05.3	10.5	54.4
	2	210 38.4	N14 21.2	293 04.8	14.3	S17 54.6	10.6	54.4
	3	225 38.5	N14 21.9	307 38.1	14.3	S17 44.0	10.7	54.4
	4	240 38.6	N14 22.7	322 11.5	14.4	S17 33.2	10.8	54.4
T	5	255 38.7	N14 23.5	336 44.9	14.4	S17 22.4	10.8	54.4
H								
U	6	270 38.8	N14 24.3	351 18.3	14.5	S17 11.4	10.9	54.4
R	7	285 38.8	N14 25.1	5 51.8	14.5	S17 00.5	11.0	54.4
S	8	300 38.9	N14 25.8	20 25.4	14.5	S16 49.4	11.1	54.4
D	9	315 39.0	N14 26.6	34 59.0	14.6	S16 38.3	11.1	54.4
A	10	330 39.1	N14 27.4	49 32.6	14.6	S16 27.1	11.2	54.5
Y	11	345 39.2	N14 28.2	64 06.3	14.7	S16 15.8	11.3	54.5
	12	0 39.3	N14 28.9	78 40.0	14.7	S16 04.4	11.3	54.5
	13	15 39.4	N14 29.7	93 13.8	14.8	S15 53.0	11.4	54.5
	14	30 39.4	N14 30.5	107 47.6	14.8	S15 41.6	11.5	54.5
	15	45 39.5	N14 31.3	122 21.4	14.8	S15 30.0	11.5	54.5
	16	60 39.6	N14 32.0	136 55.3	14.9	S15 18.4	11.6	54.5
	17	75 39.7	N14 32.8	151 29.2	14.9	S15 06.7	11.7	54.5
	18	90 39.8	N14 33.6	166 03.2	15.0	S14 55.0	11.7	54.6
	19	105 39.9	N14 34.4	180 37.2	15.0	S14 43.2	11.8	54.6
	20	120 40.0	N14 35.1	195 11.2	15.0	S14 31.3	11.9	54.6
	21	135 40.0	N14 35.9	209 45.3	15.1	S14 19.4	11.9	54.6
	22	150 40.1	N14 36.7	224 19.4	15.1	S14 07.4	12.0	54.6
	23	165 40.2	N14 37.5	238 53.6	15.1	S13 55.3	12.1	54.6
30	0	180 40.3	N14 38.2	253 27.7	15.2	S13 43.2	12.1	54.6
	1	195 40.4	N14 39.0	268 01.9	15.2	S13 31.0	12.2	54.7
	2	210 40.5	N14 39.8	282 36.2	15.2	S13 18.7	12.2	54.7
	3	225 40.5	N14 40.5	297 10.5	15.3	S13 06.4	12.3	54.7
	4	240 40.6	N14 41.3	311 44.8	15.3	S12 54.1	12.4	54.7
F	5	255 40.7	N14 42.1	326 19.1	15.3	S12 41.7	12.4	54.7
R								
I	6	270 40.8	N14 42.9	340 53.4	15.4	S12 29.2	12.5	54.7
D	7	285 40.9	N14 43.6	355 27.8	15.4	S12 16.7	12.5	54.7
A	8	300 40.9	N14 44.4	10 02.2	15.4	S12 04.1	12.6	54.8
Y	9	315 41.0	N14 45.2	24 36.7	15.4	S11 51.4	12.6	54.8
	10	330 41.1	N14 45.9	39 11.1	15.5	S11 38.7	12.7	54.8
	11	345 41.2	N14 46.7	53 45.6	15.5	S11 26.0	12.8	54.8
	12	0 41.3	N14 47.5	68 20.1	15.5	S11 13.2	12.8	54.8
	13	15 41.3	N14 48.2	82 54.6	15.5	S11 00.3	12.9	54.9
	14	30 41.4	N14 49.0	97 29.2	15.5	S10 47.4	12.9	54.9
	15	45 41.5	N14 49.8	112 03.7	15.6	S10 34.4	13.0	54.9
	16	60 41.6	N14 50.5	126 38.3	15.6	S10 21.4	13.0	54.9
	17	75 41.7	N14 51.3	141 12.9	15.6	S10 08.4	13.1	54.9
	18	90 41.7	N14 52.0	155 47.5	15.6	S 9 55.3	13.1	55.0
	19	105 41.8	N14 52.8	170 22.2	15.6	S 9 42.1	13.2	55.0
	20	120 41.9	N14 53.6	184 56.8	15.6	S 9 28.9	13.2	55.0
	21	135 42.0	N14 54.3	199 31.5	15.7	S 9 15.7	13.3	55.0
	22	150 42.1	N14 55.1	214 06.1	15.7	S 9 02.4	13.3	55.0
	23	165 42.1	N14 55.9	228 40.8	15.7	S 8 49.0	13.3	55.1
		S.D. 15.9	d 0.8	S.D.	14.8		14.8	14.9

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.7
Achernar	335 19.3	S57 05.8
Acrux	172 57.4	S63 15.3
Adhara	255 04.5	S29 00.8
Albireo	67 02.4	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.7
Alkaid	152 50.0	N49 10.5
Al Na-ir	27 30.7	S46 49.5
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.8	N26 37.2
Alpheratz	357 33.1	N29 14.4
Altair	61 58.0	N 8 56.3
Ankaa	353 05.6	S42 09.4
Antares	112 13.2	S26 29.6
Arcturus	145 45.8	N19 02.2
Atria	107 05.4	S69 04.5
Avior	234 14.0	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 51.8	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.5	N45 22.4
Denebola	182 22.8	N14 25.0
Diphda	348 45.7	S17 50.2
Dubhe	193 38.3	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 41.0	N51 28.8
Enif	33 37.0	N 9 59.9
Fomalhaut	15 12.6	S29 28.5
Gacrux	171 49.1	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.4
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 18.8	N74 02.5
Markab	13 28.2	N15 21.0
Menkar	314 04.5	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.7	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.3	S26 15.7
Peacock	53 02.6	S56 38.6
Polaris	316 10.5	N89 22.2
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.2
Rasalhague	95 56.6	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.0
Sabik	102 00.4	S15 45.6
Schedar	349 29.4	N56 41.1
Shaula	96 07.5	S37 07.4
Sirius	258 24.8	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.9	S43 32.9
Vega	80 31.7	N38 48.2
Zuben-ubi	136 54.5	S16 09.5

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 42.2	205 58.1	N 3 40.1	70 11.3	N15 00.9	78 27.2	N16 32.7	198 51.3	N 5 56.9
	1	233 44.6	220 57.7	N 3 41.3	85 13.1	N15 00.6	93 29.5	N16 32.6	213 53.5	N 5 57.0
	2	248 47.1	235 57.4	N 3 42.4	100 14.9	N15 00.3	108 31.8	N16 32.6	228 55.7	N 5 57.1
	3	263 49.5	250 57.1	N 3 43.6	115 16.7	N14 59.9	123 34.2	N16 32.6	243 57.8	N 5 57.2
	4	278 52.0	265 56.7	N 3 44.8	130 18.5	N14 59.6	138 36.5	N16 32.5	259 00.0	N 5 57.3
S	5	293 54.5	280 56.4	N 3 45.9	145 20.3	N14 59.3	153 38.8	N16 32.5	274 02.2	N 5 57.4
A										
T	6	308 56.9	295 56.0	N 3 47.1	160 22.1	N14 59.0	168 41.2	N16 32.4	289 04.4	N 5 57.5
U	7	323 59.4	310 55.7	N 3 48.3	175 23.9	N14 58.7	183 43.5	N16 32.4	304 06.6	N 5 57.6
R	8	339 01.9	325 55.3	N 3 49.4	190 25.7	N14 58.3	198 45.8	N16 32.3	319 08.7	N 5 57.8
D	9	354 04.3	340 55.0	N 3 50.6	205 27.5	N14 58.0	213 48.1	N16 32.3	334 10.9	N 5 57.9
A	10	9 06.8	355 54.7	N 3 51.8	220 29.3	N14 57.7	228 50.5	N16 32.2	349 13.1	N 5 58.0
Y	11	24 09.3	10 54.3	N 3 52.9	235 31.1	N14 57.4	243 52.8	N16 32.2	4 15.3	N 5 58.1
	12	39 11.7	25 54.0	N 3 54.1	250 32.8	N14 57.1	258 55.1	N16 32.1	19 17.5	N 5 58.2
	13	54 14.2	40 53.6	N 3 55.3	265 34.6	N14 56.7	273 57.5	N16 32.1	34 19.6	N 5 58.3
	14	69 16.6	55 53.3	N 3 56.4	280 36.4	N14 56.4	288 59.8	N16 32.0	49 21.8	N 5 58.4
	15	84 19.1	70 52.9	N 3 57.6	295 38.2	N14 56.1	304 02.1	N16 32.0	64 24.0	N 5 58.5
	16	99 21.6	85 52.6	N 3 58.8	310 40.0	N14 55.8	319 04.4	N16 32.0	79 26.2	N 5 58.6
	17	114 24.0	100 52.2	N 3 59.9	325 41.8	N14 55.5	334 06.8	N16 31.9	94 28.4	N 5 58.7
	18	129 26.5	115 51.9	N 4 01.1	340 43.6	N14 55.1	349 09.1	N16 31.9	109 30.5	N 5 58.9
	19	144 29.0	130 51.6	N 4 02.2	355 45.4	N14 54.8	4 11.4	N16 31.8	124 32.7	N 5 59.0
	20	159 31.4	145 51.2	N 4 03.4	10 47.1	N14 54.5	19 13.7	N16 31.8	139 34.9	N 5 59.1
	21	174 33.9	160 50.9	N 4 04.6	25 48.9	N14 54.2	34 16.1	N16 31.7	154 37.1	N 5 59.2
	22	189 36.4	175 50.5	N 4 05.7	40 50.7	N14 53.9	49 18.4	N16 31.7	169 39.3	N 5 59.3
	23	204 38.8	190 50.2	N 4 06.9	55 52.5	N14 53.5	64 20.7	N16 31.6	184 41.4	N 5 59.4
2	0	219 41.3	205 49.8	N 4 08.1	70 54.3	N14 53.2	79 23.0	N16 31.6	199 43.6	N 5 59.5
	1	234 43.8	220 49.5	N 4 09.2	85 56.1	N14 52.9	94 25.4	N16 31.5	214 45.8	N 5 59.6
	2	249 46.2	235 49.1	N 4 10.4	100 57.8	N14 52.6	109 27.7	N16 31.5	229 48.0	N 5 59.7
	3	264 48.7	250 48.8	N 4 11.6	115 59.6	N14 52.2	124 30.0	N16 31.4	244 50.2	N 5 59.8
	4	279 51.1	265 48.5	N 4 12.7	131 01.4	N14 51.9	139 32.3	N16 31.4	259 52.4	N 5 60.0
S	5	294 53.6	280 48.1	N 4 13.9	146 03.2	N14 51.6	154 34.7	N16 31.3	274 54.5	N 6 00.1
U										
N	6	309 56.1	295 47.8	N 4 15.1	161 05.0	N14 51.3	169 37.0	N16 31.3	289 56.7	N 6 00.2
D	7	324 58.5	310 47.4	N 4 16.2	176 06.7	N14 50.9	184 39.3	N16 31.2	304 58.9	N 6 00.3
A	8	340 01.0	325 47.1	N 4 17.4	191 08.5	N14 50.6	199 41.6	N16 31.2	320 01.1	N 6 00.4
Y	9	355 03.5	340 46.7	N 4 18.5	206 10.3	N14 50.3	214 43.9	N16 31.1	335 03.3	N 6 00.5
	10	10 05.9	355 46.4	N 4 19.7	221 12.1	N14 50.0	229 46.3	N16 31.1	350 05.4	N 6 00.6
	11	25 08.4	10 46.0	N 4 20.9	236 13.8	N14 49.6	244 48.6	N16 31.0	5 07.6	N 6 00.7
	12	40 10.9	25 45.7	N 4 22.0	251 15.6	N14 49.3	259 50.9	N16 31.0	20 09.8	N 6 00.8
	13	55 13.3	40 45.3	N 4 23.2	266 17.4	N14 49.0	274 53.2	N16 30.9	35 12.0	N 6 00.9
	14	70 15.8	55 45.0	N 4 24.4	281 19.2	N14 48.7	289 55.5	N16 30.9	50 14.2	N 6 01.1
	15	85 18.2	70 44.6	N 4 25.5	296 20.9	N14 48.3	304 57.9	N16 30.8	65 16.3	N 6 01.2
	16	100 20.7	85 44.3	N 4 26.7	311 22.7	N14 48.0	320 00.2	N16 30.8	80 18.5	N 6 01.3
	17	115 23.2	100 43.9	N 4 27.8	326 24.5	N14 47.7	335 02.5	N16 30.7	95 20.7	N 6 01.4
	18	130 25.6	115 43.6	N 4 29.0	341 26.2	N14 47.3	350 04.8	N16 30.7	110 22.9	N 6 01.5
	19	145 28.1	130 43.3	N 4 30.2	356 28.0	N14 47.0	5 07.1	N16 30.6	125 25.1	N 6 01.6
	20	160 30.6	145 42.9	N 4 31.3	11 29.8	N14 46.7	20 09.5	N16 30.6	140 27.3	N 6 01.7
	21	175 33.0	160 42.6	N 4 32.5	26 31.5	N14 46.4	35 11.8	N16 30.5	155 29.4	N 6 01.8
	22	190 35.5	175 42.2	N 4 33.7	41 33.3	N14 46.0	50 14.1	N16 30.5	170 31.6	N 6 01.9
	23	205 38.0	190 41.9	N 4 34.8	56 35.1	N14 45.7	65 16.4	N16 30.5	185 33.8	N 6 02.0
3	0	220 40.4	205 41.5	N 4 36.0	71 36.8	N14 45.4	80 18.7	N16 30.4	200 36.0	N 6 02.1
	1	235 42.9	220 41.2	N 4 37.1	86 38.6	N14 45.0	95 21.1	N16 30.4	215 38.2	N 6 02.3
	2	250 45.4	235 40.8	N 4 38.3	101 40.4	N14 44.7	110 23.4	N16 30.3	230 40.3	N 6 02.4
	3	265 47.8	250 40.5	N 4 39.5	116 42.1	N14 44.4	125 25.7	N16 30.3	245 42.5	N 6 02.5
	4	280 50.3	265 40.1	N 4 40.6	131 43.9	N14 44.1	140 28.0	N16 30.2	260 44.7	N 6 02.6
M	5	295 52.7	280 39.8	N 4 41.8	146 45.7	N14 43.7	155 30.3	N16 30.1	275 46.9	N 6 02.7
O										
N	6	310 55.2	295 39.4	N 4 42.9	161 47.4	N14 43.4	170 32.6	N16 30.1	290 49.1	N 6 02.8
D	7	325 57.7	310 39.1	N 4 44.1	176 49.2	N14 43.1	185 35.0	N16 30.0	305 51.3	N 6 02.9
A	8	341 00.1	325 38.7	N 4 45.3	191 50.9	N14 42.7	200 37.3	N16 30.0	320 53.4	N 6 03.0
Y	9	356 02.6	340 38.4	N 4 46.4	206 52.7	N14 42.4	215 39.6	N16 29.9	335 55.6	N 6 03.1
	10	11 05.1	355 38.0	N 4 47.6	221 54.5	N14 42.1	230 41.9	N16 29.9	350 57.8	N 6 03.2
	11	26 07.5	10 37.7	N 4 48.7	236 56.2	N14 41.7	245 44.2	N16 29.8	5 60.0	N 6 03.3
	12	41 10.0	25 37.3	N 4 49.9	251 58.0	N14 41.4	260 46.5	N16 29.8	21 02.2	N 6 03.5
	13	56 12.5	40 37.0	N 4 51.1	266 59.7	N14 41.1	275 48.8	N16 29.7	36 04.4	N 6 03.6
	14	71 14.9	55 36.6	N 4 52.2	282 01.5	N14 40.7	290 51.2	N16 29.7	51 06.5	N 6 03.7
	15	86 17.4	70 36.3	N 4 53.4	297 03.3	N14 40.4	305 53.5	N16 29.6	66 08.7	N 6 03.8
	16	101 19.9	85 35.9	N 4 54.5	312 05.0	N14 40.1	320 55.8	N16 29.6	81 10.9	N 6 03.9
	17	116 22.3	100 35.6	N 4 55.7	327 06.8	N14 39.7	335 58.1	N16 29.5	96 13.1	N 6 04.0
	18	131 24.8	115 35.2	N 4 56.9	342 08.5	N14 39.4	351 00.4	N16 29.5	111 15.3	N 6 04.1
	19	146 27.2	130 34.9	N 4 58.0	357 10.3	N14 39.1	6 02.7	N16 29.4	126 17.4	N 6 04.2
	20	161 29.7	145 34.5	N 4 59.2	12 12.0	N14 38.7	21 05.0	N16 29.4	141 19.6	N 6 04.3
	21	176 32.2	160 34.2	N 5 00.3	27 13.8	N14 38.4	36 07.3	N16 29.3	156 21.8	N 6 04.4
	22	191 34.6	175 33.8	N 5 01.5	42 15.5	N14 38.1	51 09.6	N16 29.3	171 24.0	N 6 04.5
	23	206 37.1	190 33.5	N 5 02.6	57 17.3	N14 37.7	66 12.0	N16 29.2	186 26.2	N 6 04.7
			v -0.3	d 1.2	v 1.8	d 0.3	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	180 42.2	N14 56.6	243 15.5	15.7	S 8 35.6	13.4	55.1
	1	195 42.3	N14 57.4	257 50.2	15.7	S 8 22.2	13.4	55.1
	2	210 42.4	N14 58.1	272 24.9	15.7	S 8 08.7	13.5	55.1
	3	225 42.4	N14 58.9	286 59.6	15.7	S 7 55.2	13.5	55.1
	4	240 42.5	N14 59.7	301 34.4	15.7	S 7 41.6	13.6	55.2
S	5	255 42.6	N15 00.4	316 09.1	15.7	S 7 28.0	13.6	55.2
A								
T	6	270 42.7	N15 01.2	330 43.8	15.7	S 7 14.4	13.6	55.2
U	7	285 42.8	N15 01.9	345 18.6	15.7	S 7 00.7	13.7	55.2
R	8	300 42.8	N15 02.7	359 53.3	15.7	S 6 47.0	13.7	55.3
D	9	315 42.9	N15 03.5	14 28.0	15.7	S 6 33.2	13.8	55.3
A	10	330 43.0	N15 04.2	29 02.8	15.7	S 6 19.4	13.8	55.3
Y	11	345 43.1	N15 05.0	43 37.5	15.7	S 6 05.6	13.8	55.3
	12	0 43.1	N15 05.7	58 12.3	15.7	S 5 51.7	13.9	55.3
	13	15 43.2	N15 06.5	72 47.0	15.7	S 5 37.8	13.9	55.4
	14	30 43.3	N15 07.2	87 21.7	15.7	S 5 23.9	13.9	55.4
	15	45 43.4	N15 08.0	101 56.5	15.7	S 5 09.9	14.0	55.4
	16	60 43.4	N15 08.7	116 31.2	15.7	S 4 55.9	14.0	55.4
	17	75 43.5	N15 09.5	131 05.9	15.7	S 4 41.8	14.0	55.5
	18	90 43.6	N15 10.3	145 40.6	15.7	S 4 27.8	14.1	55.5
	19	105 43.6	N15 11.0	160 15.3	15.7	S 4 13.6	14.1	55.5
	20	120 43.7	N15 11.8	174 50.0	15.7	S 3 59.5	14.1	55.5
	21	135 43.8	N15 12.5	189 24.6	15.7	S 3 45.3	14.2	55.6
	22	150 43.9	N15 13.3	203 59.3	15.7	S 3 31.2	14.2	55.6
	23	165 43.9	N15 14.0	218 33.9	15.6	S 3 16.9	14.2	55.6
2	0	180 44.0	N15 14.8	233 08.6	15.6	S 3 02.7	14.2	55.7
	1	195 44.1	N15 15.5	247 43.2	15.6	S 2 48.4	14.3	55.7
	2	210 44.2	N15 16.3	262 17.8	15.6	S 2 34.1	14.3	55.7
	3	225 44.2	N15 17.0	276 52.3	15.6	S 2 19.8	14.3	55.7
	4	240 44.3	N15 17.8	291 26.9	15.6	S 2 05.4	14.4	55.8
S	5	255 44.4	N15 18.5	306 01.4	15.5	S 1 51.1	14.4	55.8
U								
N	6	270 44.4	N15 19.3	320 35.9	15.5	S 1 36.7	14.4	55.8
D	7	285 44.5	N15 20.0	335 10.4	15.5	S 1 22.2	14.4	55.8
A	8	300 44.6	N15 20.8	349 44.9	15.5	S 1 07.8	14.4	55.9
Y	9	315 44.6	N15 21.5	4 19.3	15.4	S 0 53.3	14.5	55.9
	10	330 44.7	N15 22.3	18 53.7	15.4	S 0 38.9	14.5	55.9
	11	345 44.8	N15 23.0	33 28.1	15.4	S 0 24.4	14.5	56.0
	12	0 44.9	N15 23.7	48 02.5	15.4	S 0 09.9	14.5	56.0
	13	15 44.9	N15 24.5	62 36.8	15.3	N 0 04.7	14.5	56.0
	14	30 45.0	N15 25.2	77 11.1	15.3	N 0 19.2	14.5	56.0
	15	45 45.1	N15 26.0	91 45.3	15.3	N 0 33.8	14.6	56.1
	16	60 45.1	N15 26.7	106 19.6	15.2	N 0 48.3	14.6	56.1
	17	75 45.2	N15 27.5	120 53.8	15.2	N 1 02.9	14.6	56.1
	18	90 45.3	N15 28.2	135 27.9	15.2	N 1 17.5	14.6	56.2
	19	105 45.3	N15 28.9	150 02.0	15.1	N 1 32.1	14.6	56.2
	20	120 45.4	N15 29.7	164 36.1	15.1	N 1 46.7	14.6	56.2
	21	135 45.5	N15 30.4	179 10.1	15.0	N 2 01.4	14.6	56.2
	22	150 45.5	N15 31.2	193 44.1	15.0	N 2 16.0	14.6	56.3
	23	165 45.6	N15 31.9	208 18.1	15.0	N 2 30.6	14.6	56.3
3	0	180 45.7	N15 32.7	222 52.0	14.9	N 2 45.3	14.6	56.3
	1	195 45.7	N15 33.4	237 25.9	14.9	N 2 59.9	14.7	56.4
	2	210 45.8	N15 34.1	251 59.7	14.8	N 3 14.6	14.7	56.4
	3	225 45.9	N15 34.9	266 33.5	14.8	N 3 29.3	14.7	56.4
	4	240 45.9	N15 35.6	281 07.2	14.7	N 3 43.9	14.7	56.5
M	5	255 46.0	N15 36.4	295 40.9	14.7	N 3 58.6	14.7	56.5
O								
N	6	270 46.1	N15 37.1	310 14.5	14.6	N 4 13.2	14.7	56.5
D	7	285 46.1	N15 37.8	324 48.0	14.6	N 4 27.9	14.7	56.5
A	8	300 46.2	N15 38.6	339 21.6	14.5	N 4 42.6	14.7	56.6
Y	9	315 46.2	N15 39.3	353 55.0	14.5	N 4 57.2	14.7	56.6
	10	330 46.3	N15 40.0	8 28.4	14.4	N 5 11.9	14.7	56.6
	11	345 46.4	N15 40.8	23 01.8	14.4	N 5 26.5	14.6	56.7
	12	0 46.4	N15 41.5	37 35.1	14.3	N 5 41.2	14.6	56.7
	13	15 46.5	N15 42.2	52 08.3	14.2	N 5 55.8	14.6	56.7
	14	30 46.6	N15 43.0	66 41.5	14.2	N 6 10.4	14.6	56.8
	15	45 46.6	N15 43.7	81 14.6	14.1	N 6 25.0	14.6	56.8
	16	60 46.7	N15 44.4	95 47.7	14.1	N 6 39.6	14.6	56.8
	17	75 46.7	N15 45.2	110 20.7	14.0	N 6 54.2	14.6	56.9
	18	90 46.8	N15 45.9	124 53.6	13.9	N 7 08.8	14.6	56.9
	19	105 46.9	N15 46.6	139 26.4	13.9	N 7 23.4	14.6	56.9
	20	120 46.9	N15 47.4	153 59.2	13.8	N 7 37.9	14.5	56.9
	21	135 47.0	N15 48.1	168 32.0	13.7	N 7 52.4	14.5	57.0
	22	150 47.1	N15 48.8	183 04.6	13.7	N 8 07.0	14.5	57.0
	23	165 47.1	N15 49.6	197 37.2	13.6	N 8 21.4	14.5	57.0
		S.D. 15.9	d 0.7	S.D.	15.1	15.3	15.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.7
Achernar	335 19.3	S57 05.8
Acrux	172 57.4	S63 15.3
Adhara	255 04.6	S29 00.8
Albireo	67 02.4	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.7
Alkaid	152 50.0	N49 10.5
Al Na-ir	27 30.6	S46 49.5
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.8	N26 37.2
Alpheratz	357 33.1	N29 14.4
Altair	61 58.0	N 8 56.3
Ankaa	353 05.6	S42 09.4
Antares	112 13.2	S26 29.6
Arcturus	145 45.8	N19 02.2
Atria	107 05.3	S69 04.5
Avior	234 14.0	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.5	N45 22.4
Denebola	182 22.8	N14 25.1
Diphda	348 45.7	S17 50.1
Dubhe	193 38.3	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 41.0	N51 28.8
Enif	33 37.0	N 9 59.9
Fomalhaut	15 12.6	S29 28.5
Gacrux	171 49.1	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.5
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 18.8	N74 02.5
Markab	13 28.2	N15 21.0
Menkar	314 04.5	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.7	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.2	S26 15.7
Peacock	53 02.6	S56 38.6
Polaris	316 10.4	N89 22.1
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.6	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.0
Sabik	102 00.4	S15 45.6
Schedar	349 29.4	N56 41.1
Shaula	96 07.5	S37 07.4
Sirius	258 24.8	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.9	S43 32.9
Vega	80 31.7	N38 48.3
Zuben-ubi	136 54.5	S16 09.5

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 39.6	205 33.1	N 5 03.8	72 19.0	N14 37.4	81 14.3	N16 29.2	201 28.4	N 6 04.8
	1	236 42.0	220 32.7	N 5 05.0	87 20.8	N14 37.1	96 16.6	N16 29.1	216 30.5	N 6 04.9
	2	251 44.5	235 32.4	N 5 06.1	102 22.5	N14 36.7	111 18.9	N16 29.1	231 32.7	N 6 05.0
	3	266 47.0	250 32.0	N 5 07.3	117 24.3	N14 36.4	126 21.2	N16 29.0	246 34.9	N 6 05.1
	4	281 49.4	265 31.7	N 5 08.4	132 26.0	N14 36.1	141 23.5	N16 29.0	261 37.1	N 6 05.2
T	5	296 51.9	280 31.3	N 5 09.6	147 27.8	N14 35.7	156 25.8	N16 28.9	276 39.3	N 6 05.3
U										
E	6	311 54.3	295 31.0	N 5 10.8	162 29.5	N14 35.4	171 28.1	N16 28.9	291 41.5	N 6 05.4
S	7	326 56.8	310 30.6	N 5 11.9	177 31.3	N14 35.1	186 30.4	N16 28.8	306 43.6	N 6 05.5
D	8	341 59.3	325 30.3	N 5 13.1	192 33.0	N14 34.7	201 32.7	N16 28.8	321 45.8	N 6 05.6
A	9	357 01.7	340 29.9	N 5 14.2	207 34.7	N14 34.4	216 35.1	N16 28.7	336 48.0	N 6 05.7
Y	10	12 04.2	355 29.6	N 5 15.4	222 36.5	N14 34.0	231 37.4	N16 28.7	351 50.2	N 6 05.9
	11	27 06.7	10 29.2	N 5 16.5	237 38.2	N14 33.7	246 39.7	N16 28.6	6 52.4	N 6 06.0
	12	42 09.1	25 28.9	N 5 17.7	252 40.0	N14 33.4	261 42.0	N16 28.5	21 54.6	N 6 06.1
	13	57 11.6	40 28.5	N 5 18.8	267 41.7	N14 33.0	276 44.3	N16 28.5	36 56.7	N 6 06.2
	14	72 14.1	55 28.2	N 5 20.0	282 43.5	N14 32.7	291 46.6	N16 28.4	51 58.9	N 6 06.3
	15	87 16.5	70 27.8	N 5 21.2	297 45.2	N14 32.4	306 48.9	N16 28.4	67 01.1	N 6 06.4
	16	102 19.0	85 27.4	N 5 22.3	312 46.9	N14 32.0	321 51.2	N16 28.3	82 03.3	N 6 06.5
	17	117 21.5	100 27.1	N 5 23.5	327 48.7	N14 31.7	336 53.5	N16 28.3	97 05.5	N 6 06.6
	18	132 23.9	115 26.7	N 5 24.6	342 50.4	N14 31.3	351 55.8	N16 28.2	112 07.7	N 6 06.7
	19	147 26.4	130 26.4	N 5 25.8	357 52.1	N14 31.0	6 58.1	N16 28.2	127 09.8	N 6 06.8
	20	162 28.8	145 26.0	N 5 26.9	12 53.9	N14 30.7	22 00.4	N16 28.1	142 12.0	N 6 06.9
	21	177 31.3	160 25.7	N 5 28.1	27 55.6	N14 30.3	37 02.7	N16 28.1	157 14.2	N 6 07.0
	22	192 33.8	175 25.3	N 5 29.2	42 57.4	N14 30.0	52 05.0	N16 28.0	172 16.4	N 6 07.1
	23	207 36.2	190 25.0	N 5 30.4	57 59.1	N14 29.6	67 07.3	N16 28.0	187 18.6	N 6 07.3
5	0	222 38.7	205 24.6	N 5 31.6	73 00.8	N14 29.3	82 09.6	N16 27.9	202 20.8	N 6 07.4
	1	237 41.2	220 24.2	N 5 32.7	88 02.6	N14 29.0	97 11.9	N16 27.8	217 22.9	N 6 07.5
	2	252 43.6	235 23.9	N 5 33.9	103 04.3	N14 28.6	112 14.2	N16 27.8	232 25.1	N 6 07.6
	3	267 46.1	250 23.5	N 5 35.0	118 06.0	N14 28.3	127 16.5	N16 27.7	247 27.3	N 6 07.7
	4	282 48.6	265 23.2	N 5 36.2	133 07.7	N14 27.9	142 18.8	N16 27.7	262 29.5	N 6 07.8
W	5	297 51.0	280 22.8	N 5 37.3	148 09.5	N14 27.6	157 21.1	N16 27.6	277 31.7	N 6 07.9
E										
D	6	312 53.5	295 22.5	N 5 38.5	163 11.2	N14 27.3	172 23.4	N16 27.6	292 33.9	N 6 08.0
N	7	327 55.9	310 22.1	N 5 39.6	178 12.9	N14 26.9	187 25.8	N16 27.5	307 36.1	N 6 08.1
E	8	342 58.4	325 21.7	N 5 40.8	193 14.7	N14 26.6	202 28.1	N16 27.5	322 38.2	N 6 08.2
S	9	358 00.9	340 21.4	N 5 41.9	208 16.4	N14 26.2	217 30.4	N16 27.4	337 40.4	N 6 08.3
D	10	13 03.3	355 21.0	N 5 43.1	223 18.1	N14 25.9	232 32.7	N16 27.4	352 42.6	N 6 08.4
A	11	28 05.8	10 20.7	N 5 44.2	238 19.9	N14 25.5	247 35.0	N16 27.3	7 44.8	N 6 08.6
Y										
	12	43 08.3	25 20.3	N 5 45.4	253 21.6	N14 25.2	262 37.3	N16 27.2	22 47.0	N 6 08.7
	13	58 10.7	40 20.0	N 5 46.5	268 23.3	N14 24.9	277 39.6	N16 27.2	37 49.2	N 6 08.8
	14	73 13.2	55 19.6	N 5 47.7	283 25.0	N14 24.5	292 41.9	N16 27.1	52 51.3	N 6 08.9
	15	88 15.7	70 19.2	N 5 48.8	298 26.8	N14 24.2	307 44.2	N16 27.1	67 53.5	N 6 09.0
	16	103 18.1	85 18.9	N 5 50.0	313 28.5	N14 23.8	322 46.5	N16 27.0	82 55.7	N 6 09.1
	17	118 20.6	100 18.5	N 5 51.1	328 30.2	N14 23.5	337 48.8	N16 27.0	97 57.9	N 6 09.2
	18	133 23.1	115 18.2	N 5 52.3	343 31.9	N14 23.1	352 51.0	N16 26.9	113 00.1	N 6 09.3
	19	148 25.5	130 17.8	N 5 53.4	358 33.6	N14 22.8	7 53.3	N16 26.8	128 02.3	N 6 09.4
	20	163 28.0	145 17.4	N 5 54.6	13 35.4	N14 22.4	22 55.6	N16 26.8	143 04.5	N 6 09.5
	21	178 30.4	160 17.1	N 5 55.7	28 37.1	N14 22.1	37 57.9	N16 26.7	158 06.6	N 6 09.6
	22	193 32.9	175 16.7	N 5 56.9	43 38.8	N14 21.7	53 00.2	N16 26.7	173 08.8	N 6 09.7
	23	208 35.4	190 16.4	N 5 58.0	58 40.5	N14 21.4	68 02.5	N16 26.6	188 11.0	N 6 09.8
6	0	223 37.8	205 16.0	N 5 59.2	73 42.2	N14 21.1	83 04.8	N16 26.6	203 13.2	N 6 10.0
	1	238 40.3	220 15.6	N 6 00.3	88 44.0	N14 20.7	98 07.1	N16 26.5	218 15.4	N 6 10.1
	2	253 42.8	235 15.3	N 6 01.5	103 45.7	N14 20.4	113 09.4	N16 26.5	233 17.6	N 6 10.2
	3	268 45.2	250 14.9	N 6 02.6	118 47.4	N14 20.0	128 11.7	N16 26.4	248 19.7	N 6 10.3
	4	283 47.7	265 14.5	N 6 03.8	133 49.1	N14 19.7	143 14.0	N16 26.3	263 21.9	N 6 10.4
T	5	298 50.2	280 14.2	N 6 04.9	148 50.8	N14 19.3	158 16.3	N16 26.3	278 24.1	N 6 10.5
H										
U	6	313 52.6	295 13.8	N 6 06.1	163 52.5	N14 19.0	173 18.6	N16 26.2	293 26.3	N 6 10.6
R	7	328 55.1	310 13.5	N 6 07.2	178 54.3	N14 18.6	188 20.9	N16 26.2	308 28.5	N 6 10.7
S	8	343 57.6	325 13.1	N 6 08.4	193 56.0	N14 18.3	203 23.2	N16 26.1	323 30.7	N 6 10.8
D	9	359 00.0	340 12.7	N 6 09.5	208 57.7	N14 17.9	218 25.5	N16 26.1	338 32.9	N 6 10.9
A	10	14 02.5	355 12.4	N 6 10.7	223 59.4	N14 17.6	233 27.8	N16 26.0	353 35.0	N 6 11.0
Y	11	29 04.9	10 12.0	N 6 11.8	239 01.1	N14 17.2	248 30.1	N16 25.9	8 37.2	N 6 11.1
	12	44 07.4	25 11.7	N 6 13.0	254 02.8	N14 16.9	263 32.4	N16 25.9	23 39.4	N 6 11.2
	13	59 09.9	40 11.3	N 6 14.1	269 04.5	N14 16.5	278 34.7	N16 25.8	38 41.6	N 6 11.3
	14	74 12.3	55 10.9	N 6 15.3	284 06.2	N14 16.2	293 37.0	N16 25.8	53 43.8	N 6 11.5
	15	89 14.8	70 10.6	N 6 16.4	299 07.9	N14 15.8	308 39.3	N16 25.7	68 46.0	N 6 11.6
	16	104 17.3	85 10.2	N 6 17.6	314 09.7	N14 15.5	323 41.5	N16 25.7	83 48.2	N 6 11.7
	17	119 19.7	100 09.8	N 6 18.7	329 11.4	N14 15.1	338 43.8	N16 25.6	98 50.3	N 6 11.8
	18	134 22.2	115 09.5	N 6 19.9	344 13.1	N14 14.8	353 46.1	N16 25.5	113 52.5	N 6 11.9
	19	149 24.7	130 09.1	N 6 21.0	359 14.8	N14 14.4	8 48.4	N16 25.5	128 54.7	N 6 12.0
	20	164 27.1	145 08.7	N 6 22.2	14 16.5	N14 14.1	23 50.7	N16 25.4	143 56.9	N 6 12.1
	21	179 29.6	160 08.4	N 6 23.3	29 18.2	N14 13.7	38 53.0	N16 25.4	158 59.1	N 6 12.2
	22	194 32.0	175 08.0	N 6 24.4	44 19.9	N14 13.4	53 55.3	N16 25.3	174 01.3	N 6 12.3
	23	209 34.5	190 07.6	N 6 25.6	59 21.6	N14 13.0	68 57.6	N16 25.2	189 03.5	N 6 12.4
			v -0.4	d 1.2	v 1.7	d 0.3	v 2.3	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 '
4	0	180 47.2	N15 50.3	212 09.7	13.5	N 8 35.9	14.5	57.1
	1	195 47.2	N15 51.0	226 42.1	13.4	N 8 50.4	14.4	57.1
	2	210 47.3	N15 51.7	241 14.5	13.4	N 9 04.8	14.4	57.1
	3	225 47.4	N15 52.5	255 46.8	13.3	N 9 19.2	14.4	57.2
	4	240 47.4	N15 53.2	270 19.0	13.2	N 9 33.6	14.4	57.2
T	5	255 47.5	N15 53.9	284 51.1	13.1	N 9 47.9	14.3	57.2
U								
E	6	270 47.5	N15 54.7	299 23.2	13.0	N10 02.2	14.3	57.3
S	7	285 47.6	N15 55.4	313 55.1	13.0	N10 16.5	14.3	57.3
D	8	300 47.6	N15 56.1	328 27.0	12.9	N10 30.8	14.3	57.3
A	9	315 47.7	N15 56.8	342 58.8	12.8	N10 45.0	14.2	57.4
Y	10	330 47.8	N15 57.6	357 30.5	12.7	N10 59.2	14.2	57.4
	11	345 47.8	N15 58.3	12 02.2	12.6	N11 13.3	14.2	57.4
	12	0 47.9	N15 59.0	26 33.7	12.6	N11 27.5	14.1	57.5
	13	15 47.9	N15 59.7	41 05.2	12.5	N11 41.5	14.1	57.5
	14	30 48.0	N16 00.5	55 36.6	12.4	N11 55.6	14.0	57.5
	15	45 48.0	N16 01.2	70 07.8	12.3	N12 09.6	14.0	57.5
	16	60 48.1	N16 01.9	84 39.0	12.2	N12 23.5	14.0	57.6
	17	75 48.2	N16 02.6	99 10.1	12.1	N12 37.4	13.9	57.6
	18	90 48.2	N16 03.3	113 41.2	12.0	N12 51.3	13.9	57.6
	19	105 48.3	N16 04.1	128 12.1	11.9	N13 05.1	13.8	57.7
	20	120 48.3	N16 04.8	142 42.9	11.8	N13 18.9	13.8	57.7
	21	135 48.4	N16 05.5	157 13.6	11.7	N13 32.6	13.7	57.7
	22	150 48.4	N16 06.2	171 44.3	11.6	N13 46.3	13.7	57.8
	23	165 48.5	N16 06.9	186 14.8	11.5	N13 59.9	13.6	57.8
5	0	180 48.5	N16 07.7	200 45.2	11.4	N14 13.4	13.6	57.8
	1	195 48.6	N16 08.4	215 15.6	11.3	N14 26.9	13.5	57.9
	2	210 48.7	N16 09.1	229 45.8	11.2	N14 40.4	13.4	57.9
	3	225 48.7	N16 09.8	244 15.9	11.1	N14 53.7	13.4	57.9
	4	240 48.8	N16 10.5	258 46.0	11.0	N15 07.1	13.3	57.9
W	5	255 48.8	N16 11.2	273 15.9	10.9	N15 20.3	13.3	58.0
E								
D	6	270 48.9	N16 12.0	287 45.7	10.8	N15 33.5	13.2	58.0
N	7	285 48.9	N16 12.7	302 15.5	10.7	N15 46.6	13.1	58.0
E	8	300 49.0	N16 13.4	316 45.1	10.6	N15 59.7	13.1	58.1
S	9	315 49.0	N16 14.1	331 14.6	10.5	N16 12.7	13.0	58.1
D	10	330 49.1	N16 14.8	345 44.0	10.4	N16 25.6	12.9	58.1
A	11	345 49.1	N16 15.5	0 13.3	10.3	N16 38.4	12.8	58.1
Y								
	12	0 49.2	N16 16.3	14 42.5	10.2	N16 51.2	12.8	58.2
	13	15 49.2	N16 17.0	29 11.6	10.1	N17 03.9	12.7	58.2
	14	30 49.3	N16 17.7	43 40.5	10.0	N17 16.5	12.6	58.2
	15	45 49.3	N16 18.4	58 09.4	9.9	N17 29.0	12.5	58.3
	16	60 49.4	N16 19.1	72 38.2	9.7	N17 41.4	12.4	58.3
	17	75 49.4	N16 19.8	87 06.8	9.6	N17 53.8	12.4	58.3
	18	90 49.5	N16 20.5	101 35.3	9.5	N18 06.1	12.3	58.3
	19	105 49.5	N16 21.2	116 03.7	9.4	N18 18.3	12.2	58.4
	20	120 49.6	N16 21.9	130 32.0	9.3	N18 30.4	12.1	58.4
	21	135 49.6	N16 22.6	145 00.2	9.2	N18 42.4	12.0	58.4
	22	150 49.7	N16 23.4	159 28.3	9.1	N18 54.3	11.9	58.5
	23	165 49.7	N16 24.1	173 56.3	9.0	N19 06.1	11.8	58.5
6	0	180 49.8	N16 24.8	188 24.1	8.8	N19 17.8	11.7	58.5
	1	195 49.8	N16 25.5	202 51.8	8.7	N19 29.4	11.6	58.5
	2	210 49.9	N16 26.2	217 19.4	8.6	N19 41.0	11.5	58.6
	3	225 49.9	N16 26.9	231 46.9	8.5	N19 52.4	11.4	58.6
	4	240 50.0	N16 27.6	246 14.3	8.4	N20 03.7	11.3	58.6
T	5	255 50.0	N16 28.3	260 41.6	8.3	N20 14.9	11.2	58.6
H								
U	6	270 50.1	N16 29.0	275 08.7	8.2	N20 26.0	11.1	58.7
R	7	285 50.1	N16 29.7	289 35.8	8.0	N20 37.0	11.0	58.7
S	8	300 50.2	N16 30.4	304 02.7	7.9	N20 47.9	10.9	58.7
D	9	315 50.2	N16 31.1	318 29.5	7.8	N20 58.6	10.8	58.7
A	10	330 50.2	N16 31.8	332 56.2	7.7	N21 09.3	10.7	58.8
Y	11	345 50.3	N16 32.5	347 22.8	7.6	N21 19.8	10.5	58.8
	12	0 50.3	N16 33.2	1 49.2	7.5	N21 30.2	10.4	58.8
	13	15 50.4	N16 33.9	16 15.6	7.3	N21 40.5	10.3	58.8
	14	30 50.4	N16 34.6	30 41.8	7.2	N21 50.7	10.2	58.9
	15	45 50.5	N16 35.3	45 07.9	7.1	N22 00.8	10.0	58.9
	16	60 50.5	N16 36.0	59 33.9	7.0	N22 10.7	9.9	58.9
	17	75 50.6	N16 36.7	73 59.8	6.9	N22 20.5	9.8	58.9
	18	90 50.6	N16 37.4	88 25.6	6.8	N22 30.1	9.7	59.0
	19	105 50.7	N16 38.1	102 51.2	6.7	N22 39.7	9.5	59.0
	20	120 50.7	N16 38.8	117 16.8	6.5	N22 49.0	9.4	59.0
	21	135 50.7	N16 39.5	131 42.2	6.4	N22 58.3	9.3	59.0
	22	150 50.8	N16 40.2	146 07.5	6.3	N23 07.4	9.1	59.0
	23	165 50.8	N16 40.9	160 32.8	6.2	N23 16.4	9.0	59.1
		S.D. 15.9	d 0.7	S.D. 15.7		15.9		16.0

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.7
Achernar	335 19.3	S57 05.7
Acrux	172 57.5	S63 15.3
Adhara	255 04.6	S29 00.8
Albireo	67 02.4	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.7
Alkaid	152 50.0	N49 10.6
Al Na-ir	27 30.6	S46 49.5
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.8	N26 37.2
Alpheratz	357 33.1	N29 14.4
Altair	61 58.0	N 8 56.3
Ankaa	353 05.6	S42 09.3
Antares	112 13.2	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.3	S69 04.5
Avior	234 14.1	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.4	N45 22.4
Denebola	182 22.8	N14 25.1
Diphda	348 45.7	S17 50.1
Dubhe	193 38.3	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 40.9	N51 28.8
Enif	33 36.9	N 9 59.9
Fomalhaut	15 12.6	S29 28.5
Gacrux	171 49.1	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.5
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 18.8	N74 02.5
Markab	13 28.2	N15 21.0
Menkar	314 04.5	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.8	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.2	S26 15.7
Peacock	53 02.6	S56 38.6
Polaris	316 10.1	N89 22.1
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.6	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.0
Sabik	102 00.3	S15 45.6
Schedar	349 29.3	N56 41.1
Shaula	96 07.5	S37 07.4
Sirius	258 24.8	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.9	S43 32.9
Vega	80 31.7	N38 48.3
Zuben-ubi	136 54.5	S16 09.5

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 37.0	205 07.3	N 6 26.7	74 23.3	N14 12.7	83 59.9	N16 25.2	204 05.6	N 6 12.5
1	239 39.4	220 06.9	N 6 27.9	89 25.0	N14 12.3	99 02.2	N16 25.1	219 07.8	N 6 12.6
2	254 41.9	235 06.5	N 6 29.0	104 26.7	N14 12.0	114 04.4	N16 25.1	234 10.0	N 6 12.7
3	269 44.4	250 06.2	N 6 30.2	119 28.4	N14 11.6	129 06.7	N16 25.0	249 12.2	N 6 12.8
4	284 46.8	265 05.8	N 6 31.3	134 30.1	N14 11.3	144 09.0	N16 25.0	264 14.4	N 6 12.9
F 5	299 49.3	280 05.4	N 6 32.5	149 31.8	N14 10.9	159 11.3	N16 24.9	279 16.6	N 6 13.1
R									
I 6	314 51.8	295 05.1	N 6 33.6	164 33.5	N14 10.6	174 13.6	N16 24.8	294 18.8	N 6 13.2
D 7	329 54.2	310 04.7	N 6 34.7	179 35.2	N14 10.2	189 15.9	N16 24.8	309 20.9	N 6 13.3
A 8	344 56.7	325 04.3	N 6 35.9	194 36.9	N14 09.9	204 18.2	N16 24.7	324 23.1	N 6 13.4
Y 9	359 59.2	340 04.0	N 6 37.0	209 38.6	N14 09.5	219 20.5	N16 24.7	339 25.3	N 6 13.5
10	15 01.6	355 03.6	N 6 38.2	224 40.3	N14 09.1	234 22.8	N16 24.6	354 27.5	N 6 13.6
11	30 04.1	10 03.2	N 6 39.3	239 42.0	N14 08.8	249 25.0	N16 24.5	9 29.7	N 6 13.7
12	45 06.5	25 02.9	N 6 40.5	254 43.7	N14 08.4	264 27.3	N16 24.5	24 31.9	N 6 13.8
13	60 09.0	40 02.5	N 6 41.6	269 45.4	N14 08.1	279 29.6	N16 24.4	39 34.1	N 6 13.9
14	75 11.5	55 02.1	N 6 42.7	284 47.1	N14 07.7	294 31.9	N16 24.4	54 36.3	N 6 14.0
15	90 13.9	70 01.8	N 6 43.9	299 48.8	N14 07.4	309 34.2	N16 24.3	69 38.4	N 6 14.1
16	105 16.4	85 01.4	N 6 45.0	314 50.5	N14 07.0	324 36.5	N16 24.2	84 40.6	N 6 14.2
17	120 18.9	100 01.0	N 6 46.2	329 52.2	N14 06.7	339 38.8	N16 24.2	99 42.8	N 6 14.3
18	135 21.3	115 00.7	N 6 47.3	344 53.9	N14 06.3	354 41.0	N16 24.1	114 45.0	N 6 14.4
19	150 23.8	130 00.3	N 6 48.4	359 55.5	N14 05.9	9 43.3	N16 24.1	129 47.2	N 6 14.5
20	165 26.3	144 59.9	N 6 49.6	14 57.2	N14 05.6	24 45.6	N16 24.0	144 49.4	N 6 14.7
21	180 28.7	159 59.6	N 6 50.7	29 58.9	N14 05.2	39 47.9	N16 23.9	159 51.6	N 6 14.8
22	195 31.2	174 59.2	N 6 51.9	45 00.6	N14 04.9	54 50.2	N16 23.9	174 53.7	N 6 14.9
23	210 33.7	189 58.8	N 6 53.0	60 02.3	N14 04.5	69 52.5	N16 23.8	189 55.9	N 6 15.0
8 0	225 36.1	204 58.4	N 6 54.1	75 04.0	N14 04.2	84 54.7	N16 23.8	204 58.1	N 6 15.1
1	240 38.6	219 58.1	N 6 55.3	90 05.7	N14 03.8	99 57.0	N16 23.7	220 00.3	N 6 15.2
2	255 41.0	234 57.7	N 6 56.4	105 07.4	N14 03.4	114 59.3	N16 23.6	235 02.5	N 6 15.3
3	270 43.5	249 57.3	N 6 57.6	120 09.1	N14 03.1	130 01.6	N16 23.6	250 04.7	N 6 15.4
4	285 46.0	264 57.0	N 6 58.7	135 10.7	N14 02.7	145 03.9	N16 23.5	265 06.9	N 6 15.5
S 5	300 48.4	279 56.6	N 6 59.8	150 12.4	N14 02.4	160 06.2	N16 23.4	280 09.1	N 6 15.6
A									
T 6	315 50.9	294 56.2	N 7 01.0	165 14.1	N14 02.0	175 08.4	N16 23.4	295 11.2	N 6 15.7
U 7	330 53.4	309 55.8	N 7 02.1	180 15.8	N14 01.7	190 10.7	N16 23.3	310 13.4	N 6 15.8
R 8	345 55.8	324 55.5	N 7 03.3	195 17.5	N14 01.3	205 13.0	N16 23.3	325 15.6	N 6 15.9
D 9	0 58.3	339 55.1	N 7 04.4	210 19.2	N14 00.9	220 15.3	N16 23.2	340 17.8	N 6 16.0
A 10	16 00.8	354 54.7	N 7 05.5	225 20.9	N14 00.6	235 17.6	N16 23.1	355 20.0	N 6 16.1
Y 11	31 03.2	9 54.4	N 7 06.7	240 22.5	N14 00.2	250 19.8	N16 23.1	10 22.2	N 6 16.2
12	46 05.7	24 54.0	N 7 07.8	255 24.2	N13 59.9	265 22.1	N16 23.0	25 24.4	N 6 16.3
13	61 08.2	39 53.6	N 7 08.9	270 25.9	N13 59.5	280 24.4	N16 23.0	40 26.6	N 6 16.5
14	76 10.6	54 53.2	N 7 10.1	285 27.6	N13 59.1	295 26.7	N16 22.9	55 28.8	N 6 16.6
15	91 13.1	69 52.9	N 7 11.2	300 29.3	N13 58.8	310 29.0	N16 22.8	70 30.9	N 6 16.7
16	106 15.5	84 52.5	N 7 12.4	315 30.9	N13 58.4	325 31.2	N16 22.8	85 33.1	N 6 16.8
17	121 18.0	99 52.1	N 7 13.5	330 32.6	N13 58.0	340 33.5	N16 22.7	100 35.3	N 6 16.9
18	136 20.5	114 51.7	N 7 14.6	345 34.3	N13 57.7	355 35.8	N16 22.6	115 37.5	N 6 17.0
19	151 22.9	129 51.4	N 7 15.8	0 36.0	N13 57.3	10 38.1	N16 22.6	130 39.7	N 6 17.1
20	166 25.4	144 51.0	N 7 16.9	15 37.6	N13 57.0	25 40.3	N16 22.5	145 41.9	N 6 17.2
21	181 27.9	159 50.6	N 7 18.0	30 39.3	N13 56.6	40 42.6	N16 22.5	160 44.1	N 6 17.3
22	196 30.3	174 50.2	N 7 19.2	45 41.0	N13 56.2	55 44.9	N16 22.4	175 46.3	N 6 17.4
23	211 32.8	189 49.9	N 7 20.3	60 42.7	N13 55.9	70 47.2	N16 22.3	190 48.4	N 6 17.5
9 0	226 35.3	204 49.5	N 7 21.4	75 44.4	N13 55.5	85 49.5	N16 22.3	205 50.6	N 6 17.6
1	241 37.7	219 49.1	N 7 22.6	90 46.0	N13 55.1	100 51.7	N16 22.2	220 52.8	N 6 17.7
2	256 40.2	234 48.7	N 7 23.7	105 47.7	N13 54.8	115 54.0	N16 22.1	235 55.0	N 6 17.8
3	271 42.7	249 48.4	N 7 24.8	120 49.4	N13 54.4	130 56.3	N16 22.1	250 57.2	N 6 17.9
4	286 45.1	264 48.0	N 7 26.0	135 51.0	N13 54.1	145 58.6	N16 22.0	265 59.4	N 6 18.0
S 5	301 47.6	279 47.6	N 7 27.1	150 52.7	N13 53.7	161 00.8	N16 22.0	281 01.6	N 6 18.1
U									
N 6	316 50.0	294 47.2	N 7 28.2	165 54.4	N13 53.3	176 03.1	N16 21.9	296 03.8	N 6 18.2
D 7	331 52.5	309 46.9	N 7 29.4	180 56.1	N13 53.0	191 05.4	N16 21.8	311 06.0	N 6 18.3
A 8	346 55.0	324 46.5	N 7 30.5	195 57.7	N13 52.6	206 07.7	N16 21.8	326 08.1	N 6 18.5
Y 9	1 57.4	339 46.1	N 7 31.6	210 59.4	N13 52.2	221 09.9	N16 21.7	341 10.3	N 6 18.6
10	16 59.9	354 45.7	N 7 32.8	226 01.1	N13 51.9	236 12.2	N16 21.6	356 12.5	N 6 18.7
11	32 02.4	9 45.3	N 7 33.9	241 02.7	N13 51.5	251 14.5	N16 21.6	11 14.7	N 6 18.8
12	47 04.8	24 45.0	N 7 35.0	256 04.4	N13 51.1	266 16.8	N16 21.5	26 16.9	N 6 18.9
13	62 07.3	39 44.6	N 7 36.1	271 06.1	N13 50.8	281 19.0	N16 21.4	41 19.1	N 6 19.0
14	77 09.8	54 44.2	N 7 37.3	286 07.7	N13 50.4	296 21.3	N16 21.4	56 21.3	N 6 19.1
15	92 12.2	69 43.8	N 7 38.4	301 09.4	N13 50.0	311 23.6	N16 21.3	71 23.5	N 6 19.2
16	107 14.7	84 43.4	N 7 39.5	316 11.1	N13 49.7	326 25.8	N16 21.3	86 25.7	N 6 19.3
17	122 17.1	99 43.1	N 7 40.7	331 12.7	N13 49.3	341 28.1	N16 21.2	101 27.8	N 6 19.4
18	137 19.6	114 42.7	N 7 41.8	346 14.4	N13 48.9	356 30.4	N16 21.1	116 30.0	N 6 19.5
19	152 22.1	129 42.3	N 7 42.9	1 16.1	N13 48.6	11 32.7	N16 21.1	131 32.2	N 6 19.6
20	167 24.5	144 41.9	N 7 44.1	16 17.7	N13 48.2	26 34.9	N16 21.0	146 34.4	N 6 19.7
21	182 27.0	159 41.5	N 7 45.2	31 19.4	N13 47.8	41 37.2	N16 20.9	161 36.6	N 6 19.8
22	197 29.5	174 41.2	N 7 46.3	46 21.0	N13 47.5	56 39.5	N16 20.9	176 38.8	N 6 19.9
23	212 31.9	189 40.8	N 7 47.4	61 22.7	N13 47.1	71 41.7	N16 20.8	191 41.0	N 6 20.0
		v -0.4	d 1.1	v 1.7	d 0.4	v 2.3	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 50.9	N16 41.6	174 57.9	6.1	N23 25.3	8.8	59.1	Acamar	315 10.7	S40 11.7
1	195 50.9	N16 42.3	189 22.9	6.0	N23 34.0	8.7	59.1	Achernar	335 19.3	S57 05.7
2	210 50.9	N16 43.0	203 47.7	5.9	N23 42.5	8.6	59.1	Acrux	172 57.5	S63 15.3
3	225 51.0	N16 43.7	218 12.5	5.8	N23 50.9	8.4	59.1	Adhara	255 04.6	S29 00.7
4	240 51.0	N16 44.4	232 37.2	5.7	N23 59.2	8.3	59.2	Albireo	67 02.4	N28 00.8
F 5	255 51.1	N16 45.1	247 01.8	5.6	N24 07.3	8.1	59.2			
R								Aldebaran	290 37.8	N16 33.8
I 6	270 51.1	N16 45.8	261 26.2	5.5	N24 15.2	8.0	59.2	Alioth	166 10.8	N55 48.8
D 7	285 51.2	N16 46.5	275 50.6	5.4	N24 23.0	7.8	59.2	Alkaid	152 50.1	N49 10.6
A 8	300 51.2	N16 47.1	290 14.9	5.3	N24 30.7	7.7	59.2	Al Na-ir	27 30.6	S46 49.5
Y 9	315 51.2	N16 47.8	304 39.0	5.2	N24 38.2	7.5	59.3	Alnilam	275 36.0	S 1 11.1
10	330 51.3	N16 48.5	319 03.1	5.1	N24 45.5	7.3	59.3			
11	345 51.3	N16 49.2	333 27.1	5.0	N24 52.7	7.2	59.3	Alphard	217 45.8	S 8 46.8
								Alphecca	126 01.8	N26 37.2
12	0 51.4	N16 49.9	347 50.9	4.9	N24 59.7	7.0	59.3	Alpheratz	357 33.1	N29 14.4
13	15 51.4	N16 50.6	2 14.7	4.8	N25 06.6	6.9	59.3	Altair	61 58.0	N 8 56.3
14	30 51.4	N16 51.3	16 38.4	4.7	N25 13.3	6.7	59.4	Ankaa	353 05.6	S42 09.3
15	45 51.5	N16 52.0	31 02.0	4.6	N25 19.8	6.5	59.4			
16	60 51.5	N16 52.7	45 25.5	4.5	N25 26.1	6.4	59.4	Antares	112 13.2	S26 29.6
17	75 51.6	N16 53.4	59 48.9	4.4	N25 32.3	6.2	59.4	Arcturus	145 45.8	N19 02.3
								Atria	107 05.3	S69 04.5
18	90 51.6	N16 54.0	74 12.2	4.3	N25 38.3	6.0	59.4	Avior	234 14.1	S59 36.2
19	105 51.6	N16 54.7	88 35.5	4.2	N25 44.2	5.8	59.4	Bellatrix	278 21.1	N 6 22.4
20	120 51.7	N16 55.4	102 58.6	4.2	N25 49.8	5.7	59.4			
21	135 51.7	N16 56.1	117 21.7	4.1	N25 55.3	5.5	59.5	Betelgeuse	270 50.3	N 7 24.7
22	150 51.7	N16 56.8	131 44.7	4.0	N26 00.7	5.3	59.5	Canopus	263 51.9	S52 42.8
23	165 51.8	N16 57.5	146 07.6	3.9	N26 05.8	5.1	59.5	Capella	280 19.5	N46 01.6
								Castor	245 54.8	N31 49.8
8 0	180 51.8	N16 58.2	160 30.5	3.9	N26 10.8	5.0	59.5	Deneb	49 24.4	N45 22.4
1	195 51.9	N16 58.8	174 53.3	3.8	N26 15.5	4.8	59.5			
2	210 51.9	N16 59.5	189 16.0	3.7	N26 20.2	4.6	59.5	Denebola	182 22.8	N14 25.1
3	225 51.9	N17 00.2	203 38.6	3.6	N26 24.6	4.4	59.5	Diphda	348 45.7	S17 50.1
4	240 52.0	N17 00.9	218 01.2	3.6	N26 28.8	4.2	59.6	Dubhe	193 38.4	N61 36.3
S 5	255 52.0	N17 01.6	232 23.7	3.5	N26 32.9	4.1	59.6	Elnath	277 59.8	N28 37.8
A								Eltanin	90 40.9	N51 28.8
T 6	270 52.0	N17 02.2	246 46.2	3.5	N26 36.7	3.9	59.6			
U 7	285 52.1	N17 02.9	261 08.6	3.4	N26 40.4	3.7	59.6	Enif	33 36.9	N 9 59.9
R 8	300 52.1	N17 03.6	275 30.9	3.3	N26 43.9	3.5	59.6	Fomalhaut	15 12.6	S29 28.5
D 9	315 52.1	N17 04.3	289 53.2	3.3	N26 47.2	3.3	59.6	Gacrux	171 49.1	S57 16.3
A 10	330 52.2	N17 05.0	304 15.4	3.2	N26 50.4	3.1	59.6	Gienah	175 41.4	S17 41.8
Y 11	345 52.2	N17 05.6	318 37.6	3.2	N26 53.3	2.9	59.6	Hadar	148 32.7	S60 30.5
12	0 52.2	N17 06.3	332 59.8	3.1	N26 56.0	2.7	59.7	Hamal	327 49.4	N23 35.5
13	15 52.3	N17 07.0	347 21.9	3.1	N26 58.6	2.6	59.7	Kaus Austr.	83 29.7	S34 22.3
14	30 52.3	N17 07.7	1 43.9	3.1	N27 01.0	2.4	59.7	Kochab	137 18.9	N74 02.5
15	45 52.3	N17 08.4	16 06.0	3.0	N27 03.1	2.2	59.7	Markab	13 28.1	N15 21.0
16	60 52.4	N17 09.0	30 28.0	3.0	N27 05.1	2.0	59.7	Menkar	314 04.5	N 4 11.8
17	75 52.4	N17 09.7	44 49.9	3.0	N27 06.9	1.8	59.7			
								Menkent	147 55.0	S36 30.5
18	90 52.4	N17 10.4	59 11.8	2.9	N27 08.5	1.6	59.7	Miaplacidus	221 37.8	S69 50.1
19	105 52.5	N17 11.1	73 33.7	2.9	N27 09.9	1.4	59.7	Mirfak	308 26.1	N49 57.5
20	120 52.5	N17 11.7	87 55.6	2.9	N27 11.1	1.2	59.7	Nunki	75 45.2	S26 15.7
21	135 52.5	N17 12.4	102 17.5	2.9	N27 12.1	1.0	59.7	Peacock	53 02.5	S56 38.6
22	150 52.6	N17 13.1	116 39.3	2.8	N27 12.9	0.8	59.7			
23	165 52.6	N17 13.7	131 01.1	2.8	N27 13.5	0.6	59.7	Polaris	316 09.6	N89 22.1
								Pollux	243 15.1	N27 57.6
9 0	180 52.6	N17 14.4	145 22.9	2.8	N27 13.9	0.4	59.7	Procyon	244 49.0	N 5 09.2
1	195 52.7	N17 15.1	159 44.7	2.8	N27 14.1	0.2	59.8	Rasalhague	95 56.5	N12 32.3
2	210 52.7	N17 15.8	174 06.5	2.8	N27 14.2	0.0	59.8	Regulus	207 32.3	N11 49.9
3	225 52.7	N17 16.4	188 28.3	2.8	N27 14.0	0.2	59.8			
4	240 52.7	N17 17.1	202 50.1	2.8	N27 13.6	0.4	59.8	Rigel	281 02.3	S 8 10.3
S 5	255 52.8	N17 17.8	217 11.9	2.8	N27 13.1	0.6	59.8	Rigil Kent	139 37.2	S60 57.0
U								Sabik	102 00.3	S15 45.6
N 6	270 52.8	N17 18.4	231 33.7	2.8	N27 12.3	0.8	59.8	Schedar	349 29.3	N56 41.1
D 7	285 52.8	N17 19.1	245 55.5	2.8	N27 11.3	1.0	59.8	Shaula	96 07.4	S37 07.4
A 8	300 52.9	N17 19.8	260 17.3	2.8	N27 10.2	1.2	59.8			
Y 9	315 52.9	N17 20.4	274 39.1	2.8	N27 08.8	1.3	59.8	Sirius	258 24.8	S16 45.4
10	330 52.9	N17 21.1	289 01.0	2.8	N27 07.3	1.5	59.8	Spica	158 20.0	S11 18.4
11	345 52.9	N17 21.8	303 22.8	2.9	N27 05.6	1.7	59.8	Suhail	222 44.9	S43 32.9
								Vega	80 31.7	N38 48.3
12	0 53.0	N17 22.4	317 44.7	2.9	N27 03.6	1.9	59.8	Zuben-ubi	136 54.5	S16 09.5
13	15 53.0	N17 23.1	332 06.6	2.9	N27 01.5	2.1	59.8			
14	30 53.0	N17 23.8	346 28.6	2.9	N26 59.2	2.3	59.8			
15	45 53.1	N17 24.4	0 50.5	3.0	N26 56.7	2.5	59.8			
16	60 53.1	N17 25.1	15 12.5	3.0	N26 54.0	2.7	59.8			
17	75 53.1	N17 25.8	29 34.6	3.0	N26 51.1	2.9	59.8			
18	90 53.1	N17 26.4	43 56.6	3.1	N26 48.0	3.1	59.8			
19	105 53.2	N17 27.1	58 18.7	3.1	N26 44.7	3.3	59.8			
20	120 53.2	N17 27.8	72 40.9	3.1	N26 41.2	3.5	59.8			
21	135 53.2	N17 28.4	87 03.1	3.2	N26 37.6	3.7	59.8			
22	150 53.2	N17 29.1	101 25.3	3.2	N26 33.7	3.8	59.8			
23	165 53.3	N17 29.7	115 47.6	3.3	N26 29.7	4.0	59.8			
	S.D. 15.8	d 0.7	S.D.	16.2	16.3		16.3			

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 34.4	204 40.4	N 7 48.6	76 24.4	N13 46.7	86 44.0	N16 20.7	206 43.2	N 6 20.1
	1	242 36.9	219 40.0	N 7 49.7	91 26.0	N13 46.4	101 46.3	N16 20.7	221 45.4	N 6 20.2
	2	257 39.3	234 39.6	N 7 50.8	106 27.7	N13 46.0	116 48.5	N16 20.6	236 47.6	N 6 20.3
	3	272 41.8	249 39.3	N 7 51.9	121 29.3	N13 45.6	131 50.8	N16 20.5	251 49.7	N 6 20.4
	4	287 44.3	264 38.9	N 7 53.1	136 31.0	N13 45.3	146 53.1	N16 20.5	266 51.9	N 6 20.6
M	5	302 46.7	279 38.5	N 7 54.2	151 32.7	N13 44.9	161 55.4	N16 20.4	281 54.1	N 6 20.7
O										
N	6	317 49.2	294 38.1	N 7 55.3	166 34.3	N13 44.5	176 57.6	N16 20.3	296 56.3	N 6 20.8
D	7	332 51.6	309 37.7	N 7 56.5	181 36.0	N13 44.1	191 59.9	N16 20.3	311 58.5	N 6 20.9
A	8	347 54.1	324 37.3	N 7 57.6	196 37.6	N13 43.8	207 02.2	N16 20.2	327 00.7	N 6 21.0
Y	9	2 56.6	339 37.0	N 7 58.7	211 39.3	N13 43.4	222 04.4	N16 20.1	342 02.9	N 6 21.1
	10	17 59.0	354 36.6	N 7 59.8	226 40.9	N13 43.0	237 06.7	N16 20.1	357 05.1	N 6 21.2
	11	33 01.5	9 36.2	N 8 01.0	241 42.6	N13 42.7	252 09.0	N16 20.0	12 07.3	N 6 21.3
	12	48 04.0	24 35.8	N 8 02.1	256 44.2	N13 42.3	267 11.2	N16 19.9	27 09.4	N 6 21.4
	13	63 06.4	39 35.4	N 8 03.2	271 45.9	N13 41.9	282 13.5	N16 19.9	42 11.6	N 6 21.5
	14	78 08.9	54 35.0	N 8 04.3	286 47.6	N13 41.5	297 15.8	N16 19.8	57 13.8	N 6 21.6
	15	93 11.4	69 34.6	N 8 05.4	301 49.2	N13 41.2	312 18.0	N16 19.7	72 16.0	N 6 21.7
	16	108 13.8	84 34.3	N 8 06.6	316 50.9	N13 40.8	327 20.3	N16 19.7	87 18.2	N 6 21.8
	17	123 16.3	99 33.9	N 8 07.7	331 52.5	N13 40.4	342 22.6	N16 19.6	102 20.4	N 6 21.9
	18	138 18.8	114 33.5	N 8 08.8	346 54.2	N13 40.1	357 24.8	N16 19.5	117 22.6	N 6 22.0
	19	153 21.2	129 33.1	N 8 09.9	1 55.8	N13 39.7	12 27.1	N16 19.5	132 24.8	N 6 22.1
	20	168 23.7	144 32.7	N 8 11.1	16 57.5	N13 39.3	27 29.4	N16 19.4	147 27.0	N 6 22.2
	21	183 26.1	159 32.3	N 8 12.2	31 59.1	N13 38.9	42 31.6	N16 19.3	162 29.2	N 6 22.3
	22	198 28.6	174 31.9	N 8 13.3	47 00.8	N13 38.6	57 33.9	N16 19.3	177 31.4	N 6 22.4
	23	213 31.1	189 31.6	N 8 14.4	62 02.4	N13 38.2	72 36.1	N16 19.2	192 33.5	N 6 22.5
11	0	228 33.5	204 31.2	N 8 15.5	77 04.0	N13 37.8	87 38.4	N16 19.1	207 35.7	N 6 22.6
	1	243 36.0	219 30.8	N 8 16.7	92 05.7	N13 37.4	102 40.7	N16 19.1	222 37.9	N 6 22.7
	2	258 38.5	234 30.4	N 8 17.8	107 07.3	N13 37.1	117 42.9	N16 19.0	237 40.1	N 6 22.8
	3	273 40.9	249 30.0	N 8 18.9	122 09.0	N13 36.7	132 45.2	N16 18.9	252 42.3	N 6 22.9
	4	288 43.4	264 29.6	N 8 20.0	137 10.6	N13 36.3	147 47.5	N16 18.9	267 44.5	N 6 23.0
T	5	303 45.9	279 29.2	N 8 21.1	152 12.3	N13 35.9	162 49.7	N16 18.8	282 46.7	N 6 23.2
U										
E	6	318 48.3	294 28.8	N 8 22.3	167 13.9	N13 35.6	177 52.0	N16 18.7	297 48.9	N 6 23.3
S	7	333 50.8	309 28.4	N 8 23.4	182 15.6	N13 35.2	192 54.2	N16 18.7	312 51.1	N 6 23.4
D	8	348 53.3	324 28.1	N 8 24.5	197 17.2	N13 34.8	207 56.5	N16 18.6	327 53.3	N 6 23.5
A	9	3 55.7	339 27.7	N 8 25.6	212 18.8	N13 34.4	222 58.8	N16 18.5	342 55.5	N 6 23.6
Y	10	18 58.2	354 27.3	N 8 26.7	227 20.5	N13 34.1	238 01.0	N16 18.5	357 57.7	N 6 23.7
	11	34 00.6	9 26.9	N 8 27.9	242 22.1	N13 33.7	253 03.3	N16 18.4	12 59.8	N 6 23.8
	12	49 03.1	24 26.5	N 8 29.0	257 23.8	N13 33.3	268 05.5	N16 18.3	28 02.0	N 6 23.9
	13	64 05.6	39 26.1	N 8 30.1	272 25.4	N13 32.9	283 07.8	N16 18.3	43 04.2	N 6 24.0
	14	79 08.0	54 25.7	N 8 31.2	287 27.0	N13 32.6	298 10.1	N16 18.2	58 06.4	N 6 24.1
	15	94 10.5	69 25.3	N 8 32.3	302 28.7	N13 32.2	313 12.3	N16 18.1	73 08.6	N 6 24.2
	16	109 13.0	84 24.9	N 8 33.4	317 30.3	N13 31.8	328 14.6	N16 18.1	88 10.8	N 6 24.3
	17	124 15.4	99 24.5	N 8 34.6	332 32.0	N13 31.4	343 16.8	N16 18.0	103 13.0	N 6 24.4
	18	139 17.9	114 24.1	N 8 35.7	347 33.6	N13 31.1	358 19.1	N16 17.9	118 15.2	N 6 24.5
	19	154 20.4	129 23.7	N 8 36.8	2 35.2	N13 30.7	13 21.4	N16 17.9	133 17.4	N 6 24.6
	20	169 22.8	144 23.4	N 8 37.9	17 36.9	N13 30.3	28 23.6	N16 17.8	148 19.6	N 6 24.7
	21	184 25.3	159 23.0	N 8 39.0	32 38.5	N13 29.9	43 25.9	N16 17.7	163 21.8	N 6 24.8
	22	199 27.8	174 22.6	N 8 40.1	47 40.1	N13 29.5	58 28.1	N16 17.7	178 24.0	N 6 24.9
	23	214 30.2	189 22.2	N 8 41.2	62 41.8	N13 29.2	73 30.4	N16 17.6	193 26.1	N 6 25.0
12	0	229 32.7	204 21.8	N 8 42.4	77 43.4	N13 28.8	88 32.6	N16 17.5	208 28.3	N 6 25.1
	1	244 35.1	219 21.4	N 8 43.5	92 45.0	N13 28.4	103 34.9	N16 17.4	223 30.5	N 6 25.2
	2	259 37.6	234 21.0	N 8 44.6	107 46.7	N13 28.0	118 37.2	N16 17.4	238 32.7	N 6 25.3
	3	274 40.1	249 20.6	N 8 45.7	122 48.3	N13 27.6	133 39.4	N16 17.3	253 34.9	N 6 25.4
	4	289 42.5	264 20.2	N 8 46.8	137 49.9	N13 27.3	148 41.7	N16 17.2	268 37.1	N 6 25.5
W	5	304 45.0	279 19.8	N 8 47.9	152 51.6	N13 26.9	163 43.9	N16 17.2	283 39.3	N 6 25.6
E										
D	6	319 47.5	294 19.4	N 8 49.0	167 53.2	N13 26.5	178 46.2	N16 17.1	298 41.5	N 6 25.7
N	7	334 49.9	309 19.0	N 8 50.1	182 54.8	N13 26.1	193 48.4	N16 17.0	313 43.7	N 6 25.8
E	8	349 52.4	324 18.6	N 8 51.3	197 56.5	N13 25.7	208 50.7	N16 17.0	328 45.9	N 6 25.9
S	9	4 54.9	339 18.2	N 8 52.4	212 58.1	N13 25.4	223 53.0	N16 16.9	343 48.1	N 6 26.0
D	10	19 57.3	354 17.8	N 8 53.5	227 59.7	N13 25.0	238 55.2	N16 16.8	358 50.3	N 6 26.1
A	11	34 59.8	9 17.4	N 8 54.6	243 01.3	N13 24.6	253 57.5	N16 16.7	13 52.5	N 6 26.3
Y										
	12	50 02.2	24 17.0	N 8 55.7	258 03.0	N13 24.2	268 59.7	N16 16.7	28 54.6	N 6 26.4
	13	65 04.7	39 16.6	N 8 56.8	273 04.6	N13 23.8	284 02.0	N16 16.6	43 56.8	N 6 26.5
	14	80 07.2	54 16.2	N 8 57.9	288 06.2	N13 23.5	299 04.2	N16 16.5	58 59.0	N 6 26.6
	15	95 09.6	69 15.8	N 8 59.0	303 07.8	N13 23.1	314 06.5	N16 16.5	74 01.2	N 6 26.7
	16	110 12.1	84 15.4	N 9 00.1	318 09.5	N13 22.7	329 08.7	N16 16.4	89 03.4	N 6 26.8
	17	125 14.6	99 15.0	N 9 01.2	333 11.1	N13 22.3	344 11.0	N16 16.3	104 05.6	N 6 26.9
	18	140 17.0	114 14.6	N 9 02.3	348 12.7	N13 21.9	359 13.2	N16 16.3	119 07.8	N 6 27.0
	19	155 19.5	129 14.2	N 9 03.5	3 14.3	N13 21.5	14 15.5	N16 16.2	134 10.0	N 6 27.1
	20	170 22.0	144 13.8	N 9 04.6	18 16.0	N13 21.2	29 17.7	N16 16.1	149 12.2	N 6 27.2
	21	185 24.4	159 13.4	N 9 05.7	33 17.6	N13 20.8	44 20.0	N16 16.0	164 14.4	N 6 27.3
	22	200 26.9	174 13.0	N 9 06.8	48 19.2	N13 20.4	59 22.2	N16 16.0	179 16.6	N 6 27.4
	23	215 29.4	189 12.6	N 9 07.9	63 20.8	N13 20.0	74 24.5	N16 15.9	194 18.8	N 6 27.5
			v -0.4	d 1.1	v 1.6	d 0.4	v 2.3	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 53.3	N17 30.4	130 09.9	3.3	N26 25.5	4.2	59.8
	1	195 53.3	N17 31.1	144 32.3	3.4	N26 21.1	4.4	59.8
	2	210 53.3	N17 31.7	158 54.8	3.5	N26 16.5	4.6	59.8
	3	225 53.4	N17 32.4	173 17.3	3.5	N26 11.7	4.8	59.8
	4	240 53.4	N17 33.0	187 39.9	3.6	N26 06.7	5.0	59.8
M	5	255 53.4	N17 33.7	202 02.5	3.6	N26 01.6	5.1	59.8
O								
N	6	270 53.4	N17 34.3	216 25.2	3.7	N25 56.2	5.3	59.8
D	7	285 53.5	N17 35.0	230 48.0	3.8	N25 50.7	5.5	59.8
A	8	300 53.5	N17 35.7	245 10.8	3.8	N25 45.0	5.7	59.8
Y	9	315 53.5	N17 36.3	259 33.7	3.9	N25 39.2	5.9	59.8
	10	330 53.5	N17 37.0	273 56.7	4.0	N25 33.1	6.0	59.8
	11	345 53.5	N17 37.6	288 19.8	4.1	N25 26.9	6.2	59.8
	12	0 53.6	N17 38.3	302 42.9	4.1	N25 20.5	6.4	59.8
	13	15 53.6	N17 38.9	317 06.1	4.2	N25 14.0	6.6	59.8
	14	30 53.6	N17 39.6	331 29.4	4.3	N25 07.2	6.7	59.8
	15	45 53.6	N17 40.2	345 52.8	4.4	N25 00.3	6.9	59.8
	16	60 53.7	N17 40.9	0 16.2	4.5	N24 53.3	7.1	59.8
	17	75 53.7	N17 41.5	14 39.8	4.5	N24 46.0	7.2	59.7
	18	90 53.7	N17 42.2	29 03.4	4.6	N24 38.6	7.4	59.7
	19	105 53.7	N17 42.8	43 27.1	4.7	N24 31.1	7.6	59.7
	20	120 53.7	N17 43.5	57 50.9	4.8	N24 23.3	7.7	59.7
	21	135 53.8	N17 44.1	72 14.8	4.9	N24 15.4	7.9	59.7
	22	150 53.8	N17 44.8	86 38.8	5.0	N24 07.4	8.1	59.7
	23	165 53.8	N17 45.4	101 02.9	5.1	N23 59.2	8.2	59.7
11	0	180 53.8	N17 46.1	115 27.1	5.2	N23 50.8	8.4	59.7
	1	195 53.8	N17 46.7	129 51.4	5.3	N23 42.3	8.5	59.7
	2	210 53.9	N17 47.4	144 15.7	5.4	N23 33.6	8.7	59.7
	3	225 53.9	N17 48.0	158 40.2	5.5	N23 24.8	8.8	59.7
	4	240 53.9	N17 48.7	173 04.7	5.6	N23 15.8	9.0	59.7
T	5	255 53.9	N17 49.3	187 29.4	5.7	N23 06.7	9.1	59.7
U								
E	6	270 53.9	N17 50.0	201 54.2	5.8	N22 57.4	9.3	59.7
S	7	285 53.9	N17 50.6	216 19.0	5.9	N22 48.0	9.4	59.6
D	8	300 54.0	N17 51.2	230 44.0	6.0	N22 38.4	9.6	59.6
A	9	315 54.0	N17 51.9	245 09.0	6.1	N22 28.7	9.7	59.6
Y	10	330 54.0	N17 52.5	259 34.2	6.2	N22 18.9	9.8	59.6
	11	345 54.0	N17 53.2	273 59.4	6.3	N22 08.9	10.0	59.6
	12	0 54.0	N17 53.8	288 24.8	6.4	N21 58.8	10.1	59.6
	13	15 54.0	N17 54.5	302 50.3	6.5	N21 48.6	10.3	59.6
	14	30 54.1	N17 55.1	317 15.8	6.6	N21 38.2	10.4	59.6
	15	45 54.1	N17 55.7	331 41.5	6.7	N21 27.7	10.5	59.6
	16	60 54.1	N17 56.4	346 07.3	6.8	N21 17.0	10.6	59.6
	17	75 54.1	N17 57.0	0 33.2	6.9	N21 06.2	10.8	59.5
	18	90 54.1	N17 57.7	14 59.2	7.0	N20 55.3	10.9	59.5
	19	105 54.1	N17 58.3	29 25.3	7.1	N20 44.3	11.0	59.5
	20	120 54.2	N17 58.9	43 51.4	7.2	N20 33.2	11.1	59.5
	21	135 54.2	N17 59.6	58 17.7	7.3	N20 21.9	11.3	59.5
	22	150 54.2	N18 00.2	72 44.1	7.4	N20 10.5	11.4	59.5
	23	165 54.2	N18 00.8	87 10.6	7.5	N19 59.0	11.5	59.5
12	0	180 54.2	N18 01.5	101 37.3	7.6	N19 47.4	11.6	59.5
	1	195 54.2	N18 02.1	116 04.0	7.7	N19 35.7	11.7	59.5
	2	210 54.2	N18 02.7	130 30.8	7.8	N19 23.8	11.8	59.4
	3	225 54.2	N18 03.4	144 57.7	7.9	N19 11.8	12.0	59.4
	4	240 54.3	N18 04.0	159 24.7	8.0	N18 59.8	12.1	59.4
W	5	255 54.3	N18 04.6	173 51.8	8.1	N18 47.6	12.2	59.4
E								
D	6	270 54.3	N18 05.3	188 19.1	8.2	N18 35.3	12.3	59.4
N	7	285 54.3	N18 05.9	202 46.4	8.3	N18 23.0	12.4	59.4
E	8	300 54.3	N18 06.5	217 13.8	8.4	N18 10.5	12.5	59.4
S	9	315 54.3	N18 07.2	231 41.3	8.5	N17 57.9	12.6	59.4
D	10	330 54.3	N18 07.8	246 09.0	8.6	N17 45.2	12.7	59.3
A	11	345 54.3	N18 08.4	260 36.7	8.7	N17 32.5	12.8	59.3
Y								
	12	0 54.4	N18 09.0	275 04.5	8.8	N17 19.6	12.9	59.3
	13	15 54.4	N18 09.7	289 32.4	8.9	N17 06.6	13.0	59.3
	14	30 54.4	N18 10.3	304 00.4	9.0	N16 53.6	13.1	59.3
	15	45 54.4	N18 10.9	318 28.6	9.1	N16 40.4	13.1	59.3
	16	60 54.4	N18 11.6	332 56.8	9.2	N16 27.2	13.2	59.3
	17	75 54.4	N18 12.2	347 25.1	9.3	N16 13.9	13.3	59.2
	18	90 54.4	N18 12.8	1 53.5	9.4	N16 00.5	13.4	59.2
	19	105 54.4	N18 13.4	16 22.0	9.5	N15 47.0	13.5	59.2
	20	120 54.4	N18 14.1	30 50.6	9.6	N15 33.4	13.6	59.2
	21	135 54.4	N18 14.7	45 19.2	9.7	N15 19.8	13.6	59.2
	22	150 54.4	N18 15.3	59 48.0	9.8	N15 06.1	13.7	59.2
	23	165 54.5	N18 15.9	74 16.9	9.9	N14 52.3	13.8	59.2
		S.D. 15.8	d 0.6	S.D.	16.3		16.2	16.2

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.7
Achernar	335 19.3	S57 05.7
Acrux	172 57.5	S63 15.3
Adhara	255 04.6	S29 00.7
Albireo	67 02.3	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.8
Alkaid	152 50.1	N49 10.6
Al Na-ir	27 30.6	S46 49.5
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.8	S 8 46.8
Alphecca	126 01.8	N26 37.2
Alpheratz	357 33.0	N29 14.4
Altair	61 57.9	N 8 56.3
Ankaa	353 05.6	S42 09.3
Antares	112 13.1	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.2	S69 04.6
Avior	234 14.1	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.4	N45 22.4
Denebola	182 22.8	N14 25.1
Diphda	348 45.7	S17 50.1
Dubhe	193 38.4	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 40.9	N51 28.8
Enif	33 36.9	N 9 59.9
Fomalhaut	15 12.5	S29 28.5
Gacrux	171 49.1	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.7	S60 30.5
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 29.7	S34 22.3
Kochab	137 18.9	N74 02.5
Markab	13 28.1	N15 21.0
Menkar	314 04.5	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.8	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.2	S26 15.7
Peacock	53 02.5	S56 38.6
Polaris	316 09.1	N89 22.1
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.5	N12 32.3
Regulus	207 32.3	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.1
Sabik	102 00.3	S15 45.6
Schedar	349 29.3	N56 41.1
Shaula	96 07.4	S37 07.4
Sirius	258 24.8	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.9	S43 32.9
Vega	80 31.6	N38 48.3
Zuben-ubi	136 54.5	S16 09.5

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 31.8	204 12.2	N 9 09.0	78 22.5	N13 19.6	89 26.7	N16 15.8	209 21.0	N 6 27.6
	1	245 34.3	219 11.8	N 9 10.1	93 24.1	N13 19.2	104 29.0	N16 15.8	224 23.2	N 6 27.7
	2	260 36.7	234 11.4	N 9 11.2	108 25.7	N13 18.9	119 31.2	N16 15.7	239 25.4	N 6 27.8
	3	275 39.2	249 11.0	N 9 12.3	123 27.3	N13 18.5	134 33.5	N16 15.6	254 27.5	N 6 27.9
	4	290 41.7	264 10.6	N 9 13.4	138 28.9	N13 18.1	149 35.7	N16 15.5	269 29.7	N 6 28.0
T	5	305 44.1	279 10.2	N 9 14.5	153 30.6	N13 17.7	164 38.0	N16 15.5	284 31.9	N 6 28.1
H										
U	6	320 46.6	294 09.8	N 9 15.6	168 32.2	N13 17.3	179 40.2	N16 15.4	299 34.1	N 6 28.2
R	7	335 49.1	309 09.4	N 9 16.7	183 33.8	N13 16.9	194 42.5	N16 15.3	314 36.3	N 6 28.3
S	8	350 51.5	324 09.0	N 9 17.8	198 35.4	N13 16.5	209 44.7	N16 15.3	329 38.5	N 6 28.4
D	9	5 54.0	339 08.6	N 9 18.9	213 37.0	N13 16.2	224 47.0	N16 15.2	344 40.7	N 6 28.5
A	10	20 56.5	354 08.2	N 9 20.0	228 38.6	N13 15.8	239 49.2	N16 15.1	359 42.9	N 6 28.6
Y	11	35 58.9	9 07.8	N 9 21.1	243 40.3	N13 15.4	254 51.5	N16 15.0	14 45.1	N 6 28.7
	12	51 01.4	24 07.4	N 9 22.2	258 41.9	N13 15.0	269 53.7	N16 15.0	29 47.3	N 6 28.8
	13	66 03.9	39 07.0	N 9 23.3	273 43.5	N13 14.6	284 56.0	N16 14.9	44 49.5	N 6 28.9
	14	81 06.3	54 06.6	N 9 24.4	288 45.1	N13 14.2	299 58.2	N16 14.8	59 51.7	N 6 29.0
	15	96 08.8	69 06.2	N 9 25.5	303 46.7	N13 13.8	315 00.5	N16 14.8	74 53.9	N 6 29.1
	16	111 11.2	84 05.8	N 9 26.6	318 48.3	N13 13.4	330 02.7	N16 14.7	89 56.1	N 6 29.2
	17	126 13.7	99 05.4	N 9 27.7	333 49.9	N13 13.1	345 05.0	N16 14.6	104 58.3	N 6 29.3
	18	141 16.2	114 05.0	N 9 28.8	348 51.5	N13 12.7	0 07.2	N16 14.5	120 00.5	N 6 29.4
	19	156 18.6	129 04.6	N 9 29.9	3 53.2	N13 12.3	15 09.5	N16 14.5	135 02.7	N 6 29.5
	20	171 21.1	144 04.2	N 9 31.0	18 54.8	N13 11.9	30 11.7	N16 14.4	150 04.9	N 6 29.6
	21	186 23.6	159 03.8	N 9 32.1	33 56.4	N13 11.5	45 13.9	N16 14.3	165 07.0	N 6 29.7
	22	201 26.0	174 03.3	N 9 33.2	48 58.0	N13 11.1	60 16.2	N16 14.2	180 09.2	N 6 29.8
	23	216 28.5	189 02.9	N 9 34.3	63 59.6	N13 10.7	75 18.4	N16 14.2	195 11.4	N 6 29.9
14	0	231 31.0	204 02.5	N 9 35.4	79 01.2	N13 10.3	90 20.7	N16 14.1	210 13.6	N 6 30.0
	1	246 33.4	219 02.1	N 9 36.5	94 02.8	N13 09.9	105 22.9	N16 14.0	225 15.8	N 6 30.1
	2	261 35.9	234 01.7	N 9 37.6	109 04.4	N13 09.6	120 25.2	N16 13.9	240 18.0	N 6 30.2
	3	276 38.4	249 01.3	N 9 38.7	124 06.0	N13 09.2	135 27.4	N16 13.9	255 20.2	N 6 30.3
	4	291 40.8	264 00.9	N 9 39.8	139 07.6	N13 08.8	150 29.7	N16 13.8	270 22.4	N 6 30.4
F	5	306 43.3	279 00.5	N 9 40.9	154 09.2	N13 08.4	165 31.9	N16 13.7	285 24.6	N 6 30.5
R										
I	6	321 45.7	294 00.1	N 9 42.0	169 10.8	N13 08.0	180 34.1	N16 13.7	300 26.8	N 6 30.6
D	7	336 48.2	308 59.7	N 9 43.1	184 12.4	N13 07.6	195 36.4	N16 13.6	315 29.0	N 6 30.7
A	8	351 50.7	323 59.3	N 9 44.2	199 14.0	N13 07.2	210 38.6	N16 13.5	330 31.2	N 6 30.8
Y	9	6 53.1	338 58.8	N 9 45.3	214 15.7	N13 06.8	225 40.9	N16 13.4	345 33.4	N 6 30.9
	10	21 55.6	353 58.4	N 9 46.4	229 17.3	N13 06.4	240 43.1	N16 13.4	0 35.6	N 6 31.0
	11	36 58.1	8 58.0	N 9 47.5	244 18.9	N13 06.0	255 45.3	N16 13.3	15 37.8	N 6 31.1
	12	52 00.5	23 57.6	N 9 48.6	259 20.5	N13 05.7	270 47.6	N16 13.2	30 40.0	N 6 31.2
	13	67 03.0	38 57.2	N 9 49.7	274 22.1	N13 05.3	285 49.8	N16 13.1	45 42.2	N 6 31.3
	14	82 05.5	53 56.8	N 9 50.8	289 23.7	N13 04.9	300 52.1	N16 13.1	60 44.4	N 6 31.4
	15	97 07.9	68 56.4	N 9 51.9	304 25.3	N13 04.5	315 54.3	N16 13.0	75 46.6	N 6 31.5
	16	112 10.4	83 56.0	N 9 52.9	319 26.9	N13 04.1	330 56.6	N16 12.9	90 48.8	N 6 31.7
	17	127 12.8	98 55.6	N 9 54.0	334 28.5	N13 03.7	345 58.8	N16 12.8	105 51.0	N 6 31.8
	18	142 15.3	113 55.1	N 9 55.1	349 30.1	N13 03.3	1 01.0	N16 12.8	120 53.2	N 6 31.9
	19	157 17.8	128 54.7	N 9 56.2	4 31.7	N13 02.9	16 03.3	N16 12.7	135 55.3	N 6 32.0
	20	172 20.2	143 54.3	N 9 57.3	19 33.3	N13 02.5	31 05.5	N16 12.6	150 57.5	N 6 32.1
	21	187 22.7	158 53.9	N 9 58.4	34 34.9	N13 02.1	46 07.7	N16 12.5	165 59.7	N 6 32.2
	22	202 25.2	173 53.5	N 9 59.5	49 36.5	N13 01.7	61 10.0	N16 12.5	181 01.9	N 6 32.3
	23	217 27.6	188 53.1	N10 00.6	64 38.1	N13 01.3	76 12.2	N16 12.4	196 04.1	N 6 32.4
15	0	232 30.1	203 52.6	N10 01.7	79 39.6	N13 00.9	91 14.5	N16 12.3	211 06.3	N 6 32.5
	1	247 32.6	218 52.2	N10 02.8	94 41.2	N13 00.5	106 16.7	N16 12.2	226 08.5	N 6 32.6
	2	262 35.0	233 51.8	N10 03.8	109 42.8	N13 00.1	121 18.9	N16 12.2	241 10.7	N 6 32.7
	3	277 37.5	248 51.4	N10 04.9	124 44.4	N12 59.7	136 21.2	N16 12.1	256 12.9	N 6 32.8
	4	292 40.0	263 51.0	N10 06.0	139 46.0	N12 59.4	151 23.4	N16 12.0	271 15.1	N 6 32.9
S	5	307 42.4	278 50.6	N10 07.1	154 47.6	N12 59.0	166 25.7	N16 11.9	286 17.3	N 6 33.0
A										
T	6	322 44.9	293 50.2	N10 08.2	169 49.2	N12 58.6	181 27.9	N16 11.9	301 19.5	N 6 33.1
U	7	337 47.3	308 49.7	N10 09.3	184 50.8	N12 58.2	196 30.1	N16 11.8	316 21.7	N 6 33.2
R	8	352 49.8	323 49.3	N10 10.4	199 52.4	N12 57.8	211 32.4	N16 11.7	331 23.9	N 6 33.3
D	9	7 52.3	338 48.9	N10 11.5	214 54.0	N12 57.4	226 34.6	N16 11.6	346 26.1	N 6 33.4
A	10	22 54.7	353 48.5	N10 12.5	229 55.6	N12 57.0	241 36.8	N16 11.6	1 28.3	N 6 33.5
Y	11	37 57.2	8 48.1	N10 13.6	244 57.2	N12 56.6	256 39.1	N16 11.5	16 30.5	N 6 33.6
	12	52 59.7	23 47.6	N10 14.7	259 58.8	N12 56.2	271 41.3	N16 11.4	31 32.7	N 6 33.7
	13	68 02.1	38 47.2	N10 15.8	275 00.4	N12 55.8	286 43.5	N16 11.3	46 34.9	N 6 33.8
	14	83 04.6	53 46.8	N10 16.9	290 01.9	N12 55.4	301 45.8	N16 11.3	61 37.1	N 6 33.9
	15	98 07.1	68 46.4	N10 18.0	305 03.5	N12 55.0	316 48.0	N16 11.2	76 39.3	N 6 34.0
	16	113 09.5	83 46.0	N10 19.0	320 05.1	N12 54.6	331 50.2	N16 11.1	91 41.5	N 6 34.1
	17	128 12.0	98 45.5	N10 20.1	335 06.7	N12 54.2	346 52.5	N16 11.0	106 43.7	N 6 34.2
	18	143 14.5	113 45.1	N10 21.2	350 08.3	N12 53.8	1 54.7	N16 10.9	121 45.9	N 6 34.3
	19	158 16.9	128 44.7	N10 22.3	5 09.9	N12 53.4	16 56.9	N16 10.9	136 48.1	N 6 34.4
	20	173 19.4	143 44.3	N10 23.4	20 11.5	N12 53.0	31 59.2	N16 10.8	151 50.3	N 6 34.5
	21	188 21.8	158 43.9	N10 24.5	35 13.1	N12 52.6	47 01.4	N16 10.7	166 52.5	N 6 34.6
	22	203 24.3	173 43.4	N10 25.5	50 14.6	N12 52.2	62 03.6	N16 10.6	181 54.7	N 6 34.7
	23	218 26.8	188 43.0	N10 26.6	65 16.2	N12 51.8	77 05.9	N16 10.6	196 56.9	N 6 34.8
			v -0.4	d 1.1	v 1.6	d 0.4	v 2.2	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 54.5	N18 16.6	88 45.8	10.0	N14 38.4	13.9	59.1
	1	195 54.5	N18 17.2	103 14.9	10.0	N14 24.5	13.9	59.1
	2	210 54.5	N18 17.8	117 44.0	10.1	N14 10.5	14.0	59.1
	3	225 54.5	N18 18.4	132 13.2	10.2	N13 56.4	14.1	59.1
	4	240 54.5	N18 19.0	146 42.5	10.3	N13 42.2	14.1	59.1
T	5	255 54.5	N18 19.7	161 11.9	10.4	N13 28.0	14.2	59.1
H								
U	6	270 54.5	N18 20.3	175 41.3	10.5	N13 13.7	14.3	59.0
R	7	285 54.5	N18 20.9	190 10.9	10.5	N12 59.4	14.3	59.0
S	8	300 54.5	N18 21.5	204 40.5	10.6	N12 45.0	14.4	59.0
D	9	315 54.5	N18 22.1	219 10.2	10.7	N12 30.5	14.5	59.0
A	10	330 54.5	N18 22.7	233 40.0	10.8	N12 16.0	14.5	59.0
Y	11	345 54.5	N18 23.4	248 09.9	10.9	N12 01.4	14.6	59.0
	12	0 54.5	N18 24.0	262 39.8	10.9	N11 46.8	14.6	58.9
	13	15 54.5	N18 24.6	277 09.8	11.0	N11 32.1	14.7	58.9
	14	30 54.5	N18 25.2	291 39.9	11.1	N11 17.4	14.7	58.9
	15	45 54.5	N18 25.8	306 10.1	11.2	N11 02.6	14.8	58.9
	16	60 54.6	N18 26.4	320 40.3	11.2	N10 47.8	14.8	58.9
	17	75 54.6	N18 27.0	335 10.6	11.3	N10 32.9	14.9	58.9
	18	90 54.6	N18 27.7	349 41.0	11.4	N10 18.0	14.9	58.8
	19	105 54.6	N18 28.3	4 11.5	11.4	N10 03.0	15.0	58.8
	20	120 54.6	N18 28.9	18 42.0	11.5	N 9 48.0	15.0	58.8
	21	135 54.6	N18 29.5	33 12.6	11.6	N 9 32.9	15.1	58.8
	22	150 54.6	N18 30.1	47 43.2	11.6	N 9 17.8	15.1	58.8
	23	165 54.6	N18 30.7	62 13.9	11.7	N 9 02.7	15.1	58.8
14	0	180 54.6	N18 31.3	76 44.7	11.8	N 8 47.5	15.2	58.7
	1	195 54.6	N18 31.9	91 15.5	11.8	N 8 32.3	15.2	58.7
	2	210 54.6	N18 32.5	105 46.4	11.9	N 8 17.1	15.2	58.7
	3	225 54.6	N18 33.1	120 17.4	12.0	N 8 01.8	15.3	58.7
	4	240 54.6	N18 33.8	134 48.4	12.0	N 7 46.5	15.3	58.7
F	5	255 54.6	N18 34.4	149 19.4	12.1	N 7 31.2	15.3	58.7
R								
I	6	270 54.6	N18 35.0	163 50.6	12.1	N 7 15.8	15.4	58.6
D	7	285 54.6	N18 35.6	178 21.7	12.2	N 7 00.4	15.4	58.6
A	8	300 54.6	N18 36.2	192 53.0	12.2	N 6 45.0	15.4	58.6
Y	9	315 54.6	N18 36.8	207 24.2	12.3	N 6 29.6	15.4	58.6
	10	330 54.6	N18 37.4	221 55.6	12.3	N 6 14.1	15.5	58.6
	11	345 54.6	N18 38.0	236 26.9	12.4	N 5 58.6	15.5	58.5
	12	0 54.6	N18 38.6	250 58.4	12.4	N 5 43.1	15.5	58.5
	13	15 54.6	N18 39.2	265 29.8	12.5	N 5 27.6	15.5	58.5
	14	30 54.6	N18 39.8	280 01.3	12.5	N 5 12.1	15.5	58.5
	15	45 54.6	N18 40.4	294 32.9	12.6	N 4 56.5	15.6	58.5
	16	60 54.6	N18 41.0	309 04.5	12.6	N 4 41.0	15.6	58.5
	17	75 54.6	N18 41.6	323 36.1	12.6	N 4 25.4	15.6	58.4
	18	90 54.6	N18 42.2	338 07.8	12.7	N 4 09.8	15.6	58.4
	19	105 54.6	N18 42.8	352 39.5	12.7	N 3 54.2	15.6	58.4
	20	120 54.6	N18 43.4	7 11.3	12.8	N 3 38.6	15.6	58.4
	21	135 54.6	N18 44.0	21 43.1	12.8	N 3 22.9	15.6	58.4
	22	150 54.6	N18 44.6	36 14.9	12.8	N 3 07.3	15.6	58.3
	23	165 54.6	N18 45.2	50 46.8	12.9	N 2 51.7	15.6	58.3
15	0	180 54.6	N18 45.8	65 18.7	12.9	N 2 36.0	15.6	58.3
	1	195 54.5	N18 46.4	79 50.6	12.9	N 2 20.4	15.6	58.3
	2	210 54.5	N18 47.0	94 22.5	12.9	N 2 04.8	15.6	58.3
	3	225 54.5	N18 47.6	108 54.5	13.0	N 1 49.1	15.6	58.2
	4	240 54.5	N18 48.2	123 26.5	13.0	N 1 33.5	15.6	58.2
S	5	255 54.5	N18 48.8	137 58.5	13.0	N 1 17.8	15.6	58.2
A								
T	6	270 54.5	N18 49.3	152 30.6	13.1	N 1 02.2	15.6	58.2
U	7	285 54.5	N18 49.9	167 02.7	13.1	N 0 46.6	15.6	58.2
R	8	300 54.5	N18 50.5	181 34.8	13.1	N 0 30.9	15.6	58.2
D	9	315 54.5	N18 51.1	196 06.9	13.1	N 0 15.3	15.6	58.1
A	10	330 54.5	N18 51.7	210 39.0	13.1	S 0 00.3	15.6	58.1
Y	11	345 54.5	N18 52.3	225 11.2	13.2	S 0 15.9	15.6	58.1
	12	0 54.5	N18 52.9	239 43.4	13.2	S 0 31.5	15.6	58.1
	13	15 54.5	N18 53.5	254 15.5	13.2	S 0 47.0	15.6	58.1
	14	30 54.5	N18 54.1	268 47.8	13.2	S 1 02.6	15.6	58.0
	15	45 54.5	N18 54.7	283 20.0	13.2	S 1 18.2	15.5	58.0
	16	60 54.5	N18 55.2	297 52.2	13.2	S 1 33.7	15.5	58.0
	17	75 54.5	N18 55.8	312 24.4	13.2	S 1 49.2	15.5	58.0
	18	90 54.4	N18 56.4	326 56.7	13.2	S 2 04.7	15.5	58.0
	19	105 54.4	N18 57.0	341 28.9	13.3	S 2 20.2	15.5	57.9
	20	120 54.4	N18 57.6	356 01.2	13.3	S 2 35.7	15.5	57.9
	21	135 54.4	N18 58.2	10 33.5	13.3	S 2 51.1	15.4	57.9
	22	150 54.4	N18 58.8	25 05.8	13.3	S 3 06.5	15.4	57.9
	23	165 54.4	N18 59.3	39 38.0	13.3	S 3 21.9	15.4	57.9
		S.D. 15.8	d 0.6	S.D.	16.1	15.9	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.7
Achernar	335 19.3	S57 05.7
Acrux	172 57.5	S63 15.3
Adhara	255 04.6	S29 00.7
Albireo	67 02.3	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.8
Alkaid	152 50.1	N49 10.6
Al Na-ir	27 30.5	S46 49.5
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.2
Alpheratz	357 33.0	N29 14.4
Altair	61 57.9	N 8 56.3
Ankaa	353 05.5	S42 09.3
Antares	112 13.1	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.2	S69 04.6
Avior	234 14.1	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 51.9	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.4	N45 22.4
Denebola	182 22.8	N14 25.1
Diphda	348 45.6	S17 50.1
Dubhe	193 38.4	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 40.9	N51 28.8
Enif	33 36.9	N 9 59.9
Fomalhaut	15 12.5	S29 28.5
Gacrux	171 49.1	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.7	S60 30.5
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 29.7	S34 22.3
Kochab	137 18.9	N74 02.5
Markab	13 28.1	N15 21.0
Menkar	314 04.4	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.9	S69 50.1
Mirfak	308 26.1	N49 57.5
Nunki	75 45.1	S26 15.7
Peacock	53 02.4	S56 38.6
Polaris	316 08.7	N89 22.1
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.5	N12 32.3
Regulus	207 32.4	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.1
Sabik	102 00.3	S15 45.6
Schedar	349 29.2	N56 41.1
Shaula	96 07.4	S37 07.4
Sirius	258 24.8	S16 45.4
Spica	158 20.0	S11 18.4
Suhail	222 44.9	S43 32.9
Vega	80 31.6	N38 48.3
Zuben-ubi	136 54.5	S16 09.5

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 29.2	203 42.6	N10 27.7	80 17.8	N12 51.4	92 08.1	N16 10.5	211 59.1	N 6 34.9
	1	248 31.7	218 42.2	N10 28.8	95 19.4	N12 51.0	107 10.3	N16 10.4	227 01.3	N 6 35.0
	2	263 34.2	233 41.7	N10 29.9	110 21.0	N12 50.6	122 12.6	N16 10.3	242 03.5	N 6 35.1
	3	278 36.6	248 41.3	N10 30.9	125 22.6	N12 50.2	137 14.8	N16 10.3	257 05.7	N 6 35.2
	4	293 39.1	263 40.9	N10 32.0	140 24.1	N12 49.8	152 17.0	N16 10.2	272 07.9	N 6 35.3
S	5	308 41.6	278 40.5	N10 33.1	155 25.7	N12 49.4	167 19.3	N16 10.1	287 10.1	N 6 35.4
U										
N	6	323 44.0	293 40.0	N10 34.2	170 27.3	N12 49.0	182 21.5	N16 10.0	302 12.3	N 6 35.5
D	7	338 46.5	308 39.6	N10 35.2	185 28.9	N12 48.6	197 23.7	N16 09.9	317 14.5	N 6 35.6
A	8	353 48.9	323 39.2	N10 36.3	200 30.5	N12 48.2	212 26.0	N16 09.9	332 16.7	N 6 35.7
Y	9	8 51.4	338 38.8	N10 37.4	215 32.0	N12 47.8	227 28.2	N16 09.8	347 18.8	N 6 35.8
	10	23 53.9	353 38.3	N10 38.5	230 33.6	N12 47.4	242 30.4	N16 09.7	2 21.0	N 6 35.9
	11	38 56.3	8 37.9	N10 39.5	245 35.2	N12 47.0	257 32.6	N16 09.6	17 23.2	N 6 36.0
	12	53 58.8	23 37.5	N10 40.6	260 36.8	N12 46.6	272 34.9	N16 09.6	32 25.4	N 6 36.1
	13	69 01.3	38 37.1	N10 41.7	275 38.4	N12 46.2	287 37.1	N16 09.5	47 27.6	N 6 36.2
	14	84 03.7	53 36.6	N10 42.8	290 39.9	N12 45.8	302 39.3	N16 09.4	62 29.8	N 6 36.3
	15	99 06.2	68 36.2	N10 43.8	305 41.5	N12 45.4	317 41.6	N16 09.3	77 32.0	N 6 36.4
	16	114 08.7	83 35.8	N10 44.9	320 43.1	N12 45.0	332 43.8	N16 09.2	92 34.2	N 6 36.5
	17	129 11.1	98 35.3	N10 46.0	335 44.7	N12 44.6	347 46.0	N16 09.2	107 36.4	N 6 36.6
	18	144 13.6	113 34.9	N10 47.1	350 46.2	N12 44.2	2 48.2	N16 09.1	122 38.6	N 6 36.7
	19	159 16.1	128 34.5	N10 48.1	5 47.8	N12 43.8	17 50.5	N16 09.0	137 40.8	N 6 36.8
	20	174 18.5	143 34.1	N10 49.2	20 49.4	N12 43.4	32 52.7	N16 08.9	152 43.0	N 6 36.9
	21	189 21.0	158 33.6	N10 50.3	35 51.0	N12 43.0	47 54.9	N16 08.8	167 45.2	N 6 37.0
	22	204 23.4	173 33.2	N10 51.4	50 52.5	N12 42.6	62 57.1	N16 08.8	182 47.4	N 6 37.1
	23	219 25.9	188 32.8	N10 52.4	65 54.1	N12 42.2	77 59.4	N16 08.7	197 49.6	N 6 37.2
17	0	234 28.4	203 32.3	N10 53.5	80 55.7	N12 41.8	93 01.6	N16 08.6	212 51.8	N 6 37.3
	1	249 30.8	218 31.9	N10 54.6	95 57.3	N12 41.4	108 03.8	N16 08.5	227 54.0	N 6 37.4
	2	264 33.3	233 31.5	N10 55.6	110 58.8	N12 41.0	123 06.1	N16 08.4	242 56.2	N 6 37.5
	3	279 35.8	248 31.0	N10 56.7	126 00.4	N12 40.5	138 08.3	N16 08.4	257 58.4	N 6 37.5
	4	294 38.2	263 30.6	N10 57.8	141 02.0	N12 40.1	153 10.5	N16 08.3	273 00.6	N 6 37.6
M	5	309 40.7	278 30.2	N10 58.8	156 03.6	N12 39.7	168 12.7	N16 08.2	288 02.8	N 6 37.7
O										
N	6	324 43.2	293 29.7	N10 59.9	171 05.1	N12 39.3	183 15.0	N16 08.1	303 05.0	N 6 37.8
D	7	339 45.6	308 29.3	N11 01.0	186 06.7	N12 38.9	198 17.2	N16 08.1	318 07.2	N 6 37.9
A	8	354 48.1	323 28.9	N11 02.0	201 08.3	N12 38.5	213 19.4	N16 08.0	333 09.4	N 6 38.0
Y	9	9 50.5	338 28.4	N11 03.1	216 09.8	N12 38.1	228 21.6	N16 07.9	348 11.6	N 6 38.1
	10	24 53.0	353 28.0	N11 04.2	231 11.4	N12 37.7	243 23.8	N16 07.8	3 13.8	N 6 38.2
	11	39 55.5	8 27.6	N11 05.2	246 13.0	N12 37.3	258 26.1	N16 07.7	18 16.0	N 6 38.3
	12	54 57.9	23 27.1	N11 06.3	261 14.5	N12 36.9	273 28.3	N16 07.7	33 18.2	N 6 38.4
	13	70 00.4	38 26.7	N11 07.4	276 16.1	N12 36.5	288 30.5	N16 07.6	48 20.4	N 6 38.5
	14	85 02.9	53 26.3	N11 08.4	291 17.7	N12 36.1	303 32.7	N16 07.5	63 22.6	N 6 38.6
	15	100 05.3	68 25.8	N11 09.5	306 19.2	N12 35.7	318 35.0	N16 07.4	78 24.8	N 6 38.7
	16	115 07.8	83 25.4	N11 10.6	321 20.8	N12 35.3	333 37.2	N16 07.3	93 27.0	N 6 38.8
	17	130 10.3	98 24.9	N11 11.6	336 22.4	N12 34.9	348 39.4	N16 07.3	108 29.2	N 6 38.9
	18	145 12.7	113 24.5	N11 12.7	351 23.9	N12 34.5	3 41.6	N16 07.2	123 31.4	N 6 39.0
	19	160 15.2	128 24.1	N11 13.8	6 25.5	N12 34.0	18 43.8	N16 07.1	138 33.6	N 6 39.1
	20	175 17.7	143 23.6	N11 14.8	21 27.1	N12 33.6	33 46.1	N16 07.0	153 35.8	N 6 39.2
	21	190 20.1	158 23.2	N11 15.9	36 28.6	N12 33.2	48 48.3	N16 06.9	168 38.0	N 6 39.3
	22	205 22.6	173 22.8	N11 16.9	51 30.2	N12 32.8	63 50.5	N16 06.8	183 40.2	N 6 39.4
	23	220 25.0	188 22.3	N11 18.0	66 31.7	N12 32.4	78 52.7	N16 06.8	198 42.4	N 6 39.5
18	0	235 27.5	203 21.9	N11 19.1	81 33.3	N12 32.0	93 55.0	N16 06.7	213 44.6	N 6 39.6
	1	250 30.0	218 21.4	N11 20.1	96 34.9	N12 31.6	108 57.2	N16 06.6	228 46.8	N 6 39.7
	2	265 32.4	233 21.0	N11 21.2	111 36.4	N12 31.2	123 59.4	N16 06.5	243 49.0	N 6 39.8
	3	280 34.9	248 20.5	N11 22.2	126 38.0	N12 30.8	139 01.6	N16 06.4	258 51.2	N 6 39.9
	4	295 37.4	263 20.1	N11 23.3	141 39.5	N12 30.4	154 03.8	N16 06.4	273 53.4	N 6 40.0
T	5	310 39.8	278 19.7	N11 24.4	156 41.1	N12 30.0	169 06.0	N16 06.3	288 55.6	N 6 40.1
U										
E	6	325 42.3	293 19.2	N11 25.4	171 42.7	N12 29.5	184 08.3	N16 06.2	303 57.8	N 6 40.2
S	7	340 44.8	308 18.8	N11 26.5	186 44.2	N12 29.1	199 10.5	N16 06.1	319 00.0	N 6 40.3
D	8	355 47.2	323 18.3	N11 27.5	201 45.8	N12 28.7	214 12.7	N16 06.0	334 02.2	N 6 40.4
A	9	10 49.7	338 17.9	N11 28.6	216 47.3	N12 28.3	229 14.9	N16 06.0	349 04.5	N 6 40.5
Y	10	25 52.2	353 17.5	N11 29.6	231 48.9	N12 27.9	244 17.1	N16 05.9	4 06.7	N 6 40.6
	11	40 54.6	8 17.0	N11 30.7	246 50.5	N12 27.5	259 19.4	N16 05.8	19 08.9	N 6 40.7
	12	55 57.1	23 16.6	N11 31.7	261 52.0	N12 27.1	274 21.6	N16 05.7	34 11.1	N 6 40.8
	13	70 59.5	38 16.1	N11 32.8	276 53.6	N12 26.7	289 23.8	N16 05.6	49 13.3	N 6 40.9
	14	86 02.0	53 15.7	N11 33.9	291 55.1	N12 26.3	304 26.0	N16 05.5	64 15.5	N 6 41.0
	15	101 04.5	68 15.2	N11 34.9	306 56.7	N12 25.8	319 28.2	N16 05.5	79 17.7	N 6 41.1
	16	116 06.9	83 14.8	N11 36.0	321 58.2	N12 25.4	334 30.4	N16 05.4	94 19.9	N 6 41.2
	17	131 09.4	98 14.3	N11 37.0	336 59.8	N12 25.0	349 32.7	N16 05.3	109 22.1	N 6 41.3
	18	146 11.9	113 13.9	N11 38.1	352 01.3	N12 24.6	4 34.9	N16 05.2	124 24.3	N 6 41.4
	19	161 14.3	128 13.4	N11 39.1	7 02.9	N12 24.2	19 37.1	N16 05.1	139 26.5	N 6 41.5
	20	176 16.8	143 13.0	N11 40.2	22 04.4	N12 23.8	34 39.3	N16 05.0	154 28.7	N 6 41.6
	21	191 19.3	158 12.6	N11 41.2	37 06.0	N12 23.4	49 41.5	N16 05.0	169 30.9	N 6 41.7
	22	206 21.7	173 12.1	N11 42.3	52 07.5	N12 23.0	64 43.7	N16 04.9	184 33.1	N 6 41.8
	23	221 24.2	188 11.7	N11 43.3	67 09.1	N12 22.5	79 45.9	N16 04.8	199 35.3	N 6 41.9
			v -0.4	d 1.1	v 1.6	d 0.4	v 2.2	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 54.4	N18 59.9	54 10.3	13.3	S 3 37.3	15.4	57.8
	1	195 54.4	N19 00.5	68 42.6	13.3	S 3 52.6	15.3	57.8
	2	210 54.4	N19 01.1	83 14.9	13.3	S 4 07.9	15.3	57.8
	3	225 54.4	N19 01.7	97 47.2	13.3	S 4 23.2	15.3	57.8
	4	240 54.4	N19 02.2	112 19.4	13.3	S 4 38.5	15.3	57.8
S	5	255 54.3	N19 02.8	126 51.7	13.3	S 4 53.7	15.2	57.7
U								
N	6	270 54.3	N19 03.4	141 24.0	13.3	S 5 08.9	15.2	57.7
D	7	285 54.3	N19 04.0	155 56.2	13.3	S 5 24.0	15.2	57.7
A	8	300 54.3	N19 04.6	170 28.5	13.3	S 5 39.2	15.1	57.7
Y	9	315 54.3	N19 05.1	185 00.8	13.3	S 5 54.2	15.1	57.7
	10	330 54.3	N19 05.7	199 33.0	13.2	S 6 09.3	15.1	57.6
	11	345 54.3	N19 06.3	214 05.2	13.2	S 6 24.3	15.0	57.6
	12	0 54.3	N19 06.9	228 37.5	13.2	S 6 39.3	15.0	57.6
	13	15 54.3	N19 07.4	243 09.7	13.2	S 6 54.2	14.9	57.6
	14	30 54.2	N19 08.0	257 41.9	13.2	S 7 09.1	14.9	57.6
	15	45 54.2	N19 08.6	272 14.0	13.2	S 7 24.0	14.9	57.5
	16	60 54.2	N19 09.2	286 46.2	13.2	S 7 38.8	14.8	57.5
	17	75 54.2	N19 09.7	301 18.4	13.2	S 7 53.5	14.8	57.5
	18	90 54.2	N19 10.3	315 50.5	13.1	S 8 08.2	14.7	57.5
	19	105 54.2	N19 10.9	330 22.6	13.1	S 8 22.9	14.7	57.5
	20	120 54.2	N19 11.5	344 54.7	13.1	S 8 37.5	14.6	57.4
	21	135 54.1	N19 12.0	359 26.8	13.1	S 8 52.1	14.6	57.4
	22	150 54.1	N19 12.6	13 58.8	13.1	S 9 06.6	14.5	57.4
	23	165 54.1	N19 13.2	28 30.9	13.0	S 9 21.1	14.5	57.4
17	0	180 54.1	N19 13.7	43 02.9	13.0	S 9 35.5	14.4	57.4
	1	195 54.1	N19 14.3	57 34.9	13.0	S 9 49.9	14.4	57.3
	2	210 54.1	N19 14.9	72 06.8	13.0	S10 04.2	14.3	57.3
	3	225 54.1	N19 15.4	86 38.7	12.9	S10 18.4	14.3	57.3
	4	240 54.0	N19 16.0	101 10.7	12.9	S10 32.6	14.2	57.3
M	5	255 54.0	N19 16.6	115 42.5	12.9	S10 46.8	14.1	57.3
O								
N	6	270 54.0	N19 17.1	130 14.4	12.9	S11 00.8	14.1	57.2
D	7	285 54.0	N19 17.7	144 46.2	12.8	S11 14.9	14.0	57.2
A	8	300 54.0	N19 18.3	159 18.0	12.8	S11 28.8	14.0	57.2
Y	9	315 54.0	N19 18.8	173 49.8	12.8	S11 42.7	13.9	57.2
	10	330 53.9	N19 19.4	188 21.5	12.7	S11 56.5	13.8	57.2
	11	345 53.9	N19 20.0	202 53.2	12.7	S12 10.3	13.8	57.1
	12	0 53.9	N19 20.5	217 24.8	12.7	S12 24.0	13.7	57.1
	13	15 53.9	N19 21.1	231 56.5	12.6	S12 37.6	13.6	57.1
	14	30 53.9	N19 21.6	246 28.1	12.6	S12 51.2	13.6	57.1
	15	45 53.8	N19 22.2	260 59.6	12.6	S13 04.7	13.5	57.1
	16	60 53.8	N19 22.8	275 31.2	12.5	S13 18.1	13.4	57.0
	17	75 53.8	N19 23.3	290 02.6	12.5	S13 31.5	13.4	57.0
	18	90 53.8	N19 23.9	304 34.1	12.4	S13 44.7	13.3	57.0
	19	105 53.8	N19 24.4	319 05.5	12.4	S13 58.0	13.2	57.0
	20	120 53.7	N19 25.0	333 36.9	12.4	S14 11.1	13.1	57.0
	21	135 53.7	N19 25.6	348 08.2	12.3	S14 24.1	13.1	56.9
	22	150 53.7	N19 26.1	2 39.5	12.3	S14 37.1	13.0	56.9
	23	165 53.7	N19 26.7	17 10.7	12.2	S14 50.0	12.9	56.9
18	0	180 53.7	N19 27.2	31 41.9	12.2	S15 02.8	12.8	56.9
	1	195 53.6	N19 27.8	46 13.1	12.2	S15 15.6	12.7	56.9
	2	210 53.6	N19 28.3	60 44.2	12.1	S15 28.2	12.7	56.8
	3	225 53.6	N19 28.9	75 15.3	12.1	S15 40.8	12.6	56.8
	4	240 53.6	N19 29.4	89 46.3	12.0	S15 53.3	12.5	56.8
T	5	255 53.6	N19 30.0	104 17.3	12.0	S16 05.7	12.4	56.8
U								
E	6	270 53.5	N19 30.5	118 48.3	11.9	S16 18.0	12.3	56.7
S	7	285 53.5	N19 31.1	133 19.2	11.9	S16 30.3	12.2	56.7
D	8	300 53.5	N19 31.6	147 50.0	11.9	S16 42.4	12.2	56.7
A	9	315 53.5	N19 32.2	162 20.8	11.8	S16 54.5	12.1	56.7
Y	10	330 53.4	N19 32.7	176 51.6	11.8	S17 06.5	12.0	56.7
	11	345 53.4	N19 33.3	191 22.3	11.7	S17 18.4	11.9	56.6
	12	0 53.4	N19 33.8	205 53.0	11.7	S17 30.1	11.8	56.6
	13	15 53.4	N19 34.4	220 23.6	11.6	S17 41.8	11.7	56.6
	14	30 53.4	N19 34.9	234 54.2	11.6	S17 53.4	11.6	56.6
	15	45 53.3	N19 35.5	249 24.7	11.5	S18 05.0	11.5	56.6
	16	60 53.3	N19 36.0	263 55.2	11.5	S18 16.4	11.4	56.5
	17	75 53.3	N19 36.6	278 25.6	11.4	S18 27.7	11.3	56.5
	18	90 53.3	N19 37.1	292 56.0	11.4	S18 38.9	11.2	56.5
	19	105 53.2	N19 37.7	307 26.4	11.3	S18 50.0	11.1	56.5
	20	120 53.2	N19 38.2	321 56.6	11.3	S19 01.0	11.0	56.5
	21	135 53.2	N19 38.8	336 26.9	11.2	S19 12.0	10.9	56.4
	22	150 53.2	N19 39.3	350 57.1	11.2	S19 22.8	10.8	56.4
	23	165 53.1	N19 39.8	5 27.2	11.1	S19 33.5	10.7	56.4
		S.D. 15.8	d 0.6	S.D.	15.7	15.6	15.4	

Name	SHA ° '	Dec ° '
Acamar	315 10.7	S40 11.6
Achernar	335 19.3	S57 05.7
Acrux	172 57.5	S63 15.3
Adhara	255 04.6	S29 00.7
Albireo	67 02.3	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.8	N55 48.8
Alkaid	152 50.1	N49 10.6
Al Na-ir	27 30.5	S46 49.5
Alnilam	275 36.1	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.2
Alpheratz	357 33.0	N29 14.4
Altair	61 57.9	N 8 56.3
Ankaa	353 05.5	S42 09.3
Antares	112 13.1	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.2	S69 04.6
Avior	234 14.2	S59 36.2
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.3	N45 22.4
Denebola	182 22.8	N14 25.1
Diphda	348 45.6	S17 50.1
Dubhe	193 38.4	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 40.9	N51 28.9
Enif	33 36.8	N 9 59.9
Fomalhaut	15 12.5	S29 28.5
Gacrux	171 49.1	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.5
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 29.7	S34 22.3
Kochab	137 18.9	N74 02.6
Markab	13 28.1	N15 21.0
Menkar	314 04.4	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 37.9	S69 50.1
Mirfak	308 26.0	N49 57.5
Nunki	75 45.1	S26 15.7
Peacock	53 02.4	S56 38.6
Polaris	316 08.3	N89 22.1
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.5	N12 32.3
Regulus	207 32.4	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.2	S60 57.1
Sabik	102 00.3	S15 45.6
Schedar	349 29.2	N56 41.0
Shaula	96 07.4	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.0	S43 32.9
Vega	80 31.6	N38 48.3
Zuben-ubi	136 54.5	S16 09.5

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 26.6	203 11.2	N11 44.4	82 10.6	N12 22.1	94 48.2	N16 04.7	214 37.5	N 6 42.0
	1	251 29.1	218 10.8	N11 45.4	97 12.2	N12 21.7	109 50.4	N16 04.6	229 39.7	N 6 42.1
	2	266 31.6	233 10.3	N11 46.5	112 13.7	N12 21.3	124 52.6	N16 04.5	244 41.9	N 6 42.2
	3	281 34.0	248 09.9	N11 47.5	127 15.3	N12 20.9	139 54.8	N16 04.5	259 44.1	N 6 42.3
	4	296 36.5	263 09.4	N11 48.6	142 16.8	N12 20.5	154 57.0	N16 04.4	274 46.3	N 6 42.4
W	5	311 39.0	278 09.0	N11 49.6	157 18.4	N12 20.1	169 59.2	N16 04.3	289 48.5	N 6 42.5
E										
D	6	326 41.4	293 08.5	N11 50.7	172 19.9	N12 19.6	185 01.4	N16 04.2	304 50.7	N 6 42.6
N	7	341 43.9	308 08.1	N11 51.7	187 21.5	N12 19.2	200 03.7	N16 04.1	319 52.9	N 6 42.6
E	8	356 46.4	323 07.6	N11 52.8	202 23.0	N12 18.8	215 05.9	N16 04.0	334 55.1	N 6 42.7
S	9	11 48.8	338 07.2	N11 53.8	217 24.6	N12 18.4	230 08.1	N16 04.0	349 57.3	N 6 42.8
D	10	26 51.3	353 06.7	N11 54.8	232 26.1	N12 18.0	245 10.3	N16 03.9	4 59.5	N 6 42.9
A	11	41 53.8	8 06.3	N11 55.9	247 27.7	N12 17.6	260 12.5	N16 03.8	20 01.7	N 6 43.0
Y										
	12	56 56.2	23 05.8	N11 56.9	262 29.2	N12 17.1	275 14.7	N16 03.7	35 03.9	N 6 43.1
	13	71 58.7	38 05.3	N11 58.0	277 30.8	N12 16.7	290 16.9	N16 03.6	50 06.1	N 6 43.2
	14	87 01.1	53 04.9	N11 59.0	292 32.3	N12 16.3	305 19.1	N16 03.5	65 08.3	N 6 43.3
	15	102 03.6	68 04.4	N12 00.1	307 33.9	N12 15.9	320 21.3	N16 03.5	80 10.5	N 6 43.4
	16	117 06.1	83 04.0	N12 01.1	322 35.4	N12 15.5	335 23.6	N16 03.4	95 12.7	N 6 43.5
	17	132 08.5	98 03.5	N12 02.1	337 36.9	N12 15.1	350 25.8	N16 03.3	110 14.9	N 6 43.6
	18	147 11.0	113 03.1	N12 03.2	352 38.5	N12 14.6	5 28.0	N16 03.2	125 17.1	N 6 43.7
	19	162 13.5	128 02.6	N12 04.2	7 40.0	N12 14.2	20 30.2	N16 03.1	140 19.3	N 6 43.8
	20	177 15.9	143 02.2	N12 05.3	22 41.6	N12 13.8	35 32.4	N16 03.0	155 21.5	N 6 43.9
	21	192 18.4	158 01.7	N12 06.3	37 43.1	N12 13.4	50 34.6	N16 02.9	170 23.8	N 6 44.0
	22	207 20.9	173 01.2	N12 07.4	52 44.7	N12 13.0	65 36.8	N16 02.9	185 26.0	N 6 44.1
	23	222 23.3	188 00.8	N12 08.4	67 46.2	N12 12.6	80 39.0	N16 02.8	200 28.2	N 6 44.2
20	0	237 25.8	203 00.3	N12 09.4	82 47.7	N12 12.1	95 41.2	N16 02.7	215 30.4	N 6 44.3
	1	252 28.3	217 59.9	N12 10.5	97 49.3	N12 11.7	110 43.4	N16 02.6	230 32.6	N 6 44.4
	2	267 30.7	232 59.4	N12 11.5	112 50.8	N12 11.3	125 45.6	N16 02.5	245 34.8	N 6 44.5
	3	282 33.2	247 59.0	N12 12.5	127 52.4	N12 10.9	140 47.9	N16 02.4	260 37.0	N 6 44.6
	4	297 35.6	262 58.5	N12 13.6	142 53.9	N12 10.5	155 50.1	N16 02.4	275 39.2	N 6 44.7
T	5	312 38.1	277 58.0	N12 14.6	157 55.4	N12 10.0	170 52.3	N16 02.3	290 41.4	N 6 44.8
H										
U	6	327 40.6	292 57.6	N12 15.6	172 57.0	N12 09.6	185 54.5	N16 02.2	305 43.6	N 6 44.9
R	7	342 43.0	307 57.1	N12 16.7	187 58.5	N12 09.2	200 56.7	N16 02.1	320 45.8	N 6 45.0
S	8	357 45.5	322 56.7	N12 17.7	203 00.0	N12 08.8	215 58.9	N16 02.0	335 48.0	N 6 45.1
D	9	12 48.0	337 56.2	N12 18.8	218 01.6	N12 08.4	231 01.1	N16 01.9	350 50.2	N 6 45.2
A	10	27 50.4	352 55.7	N12 19.8	233 03.1	N12 07.9	246 03.3	N16 01.8	5 52.4	N 6 45.3
Y	11	42 52.9	7 55.3	N12 20.8	248 04.6	N12 07.5	261 05.5	N16 01.8	20 54.6	N 6 45.4
	12	57 55.4	22 54.8	N12 21.9	263 06.2	N12 07.1	276 07.7	N16 01.7	35 56.8	N 6 45.5
	13	72 57.8	37 54.3	N12 22.9	278 07.7	N12 06.7	291 09.9	N16 01.6	50 59.0	N 6 45.5
	14	88 00.3	52 53.9	N12 23.9	293 09.3	N12 06.3	306 12.1	N16 01.5	66 01.2	N 6 45.6
	15	103 02.7	67 53.4	N12 25.0	308 10.8	N12 05.8	321 14.3	N16 01.4	81 03.4	N 6 45.7
	16	118 05.2	82 53.0	N12 26.0	323 12.3	N12 05.4	336 16.5	N16 01.3	96 05.6	N 6 45.8
	17	133 07.7	97 52.5	N12 27.0	338 13.8	N12 05.0	351 18.7	N16 01.2	111 07.8	N 6 45.9
	18	148 10.1	112 52.0	N12 28.0	353 15.4	N12 04.6	6 20.9	N16 01.2	126 10.0	N 6 46.0
	19	163 12.6	127 51.6	N12 29.1	8 16.9	N12 04.1	21 23.1	N16 01.1	141 12.3	N 6 46.1
	20	178 15.1	142 51.1	N12 30.1	23 18.4	N12 03.7	36 25.4	N16 01.0	156 14.5	N 6 46.2
	21	193 17.5	157 50.6	N12 31.1	38 20.0	N12 03.3	51 27.6	N16 00.9	171 16.7	N 6 46.3
	22	208 20.0	172 50.2	N12 32.2	53 21.5	N12 02.9	66 29.8	N16 00.8	186 18.9	N 6 46.4
	23	223 22.5	187 49.7	N12 33.2	68 23.0	N12 02.5	81 32.0	N16 00.7	201 21.1	N 6 46.5
21	0	238 24.9	202 49.2	N12 34.2	83 24.6	N12 02.0	96 34.2	N16 00.6	216 23.3	N 6 46.6
	1	253 27.4	217 48.8	N12 35.2	98 26.1	N12 01.6	111 36.4	N16 00.5	231 25.5	N 6 46.7
	2	268 29.9	232 48.3	N12 36.3	113 27.6	N12 01.2	126 38.6	N16 00.5	246 27.7	N 6 46.8
	3	283 32.3	247 47.8	N12 37.3	128 29.2	N12 00.8	141 40.8	N16 00.4	261 29.9	N 6 46.9
	4	298 34.8	262 47.4	N12 38.3	143 30.7	N12 00.3	156 43.0	N16 00.3	276 32.1	N 6 47.0
F	5	313 37.2	277 46.9	N12 39.3	158 32.2	N11 59.9	171 45.2	N16 00.2	291 34.3	N 6 47.1
R										
I	6	328 39.7	292 46.4	N12 40.4	173 33.7	N11 59.5	186 47.4	N16 00.1	306 36.5	N 6 47.2
D	7	343 42.2	307 46.0	N12 41.4	188 35.3	N11 59.1	201 49.6	N16 00.0	321 38.7	N 6 47.3
A	8	358 44.6	322 45.5	N12 42.4	203 36.8	N11 58.6	216 51.8	N15 59.9	336 40.9	N 6 47.4
Y	9	13 47.1	337 45.0	N12 43.4	218 38.3	N11 58.2	231 54.0	N15 59.8	351 43.1	N 6 47.5
	10	28 49.6	352 44.5	N12 44.5	233 39.8	N11 57.8	246 56.2	N15 59.8	6 45.3	N 6 47.6
	11	43 52.0	7 44.1	N12 45.5	248 41.4	N11 57.4	261 58.4	N15 59.7	21 47.6	N 6 47.7
	12	58 54.5	22 43.6	N12 46.5	263 42.9	N11 56.9	277 00.6	N15 59.6	36 49.8	N 6 47.7
	13	73 57.0	37 43.1	N12 47.5	278 44.4	N11 56.5	292 02.8	N15 59.5	51 52.0	N 6 47.8
	14	88 59.4	52 42.7	N12 48.5	293 45.9	N11 56.1	307 05.0	N15 59.4	66 54.2	N 6 47.9
	15	104 01.9	67 42.2	N12 49.6	308 47.5	N11 55.7	322 07.2	N15 59.3	81 56.4	N 6 48.0
	16	119 04.4	82 41.7	N12 50.6	323 49.0	N11 55.2	337 09.4	N15 59.2	96 58.6	N 6 48.1
	17	134 06.8	97 41.2	N12 51.6	338 50.5	N11 54.8	352 11.6	N15 59.1	112 00.8	N 6 48.2
	18	149 09.3	112 40.8	N12 52.6	353 52.0	N11 54.4	7 13.8	N15 59.1	127 03.0	N 6 48.3
	19	164 11.7	127 40.3	N12 53.6	8 53.6	N11 54.0	22 16.0	N15 59.0	142 05.2	N 6 48.4
	20	179 14.2	142 39.8	N12 54.7	23 55.1	N11 53.5	37 18.2	N15 58.9	157 07.4	N 6 48.5
	21	194 16.7	157 39.3	N12 55.7	38 56.6	N11 53.1	52 20.4	N15 58.8	172 09.6	N 6 48.6
	22	209 19.1	172 38.9	N12 56.7	53 58.1	N11 52.7	67 22.6	N15 58.7	187 11.8	N 6 48.7
	23	224 21.6	187 38.4	N12 57.7	68 59.6	N11 52.2	82 24.8	N15 58.6	202 14.0	N 6 48.8
			v -0.5	d 1.0	v 1.5	d 0.4	v 2.2	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 53.1	N19 40.4	19 57.3	11.1	S19 44.1	10.6	56.4
	1	195 53.1	N19 40.9	34 27.3	11.0	S19 54.6	10.5	56.4
	2	210 53.0	N19 41.5	48 57.3	11.0	S20 05.0	10.4	56.3
	3	225 53.0	N19 42.0	63 27.3	10.9	S20 15.3	10.3	56.3
	4	240 53.0	N19 42.5	77 57.1	10.9	S20 25.5	10.2	56.3
W	5	255 53.0	N19 43.1	92 27.0	10.8	S20 35.6	10.1	56.3
E								
D	6	270 52.9	N19 43.6	106 56.8	10.8	S20 45.5	10.0	56.3
N	7	285 52.9	N19 44.2	121 26.5	10.7	S20 55.4	9.9	56.2
E	8	300 52.9	N19 44.7	135 56.2	10.7	S21 05.2	9.7	56.2
S	9	315 52.9	N19 45.2	150 25.9	10.6	S21 14.8	9.6	56.2
D	10	330 52.8	N19 45.8	164 55.5	10.6	S21 24.3	9.5	56.2
A	11	345 52.8	N19 46.3	179 25.0	10.6	S21 33.7	9.4	56.1
Y								
	12	0 52.8	N19 46.8	193 54.5	10.5	S21 43.0	9.3	56.1
	13	15 52.7	N19 47.4	208 24.0	10.5	S21 52.2	9.2	56.1
	14	30 52.7	N19 47.9	222 53.4	10.4	S22 01.2	9.1	56.1
	15	45 52.7	N19 48.4	237 22.7	10.4	S22 10.2	8.9	56.1
	16	60 52.6	N19 49.0	251 52.1	10.3	S22 19.0	8.8	56.0
	17	75 52.6	N19 49.5	266 21.3	10.3	S22 27.7	8.7	56.0
	18	90 52.6	N19 50.0	280 50.5	10.2	S22 36.3	8.6	56.0
	19	105 52.6	N19 50.6	295 19.7	10.2	S22 44.8	8.5	56.0
	20	120 52.5	N19 51.1	309 48.9	10.1	S22 53.1	8.3	56.0
	21	135 52.5	N19 51.6	324 17.9	10.1	S23 01.3	8.2	55.9
	22	150 52.5	N19 52.2	338 47.0	10.0	S23 09.4	8.1	55.9
	23	165 52.4	N19 52.7	353 16.0	10.0	S23 17.4	8.0	55.9
20	0	180 52.4	N19 53.2	7 44.9	10.0	S23 25.3	7.9	55.9
	1	195 52.4	N19 53.7	22 13.8	9.9	S23 33.0	7.7	55.9
	2	210 52.3	N19 54.3	36 42.7	9.9	S23 40.6	7.6	55.8
	3	225 52.3	N19 54.8	51 11.5	9.8	S23 48.1	7.5	55.8
	4	240 52.3	N19 55.3	65 40.3	9.8	S23 55.4	7.3	55.8
T	5	255 52.2	N19 55.8	80 09.1	9.8	S24 02.6	7.2	55.8
H								
U	6	270 52.2	N19 56.4	94 37.8	9.7	S24 09.7	7.1	55.8
R	7	285 52.2	N19 56.9	109 06.5	9.7	S24 16.7	7.0	55.7
S	8	300 52.1	N19 57.4	123 35.1	9.6	S24 23.5	6.8	55.7
D	9	315 52.1	N19 57.9	138 03.7	9.6	S24 30.2	6.7	55.7
A	10	330 52.1	N19 58.5	152 32.3	9.6	S24 36.8	6.6	55.7
Y	11	345 52.0	N19 59.0	167 00.8	9.5	S24 43.2	6.4	55.7
	12	0 52.0	N19 59.5	181 29.3	9.5	S24 49.5	6.3	55.6
	13	15 52.0	N20 00.0	195 57.8	9.5	S24 55.7	6.2	55.6
	14	30 51.9	N20 00.5	210 26.2	9.4	S25 01.7	6.0	55.6
	15	45 51.9	N20 01.1	224 54.6	9.4	S25 07.7	5.9	55.6
	16	60 51.8	N20 01.6	239 22.9	9.4	S25 13.4	5.8	55.6
	17	75 51.8	N20 02.1	253 51.3	9.3	S25 19.1	5.6	55.5
	18	90 51.8	N20 02.6	268 19.6	9.3	S25 24.6	5.5	55.5
	19	105 51.7	N20 03.1	282 47.9	9.3	S25 29.9	5.4	55.5
	20	120 51.7	N20 03.6	297 16.1	9.3	S25 35.2	5.2	55.5
	21	135 51.7	N20 04.2	311 44.4	9.2	S25 40.2	5.1	55.5
	22	150 51.6	N20 04.7	326 12.6	9.2	S25 45.2	5.0	55.5
	23	165 51.6	N20 05.2	340 40.8	9.2	S25 50.0	4.8	55.4
21	0	180 51.6	N20 05.7	355 08.9	9.2	S25 54.7	4.7	55.4
	1	195 51.5	N20 06.2	9 37.1	9.1	S25 59.2	4.5	55.4
	2	210 51.5	N20 06.7	24 05.2	9.1	S26 03.6	4.4	55.4
	3	225 51.4	N20 07.2	38 33.3	9.1	S26 07.9	4.3	55.4
	4	240 51.4	N20 07.7	53 01.4	9.1	S26 12.0	4.1	55.3
F	5	255 51.4	N20 08.3	67 29.4	9.1	S26 16.0	4.0	55.3
R								
I	6	270 51.3	N20 08.8	81 57.5	9.1	S26 19.9	3.8	55.3
D	7	285 51.3	N20 09.3	96 25.5	9.0	S26 23.6	3.7	55.3
A	8	300 51.2	N20 09.8	110 53.6	9.0	S26 27.1	3.6	55.3
Y	9	315 51.2	N20 10.3	125 21.6	9.0	S26 30.5	3.4	55.2
	10	330 51.2	N20 10.8	139 49.6	9.0	S26 33.8	3.3	55.2
	11	345 51.1	N20 11.3	154 17.6	9.0	S26 37.0	3.1	55.2
	12	0 51.1	N20 11.8	168 45.6	9.0	S26 40.0	3.0	55.2
	13	15 51.0	N20 12.3	183 13.5	9.0	S26 42.8	2.9	55.2
	14	30 51.0	N20 12.8	197 41.5	9.0	S26 45.6	2.7	55.2
	15	45 51.0	N20 13.3	212 09.5	9.0	S26 48.1	2.6	55.1
	16	60 50.9	N20 13.8	226 37.5	9.0	S26 50.6	2.4	55.1
	17	75 50.9	N20 14.3	241 05.5	9.0	S26 52.9	2.3	55.1
	18	90 50.8	N20 14.8	255 33.4	9.0	S26 55.0	2.2	55.1
	19	105 50.8	N20 15.3	270 01.4	9.0	S26 57.0	2.0	55.1
	20	120 50.8	N20 15.8	284 29.4	9.0	S26 58.9	1.9	55.1
	21	135 50.7	N20 16.3	298 57.4	9.0	S27 00.6	1.7	55.0
	22	150 50.7	N20 16.8	313 25.4	9.0	S27 02.2	1.6	55.0
	23	165 50.6	N20 17.3	327 53.3	9.0	S27 03.7	1.4	55.0
		S.D. 15.8	d 0.5	S.D.	15.3	15.2	15.0	

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.6
Achernar	335 19.2	S57 05.7
Acrux	172 57.5	S63 15.4
Adhara	255 04.6	S29 00.7
Albireo	67 02.3	N28 00.8
Aldebaran	290 37.8	N16 33.8
Alioth	166 10.9	N55 48.8
Alkaid	152 50.1	N49 10.6
Al Na-ir	27 30.5	S46 49.4
Alnilam	275 36.1	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.2
Alpheratz	357 33.0	N29 14.4
Altair	61 57.9	N 8 56.3
Ankaa	353 05.5	S42 09.3
Antares	112 13.1	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.1	S69 04.6
Avior	234 14.2	S59 36.1
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.3	N45 22.4
Denebola	182 22.8	N14 25.1
Diphda	348 45.6	S17 50.1
Dubhe	193 38.5	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 40.8	N51 28.9
Enif	33 36.8	N 9 60.0
Fomalhaut	15 12.5	S29 28.5
Gacrux	171 49.1	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.5
Hamal	327 49.4	N23 35.5
Kaus Austr.	83 29.7	S34 22.3
Kochab	137 18.9	N74 02.6
Markab	13 28.1	N15 21.0
Menkar	314 04.4	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 38.0	S69 50.1
Mirfak	308 26.0	N49 57.5
Nunki	75 45.1	S26 15.7
Peacock	53 02.4	S56 38.6
Polaris	316 07.5	N89 22.1
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.5	N12 32.3
Regulus	207 32.4	N11 49.9
Rigel	281 02.3	S 8 10.3
Rigil Kent	139 37.1	S60 57.1
Sabik	102 00.3	S15 45.6
Schedar	349 29.2	N56 41.0
Shaula	96 07.4	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.0	S43 32.9
Vega	80 31.6	N38 48.3
Zuben-ubi	136 54.5	S16 09.5

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 24.1	202 37.9	N12 58.7	84 01.2	N11 51.8	97 27.0	N15 58.5	217 16.2	N 6 48.9
	1	254 26.5	217 37.4	N12 59.7	99 02.7	N11 51.4	112 29.2	N15 58.4	232 18.5	N 6 49.0
	2	269 29.0	232 37.0	N13 00.7	114 04.2	N11 51.0	127 31.4	N15 58.3	247 20.7	N 6 49.1
	3	284 31.5	247 36.5	N13 01.8	129 05.7	N11 50.5	142 33.5	N15 58.3	262 22.9	N 6 49.2
	4	299 33.9	262 36.0	N13 02.8	144 07.2	N11 50.1	157 35.7	N15 58.2	277 25.1	N 6 49.3
S	5	314 36.4	277 35.5	N13 03.8	159 08.7	N11 49.7	172 37.9	N15 58.1	292 27.3	N 6 49.4
A										
T	6	329 38.9	292 35.0	N13 04.8	174 10.3	N11 49.2	187 40.1	N15 58.0	307 29.5	N 6 49.5
U	7	344 41.3	307 34.6	N13 05.8	189 11.8	N11 48.8	202 42.3	N15 57.9	322 31.7	N 6 49.6
R	8	359 43.8	322 34.1	N13 06.8	204 13.3	N11 48.4	217 44.5	N15 57.8	337 33.9	N 6 49.6
D	9	14 46.2	337 33.6	N13 07.8	219 14.8	N11 48.0	232 46.7	N15 57.7	352 36.1	N 6 49.7
A	10	29 48.7	352 33.1	N13 08.8	234 16.3	N11 47.5	247 48.9	N15 57.6	7 38.3	N 6 49.8
Y	11	44 51.2	7 32.6	N13 09.8	249 17.8	N11 47.1	262 51.1	N15 57.5	22 40.5	N 6 49.9
	12	59 53.6	22 32.2	N13 10.9	264 19.4	N11 46.7	277 53.3	N15 57.4	37 42.7	N 6 50.0
	13	74 56.1	37 31.7	N13 11.9	279 20.9	N11 46.2	292 55.5	N15 57.4	52 44.9	N 6 50.1
	14	89 58.6	52 31.2	N13 12.9	294 22.4	N11 45.8	307 57.7	N15 57.3	67 47.2	N 6 50.2
	15	105 01.0	67 30.7	N13 13.9	309 23.9	N11 45.4	322 59.9	N15 57.2	82 49.4	N 6 50.3
	16	120 03.5	82 30.2	N13 14.9	324 25.4	N11 44.9	338 02.1	N15 57.1	97 51.6	N 6 50.4
	17	135 06.0	97 29.7	N13 15.9	339 26.9	N11 44.5	353 04.3	N15 57.0	112 53.8	N 6 50.5
	18	150 08.4	112 29.3	N13 16.9	354 28.4	N11 44.1	8 06.5	N15 56.9	127 56.0	N 6 50.6
	19	165 10.9	127 28.8	N13 17.9	9 29.9	N11 43.6	23 08.7	N15 56.8	142 58.2	N 6 50.7
	20	180 13.4	142 28.3	N13 18.9	24 31.5	N11 43.2	38 10.9	N15 56.7	158 00.4	N 6 50.8
	21	195 15.8	157 27.8	N13 19.9	39 33.0	N11 42.8	53 13.0	N15 56.6	173 02.6	N 6 50.9
	22	210 18.3	172 27.3	N13 20.9	54 34.5	N11 42.4	68 15.2	N15 56.5	188 04.8	N 6 51.0
	23	225 20.7	187 26.8	N13 21.9	69 36.0	N11 41.9	83 17.4	N15 56.5	203 07.0	N 6 51.1
23	0	240 23.2	202 26.4	N13 22.9	84 37.5	N11 41.5	98 19.6	N15 56.4	218 09.2	N 6 51.2
	1	255 25.7	217 25.9	N13 23.9	99 39.0	N11 41.1	113 21.8	N15 56.3	233 11.5	N 6 51.2
	2	270 28.1	232 25.4	N13 24.9	114 40.5	N11 40.6	128 24.0	N15 56.2	248 13.7	N 6 51.3
	3	285 30.6	247 24.9	N13 25.9	129 42.0	N11 40.2	143 26.2	N15 56.1	263 15.9	N 6 51.4
	4	300 33.1	262 24.4	N13 26.9	144 43.5	N11 39.8	158 28.4	N15 56.0	278 18.1	N 6 51.5
S	5	315 35.5	277 23.9	N13 27.9	159 45.0	N11 39.3	173 30.6	N15 55.9	293 20.3	N 6 51.6
U										
N	6	330 38.0	292 23.4	N13 28.9	174 46.6	N11 38.9	188 32.8	N15 55.8	308 22.5	N 6 51.7
D	7	345 40.5	307 22.9	N13 29.9	189 48.1	N11 38.5	203 35.0	N15 55.7	323 24.7	N 6 51.8
A	8	0 42.9	322 22.4	N13 30.9	204 49.6	N11 38.0	218 37.1	N15 55.6	338 26.9	N 6 51.9
Y	9	15 45.4	337 22.0	N13 31.9	219 51.1	N11 37.6	233 39.3	N15 55.5	353 29.1	N 6 52.0
	10	30 47.8	352 21.5	N13 32.9	234 52.6	N11 37.2	248 41.5	N15 55.5	8 31.3	N 6 52.1
	11	45 50.3	7 21.0	N13 33.9	249 54.1	N11 36.7	263 43.7	N15 55.4	23 33.6	N 6 52.2
	12	60 52.8	22 20.5	N13 34.9	264 55.6	N11 36.3	278 45.9	N15 55.3	38 35.8	N 6 52.3
	13	75 55.2	37 20.0	N13 35.9	279 57.1	N11 35.8	293 48.1	N15 55.2	53 38.0	N 6 52.4
	14	90 57.7	52 19.5	N13 36.9	294 58.6	N11 35.4	308 50.3	N15 55.1	68 40.2	N 6 52.5
	15	106 00.2	67 19.0	N13 37.9	310 00.1	N11 35.0	323 52.5	N15 55.0	83 42.4	N 6 52.6
	16	121 02.6	82 18.5	N13 38.9	325 01.6	N11 34.5	338 54.7	N15 54.9	98 44.6	N 6 52.7
	17	136 05.1	97 18.0	N13 39.9	340 03.1	N11 34.1	353 56.8	N15 54.8	113 46.8	N 6 52.7
	18	151 07.6	112 17.5	N13 40.9	355 04.6	N11 33.7	8 59.0	N15 54.7	128 49.0	N 6 52.8
	19	166 10.0	127 17.0	N13 41.9	10 06.1	N11 33.2	24 01.2	N15 54.6	143 51.2	N 6 52.9
	20	181 12.5	142 16.5	N13 42.9	25 07.6	N11 32.8	39 03.4	N15 54.5	158 53.4	N 6 53.0
	21	196 15.0	157 16.0	N13 43.9	40 09.1	N11 32.4	54 05.6	N15 54.4	173 55.7	N 6 53.1
	22	211 17.4	172 15.5	N13 44.8	55 10.6	N11 31.9	69 07.8	N15 54.3	188 57.9	N 6 53.2
	23	226 19.9	187 15.0	N13 45.8	70 12.1	N11 31.5	84 10.0	N15 54.3	204 00.1	N 6 53.3
24	0	241 22.3	202 14.6	N13 46.8	85 13.6	N11 31.1	99 12.1	N15 54.2	219 02.3	N 6 53.4
	1	256 24.8	217 14.1	N13 47.8	100 15.1	N11 30.6	114 14.3	N15 54.1	234 04.5	N 6 53.5
	2	271 27.3	232 13.6	N13 48.8	115 16.6	N11 30.2	129 16.5	N15 54.0	249 06.7	N 6 53.6
	3	286 29.7	247 13.1	N13 49.8	130 18.1	N11 29.7	144 18.7	N15 53.9	264 08.9	N 6 53.7
	4	301 32.2	262 12.6	N13 50.8	145 19.6	N11 29.3	159 20.9	N15 53.8	279 11.1	N 6 53.8
M	5	316 34.7	277 12.1	N13 51.8	160 21.1	N11 28.9	174 23.1	N15 53.7	294 13.3	N 6 53.9
O										
N	6	331 37.1	292 11.6	N13 52.8	175 22.6	N11 28.4	189 25.3	N15 53.6	309 15.6	N 6 54.0
D	7	346 39.6	307 11.1	N13 53.7	190 24.1	N11 28.0	204 27.4	N15 53.5	324 17.8	N 6 54.0
A	8	1 42.1	322 10.6	N13 54.7	205 25.6	N11 27.6	219 29.6	N15 53.4	339 20.0	N 6 54.1
Y	9	16 44.5	337 10.1	N13 55.7	220 27.1	N11 27.1	234 31.8	N15 53.3	354 22.2	N 6 54.2
	10	31 47.0	352 09.6	N13 56.7	235 28.6	N11 26.7	249 34.0	N15 53.2	9 24.4	N 6 54.3
	11	46 49.5	7 09.1	N13 57.7	250 30.1	N11 26.2	264 36.2	N15 53.1	24 26.6	N 6 54.4
	12	61 51.9	22 08.6	N13 58.7	265 31.6	N11 25.8	279 38.4	N15 53.0	39 28.8	N 6 54.5
	13	76 54.4	37 08.1	N13 59.6	280 33.1	N11 25.4	294 40.5	N15 53.0	54 31.0	N 6 54.6
	14	91 56.8	52 07.6	N14 00.6	295 34.6	N11 24.9	309 42.7	N15 52.9	69 33.3	N 6 54.7
	15	106 59.3	67 07.1	N14 01.6	310 36.1	N11 24.5	324 44.9	N15 52.8	84 35.5	N 6 54.8
	16	122 01.8	82 06.5	N14 02.6	325 37.6	N11 24.0	339 47.1	N15 52.7	99 37.7	N 6 54.9
	17	137 04.2	97 06.0	N14 03.6	340 39.1	N11 23.6	354 49.3	N15 52.6	114 39.9	N 6 55.0
	18	152 06.7	112 05.5	N14 04.5	355 40.5	N11 23.2	9 51.5	N15 52.5	129 42.1	N 6 55.1
	19	167 09.2	127 05.0	N14 05.5	10 42.0	N11 22.7	24 53.6	N15 52.4	144 44.3	N 6 55.2
	20	182 11.6	142 04.5	N14 06.5	25 43.5	N11 22.3	39 55.8	N15 52.3	159 46.5	N 6 55.2
	21	197 14.1	157 04.0	N14 07.5	40 45.0	N11 21.8	54 58.0	N15 52.2	174 48.7	N 6 55.3
	22	212 16.6	172 03.5	N14 08.5	55 46.5	N11 21.4	70 00.2	N15 52.1	189 51.0	N 6 55.4
	23	227 19.0	187 03.0	N14 09.4	70 48.0	N11 21.0	85 02.4	N15 52.0	204 53.2	N 6 55.5
			v -0.5	d 1.0	v 1.5	d 0.4	v 2.2	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 50.6	N20 17.8	342 21.4	9.0	S27 05.0	1.3	55.0
	1	195 50.5	N20 18.3	356 49.4	9.0	S27 06.1	1.2	55.0
	2	210 50.5	N20 18.8	11 17.4	9.0	S27 07.1	1.0	55.0
	3	225 50.4	N20 19.3	25 45.4	9.0	S27 08.0	0.9	54.9
	4	240 50.4	N20 19.8	40 13.5	9.1	S27 08.8	0.7	54.9
S	5	255 50.4	N20 20.3	54 41.6	9.1	S27 09.4	0.6	54.9
A								
T	6	270 50.3	N20 20.8	69 09.6	9.1	S27 09.8	0.5	54.9
U	7	285 50.3	N20 21.3	83 37.7	9.1	S27 10.2	0.3	54.9
R	8	300 50.2	N20 21.8	98 05.9	9.1	S27 10.3	0.2	54.9
D	9	315 50.2	N20 22.3	112 34.0	9.1	S27 10.4	0.0	54.8
A	10	330 50.1	N20 22.8	127 02.2	9.2	S27 10.3	0.1	54.8
Y	11	345 50.1	N20 23.3	141 30.3	9.2	S27 10.0	0.2	54.8
	12	0 50.0	N20 23.8	155 58.6	9.2	S27 09.7	0.4	54.8
	13	15 50.0	N20 24.3	170 26.8	9.2	S27 09.1	0.5	54.8
	14	30 50.0	N20 24.8	184 55.1	9.3	S27 08.5	0.7	54.8
	15	45 49.9	N20 25.3	199 23.4	9.3	S27 07.7	0.8	54.8
	16	60 49.9	N20 25.7	213 51.7	9.3	S27 06.8	0.9	54.7
	17	75 49.8	N20 26.2	228 20.0	9.4	S27 05.7	1.1	54.7
	18	90 49.8	N20 26.7	242 48.4	9.4	S27 04.5	1.2	54.7
	19	105 49.7	N20 27.2	257 16.8	9.4	S27 03.1	1.3	54.7
	20	120 49.7	N20 27.7	271 45.3	9.5	S27 01.7	1.5	54.7
	21	135 49.6	N20 28.2	286 13.8	9.5	S27 00.1	1.6	54.7
	22	150 49.6	N20 28.7	300 42.3	9.5	S26 58.3	1.7	54.7
	23	165 49.5	N20 29.2	315 10.8	9.6	S26 56.4	1.9	54.6
23	0	180 49.5	N20 29.6	329 39.4	9.6	S26 54.4	2.0	54.6
	1	195 49.4	N20 30.1	344 08.1	9.6	S26 52.3	2.2	54.6
	2	210 49.4	N20 30.6	358 36.8	9.7	S26 50.0	2.3	54.6
	3	225 49.3	N20 31.1	13 05.5	9.7	S26 47.6	2.4	54.6
	4	240 49.3	N20 31.6	27 34.2	9.8	S26 45.0	2.5	54.6
S	5	255 49.2	N20 32.1	42 03.0	9.8	S26 42.3	2.7	54.6
U								
N	6	270 49.2	N20 32.5	56 31.9	9.9	S26 39.5	2.8	54.5
D	7	285 49.1	N20 33.0	71 00.8	9.9	S26 36.6	2.9	54.5
A	8	300 49.1	N20 33.5	85 29.7	9.9	S26 33.5	3.1	54.5
Y	9	315 49.0	N20 34.0	99 58.7	10.0	S26 30.3	3.2	54.5
	10	330 49.0	N20 34.5	114 27.8	10.0	S26 27.0	3.3	54.5
	11	345 48.9	N20 34.9	128 56.9	10.1	S26 23.5	3.5	54.5
	12	0 48.9	N20 35.4	143 26.0	10.1	S26 19.9	3.6	54.5
	13	15 48.8	N20 35.9	157 55.2	10.2	S26 16.2	3.7	54.5
	14	30 48.8	N20 36.4	172 24.5	10.2	S26 12.4	3.8	54.5
	15	45 48.7	N20 36.8	186 53.8	10.3	S26 08.4	4.0	54.4
	16	60 48.7	N20 37.3	201 23.1	10.4	S26 04.3	4.1	54.4
	17	75 48.6	N20 37.8	215 52.5	10.4	S26 00.1	4.2	54.4
	18	90 48.6	N20 38.3	230 22.0	10.5	S25 55.8	4.3	54.4
	19	105 48.5	N20 38.7	244 51.5	10.5	S25 51.3	4.5	54.4
	20	120 48.4	N20 39.2	259 21.1	10.6	S25 46.8	4.6	54.4
	21	135 48.4	N20 39.7	273 50.7	10.6	S25 42.1	4.7	54.4
	22	150 48.3	N20 40.1	288 20.4	10.7	S25 37.2	4.8	54.4
	23	165 48.3	N20 40.6	302 50.2	10.8	S25 32.3	4.9	54.4
24	0	180 48.2	N20 41.1	317 20.0	10.8	S25 27.2	5.1	54.4
	1	195 48.2	N20 41.6	331 49.9	10.9	S25 22.1	5.2	54.3
	2	210 48.1	N20 42.0	346 19.8	10.9	S25 16.8	5.3	54.3
	3	225 48.1	N20 42.5	0 49.8	11.0	S25 11.3	5.4	54.3
	4	240 48.0	N20 43.0	15 19.8	11.1	S25 05.8	5.5	54.3
M	5	255 48.0	N20 43.4	29 50.0	11.1	S25 00.2	5.6	54.3
O								
N	6	270 47.9	N20 43.9	44 20.1	11.2	S24 54.4	5.8	54.3
D	7	285 47.8	N20 44.4	58 50.4	11.2	S24 48.5	5.9	54.3
A	8	300 47.8	N20 44.8	73 20.7	11.3	S24 42.6	6.0	54.3
Y	9	315 47.7	N20 45.3	87 51.1	11.4	S24 36.5	6.1	54.3
	10	330 47.7	N20 45.8	102 21.5	11.4	S24 30.3	6.2	54.3
	11	345 47.6	N20 46.2	116 52.0	11.5	S24 23.9	6.3	54.3
	12	0 47.6	N20 46.7	131 22.5	11.6	S24 17.5	6.4	54.3
	13	15 47.5	N20 47.1	145 53.2	11.6	S24 11.0	6.5	54.3
	14	30 47.5	N20 47.6	160 23.9	11.7	S24 04.3	6.6	54.2
	15	45 47.4	N20 48.1	174 54.6	11.8	S23 57.6	6.8	54.2
	16	60 47.3	N20 48.5	189 25.4	11.8	S23 50.7	6.9	54.2
	17	75 47.3	N20 49.0	203 56.3	11.9	S23 43.7	7.0	54.2
	18	90 47.2	N20 49.4	218 27.3	12.0	S23 36.7	7.1	54.2
	19	105 47.2	N20 49.9	232 58.3	12.0	S23 29.5	7.2	54.2
	20	120 47.1	N20 50.4	247 29.4	12.1	S23 22.2	7.3	54.2
	21	135 47.0	N20 50.8	262 00.5	12.1	S23 14.8	7.4	54.2
	22	150 47.0	N20 51.3	276 31.7	12.2	S23 07.4	7.5	54.2
	23	165 46.9	N20 51.7	291 03.0	12.3	S22 59.8	7.6	54.2
		S.D. 15.8	d 0.5	S.D. 14.9		14.8		14.8

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.6
Achernar	335 19.2	S57 05.6
Acrux	172 57.5	S63 15.4
Adhara	255 04.6	S29 00.7
Albireo	67 02.2	N28 00.9
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.9	N55 48.8
Alkaid	152 50.1	N49 10.6
Al Na-ir	27 30.4	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 33.0	N29 14.4
Altair	61 57.9	N 8 56.4
Ankaa	353 05.5	S42 09.3
Antares	112 13.1	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.1	S69 04.6
Avior	234 14.2	S59 36.1
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.8
Capella	280 19.5	N46 01.6
Castor	245 54.8	N31 49.8
Deneb	49 24.3	N45 22.4
Denebola	182 22.8	N14 25.1
Diphda	348 45.6	S17 50.1
Dubhe	193 38.5	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 40.8	N51 28.9
Enif	33 36.8	N 9 60.0
Fomalhaut	15 12.4	S29 28.5
Gacrux	171 49.2	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.7	S60 30.5
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 29.6	S34 22.3
Kochab	137 18.9	N74 02.6
Markab	13 28.0	N15 21.0
Menkar	314 04.4	N 4 11.8
Menkent	147 55.0	S36 30.5
Miaplacidus	221 38.0	S69 50.1
Mirfak	308 26.0	N49 57.5
Nunki	75 45.1	S26 15.7
Peacock	53 02.3	S56 38.6
Polaris	316 06.7	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.5	N12 32.3
Regulus	207 32.4	N11 49.9
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.1	S60 57.1
Sabik	102 00.2	S15 45.6
Schedar	349 29.2	N56 41.0
Shaula	96 07.3	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.0	S43 32.9
Vega	80 31.6	N38 48.3
Zuben-ubi	136 54.5	S16 09.5

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 21.5	202 02.5	N14 10.4	85 49.5	N11 20.5	100 04.5	N15 51.9	219 55.4	N 6 55.6
	1	257 24.0	217 02.0	N14 11.4	100 51.0	N11 20.1	115 06.7	N15 51.8	234 57.6	N 6 55.7
	2	272 26.4	232 01.5	N14 12.4	115 52.5	N11 19.6	130 08.9	N15 51.7	249 59.8	N 6 55.8
	3	287 28.9	247 01.0	N14 13.3	130 54.0	N11 19.2	145 11.1	N15 51.6	265 02.0	N 6 55.9
	4	302 31.3	262 00.5	N14 14.3	145 55.5	N11 18.7	160 13.3	N15 51.5	280 04.2	N 6 56.0
T	5	317 33.8	276 60.0	N14 15.3	160 56.9	N11 18.3	175 15.4	N15 51.4	295 06.4	N 6 56.1
U										
E	6	332 36.3	291 59.5	N14 16.3	175 58.4	N11 17.9	190 17.6	N15 51.4	310 08.7	N 6 56.2
S	7	347 38.7	306 58.9	N14 17.2	190 59.9	N11 17.4	205 19.8	N15 51.3	325 10.9	N 6 56.3
D	8	2 41.2	321 58.4	N14 18.2	206 01.4	N11 17.0	220 22.0	N15 51.2	340 13.1	N 6 56.4
A	9	17 43.7	336 57.9	N14 19.2	221 02.9	N11 16.5	235 24.2	N15 51.1	355 15.3	N 6 56.4
Y	10	32 46.1	351 57.4	N14 20.1	236 04.4	N11 16.1	250 26.3	N15 51.0	10 17.5	N 6 56.5
	11	47 48.6	6 56.9	N14 21.1	251 05.9	N11 15.6	265 28.5	N15 50.9	25 19.7	N 6 56.6
	12	62 51.1	21 56.4	N14 22.1	266 07.3	N11 15.2	280 30.7	N15 50.8	40 21.9	N 6 56.7
	13	77 53.5	36 55.9	N14 23.0	281 08.8	N11 14.8	295 32.9	N15 50.7	55 24.2	N 6 56.8
	14	92 56.0	51 55.4	N14 24.0	296 10.3	N11 14.3	310 35.0	N15 50.6	70 26.4	N 6 56.9
	15	107 58.5	66 54.9	N14 25.0	311 11.8	N11 13.9	325 37.2	N15 50.5	85 28.6	N 6 57.0
	16	123 00.9	81 54.3	N14 25.9	326 13.3	N11 13.4	340 39.4	N15 50.4	100 30.8	N 6 57.1
	17	138 03.4	96 53.8	N14 26.9	341 14.8	N11 13.0	355 41.6	N15 50.3	115 33.0	N 6 57.2
	18	153 05.8	111 53.3	N14 27.9	356 16.3	N11 12.5	10 43.8	N15 50.2	130 35.2	N 6 57.3
	19	168 08.3	126 52.8	N14 28.8	11 17.7	N11 12.1	25 45.9	N15 50.1	145 37.4	N 6 57.4
	20	183 10.8	141 52.3	N14 29.8	26 19.2	N11 11.6	40 48.1	N15 50.0	160 39.7	N 6 57.5
	21	198 13.2	156 51.8	N14 30.8	41 20.7	N11 11.2	55 50.3	N15 49.9	175 41.9	N 6 57.5
	22	213 15.7	171 51.2	N14 31.7	56 22.2	N11 10.8	70 52.5	N15 49.8	190 44.1	N 6 57.6
	23	228 18.2	186 50.7	N14 32.7	71 23.7	N11 10.3	85 54.6	N15 49.7	205 46.3	N 6 57.7
26	0	243 20.6	201 50.2	N14 33.7	86 25.2	N11 09.9	100 56.8	N15 49.6	220 48.5	N 6 57.8
	1	258 23.1	216 49.7	N14 34.6	101 26.6	N11 09.4	115 59.0	N15 49.5	235 50.7	N 6 57.9
	2	273 25.6	231 49.2	N14 35.6	116 28.1	N11 09.0	131 01.2	N15 49.4	250 52.9	N 6 58.0
	3	288 28.0	246 48.7	N14 36.5	131 29.6	N11 08.5	146 03.3	N15 49.3	265 55.2	N 6 58.1
	4	303 30.5	261 48.1	N14 37.5	146 31.1	N11 08.1	161 05.5	N15 49.2	280 57.4	N 6 58.2
W	5	318 33.0	276 47.6	N14 38.5	161 32.6	N11 07.6	176 07.7	N15 49.1	295 59.6	N 6 58.3
E										
D	6	333 35.4	291 47.1	N14 39.4	176 34.0	N11 07.2	191 09.9	N15 49.1	311 01.8	N 6 58.4
N	7	348 37.9	306 46.6	N14 40.4	191 35.5	N11 06.7	206 12.0	N15 49.0	326 04.0	N 6 58.5
E	8	3 40.3	321 46.1	N14 41.3	206 37.0	N11 06.3	221 14.2	N15 48.9	341 06.2	N 6 58.5
S	9	18 42.8	336 45.5	N14 42.3	221 38.5	N11 05.8	236 16.4	N15 48.8	356 08.4	N 6 58.6
D	10	33 45.3	351 45.0	N14 43.2	236 39.9	N11 05.4	251 18.5	N15 48.7	11 10.7	N 6 58.7
A	11	48 47.7	6 44.5	N14 44.2	251 41.4	N11 04.9	266 20.7	N15 48.6	26 12.9	N 6 58.8
Y										
	12	63 50.2	21 44.0	N14 45.2	266 42.9	N11 04.5	281 22.9	N15 48.5	41 15.1	N 6 58.9
	13	78 52.7	36 43.4	N14 46.1	281 44.4	N11 04.0	296 25.1	N15 48.4	56 17.3	N 6 59.0
	14	93 55.1	51 42.9	N14 47.1	296 45.8	N11 03.6	311 27.2	N15 48.3	71 19.5	N 6 59.1
	15	108 57.6	66 42.4	N14 48.0	311 47.3	N11 03.2	326 29.4	N15 48.2	86 21.7	N 6 59.2
	16	124 00.1	81 41.9	N14 49.0	326 48.8	N11 02.7	341 31.6	N15 48.1	101 24.0	N 6 59.3
	17	139 02.5	96 41.3	N14 49.9	341 50.3	N11 02.3	356 33.8	N15 48.0	116 26.2	N 6 59.4
	18	154 05.0	111 40.8	N14 50.9	356 51.7	N11 01.8	11 35.9	N15 47.9	131 28.4	N 6 59.4
	19	169 07.4	126 40.3	N14 51.8	11 53.2	N11 01.4	26 38.1	N15 47.8	146 30.6	N 6 59.5
	20	184 09.9	141 39.8	N14 52.8	26 54.7	N11 00.9	41 40.3	N15 47.7	161 32.8	N 6 59.6
	21	199 12.4	156 39.2	N14 53.7	41 56.2	N11 00.5	56 42.4	N15 47.6	176 35.0	N 6 59.7
	22	214 14.8	171 38.7	N14 54.7	56 57.6	N11 00.0	71 44.6	N15 47.5	191 37.3	N 6 59.8
	23	229 17.3	186 38.2	N14 55.6	71 59.1	N10 59.6	86 46.8	N15 47.4	206 39.5	N 6 59.9
27	0	244 19.8	201 37.7	N14 56.6	87 00.6	N10 59.1	101 48.9	N15 47.3	221 41.7	N 6 60.0
	1	259 22.2	216 37.1	N14 57.5	102 02.1	N10 58.7	116 51.1	N15 47.2	236 43.9	N 7 00.1
	2	274 24.7	231 36.6	N14 58.5	117 03.5	N10 58.2	131 53.3	N15 47.1	251 46.1	N 7 00.2
	3	289 27.2	246 36.1	N14 59.4	132 05.0	N10 57.8	146 55.5	N15 47.0	266 48.3	N 7 00.3
	4	304 29.6	261 35.5	N15 00.4	147 06.5	N10 57.3	161 57.6	N15 46.9	281 50.6	N 7 00.4
T	5	319 32.1	276 35.0	N15 01.3	162 07.9	N10 56.9	176 59.8	N15 46.8	296 52.8	N 7 00.4
H										
U	6	334 34.6	291 34.5	N15 02.2	177 09.4	N10 56.4	192 02.0	N15 46.7	311 55.0	N 7 00.5
R	7	349 37.0	306 33.9	N15 03.2	192 10.9	N10 55.9	207 04.1	N15 46.6	326 57.2	N 7 00.6
S	8	4 39.5	321 33.4	N15 04.1	207 12.3	N10 55.5	222 06.3	N15 46.5	341 59.4	N 7 00.7
D	9	19 41.9	336 32.9	N15 05.1	222 13.8	N10 55.0	237 08.5	N15 46.4	357 01.6	N 7 00.8
A	10	34 44.4	351 32.4	N15 06.0	237 15.3	N10 54.6	252 10.6	N15 46.3	12 03.9	N 7 00.9
Y	11	49 46.9	6 31.8	N15 07.0	252 16.8	N10 54.1	267 12.8	N15 46.2	27 06.1	N 7 01.0
	12	64 49.3	21 31.3	N15 07.9	267 18.2	N10 53.7	282 15.0	N15 46.1	42 08.3	N 7 01.1
	13	79 51.8	36 30.8	N15 08.8	282 19.7	N10 53.2	297 17.1	N15 46.0	57 10.5	N 7 01.2
	14	94 54.3	51 30.2	N15 09.8	297 21.2	N10 52.8	312 19.3	N15 45.9	72 12.7	N 7 01.2
	15	109 56.7	66 29.7	N15 10.7	312 22.6	N10 52.3	327 21.5	N15 45.8	87 14.9	N 7 01.3
	16	124 59.2	81 29.1	N15 11.6	327 24.1	N10 51.9	342 23.6	N15 45.7	102 17.2	N 7 01.4
	17	140 01.7	96 28.6	N15 12.6	342 25.6	N10 51.4	357 25.8	N15 45.6	117 19.4	N 7 01.5
	18	155 04.1	111 28.1	N15 13.5	357 27.0	N10 51.0	12 28.0	N15 45.5	132 21.6	N 7 01.6
	19	170 06.6	126 27.5	N15 14.5	12 28.5	N10 50.5	27 30.1	N15 45.4	147 23.8	N 7 01.7
	20	185 09.1	141 27.0	N15 15.4	27 29.9	N10 50.1	42 32.3	N15 45.3	162 26.0	N 7 01.8
	21	200 11.5	156 26.5	N15 16.3	42 31.4	N10 49.6	57 34.5	N15 45.2	177 28.3	N 7 01.9
	22	215 14.0	171 25.9	N15 17.3	57 32.9	N10 49.2	72 36.6	N15 45.1	192 30.5	N 7 02.0
	23	230 16.4	186 25.4	N15 18.2	72 34.3	N10 48.7	87 38.8	N15 45.0	207 32.7	N 7 02.1
			v -0.5	d 1.0	v 1.5	d 0.4	v 2.2	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
25 0	180 46.9	N20 52.2	305 34.4	12.3 S22 52.1	7.7	54.2		Acamar	315 10.7 S40 11.6
1	195 46.8	N20 52.6	320 05.8	12.4 S22 44.3	7.8	54.2		Achernar	335 19.2 S57 05.6
2	210 46.7	N20 53.1	334 37.3	12.5 S22 36.4	7.9	54.2		Acrux	172 57.6 S63 15.4
3	225 46.7	N20 53.5	349 08.8	12.5 S22 28.5	8.0	54.2		Adhara	255 04.6 S29 00.7
4	240 46.6	N20 54.0	3 40.4	12.6 S22 20.4	8.1	54.2		Albireo	67 02.2 N28 00.9
T 5	255 46.6	N20 54.4	18 12.1	12.7 S22 12.2	8.2	54.2			
U								Aldebaran	290 37.7 N16 33.8
E 6	270 46.5	N20 54.9	32 43.8	12.7 S22 04.0	8.3	54.2		Alioth	166 10.9 N55 48.8
S 7	285 46.4	N20 55.3	47 15.7	12.8 S21 55.6	8.4	54.2		Alkaid	152 50.1 N49 10.6
D 8	300 46.4	N20 55.8	61 47.5	12.9 S21 47.1	8.5	54.2		Al Na-ir	27 30.4 S46 49.4
A 9	315 46.3	N20 56.2	76 19.5	12.9 S21 38.6	8.5	54.2		Alnilam	275 36.0 S 1 11.1
Y 10	330 46.3	N20 56.7	90 51.5	13.0 S21 30.0	8.6	54.2			
11	345 46.2	N20 57.1	105 23.5	13.1 S21 21.2	8.7	54.2		Alphard	217 45.9 S 8 46.8
								Alphecca	126 01.7 N26 37.3
12	0 46.1	N20 57.6	119 55.7	13.1 S21 12.4	8.8	54.2		Alpheratz	357 32.9 N29 14.4
13	15 46.1	N20 58.0	134 27.9	13.2 S21 03.5	8.9	54.2		Altair	61 57.8 N 8 56.4
14	30 46.0	N20 58.5	149 00.1	13.3 S20 54.5	9.0	54.2		Ankaa	353 05.4 S42 09.2
15	45 45.9	N20 58.9	163 32.4	13.3 S20 45.4	9.1	54.2			
16	60 45.9	N20 59.4	178 04.8	13.4 S20 36.3	9.2	54.2		Antares	112 13.1 S26 29.6
17	75 45.8	N20 59.8	192 37.3	13.4 S20 27.0	9.3	54.2		Arcturus	145 45.8 N19 02.3
								Atria	107 05.1 S69 04.6
18	90 45.8	N21 00.3	207 09.8	13.5 S20 17.7	9.3	54.2		Avior	234 14.2 S59 36.1
19	105 45.7	N21 00.7	221 42.4	13.6 S20 08.2	9.4	54.2		Bellatrix	278 21.1 N 6 22.4
20	120 45.6	N21 01.2	236 15.0	13.6 S19 58.7	9.5	54.2			
21	135 45.6	N21 01.6	250 47.7	13.7 S19 49.1	9.6	54.2		Betelgeuse	270 50.3 N 7 24.7
22	150 45.5	N21 02.0	265 20.4	13.8 S19 39.5	9.7	54.2		Canopus	263 52.0 S52 42.8
23	165 45.4	N21 02.5	279 53.3	13.8 S19 29.7	9.8	54.2		Capella	280 19.5 N46 01.6
26 0	180 45.4	N21 02.9	294 26.1	13.9 S19 19.9	9.8	54.2		Castor	245 54.8 N31 49.8
1	195 45.3	N21 03.4	308 59.1	13.9 S19 09.9	9.9	54.2		Deneb	49 24.2 N45 22.5
2	210 45.2	N21 03.8	323 32.1	14.0 S18 60.0	10.0	54.2			
3	225 45.2	N21 04.2	338 05.1	14.1 S18 49.9	10.1	54.2		Denebola	182 22.8 N14 25.1
4	240 45.1	N21 04.7	352 38.2	14.1 S18 39.7	10.2	54.2		Diphda	348 45.6 S17 50.1
W 5	255 45.0	N21 05.1	7 11.4	14.2 S18 29.5	10.2	54.2		Dubhe	193 38.5 N61 36.3
E								Elnath	277 59.8 N28 37.8
D 6	270 45.0	N21 05.5	21 44.6	14.2 S18 19.2	10.3	54.2		Eltanin	90 40.8 N51 28.9
N 7	285 44.9	N21 06.0	36 17.9	14.3 S18 08.8	10.4	54.2			
E 8	300 44.8	N21 06.4	50 51.2	14.3 S17 58.4	10.5	54.2		Enif	33 36.8 N 9 60.0
S 9	315 44.8	N21 06.8	65 24.6	14.4 S17 47.8	10.5	54.2		Fomalhaut	15 12.4 S29 28.4
D 10	330 44.7	N21 07.3	79 58.1	14.4 S17 37.2	10.6	54.2		Gacrux	171 49.2 S57 16.3
A 11	345 44.6	N21 07.7	94 31.6	14.5 S17 26.6	10.7	54.2		Gienah	175 41.4 S17 41.8
Y								Hadar	148 32.7 S60 30.6
12	0 44.6	N21 08.1	109 05.1	14.5 S17 15.8	10.7	54.2			
13	15 44.5	N21 08.6	123 38.7	14.6 S17 05.0	10.8	54.2		Hamal	327 49.3 N23 35.5
14	30 44.4	N21 09.0	138 12.4	14.7 S16 54.1	10.9	54.2		Kaus Austr.	83 29.6 S34 22.3
15	45 44.4	N21 09.4	152 46.1	14.7 S16 43.2	11.0	54.2		Kochab	137 18.9 N74 02.6
16	60 44.3	N21 09.9	167 19.8	14.8 S16 32.2	11.0	54.3		Markab	13 28.0 N15 21.1
17	75 44.2	N21 10.3	181 53.6	14.8 S16 21.1	11.1	54.3		Menkar	314 04.4 N 4 11.8
18	90 44.2	N21 10.7	196 27.5	14.9 S16 09.9	11.2	54.3		Menkent	147 55.0 S36 30.6
19	105 44.1	N21 11.2	211 01.4	14.9 S15 58.7	11.2	54.3		Miaplacidus	221 38.1 S69 50.1
20	120 44.0	N21 11.6	225 35.3	14.9 S15 47.4	11.3	54.3		Mirfak	308 26.0 N49 57.4
21	135 44.0	N21 12.0	240 09.3	15.0 S15 36.1	11.4	54.3		Nunki	75 45.0 S26 15.7
22	150 43.9	N21 12.4	254 43.3	15.0 S15 24.6	11.4	54.3		Peacock	53 02.3 S56 38.6
23	165 43.8	N21 12.9	269 17.4	15.1 S15 13.2	11.5	54.3			
27 0	180 43.7	N21 13.3	283 51.6	15.1 S15 01.6	11.5	54.3		Polaris	316 06.0 N89 22.0
1	195 43.7	N21 13.7	298 25.7	15.2 S14 50.0	11.6	54.3		Pollux	243 15.2 N27 57.6
2	210 43.6	N21 14.1	312 59.9	15.2 S14 38.4	11.7	54.3		Procyon	244 49.0 N 5 09.2
3	225 43.5	N21 14.6	327 34.2	15.3 S14 26.6	11.7	54.3		Rasalhague	95 56.4 N12 32.3
4	240 43.5	N21 15.0	342 08.5	15.3 S14 14.9	11.8	54.4		Regulus	207 32.4 N11 50.0
T 5	255 43.4	N21 15.4	356 42.8	15.3 S14 03.0	11.8	54.4			
H								Rigel	281 02.3 S 8 10.2
U 6	270 43.3	N21 15.8	11 17.2	15.4 S13 51.1	11.9	54.4		Rigil Kent	139 37.1 S60 57.1
R 7	285 43.2	N21 16.2	25 51.6	15.4 S13 39.1	12.0	54.4		Sabik	102 00.2 S15 45.6
S 8	300 43.2	N21 16.7	40 26.1	15.4 S13 27.1	12.0	54.4		Schedar	349 29.1 N56 41.0
D 9	315 43.1	N21 17.1	55 00.5	15.5 S13 15.1	12.1	54.4		Shaula	96 07.3 S37 07.4
A 10	330 43.0	N21 17.5	69 35.1	15.5 S13 02.9	12.1	54.4			
Y 11	345 43.0	N21 17.9	84 09.6	15.6 S12 50.8	12.2	54.4		Sirius	258 24.8 S16 45.3
								Spica	158 20.0 S11 18.4
12	0 42.9	N21 18.3	98 44.2	15.6 S12 38.5	12.2	54.4		Suhail	222 45.0 S43 32.9
13	15 42.8	N21 18.8	113 18.8	15.6 S12 26.2	12.3	54.5		Vega	80 31.5 N38 48.4
14	30 42.7	N21 19.2	127 53.5	15.7 S12 13.9	12.3	54.5		Zuben-ubi	136 54.5 S16 09.5
15	45 42.7	N21 19.6	142 28.2	15.7 S12 01.5	12.4	54.5			
16	60 42.6	N21 20.0	157 02.9	15.7 S11 49.0	12.4	54.5			
17	75 42.5	N21 20.4	171 37.6	15.7 S11 36.5	12.5	54.5			
18	90 42.4	N21 20.8	186 12.4	15.8 S11 24.0	12.5	54.5			
19	105 42.4	N21 21.2	200 47.2	15.8 S11 11.4	12.6	54.5			
20	120 42.3	N21 21.7	215 22.0	15.8 S10 58.8	12.6	54.6			
21	135 42.2	N21 22.1	229 56.9	15.9 S10 46.1	12.7	54.6			
22	150 42.2	N21 22.5	244 31.8	15.9 S10 33.3	12.7	54.6			
23	165 42.1	N21 22.9	259 06.7	15.9 S10 20.5	12.8	54.6			
	S.D. 15.8	d 0.4	S.D.	14.8	14.8	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 ° '
28	0	245 18.9	201 24.8	N15 19.1	87 35.8	N10 48.2	102 41.0	N15 44.9	222 34.9	N 7 02.1
	1	260 21.4	216 24.3	N15 20.1	102 37.3	N10 47.8	117 43.1	N15 44.8	237 37.1	N 7 02.2
	2	275 23.8	231 23.8	N15 21.0	117 38.7	N10 47.3	132 45.3	N15 44.7	252 39.3	N 7 02.3
	3	290 26.3	246 23.2	N15 21.9	132 40.2	N10 46.9	147 47.5	N15 44.6	267 41.6	N 7 02.4
	4	305 28.8	261 22.7	N15 22.9	147 41.7	N10 46.4	162 49.6	N15 44.5	282 43.8	N 7 02.5
F	5	320 31.2	276 22.1	N15 23.8	162 43.1	N10 46.0	177 51.8	N15 44.4	297 46.0	N 7 02.6
R										
I	6	335 33.7	291 21.6	N15 24.7	177 44.6	N10 45.5	192 53.9	N15 44.3	312 48.2	N 7 02.7
D	7	350 36.2	306 21.1	N15 25.6	192 46.0	N10 45.1	207 56.1	N15 44.2	327 50.4	N 7 02.8
A	8	5 38.6	321 20.5	N15 26.6	207 47.5	N10 44.6	222 58.3	N15 44.1	342 52.7	N 7 02.9
Y	9	20 41.1	336 20.0	N15 27.5	222 49.0	N10 44.1	238 00.4	N15 44.0	357 54.9	N 7 02.9
	10	35 43.5	351 19.4	N15 28.4	237 50.4	N10 43.7	253 02.6	N15 43.9	12 57.1	N 7 03.0
	11	50 46.0	6 18.9	N15 29.3	252 51.9	N10 43.2	268 04.8	N15 43.8	27 59.3	N 7 03.1
	12	65 48.5	21 18.3	N15 30.3	267 53.3	N10 42.8	283 06.9	N15 43.7	43 01.5	N 7 03.2
	13	80 50.9	36 17.8	N15 31.2	282 54.8	N10 42.3	298 09.1	N15 43.6	58 03.8	N 7 03.3
	14	95 53.4	51 17.3	N15 32.1	297 56.2	N10 41.9	313 11.2	N15 43.5	73 06.0	N 7 03.4
	15	110 55.9	66 16.7	N15 33.0	312 57.7	N10 41.4	328 13.4	N15 43.4	88 08.2	N 7 03.5
	16	125 58.3	81 16.2	N15 34.0	327 59.2	N10 40.9	343 15.6	N15 43.3	103 10.4	N 7 03.6
	17	141 00.8	96 15.6	N15 34.9	343 00.6	N10 40.5	358 17.7	N15 43.2	118 12.6	N 7 03.7
	18	156 03.3	111 15.1	N15 35.8	358 02.1	N10 40.0	13 19.9	N15 43.1	133 14.9	N 7 03.7
	19	171 05.7	126 14.5	N15 36.7	13 03.5	N10 39.6	28 22.0	N15 43.0	148 17.1	N 7 03.8
	20	186 08.2	141 14.0	N15 37.6	28 05.0	N10 39.1	43 24.2	N15 42.9	163 19.3	N 7 03.9
	21	201 10.7	156 13.4	N15 38.6	43 06.4	N10 38.7	58 26.4	N15 42.8	178 21.5	N 7 04.0
	22	216 13.1	171 12.9	N15 39.5	58 07.9	N10 38.2	73 28.5	N15 42.7	193 23.7	N 7 04.1
	23	231 15.6	186 12.3	N15 40.4	73 09.4	N10 37.7	88 30.7	N15 42.6	208 26.0	N 7 04.2
29	0	246 18.0	201 11.8	N15 41.3	88 10.8	N10 37.3	103 32.8	N15 42.5	223 28.2	N 7 04.3
	1	261 20.5	216 11.2	N15 42.2	103 12.3	N10 36.8	118 35.0	N15 42.4	238 30.4	N 7 04.4
	2	276 23.0	231 10.7	N15 43.1	118 13.7	N10 36.4	133 37.2	N15 42.3	253 32.6	N 7 04.4
	3	291 25.4	246 10.1	N15 44.1	133 15.2	N10 35.9	148 39.3	N15 42.2	268 34.8	N 7 04.5
	4	306 27.9	261 09.6	N15 45.0	148 16.6	N10 35.4	163 41.5	N15 42.1	283 37.1	N 7 04.6
S	5	321 30.4	276 09.0	N15 45.9	163 18.1	N10 35.0	178 43.6	N15 42.0	298 39.3	N 7 04.7
A										
T	6	336 32.8	291 08.5	N15 46.8	178 19.5	N10 34.5	193 45.8	N15 41.9	313 41.5	N 7 04.8
U	7	351 35.3	306 07.9	N15 47.7	193 21.0	N10 34.1	208 48.0	N15 41.8	328 43.7	N 7 04.9
R	8	6 37.8	321 07.4	N15 48.6	208 22.4	N10 33.6	223 50.1	N15 41.7	343 45.9	N 7 05.0
D	9	21 40.2	336 06.8	N15 49.5	223 23.9	N10 33.1	238 52.3	N15 41.6	358 48.2	N 7 05.1
A	10	36 42.7	351 06.2	N15 50.5	238 25.3	N10 32.7	253 54.4	N15 41.5	13 50.4	N 7 05.2
Y	11	51 45.2	6 05.7	N15 51.4	253 26.8	N10 32.2	268 56.6	N15 41.4	28 52.6	N 7 05.2
	12	66 47.6	21 05.1	N15 52.3	268 28.2	N10 31.8	283 58.7	N15 41.3	43 54.8	N 7 05.3
	13	81 50.1	36 04.6	N15 53.2	283 29.7	N10 31.3	299 00.9	N15 41.2	58 57.1	N 7 05.4
	14	96 52.5	51 04.0	N15 54.1	298 31.1	N10 30.8	314 03.1	N15 41.1	73 59.3	N 7 05.5
	15	111 55.0	66 03.5	N15 55.0	313 32.6	N10 30.4	329 05.2	N15 41.0	89 01.5	N 7 05.6
	16	126 57.5	81 02.9	N15 55.9	328 34.0	N10 29.9	344 07.4	N15 40.9	104 03.7	N 7 05.7
	17	141 59.9	96 02.3	N15 56.8	343 35.5	N10 29.4	359 09.5	N15 40.8	119 05.9	N 7 05.8
	18	157 02.4	111 01.8	N15 57.7	358 36.9	N10 29.0	14 11.7	N15 40.7	134 08.2	N 7 05.9
	19	172 04.9	126 01.2	N15 58.6	13 38.4	N10 28.5	29 13.8	N15 40.6	149 10.4	N 7 05.9
	20	187 07.3	141 00.7	N15 59.5	28 39.8	N10 28.1	44 16.0	N15 40.5	164 12.6	N 7 06.0
	21	202 09.8	156 00.1	N16 00.4	43 41.3	N10 27.6	59 18.1	N15 40.3	179 14.8	N 7 06.1
	22	217 12.3	170 59.5	N16 01.3	58 42.7	N10 27.1	74 20.3	N15 40.2	194 17.1	N 7 06.2
	23	232 14.7	185 59.0	N16 02.2	73 44.2	N10 26.7	89 22.5	N15 40.1	209 19.3	N 7 06.3
30	0	247 17.2	200 58.4	N16 03.1	88 45.6	N10 26.2	104 24.6	N15 40.0	224 21.5	N 7 06.4
	1	262 19.6	215 57.9	N16 04.0	103 47.1	N10 25.7	119 26.8	N15 39.9	239 23.7	N 7 06.5
	2	277 22.1	230 57.3	N16 04.9	118 48.5	N10 25.3	134 28.9	N15 39.8	254 25.9	N 7 06.6
	3	292 24.6	245 56.7	N16 05.8	133 49.9	N10 24.8	149 31.1	N15 39.7	269 28.2	N 7 06.6
	4	307 27.0	260 56.2	N16 06.7	148 51.4	N10 24.4	164 33.2	N15 39.6	284 30.4	N 7 06.7
S	5	322 29.5	275 55.6	N16 07.6	163 52.8	N10 23.9	179 35.4	N15 39.5	299 32.6	N 7 06.8
U										
N	6	337 32.0	290 55.0	N16 08.5	178 54.3	N10 23.4	194 37.5	N15 39.4	314 34.8	N 7 06.9
D	7	352 34.4	305 54.5	N16 09.4	193 55.7	N10 23.0	209 39.7	N15 39.3	329 37.1	N 7 07.0
A	8	7 36.9	320 53.9	N16 10.3	208 57.2	N10 22.5	224 41.8	N15 39.2	344 39.3	N 7 07.1
Y	9	22 39.4	335 53.4	N16 11.2	223 58.6	N10 22.0	239 44.0	N15 39.1	359 41.5	N 7 07.2
	10	37 41.8	350 52.8	N16 12.1	239 00.0	N10 21.6	254 46.1	N15 39.0	14 43.7	N 7 07.2
	11	52 44.3	5 52.2	N16 13.0	254 01.5	N10 21.1	269 48.3	N15 38.9	29 45.9	N 7 07.3
	12	67 46.8	20 51.7	N16 13.9	269 02.9	N10 20.6	284 50.4	N15 38.8	44 48.2	N 7 07.4
	13	82 49.2	35 51.1	N16 14.8	284 04.4	N10 20.2	299 52.6	N15 38.7	59 50.4	N 7 07.5
	14	97 51.7	50 50.5	N16 15.7	299 05.8	N10 19.7	314 54.7	N15 38.6	74 52.6	N 7 07.6
	15	112 54.1	65 49.9	N16 16.6	314 07.2	N10 19.2	329 56.9	N15 38.5	89 54.8	N 7 07.7
	16	127 56.6	80 49.4	N16 17.5	329 08.7	N10 18.8	344 59.0	N15 38.4	104 57.1	N 7 07.8
	17	142 59.1	95 48.8	N16 18.3	344 10.1	N10 18.3	0 01.2	N15 38.3	119 59.3	N 7 07.9
	18	158 01.5	110 48.2	N16 19.2	359 11.6	N10 17.8	15 03.4	N15 38.2	135 01.5	N 7 07.9
	19	173 04.0	125 47.7	N16 20.1	14 13.0	N10 17.4	30 05.5	N15 38.1	150 03.7	N 7 08.0
	20	188 06.5	140 47.1	N16 21.0	29 14.4	N10 16.9	45 07.7	N15 38.0	165 06.0	N 7 08.1
	21	203 08.9	155 46.5	N16 21.9	44 15.9	N10 16.4	60 09.8	N15 37.8	180 08.2	N 7 08.2
	22	218 11.4	170 46.0	N16 22.8	59 17.3	N10 16.0	75 12.0	N15 37.7	195 10.4	N 7 08.3
	23	233 13.9	185 45.4	N16 23.7	74 18.8	N10 15.5	90 14.1	N15 37.6	210 12.6	N 7 08.4
			v -0.6	d 0.9	v 1.4	d 0.5	v 2.2	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
28	0	180 42.0	N21 23.3	273 41.6	15.9	S10 07.7	12.8	54.6
	1	195 41.9	N21 23.7	288 16.5	15.9	S 9 54.8	12.9	54.6
	2	210 41.8	N21 24.1	302 51.5	16.0	S 9 41.9	12.9	54.6
	3	225 41.8	N21 24.5	317 26.5	16.0	S 9 28.9	13.0	54.7
	4	240 41.7	N21 24.9	332 01.5	16.0	S 9 15.9	13.0	54.7
F	5	255 41.6	N21 25.3	346 36.5	16.0	S 9 02.9	13.1	54.7
R								
I	6	270 41.5	N21 25.7	1 11.5	16.0	S 8 49.8	13.1	54.7
D	7	285 41.5	N21 26.1	15 46.6	16.0	S 8 36.6	13.1	54.7
A	8	300 41.4	N21 26.5	30 21.6	16.1	S 8 23.4	13.2	54.8
Y	9	315 41.3	N21 27.0	44 56.7	16.1	S 8 10.2	13.2	54.8
	10	330 41.2	N21 27.4	59 31.8	16.1	S 7 57.0	13.3	54.8
	11	345 41.2	N21 27.8	74 06.9	16.1	S 7 43.7	13.3	54.8
	12	0 41.1	N21 28.2	88 42.0	16.1	S 7 30.3	13.3	54.8
	13	15 41.0	N21 28.6	103 17.1	16.1	S 7 17.0	13.4	54.8
	14	30 40.9	N21 29.0	117 52.2	16.1	S 7 03.5	13.4	54.9
	15	45 40.8	N21 29.4	132 27.4	16.1	S 6 50.1	13.4	54.9
	16	60 40.8	N21 29.8	147 02.5	16.1	S 6 36.6	13.5	54.9
	17	75 40.7	N21 30.2	161 37.6	16.1	S 6 23.1	13.5	54.9
	18	90 40.6	N21 30.6	176 12.8	16.1	S 6 09.5	13.6	54.9
	19	105 40.5	N21 31.0	190 47.9	16.1	S 5 56.0	13.6	55.0
	20	120 40.5	N21 31.4	205 23.1	16.1	S 5 42.3	13.6	55.0
	21	135 40.4	N21 31.7	219 58.2	16.1	S 5 28.7	13.7	55.0
	22	150 40.3	N21 32.1	234 33.4	16.1	S 5 15.0	13.7	55.0
	23	165 40.2	N21 32.5	249 08.5	16.1	S 5 01.3	13.7	55.1
29	0	180 40.1	N21 32.9	263 43.6	16.1	S 4 47.6	13.7	55.1
	1	195 40.1	N21 33.3	278 18.8	16.1	S 4 33.8	13.8	55.1
	2	210 40.0	N21 33.7	292 53.9	16.1	S 4 20.0	13.8	55.1
	3	225 39.9	N21 34.1	307 29.0	16.1	S 4 06.1	13.8	55.1
	4	240 39.8	N21 34.5	322 04.2	16.1	S 3 52.3	13.9	55.2
S	5	255 39.7	N21 34.9	336 39.3	16.1	S 3 38.4	13.9	55.2
A								
T	6	270 39.6	N21 35.3	351 14.4	16.1	S 3 24.5	13.9	55.2
U	7	285 39.6	N21 35.7	5 49.4	16.1	S 3 10.6	13.9	55.2
R	8	300 39.5	N21 36.1	20 24.5	16.1	S 2 56.6	14.0	55.3
D	9	315 39.4	N21 36.5	34 59.6	16.1	S 2 42.6	14.0	55.3
A	10	330 39.3	N21 36.8	49 34.6	16.0	S 2 28.6	14.0	55.3
Y	11	345 39.2	N21 37.2	64 09.6	16.0	S 2 14.6	14.0	55.3
	12	0 39.2	N21 37.6	78 44.6	16.0	S 2 00.5	14.1	55.4
	13	15 39.1	N21 38.0	93 19.6	16.0	S 1 46.4	14.1	55.4
	14	30 39.0	N21 38.4	107 54.6	16.0	S 1 32.3	14.1	55.4
	15	45 38.9	N21 38.8	122 29.5	15.9	S 1 18.2	14.1	55.5
	16	60 38.8	N21 39.1	137 04.5	15.9	S 1 04.1	14.1	55.5
	17	75 38.7	N21 39.5	151 39.4	15.9	S 0 49.9	14.2	55.5
	18	90 38.7	N21 39.9	166 14.3	15.9	S 0 35.8	14.2	55.5
	19	105 38.6	N21 40.3	180 49.1	15.9	S 0 21.6	14.2	55.6
	20	120 38.5	N21 40.7	195 23.9	15.8	S 0 07.4	14.2	55.6
	21	135 38.4	N21 41.1	209 58.7	15.8	N 0 06.8	14.2	55.6
	22	150 38.3	N21 41.4	224 33.5	15.8	N 0 21.1	14.2	55.6
	23	165 38.2	N21 41.8	239 08.2	15.7	N 0 35.3	14.2	55.7
30	0	180 38.2	N21 42.2	253 42.9	15.7	N 0 49.6	14.3	55.7
	1	195 38.1	N21 42.6	268 17.6	15.7	N 1 03.8	14.3	55.7
	2	210 38.0	N21 43.0	282 52.2	15.6	N 1 18.1	14.3	55.8
	3	225 37.9	N21 43.3	297 26.8	15.6	N 1 32.4	14.3	55.8
	4	240 37.8	N21 43.7	312 01.4	15.6	N 1 46.7	14.3	55.8
S	5	255 37.7	N21 44.1	326 35.9	15.5	N 2 01.0	14.3	55.8
U								
N	6	270 37.6	N21 44.5	341 10.4	15.5	N 2 15.3	14.3	55.9
D	7	285 37.6	N21 44.8	355 44.9	15.4	N 2 29.7	14.3	55.9
A	8	300 37.5	N21 45.2	10 19.3	15.4	N 2 44.0	14.3	55.9
Y	9	315 37.4	N21 45.6	24 53.6	15.4	N 2 58.3	14.3	56.0
	10	330 37.3	N21 45.9	39 27.9	15.3	N 3 12.7	14.3	56.0
	11	345 37.2	N21 46.3	54 02.2	15.3	N 3 27.0	14.3	56.0
	12	0 37.1	N21 46.7	68 36.4	15.2	N 3 41.4	14.3	56.1
	13	15 37.0	N21 47.1	83 10.6	15.2	N 3 55.7	14.3	56.1
	14	30 36.9	N21 47.4	97 44.7	15.1	N 4 10.1	14.4	56.1
	15	45 36.9	N21 47.8	112 18.8	15.1	N 4 24.4	14.4	56.2
	16	60 36.8	N21 48.2	126 52.8	15.0	N 4 38.8	14.3	56.2
	17	75 36.7	N21 48.5	141 26.8	15.0	N 4 53.1	14.3	56.2
	18	90 36.6	N21 48.9	156 00.7	14.9	N 5 07.5	14.3	56.3
	19	105 36.5	N21 49.3	170 34.5	14.9	N 5 21.8	14.3	56.3
	20	120 36.4	N21 49.6	185 08.3	14.8	N 5 36.1	14.3	56.3
	21	135 36.3	N21 50.0	199 42.1	14.7	N 5 50.5	14.3	56.4
	22	150 36.2	N21 50.4	214 15.8	14.7	N 6 04.8	14.3	56.4
	23	165 36.1	N21 50.7	228 49.4	14.6	N 6 19.1	14.3	56.4
		S.D. 15.8	d 0.4	S.D.	14.9	15.1	15.3	

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.6
Achernar	335 19.2	S57 05.6
Acrux	172 57.6	S63 15.4
Adhara	255 04.6	S29 00.7
Albireo	67 02.2	N28 00.9
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.9	N55 48.8
Alkaid	152 50.1	N49 10.6
Al Na-ir	27 30.4	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 32.9	N29 14.4
Altair	61 57.8	N 8 56.4
Ankaa	353 05.4	S42 09.2
Antares	112 13.1	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.1	S69 04.6
Avior	234 14.3	S59 36.1
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.7
Capella	280 19.5	N46 01.5
Castor	245 54.8	N31 49.8
Deneb	49 24.2	N45 22.5
Denebola	182 22.8	N14 25.1
Diphda	348 45.5	S17 50.0
Dubhe	193 38.5	N61 36.4
Elnath	277 59.8	N28 37.8
Eltanin	90 40.8	N51 28.9
Enif	33 36.7	N 9 60.0
Fomalhaut	15 12.4	S29 28.4
Gacrux	171 49.2	S57 16.3
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 29.6	S34 22.3
Kochab	137 19.0	N74 02.6
Markab	13 28.0	N15 21.1
Menkar	314 04.4	N 4 11.8
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.1	S69 50.1
Mirfak	308 26.0	N49 57.4
Nunki	75 45.0	S26 15.7
Peacock	53 02.3	S56 38.6
Polaris	316 05.4	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.4	N12 32.3
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.1	S60 57.1
Sabik	102 00.2	S15 45.6
Schedar	349 29.1	N56 41.0
Shaula	96 07.3	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.0	S43 32.9
Vega	80 31.5	N38 48.4
Zuben-ubi	136 54.5	S16 09.5

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
31 0	248 16.3	200 44.8	N16 24.5	89 20.2	N10 15.0	105 16.2	N15 37.5	225 14.9	N 7 08.5
1	263 18.8	215 44.2	N16 25.4	104 21.6	N10 14.6	120 18.4	N15 37.4	240 17.1	N 7 08.5
2	278 21.3	230 43.7	N16 26.3	119 23.1	N10 14.1	135 20.5	N15 37.3	255 19.3	N 7 08.6
3	293 23.7	245 43.1	N16 27.2	134 24.5	N10 13.6	150 22.7	N15 37.2	270 21.5	N 7 08.7
4	308 26.2	260 42.5	N16 28.1	149 25.9	N10 13.2	165 24.8	N15 37.1	285 23.8	N 7 08.8
M 5	323 28.6	275 41.9	N16 29.0	164 27.4	N10 12.7	180 27.0	N15 37.0	300 26.0	N 7 08.9
O									
N 6	338 31.1	290 41.4	N16 29.8	179 28.8	N10 12.2	195 29.1	N15 36.9	315 28.2	N 7 09.0
D 7	353 33.6	305 40.8	N16 30.7	194 30.2	N10 11.8	210 31.3	N15 36.8	330 30.4	N 7 09.1
A 8	8 36.0	320 40.2	N16 31.6	209 31.7	N10 11.3	225 33.4	N15 36.7	345 32.7	N 7 09.1
Y 9	23 38.5	335 39.6	N16 32.5	224 33.1	N10 10.8	240 35.6	N15 36.6	0 34.9	N 7 09.2
10	38 41.0	350 39.1	N16 33.4	239 34.6	N10 10.3	255 37.7	N15 36.5	15 37.1	N 7 09.3
11	53 43.4	5 38.5	N16 34.2	254 36.0	N10 09.9	270 39.9	N15 36.4	30 39.3	N 7 09.4
12	68 45.9	20 37.9	N16 35.1	269 37.4	N10 09.4	285 42.0	N15 36.3	45 41.6	N 7 09.5
13	83 48.4	35 37.3	N16 36.0	284 38.9	N10 08.9	300 44.2	N15 36.2	60 43.8	N 7 09.6
14	98 50.8	50 36.7	N16 36.9	299 40.3	N10 08.5	315 46.3	N15 36.0	75 46.0	N 7 09.7
15	113 53.3	65 36.2	N16 37.7	314 41.7	N10 08.0	330 48.5	N15 35.9	90 48.2	N 7 09.7
16	128 55.7	80 35.6	N16 38.6	329 43.1	N10 07.5	345 50.6	N15 35.8	105 50.5	N 7 09.8
17	143 58.2	95 35.0	N16 39.5	344 44.6	N10 07.1	0 52.8	N15 35.7	120 52.7	N 7 09.9
18	159 00.7	110 34.4	N16 40.4	359 46.0	N10 06.6	15 54.9	N15 35.6	135 54.9	N 7 10.0
19	174 03.1	125 33.8	N16 41.2	14 47.4	N10 06.1	30 57.0	N15 35.5	150 57.1	N 7 10.1
20	189 05.6	140 33.3	N16 42.1	29 48.9	N10 05.6	45 59.2	N15 35.4	165 59.4	N 7 10.2
21	204 08.1	155 32.7	N16 43.0	44 50.3	N10 05.2	61 01.3	N15 35.3	181 01.6	N 7 10.3
22	219 10.5	170 32.1	N16 43.8	59 51.7	N10 04.7	76 03.5	N15 35.2	196 03.8	N 7 10.3
23	234 13.0	185 31.5	N16 44.7	74 53.2	N10 04.2	91 05.6	N15 35.1	211 06.1	N 7 10.4
1 0	249 15.5	200 30.9	N16 45.6	89 54.6	N10 03.8	106 07.8	N15 35.0	226 08.3	N 7 10.5
1	264 17.9	215 30.3	N16 46.4	104 56.0	N10 03.3	121 09.9	N15 34.9	241 10.5	N 7 10.6
2	279 20.4	230 29.8	N16 47.3	119 57.4	N10 02.8	136 12.1	N15 34.8	256 12.7	N 7 10.7
3	294 22.9	245 29.2	N16 48.2	134 58.9	N10 02.3	151 14.2	N15 34.7	271 15.0	N 7 10.8
4	309 25.3	260 28.6	N16 49.0	150 00.3	N10 01.9	166 16.3	N15 34.6	286 17.2	N 7 10.9
T 5	324 27.8	275 28.0	N16 49.9	165 01.7	N10 01.4	181 18.5	N15 34.4	301 19.4	N 7 10.9
U									
E 6	339 30.2	290 27.4	N16 50.8	180 03.2	N10 00.9	196 20.6	N15 34.3	316 21.6	N 7 11.0
S 7	354 32.7	305 26.8	N16 51.6	195 04.6	N10 00.5	211 22.8	N15 34.2	331 23.9	N 7 11.1
D 8	9 35.2	320 26.2	N16 52.5	210 06.0	N 9 60.0	226 24.9	N15 34.1	346 26.1	N 7 11.2
A 9	24 37.6	335 25.6	N16 53.3	225 07.4	N 9 59.5	241 27.1	N15 34.0	1 28.3	N 7 11.3
Y 10	39 40.1	350 25.1	N16 54.2	240 08.9	N 9 59.0	256 29.2	N15 33.9	16 30.6	N 7 11.4
11	54 42.6	5 24.5	N16 55.1	255 10.3	N 9 58.6	271 31.3	N15 33.8	31 32.8	N 7 11.4
12	69 45.0	20 23.9	N16 55.9	270 11.7	N 9 58.1	286 33.5	N15 33.7	46 35.0	N 7 11.5
13	84 47.5	35 23.3	N16 56.8	285 13.1	N 9 57.6	301 35.6	N15 33.6	61 37.2	N 7 11.6
14	99 50.0	50 22.7	N16 57.6	300 14.6	N 9 57.1	316 37.8	N15 33.5	76 39.5	N 7 11.7
15	114 52.4	65 22.1	N16 58.5	315 16.0	N 9 56.7	331 39.9	N15 33.4	91 41.7	N 7 11.8
16	129 54.9	80 21.5	N16 59.4	330 17.4	N 9 56.2	346 42.1	N15 33.3	106 43.9	N 7 11.9
17	144 57.4	95 20.9	N17 00.2	345 18.8	N 9 55.7	1 44.2	N15 33.2	121 46.1	N 7 12.0
18	159 59.8	110 20.3	N17 01.1	0 20.3	N 9 55.2	16 46.3	N15 33.0	136 48.4	N 7 12.0
19	175 02.3	125 19.7	N17 01.9	15 21.7	N 9 54.8	31 48.5	N15 32.9	151 50.6	N 7 12.1
20	190 04.7	140 19.1	N17 02.8	30 23.1	N 9 54.3	46 50.6	N15 32.8	166 52.8	N 7 12.2
21	205 07.2	155 18.5	N17 03.6	45 24.5	N 9 53.8	61 52.8	N15 32.7	181 55.1	N 7 12.3
22	220 09.7	170 17.9	N17 04.5	60 25.9	N 9 53.3	76 54.9	N15 32.6	196 57.3	N 7 12.4
23	235 12.1	185 17.4	N17 05.3	75 27.4	N 9 52.9	91 57.0	N15 32.5	211 59.5	N 7 12.5
2 0	250 14.6	200 16.8	N17 06.2	90 28.8	N 9 52.4	106 59.2	N15 32.4	227 01.7	N 7 12.5
1	265 17.1	215 16.2	N17 07.0	105 30.2	N 9 51.9	122 01.3	N15 32.3	242 04.0	N 7 12.6
2	280 19.5	230 15.6	N17 07.9	120 31.6	N 9 51.4	137 03.5	N15 32.2	257 06.2	N 7 12.7
3	295 22.0	245 15.0	N17 08.7	135 33.0	N 9 51.0	152 05.6	N15 32.1	272 08.4	N 7 12.8
4	310 24.5	260 14.4	N17 09.6	150 34.5	N 9 50.5	167 07.7	N15 32.0	287 10.7	N 7 12.9
W 5	325 26.9	275 13.8	N17 10.4	165 35.9	N 9 50.0	182 09.9	N15 31.8	302 12.9	N 7 13.0
E									
D 6	340 29.4	290 13.2	N17 11.3	180 37.3	N 9 49.5	197 12.0	N15 31.7	317 15.1	N 7 13.0
N 7	355 31.8	305 12.6	N17 12.1	195 38.7	N 9 49.0	212 14.1	N15 31.6	332 17.3	N 7 13.1
E 8	10 34.3	320 12.0	N17 12.9	210 40.1	N 9 48.6	227 16.3	N15 31.5	347 19.6	N 7 13.2
S 9	25 36.8	335 11.4	N17 13.8	225 41.6	N 9 48.1	242 18.4	N15 31.4	2 21.8	N 7 13.3
D 10	40 39.2	350 10.8	N17 14.6	240 43.0	N 9 47.6	257 20.6	N15 31.3	17 24.0	N 7 13.4
A 11	55 41.7	5 10.2	N17 15.5	255 44.4	N 9 47.1	272 22.7	N15 31.2	32 26.3	N 7 13.5
Y									
12	70 44.2	20 09.6	N17 16.3	270 45.8	N 9 46.7	287 24.8	N15 31.1	47 28.5	N 7 13.5
13	85 46.6	35 09.0	N17 17.2	285 47.2	N 9 46.2	302 27.0	N15 31.0	62 30.7	N 7 13.6
14	100 49.1	50 08.4	N17 18.0	300 48.6	N 9 45.7	317 29.1	N15 30.9	77 33.0	N 7 13.7
15	115 51.6	65 07.8	N17 18.8	315 50.1	N 9 45.2	332 31.2	N15 30.7	92 35.2	N 7 13.8
16	130 54.0	80 07.2	N17 19.7	330 51.5	N 9 44.7	347 33.4	N15 30.6	107 37.4	N 7 13.9
17	145 56.5	95 06.6	N17 20.5	345 52.9	N 9 44.3	2 35.5	N15 30.5	122 39.6	N 7 14.0
18	160 59.0	110 06.0	N17 21.3	0 54.3	N 9 43.8	17 37.6	N15 30.4	137 41.9	N 7 14.0
19	176 01.4	125 05.3	N17 22.2	15 55.7	N 9 43.3	32 39.8	N15 30.3	152 44.1	N 7 14.1
20	191 03.9	140 04.7	N17 23.0	30 57.1	N 9 42.8	47 41.9	N15 30.2	167 46.3	N 7 14.2
21	206 06.3	155 04.1	N17 23.9	45 58.5	N 9 42.3	62 44.1	N15 30.1	182 48.6	N 7 14.3
22	221 08.8	170 03.5	N17 24.7	60 60.0	N 9 41.9	77 46.2	N15 30.0	197 50.8	N 7 14.4
23	236 11.3	185 02.9	N17 25.5	76 01.4	N 9 41.4	92 48.3	N15 29.9	212 53.0	N 7 14.5
		v -0.6	d 0.9	v 1.4	d 0.5	v 2.1	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
31	0	180 36.1	N21 51.1	243 22.9	14.6	N 6 33.4	14.3	56.5
	1	195 36.0	N21 51.4	257 56.4	14.5	N 6 47.7	14.3	56.5
	2	210 35.9	N21 51.8	272 29.8	14.4	N 7 02.0	14.3	56.5
	3	225 35.8	N21 52.2	287 03.2	14.4	N 7 16.3	14.3	56.6
	4	240 35.7	N21 52.5	301 36.5	14.3	N 7 30.5	14.3	56.6
M	5	255 35.6	N21 52.9	316 09.7	14.2	N 7 44.8	14.2	56.6
O								
N	6	270 35.5	N21 53.2	330 42.9	14.1	N 7 59.0	14.2	56.7
D	7	285 35.4	N21 53.6	345 15.9	14.1	N 8 13.2	14.2	56.7
A	8	300 35.3	N21 54.0	359 48.9	14.0	N 8 27.4	14.2	56.7
Y	9	315 35.2	N21 54.3	14 21.9	13.9	N 8 41.6	14.2	56.8
	10	330 35.1	N21 54.7	28 54.7	13.9	N 8 55.8	14.2	56.8
	11	345 35.1	N21 55.0	43 27.5	13.8	N 9 09.9	14.1	56.8
	12	0 35.0	N21 55.4	58 00.2	13.7	N 9 24.0	14.1	56.9
	13	15 34.9	N21 55.7	72 32.8	13.6	N 9 38.1	14.1	56.9
	14	30 34.8	N21 56.1	87 05.3	13.5	N 9 52.2	14.1	56.9
	15	45 34.7	N21 56.4	101 37.8	13.5	N10 06.2	14.0	57.0
	16	60 34.6	N21 56.8	116 10.2	13.4	N10 20.2	14.0	57.0
	17	75 34.5	N21 57.1	130 42.5	13.3	N10 34.2	14.0	57.0
	18	90 34.4	N21 57.5	145 14.7	13.2	N10 48.2	14.0	57.1
	19	105 34.3	N21 57.8	159 46.8	13.1	N11 02.1	13.9	57.1
	20	120 34.2	N21 58.2	174 18.8	13.0	N11 16.0	13.9	57.2
	21	135 34.1	N21 58.5	188 50.7	12.9	N11 29.9	13.9	57.2
	22	150 34.0	N21 58.9	203 22.6	12.8	N11 43.7	13.8	57.2
	23	165 33.9	N21 59.2	217 54.3	12.8	N11 57.5	13.8	57.3
1	0	180 33.8	N21 59.6	232 26.0	12.7	N12 11.2	13.8	57.3
	1	195 33.8	N21 59.9	246 57.6	12.6	N12 24.9	13.7	57.3
	2	210 33.7	N22 00.3	261 29.0	12.5	N12 38.6	13.7	57.4
	3	225 33.6	N22 00.6	276 00.4	12.4	N12 52.2	13.6	57.4
	4	240 33.5	N22 01.0	290 31.7	12.3	N13 05.8	13.6	57.4
T	5	255 33.4	N22 01.3	305 02.8	12.2	N13 19.4	13.5	57.5
U								
E	6	270 33.3	N22 01.7	319 33.9	12.1	N13 32.9	13.5	57.5
S	7	285 33.2	N22 02.0	334 04.9	12.0	N13 46.3	13.5	57.6
D	8	300 33.1	N22 02.3	348 35.7	11.9	N13 59.7	13.4	57.6
A	9	315 33.0	N22 02.7	3 06.5	11.8	N14 13.1	13.4	57.6
Y	10	330 32.9	N22 03.0	17 37.2	11.7	N14 26.4	13.3	57.7
	11	345 32.8	N22 03.4	32 07.7	11.6	N14 39.6	13.2	57.7
	12	0 32.7	N22 03.7	46 38.2	11.4	N14 52.8	13.2	57.7
	13	15 32.6	N22 04.0	61 08.5	11.3	N15 05.9	13.1	57.8
	14	30 32.5	N22 04.4	75 38.7	11.2	N15 19.0	13.1	57.8
	15	45 32.4	N22 04.7	90 08.8	11.1	N15 32.0	13.0	57.8
	16	60 32.3	N22 05.0	104 38.8	11.0	N15 45.0	13.0	57.9
	17	75 32.2	N22 05.4	119 08.7	10.9	N15 57.9	12.9	57.9
	18	90 32.1	N22 05.7	133 38.5	10.8	N16 10.7	12.8	58.0
	19	105 32.0	N22 06.1	148 08.2	10.7	N16 23.4	12.8	58.0
	20	120 31.9	N22 06.4	162 37.7	10.5	N16 36.1	12.7	58.0
	21	135 31.8	N22 06.7	177 07.1	10.4	N16 48.8	12.6	58.1
	22	150 31.7	N22 07.0	191 36.4	10.3	N17 01.3	12.5	58.1
	23	165 31.6	N22 07.4	206 05.6	10.2	N17 13.8	12.5	58.1
2	0	180 31.5	N22 07.7	220 34.7	10.1	N17 26.2	12.4	58.2
	1	195 31.4	N22 08.0	235 03.7	10.0	N17 38.5	12.3	58.2
	2	210 31.3	N22 08.4	249 32.5	9.8	N17 50.7	12.2	58.2
	3	225 31.2	N22 08.7	264 01.2	9.7	N18 02.9	12.2	58.3
	4	240 31.1	N22 09.0	278 29.8	9.6	N18 15.0	12.1	58.3
W	5	255 31.0	N22 09.4	292 58.3	9.5	N18 27.0	12.0	58.4
E								
D	6	270 30.9	N22 09.7	307 26.6	9.3	N18 38.9	11.9	58.4
N	7	285 30.8	N22 10.0	321 54.8	9.2	N18 50.7	11.8	58.4
E	8	300 30.7	N22 10.3	336 22.9	9.1	N19 02.4	11.7	58.5
S	9	315 30.6	N22 10.7	350 50.9	9.0	N19 14.1	11.6	58.5
D	10	330 30.5	N22 11.0	5 18.8	8.8	N19 25.6	11.5	58.5
A	11	345 30.4	N22 11.3	19 46.5	8.7	N19 37.1	11.5	58.6
Y								
	12	0 30.3	N22 11.6	34 14.1	8.6	N19 48.4	11.4	58.6
	13	15 30.2	N22 11.9	48 41.5	8.5	N19 59.7	11.3	58.6
	14	30 30.1	N22 12.3	63 08.9	8.3	N20 10.8	11.2	58.7
	15	45 30.0	N22 12.6	77 36.1	8.2	N20 21.9	11.1	58.7
	16	60 29.9	N22 12.9	92 03.2	8.1	N20 32.8	10.9	58.7
	17	75 29.8	N22 13.2	106 30.1	8.0	N20 43.7	10.8	58.8
	18	90 29.7	N22 13.5	120 56.9	7.8	N20 54.4	10.7	58.8
	19	105 29.6	N22 13.9	135 23.6	7.7	N21 05.0	10.6	58.8
	20	120 29.5	N22 14.2	149 50.2	7.6	N21 15.5	10.5	58.9
	21	135 29.4	N22 14.5	164 16.6	7.4	N21 25.9	10.4	58.9
	22	150 29.3	N22 14.8	178 43.0	7.3	N21 36.2	10.3	58.9
	23	165 29.2	N22 15.1	193 09.1	7.2	N21 46.4	10.2	59.0
		S.D. 15.8	d 0.3	S.D.	15.5	15.7	16.0	

STARS Name	SHA	Dec
Acamar	315 10.7	S40 11.6
Achernar	335 19.2	S57 05.6
Acrux	172 57.6	S63 15.4
Adhara	255 04.6	S29 00.7
Albireo	67 02.2	N28 00.9
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.9	N55 48.8
Alkaid	152 50.1	N49 10.7
Al Na-ir	27 30.3	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 32.9	N29 14.4
Altair	61 57.8	N 8 56.4
Ankaa	353 05.4	S42 09.2
Antares	112 13.1	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.0	S69 04.6
Avior	234 14.3	S59 36.1
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.7
Capella	280 19.5	N46 01.5
Castor	245 54.9	N31 49.8
Deneb	49 24.2	N45 22.5
Denebola	182 22.9	N14 25.1
Diphda	348 45.5	S17 50.0
Dubhe	193 38.6	N61 36.4
Elnath	277 59.8	N28 37.8
Eltanin	90 40.8	N51 28.9
Enif	33 36.7	N 9 60.0
Fomalhaut	15 12.4	S29 28.4
Gacrux	171 49.2	S57 16.4
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 29.6	S34 22.3
Kochab	137 19.0	N74 02.6
Markab	13 28.0	N15 21.1
Menkar	314 04.4	N 4 11.8
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.1	S69 50.1
Mirfak	308 26.0	N49 57.4
Nunki	75 45.0	S26 15.7
Peacock	53 02.2	S56 38.6
Polaris	316 04.6	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.1
Sabik	102 00.2	S15 45.6
Schedar	349 29.1	N56 41.0
Shaula	96 07.3	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.0	S43 32.9
Vega	80 31.5	N38 48.4
Zuben-ubi	136 54.5	S16 09.5

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 13.7	200 02.3	N17 26.4	91 02.8	N 9 40.9	107 50.5	N15 29.8	227 55.3	N 7 14.5
	1	266 16.2	215 01.7	N17 27.2	106 04.2	N 9 40.4	122 52.6	N15 29.6	242 57.5	N 7 14.6
	2	281 18.7	230 01.1	N17 28.0	121 05.6	N 9 39.9	137 54.7	N15 29.5	257 59.7	N 7 14.7
	3	296 21.1	245 00.5	N17 28.8	136 07.0	N 9 39.5	152 56.9	N15 29.4	273 02.0	N 7 14.8
	4	311 23.6	259 59.9	N17 29.7	151 08.4	N 9 39.0	167 59.0	N15 29.3	288 04.2	N 7 14.9
T	5	326 26.1	274 59.3	N17 30.5	166 09.8	N 9 38.5	183 01.1	N15 29.2	303 06.4	N 7 15.0
H										
U	6	341 28.5	289 58.7	N17 31.3	181 11.3	N 9 38.0	198 03.3	N15 29.1	318 08.7	N 7 15.0
R	7	356 31.0	304 58.1	N17 32.2	196 12.7	N 9 37.5	213 05.4	N15 29.0	333 10.9	N 7 15.1
S	8	11 33.5	319 57.4	N17 33.0	211 14.1	N 9 37.1	228 07.5	N15 28.9	348 13.1	N 7 15.2
D	9	26 35.9	334 56.8	N17 33.8	226 15.5	N 9 36.6	243 09.7	N15 28.8	3 15.3	N 7 15.3
A	10	41 38.4	349 56.2	N17 34.6	241 16.9	N 9 36.1	258 11.8	N15 28.6	18 17.6	N 7 15.4
Y	11	56 40.8	4 55.6	N17 35.5	256 18.3	N 9 35.6	273 13.9	N15 28.5	33 19.8	N 7 15.5
	12	71 43.3	19 55.0	N17 36.3	271 19.7	N 9 35.1	288 16.1	N15 28.4	48 22.0	N 7 15.5
	13	86 45.8	34 54.4	N17 37.1	286 21.1	N 9 34.6	303 18.2	N15 28.3	63 24.3	N 7 15.6
	14	101 48.2	49 53.8	N17 37.9	301 22.5	N 9 34.2	318 20.3	N15 28.2	78 26.5	N 7 15.7
	15	116 50.7	64 53.2	N17 38.7	316 23.9	N 9 33.7	333 22.5	N15 28.1	93 28.7	N 7 15.8
	16	131 53.2	79 52.5	N17 39.6	331 25.3	N 9 33.2	348 24.6	N15 28.0	108 31.0	N 7 15.9
	17	146 55.6	94 51.9	N17 40.4	346 26.8	N 9 32.7	3 26.7	N15 27.9	123 33.2	N 7 16.0
	18	161 58.1	109 51.3	N17 41.2	1 28.2	N 9 32.2	18 28.8	N15 27.8	138 35.4	N 7 16.0
	19	177 00.6	124 50.7	N17 42.0	16 29.6	N 9 31.7	33 31.0	N15 27.6	153 37.7	N 7 16.1
	20	192 03.0	139 50.1	N17 42.8	31 31.0	N 9 31.3	48 33.1	N15 27.5	168 39.9	N 7 16.2
	21	207 05.5	154 49.5	N17 43.7	46 32.4	N 9 30.8	63 35.2	N15 27.4	183 42.1	N 7 16.3
	22	222 08.0	169 48.8	N17 44.5	61 33.8	N 9 30.3	78 37.4	N15 27.3	198 44.4	N 7 16.4
	23	237 10.4	184 48.2	N17 45.3	76 35.2	N 9 29.8	93 39.5	N15 27.2	213 46.6	N 7 16.4
4	0	252 12.9	199 47.6	N17 46.1	91 36.6	N 9 29.3	108 41.6	N15 27.1	228 48.8	N 7 16.5
	1	267 15.3	214 47.0	N17 46.9	106 38.0	N 9 28.8	123 43.8	N15 27.0	243 51.1	N 7 16.6
	2	282 17.8	229 46.4	N17 47.7	121 39.4	N 9 28.4	138 45.9	N15 26.9	258 53.3	N 7 16.7
	3	297 20.3	244 45.7	N17 48.5	136 40.8	N 9 27.9	153 48.0	N15 26.7	273 55.5	N 7 16.8
	4	312 22.7	259 45.1	N17 49.3	151 42.2	N 9 27.4	168 50.1	N15 26.6	288 57.8	N 7 16.9
F	5	327 25.2	274 44.5	N17 50.2	166 43.6	N 9 26.9	183 52.3	N15 26.5	304 00.0	N 7 16.9
R										
I	6	342 27.7	289 43.9	N17 51.0	181 45.0	N 9 26.4	198 54.4	N15 26.4	319 02.2	N 7 17.0
D	7	357 30.1	304 43.3	N17 51.8	196 46.4	N 9 25.9	213 56.5	N15 26.3	334 04.5	N 7 17.1
A	8	12 32.6	319 42.6	N17 52.6	211 47.8	N 9 25.4	228 58.7	N15 26.2	349 06.7	N 7 17.2
Y	9	27 35.1	334 42.0	N17 53.4	226 49.2	N 9 25.0	244 00.8	N15 26.1	4 08.9	N 7 17.3
	10	42 37.5	349 41.4	N17 54.2	241 50.6	N 9 24.5	259 02.9	N15 26.0	19 11.2	N 7 17.3
	11	57 40.0	4 40.8	N17 55.0	256 52.0	N 9 24.0	274 05.0	N15 25.8	34 13.4	N 7 17.4
	12	72 42.4	19 40.1	N17 55.8	271 53.4	N 9 23.5	289 07.2	N15 25.7	49 15.6	N 7 17.5
	13	87 44.9	34 39.5	N17 56.6	286 54.8	N 9 23.0	304 09.3	N15 25.6	64 17.9	N 7 17.6
	14	102 47.4	49 38.9	N17 57.4	301 56.2	N 9 22.5	319 11.4	N15 25.5	79 20.1	N 7 17.7
	15	117 49.8	64 38.3	N17 58.2	316 57.6	N 9 22.0	334 13.6	N15 25.4	94 22.3	N 7 17.8
	16	132 52.3	79 37.6	N17 59.0	331 59.0	N 9 21.6	349 15.7	N15 25.3	109 24.6	N 7 17.8
	17	147 54.8	94 37.0	N17 59.8	347 00.4	N 9 21.1	4 17.8	N15 25.2	124 26.8	N 7 17.9
	18	162 57.2	109 36.4	N18 00.6	2 01.8	N 9 20.6	19 19.9	N15 25.0	139 29.1	N 7 18.0
	19	177 59.7	124 35.8	N18 01.4	17 03.2	N 9 20.1	34 22.1	N15 24.9	154 31.3	N 7 18.1
	20	193 02.2	139 35.1	N18 02.2	32 04.6	N 9 19.6	49 24.2	N15 24.8	169 33.5	N 7 18.2
	21	208 04.6	154 34.5	N18 03.0	47 06.0	N 9 19.1	64 26.3	N15 24.7	184 35.8	N 7 18.2
	22	223 07.1	169 33.9	N18 03.8	62 07.4	N 9 18.6	79 28.4	N15 24.6	199 38.0	N 7 18.3
	23	238 09.6	184 33.2	N18 04.6	77 08.8	N 9 18.1	94 30.6	N15 24.5	214 40.2	N 7 18.4
5	0	253 12.0	199 32.6	N18 05.4	92 10.2	N 9 17.7	109 32.7	N15 24.4	229 42.5	N 7 18.5
	1	268 14.5	214 32.0	N18 06.2	107 11.6	N 9 17.2	124 34.8	N15 24.2	244 44.7	N 7 18.6
	2	283 16.9	229 31.3	N18 07.0	122 13.0	N 9 16.7	139 36.9	N15 24.1	259 46.9	N 7 18.6
	3	298 19.4	244 30.7	N18 07.8	137 14.4	N 9 16.2	154 39.1	N15 24.0	274 49.2	N 7 18.7
	4	313 21.9	259 30.1	N18 08.6	152 15.8	N 9 15.7	169 41.2	N15 23.9	289 51.4	N 7 18.8
S	5	328 24.3	274 29.4	N18 09.4	167 17.2	N 9 15.2	184 43.3	N15 23.8	304 53.6	N 7 18.9
A										
T	6	343 26.8	289 28.8	N18 10.1	182 18.6	N 9 14.7	199 45.4	N15 23.7	319 55.9	N 7 19.0
U	7	358 29.3	304 28.2	N18 10.9	197 20.0	N 9 14.2	214 47.6	N15 23.6	334 58.1	N 7 19.0
R	8	13 31.7	319 27.5	N18 11.7	212 21.4	N 9 13.7	229 49.7	N15 23.4	350 00.4	N 7 19.1
D	9	28 34.2	334 26.9	N18 12.5	227 22.8	N 9 13.2	244 51.8	N15 23.3	5 02.6	N 7 19.2
A	10	43 36.7	349 26.3	N18 13.3	242 24.2	N 9 12.8	259 53.9	N15 23.2	20 04.8	N 7 19.3
Y	11	58 39.1	4 25.6	N18 14.1	257 25.6	N 9 12.3	274 56.0	N15 23.1	35 07.1	N 7 19.4
	12	73 41.6	19 25.0	N18 14.9	272 27.0	N 9 11.8	289 58.2	N15 23.0	50 09.3	N 7 19.4
	13	88 44.1	34 24.4	N18 15.7	287 28.4	N 9 11.3	305 00.3	N15 22.9	65 11.5	N 7 19.5
	14	103 46.5	49 23.7	N18 16.4	302 29.8	N 9 10.8	320 02.4	N15 22.8	80 13.8	N 7 19.6
	15	118 49.0	64 23.1	N18 17.2	317 31.1	N 9 10.3	335 04.5	N15 22.6	95 16.0	N 7 19.7
	16	133 51.4	79 22.5	N18 18.0	332 32.5	N 9 09.8	350 06.7	N15 22.5	110 18.2	N 7 19.8
	17	148 53.9	94 21.8	N18 18.8	347 33.9	N 9 09.3	5 08.8	N15 22.4	125 20.5	N 7 19.9
	18	163 56.4	109 21.2	N18 19.6	2 35.3	N 9 08.8	20 10.9	N15 22.3	140 22.7	N 7 19.9
	19	178 58.8	124 20.5	N18 20.3	17 36.7	N 9 08.3	35 13.0	N15 22.2	155 25.0	N 7 20.0
	20	194 01.3	139 19.9	N18 21.1	32 38.1	N 9 07.8	50 15.1	N15 22.1	170 27.2	N 7 20.1
	21	209 03.8	154 19.3	N18 21.9	47 39.5	N 9 07.4	65 17.3	N15 21.9	185 29.4	N 7 20.2
	22	224 06.2	169 18.6	N18 22.7	62 40.9	N 9 06.9	80 19.4	N15 21.8	200 31.7	N 7 20.3
	23	239 08.7	184 18.0	N18 23.4	77 42.3	N 9 06.4	95 21.5	N15 21.7	215 33.9	N 7 20.3
			v -0.6	d 0.8	v 1.4	d 0.5	v 2.1	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
3	0	180 29.1	N22 15.4	207 35.2	7.1	N21 56.4	10.0	59.0
	1	195 29.0	N22 15.8	222 01.1	6.9	N22 06.3	9.9	59.0
	2	210 28.9	N22 16.1	236 26.9	6.8	N22 16.1	9.8	59.1
	3	225 28.8	N22 16.4	250 52.6	6.7	N22 25.8	9.7	59.1
	4	240 28.7	N22 16.7	265 18.1	6.5	N22 35.3	9.5	59.1
T	5	255 28.6	N22 17.0	279 43.5	6.4	N22 44.7	9.4	59.2
H								
U	6	270 28.5	N22 17.3	294 08.8	6.3	N22 54.0	9.3	59.2
R	7	285 28.4	N22 17.6	308 34.0	6.2	N23 03.1	9.1	59.2
S	8	300 28.3	N22 17.9	322 59.0	6.0	N23 12.1	9.0	59.3
D	9	315 28.2	N22 18.2	337 23.9	5.9	N23 21.0	8.9	59.3
A	10	330 28.1	N22 18.6	351 48.7	5.8	N23 29.7	8.7	59.3
Y	11	345 28.0	N22 18.9	6 13.4	5.7	N23 38.3	8.6	59.4
	12	0 27.9	N22 19.2	20 37.9	5.5	N23 46.7	8.4	59.4
	13	15 27.8	N22 19.5	35 02.4	5.4	N23 55.0	8.3	59.4
	14	30 27.7	N22 19.8	49 26.6	5.3	N24 03.1	8.1	59.5
	15	45 27.6	N22 20.1	63 50.8	5.2	N24 11.1	8.0	59.5
	16	60 27.5	N22 20.4	78 14.9	5.1	N24 18.9	7.8	59.5
	17	75 27.4	N22 20.7	92 38.8	4.9	N24 26.6	7.7	59.5
	18	90 27.3	N22 21.0	107 02.7	4.8	N24 34.1	7.5	59.6
	19	105 27.1	N22 21.3	121 26.4	4.7	N24 41.5	7.4	59.6
	20	120 27.0	N22 21.6	135 50.0	4.6	N24 48.7	7.2	59.6
	21	135 26.9	N22 21.9	150 13.4	4.5	N24 55.8	7.0	59.7
	22	150 26.8	N22 22.2	164 36.8	4.4	N25 02.6	6.9	59.7
	23	165 26.7	N22 22.5	179 00.1	4.3	N25 09.4	6.7	59.7
4	0	180 26.6	N22 22.8	193 23.2	4.2	N25 15.9	6.6	59.7
	1	195 26.5	N22 23.1	207 46.3	4.0	N25 22.3	6.4	59.8
	2	210 26.4	N22 23.4	222 09.2	3.9	N25 28.5	6.2	59.8
	3	225 26.3	N22 23.7	236 32.1	3.8	N25 34.6	6.0	59.8
	4	240 26.2	N22 24.0	250 54.8	3.7	N25 40.4	5.9	59.8
F	5	255 26.1	N22 24.3	265 17.4	3.6	N25 46.1	5.7	59.9
R								
I	6	270 26.0	N22 24.6	279 40.0	3.5	N25 51.6	5.5	59.9
D	7	285 25.9	N22 24.9	294 02.4	3.4	N25 57.0	5.3	59.9
A	8	300 25.8	N22 25.2	308 24.8	3.4	N26 02.1	5.2	59.9
Y	9	315 25.7	N22 25.4	322 47.1	3.3	N26 07.1	5.0	60.0
	10	330 25.5	N22 25.7	337 09.2	3.2	N26 11.9	4.8	60.0
	11	345 25.4	N22 26.0	351 31.3	3.1	N26 16.5	4.6	60.0
	12	0 25.3	N22 26.3	5 53.3	3.0	N26 20.9	4.4	60.0
	13	15 25.2	N22 26.6	20 15.3	2.9	N26 25.2	4.2	60.1
	14	30 25.1	N22 26.9	34 37.1	2.8	N26 29.2	4.1	60.1
	15	45 25.0	N22 27.2	48 58.9	2.8	N26 33.1	3.9	60.1
	16	60 24.9	N22 27.5	63 20.6	2.7	N26 36.8	3.7	60.1
	17	75 24.8	N22 27.8	77 42.2	2.6	N26 40.2	3.5	60.1
	18	90 24.7	N22 28.0	92 03.8	2.6	N26 43.5	3.3	60.2
	19	105 24.6	N22 28.3	106 25.2	2.5	N26 46.6	3.1	60.2
	20	120 24.5	N22 28.6	120 46.7	2.4	N26 49.5	2.9	60.2
	21	135 24.4	N22 28.9	135 08.0	2.4	N26 52.2	2.7	60.2
	22	150 24.2	N22 29.2	149 29.3	2.3	N26 54.7	2.5	60.2
	23	165 24.1	N22 29.5	163 50.6	2.3	N26 57.0	2.3	60.3
5	0	180 24.0	N22 29.7	178 11.8	2.2	N26 59.1	2.1	60.3
	1	195 23.9	N22 30.0	192 33.0	2.2	N27 01.0	1.9	60.3
	2	210 23.8	N22 30.3	206 54.1	2.1	N27 02.7	1.7	60.3
	3	225 23.7	N22 30.6	221 15.1	2.1	N27 04.2	1.5	60.3
	4	240 23.6	N22 30.9	235 36.2	2.0	N27 05.5	1.3	60.3
S	5	255 23.5	N22 31.1	249 57.2	2.0	N27 06.6	1.1	60.4
A								
T	6	270 23.4	N22 31.4	264 18.1	2.0	N27 07.5	0.9	60.4
U	7	285 23.3	N22 31.7	278 39.1	1.9	N27 08.2	0.7	60.4
R	8	300 23.1	N22 32.0	292 60.0	1.9	N27 08.7	0.5	60.4
D	9	315 23.0	N22 32.3	307 20.8	1.9	N27 09.0	0.3	60.4
A	10	330 22.9	N22 32.5	321 41.7	1.9	N27 09.1	0.1	60.4
Y	11	345 22.8	N22 32.8	336 02.5	1.8	N27 09.0	0.1	60.4
	12	0 22.7	N22 33.1	350 23.4	1.8	N27 08.6	0.3	60.5
	13	15 22.6	N22 33.4	4 44.2	1.8	N27 08.1	0.5	60.5
	14	30 22.5	N22 33.6	19 05.0	1.8	N27 07.4	0.7	60.5
	15	45 22.4	N22 33.9	33 25.8	1.8	N27 06.4	0.9	60.5
	16	60 22.2	N22 34.2	47 46.6	1.8	N27 05.3	1.2	60.5
	17	75 22.1	N22 34.4	62 07.4	1.8	N27 03.9	1.4	60.5
	18	90 22.0	N22 34.7	76 28.2	1.8	N27 02.4	1.6	60.5
	19	105 21.9	N22 35.0	90 49.0	1.8	N27 00.6	1.8	60.5
	20	120 21.8	N22 35.2	105 09.9	1.8	N26 58.6	2.0	60.5
	21	135 21.7	N22 35.5	119 30.7	1.8	N26 56.4	2.2	60.6
	22	150 21.6	N22 35.8	133 51.6	1.9	N26 54.1	2.4	60.6
	23	165 21.5	N22 36.0	148 12.5	1.9	N26 51.5	2.6	60.6
		S.D. 15.8	d 0.3	S.D.	16.2	16.4	16.5	

STARS Name	SHA	Dec
Acamar	315 10.6	S40 11.5
Achernar	335 19.1	S57 05.6
Acrux	172 57.6	S63 15.4
Adhara	255 04.6	S29 00.7
Albireo	67 02.2	N28 00.9
Aldebaran	290 37.7	N16 33.8
Alioth	166 10.9	N55 48.8
Alkaid	152 50.1	N49 10.7
Al Na-ir	27 30.3	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 32.9	N29 14.4
Altair	61 57.8	N 8 56.4
Ankaa	353 05.4	S42 09.2
Antares	112 13.1	S26 29.6
Arcturus	145 45.9	N19 02.3
Atria	107 05.0	S69 04.7
Avior	234 14.3	S59 36.1
Bellatrix	278 21.1	N 6 22.4
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.7
Capella	280 19.5	N46 01.5
Castor	245 54.9	N31 49.7
Deneb	49 24.2	N45 22.5
Denebola	182 22.9	N14 25.1
Diphda	348 45.5	S17 50.0
Dubhe	193 38.6	N61 36.4
Elnath	277 59.8	N28 37.8
Eltanin	90 40.8	N51 29.0
Enif	33 36.7	N10 00.0
Fomalhaut	15 12.3	S29 28.4
Gacrux	171 49.2	S57 16.4
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.3	N23 35.5
Kaus Austr.	83 29.5	S34 22.3
Kochab	137 19.0	N74 02.6
Markab	13 27.9	N15 21.1
Menkar	314 04.4	N 4 11.8
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.2	S69 50.1
Mirfak	308 25.9	N49 57.4
Nunki	75 45.0	S26 15.7
Peacock	53 02.2	S56 38.6
Polaris	316 03.5	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.1
Sabik	102 00.2	S15 45.6
Schedar	349 29.0	N56 41.0
Shaula	96 07.3	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.1	S43 32.9
Vega	80 31.5	N38 48.4
Zuben-ubi	136 54.5	S16 09.5

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 11.2	199 17.3	N18 24.2	92 43.7	N 9 05.9	110 23.6	N15 21.6	230 36.1	N 7 20.4
	1	269 13.6	214 16.7	N18 25.0	107 45.1	N 9 05.4	125 25.7	N15 21.5	245 38.4	N 7 20.5
	2	284 16.1	229 16.1	N18 25.8	122 46.4	N 9 04.9	140 27.9	N15 21.4	260 40.6	N 7 20.6
	3	299 18.6	244 15.4	N18 26.5	137 47.8	N 9 04.4	155 30.0	N15 21.3	275 42.9	N 7 20.6
	4	314 21.0	259 14.8	N18 27.3	152 49.2	N 9 03.9	170 32.1	N15 21.1	290 45.1	N 7 20.7
S	5	329 23.5	274 14.1	N18 28.1	167 50.6	N 9 03.4	185 34.2	N15 21.0	305 47.3	N 7 20.8
U										
N	6	344 25.9	289 13.5	N18 28.9	182 52.0	N 9 02.9	200 36.3	N15 20.9	320 49.6	N 7 20.9
D	7	359 28.4	304 12.8	N18 29.6	197 53.4	N 9 02.4	215 38.5	N15 20.8	335 51.8	N 7 21.0
A	8	14 30.9	319 12.2	N18 30.4	212 54.8	N 9 01.9	230 40.6	N15 20.7	350 54.1	N 7 21.0
Y	9	29 33.3	334 11.5	N18 31.2	227 56.2	N 9 01.4	245 42.7	N15 20.6	5 56.3	N 7 21.1
	10	44 35.8	349 10.9	N18 31.9	242 57.5	N 9 00.9	260 44.8	N15 20.4	20 58.5	N 7 21.2
	11	59 38.3	4 10.2	N18 32.7	257 58.9	N 9 00.5	275 46.9	N15 20.3	36 00.8	N 7 21.3
	12	74 40.7	19 09.6	N18 33.5	273 00.3	N 8 60.0	290 49.1	N15 20.2	51 03.0	N 7 21.4
	13	89 43.2	34 08.9	N18 34.2	288 01.7	N 8 59.5	305 51.2	N15 20.1	66 05.2	N 7 21.4
	14	104 45.7	49 08.3	N18 35.0	303 03.1	N 8 59.0	320 53.3	N15 20.0	81 07.5	N 7 21.5
	15	119 48.1	64 07.7	N18 35.8	318 04.5	N 8 58.5	335 55.4	N15 19.9	96 09.7	N 7 21.6
	16	134 50.6	79 07.0	N18 36.5	333 05.9	N 8 58.0	350 57.5	N15 19.7	111 12.0	N 7 21.7
	17	149 53.1	94 06.4	N18 37.3	348 07.2	N 8 57.5	5 59.6	N15 19.6	126 14.2	N 7 21.8
	18	164 55.5	109 05.7	N18 38.0	3 08.6	N 8 57.0	21 01.8	N15 19.5	141 16.4	N 7 21.8
	19	179 58.0	124 05.1	N18 38.8	18 10.0	N 8 56.5	36 03.9	N15 19.4	156 18.7	N 7 21.9
	20	195 00.4	139 04.4	N18 39.6	33 11.4	N 8 56.0	51 06.0	N15 19.3	171 20.9	N 7 22.0
	21	210 02.9	154 03.7	N18 40.3	48 12.8	N 8 55.5	66 08.1	N15 19.2	186 23.2	N 7 22.1
	22	225 05.4	169 03.1	N18 41.1	63 14.2	N 8 55.0	81 10.2	N15 19.0	201 25.4	N 7 22.2
	23	240 07.8	184 02.4	N18 41.8	78 15.5	N 8 54.5	96 12.3	N15 18.9	216 27.6	N 7 22.2
7	0	255 10.3	199 01.8	N18 42.6	93 16.9	N 8 54.0	111 14.5	N15 18.8	231 29.9	N 7 22.3
	1	270 12.8	214 01.1	N18 43.3	108 18.3	N 8 53.5	126 16.6	N15 18.7	246 32.1	N 7 22.4
	2	285 15.2	229 00.5	N18 44.1	123 19.7	N 8 53.0	141 18.7	N15 18.6	261 34.4	N 7 22.5
	3	300 17.7	243 59.8	N18 44.8	138 21.1	N 8 52.5	156 20.8	N15 18.5	276 36.6	N 7 22.5
	4	315 20.2	258 59.2	N18 45.6	153 22.5	N 8 52.0	171 22.9	N15 18.3	291 38.9	N 7 22.6
M	5	330 22.6	273 58.5	N18 46.4	168 23.8	N 8 51.5	186 25.0	N15 18.2	306 41.1	N 7 22.7
O										
N	6	345 25.1	288 57.9	N18 47.1	183 25.2	N 8 51.0	201 27.2	N15 18.1	321 43.3	N 7 22.8
D	7	0 27.6	303 57.2	N18 47.9	198 26.6	N 8 50.5	216 29.3	N15 18.0	336 45.6	N 7 22.9
A	8	15 30.0	318 56.5	N18 48.6	213 28.0	N 8 50.0	231 31.4	N15 17.9	351 47.8	N 7 22.9
Y	9	30 32.5	333 55.9	N18 49.3	228 29.4	N 8 49.5	246 33.5	N15 17.7	6 50.1	N 7 23.0
	10	45 34.9	348 55.2	N18 50.1	243 30.7	N 8 49.0	261 35.6	N15 17.6	21 52.3	N 7 23.1
	11	60 37.4	3 54.6	N18 50.8	258 32.1	N 8 48.5	276 37.7	N15 17.5	36 54.5	N 7 23.2
	12	75 39.9	18 53.9	N18 51.6	273 33.5	N 8 48.0	291 39.8	N15 17.4	51 56.8	N 7 23.3
	13	90 42.3	33 53.3	N18 52.3	288 34.9	N 8 47.5	306 42.0	N15 17.3	66 59.0	N 7 23.3
	14	105 44.8	48 52.6	N18 53.1	303 36.2	N 8 47.0	321 44.1	N15 17.2	82 01.3	N 7 23.4
	15	120 47.3	63 51.9	N18 53.8	318 37.6	N 8 46.5	336 46.2	N15 17.0	97 03.5	N 7 23.5
	16	135 49.7	78 51.3	N18 54.6	333 39.0	N 8 46.1	351 48.3	N15 16.9	112 05.7	N 7 23.6
	17	150 52.2	93 50.6	N18 55.3	348 40.4	N 8 45.6	6 50.4	N15 16.8	127 08.0	N 7 23.6
	18	165 54.7	108 50.0	N18 56.0	3 41.8	N 8 45.1	21 52.5	N15 16.7	142 10.2	N 7 23.7
	19	180 57.1	123 49.3	N18 56.8	18 43.1	N 8 44.6	36 54.6	N15 16.6	157 12.5	N 7 23.8
	20	195 59.6	138 48.6	N18 57.5	33 44.5	N 8 44.1	51 56.7	N15 16.4	172 14.7	N 7 23.9
	21	211 02.0	153 48.0	N18 58.3	48 45.9	N 8 43.6	66 58.9	N15 16.3	187 17.0	N 7 24.0
	22	226 04.5	168 47.3	N18 59.0	63 47.3	N 8 43.1	82 01.0	N15 16.2	202 19.2	N 7 24.0
	23	241 07.0	183 46.6	N18 59.7	78 48.6	N 8 42.6	97 03.1	N15 16.1	217 21.4	N 7 24.1
8	0	256 09.4	198 46.0	N19 00.5	93 50.0	N 8 42.1	112 05.2	N15 16.0	232 23.7	N 7 24.2
	1	271 11.9	213 45.3	N19 01.2	108 51.4	N 8 41.6	127 07.3	N15 15.8	247 25.9	N 7 24.3
	2	286 14.4	228 44.6	N19 01.9	123 52.8	N 8 41.1	142 09.4	N15 15.7	262 28.2	N 7 24.3
	3	301 16.8	243 44.0	N19 02.7	138 54.1	N 8 40.6	157 11.5	N15 15.6	277 30.4	N 7 24.4
	4	316 19.3	258 43.3	N19 03.4	153 55.5	N 8 40.1	172 13.6	N15 15.5	292 32.7	N 7 24.5
T	5	331 21.8	273 42.6	N19 04.1	168 56.9	N 8 39.5	187 15.7	N15 15.4	307 34.9	N 7 24.6
U										
E	6	346 24.2	288 42.0	N19 04.9	183 58.3	N 8 39.0	202 17.9	N15 15.2	322 37.1	N 7 24.7
S	7	1 26.7	303 41.3	N19 05.6	198 59.6	N 8 38.5	217 20.0	N15 15.1	337 39.4	N 7 24.7
D	8	16 29.2	318 40.6	N19 06.3	214 01.0	N 8 38.0	232 22.1	N15 15.0	352 41.6	N 7 24.8
A	9	31 31.6	333 40.0	N19 07.0	229 02.4	N 8 37.5	247 24.2	N15 14.9	7 43.9	N 7 24.9
Y	10	46 34.1	348 39.3	N19 07.8	244 03.8	N 8 37.0	262 26.3	N15 14.8	22 46.1	N 7 25.0
	11	61 36.5	3 38.6	N19 08.5	259 05.1	N 8 36.5	277 28.4	N15 14.6	37 48.4	N 7 25.0
	12	76 39.0	18 38.0	N19 09.2	274 06.5	N 8 36.0	292 30.5	N15 14.5	52 50.6	N 7 25.1
	13	91 41.5	33 37.3	N19 09.9	289 07.9	N 8 35.5	307 32.6	N15 14.4	67 52.8	N 7 25.2
	14	106 43.9	48 36.6	N19 10.7	304 09.2	N 8 35.0	322 34.7	N15 14.3	82 55.1	N 7 25.3
	15	121 46.4	63 35.9	N19 11.4	319 10.6	N 8 34.5	337 36.8	N15 14.2	97 57.3	N 7 25.3
	16	136 48.9	78 35.3	N19 12.1	334 12.0	N 8 34.0	352 39.0	N15 14.0	112 59.6	N 7 25.4
	17	151 51.3	93 34.6	N19 12.8	349 13.3	N 8 33.5	7 41.1	N15 13.9	128 01.8	N 7 25.5
	18	166 53.8	108 33.9	N19 13.6	4 14.7	N 8 33.0	22 43.2	N15 13.8	143 04.1	N 7 25.6
	19	181 56.3	123 33.3	N19 14.3	19 16.1	N 8 32.5	37 45.3	N15 13.7	158 06.3	N 7 25.7
	20	196 58.7	138 32.6	N19 15.0	34 17.5	N 8 32.0	52 47.4	N15 13.6	173 08.6	N 7 25.7
	21	212 01.2	153 31.9	N19 15.7	49 18.8	N 8 31.5	67 49.5	N15 13.4	188 10.8	N 7 25.8
	22	227 03.7	168 31.2	N19 16.4	64 20.2	N 8 31.0	82 51.6	N15 13.3	203 13.0	N 7 25.9
	23	242 06.1	183 30.6	N19 17.1	79 21.6	N 8 30.5	97 53.7	N15 13.2	218 15.3	N 7 26.0
			v -0.7	d 0.7	v 1.4	d 0.5	v 2.1	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 '
6	0	180 21.3	N22 36.3	162 33.4	1.9	N26 48.7	2.8	60.6
	1	195 21.2	N22 36.6	176 54.3	1.9	N26 45.7	3.0	60.6
	2	210 21.1	N22 36.8	191 15.3	2.0	N26 42.5	3.2	60.6
	3	225 21.0	N22 37.1	205 36.3	2.0	N26 39.1	3.4	60.6
	4	240 20.9	N22 37.4	219 57.3	2.0	N26 35.5	3.6	60.6
S	5	255 20.8	N22 37.6	234 18.4	2.1	N26 31.7	3.8	60.6
U								
N	6	270 20.7	N22 37.9	248 39.5	2.1	N26 27.7	4.0	60.6
D	7	285 20.5	N22 38.1	263 00.7	2.2	N26 23.5	4.2	60.6
A	8	300 20.4	N22 38.4	277 21.9	2.2	N26 19.1	4.4	60.6
Y	9	315 20.3	N22 38.7	291 43.2	2.3	N26 14.6	4.6	60.6
	10	330 20.2	N22 38.9	306 04.5	2.3	N26 09.8	4.8	60.6
	11	345 20.1	N22 39.2	320 25.8	2.4	N26 04.8	5.0	60.6
	12	0 20.0	N22 39.4	334 47.3	2.4	N25 59.6	5.2	60.6
	13	15 19.9	N22 39.7	349 08.8	2.5	N25 54.2	5.4	60.6
	14	30 19.7	N22 40.0	3 30.3	2.6	N25 48.7	5.6	60.6
	15	45 19.6	N22 40.2	17 52.0	2.6	N25 42.9	5.8	60.6
	16	60 19.5	N22 40.5	32 13.7	2.7	N25 37.0	5.9	60.6
	17	75 19.4	N22 40.7	46 35.4	2.8	N25 30.9	6.1	60.6
	18	90 19.3	N22 41.0	60 57.3	2.8	N25 24.5	6.3	60.6
	19	105 19.2	N22 41.2	75 19.2	2.9	N25 18.0	6.5	60.6
	20	120 19.1	N22 41.5	89 41.2	3.0	N25 11.4	6.7	60.6
	21	135 18.9	N22 41.7	104 03.2	3.1	N25 04.5	6.9	60.6
	22	150 18.8	N22 42.0	118 25.4	3.2	N24 57.5	7.0	60.6
	23	165 18.7	N22 42.2	132 47.6	3.2	N24 50.2	7.2	60.6
7	0	180 18.6	N22 42.5	147 10.0	3.3	N24 42.8	7.4	60.6
	1	195 18.5	N22 42.7	161 32.4	3.4	N24 35.2	7.6	60.6
	2	210 18.4	N22 43.0	175 54.9	3.5	N24 27.5	7.8	60.6
	3	225 18.2	N22 43.2	190 17.5	3.6	N24 19.5	7.9	60.6
	4	240 18.1	N22 43.5	204 40.2	3.7	N24 11.4	8.1	60.6
M	5	255 18.0	N22 43.7	219 03.0	3.8	N24 03.2	8.3	60.6
O								
N	6	270 17.9	N22 44.0	233 25.8	3.9	N23 54.7	8.4	60.6
D	7	285 17.8	N22 44.2	247 48.8	4.0	N23 46.1	8.6	60.6
A	8	300 17.7	N22 44.4	262 11.9	4.1	N23 37.4	8.8	60.6
Y	9	315 17.5	N22 44.7	276 35.1	4.2	N23 28.4	8.9	60.6
	10	330 17.4	N22 44.9	290 58.4	4.3	N23 19.3	9.1	60.5
	11	345 17.3	N22 45.2	305 21.7	4.4	N23 10.1	9.3	60.5
	12	0 17.2	N22 45.4	319 45.2	4.5	N23 00.7	9.4	60.5
	13	15 17.1	N22 45.6	334 08.8	4.6	N22 51.1	9.6	60.5
	14	30 16.9	N22 45.9	348 32.5	4.7	N22 41.4	9.7	60.5
	15	45 16.8	N22 46.1	2 56.3	4.8	N22 31.5	9.9	60.5
	16	60 16.7	N22 46.4	17 20.3	4.9	N22 21.5	10.0	60.5
	17	75 16.6	N22 46.6	31 44.3	5.0	N22 11.3	10.2	60.5
	18	90 16.5	N22 46.8	46 08.4	5.1	N22 01.0	10.3	60.5
	19	105 16.4	N22 47.1	60 32.7	5.2	N21 50.6	10.5	60.5
	20	120 16.2	N22 47.3	74 57.0	5.4	N21 40.0	10.6	60.4
	21	135 16.1	N22 47.5	89 21.5	5.5	N21 29.2	10.7	60.4
	22	150 16.0	N22 47.8	103 46.1	5.6	N21 18.3	10.9	60.4
	23	165 15.9	N22 48.0	118 10.8	5.7	N21 07.3	11.0	60.4
8	0	180 15.8	N22 48.2	132 35.6	5.8	N20 56.2	11.1	60.4
	1	195 15.6	N22 48.5	147 00.5	5.9	N20 44.9	11.3	60.4
	2	210 15.5	N22 48.7	161 25.6	6.0	N20 33.5	11.4	60.4
	3	225 15.4	N22 48.9	175 50.7	6.2	N20 22.0	11.5	60.3
	4	240 15.3	N22 49.2	190 16.0	6.3	N20 10.3	11.7	60.3
T	5	255 15.2	N22 49.4	204 41.3	6.4	N19 58.5	11.8	60.3
U								
E	6	270 15.0	N22 49.6	219 06.8	6.5	N19 46.6	11.9	60.3
S	7	285 14.9	N22 49.8	233 32.5	6.6	N19 34.6	12.0	60.3
D	8	300 14.8	N22 50.1	247 58.2	6.7	N19 22.4	12.1	60.3
A	9	315 14.7	N22 50.3	262 24.0	6.8	N19 10.2	12.3	60.3
Y	10	330 14.6	N22 50.5	276 50.0	7.0	N18 57.8	12.4	60.2
	11	345 14.4	N22 50.7	291 16.0	7.1	N18 45.3	12.5	60.2
	12	0 14.3	N22 51.0	305 42.2	7.2	N18 32.7	12.6	60.2
	13	15 14.2	N22 51.2	320 08.5	7.3	N18 20.0	12.7	60.2
	14	30 14.1	N22 51.4	334 34.9	7.4	N18 07.2	12.8	60.2
	15	45 14.0	N22 51.6	349 01.4	7.5	N17 54.3	12.9	60.1
	16	60 13.8	N22 51.9	3 28.0	7.6	N17 41.3	13.0	60.1
	17	75 13.7	N22 52.1	17 54.8	7.7	N17 28.2	13.1	60.1
	18	90 13.6	N22 52.3	32 21.6	7.9	N17 15.0	13.2	60.1
	19	105 13.5	N22 52.5	46 48.6	8.0	N17 01.7	13.3	60.1
	20	120 13.4	N22 52.7	61 15.7	8.1	N16 48.3	13.4	60.1
	21	135 13.2	N22 53.0	75 42.8	8.2	N16 34.8	13.5	60.0
	22	150 13.1	N22 53.2	90 10.1	8.3	N16 21.3	13.6	60.0
	23	165 13.0	N22 53.4	104 37.5	8.4	N16 07.6	13.7	60.0
		S.D. 15.8	d 0.2	S.D.	16.5		16.5	16.4

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 19.1	S57 05.6
Acrux	172 57.6	S63 15.4
Adhara	255 04.6	S29 00.7
Albireo	67 02.1	N28 00.9
Aldebaran	290 37.7	N16 33.8
Alioth	166 11.0	N55 48.9
Alkaid	152 50.1	N49 10.7
Al Na-ir	27 30.3	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 32.8	N29 14.4
Altair	61 57.8	N 8 56.4
Ankaa	353 05.3	S42 09.2
Antares	112 13.0	S26 29.6
Arcturus	145 45.8	N19 02.3
Atria	107 05.0	S69 04.7
Avior	234 14.3	S59 36.1
Bellatrix	278 21.1	N 6 22.5
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.7
Capella	280 19.5	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.1	N45 22.5
Denebola	182 22.9	N14 25.1
Diphda	348 45.5	S17 50.0
Dubhe	193 38.6	N61 36.4
Elnath	277 59.8	N28 37.8
Eltanin	90 40.8	N51 29.0
Enif	33 36.7	N10 00.0
Fomalhaut	15 12.3	S29 28.4
Gacrux	171 49.2	S57 16.4
Gienah	175 41.4	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.2	N23 35.5
Kaus Austr.	83 29.5	S34 22.3
Kochab	137 19.1	N74 02.7
Markab	13 27.9	N15 21.1
Menkar	314 04.3	N 4 11.8
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.2	S69 50.1
Mirfak	308 25.9	N49 57.4
Nunki	75 45.0	S26 15.7
Peacock	53 02.2	S56 38.6
Polaris	316 02.5	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 29.0	N56 41.0
Shaula	96 07.3	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.1	S43 32.9
Vega	80 31.5	N38 48.4
Zuben-ubi	136 54.4	S16 09.5

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 08.6	198 29.9	N19 17.9	94 22.9	N 8 30.0	112 55.8	N15 13.1	233 17.5	N 7 26.0
	1	272 11.0	213 29.2	N19 18.6	109 24.3	N 8 29.5	127 57.9	N15 13.0	248 19.8	N 7 26.1
	2	287 13.5	228 28.5	N19 19.3	124 25.7	N 8 29.0	143 00.0	N15 12.8	263 22.0	N 7 26.2
	3	302 16.0	243 27.9	N19 20.0	139 27.0	N 8 28.5	158 02.1	N15 12.7	278 24.3	N 7 26.3
	4	317 18.4	258 27.2	N19 20.7	154 28.4	N 8 28.0	173 04.2	N15 12.6	293 26.5	N 7 26.3
W	5	332 20.9	273 26.5	N19 21.4	169 29.8	N 8 27.5	188 06.3	N15 12.5	308 28.8	N 7 26.4
E										
D	6	347 23.4	288 25.8	N19 22.1	184 31.1	N 8 27.0	203 08.5	N15 12.4	323 31.0	N 7 26.5
N	7	2 25.8	303 25.1	N19 22.8	199 32.5	N 8 26.5	218 10.6	N15 12.2	338 33.3	N 7 26.6
E	8	17 28.3	318 24.5	N19 23.5	214 33.9	N 8 26.0	233 12.7	N15 12.1	353 35.5	N 7 26.6
S	9	32 30.8	333 23.8	N19 24.2	229 35.2	N 8 25.5	248 14.8	N15 12.0	8 37.8	N 7 26.7
D	10	47 33.2	348 23.1	N19 24.9	244 36.6	N 8 25.0	263 16.9	N15 11.9	23 40.0	N 7 26.8
A	11	62 35.7	3 22.4	N19 25.7	259 38.0	N 8 24.4	278 19.0	N15 11.8	38 42.2	N 7 26.9
Y										
	12	77 38.2	18 21.7	N19 26.4	274 39.3	N 8 23.9	293 21.1	N15 11.6	53 44.5	N 7 26.9
	13	92 40.6	33 21.1	N19 27.1	289 40.7	N 8 23.4	308 23.2	N15 11.5	68 46.7	N 7 27.0
	14	107 43.1	48 20.4	N19 27.8	304 42.1	N 8 22.9	323 25.3	N15 11.4	83 49.0	N 7 27.1
	15	122 45.5	63 19.7	N19 28.5	319 43.4	N 8 22.4	338 27.4	N15 11.3	98 51.2	N 7 27.2
	16	137 48.0	78 19.0	N19 29.2	334 44.8	N 8 21.9	353 29.5	N15 11.1	113 53.5	N 7 27.3
	17	152 50.5	93 18.3	N19 29.9	349 46.1	N 8 21.4	8 31.6	N15 11.0	128 55.7	N 7 27.3
	18	167 52.9	108 17.6	N19 30.6	4 47.5	N 8 20.9	23 33.7	N15 10.9	143 58.0	N 7 27.4
	19	182 55.4	123 17.0	N19 31.3	19 48.9	N 8 20.4	38 35.8	N15 10.8	159 00.2	N 7 27.5
	20	197 57.9	138 16.3	N19 32.0	34 50.2	N 8 19.9	53 37.9	N15 10.7	174 02.5	N 7 27.6
	21	213 00.3	153 15.6	N19 32.7	49 51.6	N 8 19.4	68 40.0	N15 10.5	189 04.7	N 7 27.6
	22	228 02.8	168 14.9	N19 33.3	64 53.0	N 8 18.9	83 42.1	N15 10.4	204 07.0	N 7 27.7
	23	243 05.3	183 14.2	N19 34.0	79 54.3	N 8 18.4	98 44.2	N15 10.3	219 09.2	N 7 27.8
10	0	258 07.7	198 13.5	N19 34.7	94 55.7	N 8 17.9	113 46.3	N15 10.2	234 11.5	N 7 27.9
	1	273 10.2	213 12.8	N19 35.4	109 57.0	N 8 17.3	128 48.4	N15 10.0	249 13.7	N 7 27.9
	2	288 12.7	228 12.1	N19 36.1	124 58.4	N 8 16.8	143 50.5	N15 09.9	264 16.0	N 7 28.0
	3	303 15.1	243 11.5	N19 36.8	139 59.8	N 8 16.3	158 52.6	N15 09.8	279 18.2	N 7 28.1
	4	318 17.6	258 10.8	N19 37.5	155 01.1	N 8 15.8	173 54.7	N15 09.7	294 20.4	N 7 28.2
T	5	333 20.0	273 10.1	N19 38.2	170 02.5	N 8 15.3	188 56.8	N15 09.6	309 22.7	N 7 28.2
H										
U	6	348 22.5	288 09.4	N19 38.9	185 03.8	N 8 14.8	203 58.9	N15 09.4	324 24.9	N 7 28.3
R	7	3 25.0	303 08.7	N19 39.6	200 05.2	N 8 14.3	219 01.0	N15 09.3	339 27.2	N 7 28.4
S	8	18 27.4	318 08.0	N19 40.2	215 06.6	N 8 13.8	234 03.1	N15 09.2	354 29.4	N 7 28.5
D	9	33 29.9	333 07.3	N19 40.9	230 07.9	N 8 13.3	249 05.2	N15 09.1	9 31.7	N 7 28.5
A	10	48 32.4	348 06.6	N19 41.6	245 09.3	N 8 12.8	264 07.3	N15 08.9	24 33.9	N 7 28.6
Y	11	63 34.8	3 05.9	N19 42.3	260 10.6	N 8 12.3	279 09.5	N15 08.8	39 36.2	N 7 28.7
	12	78 37.3	18 05.2	N19 43.0	275 12.0	N 8 11.8	294 11.6	N15 08.7	54 38.4	N 7 28.8
	13	93 39.8	33 04.5	N19 43.7	290 13.4	N 8 11.2	309 13.7	N15 08.6	69 40.7	N 7 28.8
	14	108 42.2	48 03.9	N19 44.3	305 14.7	N 8 10.7	324 15.8	N15 08.4	84 42.9	N 7 28.9
	15	123 44.7	63 03.2	N19 45.0	320 16.1	N 8 10.2	339 17.9	N15 08.3	99 45.2	N 7 29.0
	16	138 47.1	78 02.5	N19 45.7	335 17.4	N 8 09.7	354 20.0	N15 08.2	114 47.4	N 7 29.1
	17	153 49.6	93 01.8	N19 46.4	350 18.8	N 8 09.2	9 22.1	N15 08.1	129 49.7	N 7 29.1
	18	168 52.1	108 01.1	N19 47.1	5 20.1	N 8 08.7	24 24.2	N15 08.0	144 51.9	N 7 29.2
	19	183 54.5	123 00.4	N19 47.7	20 21.5	N 8 08.2	39 26.3	N15 07.8	159 54.2	N 7 29.3
	20	198 57.0	137 59.7	N19 48.4	35 22.9	N 8 07.7	54 28.4	N15 07.7	174 56.4	N 7 29.3
	21	213 59.5	152 59.0	N19 49.1	50 24.2	N 8 07.2	69 30.5	N15 07.6	189 58.7	N 7 29.4
	22	229 01.9	167 58.3	N19 49.8	65 25.6	N 8 06.6	84 32.5	N15 07.5	205 00.9	N 7 29.5
	23	244 04.4	182 57.6	N19 50.4	80 26.9	N 8 06.1	99 34.6	N15 07.3	220 03.2	N 7 29.6
11	0	259 06.9	197 56.9	N19 51.1	95 28.3	N 8 05.6	114 36.7	N15 07.2	235 05.4	N 7 29.6
	1	274 09.3	212 56.2	N19 51.8	110 29.6	N 8 05.1	129 38.8	N15 07.1	250 07.7	N 7 29.7
	2	289 11.8	227 55.5	N19 52.4	125 31.0	N 8 04.6	144 40.9	N15 07.0	265 09.9	N 7 29.8
	3	304 14.3	242 54.8	N19 53.1	140 32.3	N 8 04.1	159 43.0	N15 06.8	280 12.2	N 7 29.9
	4	319 16.7	257 54.1	N19 53.8	155 33.7	N 8 03.6	174 45.1	N15 06.7	295 14.4	N 7 29.9
F	5	334 19.2	272 53.4	N19 54.4	170 35.0	N 8 03.1	189 47.2	N15 06.6	310 16.7	N 7 30.0
R										
I	6	349 21.6	287 52.7	N19 55.1	185 36.4	N 8 02.6	204 49.3	N15 06.5	325 18.9	N 7 30.1
D	7	4 24.1	302 52.0	N19 55.8	200 37.7	N 8 02.0	219 51.4	N15 06.3	340 21.2	N 7 30.2
A	8	19 26.6	317 51.3	N19 56.4	215 39.1	N 8 01.5	234 53.5	N15 06.2	355 23.4	N 7 30.2
Y	9	34 29.0	332 50.6	N19 57.1	230 40.4	N 8 01.0	249 55.6	N15 06.1	10 25.7	N 7 30.3
	10	49 31.5	347 49.9	N19 57.8	245 41.8	N 8 00.5	264 57.7	N15 06.0	25 27.9	N 7 30.4
	11	64 34.0	2 49.2	N19 58.4	260 43.2	N 7 60.0	279 59.8	N15 05.8	40 30.2	N 7 30.5
	12	79 36.4	17 48.5	N19 59.1	275 44.5	N 7 59.5	295 01.9	N15 05.7	55 32.4	N 7 30.5
	13	94 38.9	32 47.8	N19 59.7	290 45.9	N 7 59.0	310 04.0	N15 05.6	70 34.7	N 7 30.6
	14	109 41.4	47 47.1	N20 00.4	305 47.2	N 7 58.4	325 06.1	N15 05.5	85 36.9	N 7 30.7
	15	124 43.8	62 46.4	N20 01.1	320 48.6	N 7 57.9	340 08.2	N15 05.3	100 39.2	N 7 30.8
	16	139 46.3	77 45.7	N20 01.7	335 49.9	N 7 57.4	355 10.3	N15 05.2	115 41.5	N 7 30.8
	17	154 48.8	92 45.0	N20 02.4	350 51.3	N 7 56.9	10 12.4	N15 05.1	130 43.7	N 7 30.9
	18	169 51.2	107 44.2	N20 03.0	5 52.6	N 7 56.4	25 14.5	N15 05.0	145 46.0	N 7 31.0
	19	184 53.7	122 43.5	N20 03.7	20 54.0	N 7 55.9	40 16.6	N15 04.8	160 48.2	N 7 31.0
	20	199 56.1	137 42.8	N20 04.3	35 55.3	N 7 55.4	55 18.7	N15 04.7	175 50.5	N 7 31.1
	21	214 58.6	152 42.1	N20 05.0	50 56.7	N 7 54.8	70 20.8	N15 04.6	190 52.7	N 7 31.2
	22	230 01.1	167 41.4	N20 05.6	65 58.0	N 7 54.3	85 22.9	N15 04.5	205 55.0	N 7 31.3
	23	245 03.5	182 40.7	N20 06.3	80 59.4	N 7 53.8	100 25.0	N15 04.3	220 57.2	N 7 31.3
			v -0.7	d 0.7	v 1.4	d 0.5	v 2.1	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
9	0	180 12.9	N22 53.6	119 05.0	8.5	N15 53.9	13.7	60.0
	1	195 12.7	N22 53.8	133 32.6	8.6	N15 40.0	13.8	59.9
	2	210 12.6	N22 54.0	148 00.4	8.7	N15 26.1	13.9	59.9
	3	225 12.5	N22 54.2	162 28.2	8.8	N15 12.2	14.0	59.9
	4	240 12.4	N22 54.5	176 56.1	8.9	N14 58.1	14.1	59.9
W	5	255 12.3	N22 54.7	191 24.1	9.0	N14 44.0	14.1	59.9
E								
D	6	270 12.1	N22 54.9	205 52.3	9.1	N14 29.7	14.2	59.8
N	7	285 12.0	N22 55.1	220 20.5	9.2	N14 15.5	14.3	59.8
E	8	300 11.9	N22 55.3	234 48.8	9.3	N14 01.1	14.4	59.8
S	9	315 11.8	N22 55.5	249 17.3	9.4	N13 46.7	14.4	59.8
D	10	330 11.6	N22 55.7	263 45.8	9.5	N13 32.2	14.5	59.7
A	11	345 11.5	N22 55.9	278 14.4	9.6	N13 17.6	14.6	59.7
Y								
	12	0 11.4	N22 56.1	292 43.1	9.7	N13 03.0	14.6	59.7
	13	15 11.3	N22 56.3	307 12.0	9.8	N12 48.4	14.7	59.7
	14	30 11.2	N22 56.5	321 40.9	9.9	N12 33.6	14.7	59.7
	15	45 11.0	N22 56.8	336 09.9	10.0	N12 18.8	14.8	59.6
	16	60 10.9	N22 57.0	350 39.0	10.1	N12 04.0	14.8	59.6
	17	75 10.8	N22 57.2	5 08.2	10.2	N11 49.1	14.9	59.6
	18	90 10.7	N22 57.4	19 37.4	10.3	N11 34.1	14.9	59.6
	19	105 10.5	N22 57.6	34 06.8	10.4	N11 19.1	15.0	59.5
	20	120 10.4	N22 57.8	48 36.2	10.5	N11 04.1	15.0	59.5
	21	135 10.3	N22 58.0	63 05.8	10.5	N10 49.0	15.1	59.5
	22	150 10.2	N22 58.2	77 35.4	10.6	N10 33.9	15.1	59.5
	23	165 10.0	N22 58.4	92 05.1	10.7	N10 18.7	15.2	59.4
10	0	180 09.9	N22 58.6	106 34.9	10.8	N10 03.5	15.2	59.4
	1	195 09.8	N22 58.8	121 04.8	10.9	N 9 48.2	15.3	59.4
	2	210 09.7	N22 59.0	135 34.7	10.9	N 9 32.9	15.3	59.4
	3	225 09.5	N22 59.2	150 04.7	11.0	N 9 17.6	15.3	59.3
	4	240 09.4	N22 59.4	164 34.8	11.1	N 9 02.2	15.4	59.3
T	5	255 09.3	N22 59.5	179 05.0	11.2	N 8 46.8	15.4	59.3
H								
U	6	270 09.2	N22 59.7	193 35.3	11.3	N 8 31.4	15.4	59.3
R	7	285 09.0	N22 59.9	208 05.6	11.3	N 8 15.9	15.5	59.2
S	8	300 08.9	N23 00.1	222 36.0	11.4	N 8 00.4	15.5	59.2
D	9	315 08.8	N23 00.3	237 06.5	11.5	N 7 44.9	15.5	59.2
A	10	330 08.7	N23 00.5	251 37.0	11.5	N 7 29.3	15.5	59.1
Y	11	345 08.5	N23 00.7	266 07.6	11.6	N 7 13.8	15.6	59.1
	12	0 08.4	N23 00.9	280 38.3	11.7	N 6 58.2	15.6	59.1
	13	15 08.3	N23 01.1	295 09.0	11.7	N 6 42.6	15.6	59.1
	14	30 08.2	N23 01.3	309 39.8	11.8	N 6 26.9	15.6	59.0
	15	45 08.0	N23 01.5	324 10.7	11.9	N 6 11.3	15.6	59.0
	16	60 07.9	N23 01.6	338 41.6	11.9	N 5 55.6	15.7	59.0
	17	75 07.8	N23 01.8	353 12.6	12.0	N 5 39.9	15.7	59.0
	18	90 07.7	N23 02.0	7 43.7	12.0	N 5 24.2	15.7	58.9
	19	105 07.5	N23 02.2	22 14.8	12.1	N 5 08.5	15.7	58.9
	20	120 07.4	N23 02.4	36 45.9	12.2	N 4 52.8	15.7	58.9
	21	135 07.3	N23 02.6	51 17.1	12.2	N 4 37.1	15.7	58.8
	22	150 07.2	N23 02.8	65 48.4	12.3	N 4 21.4	15.7	58.8
	23	165 07.0	N23 02.9	80 19.7	12.3	N 4 05.6	15.7	58.8
11	0	180 06.9	N23 03.1	94 51.1	12.4	N 3 49.9	15.7	58.8
	1	195 06.8	N23 03.3	109 22.5	12.4	N 3 34.1	15.7	58.7
	2	210 06.7	N23 03.5	123 53.9	12.5	N 3 18.4	15.8	58.7
	3	225 06.5	N23 03.7	138 25.5	12.5	N 3 02.6	15.8	58.7
	4	240 06.4	N23 03.8	152 57.0	12.6	N 2 46.9	15.8	58.6
F	5	255 06.3	N23 04.0	167 28.6	12.6	N 2 31.1	15.7	58.6
R								
I	6	270 06.2	N23 04.2	182 00.2	12.6	N 2 15.4	15.7	58.6
D	7	285 06.0	N23 04.4	196 31.9	12.7	N 1 59.6	15.7	58.6
A	8	300 05.9	N23 04.5	211 03.6	12.7	N 1 43.9	15.7	58.5
Y	9	315 05.8	N23 04.7	225 35.4	12.8	N 1 28.2	15.7	58.5
	10	330 05.6	N23 04.9	240 07.2	12.8	N 1 12.4	15.7	58.5
	11	345 05.5	N23 05.1	254 39.0	12.8	N 0 56.7	15.7	58.5
	12	0 05.4	N23 05.2	269 10.9	12.9	N 0 41.0	15.7	58.4
	13	15 05.3	N23 05.4	283 42.8	12.9	N 0 25.3	15.7	58.4
	14	30 05.1	N23 05.6	298 14.7	12.9	N 0 09.7	15.7	58.4
	15	45 05.0	N23 05.8	312 46.7	13.0	S 0 06.0	15.7	58.3
	16	60 04.9	N23 05.9	327 18.6	13.0	S 0 21.6	15.6	58.3
	17	75 04.8	N23 06.1	341 50.6	13.0	S 0 37.3	15.6	58.3
	18	90 04.6	N23 06.3	356 22.7	13.0	S 0 52.9	15.6	58.3
	19	105 04.5	N23 06.4	10 54.7	13.1	S 1 08.5	15.6	58.2
	20	120 04.4	N23 06.6	25 26.8	13.1	S 1 24.1	15.6	58.2
	21	135 04.2	N23 06.8	39 58.9	13.1	S 1 39.6	15.6	58.2
	22	150 04.1	N23 06.9	54 31.1	13.1	S 1 55.1	15.5	58.1
	23	165 04.0	N23 07.1	69 03.2	13.1	S 2 10.7	15.5	58.1
		S.D. 15.8	d 0.2	S.D. 16.3	16.1	15.9		

STARS Name	SHA	Dec
Acamar	315 10.6	S40 11.5
Achernar	335 19.1	S57 05.5
Acrux	172 57.7	S63 15.4
Adhara	255 04.6	S29 00.6
Albireo	67 02.1	N28 00.9
Aldebaran	290 37.7	N16 33.8
Alioth	166 11.0	N55 48.9
Alkaid	152 50.1	N49 10.7
Al Na-ir	27 30.2	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 32.8	N29 14.4
Altair	61 57.7	N 8 56.4
Ankaa	353 05.3	S42 09.2
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.7
Avior	234 14.4	S59 36.1
Bellatrix	278 21.1	N 6 22.5
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.7
Capella	280 19.4	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.1	N45 22.5
Denebola	182 22.9	N14 25.1
Diphda	348 45.5	S17 50.0
Dubhe	193 38.6	N61 36.4
Elnath	277 59.8	N28 37.8
Eltanin	90 40.7	N51 29.0
Enif	33 36.6	N10 00.0
Fomalhaut	15 12.3	S29 28.4
Gacrux	171 49.2	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.2	N23 35.5
Kaus Austr.	83 29.5	S34 22.3
Kochab	137 19.1	N74 02.7
Markab	13 27.9	N15 21.1
Menkar	314 04.3	N 4 11.9
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.3	S69 50.1
Mirfak	308 25.9	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 02.1	S56 38.6
Polaris	316 01.7	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.9	N56 41.0
Shaula	96 07.2	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.5	N38 48.4
Zuben-ubi	136 54.4	S16 09.5

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 06.0	197 40.0	N20 06.9	96 00.7	N 7 53.3	115 27.1	N15 04.2	235 59.5	N 7 31.4
	1	275 08.5	212 39.3	N20 07.6	111 02.0	N 7 52.8	130 29.2	N15 04.1	251 01.7	N 7 31.5
	2	290 10.9	227 38.6	N20 08.2	126 03.4	N 7 52.3	145 31.3	N15 04.0	266 04.0	N 7 31.6
	3	305 13.4	242 37.9	N20 08.9	141 04.7	N 7 51.8	160 33.3	N15 03.8	281 06.2	N 7 31.6
	4	320 15.9	257 37.2	N20 09.5	156 06.1	N 7 51.2	175 35.4	N15 03.7	296 08.5	N 7 31.7
S	5	335 18.3	272 36.4	N20 10.2	171 07.4	N 7 50.7	190 37.5	N15 03.6	311 10.7	N 7 31.8
A										
T	6	350 20.8	287 35.7	N20 10.8	186 08.8	N 7 50.2	205 39.6	N15 03.5	326 13.0	N 7 31.8
U	7	5 23.2	302 35.0	N20 11.5	201 10.1	N 7 49.7	220 41.7	N15 03.3	341 15.2	N 7 31.9
R	8	20 25.7	317 34.3	N20 12.1	216 11.5	N 7 49.2	235 43.8	N15 03.2	356 17.5	N 7 32.0
D	9	35 28.2	332 33.6	N20 12.7	231 12.8	N 7 48.7	250 45.9	N15 03.1	11 19.7	N 7 32.1
A	10	50 30.6	347 32.9	N20 13.4	246 14.2	N 7 48.1	265 48.0	N15 03.0	26 22.0	N 7 32.1
Y	11	65 33.1	2 32.2	N20 14.0	261 15.5	N 7 47.6	280 50.1	N15 02.8	41 24.3	N 7 32.2
	12	80 35.6	17 31.5	N20 14.7	276 16.9	N 7 47.1	295 52.2	N15 02.7	56 26.5	N 7 32.3
	13	95 38.0	32 30.7	N20 15.3	291 18.2	N 7 46.6	310 54.3	N15 02.6	71 28.8	N 7 32.4
	14	110 40.5	47 30.0	N20 15.9	306 19.5	N 7 46.1	325 56.4	N15 02.5	86 31.0	N 7 32.4
	15	125 43.0	62 29.3	N20 16.6	321 20.9	N 7 45.6	340 58.5	N15 02.3	101 33.3	N 7 32.5
	16	140 45.4	77 28.6	N20 17.2	336 22.2	N 7 45.0	356 00.6	N15 02.2	116 35.5	N 7 32.6
	17	155 47.9	92 27.9	N20 17.8	351 23.6	N 7 44.5	11 02.6	N15 02.1	131 37.8	N 7 32.6
	18	170 50.4	107 27.2	N20 18.5	6 24.9	N 7 44.0	26 04.7	N15 01.9	146 40.0	N 7 32.7
	19	185 52.8	122 26.4	N20 19.1	21 26.3	N 7 43.5	41 06.8	N15 01.8	161 42.3	N 7 32.8
	20	200 55.3	137 25.7	N20 19.7	36 27.6	N 7 43.0	56 08.9	N15 01.7	176 44.5	N 7 32.9
	21	215 57.7	152 25.0	N20 20.4	51 28.9	N 7 42.5	71 11.0	N15 01.6	191 46.8	N 7 32.9
	22	231 00.2	167 24.3	N20 21.0	66 30.3	N 7 41.9	86 13.1	N15 01.4	206 49.1	N 7 33.0
	23	246 02.7	182 23.6	N20 21.6	81 31.6	N 7 41.4	101 15.2	N15 01.3	221 51.3	N 7 33.1
13	0	261 05.1	197 22.8	N20 22.2	96 33.0	N 7 40.9	116 17.3	N15 01.2	236 53.6	N 7 33.1
	1	276 07.6	212 22.1	N20 22.9	111 34.3	N 7 40.4	131 19.4	N15 01.1	251 55.8	N 7 33.2
	2	291 10.1	227 21.4	N20 23.5	126 35.7	N 7 39.9	146 21.5	N15 00.9	266 58.1	N 7 33.3
	3	306 12.5	242 20.7	N20 24.1	141 37.0	N 7 39.3	161 23.6	N15 00.8	282 00.3	N 7 33.4
	4	321 15.0	257 20.0	N20 24.7	156 38.3	N 7 38.8	176 25.6	N15 00.7	297 02.6	N 7 33.4
S	5	336 17.5	272 19.2	N20 25.4	171 39.7	N 7 38.3	191 27.7	N15 00.6	312 04.8	N 7 33.5
U										
N	6	351 19.9	287 18.5	N20 26.0	186 41.0	N 7 37.8	206 29.8	N15 00.4	327 07.1	N 7 33.6
D	7	6 22.4	302 17.8	N20 26.6	201 42.4	N 7 37.3	221 31.9	N15 00.3	342 09.4	N 7 33.6
A	8	21 24.9	317 17.1	N20 27.2	216 43.7	N 7 36.7	236 34.0	N15 00.2	357 11.6	N 7 33.7
Y	9	36 27.3	332 16.3	N20 27.8	231 45.0	N 7 36.2	251 36.1	N15 00.0	12 13.9	N 7 33.8
	10	51 29.8	347 15.6	N20 28.5	246 46.4	N 7 35.7	266 38.2	N14 59.9	27 16.1	N 7 33.9
	11	66 32.2	2 14.9	N20 29.1	261 47.7	N 7 35.2	281 40.3	N14 59.8	42 18.4	N 7 33.9
	12	81 34.7	17 14.2	N20 29.7	276 49.0	N 7 34.7	296 42.4	N14 59.7	57 20.6	N 7 34.0
	13	96 37.2	32 13.4	N20 30.3	291 50.4	N 7 34.1	311 44.4	N14 59.5	72 22.9	N 7 34.1
	14	111 39.6	47 12.7	N20 30.9	306 51.7	N 7 33.6	326 46.5	N14 59.4	87 25.2	N 7 34.1
	15	126 42.1	62 12.0	N20 31.5	321 53.1	N 7 33.1	341 48.6	N14 59.3	102 27.4	N 7 34.2
	16	141 44.6	77 11.3	N20 32.1	336 54.4	N 7 32.6	356 50.7	N14 59.1	117 29.7	N 7 34.3
	17	156 47.0	92 10.5	N20 32.8	351 55.7	N 7 32.1	11 52.8	N14 59.0	132 31.9	N 7 34.4
	18	171 49.5	107 09.8	N20 33.4	6 57.1	N 7 31.5	26 54.9	N14 58.9	147 34.2	N 7 34.4
	19	186 52.0	122 09.1	N20 34.0	21 58.4	N 7 31.0	41 57.0	N14 58.8	162 36.4	N 7 34.5
	20	201 54.4	137 08.4	N20 34.6	36 59.7	N 7 30.5	56 59.1	N14 58.6	177 38.7	N 7 34.6
	21	216 56.9	152 07.6	N20 35.2	52 01.1	N 7 30.0	72 01.1	N14 58.5	192 41.0	N 7 34.6
	22	231 59.3	167 06.9	N20 35.8	67 02.4	N 7 29.5	87 03.2	N14 58.4	207 43.2	N 7 34.7
	23	247 01.8	182 06.2	N20 36.4	82 03.8	N 7 28.9	102 05.3	N14 58.2	222 45.5	N 7 34.8
14	0	262 04.3	197 05.4	N20 37.0	97 05.1	N 7 28.4	117 07.4	N14 58.1	237 47.7	N 7 34.9
	1	277 06.7	212 04.7	N20 37.6	112 06.4	N 7 27.9	132 09.5	N14 58.0	252 50.0	N 7 34.9
	2	292 09.2	227 04.0	N20 38.2	127 07.8	N 7 27.4	147 11.6	N14 57.9	267 52.2	N 7 35.0
	3	307 11.7	242 03.2	N20 38.8	142 09.1	N 7 26.8	162 13.7	N14 57.7	282 54.5	N 7 35.1
	4	322 14.1	257 02.5	N20 39.4	157 10.4	N 7 26.3	177 15.7	N14 57.6	297 56.8	N 7 35.1
M	5	337 16.6	272 01.8	N20 40.0	172 11.8	N 7 25.8	192 17.8	N14 57.5	312 59.0	N 7 35.2
O										
N	6	352 19.1	287 01.0	N20 40.6	187 13.1	N 7 25.3	207 19.9	N14 57.3	328 01.3	N 7 35.3
D	7	7 21.5	302 00.3	N20 41.2	202 14.4	N 7 24.7	222 22.0	N14 57.2	343 03.5	N 7 35.3
A	8	22 24.0	316 59.6	N20 41.8	217 15.8	N 7 24.2	237 24.1	N14 57.1	358 05.8	N 7 35.4
Y	9	37 26.5	331 58.8	N20 42.4	232 17.1	N 7 23.7	252 26.2	N14 57.0	13 08.1	N 7 35.5
	10	52 28.9	346 58.1	N20 43.0	247 18.4	N 7 23.2	267 28.3	N14 56.8	28 10.3	N 7 35.6
	11	67 31.4	1 57.4	N20 43.6	262 19.8	N 7 22.7	282 30.3	N14 56.7	43 12.6	N 7 35.6
	12	82 33.8	16 56.6	N20 44.2	277 21.1	N 7 22.1	297 32.4	N14 56.6	58 14.8	N 7 35.7
	13	97 36.3	31 55.9	N20 44.8	292 22.4	N 7 21.6	312 34.5	N14 56.4	73 17.1	N 7 35.8
	14	112 38.8	46 55.2	N20 45.4	307 23.8	N 7 21.1	327 36.6	N14 56.3	88 19.4	N 7 35.8
	15	127 41.2	61 54.4	N20 45.9	322 25.1	N 7 20.6	342 38.7	N14 56.2	103 21.6	N 7 35.9
	16	142 43.7	76 53.7	N20 46.5	337 26.4	N 7 20.0	357 40.8	N14 56.1	118 23.9	N 7 36.0
	17	157 46.2	91 52.9	N20 47.1	352 27.8	N 7 19.5	12 42.8	N14 55.9	133 26.1	N 7 36.0
	18	172 48.6	106 52.2	N20 47.7	7 29.1	N 7 19.0	27 44.9	N14 55.8	148 28.4	N 7 36.1
	19	187 51.1	121 51.5	N20 48.3	22 30.4	N 7 18.5	42 47.0	N14 55.7	163 30.7	N 7 36.2
	20	202 53.6	136 50.7	N20 48.9	37 31.7	N 7 17.9	57 49.1	N14 55.5	178 32.9	N 7 36.3
	21	217 56.0	151 50.0	N20 49.5	52 33.1	N 7 17.4	72 51.2	N14 55.4	193 35.2	N 7 36.3
	22	232 58.5	166 49.2	N20 50.0	67 34.4	N 7 16.9	87 53.3	N14 55.3	208 37.4	N 7 36.4
	23	248 01.0	181 48.5	N20 50.6	82 35.7	N 7 16.4	102 55.3	N14 55.1	223 39.7	N 7 36.5
			v -0.7	d 0.6	v 1.3	d 0.5	v 2.1	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 03.9	N23 07.3	83 35.4	13.2	S 2 26.1	15.5	58.1
	1	195 03.7	N23 07.4	98 07.6	13.2	S 2 41.6	15.5	58.1
	2	210 03.6	N23 07.6	112 39.8	13.2	S 2 57.0	15.4	58.0
	3	225 03.5	N23 07.8	127 12.0	13.2	S 3 12.4	15.4	58.0
	4	240 03.4	N23 07.9	141 44.2	13.2	S 3 27.8	15.4	58.0
S	5	255 03.2	N23 08.1	156 16.4	13.2	S 3 43.1	15.3	58.0
A								
T	6	270 03.1	N23 08.2	170 48.7	13.2	S 3 58.4	15.3	57.9
U	7	285 03.0	N23 08.4	185 21.0	13.3	S 4 13.7	15.3	57.9
R	8	300 02.8	N23 08.6	199 53.2	13.3	S 4 29.0	15.2	57.9
D	9	315 02.7	N23 08.7	214 25.5	13.3	S 4 44.2	15.2	57.8
A	10	330 02.6	N23 08.9	228 57.8	13.3	S 4 59.3	15.2	57.8
Y	11	345 02.5	N23 09.0	243 30.1	13.3	S 5 14.5	15.1	57.8
	12	0 02.3	N23 09.2	258 02.4	13.3	S 5 29.6	15.1	57.8
	13	15 02.2	N23 09.3	272 34.6	13.3	S 5 44.6	15.1	57.7
	14	30 02.1	N23 09.5	287 06.9	13.3	S 5 59.6	15.0	57.7
	15	45 01.9	N23 09.7	301 39.2	13.3	S 6 14.6	15.0	57.7
	16	60 01.8	N23 09.8	316 11.5	13.3	S 6 29.6	14.9	57.6
	17	75 01.7	N23 10.0	330 43.8	13.3	S 6 44.4	14.9	57.6
	18	90 01.5	N23 10.1	345 16.1	13.3	S 6 59.3	14.8	57.6
	19	105 01.4	N23 10.3	359 48.4	13.3	S 7 14.1	14.8	57.6
	20	120 01.3	N23 10.4	14 20.6	13.3	S 7 28.9	14.8	57.5
	21	135 01.2	N23 10.6	28 52.9	13.3	S 7 43.6	14.7	57.5
	22	150 01.0	N23 10.7	43 25.2	13.3	S 7 58.2	14.7	57.5
	23	165 00.9	N23 10.9	57 57.4	13.2	S 8 12.8	14.6	57.5
13	0	180 00.8	N23 11.0	72 29.7	13.2	S 8 27.4	14.6	57.4
	1	195 00.6	N23 11.2	87 01.9	13.2	S 8 41.9	14.5	57.4
	2	210 00.5	N23 11.3	101 34.1	13.2	S 8 56.3	14.5	57.4
	3	225 00.4	N23 11.4	116 06.3	13.2	S 9 10.7	14.4	57.4
	4	240 00.3	N23 11.6	130 38.5	13.2	S 9 25.1	14.3	57.3
S	5	255 00.1	N23 11.7	145 10.7	13.2	S 9 39.4	14.3	57.3
U								
N	6	269 60.0	N23 11.9	159 42.8	13.2	S 9 53.6	14.2	57.3
D	7	284 59.9	N23 12.0	174 15.0	13.1	S10 07.8	14.2	57.2
A	8	299 59.7	N23 12.2	188 47.1	13.1	S10 21.9	14.1	57.2
Y	9	314 59.6	N23 12.3	203 19.2	13.1	S10 36.0	14.1	57.2
	10	329 59.5	N23 12.4	217 51.3	13.1	S10 50.0	14.0	57.2
	11	344 59.3	N23 12.6	232 23.3	13.1	S11 03.9	13.9	57.1
	12	359 59.2	N23 12.7	246 55.3	13.0	S11 17.8	13.9	57.1
	13	14 59.1	N23 12.9	261 27.4	13.0	S11 31.6	13.8	57.1
	14	29 58.9	N23 13.0	275 59.3	13.0	S11 45.3	13.7	57.1
	15	44 58.8	N23 13.1	290 31.3	13.0	S11 59.0	13.7	57.0
	16	59 58.7	N23 13.3	305 03.2	12.9	S12 12.6	13.6	57.0
	17	74 58.6	N23 13.4	319 35.2	12.9	S12 26.1	13.5	57.0
	18	89 58.4	N23 13.5	334 07.0	12.9	S12 39.6	13.5	57.0
	19	104 58.3	N23 13.7	348 38.9	12.9	S12 53.0	13.4	56.9
	20	119 58.2	N23 13.8	3 10.7	12.8	S13 06.4	13.3	56.9
	21	134 58.0	N23 13.9	17 42.5	12.8	S13 19.6	13.3	56.9
	22	149 57.9	N23 14.1	32 14.3	12.8	S13 32.8	13.2	56.9
	23	164 57.8	N23 14.2	46 46.0	12.7	S13 45.9	13.1	56.8
14	0	179 57.6	N23 14.3	61 17.7	12.7	S13 59.0	13.0	56.8
	1	194 57.5	N23 14.5	75 49.4	12.7	S14 11.9	13.0	56.8
	2	209 57.4	N23 14.6	90 21.0	12.6	S14 24.8	12.9	56.8
	3	224 57.2	N23 14.7	104 52.6	12.6	S14 37.7	12.8	56.7
	4	239 57.1	N23 14.9	119 24.2	12.6	S14 50.4	12.7	56.7
M	5	254 57.0	N23 15.0	133 55.7	12.5	S15 03.0	12.7	56.7
O								
N	6	269 56.9	N23 15.1	148 27.2	12.5	S15 15.6	12.6	56.7
D	7	284 56.7	N23 15.2	162 58.6	12.5	S15 28.1	12.5	56.6
A	8	299 56.6	N23 15.4	177 30.1	12.4	S15 40.5	12.4	56.6
Y	9	314 56.5	N23 15.5	192 01.4	12.4	S15 52.9	12.3	56.6
	10	329 56.3	N23 15.6	206 32.8	12.3	S16 05.1	12.2	56.6
	11	344 56.2	N23 15.7	221 04.1	12.3	S16 17.3	12.2	56.5
	12	359 56.1	N23 15.9	235 35.3	12.3	S16 29.4	12.1	56.5
	13	14 55.9	N23 16.0	250 06.5	12.2	S16 41.4	12.0	56.5
	14	29 55.8	N23 16.1	264 37.7	12.2	S16 53.3	11.9	56.5
	15	44 55.7	N23 16.2	279 08.8	12.1	S17 05.1	11.8	56.4
	16	59 55.5	N23 16.3	293 39.9	12.1	S17 16.8	11.7	56.4
	17	74 55.4	N23 16.5	308 11.0	12.0	S17 28.4	11.6	56.4
	18	89 55.3	N23 16.6	322 42.0	12.0	S17 40.0	11.5	56.4
	19	104 55.1	N23 16.7	337 12.9	12.0	S17 51.4	11.5	56.4
	20	119 55.0	N23 16.8	351 43.9	11.9	S18 02.8	11.4	56.3
	21	134 54.9	N23 16.9	6 14.7	11.9	S18 14.1	11.3	56.3
	22	149 54.7	N23 17.0	20 45.6	11.8	S18 25.2	11.2	56.3
	23	164 54.6	N23 17.2	35 16.3	11.8	S18 36.3	11.1	56.3
		S.D. 15.8	d 0.1	S.D. 15.7		15.6	15.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 19.0	S57 05.5
Acrux	172 57.7	S63 15.4
Adhara	255 04.7	S29 00.6
Albireo	67 02.1	N28 00.9
Aldebaran	290 37.7	N16 33.9
Alioth	166 11.0	N55 48.9
Alkaid	152 50.2	N49 10.7
Al Na-ir	27 30.2	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 32.8	N29 14.4
Altair	61 57.7	N 8 56.4
Ankaa	353 05.3	S42 09.2
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.7
Avior	234 14.4	S59 36.1
Bellatrix	278 21.1	N 6 22.5
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.7
Capella	280 19.4	N46 01.5
Castor	245 54.9	N31 49.7
Deneb	49 24.1	N45 22.5
Denebola	182 22.9	N14 25.1
Diphda	348 45.4	S17 50.0
Dubhe	193 38.7	N61 36.4
Elnath	277 59.8	N28 37.8
Eltanin	90 40.7	N51 29.0
Enif	33 36.6	N10 00.0
Fomalhaut	15 12.2	S29 28.4
Gacrux	171 49.3	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.2	N23 35.5
Kaus Austr.	83 29.5	S34 22.3
Kochab	137 19.1	N74 02.7
Markab	13 27.9	N15 21.1
Menkar	314 04.3	N 4 11.9
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.3	S69 50.1
Mirfak	308 25.9	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 02.1	S56 38.6
Polaris	316 00.8	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.2
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.9	N56 41.0
Shaula	96 07.2	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.5	N38 48.4
Zuben-ubi	136 54.5	S16 09.5

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 03.4	196 47.8	N20 51.2	97 37.1	N 7 15.8	117 57.4	N14 55.0	238 42.0	N 7 36.5
	1	278 05.9	211 47.0	N20 51.8	112 38.4	N 7 15.3	132 59.5	N14 54.9	253 44.2	N 7 36.6
	2	293 08.3	226 46.3	N20 52.4	127 39.7	N 7 14.8	148 01.6	N14 54.8	268 46.5	N 7 36.7
	3	308 10.8	241 45.5	N20 52.9	142 41.0	N 7 14.3	163 03.7	N14 54.6	283 48.7	N 7 36.7
	4	323 13.3	256 44.8	N20 53.5	157 42.4	N 7 13.7	178 05.8	N14 54.5	298 51.0	N 7 36.8
T	5	338 15.7	271 44.1	N20 54.1	172 43.7	N 7 13.2	193 07.8	N14 54.4	313 53.3	N 7 36.9
U										
E	6	353 18.2	286 43.3	N20 54.7	187 45.0	N 7 12.7	208 09.9	N14 54.2	328 55.5	N 7 36.9
S	7	8 20.7	301 42.6	N20 55.2	202 46.4	N 7 12.2	223 12.0	N14 54.1	343 57.8	N 7 37.0
D	8	23 23.1	316 41.8	N20 55.8	217 47.7	N 7 11.6	238 14.1	N14 54.0	359 00.0	N 7 37.1
A	9	38 25.6	331 41.1	N20 56.4	232 49.0	N 7 11.1	253 16.2	N14 53.8	14 02.3	N 7 37.1
Y	10	53 28.1	346 40.3	N20 57.0	247 50.3	N 7 10.6	268 18.2	N14 53.7	29 04.6	N 7 37.2
	11	68 30.5	1 39.6	N20 57.5	262 51.7	N 7 10.0	283 20.3	N14 53.6	44 06.8	N 7 37.3
	12	83 33.0	16 38.8	N20 58.1	277 53.0	N 7 09.5	298 22.4	N14 53.4	59 09.1	N 7 37.4
	13	98 35.4	31 38.1	N20 58.7	292 54.3	N 7 09.0	313 24.5	N14 53.3	74 11.4	N 7 37.4
	14	113 37.9	46 37.3	N20 59.2	307 55.6	N 7 08.5	328 26.6	N14 53.2	89 13.6	N 7 37.5
	15	128 40.4	61 36.6	N20 59.8	322 57.0	N 7 07.9	343 28.6	N14 53.1	104 15.9	N 7 37.6
	16	143 42.8	76 35.9	N21 00.4	337 58.3	N 7 07.4	358 30.7	N14 52.9	119 18.1	N 7 37.6
	17	158 45.3	91 35.1	N21 00.9	352 59.6	N 7 06.9	13 32.8	N14 52.8	134 20.4	N 7 37.7
	18	173 47.8	106 34.4	N21 01.5	8 00.9	N 7 06.3	28 34.9	N14 52.7	149 22.7	N 7 37.8
	19	188 50.2	121 33.6	N21 02.0	23 02.3	N 7 05.8	43 37.0	N14 52.5	164 24.9	N 7 37.8
	20	203 52.7	136 32.9	N21 02.6	38 03.6	N 7 05.3	58 39.0	N14 52.4	179 27.2	N 7 37.9
	21	218 55.2	151 32.1	N21 03.2	53 04.9	N 7 04.8	73 41.1	N14 52.3	194 29.5	N 7 38.0
	22	233 57.6	166 31.4	N21 03.7	68 06.2	N 7 04.2	88 43.2	N14 52.1	209 31.7	N 7 38.0
	23	249 00.1	181 30.6	N21 04.3	83 07.6	N 7 03.7	103 45.3	N14 52.0	224 34.0	N 7 38.1
16	0	264 02.6	196 29.9	N21 04.8	98 08.9	N 7 03.2	118 47.4	N14 51.9	239 36.2	N 7 38.2
	1	279 05.0	211 29.1	N21 05.4	113 10.2	N 7 02.6	133 49.4	N14 51.7	254 38.5	N 7 38.2
	2	294 07.5	226 28.3	N21 06.0	128 11.5	N 7 02.1	148 51.5	N14 51.6	269 40.8	N 7 38.3
	3	309 09.9	241 27.6	N21 06.5	143 12.9	N 7 01.6	163 53.6	N14 51.5	284 43.0	N 7 38.4
	4	324 12.4	256 26.8	N21 07.1	158 14.2	N 7 01.1	178 55.7	N14 51.3	299 45.3	N 7 38.4
W	5	339 14.9	271 26.1	N21 07.6	173 15.5	N 7 00.5	193 57.8	N14 51.2	314 47.6	N 7 38.5
E										
D	6	354 17.3	286 25.3	N21 08.2	188 16.8	N 7 00.0	208 59.8	N14 51.1	329 49.8	N 7 38.6
N	7	9 19.8	301 24.6	N21 08.7	203 18.1	N 6 59.5	224 01.9	N14 50.9	344 52.1	N 7 38.7
E	8	24 22.3	316 23.8	N21 09.3	218 19.5	N 6 58.9	239 04.0	N14 50.8	359 54.4	N 7 38.7
S	9	39 24.7	331 23.1	N21 09.8	233 20.8	N 6 58.4	254 06.1	N14 50.7	14 56.6	N 7 38.8
D	10	54 27.2	346 22.3	N21 10.4	248 22.1	N 6 57.9	269 08.1	N14 50.5	29 58.9	N 7 38.9
A	11	69 29.7	1 21.6	N21 10.9	263 23.4	N 6 57.4	284 10.2	N14 50.4	45 01.1	N 7 38.9
Y										
	12	84 32.1	16 20.8	N21 11.4	278 24.7	N 6 56.8	299 12.3	N14 50.3	60 03.4	N 7 39.0
	13	99 34.6	31 20.0	N21 12.0	293 26.1	N 6 56.3	314 14.4	N14 50.1	75 05.7	N 7 39.1
	14	114 37.1	46 19.3	N21 12.5	308 27.4	N 6 55.8	329 16.4	N14 50.0	90 07.9	N 7 39.1
	15	129 39.5	61 18.5	N21 13.1	323 28.7	N 6 55.2	344 18.5	N14 49.9	105 10.2	N 7 39.2
	16	144 42.0	76 17.8	N21 13.6	338 30.0	N 6 54.7	359 20.6	N14 49.8	120 12.5	N 7 39.3
	17	159 44.4	91 17.0	N21 14.2	353 31.3	N 6 54.2	14 22.7	N14 49.6	135 14.7	N 7 39.3
	18	174 46.9	106 16.3	N21 14.7	8 32.7	N 6 53.6	29 24.8	N14 49.5	150 17.0	N 7 39.4
	19	189 49.4	121 15.5	N21 15.2	23 34.0	N 6 53.1	44 26.8	N14 49.4	165 19.3	N 7 39.5
	20	204 51.8	136 14.7	N21 15.8	38 35.3	N 6 52.6	59 28.9	N14 49.2	180 21.5	N 7 39.5
	21	219 54.3	151 14.0	N21 16.3	53 36.6	N 6 52.0	74 31.0	N14 49.1	195 23.8	N 7 39.6
	22	234 56.8	166 13.2	N21 16.8	68 37.9	N 6 51.5	89 33.1	N14 49.0	210 26.1	N 7 39.7
	23	249 59.2	181 12.5	N21 17.4	83 39.2	N 6 51.0	104 35.1	N14 48.8	225 28.3	N 7 39.7
17	0	265 01.7	196 11.7	N21 17.9	98 40.6	N 6 50.4	119 37.2	N14 48.7	240 30.6	N 7 39.8
	1	280 04.2	211 10.9	N21 18.4	113 41.9	N 6 49.9	134 39.3	N14 48.6	255 32.9	N 7 39.9
	2	295 06.6	226 10.2	N21 19.0	128 43.2	N 6 49.4	149 41.4	N14 48.4	270 35.1	N 7 39.9
	3	310 09.1	241 09.4	N21 19.5	143 44.5	N 6 48.8	164 43.4	N14 48.3	285 37.4	N 7 40.0
	4	325 11.6	256 08.6	N21 20.0	158 45.8	N 6 48.3	179 45.5	N14 48.2	300 39.7	N 7 40.1
T	5	340 14.0	271 07.9	N21 20.6	173 47.1	N 6 47.8	194 47.6	N14 48.0	315 41.9	N 7 40.1
H										
U	6	355 16.5	286 07.1	N21 21.1	188 48.5	N 6 47.2	209 49.7	N14 47.9	330 44.2	N 7 40.2
R	7	10 18.9	301 06.4	N21 21.6	203 49.8	N 6 46.7	224 51.7	N14 47.8	345 46.5	N 7 40.3
S	8	25 21.4	316 05.6	N21 22.1	218 51.1	N 6 46.2	239 53.8	N14 47.6	0 48.7	N 7 40.3
D	9	40 23.9	331 04.8	N21 22.7	233 52.4	N 6 45.6	254 55.9	N14 47.5	15 51.0	N 7 40.4
A	10	55 26.3	346 04.1	N21 23.2	248 53.7	N 6 45.1	269 57.9	N14 47.4	30 53.3	N 7 40.5
Y	11	70 28.8	1 03.3	N21 23.7	263 55.0	N 6 44.6	285 00.0	N14 47.2	45 55.5	N 7 40.5
	12	85 31.3	16 02.5	N21 24.2	278 56.4	N 6 44.0	300 02.1	N14 47.1	60 57.8	N 7 40.6
	13	100 33.7	31 01.8	N21 24.7	293 57.7	N 6 43.5	315 04.2	N14 46.9	76 00.1	N 7 40.7
	14	115 36.2	46 01.0	N21 25.3	308 59.0	N 6 43.0	330 06.2	N14 46.8	91 02.3	N 7 40.7
	15	130 38.7	61 00.2	N21 25.8	324 00.3	N 6 42.4	345 08.3	N14 46.7	106 04.6	N 7 40.8
	16	145 41.1	75 59.5	N21 26.3	339 01.6	N 6 41.9	0 10.4	N14 46.5	121 06.9	N 7 40.9
	17	160 43.6	90 58.7	N21 26.8	354 02.9	N 6 41.4	15 12.5	N14 46.4	136 09.1	N 7 40.9
	18	175 46.0	105 57.9	N21 27.3	9 04.2	N 6 40.8	30 14.5	N14 46.3	151 11.4	N 7 41.0
	19	190 48.5	120 57.2	N21 27.8	24 05.5	N 6 40.3	45 16.6	N14 46.1	166 13.7	N 7 41.1
	20	205 51.0	135 56.4	N21 28.3	39 06.9	N 6 39.8	60 18.7	N14 46.0	181 15.9	N 7 41.1
	21	220 53.4	150 55.6	N21 28.9	54 08.2	N 6 39.2	75 20.7	N14 45.9	196 18.2	N 7 41.2
	22	235 55.9	165 54.8	N21 29.4	69 09.5	N 6 38.7	90 22.8	N14 45.7	211 20.5	N 7 41.3
	23	250 58.4	180 54.1	N21 29.9	84 10.8	N 6 38.2	105 24.9	N14 45.6	226 22.8	N 7 41.3
			v -0.8	d 0.5	v 1.3	d 0.5	v 2.1	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 '
15	0	179 54.5	N23 17.3	49 47.1	11.7	S18 47.3	11.0	56.2
	1	194 54.3	N23 17.4	64 17.8	11.7	S18 58.2	10.9	56.2
	2	209 54.2	N23 17.5	78 48.4	11.6	S19 08.9	10.8	56.2
	3	224 54.1	N23 17.6	93 19.0	11.6	S19 19.6	10.7	56.2
	4	239 53.9	N23 17.7	107 49.5	11.5	S19 30.2	10.6	56.2
T	5	254 53.8	N23 17.8	122 20.0	11.5	S19 40.7	10.5	56.1
U								
E	6	269 53.7	N23 17.9	136 50.5	11.5	S19 51.1	10.4	56.1
S	7	284 53.6	N23 18.0	151 20.9	11.4	S20 01.3	10.3	56.1
D	8	299 53.4	N23 18.1	165 51.3	11.4	S20 11.5	10.2	56.1
A	9	314 53.3	N23 18.3	180 21.6	11.3	S20 21.6	10.1	56.0
Y	10	329 53.2	N23 18.4	194 51.9	11.3	S20 31.5	10.0	56.0
	11	344 53.0	N23 18.5	209 22.1	11.2	S20 41.4	9.9	56.0
	12	359 52.9	N23 18.6	223 52.2	11.2	S20 51.1	9.7	56.0
	13	14 52.8	N23 18.7	238 22.4	11.1	S21 00.8	9.6	56.0
	14	29 52.6	N23 18.8	252 52.4	11.1	S21 10.3	9.5	55.9
	15	44 52.5	N23 18.9	267 22.5	11.0	S21 19.7	9.4	55.9
	16	59 52.4	N23 19.0	281 52.5	11.0	S21 29.1	9.3	55.9
	17	74 52.2	N23 19.1	296 22.4	10.9	S21 38.3	9.2	55.9
	18	89 52.1	N23 19.2	310 52.3	10.9	S21 47.4	9.1	55.9
	19	104 52.0	N23 19.3	325 22.1	10.8	S21 56.3	9.0	55.8
	20	119 51.8	N23 19.4	339 51.9	10.8	S22 05.2	8.9	55.8
	21	134 51.7	N23 19.5	354 21.7	10.7	S22 13.9	8.7	55.8
	22	149 51.6	N23 19.6	8 51.4	10.7	S22 22.6	8.6	55.8
	23	164 51.4	N23 19.7	23 21.0	10.7	S22 31.1	8.5	55.8
16	0	179 51.3	N23 19.8	37 50.6	10.6	S22 39.5	8.4	55.7
	1	194 51.2	N23 19.9	52 20.2	10.6	S22 47.8	8.3	55.7
	2	209 51.0	N23 20.0	66 49.7	10.5	S22 55.9	8.2	55.7
	3	224 50.9	N23 20.1	81 19.2	10.5	S23 04.0	8.0	55.7
	4	239 50.8	N23 20.2	95 48.6	10.4	S23 11.9	7.9	55.7
W	5	254 50.6	N23 20.2	110 18.0	10.4	S23 19.7	7.8	55.6
E								
D	6	269 50.5	N23 20.3	124 47.3	10.3	S23 27.4	7.7	55.6
N	7	284 50.4	N23 20.4	139 16.6	10.3	S23 35.0	7.6	55.6
E	8	299 50.2	N23 20.5	153 45.9	10.3	S23 42.4	7.4	55.6
S	9	314 50.1	N23 20.6	168 15.1	10.2	S23 49.7	7.3	55.6
D	10	329 50.0	N23 20.7	182 44.3	10.2	S23 56.9	7.2	55.5
A	11	344 49.8	N23 20.8	197 13.4	10.1	S24 04.0	7.1	55.5
Y								
	12	359 49.7	N23 20.9	211 42.5	10.1	S24 11.0	6.9	55.5
	13	14 49.6	N23 21.0	226 11.5	10.1	S24 17.8	6.8	55.5
	14	29 49.4	N23 21.1	240 40.5	10.0	S24 24.5	6.7	55.5
	15	44 49.3	N23 21.1	255 09.5	10.0	S24 31.0	6.6	55.4
	16	59 49.2	N23 21.2	269 38.5	9.9	S24 37.5	6.4	55.4
	17	74 49.0	N23 21.3	284 07.4	9.9	S24 43.8	6.3	55.4
	18	89 48.9	N23 21.4	298 36.2	9.9	S24 50.0	6.2	55.4
	19	104 48.8	N23 21.5	313 05.0	9.8	S24 56.0	6.1	55.4
	20	119 48.6	N23 21.6	327 33.8	9.8	S25 01.9	5.9	55.4
	21	134 48.5	N23 21.6	342 02.6	9.8	S25 07.7	5.8	55.3
	22	149 48.3	N23 21.7	356 31.3	9.7	S25 13.4	5.7	55.3
	23	164 48.2	N23 21.8	11 00.0	9.7	S25 18.9	5.5	55.3
17	0	179 48.1	N23 21.9	25 28.7	9.7	S25 24.3	5.4	55.3
	1	194 47.9	N23 22.0	39 57.3	9.6	S25 29.6	5.3	55.3
	2	209 47.8	N23 22.0	54 25.9	9.6	S25 34.7	5.1	55.2
	3	224 47.7	N23 22.1	68 54.5	9.6	S25 39.7	5.0	55.2
	4	239 47.5	N23 22.2	83 23.0	9.5	S25 44.6	4.9	55.2
T	5	254 47.4	N23 22.3	97 51.5	9.5	S25 49.3	4.7	55.2
H								
U	6	269 47.3	N23 22.3	112 20.0	9.5	S25 53.9	4.6	55.2
R	7	284 47.1	N23 22.4	126 48.5	9.5	S25 58.4	4.5	55.2
S	8	299 47.0	N23 22.5	141 16.9	9.4	S26 02.7	4.3	55.1
D	9	314 46.9	N23 22.6	155 45.4	9.4	S26 06.9	4.2	55.1
A	10	329 46.7	N23 22.6	170 13.8	9.4	S26 11.0	4.1	55.1
Y	11	344 46.6	N23 22.7	184 42.1	9.4	S26 14.9	3.9	55.1
	12	359 46.5	N23 22.8	199 10.5	9.4	S26 18.7	3.8	55.1
	13	14 46.3	N23 22.8	213 38.8	9.3	S26 22.3	3.6	55.1
	14	29 46.2	N23 22.9	228 07.2	9.3	S26 25.8	3.5	55.0
	15	44 46.1	N23 23.0	242 35.5	9.3	S26 29.2	3.4	55.0
	16	59 45.9	N23 23.0	257 03.8	9.3	S26 32.5	3.2	55.0
	17	74 45.8	N23 23.1	271 32.1	9.3	S26 35.6	3.1	55.0
	18	89 45.7	N23 23.2	286 00.3	9.3	S26 38.5	3.0	55.0
	19	104 45.5	N23 23.2	300 28.6	9.3	S26 41.3	2.8	55.0
	20	119 45.4	N23 23.3	314 56.8	9.3	S26 44.0	2.7	54.9
	21	134 45.3	N23 23.4	329 25.1	9.2	S26 46.6	2.5	54.9
	22	149 45.1	N23 23.4	343 53.3	9.2	S26 49.0	2.4	54.9
	23	164 45.0	N23 23.5	358 21.5	9.2	S26 51.2	2.3	54.9
		S.D. 15.7	d 0.1	S.D.	15.3	15.1	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 19.0	S57 05.5
Acrux	172 57.7	S63 15.4
Adhara	255 04.7	S29 00.6
Albireo	67 02.1	N28 01.0
Aldebaran	290 37.7	N16 33.9
Alioth	166 11.0	N55 48.9
Alkaid	152 50.2	N49 10.7
Al Na-ir	27 30.2	S46 49.4
Alnilam	275 36.0	S 1 11.1
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.3
Alpheratz	357 32.7	N29 14.5
Altair	61 57.7	N 8 56.4
Ankaa	353 05.3	S42 09.2
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.7
Avior	234 14.4	S59 36.1
Bellatrix	278 21.1	N 6 22.5
Betelgeuse	270 50.3	N 7 24.7
Canopus	263 52.0	S52 42.7
Capella	280 19.4	N46 01.5
Castor	245 54.9	N31 49.7
Deneb	49 24.1	N45 22.6
Denebola	182 22.9	N14 25.1
Diphda	348 45.4	S17 50.0
Dubhe	193 38.7	N61 36.3
Elnath	277 59.8	N28 37.8
Eltanin	90 40.7	N51 29.0
Enif	33 36.6	N10 00.1
Fomalhaut	15 12.2	S29 28.4
Gacrux	171 49.3	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.2	N23 35.5
Kaus Austr.	83 29.5	S34 22.3
Kochab	137 19.2	N74 02.7
Markab	13 27.8	N15 21.1
Menkar	314 04.3	N 4 11.9
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.3	S69 50.1
Mirfak	308 25.8	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 02.1	S56 38.6
Polaris	315 59.7	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.9	N56 41.0
Shaula	96 07.2	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.4	N38 48.5
Zuben-ubi	136 54.5	S16 09.5

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 00.8	195 53.3	N21 30.4	99 12.1	N 6 37.6	120 27.0	N14 45.5	241 25.0	N 7 41.4
	1	281 03.3	210 52.5	N21 30.9	114 13.4	N 6 37.1	135 29.0	N14 45.3	256 27.3	N 7 41.5
	2	296 05.8	225 51.8	N21 31.4	129 14.7	N 6 36.6	150 31.1	N14 45.2	271 29.6	N 7 41.5
	3	311 08.2	240 51.0	N21 31.9	144 16.0	N 6 36.0	165 33.2	N14 45.1	286 31.8	N 7 41.6
	4	326 10.7	255 50.2	N21 32.4	159 17.4	N 6 35.5	180 35.2	N14 44.9	301 34.1	N 7 41.7
F	5	341 13.2	270 49.4	N21 32.9	174 18.7	N 6 34.9	195 37.3	N14 44.8	316 36.4	N 7 41.7
R										
I	6	356 15.6	285 48.7	N21 33.4	189 20.0	N 6 34.4	210 39.4	N14 44.7	331 38.6	N 7 41.8
D	7	11 18.1	300 47.9	N21 33.9	204 21.3	N 6 33.9	225 41.5	N14 44.5	346 40.9	N 7 41.8
A	8	26 20.5	315 47.1	N21 34.4	219 22.6	N 6 33.3	240 43.5	N14 44.4	1 43.2	N 7 41.9
Y	9	41 23.0	330 46.3	N21 34.9	234 23.9	N 6 32.8	255 45.6	N14 44.3	16 45.4	N 7 42.0
	10	56 25.5	345 45.6	N21 35.4	249 25.2	N 6 32.3	270 47.7	N14 44.1	31 47.7	N 7 42.0
	11	71 27.9	0 44.8	N21 35.9	264 26.5	N 6 31.7	285 49.7	N14 44.0	46 50.0	N 7 42.1
	12	86 30.4	15 44.0	N21 36.4	279 27.8	N 6 31.2	300 51.8	N14 43.8	61 52.3	N 7 42.2
	13	101 32.9	30 43.2	N21 36.9	294 29.1	N 6 30.7	315 53.9	N14 43.7	76 54.5	N 7 42.2
	14	116 35.3	45 42.5	N21 37.4	309 30.4	N 6 30.1	330 55.9	N14 43.6	91 56.8	N 7 42.3
	15	131 37.8	60 41.7	N21 37.9	324 31.7	N 6 29.6	345 58.0	N14 43.4	106 59.1	N 7 42.4
	16	146 40.3	75 40.9	N21 38.4	339 33.1	N 6 29.0	1 00.1	N14 43.3	122 01.3	N 7 42.4
	17	161 42.7	90 40.1	N21 38.9	354 34.4	N 6 28.5	16 02.1	N14 43.2	137 03.6	N 7 42.5
	18	176 45.2	105 39.4	N21 39.4	9 35.7	N 6 28.0	31 04.2	N14 43.0	152 05.9	N 7 42.6
	19	191 47.7	120 38.6	N21 39.8	24 37.0	N 6 27.4	46 06.3	N14 42.9	167 08.2	N 7 42.6
	20	206 50.1	135 37.8	N21 40.3	39 38.3	N 6 26.9	61 08.4	N14 42.8	182 10.4	N 7 42.7
	21	221 52.6	150 37.0	N21 40.8	54 39.6	N 6 26.3	76 10.4	N14 42.6	197 12.7	N 7 42.8
	22	236 55.0	165 36.2	N21 41.3	69 40.9	N 6 25.8	91 12.5	N14 42.5	212 15.0	N 7 42.8
	23	251 57.5	180 35.5	N21 41.8	84 42.2	N 6 25.3	106 14.6	N14 42.4	227 17.2	N 7 42.9
19	0	266 60.0	195 34.7	N21 42.3	99 43.5	N 6 24.7	121 16.6	N14 42.2	242 19.5	N 7 42.9
	1	282 02.4	210 33.9	N21 42.8	114 44.8	N 6 24.2	136 18.7	N14 42.1	257 21.8	N 7 43.0
	2	297 04.9	225 33.1	N21 43.2	129 46.1	N 6 23.7	151 20.8	N14 41.9	272 24.1	N 7 43.1
	3	312 07.4	240 32.3	N21 43.7	144 47.4	N 6 23.1	166 22.8	N14 41.8	287 26.3	N 7 43.1
	4	327 09.8	255 31.6	N21 44.2	159 48.7	N 6 22.6	181 24.9	N14 41.7	302 28.6	N 7 43.2
S	5	342 12.3	270 30.8	N21 44.7	174 50.0	N 6 22.0	196 27.0	N14 41.5	317 30.9	N 7 43.3
A										
T	6	357 14.8	285 30.0	N21 45.2	189 51.3	N 6 21.5	211 29.0	N14 41.4	332 33.1	N 7 43.3
U	7	12 17.2	300 29.2	N21 45.6	204 52.6	N 6 21.0	226 31.1	N14 41.3	347 35.4	N 7 43.4
R	8	27 19.7	315 28.4	N21 46.1	219 53.9	N 6 20.4	241 33.2	N14 41.1	2 37.7	N 7 43.5
D	9	42 22.2	330 27.6	N21 46.6	234 55.2	N 6 19.9	256 35.2	N14 41.0	17 40.0	N 7 43.5
A	10	57 24.6	345 26.8	N21 47.0	249 56.6	N 6 19.3	271 37.3	N14 40.9	32 42.2	N 7 43.6
Y	11	72 27.1	0 26.1	N21 47.5	264 57.9	N 6 18.8	286 39.4	N14 40.7	47 44.5	N 7 43.7
	12	87 29.5	15 25.3	N21 48.0	279 59.2	N 6 18.3	301 41.4	N14 40.6	62 46.8	N 7 43.7
	13	102 32.0	30 24.5	N21 48.5	295 00.5	N 6 17.7	316 43.5	N14 40.4	77 49.1	N 7 43.8
	14	117 34.5	45 23.7	N21 48.9	310 01.8	N 6 17.2	331 45.6	N14 40.3	92 51.3	N 7 43.8
	15	132 36.9	60 22.9	N21 49.4	325 03.1	N 6 16.6	346 47.6	N14 40.2	107 53.6	N 7 43.9
	16	147 39.4	75 22.1	N21 49.9	340 04.4	N 6 16.1	1 49.7	N14 40.0	122 55.9	N 7 44.0
	17	162 41.9	90 21.3	N21 50.3	355 05.7	N 6 15.6	16 51.7	N14 39.9	137 58.1	N 7 44.0
	18	177 44.3	105 20.6	N21 50.8	10 07.0	N 6 15.0	31 53.8	N14 39.8	153 00.4	N 7 44.1
	19	192 46.8	120 19.8	N21 51.3	25 08.3	N 6 14.5	46 55.9	N14 39.6	168 02.7	N 7 44.2
	20	207 49.3	135 19.0	N21 51.7	40 09.6	N 6 13.9	61 57.9	N14 39.5	183 05.0	N 7 44.2
	21	222 51.7	150 18.2	N21 52.2	55 10.9	N 6 13.4	77 00.0	N14 39.3	198 07.2	N 7 44.3
	22	237 54.2	165 17.4	N21 52.6	70 12.2	N 6 12.8	92 02.1	N14 39.2	213 09.5	N 7 44.4
	23	252 56.7	180 16.6	N21 53.1	85 13.5	N 6 12.3	107 04.1	N14 39.1	228 11.8	N 7 44.4
20	0	267 59.1	195 15.8	N21 53.6	100 14.8	N 6 11.8	122 06.2	N14 38.9	243 14.1	N 7 44.5
	1	283 01.6	210 15.0	N21 54.0	115 16.1	N 6 11.2	137 08.3	N14 38.8	258 16.3	N 7 44.5
	2	298 04.0	225 14.2	N21 54.5	130 17.4	N 6 10.7	152 10.3	N14 38.7	273 18.6	N 7 44.6
	3	313 06.5	240 13.5	N21 54.9	145 18.7	N 6 10.1	167 12.4	N14 38.5	288 20.9	N 7 44.7
	4	328 09.0	255 12.7	N21 55.4	160 20.0	N 6 09.6	182 14.5	N14 38.4	303 23.2	N 7 44.7
S	5	343 11.4	270 11.9	N21 55.8	175 21.3	N 6 09.1	197 16.5	N14 38.2	318 25.4	N 7 44.8
U										
N	6	358 13.9	285 11.1	N21 56.3	190 22.6	N 6 08.5	212 18.6	N14 38.1	333 27.7	N 7 44.9
D	7	13 16.4	300 10.3	N21 56.7	205 23.9	N 6 08.0	227 20.6	N14 38.0	348 30.0	N 7 44.9
A	8	28 18.8	315 09.5	N21 57.2	220 25.2	N 6 07.4	242 22.7	N14 37.8	3 32.3	N 7 45.0
Y	9	43 21.3	330 08.7	N21 57.6	235 26.5	N 6 06.9	257 24.8	N14 37.7	18 34.5	N 7 45.0
	10	58 23.8	345 07.9	N21 58.1	250 27.8	N 6 06.3	272 26.8	N14 37.6	33 36.8	N 7 45.1
	11	73 26.2	0 07.1	N21 58.5	265 29.1	N 6 05.8	287 28.9	N14 37.4	48 39.1	N 7 45.2
	12	88 28.7	15 06.3	N21 59.0	280 30.4	N 6 05.3	302 31.0	N14 37.3	63 41.4	N 7 45.2
	13	103 31.2	30 05.5	N21 59.4	295 31.6	N 6 04.7	317 33.0	N14 37.1	78 43.6	N 7 45.3
	14	118 33.6	45 04.7	N21 59.9	310 32.9	N 6 04.2	332 35.1	N14 37.0	93 45.9	N 7 45.4
	15	133 36.1	60 03.9	N22 00.3	325 34.2	N 6 03.6	347 37.1	N14 36.9	108 48.2	N 7 45.4
	16	148 38.5	75 03.1	N22 00.7	340 35.5	N 6 03.1	2 39.2	N14 36.7	123 50.5	N 7 45.5
	17	163 41.0	90 02.3	N22 01.2	355 36.8	N 6 02.5	17 41.3	N14 36.6	138 52.8	N 7 45.5
	18	178 43.5	105 01.5	N22 01.6	10 38.1	N 6 02.0	32 43.3	N14 36.4	153 55.0	N 7 45.6
	19	193 45.9	120 00.7	N22 02.1	25 39.4	N 6 01.4	47 45.4	N14 36.3	168 57.3	N 7 45.7
	20	208 48.4	134 60.0	N22 02.5	40 40.7	N 6 00.9	62 47.4	N14 36.2	183 59.6	N 7 45.7
	21	223 50.9	149 59.2	N22 02.9	55 42.0	N 6 00.4	77 49.5	N14 36.0	199 01.9	N 7 45.8
	22	238 53.3	164 58.4	N22 03.4	70 43.3	N 5 59.8	92 51.6	N14 35.9	214 04.1	N 7 45.9
	23	253 55.8	179 57.6	N22 03.8	85 44.6	N 5 59.3	107 53.6	N14 35.8	229 06.4	N 7 45.9
			v -0.8	d 0.5	v 1.3	d 0.5	v 2.1	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
		° '	° '	° '	'	° '	'	'
18	0	179 44.9	N23 23.6	12 49.8	9.2	S26 53.4	2.1	54.9
	1	194 44.7	N23 23.6	27 18.0	9.2	S26 55.4	2.0	54.9
	2	209 44.6	N23 23.7	41 46.2	9.2	S26 57.2	1.9	54.9
	3	224 44.4	N23 23.7	56 14.4	9.2	S26 58.9	1.7	54.8
	4	239 44.3	N23 23.8	70 42.7	9.2	S27 00.5	1.6	54.8
F	5	254 44.2	N23 23.9	85 10.9	9.2	S27 01.9	1.4	54.8
R								
I	6	269 44.0	N23 23.9	99 39.1	9.2	S27 03.2	1.3	54.8
D	7	284 43.9	N23 24.0	114 07.3	9.2	S27 04.4	1.2	54.8
A	8	299 43.8	N23 24.0	128 35.6	9.2	S27 05.4	1.0	54.8
Y	9	314 43.6	N23 24.1	143 03.8	9.2	S27 06.3	0.9	54.8
	10	329 43.5	N23 24.1	157 32.1	9.3	S27 07.0	0.7	54.7
	11	344 43.4	N23 24.2	172 00.3	9.3	S27 07.6	0.6	54.7
	12	359 43.2	N23 24.3	186 28.6	9.3	S27 08.1	0.5	54.7
	13	14 43.1	N23 24.3	200 56.9	9.3	S27 08.4	0.3	54.7
	14	29 43.0	N23 24.4	215 25.2	9.3	S27 08.6	0.2	54.7
	15	44 42.8	N23 24.4	229 53.5	9.3	S27 08.6	0.0	54.7
	16	59 42.7	N23 24.5	244 21.8	9.3	S27 08.5	0.1	54.7
	17	74 42.6	N23 24.5	258 50.2	9.3	S27 08.3	0.2	54.6
	18	89 42.4	N23 24.6	273 18.5	9.4	S27 07.9	0.4	54.6
	19	104 42.3	N23 24.6	287 46.9	9.4	S27 07.4	0.5	54.6
	20	119 42.2	N23 24.7	302 15.3	9.4	S27 06.8	0.6	54.6
	21	134 42.0	N23 24.7	316 43.8	9.4	S27 06.0	0.8	54.6
	22	149 41.9	N23 24.8	331 12.2	9.5	S27 05.1	0.9	54.6
	23	164 41.7	N23 24.8	345 40.7	9.5	S27 04.1	1.1	54.6
19	0	179 41.6	N23 24.8	0 09.2	9.5	S27 02.9	1.2	54.6
	1	194 41.5	N23 24.9	14 37.8	9.5	S27 01.6	1.3	54.5
	2	209 41.3	N23 24.9	29 06.3	9.6	S27 00.1	1.5	54.5
	3	224 41.2	N23 25.0	43 34.9	9.6	S26 58.5	1.6	54.5
	4	239 41.1	N23 25.0	58 03.5	9.6	S26 56.8	1.7	54.5
S	5	254 40.9	N23 25.1	72 32.2	9.7	S26 54.9	1.9	54.5
A								
T	6	269 40.8	N23 25.1	87 00.9	9.7	S26 52.9	2.0	54.5
U	7	284 40.7	N23 25.1	101 29.6	9.7	S26 50.8	2.1	54.5
R	8	299 40.5	N23 25.2	115 58.4	9.8	S26 48.5	2.3	54.5
D	9	314 40.4	N23 25.2	130 27.2	9.8	S26 46.1	2.4	54.5
A	10	329 40.3	N23 25.3	144 56.0	9.8	S26 43.6	2.5	54.4
Y	11	344 40.1	N23 25.3	159 24.9	9.9	S26 41.0	2.7	54.4
	12	359 40.0	N23 25.3	173 53.8	9.9	S26 38.2	2.8	54.4
	13	14 39.9	N23 25.4	188 22.8	10.0	S26 35.3	2.9	54.4
	14	29 39.7	N23 25.4	202 51.8	10.0	S26 32.2	3.0	54.4
	15	44 39.6	N23 25.4	217 20.9	10.0	S26 29.1	3.2	54.4
	16	59 39.4	N23 25.5	231 49.9	10.1	S26 25.7	3.3	54.4
	17	74 39.3	N23 25.5	246 19.1	10.1	S26 22.3	3.4	54.4
	18	89 39.2	N23 25.5	260 48.3	10.2	S26 18.8	3.6	54.4
	19	104 39.0	N23 25.6	275 17.5	10.2	S26 15.1	3.7	54.4
	20	119 38.9	N23 25.6	289 46.8	10.3	S26 11.3	3.8	54.3
	21	134 38.8	N23 25.6	304 16.1	10.3	S26 07.3	3.9	54.3
	22	149 38.6	N23 25.7	318 45.5	10.4	S26 03.3	4.1	54.3
	23	164 38.5	N23 25.7	333 14.9	10.4	S25 59.1	4.2	54.3
20	0	179 38.4	N23 25.7	347 44.4	10.5	S25 54.8	4.3	54.3
	1	194 38.2	N23 25.7	2 14.0	10.5	S25 50.3	4.4	54.3
	2	209 38.1	N23 25.8	16 43.6	10.6	S25 45.8	4.6	54.3
	3	224 38.0	N23 25.8	31 13.2	10.6	S25 41.1	4.7	54.3
	4	239 37.8	N23 25.8	45 42.9	10.7	S25 36.3	4.8	54.3
S	5	254 37.7	N23 25.8	60 12.7	10.8	S25 31.4	4.9	54.3
U								
N	6	269 37.6	N23 25.9	74 42.5	10.8	S25 26.4	5.0	54.3
D	7	284 37.4	N23 25.9	89 12.3	10.9	S25 21.2	5.2	54.2
A	8	299 37.3	N23 25.9	103 42.3	10.9	S25 15.9	5.3	54.2
Y	9	314 37.1	N23 25.9	118 12.3	11.0	S25 10.6	5.4	54.2
	10	329 37.0	N23 25.9	132 42.3	11.0	S25 05.0	5.5	54.2
	11	344 36.9	N23 26.0	147 12.4	11.1	S24 59.4	5.6	54.2
	12	359 36.7	N23 26.0	161 42.6	11.2	S24 53.7	5.7	54.2
	13	14 36.6	N23 26.0	176 12.8	11.2	S24 47.8	5.9	54.2
	14	29 36.5	N23 26.0	190 43.1	11.3	S24 41.9	6.0	54.2
	15	44 36.3	N23 26.0	205 13.4	11.3	S24 35.8	6.1	54.2
	16	59 36.2	N23 26.1	219 43.8	11.4	S24 29.6	6.2	54.2
	17	74 36.1	N23 26.1	234 14.3	11.5	S24 23.3	6.3	54.2
	18	89 35.9	N23 26.1	248 44.9	11.5	S24 16.9	6.4	54.2
	19	104 35.8	N23 26.1	263 15.5	11.6	S24 10.4	6.5	54.2
	20	119 35.7	N23 26.1	277 46.1	11.7	S24 03.8	6.6	54.2
	21	134 35.5	N23 26.1	292 16.9	11.7	S23 57.0	6.7	54.1
	22	149 35.4	N23 26.1	306 47.6	11.8	S23 50.2	6.8	54.1
	23	164 35.3	N23 26.2	321 18.5	11.9	S23 43.2	6.9	54.1
		S.D. 15.7	d 0.0	S.D. 14.9		14.8		14.8

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.6	S40 11.5
Achernar	335 19.0	S57 05.5
Acrux	172 57.7	S63 15.4
Adhara	255 04.6	S29 00.6
Albireo	67 02.1	N28 01.0
Aldebaran	290 37.6	N16 33.9
Alioth	166 11.0	N55 48.9
Alkaid	152 50.2	N49 10.7
Al Na-ir	27 30.1	S46 49.4
Alnilam	275 36.0	S 1 11.0
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.4
Alpheratz	357 32.7	N29 14.5
Altair	61 57.7	N 8 56.4
Ankaa	353 05.2	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.7
Avior	234 14.4	S59 36.1
Bellatrix	278 21.1	N 6 22.5
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 52.0	S52 42.6
Capella	280 19.4	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.0	N45 22.6
Denebola	182 22.9	N14 25.1
Diphda	348 45.4	S17 50.0
Dubhe	193 38.7	N61 36.3
Elnath	277 59.7	N28 37.8
Eltanin	90 40.7	N51 29.0
Enif	33 36.6	N10 00.1
Fomalhaut	15 12.2	S29 28.4
Gacrux	171 49.3	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.1	N23 35.5
Kaus Austr.	83 29.5	S34 22.3
Kochab	137 19.2	N74 02.7
Markab	13 27.8	N15 21.1
Menkar	314 04.3	N 4 11.9
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.3	S69 50.1
Mirfak	308 25.8	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 02.0	S56 38.6
Polaris	315 58.4	N89 22.0
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.8	N56 41.1
Shaula	96 07.2	S37 07.4
Sirius	258 24.8	S16 45.3
Spica	158 20.0	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.4	N38 48.5
Zuben-ubi	136 54.5	S16 09.5

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	268 58.3	194 56.8	N22 04.2	100 45.9	N 5 58.7	122 55.7	N14 35.6	244 08.7	N 7 46.0
	1	284 00.7	209 56.0	N22 04.7	115 47.2	N 5 58.2	137 57.8	N14 35.5	259 11.0	N 7 46.0
	2	299 03.2	224 55.2	N22 05.1	130 48.5	N 5 57.6	152 59.8	N14 35.3	274 13.2	N 7 46.1
	3	314 05.7	239 54.4	N22 05.5	145 49.8	N 5 57.1	168 01.9	N14 35.2	289 15.5	N 7 46.2
	4	329 08.1	254 53.6	N22 06.0	160 51.1	N 5 56.5	183 03.9	N14 35.1	304 17.8	N 7 46.2
M	5	344 10.6	269 52.8	N22 06.4	175 52.4	N 5 56.0	198 06.0	N14 34.9	319 20.1	N 7 46.3
O										
N	6	359 13.0	284 52.0	N22 06.8	190 53.7	N 5 55.4	213 08.1	N14 34.8	334 22.4	N 7 46.4
D	7	14 15.5	299 51.2	N22 07.2	205 55.0	N 5 54.9	228 10.1	N14 34.6	349 24.6	N 7 46.4
A	8	29 18.0	314 50.4	N22 07.7	220 56.2	N 5 54.4	243 12.2	N14 34.5	4 26.9	N 7 46.5
Y	9	44 20.4	329 49.6	N22 08.1	235 57.5	N 5 53.8	258 14.2	N14 34.4	19 29.2	N 7 46.5
	10	59 22.9	344 48.8	N22 08.5	250 58.8	N 5 53.3	273 16.3	N14 34.2	34 31.5	N 7 46.6
	11	74 25.4	359 48.0	N22 08.9	266 00.1	N 5 52.7	288 18.4	N14 34.1	49 33.8	N 7 46.7
	12	89 27.8	14 47.2	N22 09.3	281 01.4	N 5 52.2	303 20.4	N14 33.9	64 36.0	N 7 46.7
	13	104 30.3	29 46.3	N22 09.8	296 02.7	N 5 51.6	318 22.5	N14 33.8	79 38.3	N 7 46.8
	14	119 32.8	44 45.5	N22 10.2	311 04.0	N 5 51.1	333 24.5	N14 33.7	94 40.6	N 7 46.8
	15	134 35.2	59 44.7	N22 10.6	326 05.3	N 5 50.5	348 26.6	N14 33.5	109 42.9	N 7 46.9
	16	149 37.7	74 43.9	N22 11.0	341 06.6	N 5 50.0	3 28.6	N14 33.4	124 45.1	N 7 47.0
	17	164 40.1	89 43.1	N22 11.4	356 07.9	N 5 49.4	18 30.7	N14 33.2	139 47.4	N 7 47.0
	18	179 42.6	104 42.3	N22 11.8	11 09.2	N 5 48.9	33 32.8	N14 33.1	154 49.7	N 7 47.1
	19	194 45.1	119 41.5	N22 12.3	26 10.4	N 5 48.3	48 34.8	N14 33.0	169 52.0	N 7 47.2
	20	209 47.5	134 40.7	N22 12.7	41 11.7	N 5 47.8	63 36.9	N14 32.8	184 54.3	N 7 47.2
	21	224 50.0	149 39.9	N22 13.1	56 13.0	N 5 47.2	78 38.9	N14 32.7	199 56.5	N 7 47.3
	22	239 52.5	164 39.1	N22 13.5	71 14.3	N 5 46.7	93 41.0	N14 32.5	214 58.8	N 7 47.3
	23	254 54.9	179 38.3	N22 13.9	86 15.6	N 5 46.1	108 43.0	N14 32.4	230 01.1	N 7 47.4
22	0	269 57.4	194 37.5	N22 14.3	101 16.9	N 5 45.6	123 45.1	N14 32.3	245 03.4	N 7 47.5
	1	284 59.9	209 36.7	N22 14.7	116 18.2	N 5 45.1	138 47.2	N14 32.1	260 05.7	N 7 47.5
	2	300 02.3	224 35.9	N22 15.1	131 19.5	N 5 44.5	153 49.2	N14 32.0	275 07.9	N 7 47.6
	3	315 04.8	239 35.1	N22 15.5	146 20.8	N 5 44.0	168 51.3	N14 31.8	290 10.2	N 7 47.6
	4	330 07.3	254 34.3	N22 15.9	161 22.0	N 5 43.4	183 53.3	N14 31.7	305 12.5	N 7 47.7
T	5	345 09.7	269 33.4	N22 16.3	176 23.3	N 5 42.9	198 55.4	N14 31.6	320 14.8	N 7 47.8
U										
E	6	0 12.2	284 32.6	N22 16.7	191 24.6	N 5 42.3	213 57.4	N14 31.4	335 17.1	N 7 47.8
S	7	15 14.6	299 31.8	N22 17.1	206 25.9	N 5 41.8	228 59.5	N14 31.3	350 19.4	N 7 47.9
D	8	30 17.1	314 31.0	N22 17.5	221 27.2	N 5 41.2	244 01.6	N14 31.1	5 21.6	N 7 47.9
A	9	45 19.6	329 30.2	N22 17.9	236 28.5	N 5 40.7	259 03.6	N14 31.0	20 23.9	N 7 48.0
Y	10	60 22.0	344 29.4	N22 18.3	251 29.8	N 5 40.1	274 05.7	N14 30.8	35 26.2	N 7 48.1
	11	75 24.5	359 28.6	N22 18.7	266 31.1	N 5 39.6	289 07.7	N14 30.7	50 28.5	N 7 48.1
	12	90 27.0	14 27.8	N22 19.1	281 32.3	N 5 39.0	304 09.8	N14 30.6	65 30.8	N 7 48.2
	13	105 29.4	29 27.0	N22 19.5	296 33.6	N 5 38.5	319 11.8	N14 30.4	80 33.0	N 7 48.2
	14	120 31.9	44 26.2	N22 19.9	311 34.9	N 5 37.9	334 13.9	N14 30.3	95 35.3	N 7 48.3
	15	135 34.4	59 25.3	N22 20.3	326 36.2	N 5 37.4	349 15.9	N14 30.1	110 37.6	N 7 48.4
	16	150 36.8	74 24.5	N22 20.7	341 37.5	N 5 36.8	4 18.0	N14 30.0	125 39.9	N 7 48.4
	17	165 39.3	89 23.7	N22 21.0	356 38.8	N 5 36.3	19 20.1	N14 29.9	140 42.2	N 7 48.5
	18	180 41.8	104 22.9	N22 21.4	11 40.1	N 5 35.7	34 22.1	N14 29.7	155 44.5	N 7 48.5
	19	195 44.2	119 22.1	N22 21.8	26 41.3	N 5 35.2	49 24.2	N14 29.6	170 46.7	N 7 48.6
	20	210 46.7	134 21.3	N22 22.2	41 42.6	N 5 34.6	64 26.2	N14 29.4	185 49.0	N 7 48.7
	21	225 49.1	149 20.5	N22 22.6	56 43.9	N 5 34.1	79 28.3	N14 29.3	200 51.3	N 7 48.7
	22	240 51.6	164 19.6	N22 23.0	71 45.2	N 5 33.5	94 30.3	N14 29.1	215 53.6	N 7 48.8
	23	255 54.1	179 18.8	N22 23.4	86 46.5	N 5 33.0	109 32.4	N14 29.0	230 55.9	N 7 48.8
23	0	270 56.5	194 18.0	N22 23.7	101 47.8	N 5 32.4	124 34.4	N14 28.9	245 58.2	N 7 48.9
	1	285 59.0	209 17.2	N22 24.1	116 49.0	N 5 31.9	139 36.5	N14 28.7	261 00.4	N 7 49.0
	2	301 01.5	224 16.4	N22 24.5	131 50.3	N 5 31.3	154 38.5	N14 28.6	276 02.7	N 7 49.0
	3	316 03.9	239 15.6	N22 24.9	146 51.6	N 5 30.8	169 40.6	N14 28.4	291 05.0	N 7 49.1
	4	331 06.4	254 14.8	N22 25.2	161 52.9	N 5 30.2	184 42.6	N14 28.3	306 07.3	N 7 49.1
W	5	346 08.9	269 13.9	N22 25.6	176 54.2	N 5 29.7	199 44.7	N14 28.2	321 09.6	N 7 49.2
E										
D	6	1 11.3	284 13.1	N22 26.0	191 55.5	N 5 29.1	214 46.8	N14 28.0	336 11.9	N 7 49.3
N	7	16 13.8	299 12.3	N22 26.4	206 56.7	N 5 28.5	229 48.8	N14 27.9	351 14.1	N 7 49.3
E	8	31 16.3	314 11.5	N22 26.7	221 58.0	N 5 28.0	244 50.9	N14 27.7	6 16.4	N 7 49.4
S	9	46 18.7	329 10.7	N22 27.1	236 59.3	N 5 27.4	259 52.9	N14 27.6	21 18.7	N 7 49.4
D	10	61 21.2	344 09.8	N22 27.5	252 00.6	N 5 26.9	274 55.0	N14 27.4	36 21.0	N 7 49.5
A	11	76 23.6	359 09.0	N22 27.8	267 01.9	N 5 26.3	289 57.0	N14 27.3	51 23.3	N 7 49.5
Y										
	12	91 26.1	14 08.2	N22 28.2	282 03.1	N 5 25.8	304 59.1	N14 27.2	66 25.6	N 7 49.6
	13	106 28.6	29 07.4	N22 28.6	297 04.4	N 5 25.2	320 01.1	N14 27.0	81 27.8	N 7 49.7
	14	121 31.0	44 06.6	N22 28.9	312 05.7	N 5 24.7	335 03.2	N14 26.9	96 30.1	N 7 49.7
	15	136 33.5	59 05.8	N22 29.3	327 07.0	N 5 24.1	350 05.2	N14 26.7	111 32.4	N 7 49.8
	16	151 36.0	74 04.9	N22 29.7	342 08.3	N 5 23.6	5 07.3	N14 26.6	126 34.7	N 7 49.8
	17	166 38.4	89 04.1	N22 30.0	357 09.5	N 5 23.0	20 09.3	N14 26.4	141 37.0	N 7 49.9
	18	181 40.9	104 03.3	N22 30.4	12 10.8	N 5 22.5	35 11.4	N14 26.3	156 39.3	N 7 50.0
	19	196 43.4	119 02.5	N22 30.8	27 12.1	N 5 21.9	50 13.4	N14 26.2	171 41.6	N 7 50.0
	20	211 45.8	134 01.6	N22 31.1	42 13.4	N 5 21.4	65 15.5	N14 26.0	186 43.8	N 7 50.1
	21	226 48.3	149 00.8	N22 31.5	57 14.7	N 5 20.8	80 17.5	N14 25.9	201 46.1	N 7 50.1
	22	241 50.8	164 00.0	N22 31.8	72 15.9	N 5 20.3	95 19.6	N14 25.7	216 48.4	N 7 50.2
	23	256 53.2	178 59.2	N22 32.2	87 17.2	N 5 19.7	110 21.6	N14 25.6	231 50.7	N 7 50.2
			v -0.8	d 0.4	v 1.3	d 0.5	v 2.1	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 '
21	0	179 35.1	N23 26.2	335 49.4	11.9	S23 36.2	7.1	54.1
	1	194 35.0	N23 26.2	350 20.4	12.0	S23 29.0	7.2	54.1
	2	209 34.8	N23 26.2	4 51.5	12.1	S23 21.8	7.3	54.1
	3	224 34.7	N23 26.2	19 22.6	12.1	S23 14.4	7.4	54.1
	4	239 34.6	N23 26.2	33 53.8	12.2	S23 06.9	7.5	54.1
M	5	254 34.4	N23 26.2	48 25.0	12.2	S22 59.4	7.6	54.1
O								
N	6	269 34.3	N23 26.2	62 56.3	12.3	S22 51.7	7.7	54.1
D	7	284 34.2	N23 26.2	77 27.7	12.4	S22 43.9	7.8	54.1
A	8	299 34.0	N23 26.2	91 59.2	12.4	S22 36.1	7.9	54.1
Y	9	314 33.9	N23 26.2	106 30.7	12.5	S22 28.1	8.0	54.1
	10	329 33.8	N23 26.2	121 02.2	12.6	S22 20.1	8.1	54.1
	11	344 33.6	N23 26.2	135 33.9	12.6	S22 11.9	8.2	54.1
	12	359 33.5	N23 26.2	150 05.6	12.7	S22 03.6	8.2	54.1
	13	14 33.4	N23 26.2	164 37.4	12.8	S21 55.3	8.3	54.1
	14	29 33.2	N23 26.2	179 09.2	12.8	S21 46.9	8.4	54.1
	15	44 33.1	N23 26.2	193 41.1	12.9	S21 38.3	8.5	54.1
	16	59 33.0	N23 26.2	208 13.1	13.0	S21 29.7	8.6	54.1
	17	74 32.8	N23 26.2	222 45.1	13.0	S21 21.0	8.7	54.1
	18	89 32.7	N23 26.2	237 17.3	13.1	S21 12.2	8.8	54.1
	19	104 32.5	N23 26.2	251 49.4	13.2	S21 03.3	8.9	54.1
	20	119 32.4	N23 26.2	266 21.7	13.2	S20 54.3	9.0	54.1
	21	134 32.3	N23 26.2	280 54.0	13.3	S20 45.3	9.1	54.1
	22	149 32.1	N23 26.2	295 26.3	13.4	S20 36.1	9.2	54.1
	23	164 32.0	N23 26.2	309 58.8	13.4	S20 26.9	9.2	54.1
22	0	179 31.9	N23 26.2	324 31.3	13.5	S20 17.5	9.3	54.1
	1	194 31.7	N23 26.2	339 03.8	13.6	S20 08.1	9.4	54.1
	2	209 31.6	N23 26.2	353 36.4	13.6	S19 58.6	9.5	54.0
	3	224 31.5	N23 26.2	8 09.1	13.7	S19 49.1	9.6	54.0
	4	239 31.3	N23 26.2	22 41.9	13.7	S19 39.4	9.7	54.0
T	5	254 31.2	N23 26.2	37 14.7	13.8	S19 29.7	9.7	54.0
U								
E	6	269 31.1	N23 26.1	51 47.5	13.9	S19 19.9	9.8	54.0
S	7	284 30.9	N23 26.1	66 20.5	13.9	S19 10.0	9.9	54.0
D	8	299 30.8	N23 26.1	80 53.5	14.0	S19 00.0	10.0	54.0
A	9	314 30.7	N23 26.1	95 26.5	14.1	S18 50.0	10.0	54.1
Y	10	329 30.5	N23 26.1	109 59.6	14.1	S18 39.8	10.1	54.1
	11	344 30.4	N23 26.1	124 32.8	14.2	S18 29.6	10.2	54.1
	12	359 30.2	N23 26.1	139 06.0	14.2	S18 19.3	10.3	54.1
	13	14 30.1	N23 26.1	153 39.3	14.3	S18 09.0	10.4	54.1
	14	29 30.0	N23 26.0	168 12.7	14.4	S17 58.6	10.4	54.1
	15	44 29.8	N23 26.0	182 46.1	14.4	S17 48.1	10.5	54.1
	16	59 29.7	N23 26.0	197 19.6	14.5	S17 37.5	10.6	54.1
	17	74 29.6	N23 26.0	211 53.1	14.5	S17 26.9	10.6	54.1
	18	89 29.4	N23 26.0	226 26.7	14.6	S17 16.2	10.7	54.1
	19	104 29.3	N23 25.9	241 00.3	14.6	S17 05.4	10.8	54.1
	20	119 29.2	N23 25.9	255 34.0	14.7	S16 54.5	10.8	54.1
	21	134 29.0	N23 25.9	270 07.8	14.7	S16 43.6	10.9	54.1
	22	149 28.9	N23 25.9	284 41.5	14.8	S16 32.7	11.0	54.1
	23	164 28.8	N23 25.9	299 15.4	14.9	S16 21.6	11.0	54.1
23	0	179 28.6	N23 25.8	313 49.3	14.9	S16 10.5	11.1	54.1
	1	194 28.5	N23 25.8	328 23.3	15.0	S15 59.3	11.2	54.1
	2	209 28.4	N23 25.8	342 57.3	15.0	S15 48.1	11.2	54.1
	3	224 28.2	N23 25.8	357 31.3	15.1	S15 36.8	11.3	54.1
	4	239 28.1	N23 25.7	12 05.4	15.1	S15 25.4	11.4	54.1
W	5	254 28.0	N23 25.7	26 39.6	15.2	S15 14.0	11.4	54.1
E								
D	6	269 27.8	N23 25.7	41 13.8	15.2	S15 02.5	11.5	54.1
N	7	284 27.7	N23 25.6	55 48.1	15.3	S14 51.0	11.5	54.1
E	8	299 27.6	N23 25.6	70 22.4	15.3	S14 39.4	11.6	54.1
S	9	314 27.4	N23 25.6	84 56.7	15.3	S14 27.7	11.7	54.1
D	10	329 27.3	N23 25.6	99 31.1	15.4	S14 16.0	11.7	54.1
A	11	344 27.2	N23 25.5	114 05.5	15.4	S14 04.2	11.8	54.1
Y								
	12	359 27.0	N23 25.5	128 40.0	15.5	S13 52.4	11.8	54.2
	13	14 26.9	N23 25.5	143 14.5	15.5	S13 40.5	11.9	54.2
	14	29 26.7	N23 25.4	157 49.1	15.6	S13 28.6	11.9	54.2
	15	44 26.6	N23 25.4	172 23.7	15.6	S13 16.6	12.0	54.2
	16	59 26.5	N23 25.4	186 58.4	15.6	S13 04.5	12.0	54.2
	17	74 26.3	N23 25.3	201 33.0	15.7	S12 52.4	12.1	54.2
	18	89 26.2	N23 25.3	216 07.8	15.7	S12 40.3	12.1	54.2
	19	104 26.1	N23 25.2	230 42.5	15.8	S12 28.1	12.2	54.2
	20	119 25.9	N23 25.2	245 17.3	15.8	S12 15.8	12.3	54.2
	21	134 25.8	N23 25.2	259 52.2	15.8	S12 03.5	12.3	54.2
	22	149 25.7	N23 25.1	274 27.0	15.9	S11 51.2	12.3	54.2
	23	164 25.5	N23 25.1	289 02.0	15.9	S11 38.8	12.4	54.2
		S.D. 15.7	d 0.0	S.D.	14.7	14.7	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 11.4
Achernar	335 18.9	S57 05.5
Acrux	172 57.7	S63 15.4
Adhara	255 04.6	S29 00.6
Albireo	67 02.1	N28 01.0
Aldebaran	290 37.6	N16 33.9
Alioth	166 11.0	N55 48.9
Alkaid	152 50.2	N49 10.7
Al Na-ir	27 30.1	S46 49.4
Alnilam	275 36.0	S 1 11.0
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.4
Alpheratz	357 32.7	N29 14.5
Altair	61 57.7	N 8 56.5
Ankaa	353 05.2	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 04.9	S69 04.7
Avior	234 14.4	S59 36.1
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 52.0	S52 42.6
Capella	280 19.4	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.0	N45 22.6
Denebola	182 22.9	N14 25.1
Diphda	348 45.4	S17 49.9
Dubhe	193 38.7	N61 36.3
Elnath	277 59.7	N28 37.8
Eltanin	90 40.7	N51 29.1
Enif	33 36.5	N10 00.1
Fomalhaut	15 12.2	S29 28.4
Gacrux	171 49.3	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.8	S60 30.6
Hamal	327 49.1	N23 35.5
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.3	N74 02.7
Markab	13 27.8	N15 21.1
Menkar	314 04.2	N 4 11.9
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.4	S69 50.1
Mirfak	308 25.8	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 02.0	S56 38.6
Polaris	315 57.3	N89 21.9
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.4	N11 50.0
Rigel	281 02.3	S 8 10.2
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.8	N56 41.1
Shaula	96 07.2	S37 07.4
Sirius	258 24.8	S16 45.2
Spica	158 20.0	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.4	N38 48.5
Zuben-ubi	136 54.4	S16 09.5

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	271 55.7	193 58.4	N22 32.5	102 18.5	N 5 19.1	125 23.7	N14 25.4	246 53.0	N 7 50.3
	1	286 58.1	208 57.5	N22 32.9	117 19.8	N 5 18.6	140 25.7	N14 25.3	261 55.3	N 7 50.4
	2	302 00.6	223 56.7	N22 33.2	132 21.0	N 5 18.0	155 27.8	N14 25.2	276 57.6	N 7 50.4
	3	317 03.1	238 55.9	N22 33.6	147 22.3	N 5 17.5	170 29.8	N14 25.0	291 59.8	N 7 50.5
	4	332 05.5	253 55.1	N22 33.9	162 23.6	N 5 16.9	185 31.9	N14 24.9	307 02.1	N 7 50.5
T	5	347 08.0	268 54.2	N22 34.3	177 24.9	N 5 16.4	200 33.9	N14 24.7	322 04.4	N 7 50.6
H										
U	6	2 10.5	283 53.4	N22 34.6	192 26.2	N 5 15.8	215 36.0	N14 24.6	337 06.7	N 7 50.7
R	7	17 12.9	298 52.6	N22 35.0	207 27.4	N 5 15.3	230 38.0	N14 24.4	352 09.0	N 7 50.7
S	8	32 15.4	313 51.8	N22 35.3	222 28.7	N 5 14.7	245 40.1	N14 24.3	7 11.3	N 7 50.8
D	9	47 17.9	328 50.9	N22 35.7	237 30.0	N 5 14.2	260 42.1	N14 24.1	22 13.6	N 7 50.8
A	10	62 20.3	343 50.1	N22 36.0	252 31.3	N 5 13.6	275 44.2	N14 24.0	37 15.9	N 7 50.9
Y	11	77 22.8	358 49.3	N22 36.4	267 32.5	N 5 13.0	290 46.2	N14 23.9	52 18.1	N 7 50.9
	12	92 25.2	13 48.5	N22 36.7	282 33.8	N 5 12.5	305 48.3	N14 23.7	67 20.4	N 7 51.0
	13	107 27.7	28 47.6	N22 37.0	297 35.1	N 5 11.9	320 50.3	N14 23.6	82 22.7	N 7 51.1
	14	122 30.2	43 46.8	N22 37.4	312 36.4	N 5 11.4	335 52.4	N14 23.4	97 25.0	N 7 51.1
	15	137 32.6	58 46.0	N22 37.7	327 37.6	N 5 10.8	350 54.4	N14 23.3	112 27.3	N 7 51.2
	16	152 35.1	73 45.1	N22 38.1	342 38.9	N 5 10.3	5 56.5	N14 23.1	127 29.6	N 7 51.2
	17	167 37.6	88 44.3	N22 38.4	357 40.2	N 5 09.7	20 58.5	N14 23.0	142 31.9	N 7 51.3
	18	182 40.0	103 43.5	N22 38.7	12 41.5	N 5 09.2	36 00.6	N14 22.9	157 34.2	N 7 51.3
	19	197 42.5	118 42.7	N22 39.1	27 42.7	N 5 08.6	51 02.6	N14 22.7	172 36.5	N 7 51.4
	20	212 45.0	133 41.8	N22 39.4	42 44.0	N 5 08.0	66 04.7	N14 22.6	187 38.7	N 7 51.5
	21	227 47.4	148 41.0	N22 39.7	57 45.3	N 5 07.5	81 06.7	N14 22.4	202 41.0	N 7 51.5
	22	242 49.9	163 40.2	N22 40.0	72 46.5	N 5 06.9	96 08.8	N14 22.3	217 43.3	N 7 51.6
	23	257 52.4	178 39.3	N22 40.4	87 47.8	N 5 06.4	111 10.8	N14 22.1	232 45.6	N 7 51.6
25	0	272 54.8	193 38.5	N22 40.7	102 49.1	N 5 05.8	126 12.8	N14 22.0	247 47.9	N 7 51.7
	1	287 57.3	208 37.7	N22 41.0	117 50.4	N 5 05.3	141 14.9	N14 21.8	262 50.2	N 7 51.7
	2	302 59.7	223 36.9	N22 41.4	132 51.6	N 5 04.7	156 16.9	N14 21.7	277 52.5	N 7 51.8
	3	318 02.2	238 36.0	N22 41.7	147 52.9	N 5 04.1	171 19.0	N14 21.6	292 54.8	N 7 51.9
	4	333 04.7	253 35.2	N22 42.0	162 54.2	N 5 03.6	186 21.0	N14 21.4	307 57.1	N 7 51.9
F	5	348 07.1	268 34.4	N22 42.3	177 55.5	N 5 03.0	201 23.1	N14 21.3	322 59.3	N 7 52.0
R										
I	6	3 09.6	283 33.5	N22 42.6	192 56.7	N 5 02.5	216 25.1	N14 21.1	338 01.6	N 7 52.0
D	7	18 12.1	298 32.7	N22 43.0	207 58.0	N 5 01.9	231 27.2	N14 21.0	353 03.9	N 7 52.1
A	8	33 14.5	313 31.9	N22 43.3	222 59.3	N 5 01.3	246 29.2	N14 20.8	8 06.2	N 7 52.1
Y	9	48 17.0	328 31.0	N22 43.6	238 00.5	N 5 00.8	261 31.3	N14 20.7	23 08.5	N 7 52.2
	10	63 19.5	343 30.2	N22 43.9	253 01.8	N 5 00.2	276 33.3	N14 20.5	38 10.8	N 7 52.2
	11	78 21.9	358 29.4	N22 44.2	268 03.1	N 4 59.7	291 35.4	N14 20.4	53 13.1	N 7 52.3
	12	93 24.4	13 28.5	N22 44.5	283 04.3	N 4 59.1	306 37.4	N14 20.2	68 15.4	N 7 52.4
	13	108 26.9	28 27.7	N22 44.9	298 05.6	N 4 58.6	321 39.4	N14 20.1	83 17.7	N 7 52.4
	14	123 29.3	43 26.9	N22 45.2	313 06.9	N 4 58.0	336 41.5	N14 20.0	98 20.0	N 7 52.5
	15	138 31.8	58 26.0	N22 45.5	328 08.2	N 4 57.4	351 43.5	N14 19.8	113 22.3	N 7 52.5
	16	153 34.2	73 25.2	N22 45.8	343 09.4	N 4 56.9	6 45.6	N14 19.7	128 24.5	N 7 52.6
	17	168 36.7	88 24.4	N22 46.1	358 10.7	N 4 56.3	21 47.6	N14 19.5	143 26.8	N 7 52.6
	18	183 39.2	103 23.5	N22 46.4	13 12.0	N 4 55.8	36 49.7	N14 19.4	158 29.1	N 7 52.7
	19	198 41.6	118 22.7	N22 46.7	28 13.2	N 4 55.2	51 51.7	N14 19.2	173 31.4	N 7 52.8
	20	213 44.1	133 21.9	N22 47.0	43 14.5	N 4 54.6	66 53.8	N14 19.1	188 33.7	N 7 52.8
	21	228 46.6	148 21.0	N22 47.3	58 15.8	N 4 54.1	81 55.8	N14 18.9	203 36.0	N 7 52.9
	22	243 49.0	163 20.2	N22 47.6	73 17.0	N 4 53.5	96 57.8	N14 18.8	218 38.3	N 7 52.9
	23	258 51.5	178 19.3	N22 47.9	88 18.3	N 4 53.0	111 59.9	N14 18.6	233 40.6	N 7 53.0
26	0	273 54.0	193 18.5	N22 48.2	103 19.6	N 4 52.4	127 01.9	N14 18.5	248 42.9	N 7 53.0
	1	288 56.4	208 17.7	N22 48.5	118 20.8	N 4 51.8	142 04.0	N14 18.3	263 45.2	N 7 53.1
	2	303 58.9	223 16.8	N22 48.8	133 22.1	N 4 51.3	157 06.0	N14 18.2	278 47.5	N 7 53.1
	3	319 01.3	238 16.0	N22 49.1	148 23.4	N 4 50.7	172 08.1	N14 18.1	293 49.8	N 7 53.2
	4	334 03.8	253 15.2	N22 49.4	163 24.6	N 4 50.2	187 10.1	N14 17.9	308 52.1	N 7 53.3
S	5	349 06.3	268 14.3	N22 49.7	178 25.9	N 4 49.6	202 12.2	N14 17.8	323 54.3	N 7 53.3
A										
T	6	4 08.7	283 13.5	N22 50.0	193 27.2	N 4 49.0	217 14.2	N14 17.6	338 56.6	N 7 53.4
U	7	19 11.2	298 12.6	N22 50.3	208 28.4	N 4 48.5	232 16.2	N14 17.5	353 58.9	N 7 53.4
R	8	34 13.7	313 11.8	N22 50.6	223 29.7	N 4 47.9	247 18.3	N14 17.3	9 01.2	N 7 53.5
D	9	49 16.1	328 11.0	N22 50.9	238 31.0	N 4 47.4	262 20.3	N14 17.2	24 03.5	N 7 53.5
A	10	64 18.6	343 10.1	N22 51.2	253 32.2	N 4 46.8	277 22.4	N14 17.0	39 05.8	N 7 53.6
Y	11	79 21.1	358 09.3	N22 51.4	268 33.5	N 4 46.2	292 24.4	N14 16.9	54 08.1	N 7 53.6
	12	94 23.5	13 08.4	N22 51.7	283 34.8	N 4 45.7	307 26.5	N14 16.7	69 10.4	N 7 53.7
	13	109 26.0	28 07.6	N22 52.0	298 36.0	N 4 45.1	322 28.5	N14 16.6	84 12.7	N 7 53.7
	14	124 28.5	43 06.8	N22 52.3	313 37.3	N 4 44.6	337 30.5	N14 16.4	99 15.0	N 7 53.8
	15	139 30.9	58 05.9	N22 52.6	328 38.5	N 4 44.0	352 32.6	N14 16.3	114 17.3	N 7 53.9
	16	154 33.4	73 05.1	N22 52.9	343 39.8	N 4 43.4	7 34.6	N14 16.1	129 19.6	N 7 53.9
	17	169 35.8	88 04.2	N22 53.1	358 41.1	N 4 42.9	22 36.7	N14 16.0	144 21.9	N 7 54.0
	18	184 38.3	103 03.4	N22 53.4	13 42.3	N 4 42.3	37 38.7	N14 15.9	159 24.2	N 7 54.0
	19	199 40.8	118 02.6	N22 53.7	28 43.6	N 4 41.7	52 40.7	N14 15.7	174 26.5	N 7 54.1
	20	214 43.2	133 01.7	N22 54.0	43 44.9	N 4 41.2	67 42.8	N14 15.6	189 28.8	N 7 54.1
	21	229 45.7	148 00.9	N22 54.3	58 46.1	N 4 40.6	82 44.8	N14 15.4	204 31.1	N 7 54.2
	22	244 48.2	163 00.0	N22 54.5	73 47.4	N 4 40.1	97 46.9	N14 15.3	219 33.3	N 7 54.2
	23	259 50.6	177 59.2	N22 54.8	88 48.6	N 4 39.5	112 48.9	N14 15.1	234 35.6	N 7 54.3
			v -0.8	d 0.3	v 1.3	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 '
24	0	179 25.4	N23 25.0	303 36.9	15.9	S11 26.3	12.4	54.3
	1	194 25.3	N23 25.0	318 11.9	16.0	S11 13.8	12.5	54.3
	2	209 25.1	N23 25.0	332 46.9	16.0	S11 01.3	12.5	54.3
	3	224 25.0	N23 24.9	347 21.9	16.0	S10 48.7	12.6	54.3
	4	239 24.9	N23 24.9	1 57.0	16.1	S10 36.1	12.6	54.3
T	5	254 24.7	N23 24.8	16 32.1	16.1	S10 23.4	12.7	54.3
H								
U	6	269 24.6	N23 24.8	31 07.2	16.1	S10 10.7	12.7	54.3
R	7	284 24.5	N23 24.7	45 42.4	16.2	S 9 58.0	12.8	54.3
S	8	299 24.3	N23 24.7	60 17.5	16.2	S 9 45.2	12.8	54.3
D	9	314 24.2	N23 24.6	74 52.7	16.2	S 9 32.3	12.8	54.3
A	10	329 24.1	N23 24.6	89 28.0	16.2	S 9 19.5	12.9	54.4
Y	11	344 23.9	N23 24.5	104 03.2	16.3	S 9 06.5	12.9	54.4
	12	359 23.8	N23 24.5	118 38.5	16.3	S 8 53.6	13.0	54.4
	13	14 23.7	N23 24.4	133 13.8	16.3	S 8 40.6	13.0	54.4
	14	29 23.5	N23 24.4	147 49.1	16.3	S 8 27.6	13.0	54.4
	15	44 23.4	N23 24.3	162 24.4	16.3	S 8 14.5	13.1	54.4
	16	59 23.3	N23 24.3	176 59.8	16.4	S 8 01.4	13.1	54.4
	17	74 23.1	N23 24.2	191 35.2	16.4	S 7 48.3	13.1	54.5
	18	89 23.0	N23 24.2	206 10.5	16.4	S 7 35.1	13.2	54.5
	19	104 22.9	N23 24.1	220 45.9	16.4	S 7 21.9	13.2	54.5
	20	119 22.7	N23 24.1	235 21.4	16.4	S 7 08.6	13.2	54.5
	21	134 22.6	N23 24.0	249 56.8	16.4	S 6 55.4	13.3	54.5
	22	149 22.5	N23 24.0	264 32.2	16.4	S 6 42.1	13.3	54.5
	23	164 22.3	N23 23.9	279 07.7	16.5	S 6 28.7	13.3	54.5
25	0	179 22.2	N23 23.8	293 43.1	16.5	S 6 15.4	13.4	54.6
	1	194 22.1	N23 23.8	308 18.6	16.5	S 6 02.0	13.4	54.6
	2	209 21.9	N23 23.7	322 54.1	16.5	S 5 48.5	13.4	54.6
	3	224 21.8	N23 23.7	337 29.6	16.5	S 5 35.1	13.5	54.6
	4	239 21.7	N23 23.6	352 05.1	16.5	S 5 21.6	13.5	54.6
F	5	254 21.5	N23 23.5	6 40.6	16.5	S 5 08.1	13.5	54.6
R								
I	6	269 21.4	N23 23.5	21 16.1	16.5	S 4 54.6	13.5	54.7
D	7	284 21.3	N23 23.4	35 51.6	16.5	S 4 41.0	13.6	54.7
A	8	299 21.1	N23 23.4	50 27.1	16.5	S 4 27.4	13.6	54.7
Y	9	314 21.0	N23 23.3	65 02.6	16.5	S 4 13.8	13.6	54.7
	10	329 20.9	N23 23.2	79 38.1	16.5	S 4 00.1	13.6	54.7
	11	344 20.7	N23 23.2	94 13.6	16.5	S 3 46.5	13.7	54.7
	12	359 20.6	N23 23.1	108 49.1	16.5	S 3 32.8	13.7	54.8
	13	14 20.5	N23 23.0	123 24.6	16.5	S 3 19.1	13.7	54.8
	14	29 20.3	N23 23.0	138 00.1	16.5	S 3 05.4	13.7	54.8
	15	44 20.2	N23 22.9	152 35.6	16.5	S 2 51.6	13.7	54.8
	16	59 20.1	N23 22.8	167 11.1	16.5	S 2 37.9	13.8	54.8
	17	74 19.9	N23 22.7	181 46.5	16.5	S 2 24.1	13.8	54.9
	18	89 19.8	N23 22.7	196 22.0	16.5	S 2 10.3	13.8	54.9
	19	104 19.7	N23 22.6	210 57.4	16.4	S 1 56.4	13.8	54.9
	20	119 19.5	N23 22.5	225 32.9	16.4	S 1 42.6	13.8	54.9
	21	134 19.4	N23 22.5	240 08.3	16.4	S 1 28.7	13.9	55.0
	22	149 19.3	N23 22.4	254 43.7	16.4	S 1 14.9	13.9	55.0
	23	164 19.2	N23 22.3	269 19.1	16.4	S 1 01.0	13.9	55.0
26	0	179 19.0	N23 22.2	283 54.5	16.4	S 0 47.1	13.9	55.0
	1	194 18.9	N23 22.2	298 29.8	16.4	S 0 33.2	13.9	55.0
	2	209 18.8	N23 22.1	313 05.2	16.3	S 0 19.2	13.9	55.1
	3	224 18.6	N23 22.0	327 40.5	16.3	S 0 05.3	13.9	55.1
	4	239 18.5	N23 21.9	342 15.8	16.3	N 0 08.7	14.0	55.1
S	5	254 18.4	N23 21.8	356 51.1	16.3	N 0 22.6	14.0	55.1
A								
T	6	269 18.2	N23 21.8	11 26.3	16.3	N 0 36.6	14.0	55.2
U	7	284 18.1	N23 21.7	26 01.5	16.2	N 0 50.6	14.0	55.2
R	8	299 18.0	N23 21.6	40 36.7	16.2	N 1 04.6	14.0	55.2
D	9	314 17.8	N23 21.5	55 11.9	16.2	N 1 18.6	14.0	55.2
A	10	329 17.7	N23 21.4	69 47.1	16.1	N 1 32.6	14.0	55.3
Y	11	344 17.6	N23 21.4	84 22.2	16.1	N 1 46.6	14.0	55.3
	12	359 17.4	N23 21.3	98 57.3	16.1	N 2 00.6	14.0	55.3
	13	14 17.3	N23 21.2	113 32.3	16.0	N 2 14.6	14.0	55.3
	14	29 17.2	N23 21.1	128 07.3	16.0	N 2 28.7	14.0	55.4
	15	44 17.0	N23 21.0	142 42.3	16.0	N 2 42.7	14.0	55.4
	16	59 16.9	N23 20.9	157 17.2	15.9	N 2 56.7	14.0	55.4
	17	74 16.8	N23 20.8	171 52.2	15.9	N 3 10.8	14.0	55.4
	18	89 16.7	N23 20.8	186 27.0	15.9	N 3 24.8	14.0	55.5
	19	104 16.5	N23 20.7	201 01.8	15.8	N 3 38.8	14.0	55.5
	20	119 16.4	N23 20.6	215 36.6	15.8	N 3 52.9	14.0	55.5
	21	134 16.3	N23 20.5	230 11.4	15.7	N 4 06.9	14.0	55.5
	22	149 16.1	N23 20.4	244 46.1	15.7	N 4 21.0	14.0	55.6
	23	164 16.0	N23 20.3	259 20.7	15.7	N 4 35.0	14.0	55.6
		S.D. 15.7	d 0.1	S.D.	14.8	14.9	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 11.4
Achernar	335 18.9	S57 05.5
Acrux	172 57.8	S63 15.4
Adhara	255 04.6	S29 00.6
Albireo	67 02.1	N28 01.0
Aldebaran	290 37.6	N16 33.9
Alioth	166 11.1	N55 48.9
Alkaid	152 50.2	N49 10.7
Al Na-ir	27 30.1	S46 49.4
Alnilam	275 36.0	S 1 11.0
Alphard	217 45.9	S 8 46.8
Alphecca	126 01.7	N26 37.4
Alpheratz	357 32.7	N29 14.5
Altair	61 57.7	N 8 56.5
Ankaa	353 05.2	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 04.9	S69 04.8
Avior	234 14.4	S59 36.0
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 52.0	S52 42.6
Capella	280 19.4	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.0	N45 22.6
Denebola	182 22.9	N14 25.1
Diphda	348 45.3	S17 49.9
Dubhe	193 38.7	N61 36.3
Elnath	277 59.7	N28 37.8
Eltanin	90 40.7	N51 29.1
Enif	33 36.5	N10 00.1
Fomalhaut	15 12.1	S29 28.4
Gacrux	171 49.3	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.9	S60 30.6
Hamal	327 49.1	N23 35.5
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.3	N74 02.7
Markab	13 27.8	N15 21.2
Menkar	314 04.2	N 4 11.9
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.4	S69 50.1
Mirfak	308 25.8	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 02.0	S56 38.6
Polaris	315 56.3	N89 21.9
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.5	N11 50.0
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.8	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.8	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.4	N38 48.5
Zuben-ubi	136 54.5	S16 09.5

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
27 0	274 53.1	192 58.3	N22 55.1	103 49.9	N 4 38.9	127 50.9	N14 15.0	249 37.9	N 7 54.3
1	289 55.6	207 57.5	N22 55.4	118 51.2	N 4 38.4	142 53.0	N14 14.8	264 40.2	N 7 54.4
2	304 58.0	222 56.6	N22 55.6	133 52.4	N 4 37.8	157 55.0	N14 14.7	279 42.5	N 7 54.5
3	320 00.5	237 55.8	N22 55.9	148 53.7	N 4 37.2	172 57.1	N14 14.5	294 44.8	N 7 54.5
4	335 03.0	252 55.0	N22 56.2	163 55.0	N 4 36.7	187 59.1	N14 14.4	309 47.1	N 7 54.6
S 5	350 05.4	267 54.1	N22 56.4	178 56.2	N 4 36.1	203 01.2	N14 14.2	324 49.4	N 7 54.6
U									
N 6	5 07.9	282 53.3	N22 56.7	193 57.5	N 4 35.6	218 03.2	N14 14.1	339 51.7	N 7 54.7
D 7	20 10.3	297 52.4	N22 57.0	208 58.7	N 4 35.0	233 05.2	N14 13.9	354 54.0	N 7 54.7
A 8	35 12.8	312 51.6	N22 57.2	223 60.0	N 4 34.4	248 07.3	N14 13.8	9 56.3	N 7 54.8
Y 9	50 15.3	327 50.7	N22 57.5	239 01.3	N 4 33.9	263 09.3	N14 13.6	24 58.6	N 7 54.8
10	65 17.7	342 49.9	N22 57.7	254 02.5	N 4 33.3	278 11.3	N14 13.5	40 00.9	N 7 54.9
11	80 20.2	357 49.0	N22 58.0	269 03.8	N 4 32.7	293 13.4	N14 13.3	55 03.2	N 7 54.9
12	95 22.7	12 48.2	N22 58.3	284 05.0	N 4 32.2	308 15.4	N14 13.2	70 05.5	N 7 55.0
13	110 25.1	27 47.4	N22 58.5	299 06.3	N 4 31.6	323 17.5	N14 13.0	85 07.8	N 7 55.0
14	125 27.6	42 46.5	N22 58.8	314 07.6	N 4 31.0	338 19.5	N14 12.9	100 10.1	N 7 55.1
15	140 30.1	57 45.7	N22 59.0	329 08.8	N 4 30.5	353 21.5	N14 12.8	115 12.4	N 7 55.1
16	155 32.5	72 44.8	N22 59.3	344 10.1	N 4 29.9	8 23.6	N14 12.6	130 14.7	N 7 55.2
17	170 35.0	87 44.0	N22 59.5	359 11.3	N 4 29.3	23 25.6	N14 12.5	145 17.0	N 7 55.3
18	185 37.4	102 43.1	N22 59.8	14 12.6	N 4 28.8	38 27.7	N14 12.3	160 19.3	N 7 55.3
19	200 39.9	117 42.3	N23 00.0	29 13.8	N 4 28.2	53 29.7	N14 12.2	175 21.6	N 7 55.4
20	215 42.4	132 41.4	N23 00.3	44 15.1	N 4 27.6	68 31.7	N14 12.0	190 23.9	N 7 55.4
21	230 44.8	147 40.6	N23 00.5	59 16.4	N 4 27.1	83 33.8	N14 11.9	205 26.2	N 7 55.5
22	245 47.3	162 39.7	N23 00.8	74 17.6	N 4 26.5	98 35.8	N14 11.7	220 28.5	N 7 55.5
23	260 49.8	177 38.9	N23 01.0	89 18.9	N 4 26.0	113 37.8	N14 11.6	235 30.8	N 7 55.6
28 0	275 52.2	192 38.0	N23 01.3	104 20.1	N 4 25.4	128 39.9	N14 11.4	250 33.1	N 7 55.6
1	290 54.7	207 37.2	N23 01.5	119 21.4	N 4 24.8	143 41.9	N14 11.3	265 35.4	N 7 55.7
2	305 57.2	222 36.3	N23 01.8	134 22.6	N 4 24.3	158 44.0	N14 11.1	280 37.7	N 7 55.7
3	320 59.6	237 35.5	N23 02.0	149 23.9	N 4 23.7	173 46.0	N14 11.0	295 40.0	N 7 55.8
4	336 02.1	252 34.6	N23 02.3	164 25.2	N 4 23.1	188 48.0	N14 10.8	310 42.3	N 7 55.8
M 5	351 04.6	267 33.8	N23 02.5	179 26.4	N 4 22.6	203 50.1	N14 10.7	325 44.6	N 7 55.9
O									
N 6	6 07.0	282 32.9	N23 02.7	194 27.7	N 4 22.0	218 52.1	N14 10.5	340 46.9	N 7 55.9
D 7	21 09.5	297 32.1	N23 03.0	209 28.9	N 4 21.4	233 54.1	N14 10.4	355 49.2	N 7 56.0
A 8	36 11.9	312 31.2	N23 03.2	224 30.2	N 4 20.9	248 56.2	N14 10.2	10 51.5	N 7 56.0
Y 9	51 14.4	327 30.4	N23 03.4	239 31.4	N 4 20.3	263 58.2	N14 10.1	25 53.8	N 7 56.1
10	66 16.9	342 29.5	N23 03.7	254 32.7	N 4 19.7	279 00.3	N14 09.9	40 56.1	N 7 56.2
11	81 19.3	357 28.7	N23 03.9	269 33.9	N 4 19.2	294 02.3	N14 09.8	55 58.4	N 7 56.2
12	96 21.8	12 27.8	N23 04.1	284 35.2	N 4 18.6	309 04.3	N14 09.6	71 00.7	N 7 56.3
13	111 24.3	27 27.0	N23 04.4	299 36.4	N 4 18.0	324 06.4	N14 09.5	86 03.0	N 7 56.3
14	126 26.7	42 26.1	N23 04.6	314 37.7	N 4 17.5	339 08.4	N14 09.3	101 05.3	N 7 56.4
15	141 29.2	57 25.3	N23 04.8	329 39.0	N 4 16.9	354 10.4	N14 09.2	116 07.6	N 7 56.4
16	156 31.7	72 24.4	N23 05.1	344 40.2	N 4 16.3	9 12.5	N14 09.0	131 09.9	N 7 56.5
17	171 34.1	87 23.5	N23 05.3	359 41.5	N 4 15.8	24 14.5	N14 08.9	146 12.2	N 7 56.5
18	186 36.6	102 22.7	N23 05.5	14 42.7	N 4 15.2	39 16.5	N14 08.7	161 14.5	N 7 56.6
19	201 39.1	117 21.8	N23 05.7	29 44.0	N 4 14.6	54 18.6	N14 08.6	176 16.8	N 7 56.6
20	216 41.5	132 21.0	N23 06.0	44 45.2	N 4 14.1	69 20.6	N14 08.4	191 19.1	N 7 56.7
21	231 44.0	147 20.1	N23 06.2	59 46.5	N 4 13.5	84 22.6	N14 08.3	206 21.4	N 7 56.7
22	246 46.4	162 19.3	N23 06.4	74 47.7	N 4 12.9	99 24.7	N14 08.1	221 23.7	N 7 56.8
23	261 48.9	177 18.4	N23 06.6	89 49.0	N 4 12.3	114 26.7	N14 08.0	236 26.0	N 7 56.8
29 0	276 51.4	192 17.6	N23 06.8	104 50.2	N 4 11.8	129 28.8	N14 07.8	251 28.3	N 7 56.9
1	291 53.8	207 16.7	N23 07.0	119 51.5	N 4 11.2	144 30.8	N14 07.7	266 30.6	N 7 56.9
2	306 56.3	222 15.9	N23 07.3	134 52.7	N 4 10.6	159 32.8	N14 07.5	281 32.9	N 7 57.0
3	321 58.8	237 15.0	N23 07.5	149 54.0	N 4 10.1	174 34.9	N14 07.4	296 35.2	N 7 57.0
4	337 01.2	252 14.2	N23 07.7	164 55.2	N 4 09.5	189 36.9	N14 07.2	311 37.5	N 7 57.1
T 5	352 03.7	267 13.3	N23 07.9	179 56.5	N 4 08.9	204 38.9	N14 07.1	326 39.8	N 7 57.1
U									
E 6	7 06.2	282 12.4	N23 08.1	194 57.7	N 4 08.4	219 41.0	N14 06.9	341 42.1	N 7 57.2
S 7	22 08.6	297 11.6	N23 08.3	209 59.0	N 4 07.8	234 43.0	N14 06.8	356 44.4	N 7 57.2
D 8	37 11.1	312 10.7	N23 08.5	225 00.2	N 4 07.2	249 45.0	N14 06.6	11 46.7	N 7 57.3
A 9	52 13.5	327 09.9	N23 08.7	240 01.5	N 4 06.7	264 47.1	N14 06.5	26 49.0	N 7 57.3
Y 10	67 16.0	342 09.0	N23 08.9	255 02.7	N 4 06.1	279 49.1	N14 06.3	41 51.3	N 7 57.4
11	82 18.5	357 08.2	N23 09.1	270 04.0	N 4 05.5	294 51.1	N14 06.2	56 53.6	N 7 57.4
12	97 20.9	12 07.3	N23 09.3	285 05.2	N 4 04.9	309 53.2	N14 06.0	71 55.9	N 7 57.5
13	112 23.4	27 06.4	N23 09.6	300 06.5	N 4 04.4	324 55.2	N14 05.9	86 58.2	N 7 57.5
14	127 25.9	42 05.6	N23 09.8	315 07.7	N 4 03.8	339 57.2	N14 05.7	102 00.5	N 7 57.6
15	142 28.3	57 04.7	N23 10.0	330 09.0	N 4 03.2	354 59.3	N14 05.6	117 02.8	N 7 57.6
16	157 30.8	72 03.9	N23 10.2	345 10.2	N 4 02.7	10 01.3	N14 05.4	132 05.1	N 7 57.7
17	172 33.3	87 03.0	N23 10.3	0 11.5	N 4 02.1	25 03.3	N14 05.3	147 07.4	N 7 57.7
18	187 35.7	102 02.2	N23 10.5	15 12.7	N 4 01.5	40 05.4	N14 05.1	162 09.7	N 7 57.8
19	202 38.2	117 01.3	N23 10.7	30 14.0	N 4 01.0	55 07.4	N14 05.0	177 12.0	N 7 57.8
20	217 40.7	132 00.4	N23 10.9	45 15.2	N 4 00.4	70 09.4	N14 04.8	192 14.3	N 7 57.9
21	232 43.1	146 59.6	N23 11.1	60 16.4	N 3 59.8	85 11.4	N14 04.7	207 16.6	N 7 57.9
22	247 45.6	161 58.7	N23 11.3	75 17.7	N 3 59.2	100 13.5	N14 04.5	222 19.0	N 7 58.0
23	262 48.0	176 57.9	N23 11.5	90 18.9	N 3 58.7	115 15.5	N14 04.4	237 21.3	N 7 58.0
		v -0.9	d 0.2	v 1.3	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 '
27	0	179 15.9	N23 20.2	273 55.3	15.6	N 4 49.0	14.0	55.6
	1	194 15.7	N23 20.1	288 29.9	15.6	N 5 03.0	14.0	55.7
	2	209 15.6	N23 20.0	303 04.4	15.5	N 5 17.1	14.0	55.7
	3	224 15.5	N23 19.9	317 38.9	15.5	N 5 31.1	14.0	55.7
	4	239 15.3	N23 19.8	332 13.3	15.4	N 5 45.1	14.0	55.7
S	5	254 15.2	N23 19.7	346 47.7	15.4	N 5 59.1	14.0	55.8
U								
N	6	269 15.1	N23 19.6	1 22.0	15.3	N 6 13.0	14.0	55.8
D	7	284 15.0	N23 19.5	15 56.2	15.2	N 6 27.0	14.0	55.8
A	8	299 14.8	N23 19.4	30 30.4	15.2	N 6 41.0	14.0	55.9
Y	9	314 14.7	N23 19.3	45 04.5	15.1	N 6 54.9	14.0	55.9
	10	329 14.6	N23 19.2	59 38.6	15.1	N 7 08.9	13.9	55.9
	11	344 14.4	N23 19.1	74 12.6	15.0	N 7 22.8	13.9	56.0
	12	359 14.3	N23 19.0	88 46.6	15.0	N 7 36.7	13.9	56.0
	13	14 14.2	N23 18.9	103 20.5	14.9	N 7 50.6	13.9	56.0
	14	29 14.0	N23 18.8	117 54.3	14.8	N 8 04.5	13.9	56.1
	15	44 13.9	N23 18.7	132 28.0	14.8	N 8 18.4	13.9	56.1
	16	59 13.8	N23 18.6	147 01.7	14.7	N 8 32.2	13.8	56.1
	17	74 13.7	N23 18.5	161 35.4	14.6	N 8 46.1	13.8	56.1
	18	89 13.5	N23 18.4	176 08.9	14.6	N 8 59.9	13.8	56.2
	19	104 13.4	N23 18.3	190 42.4	14.5	N 9 13.7	13.8	56.2
	20	119 13.3	N23 18.2	205 15.8	14.4	N 9 27.4	13.8	56.2
	21	134 13.1	N23 18.1	219 49.1	14.3	N 9 41.2	13.7	56.3
	22	149 13.0	N23 18.0	234 22.4	14.3	N 9 54.9	13.7	56.3
	23	164 12.9	N23 17.9	248 55.6	14.2	N10 08.6	13.7	56.3
28	0	179 12.7	N23 17.8	263 28.7	14.1	N10 22.2	13.7	56.4
	1	194 12.6	N23 17.7	278 01.7	14.0	N10 35.9	13.6	56.4
	2	209 12.5	N23 17.6	292 34.7	13.9	N10 49.5	13.6	56.5
	3	224 12.4	N23 17.4	307 07.5	13.9	N11 03.0	13.6	56.5
	4	239 12.2	N23 17.3	321 40.3	13.8	N11 16.6	13.5	56.5
M	5	254 12.1	N23 17.2	336 13.0	13.7	N11 30.1	13.5	56.6
O								
N	6	269 12.0	N23 17.1	350 45.6	13.6	N11 43.6	13.5	56.6
D	7	284 11.8	N23 17.0	5 18.2	13.5	N11 57.0	13.4	56.6
A	8	299 11.7	N23 16.9	19 50.6	13.4	N12 10.4	13.4	56.7
Y	9	314 11.6	N23 16.8	34 22.9	13.3	N12 23.8	13.4	56.7
	10	329 11.5	N23 16.6	48 55.2	13.3	N12 37.2	13.3	56.7
	11	344 11.3	N23 16.5	63 27.4	13.2	N12 50.4	13.3	56.8
	12	359 11.2	N23 16.4	77 59.4	13.1	N13 03.7	13.3	56.8
	13	14 11.1	N23 16.3	92 31.4	13.0	N13 16.9	13.2	56.8
	14	29 10.9	N23 16.2	107 03.3	12.9	N13 30.1	13.2	56.9
	15	44 10.8	N23 16.0	121 35.1	12.8	N13 43.2	13.1	56.9
	16	59 10.7	N23 15.9	136 06.8	12.7	N13 56.3	13.1	57.0
	17	74 10.6	N23 15.8	150 38.4	12.6	N14 09.3	13.0	57.0
	18	89 10.4	N23 15.7	165 09.9	12.5	N14 22.3	13.0	57.0
	19	104 10.3	N23 15.6	179 41.2	12.4	N14 35.2	12.9	57.1
	20	119 10.2	N23 15.4	194 12.5	12.3	N14 48.1	12.9	57.1
	21	134 10.1	N23 15.3	208 43.7	12.2	N15 01.0	12.8	57.1
	22	149 09.9	N23 15.2	223 14.8	12.1	N15 13.7	12.8	57.2
	23	164 09.8	N23 15.1	237 45.7	12.0	N15 26.5	12.7	57.2
29	0	179 09.7	N23 14.9	252 16.6	11.9	N15 39.1	12.7	57.3
	1	194 09.5	N23 14.8	266 47.4	11.7	N15 51.7	12.6	57.3
	2	209 09.4	N23 14.7	281 18.0	11.6	N16 04.3	12.5	57.3
	3	224 09.3	N23 14.6	295 48.5	11.5	N16 16.7	12.5	57.4
	4	239 09.2	N23 14.4	310 18.9	11.4	N16 29.2	12.4	57.4
T	5	254 09.0	N23 14.3	324 49.2	11.3	N16 41.5	12.4	57.4
U								
E	6	269 08.9	N23 14.2	339 19.4	11.2	N16 53.8	12.3	57.5
S	7	284 08.8	N23 14.0	353 49.5	11.1	N17 06.0	12.2	57.5
D	8	299 08.7	N23 13.9	8 19.5	11.0	N17 18.2	12.2	57.6
A	9	314 08.5	N23 13.8	22 49.3	10.8	N17 30.3	12.1	57.6
Y	10	329 08.4	N23 13.6	37 19.0	10.7	N17 42.3	12.0	57.6
	11	344 08.3	N23 13.5	51 48.6	10.6	N17 54.2	11.9	57.7
	12	359 08.1	N23 13.4	66 18.1	10.5	N18 06.1	11.9	57.7
	13	14 08.0	N23 13.2	80 47.5	10.4	N18 17.9	11.8	57.8
	14	29 07.9	N23 13.1	95 16.7	10.2	N18 29.6	11.7	57.8
	15	44 07.8	N23 13.0	109 45.8	10.1	N18 41.2	11.6	57.8
	16	59 07.6	N23 12.8	124 14.8	10.0	N18 52.7	11.5	57.9
	17	74 07.5	N23 12.7	138 43.7	9.9	N19 04.2	11.5	57.9
	18	89 07.4	N23 12.5	153 12.4	9.7	N19 15.6	11.4	57.9
	19	104 07.3	N23 12.4	167 41.0	9.6	N19 26.9	11.3	58.0
	20	119 07.1	N23 12.3	182 09.5	9.5	N19 38.1	11.2	58.0
	21	134 07.0	N23 12.1	196 37.9	9.4	N19 49.2	11.1	58.1
	22	149 06.9	N23 12.0	211 06.1	9.2	N20 00.2	11.0	58.1
	23	164 06.8	N23 11.8	225 34.2	9.1	N20 11.1	10.9	58.1
		S.D. 15.7	d 0.1	S.D.	15.3	15.5	15.7	

Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 11.4
Achernar	335 18.9	S57 05.5
Acrux	172 57.8	S63 15.4
Adhara	255 04.6	S29 00.6
Albireo	67 02.0	N28 01.0
Aldebaran	290 37.6	N16 33.9
Alioth	166 11.1	N55 48.9
Alkaid	152 50.2	N49 10.7
Al Na-ir	27 30.1	S46 49.4
Alnilam	275 36.0	S 1 11.0
Alphard	217 46.0	S 8 46.8
Alphecca	126 01.7	N26 37.4
Alpheratz	357 32.6	N29 14.5
Altair	61 57.6	N 8 56.5
Ankaa	353 05.1	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 04.9	S69 04.8
Avior	234 14.4	S59 36.0
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 52.0	S52 42.6
Capella	280 19.4	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.0	N45 22.6
Denebola	182 22.9	N14 25.1
Diphda	348 45.3	S17 49.9
Dubhe	193 38.8	N61 36.3
Elnath	277 59.7	N28 37.8
Eltanin	90 40.7	N51 29.1
Enif	33 36.5	N10 00.1
Fomalhaut	15 12.1	S29 28.4
Gacrux	171 49.4	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.9	S60 30.6
Hamal	327 49.1	N23 35.5
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.3	N74 02.7
Markab	13 27.7	N15 21.2
Menkar	314 04.2	N 4 11.9
Menkent	147 55.0	S36 30.6
Miaplacidus	221 38.4	S69 50.0
Mirfak	308 25.7	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 01.9	S56 38.6
Polaris	315 55.2	N89 21.9
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.4	N12 32.4
Regulus	207 32.5	N11 50.0
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 37.2	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.7	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.8	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.4	N38 48.5
Zuben-ubi	136 54.5	S16 09.5

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	277 50.5	191 57.0	N23 11.7	105 20.2	N 3 58.1	130 17.5	N14 04.2	252 23.6	N 7 58.1
	1	292 53.0	206 56.1	N23 11.9	120 21.4	N 3 57.5	145 19.6	N14 04.0	267 25.9	N 7 58.1
	2	307 55.4	221 55.3	N23 12.1	135 22.7	N 3 57.0	160 21.6	N14 03.9	282 28.2	N 7 58.2
	3	322 57.9	236 54.4	N23 12.3	150 23.9	N 3 56.4	175 23.6	N14 03.7	297 30.5	N 7 58.2
	4	338 00.4	251 53.6	N23 12.4	165 25.2	N 3 55.8	190 25.7	N14 03.6	312 32.8	N 7 58.3
W	5	353 02.8	266 52.7	N23 12.6	180 26.4	N 3 55.2	205 27.7	N14 03.4	327 35.1	N 7 58.3
E										
D	6	8 05.3	281 51.8	N23 12.8	195 27.7	N 3 54.7	220 29.7	N14 03.3	342 37.4	N 7 58.4
N	7	23 07.8	296 51.0	N23 13.0	210 28.9	N 3 54.1	235 31.8	N14 03.1	357 39.7	N 7 58.4
E	8	38 10.2	311 50.1	N23 13.2	225 30.1	N 3 53.5	250 33.8	N14 03.0	12 42.0	N 7 58.5
S	9	53 12.7	326 49.3	N23 13.4	240 31.4	N 3 53.0	265 35.8	N14 02.8	27 44.3	N 7 58.5
D	10	68 15.2	341 48.4	N23 13.5	255 32.6	N 3 52.4	280 37.9	N14 02.7	42 46.6	N 7 58.6
A	11	83 17.6	356 47.5	N23 13.7	270 33.9	N 3 51.8	295 39.9	N14 02.5	57 48.9	N 7 58.6
Y										
	12	98 20.1	11 46.7	N23 13.9	285 35.1	N 3 51.2	310 41.9	N14 02.4	72 51.2	N 7 58.7
	13	113 22.5	26 45.8	N23 14.1	300 36.4	N 3 50.7	325 43.9	N14 02.2	87 53.5	N 7 58.7
	14	128 25.0	41 44.9	N23 14.2	315 37.6	N 3 50.1	340 46.0	N14 02.1	102 55.8	N 7 58.8
	15	143 27.5	56 44.1	N23 14.4	330 38.9	N 3 49.5	355 48.0	N14 01.9	117 58.2	N 7 58.8
	16	158 29.9	71 43.2	N23 14.6	345 40.1	N 3 48.9	10 50.0	N14 01.8	133 00.5	N 7 58.9
	17	173 32.4	86 42.4	N23 14.7	0 41.3	N 3 48.4	25 52.1	N14 01.6	148 02.8	N 7 58.9
	18	188 34.9	101 41.5	N23 14.9	15 42.6	N 3 47.8	40 54.1	N14 01.5	163 05.1	N 7 59.0
	19	203 37.3	116 40.6	N23 15.1	30 43.8	N 3 47.2	55 56.1	N14 01.3	178 07.4	N 7 59.0
	20	218 39.8	131 39.8	N23 15.2	45 45.1	N 3 46.7	70 58.1	N14 01.2	193 09.7	N 7 59.1
	21	233 42.3	146 38.9	N23 15.4	60 46.3	N 3 46.1	86 00.2	N14 01.0	208 12.0	N 7 59.1
	22	248 44.7	161 38.0	N23 15.6	75 47.5	N 3 45.5	101 02.2	N14 00.9	223 14.3	N 7 59.2
	23	263 47.2	176 37.2	N23 15.7	90 48.8	N 3 44.9	116 04.2	N14 00.7	238 16.6	N 7 59.2
1	0	278 49.7	191 36.3	N23 15.9	105 50.0	N 3 44.4	131 06.3	N14 00.5	253 18.9	N 7 59.3
	1	293 52.1	206 35.5	N23 16.1	120 51.3	N 3 43.8	146 08.3	N14 00.4	268 21.2	N 7 59.3
	2	308 54.6	221 34.6	N23 16.2	135 52.5	N 3 43.2	161 10.3	N14 00.2	283 23.5	N 7 59.4
	3	323 57.0	236 33.7	N23 16.4	150 53.7	N 3 42.6	176 12.3	N14 00.1	298 25.8	N 7 59.4
	4	338 59.5	251 32.9	N23 16.5	165 55.0	N 3 42.1	191 14.4	N13 59.9	313 28.2	N 7 59.5
T	5	354 02.0	266 32.0	N23 16.7	180 56.2	N 3 41.5	206 16.4	N13 59.8	328 30.5	N 7 59.5
H										
U	6	9 04.4	281 31.1	N23 16.8	195 57.5	N 3 40.9	221 18.4	N13 59.6	343 32.8	N 7 59.6
R	7	24 06.9	296 30.3	N23 17.0	210 58.7	N 3 40.3	236 20.5	N13 59.5	358 35.1	N 7 59.6
S	8	39 09.4	311 29.4	N23 17.2	225 59.9	N 3 39.8	251 22.5	N13 59.3	13 37.4	N 7 59.7
D	9	54 11.8	326 28.5	N23 17.3	241 01.2	N 3 39.2	266 24.5	N13 59.2	28 39.7	N 7 59.7
A	10	69 14.3	341 27.7	N23 17.5	256 02.4	N 3 38.6	281 26.5	N13 59.0	43 42.0	N 7 59.8
Y	11	84 16.8	356 26.8	N23 17.6	271 03.7	N 3 38.0	296 28.6	N13 58.9	58 44.3	N 7 59.8
	12	99 19.2	11 25.9	N23 17.7	286 04.9	N 3 37.5	311 30.6	N13 58.7	73 46.6	N 7 59.9
	13	114 21.7	26 25.1	N23 17.9	301 06.1	N 3 36.9	326 32.6	N13 58.6	88 48.9	N 7 59.9
	14	129 24.1	41 24.2	N23 18.0	316 07.4	N 3 36.3	341 34.6	N13 58.4	103 51.3	N 7 60.0
	15	144 26.6	56 23.3	N23 18.2	331 08.6	N 3 35.7	356 36.7	N13 58.2	118 53.6	N 8 00.0
	16	159 29.1	71 22.5	N23 18.3	346 09.8	N 3 35.2	11 38.7	N13 58.1	133 55.9	N 8 00.1
	17	174 31.5	86 21.6	N23 18.5	1 11.1	N 3 34.6	26 40.7	N13 57.9	148 58.2	N 8 00.1
	18	189 34.0	101 20.7	N23 18.6	16 12.3	N 3 34.0	41 42.8	N13 57.8	164 00.5	N 8 00.1
	19	204 36.5	116 19.9	N23 18.7	31 13.6	N 3 33.4	56 44.8	N13 57.6	179 02.8	N 8 00.2
	20	219 38.9	131 19.0	N23 18.9	46 14.8	N 3 32.9	71 46.8	N13 57.5	194 05.1	N 8 00.2
	21	234 41.4	146 18.1	N23 19.0	61 16.0	N 3 32.3	86 48.8	N13 57.3	209 07.4	N 8 00.3
	22	249 43.9	161 17.3	N23 19.2	76 17.3	N 3 31.7	101 50.9	N13 57.2	224 09.7	N 8 00.3
	23	264 46.3	176 16.4	N23 19.3	91 18.5	N 3 31.1	116 52.9	N13 57.0	239 12.1	N 8 00.4
2	0	279 48.8	191 15.5	N23 19.4	106 19.7	N 3 30.6	131 54.9	N13 56.9	254 14.4	N 8 00.4
	1	294 51.3	206 14.7	N23 19.6	121 21.0	N 3 30.0	146 56.9	N13 56.7	269 16.7	N 8 00.5
	2	309 53.7	221 13.8	N23 19.7	136 22.2	N 3 29.4	161 59.0	N13 56.6	284 19.0	N 8 00.5
	3	324 56.2	236 12.9	N23 19.8	151 23.4	N 3 28.8	177 01.0	N13 56.4	299 21.3	N 8 00.6
	4	339 58.6	251 12.1	N23 19.9	166 24.7	N 3 28.2	192 03.0	N13 56.2	314 23.6	N 8 00.6
F	5	355 01.1	266 11.2	N23 20.1	181 25.9	N 3 27.7	207 05.0	N13 56.1	329 25.9	N 8 00.7
R										
I	6	10 03.6	281 10.3	N23 20.2	196 27.2	N 3 27.1	222 07.1	N13 55.9	344 28.2	N 8 00.7
D	7	25 06.0	296 09.5	N23 20.3	211 28.4	N 3 26.5	237 09.1	N13 55.8	359 30.6	N 8 00.8
A	8	40 08.5	311 08.6	N23 20.4	226 29.6	N 3 25.9	252 11.1	N13 55.6	14 32.9	N 8 00.8
Y	9	55 11.0	326 07.7	N23 20.6	241 30.9	N 3 25.4	267 13.1	N13 55.5	29 35.2	N 8 00.9
	10	70 13.4	341 06.9	N23 20.7	256 32.1	N 3 24.8	282 15.2	N13 55.3	44 37.5	N 8 00.9
	11	85 15.9	356 06.0	N23 20.8	271 33.3	N 3 24.2	297 17.2	N13 55.2	59 39.8	N 8 00.9
	12	100 18.4	11 05.1	N23 20.9	286 34.6	N 3 23.6	312 19.2	N13 55.0	74 42.1	N 8 01.0
	13	115 20.8	26 04.2	N23 21.0	301 35.8	N 3 23.0	327 21.2	N13 54.8	89 44.4	N 8 01.0
	14	130 23.3	41 03.4	N23 21.2	316 37.0	N 3 22.5	342 23.3	N13 54.7	104 46.7	N 8 01.1
	15	145 25.8	56 02.5	N23 21.3	331 38.3	N 3 21.9	357 25.3	N13 54.5	119 49.1	N 8 01.1
	16	160 28.2	71 01.6	N23 21.4	346 39.5	N 3 21.3	12 27.3	N13 54.4	134 51.4	N 8 01.2
	17	175 30.7	86 00.8	N23 21.5	1 40.7	N 3 20.7	27 29.3	N13 54.2	149 53.7	N 8 01.2
	18	190 33.1	100 59.9	N23 21.6	16 41.9	N 3 20.2	42 31.4	N13 54.1	164 56.0	N 8 01.3
	19	205 35.6	115 59.0	N23 21.7	31 43.2	N 3 19.6	57 33.4	N13 53.9	179 58.3	N 8 01.3
	20	220 38.1	130 58.2	N23 21.8	46 44.4	N 3 19.0	72 35.4	N13 53.8	195 00.6	N 8 01.4
	21	235 40.5	145 57.3	N23 21.9	61 45.6	N 3 18.4	87 37.4	N13 53.6	210 02.9	N 8 01.4
	22	250 43.0	160 56.4	N23 22.1	76 46.9	N 3 17.8	102 39.4	N13 53.5	225 05.3	N 8 01.5
	23	265 45.5	175 55.5	N23 22.2	91 48.1	N 3 17.3	117 41.5	N13 53.3	240 07.6	N 8 01.5
			v -0.9	d 0.1	v 1.2	d 0.6	v 2.0	d 0.2	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 '
30	0	179 06.6	N23 11.7	240 02.2	9.0	N20 21.9	10.8	58.2
	1	194 06.5	N23 11.5	254 30.1	8.8	N20 32.7	10.7	58.2
	2	209 06.4	N23 11.4	268 57.8	8.7	N20 43.3	10.6	58.3
	3	224 06.3	N23 11.2	283 25.4	8.6	N20 53.8	10.5	58.3
	4	239 06.1	N23 11.1	297 52.8	8.5	N21 04.2	10.4	58.3
W	5	254 06.0	N23 11.0	312 20.1	8.3	N21 14.5	10.3	58.4
E								
D	6	269 05.9	N23 10.8	326 47.3	8.2	N21 24.7	10.2	58.4
N	7	284 05.8	N23 10.7	341 14.4	8.1	N21 34.8	10.1	58.5
E	8	299 05.6	N23 10.5	355 41.3	7.9	N21 44.8	10.0	58.5
S	9	314 05.5	N23 10.4	10 08.1	7.8	N21 54.7	9.9	58.5
D	10	329 05.4	N23 10.2	24 34.8	7.7	N22 04.5	9.8	58.6
A	11	344 05.3	N23 10.1	39 01.3	7.5	N22 14.1	9.6	58.6
Y								
	12	359 05.1	N23 09.9	53 27.7	7.4	N22 23.6	9.5	58.7
	13	14 05.0	N23 09.8	67 54.0	7.3	N22 33.0	9.4	58.7
	14	29 04.9	N23 09.6	82 20.1	7.1	N22 42.3	9.3	58.7
	15	44 04.8	N23 09.4	96 46.1	7.0	N22 51.5	9.2	58.8
	16	59 04.6	N23 09.3	111 11.9	6.9	N23 00.5	9.0	58.8
	17	74 04.5	N23 09.1	125 37.7	6.7	N23 09.4	8.9	58.9
	18	89 04.4	N23 09.0	140 03.3	6.6	N23 18.2	8.8	58.9
	19	104 04.3	N23 08.8	154 28.7	6.5	N23 26.8	8.6	58.9
	20	119 04.2	N23 08.7	168 54.1	6.3	N23 35.3	8.5	59.0
	21	134 04.0	N23 08.5	183 19.3	6.2	N23 43.7	8.4	59.0
	22	149 03.9	N23 08.3	197 44.4	6.1	N23 51.9	8.2	59.0
	23	164 03.8	N23 08.2	212 09.3	5.9	N24 00.0	8.1	59.1
1	0	179 03.7	N23 08.0	226 34.1	5.8	N24 08.0	7.9	59.1
	1	194 03.5	N23 07.9	240 58.8	5.7	N24 15.8	7.8	59.2
	2	209 03.4	N23 07.7	255 23.4	5.6	N24 23.4	7.7	59.2
	3	224 03.3	N23 07.5	269 47.8	5.4	N24 30.9	7.5	59.2
	4	239 03.2	N23 07.4	284 12.1	5.3	N24 38.3	7.4	59.3
T	5	254 03.0	N23 07.2	298 36.3	5.2	N24 45.5	7.2	59.3
H								
U	6	269 02.9	N23 07.0	313 00.4	5.1	N24 52.6	7.1	59.3
R	7	284 02.8	N23 06.9	327 24.3	4.9	N24 59.5	6.9	59.4
S	8	299 02.7	N23 06.7	341 48.1	4.8	N25 06.2	6.7	59.4
D	9	314 02.6	N23 06.5	356 11.8	4.7	N25 12.8	6.6	59.5
A	10	329 02.4	N23 06.4	10 35.4	4.6	N25 19.2	6.4	59.5
Y	11	344 02.3	N23 06.2	24 58.8	4.5	N25 25.5	6.3	59.5
	12	359 02.2	N23 06.0	39 22.2	4.3	N25 31.6	6.1	59.6
	13	14 02.1	N23 05.9	53 45.4	4.2	N25 37.5	5.9	59.6
	14	29 01.9	N23 05.7	68 08.5	4.1	N25 43.3	5.8	59.6
	15	44 01.8	N23 05.5	82 31.5	4.0	N25 48.8	5.6	59.7
	16	59 01.7	N23 05.4	96 54.4	3.9	N25 54.3	5.4	59.7
	17	74 01.6	N23 05.2	111 17.2	3.8	N25 59.5	5.2	59.7
	18	89 01.5	N23 05.0	125 39.9	3.7	N26 04.6	5.1	59.8
	19	104 01.3	N23 04.8	140 02.4	3.6	N26 09.5	4.9	59.8
	20	119 01.2	N23 04.7	154 24.9	3.5	N26 14.2	4.7	59.8
	21	134 01.1	N23 04.5	168 47.3	3.4	N26 18.7	4.5	59.9
	22	149 01.0	N23 04.3	183 09.5	3.3	N26 23.1	4.4	59.9
	23	164 00.9	N23 04.1	197 31.7	3.2	N26 27.3	4.2	59.9
2	0	179 00.7	N23 04.0	211 53.8	3.1	N26 31.3	4.0	60.0
	1	194 00.6	N23 03.8	226 15.8	3.0	N26 35.1	3.8	60.0
	2	209 00.5	N23 03.6	240 37.7	2.9	N26 38.7	3.6	60.0
	3	224 00.4	N23 03.4	254 59.5	2.8	N26 42.1	3.4	60.1
	4	239 00.3	N23 03.2	269 21.2	2.7	N26 45.4	3.2	60.1
F	5	254 00.1	N23 03.1	283 42.8	2.6	N26 48.4	3.0	60.1
R								
I	6	269 00.0	N23 02.9	298 04.4	2.6	N26 51.3	2.9	60.2
D	7	283 59.9	N23 02.7	312 25.9	2.5	N26 53.9	2.7	60.2
A	8	298 59.8	N23 02.5	326 47.3	2.4	N26 56.4	2.5	60.2
Y	9	313 59.7	N23 02.3	341 08.6	2.3	N26 58.7	2.3	60.3
	10	328 59.5	N23 02.1	355 29.9	2.3	N27 00.7	2.1	60.3
	11	343 59.4	N23 02.0	9 51.1	2.2	N27 02.6	1.9	60.3
	12	358 59.3	N23 01.8	24 12.2	2.1	N27 04.3	1.7	60.3
	13	13 59.2	N23 01.6	38 33.3	2.1	N27 05.8	1.5	60.4
	14	28 59.1	N23 01.4	52 54.3	2.0	N27 07.0	1.3	60.4
	15	43 58.9	N23 01.2	67 15.3	2.0	N27 08.1	1.1	60.4
	16	58 58.8	N23 01.0	81 36.2	1.9	N27 09.0	0.9	60.5
	17	73 58.7	N23 00.8	95 57.1	1.9	N27 09.6	0.7	60.5
	18	88 58.6	N23 00.6	110 17.9	1.8	N27 10.1	0.5	60.5
	19	103 58.5	N23 00.5	124 38.7	1.8	N27 10.4	0.3	60.5
	20	118 58.4	N23 00.3	138 59.4	1.7	N27 10.4	0.1	60.6
	21	133 58.2	N23 00.1	153 20.1	1.7	N27 10.3	0.2	60.6
	22	148 58.1	N22 59.9	167 40.8	1.7	N27 09.9	0.4	60.6
	23	163 58.0	N22 59.7	182 01.4	1.6	N27 09.3	0.6	60.6
		S.D. 15.7	d 0.2	S.D.	16.0	16.2	16.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.5	S40 11.4
Achernar	335 18.9	S57 05.5
Acrux	172 57.8	S63 15.4
Adhara	255 04.6	S29 00.6
Albireo	67 02.0	N28 01.0
Aldebaran	290 37.6	N16 33.9
Alioth	166 11.1	N55 48.9
Alkaid	152 50.3	N49 10.7
Al Na-ir	27 30.0	S46 49.4
Alnilam	275 36.0	S 1 11.0
Alphard	217 46.0	S 8 46.8
Alphecca	126 01.7	N26 37.4
Alpheratz	357 32.6	N29 14.5
Altair	61 57.6	N 8 56.5
Ankaa	353 05.1	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 04.9	S69 04.8
Avior	234 14.5	S59 36.0
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.7
Canopus	263 52.0	S52 42.6
Capella	280 19.3	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.0	N45 22.6
Denebola	182 22.9	N14 25.1
Diphda	348 45.3	S17 49.9
Dubhe	193 38.8	N61 36.3
Elnath	277 59.7	N28 37.8
Eltanin	90 40.7	N51 29.1
Enif	33 36.5	N10 00.1
Fomalhaut	15 12.1	S29 28.3
Gacrux	171 49.4	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.9	S60 30.7
Hamal	327 49.1	N23 35.5
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.4	N74 02.7
Markab	13 27.7	N15 21.2
Menkar	314 04.2	N 4 11.9
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.5	S69 50.0
Mirfak	308 25.7	N49 57.4
Nunki	75 44.9	S26 15.7
Peacock	53 01.9	S56 38.6
Polaris	315 53.9	N89 21.9
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.3	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 37.3	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.7	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.8	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.4	N38 48.5
Zuben-ubi	136 54.5	S16 09.5

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	280 47.9	190 54.7	N23 22.3	106 49.3	N 3 16.7	132 43.5	N13 53.1	255 09.9	N 8 01.5
	1	295 50.4	205 53.8	N23 22.4	121 50.6	N 3 16.1	147 45.5	N13 53.0	270 12.2	N 8 01.6
	2	310 52.9	220 52.9	N23 22.5	136 51.8	N 3 15.5	162 47.5	N13 52.8	285 14.5	N 8 01.6
	3	325 55.3	235 52.1	N23 22.6	151 53.0	N 3 14.9	177 49.6	N13 52.7	300 16.8	N 8 01.7
	4	340 57.8	250 51.2	N23 22.7	166 54.3	N 3 14.4	192 51.6	N13 52.5	315 19.1	N 8 01.7
S	5	356 00.3	265 50.3	N23 22.8	181 55.5	N 3 13.8	207 53.6	N13 52.4	330 21.5	N 8 01.8
A										
T	6	11 02.7	280 49.5	N23 22.9	196 56.7	N 3 13.2	222 55.6	N13 52.2	345 23.8	N 8 01.8
U	7	26 05.2	295 48.6	N23 23.0	211 57.9	N 3 12.6	237 57.7	N13 52.1	0 26.1	N 8 01.9
R	8	41 07.6	310 47.7	N23 23.1	226 59.2	N 3 12.0	252 59.7	N13 51.9	15 28.4	N 8 01.9
D	9	56 10.1	325 46.8	N23 23.2	242 00.4	N 3 11.5	268 01.7	N13 51.7	30 30.7	N 8 02.0
A	10	71 12.6	340 46.0	N23 23.2	257 01.6	N 3 10.9	283 03.7	N13 51.6	45 33.0	N 8 02.0
Y	11	86 15.0	355 45.1	N23 23.3	272 02.9	N 3 10.3	298 05.7	N13 51.4	60 35.4	N 8 02.1
	12	101 17.5	10 44.2	N23 23.4	287 04.1	N 3 09.7	313 07.8	N13 51.3	75 37.7	N 8 02.1
	13	116 20.0	25 43.4	N23 23.5	302 05.3	N 3 09.1	328 09.8	N13 51.1	90 40.0	N 8 02.1
	14	131 22.4	40 42.5	N23 23.6	317 06.5	N 3 08.6	343 11.8	N13 51.0	105 42.3	N 8 02.2
	15	146 24.9	55 41.6	N23 23.7	332 07.8	N 3 08.0	358 13.8	N13 50.8	120 44.6	N 8 02.2
	16	161 27.4	70 40.7	N23 23.8	347 09.0	N 3 07.4	13 15.8	N13 50.6	135 46.9	N 8 02.3
	17	176 29.8	85 39.9	N23 23.9	2 10.2	N 3 06.8	28 17.9	N13 50.5	150 49.3	N 8 02.3
	18	191 32.3	100 39.0	N23 24.0	17 11.4	N 3 06.2	43 19.9	N13 50.3	165 51.6	N 8 02.4
	19	206 34.8	115 38.1	N23 24.0	32 12.7	N 3 05.7	58 21.9	N13 50.2	180 53.9	N 8 02.4
	20	221 37.2	130 37.2	N23 24.1	47 13.9	N 3 05.1	73 23.9	N13 50.0	195 56.2	N 8 02.5
	21	236 39.7	145 36.4	N23 24.2	62 15.1	N 3 04.5	88 25.9	N13 49.9	210 58.5	N 8 02.5
	22	251 42.1	160 35.5	N23 24.3	77 16.4	N 3 03.9	103 28.0	N13 49.7	226 00.9	N 8 02.5
	23	266 44.6	175 34.6	N23 24.3	92 17.6	N 3 03.3	118 30.0	N13 49.6	241 03.2	N 8 02.6
4	0	281 47.1	190 33.8	N23 24.4	107 18.8	N 3 02.8	133 32.0	N13 49.4	256 05.5	N 8 02.6
	1	296 49.5	205 32.9	N23 24.5	122 20.0	N 3 02.2	148 34.0	N13 49.2	271 07.8	N 8 02.7
	2	311 52.0	220 32.0	N23 24.6	137 21.3	N 3 01.6	163 36.1	N13 49.1	286 10.1	N 8 02.7
	3	326 54.5	235 31.1	N23 24.6	152 22.5	N 3 01.0	178 38.1	N13 48.9	301 12.4	N 8 02.8
	4	341 56.9	250 30.3	N23 24.7	167 23.7	N 3 00.4	193 40.1	N13 48.8	316 14.8	N 8 02.8
S	5	356 59.4	265 29.4	N23 24.8	182 24.9	N 2 59.8	208 42.1	N13 48.6	331 17.1	N 8 02.9
U										
N	6	12 01.9	280 28.5	N23 24.9	197 26.2	N 2 59.3	223 44.1	N13 48.5	346 19.4	N 8 02.9
D	7	27 04.3	295 27.6	N23 24.9	212 27.4	N 2 58.7	238 46.1	N13 48.3	1 21.7	N 8 02.9
A	8	42 06.8	310 26.8	N23 25.0	227 28.6	N 2 58.1	253 48.2	N13 48.1	16 24.0	N 8 03.0
Y	9	57 09.3	325 25.9	N23 25.1	242 29.8	N 2 57.5	268 50.2	N13 48.0	31 26.4	N 8 03.0
	10	72 11.7	340 25.0	N23 25.1	257 31.0	N 2 56.9	283 52.2	N13 47.8	46 28.7	N 8 03.1
	11	87 14.2	355 24.1	N23 25.2	272 32.3	N 2 56.3	298 54.2	N13 47.7	61 31.0	N 8 03.1
	12	102 16.6	10 23.3	N23 25.2	287 33.5	N 2 55.8	313 56.2	N13 47.5	76 33.3	N 8 03.2
	13	117 19.1	25 22.4	N23 25.3	302 34.7	N 2 55.2	328 58.3	N13 47.4	91 35.6	N 8 03.2
	14	132 21.6	40 21.5	N23 25.4	317 35.9	N 2 54.6	344 00.3	N13 47.2	106 38.0	N 8 03.3
	15	147 24.0	55 20.6	N23 25.4	332 37.2	N 2 54.0	359 02.3	N13 47.0	121 40.3	N 8 03.3
	16	162 26.5	70 19.8	N23 25.5	347 38.4	N 2 53.4	14 04.3	N13 46.9	136 42.6	N 8 03.3
	17	177 29.0	85 18.9	N23 25.5	2 39.6	N 2 52.8	29 06.3	N13 46.7	151 44.9	N 8 03.4
	18	192 31.4	100 18.0	N23 25.6	17 40.8	N 2 52.3	44 08.4	N13 46.6	166 47.2	N 8 03.4
	19	207 33.9	115 17.1	N23 25.6	32 42.0	N 2 51.7	59 10.4	N13 46.4	181 49.6	N 8 03.5
	20	222 36.4	130 16.3	N23 25.7	47 43.3	N 2 51.1	74 12.4	N13 46.2	196 51.9	N 8 03.5
	21	237 38.8	145 15.4	N23 25.8	62 44.5	N 2 50.5	89 14.4	N13 46.1	211 54.2	N 8 03.6
	22	252 41.3	160 14.5	N23 25.8	77 45.7	N 2 49.9	104 16.4	N13 45.9	226 56.5	N 8 03.6
	23	267 43.7	175 13.6	N23 25.9	92 46.9	N 2 49.3	119 18.4	N13 45.8	241 58.9	N 8 03.6
5	0	282 46.2	190 12.8	N23 25.9	107 48.2	N 2 48.8	134 20.5	N13 45.6	257 01.2	N 8 03.7
	1	297 48.7	205 11.9	N23 25.9	122 49.4	N 2 48.2	149 22.5	N13 45.5	272 03.5	N 8 03.7
	2	312 51.1	220 11.0	N23 26.0	137 50.6	N 2 47.6	164 24.5	N13 45.3	287 05.8	N 8 03.8
	3	327 53.6	235 10.1	N23 26.0	152 51.8	N 2 47.0	179 26.5	N13 45.1	302 08.1	N 8 03.8
	4	342 56.1	250 09.3	N23 26.1	167 53.0	N 2 46.4	194 28.5	N13 45.0	317 10.5	N 8 03.9
M	5	357 58.5	265 08.4	N23 26.1	182 54.2	N 2 45.8	209 30.5	N13 44.8	332 12.8	N 8 03.9
O										
N	6	13 01.0	280 07.5	N23 26.2	197 55.5	N 2 45.3	224 32.6	N13 44.7	347 15.1	N 8 03.9
D	7	28 03.5	295 06.6	N23 26.2	212 56.7	N 2 44.7	239 34.6	N13 44.5	2 17.4	N 8 04.0
A	8	43 05.9	310 05.8	N23 26.2	227 57.9	N 2 44.1	254 36.6	N13 44.4	17 19.8	N 8 04.0
Y	9	58 08.4	325 04.9	N23 26.3	242 59.1	N 2 43.5	269 38.6	N13 44.2	32 22.1	N 8 04.1
	10	73 10.9	340 04.0	N23 26.3	258 00.3	N 2 42.9	284 40.6	N13 44.0	47 24.4	N 8 04.1
	11	88 13.3	355 03.1	N23 26.3	273 01.6	N 2 42.3	299 42.6	N13 43.9	62 26.7	N 8 04.2
	12	103 15.8	10 02.3	N23 26.4	288 02.8	N 2 41.7	314 44.7	N13 43.7	77 29.0	N 8 04.2
	13	118 18.2	25 01.4	N23 26.4	303 04.0	N 2 41.2	329 46.7	N13 43.6	92 31.4	N 8 04.2
	14	133 20.7	40 00.5	N23 26.4	318 05.2	N 2 40.6	344 48.7	N13 43.4	107 33.7	N 8 04.3
	15	148 23.2	54 59.6	N23 26.5	333 06.4	N 2 40.0	359 50.7	N13 43.2	122 36.0	N 8 04.3
	16	163 25.6	69 58.8	N23 26.5	348 07.6	N 2 39.4	14 52.7	N13 43.1	137 38.3	N 8 04.4
	17	178 28.1	84 57.9	N23 26.5	3 08.9	N 2 38.8	29 54.7	N13 42.9	152 40.7	N 8 04.4
	18	193 30.6	99 57.0	N23 26.6	18 10.1	N 2 38.2	44 56.8	N13 42.8	167 43.0	N 8 04.5
	19	208 33.0	114 56.1	N23 26.6	33 11.3	N 2 37.6	59 58.8	N13 42.6	182 45.3	N 8 04.5
	20	223 35.5	129 55.3	N23 26.6	48 12.5	N 2 37.1	75 00.8	N13 42.4	197 47.6	N 8 04.5
	21	238 38.0	144 54.4	N23 26.6	63 13.7	N 2 36.5	90 02.8	N13 42.3	212 50.0	N 8 04.6
	22	253 40.4	159 53.5	N23 26.6	78 14.9	N 2 35.9	105 04.8	N13 42.1	227 52.3	N 8 04.6
	23	268 42.9	174 52.6	N23 26.7	93 16.2	N 2 35.3	120 06.8	N13 42.0	242 54.6	N 8 04.7
			v -0.9	d 0.1	v 1.2	d 0.6	v 2.0	d 0.2	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
3	0	178 57.9	N22 59.5	196 22.1	1.6	N27 08.5	0.8	60.7
	1	193 57.8	N22 59.3	210 42.7	1.6	N27 07.6	1.0	60.7
	2	208 57.6	N22 59.1	225 03.2	1.6	N27 06.4	1.2	60.7
	3	223 57.5	N22 58.9	239 23.8	1.6	N27 05.0	1.4	60.7
	4	238 57.4	N22 58.7	253 44.3	1.5	N27 03.4	1.6	60.7
S	5	253 57.3	N22 58.5	268 04.9	1.5	N27 01.5	1.8	60.8
A								
T	6	268 57.2	N22 58.3	282 25.4	1.5	N26 59.5	2.0	60.8
U	7	283 57.1	N22 58.1	296 45.9	1.5	N26 57.3	2.2	60.8
R	8	298 56.9	N22 57.9	311 06.4	1.5	N26 54.8	2.4	60.8
D	9	313 56.8	N22 57.7	325 27.0	1.5	N26 52.2	2.7	60.8
A	10	328 56.7	N22 57.5	339 47.5	1.5	N26 49.3	2.9	60.9
Y	11	343 56.6	N22 57.3	354 08.1	1.5	N26 46.2	3.1	60.9
	12	358 56.5	N22 57.1	8 28.6	1.6	N26 43.0	3.3	60.9
	13	13 56.4	N22 56.9	22 49.2	1.6	N26 39.5	3.5	60.9
	14	28 56.2	N22 56.7	37 09.8	1.6	N26 35.8	3.7	60.9
	15	43 56.1	N22 56.5	51 30.4	1.6	N26 31.9	3.9	61.0
	16	58 56.0	N22 56.3	65 51.0	1.6	N26 27.8	4.1	61.0
	17	73 55.9	N22 56.1	80 11.7	1.7	N26 23.5	4.3	61.0
	18	88 55.8	N22 55.9	94 32.4	1.7	N26 19.0	4.5	61.0
	19	103 55.7	N22 55.7	108 53.1	1.7	N26 14.2	4.7	61.0
	20	118 55.6	N22 55.5	123 13.9	1.8	N26 09.3	4.9	61.0
	21	133 55.4	N22 55.2	137 34.7	1.8	N26 04.2	5.1	61.0
	22	148 55.3	N22 55.0	151 55.6	1.9	N25 58.9	5.3	61.1
	23	163 55.2	N22 54.8	166 16.5	1.9	N25 53.4	5.5	61.1
4	0	178 55.1	N22 54.6	180 37.4	2.0	N25 47.6	5.7	61.1
	1	193 55.0	N22 54.4	194 58.4	2.0	N25 41.7	5.9	61.1
	2	208 54.9	N22 54.2	209 19.5	2.1	N25 35.6	6.1	61.1
	3	223 54.8	N22 54.0	223 40.6	2.1	N25 29.3	6.3	61.1
	4	238 54.6	N22 53.8	238 01.8	2.2	N25 22.8	6.5	61.1
S	5	253 54.5	N22 53.6	252 23.0	2.2	N25 16.0	6.7	61.1
U								
N	6	268 54.4	N22 53.3	266 44.3	2.3	N25 09.1	6.9	61.1
D	7	283 54.3	N22 53.1	281 05.7	2.4	N25 02.1	7.1	61.1
A	8	298 54.2	N22 52.9	295 27.2	2.4	N24 54.8	7.3	61.2
Y	9	313 54.1	N22 52.7	309 48.7	2.5	N24 47.3	7.5	61.2
	10	328 54.0	N22 52.5	324 10.3	2.6	N24 39.7	7.7	61.2
	11	343 53.8	N22 52.3	338 31.9	2.7	N24 31.8	7.8	61.2
	12	358 53.7	N22 52.0	352 53.7	2.7	N24 23.8	8.0	61.2
	13	13 53.6	N22 51.8	7 15.5	2.8	N24 15.6	8.2	61.2
	14	28 53.5	N22 51.6	21 37.4	2.9	N24 07.2	8.4	61.2
	15	43 53.4	N22 51.4	35 59.4	3.0	N23 58.6	8.6	61.2
	16	58 53.3	N22 51.1	50 21.5	3.1	N23 49.9	8.7	61.2
	17	73 53.2	N22 50.9	64 43.7	3.2	N23 41.0	8.9	61.2
	18	88 53.1	N22 50.7	79 05.9	3.3	N23 31.9	9.1	61.2
	19	103 52.9	N22 50.5	93 28.3	3.4	N23 22.6	9.3	61.2
	20	118 52.8	N22 50.3	107 50.7	3.4	N23 13.1	9.4	61.2
	21	133 52.7	N22 50.0	122 13.3	3.5	N23 03.5	9.6	61.2
	22	148 52.6	N22 49.8	136 35.9	3.6	N22 53.8	9.8	61.2
	23	163 52.5	N22 49.6	150 58.6	3.7	N22 43.8	9.9	61.2
5	0	178 52.4	N22 49.3	165 21.5	3.8	N22 33.7	10.1	61.2
	1	193 52.3	N22 49.1	179 44.4	3.9	N22 23.5	10.3	61.2
	2	208 52.2	N22 48.9	194 07.4	4.0	N22 13.0	10.4	61.2
	3	223 52.1	N22 48.7	208 30.6	4.1	N22 02.5	10.6	61.2
	4	238 51.9	N22 48.4	222 53.8	4.2	N21 51.7	10.7	61.2
M	5	253 51.8	N22 48.2	237 17.2	4.4	N21 40.8	10.9	61.2
O								
N	6	268 51.7	N22 48.0	251 40.6	4.5	N21 29.8	11.0	61.2
D	7	283 51.6	N22 47.7	266 04.2	4.6	N21 18.6	11.2	61.2
A	8	298 51.5	N22 47.5	280 27.9	4.7	N21 07.3	11.3	61.2
Y	9	313 51.4	N22 47.3	294 51.7	4.8	N20 55.8	11.5	61.2
	10	328 51.3	N22 47.0	309 15.5	4.9	N20 44.2	11.6	61.2
	11	343 51.2	N22 46.8	323 39.5	5.0	N20 32.4	11.8	61.1
	12	358 51.1	N22 46.6	338 03.7	5.1	N20 20.6	11.9	61.1
	13	13 51.0	N22 46.3	352 27.9	5.2	N20 08.5	12.0	61.1
	14	28 50.9	N22 46.1	6 52.2	5.3	N19 56.4	12.2	61.1
	15	43 50.7	N22 45.9	21 16.6	5.4	N19 44.1	12.3	61.1
	16	58 50.6	N22 45.6	35 41.2	5.6	N19 31.6	12.4	61.1
	17	73 50.5	N22 45.4	50 05.9	5.7	N19 19.1	12.6	61.1
	18	88 50.4	N22 45.1	64 30.6	5.8	N19 06.4	12.7	61.1
	19	103 50.3	N22 44.9	78 55.5	5.9	N18 53.6	12.8	61.1
	20	118 50.2	N22 44.7	93 20.5	6.0	N18 40.7	12.9	61.1
	21	133 50.1	N22 44.4	107 45.7	6.1	N18 27.7	13.0	61.0
	22	148 50.0	N22 44.2	122 10.9	6.2	N18 14.5	13.2	61.0
	23	163 49.9	N22 43.9	136 36.2	6.3	N18 01.2	13.3	61.0
		S.D. 15.7	d 0.2	S.D. 16.6		16.7	16.7	

STARS Name	SHA	Dec
Acamar	315 10.4	S40 11.4
Achernar	335 18.8	S57 05.4
Acrux	172 57.8	S63 15.4
Adhara	255 04.6	S29 00.6
Albireo	67 02.0	N28 01.0
Aldebaran	290 37.6	N16 33.9
Alioth	166 11.1	N55 48.9
Alkaid	152 50.3	N49 10.7
Al Na-ir	27 30.0	S46 49.4
Alnilam	275 35.9	S 1 11.0
Alphard	217 46.0	S 8 46.8
Alphecca	126 01.8	N26 37.4
Alpheratz	357 32.6	N29 14.5
Altair	61 57.6	N 8 56.5
Ankaa	353 05.1	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 04.9	S69 04.8
Avior	234 14.5	S59 36.0
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.8
Canopus	263 52.0	S52 42.6
Capella	280 19.3	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 24.0	N45 22.7
Denebola	182 22.9	N14 25.1
Diphda	348 45.3	S17 49.9
Dubhe	193 38.8	N61 36.3
Elnath	277 59.7	N28 37.8
Eltanin	90 40.7	N51 29.1
Enif	33 36.5	N10 00.1
Fomalhaut	15 12.1	S29 28.3
Gacrux	171 49.4	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.9	S60 30.7
Hamal	327 49.0	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.4	N74 02.7
Markab	13 27.7	N15 21.2
Menkar	314 04.2	N 4 11.9
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.5	S69 50.0
Mirfak	308 25.7	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.9	S56 38.6
Polaris	315 52.5	N89 21.9
Pollux	243 15.2	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.3	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 37.3	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.6	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.8	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.1	S43 32.8
Vega	80 31.4	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

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 45.4	189 51.8	N23 26.7	108 17.4	N 2 34.7	135 08.8	N13 41.8	257 56.9	N 8 04.7
1	298 47.8	204 50.9	N23 26.7	123 18.6	N 2 34.1	150 10.9	N13 41.6	272 59.3	N 8 04.7
2	313 50.3	219 50.0	N23 26.7	138 19.8	N 2 33.5	165 12.9	N13 41.5	288 01.6	N 8 04.8
3	328 52.7	234 49.1	N23 26.7	153 21.0	N 2 33.0	180 14.9	N13 41.3	303 03.9	N 8 04.8
4	343 55.2	249 48.2	N23 26.7	168 22.2	N 2 32.4	195 16.9	N13 41.2	318 06.2	N 8 04.9
T 5	358 57.7	264 47.4	N23 26.8	183 23.4	N 2 31.8	210 18.9	N13 41.0	333 08.6	N 8 04.9
U									
E 6	14 00.1	279 46.5	N23 26.8	198 24.7	N 2 31.2	225 20.9	N13 40.9	348 10.9	N 8 05.0
S 7	29 02.6	294 45.6	N23 26.8	213 25.9	N 2 30.6	240 23.0	N13 40.7	3 13.2	N 8 05.0
D 8	44 05.1	309 44.7	N23 26.8	228 27.1	N 2 30.0	255 25.0	N13 40.5	18 15.5	N 8 05.0
A 9	59 07.5	324 43.9	N23 26.8	243 28.3	N 2 29.4	270 27.0	N13 40.4	33 17.9	N 8 05.1
Y 10	74 10.0	339 43.0	N23 26.8	258 29.5	N 2 28.8	285 29.0	N13 40.2	48 20.2	N 8 05.1
11	89 12.5	354 42.1	N23 26.8	273 30.7	N 2 28.3	300 31.0	N13 40.1	63 22.5	N 8 05.2
12	104 14.9	9 41.2	N23 26.8	288 31.9	N 2 27.7	315 33.0	N13 39.9	78 24.9	N 8 05.2
13	119 17.4	24 40.4	N23 26.8	303 33.2	N 2 27.1	330 35.0	N13 39.7	93 27.2	N 8 05.2
14	134 19.9	39 39.5	N23 26.8	318 34.4	N 2 26.5	345 37.0	N13 39.6	108 29.5	N 8 05.3
15	149 22.3	54 38.6	N23 26.8	333 35.6	N 2 25.9	0 39.1	N13 39.4	123 31.8	N 8 05.3
16	164 24.8	69 37.7	N23 26.8	348 36.8	N 2 25.3	15 41.1	N13 39.3	138 34.2	N 8 05.4
17	179 27.2	84 36.9	N23 26.8	3 38.0	N 2 24.7	30 43.1	N13 39.1	153 36.5	N 8 05.4
18	194 29.7	99 36.0	N23 26.8	18 39.2	N 2 24.1	45 45.1	N13 38.9	168 38.8	N 8 05.4
19	209 32.2	114 35.1	N23 26.8	33 40.4	N 2 23.6	60 47.1	N13 38.8	183 41.1	N 8 05.5
20	224 34.6	129 34.2	N23 26.8	48 41.6	N 2 23.0	75 49.1	N13 38.6	198 43.5	N 8 05.5
21	239 37.1	144 33.3	N23 26.8	63 42.8	N 2 22.4	90 51.1	N13 38.5	213 45.8	N 8 05.6
22	254 39.6	159 32.5	N23 26.8	78 44.1	N 2 21.8	105 53.1	N13 38.3	228 48.1	N 8 05.6
23	269 42.0	174 31.6	N23 26.8	93 45.3	N 2 21.2	120 55.2	N13 38.1	243 50.5	N 8 05.6
7 0	284 44.5	189 30.7	N23 26.8	108 46.5	N 2 20.6	135 57.2	N13 38.0	258 52.8	N 8 05.7
1	299 47.0	204 29.8	N23 26.8	123 47.7	N 2 20.0	150 59.2	N13 37.8	273 55.1	N 8 05.7
2	314 49.4	219 29.0	N23 26.8	138 48.9	N 2 19.4	166 01.2	N13 37.7	288 57.5	N 8 05.8
3	329 51.9	234 28.1	N23 26.7	153 50.1	N 2 18.8	181 03.2	N13 37.5	303 59.8	N 8 05.8
4	344 54.4	249 27.2	N23 26.7	168 51.3	N 2 18.3	196 05.2	N13 37.3	319 02.1	N 8 05.8
W 5	359 56.8	264 26.3	N23 26.7	183 52.5	N 2 17.7	211 07.2	N13 37.2	334 04.4	N 8 05.9
E									
D 6	14 59.3	279 25.5	N23 26.7	198 53.7	N 2 17.1	226 09.2	N13 37.0	349 06.8	N 8 05.9
N 7	30 01.7	294 24.6	N23 26.7	213 54.9	N 2 16.5	241 11.3	N13 36.8	4 09.1	N 8 06.0
E 8	45 04.2	309 23.7	N23 26.7	228 56.2	N 2 15.9	256 13.3	N13 36.7	19 11.4	N 8 06.0
S 9	60 06.7	324 22.8	N23 26.6	243 57.4	N 2 15.3	271 15.3	N13 36.5	34 13.8	N 8 06.0
D 10	75 09.1	339 21.9	N23 26.6	258 58.6	N 2 14.7	286 17.3	N13 36.4	49 16.1	N 8 06.1
A 11	90 11.6	354 21.1	N23 26.6	273 59.8	N 2 14.1	301 19.3	N13 36.2	64 18.4	N 8 06.1
Y									
12	105 14.1	9 20.2	N23 26.6	289 01.0	N 2 13.5	316 21.3	N13 36.0	79 20.7	N 8 06.2
13	120 16.5	24 19.3	N23 26.5	304 02.2	N 2 12.9	331 23.3	N13 35.9	94 23.1	N 8 06.2
14	135 19.0	39 18.4	N23 26.5	319 03.4	N 2 12.4	346 25.3	N13 35.7	109 25.4	N 8 06.2
15	150 21.5	54 17.6	N23 26.5	334 04.6	N 2 11.8	1 27.3	N13 35.6	124 27.7	N 8 06.3
16	165 23.9	69 16.7	N23 26.5	349 05.8	N 2 11.2	16 29.4	N13 35.4	139 30.1	N 8 06.3
17	180 26.4	84 15.8	N23 26.4	4 07.0	N 2 10.6	31 31.4	N13 35.2	154 32.4	N 8 06.4
18	195 28.8	99 14.9	N23 26.4	19 08.2	N 2 10.0	46 33.4	N13 35.1	169 34.7	N 8 06.4
19	210 31.3	114 14.0	N23 26.4	34 09.4	N 2 09.4	61 35.4	N13 34.9	184 37.1	N 8 06.4
20	225 33.8	129 13.2	N23 26.3	49 10.6	N 2 08.8	76 37.4	N13 34.8	199 39.4	N 8 06.5
21	240 36.2	144 12.3	N23 26.3	64 11.9	N 2 08.2	91 39.4	N13 34.6	214 41.7	N 8 06.5
22	255 38.7	159 11.4	N23 26.3	79 13.1	N 2 07.6	106 41.4	N13 34.4	229 44.1	N 8 06.6
23	270 41.2	174 10.5	N23 26.2	94 14.3	N 2 07.0	121 43.4	N13 34.3	244 46.4	N 8 06.6
8 0	285 43.6	189 09.7	N23 26.2	109 15.5	N 2 06.5	136 45.4	N13 34.1	259 48.7	N 8 06.6
1	300 46.1	204 08.8	N23 26.1	124 16.7	N 2 05.9	151 47.4	N13 33.9	274 51.1	N 8 06.7
2	315 48.6	219 07.9	N23 26.1	139 17.9	N 2 05.3	166 49.5	N13 33.8	289 53.4	N 8 06.7
3	330 51.0	234 07.0	N23 26.1	154 19.1	N 2 04.7	181 51.5	N13 33.6	304 55.7	N 8 06.8
4	345 53.5	249 06.2	N23 26.0	169 20.3	N 2 04.1	196 53.5	N13 33.5	319 58.1	N 8 06.8
T 5	0 56.0	264 05.3	N23 26.0	184 21.5	N 2 03.5	211 55.5	N13 33.3	335 00.4	N 8 06.8
H									
U 6	15 58.4	279 04.4	N23 25.9	199 22.7	N 2 02.9	226 57.5	N13 33.1	350 02.7	N 8 06.9
R 7	31 00.9	294 03.5	N23 25.9	214 23.9	N 2 02.3	241 59.5	N13 33.0	5 05.1	N 8 06.9
S 8	46 03.3	309 02.6	N23 25.8	229 25.1	N 2 01.7	257 01.5	N13 32.8	20 07.4	N 8 06.9
D 9	61 05.8	324 01.8	N23 25.8	244 26.3	N 2 01.1	272 03.5	N13 32.7	35 09.7	N 8 07.0
A 10	76 08.3	339 00.9	N23 25.7	259 27.5	N 2 00.5	287 05.5	N13 32.5	50 12.1	N 8 07.0
Y 11	91 10.7	354 00.0	N23 25.7	274 28.7	N 1 59.9	302 07.5	N13 32.3	65 14.4	N 8 07.1
12	106 13.2	8 59.1	N23 25.6	289 29.9	N 1 59.4	317 09.6	N13 32.2	80 16.7	N 8 07.1
13	121 15.7	23 58.3	N23 25.6	304 31.1	N 1 58.8	332 11.6	N13 32.0	95 19.1	N 8 07.1
14	136 18.1	38 57.4	N23 25.5	319 32.3	N 1 58.2	347 13.6	N13 31.8	110 21.4	N 8 07.2
15	151 20.6	53 56.5	N23 25.5	334 33.5	N 1 57.6	2 15.6	N13 31.7	125 23.7	N 8 07.2
16	166 23.1	68 55.6	N23 25.4	349 34.7	N 1 57.0	17 17.6	N13 31.5	140 26.1	N 8 07.2
17	181 25.5	83 54.8	N23 25.3	4 35.9	N 1 56.4	32 19.6	N13 31.4	155 28.4	N 8 07.3
18	196 28.0	98 53.9	N23 25.3	19 37.1	N 1 55.8	47 21.6	N13 31.2	170 30.7	N 8 07.3
19	211 30.5	113 53.0	N23 25.2	34 38.3	N 1 55.2	62 23.6	N13 31.0	185 33.1	N 8 07.4
20	226 32.9	128 52.1	N23 25.2	49 39.5	N 1 54.6	77 25.6	N13 30.9	200 35.4	N 8 07.4
21	241 35.4	143 51.2	N23 25.1	64 40.7	N 1 54.0	92 27.6	N13 30.7	215 37.7	N 8 07.4
22	256 37.8	158 50.4	N23 25.0	79 41.9	N 1 53.4	107 29.6	N13 30.5	230 40.1	N 8 07.5
23	271 40.3	173 49.5	N23 25.0	94 43.1	N 1 52.8	122 31.6	N13 30.4	245 42.4	N 8 07.5
		v -0.9	d 0.0	v 1.2	d 0.6	v 2.0	d 0.2	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
6	0	178 49.8	N22 43.7	151 01.7	6.5	N17 47.9	13.4	61.0
	1	193 49.7	N22 43.4	165 27.2	6.6	N17 34.4	13.5	61.0
	2	208 49.6	N22 43.2	179 52.9	6.7	N17 20.8	13.6	61.0
	3	223 49.4	N22 42.9	194 18.7	6.8	N17 07.1	13.7	61.0
	4	238 49.3	N22 42.7	208 44.6	6.9	N16 53.3	13.8	60.9
T	5	253 49.2	N22 42.5	223 10.6	7.0	N16 39.4	13.9	60.9
U								
E	6	268 49.1	N22 42.2	237 36.7	7.1	N16 25.4	14.0	60.9
S	7	283 49.0	N22 42.0	252 03.0	7.2	N16 11.3	14.1	60.9
D	8	298 48.9	N22 41.7	266 29.3	7.3	N15 57.1	14.2	60.9
A	9	313 48.8	N22 41.5	280 55.8	7.5	N15 42.9	14.3	60.9
Y	10	328 48.7	N22 41.2	295 22.3	7.6	N15 28.5	14.4	60.8
	11	343 48.6	N22 41.0	309 49.0	7.7	N15 14.1	14.4	60.8
	12	358 48.5	N22 40.7	324 15.8	7.8	N14 59.5	14.5	60.8
	13	13 48.4	N22 40.4	338 42.6	7.9	N14 44.9	14.6	60.8
	14	28 48.3	N22 40.2	353 09.6	8.0	N14 30.2	14.7	60.8
	15	43 48.2	N22 39.9	7 36.7	8.1	N14 15.4	14.8	60.7
	16	58 48.1	N22 39.7	22 03.9	8.2	N14 00.6	14.8	60.7
	17	73 48.0	N22 39.4	36 31.2	8.3	N13 45.7	14.9	60.7
	18	88 47.9	N22 39.2	50 58.6	8.4	N13 30.7	15.0	60.7
	19	103 47.8	N22 38.9	65 26.1	8.5	N13 15.6	15.1	60.6
	20	118 47.7	N22 38.7	79 53.7	8.6	N13 00.5	15.1	60.6
	21	133 47.5	N22 38.4	94 21.4	8.7	N12 45.3	15.2	60.6
	22	148 47.4	N22 38.1	108 49.2	8.8	N12 30.0	15.3	60.6
	23	163 47.3	N22 37.9	123 17.1	8.9	N12 14.7	15.3	60.6
7	0	178 47.2	N22 37.6	137 45.1	9.0	N11 59.3	15.4	60.5
	1	193 47.1	N22 37.4	152 13.2	9.1	N11 43.9	15.4	60.5
	2	208 47.0	N22 37.1	166 41.4	9.2	N11 28.4	15.5	60.5
	3	223 46.9	N22 36.8	181 09.7	9.3	N11 12.9	15.5	60.5
	4	238 46.8	N22 36.6	195 38.1	9.4	N10 57.3	15.6	60.4
W	5	253 46.7	N22 36.3	210 06.5	9.5	N10 41.7	15.6	60.4
E								
D	6	268 46.6	N22 36.0	224 35.1	9.6	N10 26.0	15.7	60.4
N	7	283 46.5	N22 35.8	239 03.7	9.6	N10 10.2	15.7	60.3
E	8	298 46.4	N22 35.5	253 32.5	9.7	N 9 54.5	15.8	60.3
S	9	313 46.3	N22 35.2	268 01.3	9.8	N 9 38.7	15.8	60.3
D	10	328 46.2	N22 35.0	282 30.2	9.9	N 9 22.8	15.9	60.3
A	11	343 46.1	N22 34.7	296 59.2	10.0	N 9 06.9	15.9	60.2
Y								
	12	358 46.0	N22 34.4	311 28.3	10.1	N 8 51.0	15.9	60.2
	13	13 45.9	N22 34.2	325 57.4	10.2	N 8 35.0	16.0	60.2
	14	28 45.8	N22 33.9	340 26.7	10.2	N 8 19.1	16.0	60.2
	15	43 45.7	N22 33.6	354 56.0	10.3	N 8 03.0	16.0	60.1
	16	58 45.6	N22 33.4	9 25.4	10.4	N 7 47.0	16.0	60.1
	17	73 45.5	N22 33.1	23 54.8	10.5	N 7 30.9	16.1	60.1
	18	88 45.4	N22 32.8	38 24.4	10.5	N 7 14.8	16.1	60.0
	19	103 45.3	N22 32.5	52 54.0	10.6	N 6 58.7	16.1	60.0
	20	118 45.2	N22 32.3	67 23.7	10.7	N 6 42.6	16.1	60.0
	21	133 45.1	N22 32.0	81 53.5	10.8	N 6 26.4	16.2	59.9
	22	148 45.0	N22 31.7	96 23.3	10.8	N 6 10.2	16.2	59.9
	23	163 44.9	N22 31.4	110 53.2	10.9	N 5 54.1	16.2	59.9
8	0	178 44.8	N22 31.2	125 23.2	11.0	N 5 37.9	16.2	59.8
	1	193 44.7	N22 30.9	139 53.3	11.0	N 5 21.6	16.2	59.8
	2	208 44.6	N22 30.6	154 23.4	11.1	N 5 05.4	16.2	59.8
	3	223 44.5	N22 30.3	168 53.5	11.2	N 4 49.2	16.2	59.8
	4	238 44.4	N22 30.1	183 23.8	11.2	N 4 33.0	16.2	59.7
T	5	253 44.3	N22 29.8	197 54.1	11.3	N 4 16.7	16.2	59.7
H								
U	6	268 44.2	N22 29.5	212 24.4	11.4	N 4 00.5	16.2	59.7
R	7	283 44.1	N22 29.2	226 54.8	11.4	N 3 44.2	16.2	59.6
S	8	298 44.0	N22 28.9	241 25.3	11.5	N 3 28.0	16.2	59.6
D	9	313 43.9	N22 28.6	255 55.8	11.5	N 3 11.7	16.2	59.6
A	10	328 43.8	N22 28.4	270 26.4	11.6	N 2 55.5	16.2	59.5
Y	11	343 43.7	N22 28.1	284 57.1	11.6	N 2 39.2	16.2	59.5
	12	358 43.6	N22 27.8	299 27.8	11.7	N 2 23.0	16.2	59.5
	13	13 43.5	N22 27.5	313 58.5	11.7	N 2 06.8	16.2	59.4
	14	28 43.4	N22 27.2	328 29.3	11.8	N 1 50.5	16.2	59.4
	15	43 43.3	N22 26.9	343 00.1	11.8	N 1 34.3	16.2	59.4
	16	58 43.2	N22 26.6	357 31.0	11.9	N 1 18.1	16.2	59.3
	17	73 43.1	N22 26.4	12 01.9	11.9	N 1 02.0	16.2	59.3
	18	88 43.0	N22 26.1	26 32.9	12.0	N 0 45.8	16.2	59.3
	19	103 42.9	N22 25.8	41 03.9	12.0	N 0 29.6	16.2	59.2
	20	118 42.9	N22 25.5	55 35.0	12.1	N 0 13.5	16.1	59.2
	21	133 42.8	N22 25.2	70 06.1	12.1	S 0 02.6	16.1	59.1
	22	148 42.7	N22 24.9	84 37.2	12.1	S 0 18.7	16.1	59.1
	23	163 42.6	N22 24.6	99 08.4	12.2	S 0 34.8	16.1	59.1
		S.D. 15.7	d 0.3	S.D. 16.6		16.4	16.2	

STARS Name	SHA	Dec
Acamar	315 10.4	S40 11.4
Achernar	335 18.8	S57 05.4
Acrux	172 57.9	S63 15.4
Adhara	255 04.6	S29 00.5
Albireo	67 02.0	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.2	N55 48.9
Alkaid	152 50.3	N49 10.7
Al Na-ir	27 30.0	S46 49.4
Alnilam	275 35.9	S 1 11.0
Alphard	217 46.0	S 8 46.7
Alphecca	126 01.8	N26 37.4
Alpheratz	357 32.6	N29 14.5
Altair	61 57.6	N 8 56.5
Ankaa	353 05.0	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 04.9	S69 04.8
Avior	234 14.5	S59 36.0
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.8
Canopus	263 52.0	S52 42.5
Capella	280 19.3	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 23.9	N45 22.7
Denebola	182 22.9	N14 25.1
Diphda	348 45.2	S17 49.9
Dubhe	193 38.8	N61 36.3
Elnath	277 59.6	N28 37.8
Eltanin	90 40.7	N51 29.1
Enif	33 36.4	N10 00.1
Fomalhaut	15 12.0	S29 28.3
Gacrux	171 49.4	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.9	S60 30.7
Hamal	327 49.0	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.5	N74 02.7
Markab	13 27.7	N15 21.2
Menkar	314 04.1	N 4 11.9
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.5	S69 50.0
Mirfak	308 25.6	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.9	S56 38.6
Polaris	315 51.4	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.3	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 37.3	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.6	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.8	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.8
Vega	80 31.4	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
9 0	286 42.8	188 48.6	N23 24.9	109 44.3	N 1 52.2	137 33.6	N13 30.2	260 44.7	N 8 07.5
1	301 45.2	203 47.7	N23 24.8	124 45.5	N 1 51.6	152 35.7	N13 30.1	275 47.1	N 8 07.6
2	316 47.7	218 46.9	N23 24.8	139 46.7	N 1 51.1	167 37.7	N13 29.9	290 49.4	N 8 07.6
3	331 50.2	233 46.0	N23 24.7	154 47.9	N 1 50.5	182 39.7	N13 29.7	305 51.8	N 8 07.7
4	346 52.6	248 45.1	N23 24.6	169 49.1	N 1 49.9	197 41.7	N13 29.6	320 54.1	N 8 07.7
F 5	1 55.1	263 44.2	N23 24.5	184 50.3	N 1 49.3	212 43.7	N13 29.4	335 56.4	N 8 07.7
R									
I 6	16 57.6	278 43.4	N23 24.5	199 51.5	N 1 48.7	227 45.7	N13 29.2	350 58.8	N 8 07.8
D 7	32 00.0	293 42.5	N23 24.4	214 52.7	N 1 48.1	242 47.7	N13 29.1	6 01.1	N 8 07.8
A 8	47 02.5	308 41.6	N23 24.3	229 53.9	N 1 47.5	257 49.7	N13 28.9	21 03.4	N 8 07.8
Y 9	62 04.9	323 40.7	N23 24.2	244 55.1	N 1 46.9	272 51.7	N13 28.7	36 05.8	N 8 07.9
10	77 07.4	338 39.8	N23 24.2	259 56.3	N 1 46.3	287 53.7	N13 28.6	51 08.1	N 8 07.9
11	92 09.9	353 39.0	N23 24.1	274 57.5	N 1 45.7	302 55.7	N13 28.4	66 10.5	N 8 08.0
12	107 12.3	8 38.1	N23 24.0	289 58.7	N 1 45.1	317 57.7	N13 28.3	81 12.8	N 8 08.0
13	122 14.8	23 37.2	N23 23.9	304 59.9	N 1 44.5	332 59.7	N13 28.1	96 15.1	N 8 08.0
14	137 17.3	38 36.3	N23 23.8	320 01.1	N 1 43.9	348 01.7	N13 27.9	111 17.5	N 8 08.1
15	152 19.7	53 35.5	N23 23.7	335 02.3	N 1 43.3	3 03.7	N13 27.8	126 19.8	N 8 08.1
16	167 22.2	68 34.6	N23 23.7	350 03.5	N 1 42.7	18 05.8	N13 27.6	141 22.1	N 8 08.1
17	182 24.7	83 33.7	N23 23.6	5 04.7	N 1 42.1	33 07.8	N13 27.4	156 24.5	N 8 08.2
18	197 27.1	98 32.8	N23 23.5	20 05.9	N 1 41.5	48 09.8	N13 27.3	171 26.8	N 8 08.2
19	212 29.6	113 32.0	N23 23.4	35 07.1	N 1 41.0	63 11.8	N13 27.1	186 29.2	N 8 08.2
20	227 32.1	128 31.1	N23 23.3	50 08.3	N 1 40.4	78 13.8	N13 26.9	201 31.5	N 8 08.3
21	242 34.5	143 30.2	N23 23.2	65 09.5	N 1 39.8	93 15.8	N13 26.8	216 33.8	N 8 08.3
22	257 37.0	158 29.3	N23 23.1	80 10.7	N 1 39.2	108 17.8	N13 26.6	231 36.2	N 8 08.4
23	272 39.4	173 28.5	N23 23.0	95 11.9	N 1 38.6	123 19.8	N13 26.5	246 38.5	N 8 08.4
10 0	287 41.9	188 27.6	N23 22.9	110 13.1	N 1 38.0	138 21.8	N13 26.3	261 40.9	N 8 08.4
1	302 44.4	203 26.7	N23 22.8	125 14.3	N 1 37.4	153 23.8	N13 26.1	276 43.2	N 8 08.5
2	317 46.8	218 25.8	N23 22.7	140 15.5	N 1 36.8	168 25.8	N13 26.0	291 45.5	N 8 08.5
3	332 49.3	233 25.0	N23 22.6	155 16.7	N 1 36.2	183 27.8	N13 25.8	306 47.9	N 8 08.5
4	347 51.8	248 24.1	N23 22.5	170 17.9	N 1 35.6	198 29.8	N13 25.6	321 50.2	N 8 08.6
S 5	2 54.2	263 23.2	N23 22.4	185 19.1	N 1 35.0	213 31.8	N13 25.5	336 52.6	N 8 08.6
A									
T 6	17 56.7	278 22.3	N23 22.3	200 20.3	N 1 34.4	228 33.8	N13 25.3	351 54.9	N 8 08.6
U 7	32 59.2	293 21.5	N23 22.2	215 21.5	N 1 33.8	243 35.8	N13 25.1	6 57.2	N 8 08.7
R 8	48 01.6	308 20.6	N23 22.1	230 22.7	N 1 33.2	258 37.8	N13 25.0	21 59.6	N 8 08.7
D 9	63 04.1	323 19.7	N23 22.0	245 23.8	N 1 32.6	273 39.8	N13 24.8	37 01.9	N 8 08.7
A 10	78 06.6	338 18.8	N23 21.9	260 25.0	N 1 32.0	288 41.8	N13 24.7	52 04.3	N 8 08.8
Y 11	93 09.0	353 18.0	N23 21.8	275 26.2	N 1 31.4	303 43.8	N13 24.5	67 06.6	N 8 08.8
12	108 11.5	8 17.1	N23 21.7	290 27.4	N 1 30.8	318 45.9	N13 24.3	82 08.9	N 8 08.9
13	123 13.9	23 16.2	N23 21.6	305 28.6	N 1 30.2	333 47.9	N13 24.2	97 11.3	N 8 08.9
14	138 16.4	38 15.3	N23 21.5	320 29.8	N 1 29.6	348 49.9	N13 24.0	112 13.6	N 8 08.9
15	153 18.9	53 14.5	N23 21.3	335 31.0	N 1 29.0	3 51.9	N13 23.8	127 16.0	N 8 09.0
16	168 21.3	68 13.6	N23 21.2	350 32.2	N 1 28.4	18 53.9	N13 23.7	142 18.3	N 8 09.0
17	183 23.8	83 12.7	N23 21.1	5 33.4	N 1 27.8	33 55.9	N13 23.5	157 20.6	N 8 09.0
18	198 26.3	98 11.8	N23 21.0	20 34.6	N 1 27.2	48 57.9	N13 23.3	172 23.0	N 8 09.1
19	213 28.7	113 11.0	N23 20.9	35 35.8	N 1 26.7	63 59.9	N13 23.2	187 25.3	N 8 09.1
20	228 31.2	128 10.1	N23 20.8	50 37.0	N 1 26.1	79 01.9	N13 23.0	202 27.7	N 8 09.1
21	243 33.7	143 09.2	N23 20.6	65 38.2	N 1 25.5	94 03.9	N13 22.8	217 30.0	N 8 09.2
22	258 36.1	158 08.3	N23 20.5	80 39.4	N 1 24.9	109 05.9	N13 22.7	232 32.4	N 8 09.2
23	273 38.6	173 07.5	N23 20.4	95 40.5	N 1 24.3	124 07.9	N13 22.5	247 34.7	N 8 09.2
11 0	288 41.0	188 06.6	N23 20.3	110 41.7	N 1 23.7	139 09.9	N13 22.3	262 37.0	N 8 09.3
1	303 43.5	203 05.7	N23 20.1	125 42.9	N 1 23.1	154 11.9	N13 22.2	277 39.4	N 8 09.3
2	318 46.0	218 04.8	N23 20.0	140 44.1	N 1 22.5	169 13.9	N13 22.0	292 41.7	N 8 09.3
3	333 48.4	233 04.0	N23 19.9	155 45.3	N 1 21.9	184 15.9	N13 21.8	307 44.1	N 8 09.4
4	348 50.9	248 03.1	N23 19.7	170 46.5	N 1 21.3	199 17.9	N13 21.7	322 46.4	N 8 09.4
S 5	3 53.4	263 02.2	N23 19.6	185 47.7	N 1 20.7	214 19.9	N13 21.5	337 48.8	N 8 09.4
U									
N 6	18 55.8	278 01.3	N23 19.5	200 48.9	N 1 20.1	229 21.9	N13 21.4	352 51.1	N 8 09.5
D 7	33 58.3	293 00.5	N23 19.4	215 50.1	N 1 19.5	244 23.9	N13 21.2	7 53.4	N 8 09.5
A 8	49 00.8	307 59.6	N23 19.2	230 51.3	N 1 18.9	259 25.9	N13 21.0	22 55.8	N 8 09.5
Y 9	64 03.2	322 58.7	N23 19.1	245 52.4	N 1 18.3	274 27.9	N13 20.9	37 58.1	N 8 09.6
10	79 05.7	337 57.9	N23 18.9	260 53.6	N 1 17.7	289 29.9	N13 20.7	53 00.5	N 8 09.6
11	94 08.2	352 57.0	N23 18.8	275 54.8	N 1 17.1	304 31.9	N13 20.5	68 02.8	N 8 09.6
12	109 10.6	7 56.1	N23 18.7	290 56.0	N 1 16.5	319 33.9	N13 20.4	83 05.2	N 8 09.7
13	124 13.1	22 55.2	N23 18.5	305 57.2	N 1 15.9	334 35.9	N13 20.2	98 07.5	N 8 09.7
14	139 15.5	37 54.4	N23 18.4	320 58.4	N 1 15.3	349 37.9	N13 20.0	113 09.9	N 8 09.7
15	154 18.0	52 53.5	N23 18.2	335 59.6	N 1 14.7	4 39.9	N13 19.9	128 12.2	N 8 09.8
16	169 20.5	67 52.6	N23 18.1	351 00.8	N 1 14.1	19 41.9	N13 19.7	143 14.6	N 8 09.8
17	184 22.9	82 51.7	N23 18.0	6 02.0	N 1 13.5	34 43.9	N13 19.5	158 16.9	N 8 09.8
18	199 25.4	97 50.9	N23 17.8	21 03.1	N 1 12.9	49 45.9	N13 19.4	173 19.2	N 8 09.9
19	214 27.9	112 50.0	N23 17.7	36 04.3	N 1 12.3	64 47.9	N13 19.2	188 21.6	N 8 09.9
20	229 30.3	127 49.1	N23 17.5	51 05.5	N 1 11.7	79 49.9	N13 19.0	203 23.9	N 8 09.9
21	244 32.8	142 48.3	N23 17.4	66 06.7	N 1 11.1	94 51.9	N13 18.9	218 26.3	N 8 10.0
22	259 35.3	157 47.4	N23 17.2	81 07.9	N 1 10.5	109 53.9	N13 18.7	233 28.6	N 8 10.0
23	274 37.7	172 46.5	N23 17.1	96 09.1	N 1 09.9	124 55.9	N13 18.5	248 31.0	N 8 10.0
		v -0.9	d 0.1	v 1.2	d 0.6	v 2.0	d 0.2	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
9	0	178 42.5	N22 24.3	113 39.6	12.2	S 0 50.9	16.1	59.0
	1	193 42.4	N22 24.0	128 10.8	12.2	S 1 06.9	16.0	59.0
	2	208 42.3	N22 23.7	142 42.1	12.3	S 1 22.9	16.0	59.0
	3	223 42.2	N22 23.4	157 13.4	12.3	S 1 38.9	16.0	58.9
	4	238 42.1	N22 23.1	171 44.7	12.3	S 1 54.8	16.0	58.9
F	5	253 42.0	N22 22.9	186 16.1	12.4	S 2 10.7	15.9	58.9
R								
I	6	268 41.9	N22 22.6	200 47.5	12.4	S 2 26.6	15.9	58.8
D	7	283 41.8	N22 22.3	215 18.9	12.4	S 2 42.5	15.9	58.8
A	8	298 41.7	N22 22.0	229 50.3	12.4	S 2 58.3	15.8	58.8
Y	9	313 41.6	N22 21.7	244 21.8	12.5	S 3 14.1	15.8	58.7
	10	328 41.5	N22 21.4	258 53.3	12.5	S 3 29.9	15.8	58.7
	11	343 41.4	N22 21.1	273 24.8	12.5	S 3 45.6	15.7	58.7
	12	358 41.3	N22 20.8	287 56.3	12.5	S 4 01.3	15.7	58.6
	13	13 41.2	N22 20.5	302 27.9	12.6	S 4 16.9	15.6	58.6
	14	28 41.2	N22 20.2	316 59.5	12.6	S 4 32.5	15.6	58.5
	15	43 41.1	N22 19.9	331 31.1	12.6	S 4 48.1	15.6	58.5
	16	58 41.0	N22 19.5	346 02.7	12.6	S 5 03.6	15.5	58.5
	17	73 40.9	N22 19.2	0 34.3	12.6	S 5 19.1	15.5	58.4
	18	88 40.8	N22 18.9	15 05.9	12.6	S 5 34.5	15.4	58.4
	19	103 40.7	N22 18.6	29 37.5	12.6	S 5 49.9	15.4	58.4
	20	118 40.6	N22 18.3	44 09.2	12.7	S 6 05.2	15.3	58.3
	21	133 40.5	N22 18.0	58 40.8	12.7	S 6 20.5	15.3	58.3
	22	148 40.4	N22 17.7	73 12.5	12.7	S 6 35.8	15.2	58.3
	23	163 40.3	N22 17.4	87 44.2	12.7	S 6 51.0	15.2	58.2
10	0	178 40.2	N22 17.1	102 15.9	12.7	S 7 06.1	15.1	58.2
	1	193 40.2	N22 16.8	116 47.5	12.7	S 7 21.2	15.1	58.2
	2	208 40.1	N22 16.5	131 19.2	12.7	S 7 36.2	15.0	58.1
	3	223 40.0	N22 16.2	145 50.9	12.7	S 7 51.2	15.0	58.1
	4	238 39.9	N22 15.9	160 22.6	12.7	S 8 06.1	14.9	58.0
S	5	253 39.8	N22 15.5	174 54.3	12.7	S 8 21.0	14.9	58.0
A								
T	6	268 39.7	N22 15.2	189 26.0	12.7	S 8 35.8	14.8	58.0
U	7	283 39.6	N22 14.9	203 57.7	12.7	S 8 50.5	14.7	57.9
R	8	298 39.5	N22 14.6	218 29.4	12.7	S 9 05.2	14.7	57.9
D	9	313 39.4	N22 14.3	233 01.1	12.7	S 9 19.8	14.6	57.9
A	10	328 39.3	N22 14.0	247 32.7	12.7	S 9 34.4	14.6	57.8
Y	11	343 39.3	N22 13.7	262 04.4	12.7	S 9 48.9	14.5	57.8
	12	358 39.2	N22 13.3	276 36.1	12.7	S10 03.4	14.4	57.8
	13	13 39.1	N22 13.0	291 07.7	12.7	S10 17.7	14.4	57.7
	14	28 39.0	N22 12.7	305 39.4	12.6	S10 32.0	14.3	57.7
	15	43 38.9	N22 12.4	320 11.0	12.6	S10 46.3	14.2	57.7
	16	58 38.8	N22 12.1	334 42.6	12.6	S11 00.4	14.2	57.6
	17	73 38.7	N22 11.7	349 14.2	12.6	S11 14.6	14.1	57.6
	18	88 38.6	N22 11.4	3 45.8	12.6	S11 28.6	14.0	57.6
	19	103 38.6	N22 11.1	18 17.4	12.6	S11 42.6	14.0	57.5
	20	118 38.5	N22 10.8	32 49.0	12.6	S11 56.4	13.9	57.5
	21	133 38.4	N22 10.5	47 20.5	12.6	S12 10.3	13.8	57.5
	22	148 38.3	N22 10.1	61 52.1	12.5	S12 24.0	13.7	57.4
	23	163 38.2	N22 09.8	76 23.6	12.5	S12 37.7	13.7	57.4
11	0	178 38.1	N22 09.5	90 55.1	12.5	S12 51.3	13.6	57.4
	1	193 38.0	N22 09.2	105 26.5	12.5	S13 04.8	13.5	57.3
	2	208 38.0	N22 08.8	119 58.0	12.5	S13 18.2	13.4	57.3
	3	223 37.9	N22 08.5	134 29.4	12.4	S13 31.6	13.4	57.3
	4	238 37.8	N22 08.2	149 00.9	12.4	S13 44.9	13.3	57.2
S	5	253 37.7	N22 07.9	163 32.2	12.4	S13 58.1	13.2	57.2
U								
N	6	268 37.6	N22 07.5	178 03.6	12.4	S14 11.2	13.1	57.2
D	7	283 37.5	N22 07.2	192 35.0	12.3	S14 24.3	13.0	57.1
A	8	298 37.4	N22 06.9	207 06.3	12.3	S14 37.2	13.0	57.1
Y	9	313 37.4	N22 06.5	221 37.6	12.3	S14 50.1	12.9	57.1
	10	328 37.3	N22 06.2	236 08.8	12.3	S15 02.9	12.8	57.0
	11	343 37.2	N22 05.9	250 40.1	12.2	S15 15.6	12.7	57.0
	12	358 37.1	N22 05.5	265 11.3	12.2	S15 28.2	12.6	57.0
	13	13 37.0	N22 05.2	279 42.4	12.2	S15 40.8	12.5	56.9
	14	28 36.9	N22 04.9	294 13.6	12.1	S15 53.2	12.4	56.9
	15	43 36.9	N22 04.5	308 44.7	12.1	S16 05.6	12.4	56.9
	16	58 36.8	N22 04.2	323 15.8	12.1	S16 17.8	12.3	56.8
	17	73 36.7	N22 03.9	337 46.9	12.1	S16 30.0	12.2	56.8
	18	88 36.6	N22 03.5	352 17.9	12.0	S16 42.1	12.1	56.8
	19	103 36.5	N22 03.2	6 48.9	12.0	S16 54.1	12.0	56.7
	20	118 36.5	N22 02.9	21 19.8	12.0	S17 06.0	11.9	56.7
	21	133 36.4	N22 02.5	35 50.8	11.9	S17 17.8	11.8	56.7
	22	148 36.3	N22 02.2	50 21.7	11.9	S17 29.5	11.7	56.6
	23	163 36.2	N22 01.8	64 52.5	11.9	S17 41.1	11.6	56.6
		S.D. 15.7	d 0.3	S.D. 16.0		15.7	15.5	

STARS Name	SHA	Dec
Acamar	315 10.4	S40 11.4
Achernar	335 18.7	S57 05.4
Acrux	172 57.9	S63 15.4
Adhara	255 04.6	S29 00.5
Albireo	67 02.0	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.2	N55 48.9
Alkaid	152 50.3	N49 10.7
Al Na-ir	27 29.9	S46 49.4
Alnilam	275 35.9	S 1 11.0
Alphard	217 46.0	S 8 46.7
Alphecca	126 01.8	N26 37.4
Alpheratz	357 32.5	N29 14.5
Altair	61 57.6	N 8 56.5
Ankaa	353 05.0	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.8
Avior	234 14.5	S59 36.0
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.8
Canopus	263 52.0	S52 42.5
Capella	280 19.3	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 23.9	N45 22.7
Denebola	182 22.9	N14 25.1
Diphda	348 45.2	S17 49.9
Dubhe	193 38.8	N61 36.3
Elnath	277 59.6	N28 37.8
Eltanin	90 40.7	N51 29.2
Enif	33 36.4	N10 00.1
Fomalhaut	15 12.0	S29 28.3
Gacrux	171 49.4	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 32.9	S60 30.7
Hamal	327 49.0	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.5	N74 02.7
Markab	13 27.6	N15 21.2
Menkar	314 04.1	N 4 11.9
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.5	S69 50.0
Mirfak	308 25.6	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.8	S56 38.6
Polaris	315 50.3	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.3	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 37.3	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.6	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.8	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.7
Vega	80 31.4	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

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 40.2	187 45.6	N23 16.9	111 10.3	N 1 09.3	139 57.9	N13 18.4	263 33.3	N 8 10.1
	1	304 42.7	202 44.8	N23 16.8	126 11.4	N 1 08.7	154 59.9	N13 18.2	278 35.7	N 8 10.1
	2	319 45.1	217 43.9	N23 16.6	141 12.6	N 1 08.1	170 01.9	N13 18.0	293 38.0	N 8 10.1
	3	334 47.6	232 43.0	N23 16.4	156 13.8	N 1 07.5	185 03.9	N13 17.9	308 40.4	N 8 10.2
	4	349 50.0	247 42.2	N23 16.3	171 15.0	N 1 06.9	200 05.9	N13 17.7	323 42.7	N 8 10.2
M	5	4 52.5	262 41.3	N23 16.1	186 16.2	N 1 06.3	215 07.9	N13 17.5	338 45.1	N 8 10.2
O										
N	6	19 55.0	277 40.4	N23 16.0	201 17.4	N 1 05.7	230 09.9	N13 17.4	353 47.4	N 8 10.3
D	7	34 57.4	292 39.5	N23 15.8	216 18.6	N 1 05.1	245 11.9	N13 17.2	8 49.8	N 8 10.3
A	8	49 59.9	307 38.7	N23 15.6	231 19.7	N 1 04.5	260 13.9	N13 17.0	23 52.1	N 8 10.3
Y	9	65 02.4	322 37.8	N23 15.5	246 20.9	N 1 03.9	275 15.9	N13 16.9	38 54.4	N 8 10.4
	10	80 04.8	337 36.9	N23 15.3	261 22.1	N 1 03.3	290 17.9	N13 16.7	53 56.8	N 8 10.4
	11	95 07.3	352 36.1	N23 15.1	276 23.3	N 1 02.7	305 19.9	N13 16.5	68 59.1	N 8 10.4
	12	110 09.8	7 35.2	N23 15.0	291 24.5	N 1 02.1	320 21.9	N13 16.4	84 01.5	N 8 10.5
	13	125 12.2	22 34.3	N23 14.8	306 25.7	N 1 01.5	335 23.9	N13 16.2	99 03.8	N 8 10.5
	14	140 14.7	37 33.4	N23 14.6	321 26.8	N 1 00.9	350 25.9	N13 16.0	114 06.2	N 8 10.5
	15	155 17.1	52 32.6	N23 14.5	336 28.0	N 1 00.3	5 27.9	N13 15.9	129 08.5	N 8 10.6
	16	170 19.6	67 31.7	N23 14.3	351 29.2	N 0 59.7	20 29.9	N13 15.7	144 10.9	N 8 10.6
	17	185 22.1	82 30.8	N23 14.1	6 30.4	N 0 59.1	35 31.9	N13 15.5	159 13.2	N 8 10.6
	18	200 24.5	97 30.0	N23 13.9	21 31.6	N 0 58.5	50 33.9	N13 15.4	174 15.6	N 8 10.7
	19	215 27.0	112 29.1	N23 13.8	36 32.8	N 0 57.9	65 35.9	N13 15.2	189 17.9	N 8 10.7
	20	230 29.5	127 28.2	N23 13.6	51 33.9	N 0 57.3	80 37.9	N13 15.0	204 20.3	N 8 10.7
	21	245 31.9	142 27.4	N23 13.4	66 35.1	N 0 56.7	95 39.9	N13 14.9	219 22.6	N 8 10.8
	22	260 34.4	157 26.5	N23 13.2	81 36.3	N 0 56.1	110 41.9	N13 14.7	234 25.0	N 8 10.8
	23	275 36.9	172 25.6	N23 13.0	96 37.5	N 0 55.5	125 43.9	N13 14.5	249 27.3	N 8 10.8
13	0	290 39.3	187 24.8	N23 12.9	111 38.7	N 0 54.9	140 45.9	N13 14.4	264 29.7	N 8 10.9
	1	305 41.8	202 23.9	N23 12.7	126 39.9	N 0 54.3	155 47.9	N13 14.2	279 32.0	N 8 10.9
	2	320 44.3	217 23.0	N23 12.5	141 41.0	N 0 53.7	170 49.9	N13 14.0	294 34.4	N 8 10.9
	3	335 46.7	232 22.1	N23 12.3	156 42.2	N 0 53.1	185 51.9	N13 13.9	309 36.7	N 8 10.9
	4	350 49.2	247 21.3	N23 12.1	171 43.4	N 0 52.5	200 53.9	N13 13.7	324 39.1	N 8 11.0
T	5	5 51.6	262 20.4	N23 11.9	186 44.6	N 0 51.9	215 55.9	N13 13.5	339 41.4	N 8 11.0
U										
E	6	20 54.1	277 19.5	N23 11.7	201 45.8	N 0 51.3	230 57.9	N13 13.4	354 43.8	N 8 11.0
S	7	35 56.6	292 18.7	N23 11.6	216 46.9	N 0 50.7	245 59.9	N13 13.2	9 46.1	N 8 11.1
D	8	50 59.0	307 17.8	N23 11.4	231 48.1	N 0 50.1	261 01.9	N13 13.0	24 48.5	N 8 11.1
A	9	66 01.5	322 16.9	N23 11.2	246 49.3	N 0 49.5	276 03.9	N13 12.9	39 50.8	N 8 11.1
Y	10	81 04.0	337 16.1	N23 11.0	261 50.5	N 0 48.9	291 05.9	N13 12.7	54 53.2	N 8 11.2
	11	96 06.4	352 15.2	N23 10.8	276 51.7	N 0 48.3	306 07.9	N13 12.5	69 55.5	N 8 11.2
	12	111 08.9	7 14.3	N23 10.6	291 52.8	N 0 47.7	321 09.9	N13 12.4	84 57.9	N 8 11.2
	13	126 11.4	22 13.5	N23 10.4	306 54.0	N 0 47.1	336 11.9	N13 12.2	100 00.3	N 8 11.3
	14	141 13.8	37 12.6	N23 10.2	321 55.2	N 0 46.5	351 13.9	N13 12.0	115 02.6	N 8 11.3
	15	156 16.3	52 11.7	N23 10.0	336 56.4	N 0 45.9	6 15.9	N13 11.8	130 05.0	N 8 11.3
	16	171 18.8	67 10.9	N23 09.8	351 57.6	N 0 45.3	21 17.9	N13 11.7	145 07.3	N 8 11.4
	17	186 21.2	82 10.0	N23 09.6	6 58.7	N 0 44.7	36 19.9	N13 11.5	160 09.7	N 8 11.4
	18	201 23.7	97 09.1	N23 09.4	21 59.9	N 0 44.1	51 21.9	N13 11.3	175 12.0	N 8 11.4
	19	216 26.1	112 08.3	N23 09.2	37 01.1	N 0 43.5	66 23.9	N13 11.2	190 14.4	N 8 11.4
	20	231 28.6	127 07.4	N23 09.0	52 02.3	N 0 42.9	81 25.9	N13 11.0	205 16.7	N 8 11.5
	21	246 31.1	142 06.5	N23 08.8	67 03.4	N 0 42.3	96 27.9	N13 10.8	220 19.1	N 8 11.5
	22	261 33.5	157 05.7	N23 08.6	82 04.6	N 0 41.7	111 29.9	N13 10.7	235 21.4	N 8 11.5
	23	276 36.0	172 04.8	N23 08.3	97 05.8	N 0 41.1	126 31.9	N13 10.5	250 23.8	N 8 11.6
14	0	291 38.5	187 03.9	N23 08.1	112 07.0	N 0 40.5	141 33.9	N13 10.3	265 26.1	N 8 11.6
	1	306 40.9	202 03.1	N23 07.9	127 08.1	N 0 39.9	156 35.9	N13 10.2	280 28.5	N 8 11.6
	2	321 43.4	217 02.2	N23 07.7	142 09.3	N 0 39.2	171 37.8	N13 10.0	295 30.8	N 8 11.7
	3	336 45.9	232 01.3	N23 07.5	157 10.5	N 0 38.6	186 39.8	N13 09.8	310 33.2	N 8 11.7
	4	351 48.3	247 00.5	N23 07.3	172 11.7	N 0 38.0	201 41.8	N13 09.7	325 35.6	N 8 11.7
W	5	6 50.8	261 59.6	N23 07.1	187 12.9	N 0 37.4	216 43.8	N13 09.5	340 37.9	N 8 11.7
E										
D	6	21 53.3	276 58.7	N23 06.8	202 14.0	N 0 36.8	231 45.8	N13 09.3	355 40.3	N 8 11.8
N	7	36 55.7	291 57.9	N23 06.6	217 15.2	N 0 36.2	246 47.8	N13 09.2	10 42.6	N 8 11.8
E	8	51 58.2	306 57.0	N23 06.4	232 16.4	N 0 35.6	261 49.8	N13 09.0	25 45.0	N 8 11.8
S	9	67 00.6	321 56.2	N23 06.2	247 17.6	N 0 35.0	276 51.8	N13 08.8	40 47.3	N 8 11.9
D	10	82 03.1	336 55.3	N23 06.0	262 18.7	N 0 34.4	291 53.8	N13 08.6	55 49.7	N 8 11.9
A	11	97 05.6	351 54.4	N23 05.7	277 19.9	N 0 33.8	306 55.8	N13 08.5	70 52.0	N 8 11.9
Y										
	12	112 08.0	6 53.6	N23 05.5	292 21.1	N 0 33.2	321 57.8	N13 08.3	85 54.4	N 8 12.0
	13	127 10.5	21 52.7	N23 05.3	307 22.3	N 0 32.6	336 59.8	N13 08.1	100 56.8	N 8 12.0
	14	142 13.0	36 51.8	N23 05.1	322 23.4	N 0 32.0	352 01.8	N13 08.0	115 59.1	N 8 12.0
	15	157 15.4	51 51.0	N23 04.8	337 24.6	N 0 31.4	7 03.8	N13 07.8	131 01.5	N 8 12.0
	16	172 17.9	66 50.1	N23 04.6	352 25.8	N 0 30.8	22 05.8	N13 07.6	146 03.8	N 8 12.1
	17	187 20.4	81 49.2	N23 04.4	7 26.9	N 0 30.2	37 07.8	N13 07.5	161 06.2	N 8 12.1
	18	202 22.8	96 48.4	N23 04.1	22 28.1	N 0 29.6	52 09.8	N13 07.3	176 08.5	N 8 12.1
	19	217 25.3	111 47.5	N23 03.9	37 29.3	N 0 29.0	67 11.8	N13 07.1	191 10.9	N 8 12.2
	20	232 27.7	126 46.7	N23 03.7	52 30.5	N 0 28.4	82 13.8	N13 07.0	206 13.2	N 8 12.2
	21	247 30.2	141 45.8	N23 03.4	67 31.6	N 0 27.8	97 15.8	N13 06.8	221 15.6	N 8 12.2
	22	262 32.7	156 44.9	N23 03.2	82 32.8	N 0 27.2	112 17.8	N13 06.6	236 18.0	N 8 12.2
	23	277 35.1	171 44.1	N23 03.0	97 34.0	N 0 26.6	127 19.7	N13 06.4	251 20.3	N 8 12.3
			v -0.9	d 0.2	v 1.2	d 0.6	v 2.0	d 0.2	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
		° '	° '	° '	'	° '	'	'
12	0	178 36.1	N22 01.5	79 23.3	11.8	S17 52.6	11.5	56.6
	1	193 36.0	N22 01.2	93 54.1	11.8	S18 04.1	11.4	56.6
	2	208 36.0	N22 00.8	108 24.9	11.7	S18 15.4	11.3	56.5
	3	223 35.9	N22 00.5	122 55.6	11.7	S18 26.6	11.2	56.5
	4	238 35.8	N22 00.1	137 26.3	11.7	S18 37.8	11.1	56.5
M	5	253 35.7	N21 59.8	151 56.9	11.6	S18 48.8	11.0	56.4
O								
N	6	268 35.6	N21 59.4	166 27.5	11.6	S18 59.7	10.9	56.4
D	7	283 35.6	N21 59.1	180 58.1	11.6	S19 10.5	10.8	56.4
A	8	298 35.5	N21 58.7	195 28.6	11.5	S19 21.3	10.7	56.4
Y	9	313 35.4	N21 58.4	209 59.1	11.5	S19 31.9	10.6	56.3
	10	328 35.3	N21 58.1	224 29.5	11.4	S19 42.4	10.5	56.3
	11	343 35.2	N21 57.7	238 59.9	11.4	S19 52.8	10.4	56.3
	12	358 35.2	N21 57.4	253 30.3	11.4	S20 03.1	10.3	56.2
	13	13 35.1	N21 57.0	268 00.6	11.3	S20 13.3	10.2	56.2
	14	28 35.0	N21 56.7	282 30.9	11.3	S20 23.4	10.1	56.2
	15	43 34.9	N21 56.3	297 01.2	11.3	S20 33.4	10.0	56.2
	16	58 34.9	N21 56.0	311 31.4	11.2	S20 43.3	9.9	56.1
	17	73 34.8	N21 55.6	326 01.6	11.2	S20 53.0	9.8	56.1
	18	88 34.7	N21 55.3	340 31.7	11.1	S21 02.7	9.7	56.1
	19	103 34.6	N21 54.9	355 01.8	11.1	S21 12.2	9.5	56.0
	20	118 34.6	N21 54.5	9 31.8	11.1	S21 21.7	9.4	56.0
	21	133 34.5	N21 54.2	24 01.8	11.0	S21 31.0	9.3	56.0
	22	148 34.4	N21 53.8	38 31.8	11.0	S21 40.2	9.2	56.0
	23	163 34.3	N21 53.5	53 01.7	10.9	S21 49.3	9.1	55.9
13	0	178 34.2	N21 53.1	67 31.6	10.9	S21 58.3	9.0	55.9
	1	193 34.2	N21 52.8	82 01.5	10.8	S22 07.1	8.9	55.9
	2	208 34.1	N21 52.4	96 31.3	10.8	S22 15.9	8.7	55.9
	3	223 34.0	N21 52.1	111 01.1	10.8	S22 24.5	8.6	55.8
	4	238 33.9	N21 51.7	125 30.8	10.7	S22 33.0	8.5	55.8
T	5	253 33.9	N21 51.3	140 00.5	10.7	S22 41.4	8.4	55.8
U								
E	6	268 33.8	N21 51.0	154 30.1	10.7	S22 49.7	8.3	55.8
S	7	283 33.7	N21 50.6	168 59.7	10.6	S22 57.9	8.2	55.7
D	8	298 33.6	N21 50.3	183 29.3	10.6	S23 05.9	8.0	55.7
A	9	313 33.6	N21 49.9	197 58.9	10.5	S23 13.8	7.9	55.7
Y	10	328 33.5	N21 49.5	212 28.4	10.5	S23 21.6	7.8	55.7
	11	343 33.4	N21 49.2	226 57.8	10.5	S23 29.3	7.7	55.6
	12	358 33.4	N21 48.8	241 27.2	10.4	S23 36.8	7.6	55.6
	13	13 33.3	N21 48.4	255 56.6	10.4	S23 44.3	7.4	55.6
	14	28 33.2	N21 48.1	270 26.0	10.3	S23 51.6	7.3	55.6
	15	43 33.1	N21 47.7	284 55.3	10.3	S23 58.8	7.2	55.5
	16	58 33.1	N21 47.3	299 24.5	10.3	S24 05.8	7.1	55.5
	17	73 33.0	N21 47.0	313 53.8	10.2	S24 12.8	6.9	55.5
	18	88 32.9	N21 46.6	328 23.0	10.2	S24 19.6	6.8	55.5
	19	103 32.8	N21 46.2	342 52.2	10.2	S24 26.3	6.7	55.5
	20	118 32.8	N21 45.9	357 21.3	10.1	S24 32.8	6.6	55.4
	21	133 32.7	N21 45.5	11 50.4	10.1	S24 39.3	6.4	55.4
	22	148 32.6	N21 45.1	26 19.5	10.1	S24 45.6	6.3	55.4
	23	163 32.6	N21 44.8	40 48.5	10.0	S24 51.7	6.2	55.4
14	0	178 32.5	N21 44.4	55 17.5	10.0	S24 57.8	6.0	55.3
	1	193 32.4	N21 44.0	69 46.5	10.0	S25 03.7	5.9	55.3
	2	208 32.3	N21 43.6	84 15.4	9.9	S25 09.5	5.8	55.3
	3	223 32.3	N21 43.3	98 44.3	9.9	S25 15.2	5.7	55.3
	4	238 32.2	N21 42.9	113 13.2	9.9	S25 20.7	5.5	55.3
W	5	253 32.1	N21 42.5	127 42.1	9.9	S25 26.1	5.4	55.2
E								
D	6	268 32.1	N21 42.1	142 10.9	9.8	S25 31.4	5.3	55.2
N	7	283 32.0	N21 41.8	156 39.7	9.8	S25 36.5	5.1	55.2
E	8	298 31.9	N21 41.4	171 08.5	9.8	S25 41.5	5.0	55.2
S	9	313 31.9	N21 41.0	185 37.3	9.8	S25 46.4	4.9	55.2
D	10	328 31.8	N21 40.6	200 06.0	9.7	S25 51.1	4.7	55.1
A	11	343 31.7	N21 40.3	214 34.7	9.7	S25 55.7	4.6	55.1
Y								
	12	358 31.7	N21 39.9	229 03.4	9.7	S26 00.2	4.5	55.1
	13	13 31.6	N21 39.5	243 32.0	9.7	S26 04.5	4.3	55.1
	14	28 31.5	N21 39.1	258 00.7	9.6	S26 08.7	4.2	55.1
	15	43 31.4	N21 38.7	272 29.3	9.6	S26 12.8	4.1	55.0
	16	58 31.4	N21 38.3	286 57.9	9.6	S26 16.7	3.9	55.0
	17	73 31.3	N21 38.0	301 26.5	9.6	S26 20.5	3.8	55.0
	18	88 31.2	N21 37.6	315 55.1	9.6	S26 24.2	3.7	55.0
	19	103 31.2	N21 37.2	330 23.6	9.6	S26 27.7	3.5	55.0
	20	118 31.1	N21 36.8	344 52.1	9.5	S26 31.1	3.4	55.0
	21	133 31.0	N21 36.4	359 20.7	9.5	S26 34.4	3.3	54.9
	22	148 31.0	N21 36.0	13 49.2	9.5	S26 37.5	3.1	54.9
	23	163 30.9	N21 35.7	28 17.7	9.5	S26 40.5	3.0	54.9
		S.D. 15.7	d 0.4	S.D.	15.3	15.2	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.4	S40 11.4
Achernar	335 18.7	S57 05.4
Acrux	172 57.9	S63 15.4
Adhara	255 04.6	S29 00.5
Albireo	67 02.0	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.2	N55 48.9
Alkaid	152 50.3	N49 10.7
Al Na-ir	27 29.9	S46 49.4
Alnilam	275 35.9	S 1 11.0
Alphard	217 46.0	S 8 46.7
Alphecca	126 01.8	N26 37.4
Alpheratz	357 32.5	N29 14.6
Altair	61 57.6	N 8 56.5
Ankaa	353 05.0	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.8
Avior	234 14.5	S59 36.0
Bellatrix	278 21.0	N 6 22.5
Betelgeuse	270 50.2	N 7 24.8
Canopus	263 52.0	S52 42.5
Capella	280 19.2	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 23.9	N45 22.7
Denebola	182 23.0	N14 25.1
Diphda	348 45.2	S17 49.9
Dubhe	193 38.9	N61 36.3
Elnath	277 59.6	N28 37.8
Eltanin	90 40.7	N51 29.2
Enif	33 36.4	N10 00.2
Fomalhaut	15 12.0	S29 28.3
Gacrux	171 49.5	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 33.0	S60 30.7
Hamal	327 48.9	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.6	N74 02.8
Markab	13 27.6	N15 21.2
Menkar	314 04.1	N 4 11.9
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.6	S69 50.0
Mirfak	308 25.6	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.8	S56 38.6
Polaris	315 49.0	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.3	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.2	S 8 10.1
Rigil Kent	139 37.3	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.5	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.8	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.7
Vega	80 31.4	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

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 37.6	186 43.2	N23 02.7	112 35.2	N 0 26.0	142 21.7	N13 06.3	266 22.7	N 8 12.3
	1	307 40.1	201 42.3	N23 02.5	127 36.3	N 0 25.4	157 23.7	N13 06.1	281 25.0	N 8 12.3
	2	322 42.5	216 41.5	N23 02.2	142 37.5	N 0 24.8	172 25.7	N13 05.9	296 27.4	N 8 12.4
	3	337 45.0	231 40.6	N23 02.0	157 38.7	N 0 24.1	187 27.7	N13 05.8	311 29.8	N 8 12.4
	4	352 47.5	246 39.8	N23 01.8	172 39.8	N 0 23.5	202 29.7	N13 05.6	326 32.1	N 8 12.4
T	5	7 49.9	261 38.9	N23 01.5	187 41.0	N 0 22.9	217 31.7	N13 05.4	341 34.5	N 8 12.4
H										
U	6	22 52.4	276 38.0	N23 01.3	202 42.2	N 0 22.3	232 33.7	N13 05.3	356 36.8	N 8 12.5
R	7	37 54.9	291 37.2	N23 01.0	217 43.4	N 0 21.7	247 35.7	N13 05.1	11 39.2	N 8 12.5
S	8	52 57.3	306 36.3	N23 00.8	232 44.5	N 0 21.1	262 37.7	N13 04.9	26 41.5	N 8 12.5
D	9	67 59.8	321 35.5	N23 00.5	247 45.7	N 0 20.5	277 39.7	N13 04.8	41 43.9	N 8 12.6
A	10	83 02.2	336 34.6	N23 00.3	262 46.9	N 0 19.9	292 41.7	N13 04.6	56 46.3	N 8 12.6
Y	11	98 04.7	351 33.7	N23 00.0	277 48.0	N 0 19.3	307 43.7	N13 04.4	71 48.6	N 8 12.6
	12	113 07.2	6 32.9	N22 59.8	292 49.2	N 0 18.7	322 45.7	N13 04.2	86 51.0	N 8 12.6
	13	128 09.6	21 32.0	N22 59.5	307 50.4	N 0 18.1	337 47.7	N13 04.1	101 53.3	N 8 12.7
	14	143 12.1	36 31.2	N22 59.3	322 51.6	N 0 17.5	352 49.7	N13 03.9	116 55.7	N 8 12.7
	15	158 14.6	51 30.3	N22 59.0	337 52.7	N 0 16.9	7 51.6	N13 03.7	131 58.1	N 8 12.7
	16	173 17.0	66 29.4	N22 58.7	352 53.9	N 0 16.3	22 53.6	N13 03.6	147 00.4	N 8 12.7
	17	188 19.5	81 28.6	N22 58.5	7 55.1	N 0 15.7	37 55.6	N13 03.4	162 02.8	N 8 12.8
	18	203 22.0	96 27.7	N22 58.2	22 56.2	N 0 15.1	52 57.6	N13 03.2	177 05.1	N 8 12.8
	19	218 24.4	111 26.9	N22 58.0	37 57.4	N 0 14.5	67 59.6	N13 03.0	192 07.5	N 8 12.8
	20	233 26.9	126 26.0	N22 57.7	52 58.6	N 0 13.9	83 01.6	N13 02.9	207 09.9	N 8 12.9
	21	248 29.4	141 25.1	N22 57.4	67 59.7	N 0 13.2	98 03.6	N13 02.7	222 12.2	N 8 12.9
	22	263 31.8	156 24.3	N22 57.2	83 00.9	N 0 12.6	113 05.6	N13 02.5	237 14.6	N 8 12.9
	23	278 34.3	171 23.4	N22 56.9	98 02.1	N 0 12.0	128 07.6	N13 02.4	252 16.9	N 8 12.9
16	0	293 36.7	186 22.6	N22 56.6	113 03.2	N 0 11.4	143 09.6	N13 02.2	267 19.3	N 8 13.0
	1	308 39.2	201 21.7	N22 56.4	128 04.4	N 0 10.8	158 11.6	N13 02.0	282 21.7	N 8 13.0
	2	323 41.7	216 20.9	N22 56.1	143 05.6	N 0 10.2	173 13.6	N13 01.9	297 24.0	N 8 13.0
	3	338 44.1	231 20.0	N22 55.8	158 06.7	N 0 09.6	188 15.6	N13 01.7	312 26.4	N 8 13.0
	4	353 46.6	246 19.1	N22 55.5	173 07.9	N 0 09.0	203 17.6	N13 01.5	327 28.8	N 8 13.1
F	5	8 49.1	261 18.3	N22 55.3	188 09.1	N 0 08.4	218 19.5	N13 01.3	342 31.1	N 8 13.1
R										
I	6	23 51.5	276 17.4	N22 55.0	203 10.2	N 0 07.8	233 21.5	N13 01.2	357 33.5	N 8 13.1
D	7	38 54.0	291 16.6	N22 54.7	218 11.4	N 0 07.2	248 23.5	N13 01.0	12 35.8	N 8 13.2
A	8	53 56.5	306 15.7	N22 54.4	233 12.6	N 0 06.6	263 25.5	N13 00.8	27 38.2	N 8 13.2
Y	9	68 58.9	321 14.9	N22 54.2	248 13.7	N 0 06.0	278 27.5	N13 00.7	42 40.6	N 8 13.2
	10	84 01.4	336 14.0	N22 53.9	263 14.9	N 0 05.4	293 29.5	N13 00.5	57 42.9	N 8 13.2
	11	99 03.9	351 13.2	N22 53.6	278 16.1	N 0 04.8	308 31.5	N13 00.3	72 45.3	N 8 13.3
	12	114 06.3	6 12.3	N22 53.3	293 17.2	N 0 04.1	323 33.5	N13 00.1	87 47.7	N 8 13.3
	13	129 08.8	21 11.4	N22 53.0	308 18.4	N 0 03.5	338 35.5	N12 60.0	102 50.0	N 8 13.3
	14	144 11.2	36 10.6	N22 52.8	323 19.6	N 0 02.9	353 37.5	N12 59.8	117 52.4	N 8 13.3
	15	159 13.7	51 09.7	N22 52.5	338 20.7	N 0 02.3	8 39.5	N12 59.6	132 54.7	N 8 13.4
	16	174 16.2	66 08.9	N22 52.2	353 21.9	N 0 01.7	23 41.4	N12 59.5	147 57.1	N 8 13.4
	17	189 18.6	81 08.0	N22 51.9	8 23.1	N 0 01.1	38 43.4	N12 59.3	162 59.5	N 8 13.4
	18	204 21.1	96 07.2	N22 51.6	23 24.2	N 0 00.5	53 45.4	N12 59.1	178 01.8	N 8 13.4
	19	219 23.6	111 06.3	N22 51.3	38 25.4	S 0 00.1	68 47.4	N12 58.9	193 04.2	N 8 13.5
	20	234 26.0	126 05.5	N22 51.0	53 26.5	S 0 00.7	83 49.4	N12 58.8	208 06.6	N 8 13.5
	21	249 28.5	141 04.6	N22 50.7	68 27.7	S 0 01.3	98 51.4	N12 58.6	223 08.9	N 8 13.5
	22	264 31.0	156 03.8	N22 50.5	83 28.9	S 0 01.9	113 53.4	N12 58.4	238 11.3	N 8 13.6
	23	279 33.4	171 02.9	N22 50.2	98 30.0	S 0 02.5	128 55.4	N12 58.3	253 13.7	N 8 13.6
17	0	294 35.9	186 02.1	N22 49.9	113 31.2	S 0 03.1	143 57.4	N12 58.1	268 16.0	N 8 13.6
	1	309 38.4	201 01.2	N22 49.6	128 32.4	S 0 03.8	158 59.4	N12 57.9	283 18.4	N 8 13.6
	2	324 40.8	216 00.3	N22 49.3	143 33.5	S 0 04.4	174 01.4	N12 57.7	298 20.8	N 8 13.7
	3	339 43.3	230 59.5	N22 49.0	158 34.7	S 0 05.0	189 03.3	N12 57.6	313 23.1	N 8 13.7
	4	354 45.7	245 58.6	N22 48.7	173 35.9	S 0 05.6	204 05.3	N12 57.4	328 25.5	N 8 13.7
S	5	9 48.2	260 57.8	N22 48.4	188 37.0	S 0 06.2	219 07.3	N12 57.2	343 27.9	N 8 13.7
A										
T	6	24 50.7	275 56.9	N22 48.1	203 38.2	S 0 06.8	234 09.3	N12 57.1	358 30.2	N 8 13.8
U	7	39 53.1	290 56.1	N22 47.8	218 39.3	S 0 07.4	249 11.3	N12 56.9	13 32.6	N 8 13.8
R	8	54 55.6	305 55.2	N22 47.5	233 40.5	S 0 08.0	264 13.3	N12 56.7	28 35.0	N 8 13.8
D	9	69 58.1	320 54.4	N22 47.2	248 41.7	S 0 08.6	279 15.3	N12 56.5	43 37.3	N 8 13.8
A	10	85 00.5	335 53.5	N22 46.8	263 42.8	S 0 09.2	294 17.3	N12 56.4	58 39.7	N 8 13.9
Y	11	100 03.0	350 52.7	N22 46.5	278 44.0	S 0 09.8	309 19.3	N12 56.2	73 42.1	N 8 13.9
	12	115 05.5	5 51.8	N22 46.2	293 45.1	S 0 10.4	324 21.3	N12 56.0	88 44.4	N 8 13.9
	13	130 07.9	20 51.0	N22 45.9	308 46.3	S 0 11.1	339 23.2	N12 55.9	103 46.8	N 8 13.9
	14	145 10.4	35 50.1	N22 45.6	323 47.5	S 0 11.7	354 25.2	N12 55.7	118 49.2	N 8 14.0
	15	160 12.8	50 49.3	N22 45.3	338 48.6	S 0 12.3	9 27.2	N12 55.5	133 51.5	N 8 14.0
	16	175 15.3	65 48.4	N22 45.0	353 49.8	S 0 12.9	24 29.2	N12 55.3	148 53.9	N 8 14.0
	17	190 17.8	80 47.6	N22 44.7	8 50.9	S 0 13.5	39 31.2	N12 55.2	163 56.3	N 8 14.0
	18	205 20.2	95 46.7	N22 44.3	23 52.1	S 0 14.1	54 33.2	N12 55.0	178 58.6	N 8 14.1
	19	220 22.7	110 45.9	N22 44.0	38 53.3	S 0 14.7	69 35.2	N12 54.8	194 01.0	N 8 14.1
	20	235 25.2	125 45.0	N22 43.7	53 54.4	S 0 15.3	84 37.2	N12 54.6	209 03.4	N 8 14.1
	21	250 27.6	140 44.2	N22 43.4	68 55.6	S 0 15.9	99 39.2	N12 54.5	224 05.7	N 8 14.1
	22	265 30.1	155 43.3	N22 43.1	83 56.7	S 0 16.5	114 41.1	N12 54.3	239 08.1	N 8 14.2
	23	280 32.6	170 42.5	N22 42.7	98 57.9	S 0 17.1	129 43.1	N12 54.1	254 10.5	N 8 14.2
			v -0.9	d 0.3	v 1.2	d 0.6	v 2.0	d 0.2	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 30.9	N21 35.3	42 46.2	9.5	S26 43.4	2.9	54.9
	1	193 30.8	N21 34.9	57 14.7	9.5	S26 46.1	2.7	54.9
	2	208 30.7	N21 34.5	71 43.1	9.5	S26 48.6	2.6	54.8
	3	223 30.7	N21 34.1	86 11.6	9.5	S26 51.1	2.4	54.8
	4	238 30.6	N21 33.7	100 40.1	9.5	S26 53.4	2.3	54.8
T	5	253 30.5	N21 33.3	115 08.5	9.5	S26 55.6	2.2	54.8
H								
U	6	268 30.5	N21 32.9	129 37.0	9.5	S26 57.6	2.0	54.8
R	7	283 30.4	N21 32.5	144 05.4	9.4	S26 59.5	1.9	54.8
S	8	298 30.3	N21 32.2	158 33.9	9.4	S27 01.2	1.8	54.7
D	9	313 30.3	N21 31.8	173 02.3	9.4	S27 02.9	1.6	54.7
A	10	328 30.2	N21 31.4	187 30.8	9.4	S27 04.3	1.5	54.7
Y	11	343 30.1	N21 31.0	201 59.2	9.4	S27 05.7	1.3	54.7
	12	358 30.1	N21 30.6	216 27.7	9.5	S27 06.9	1.2	54.7
	13	13 30.0	N21 30.2	230 56.1	9.5	S27 08.0	1.1	54.7
	14	28 30.0	N21 29.8	245 24.6	9.5	S27 08.9	0.9	54.7
	15	43 29.9	N21 29.4	259 53.0	9.5	S27 09.7	0.8	54.6
	16	58 29.8	N21 29.0	274 21.5	9.5	S27 10.3	0.7	54.6
	17	73 29.8	N21 28.6	288 50.0	9.5	S27 10.9	0.5	54.6
	18	88 29.7	N21 28.2	303 18.5	9.5	S27 11.3	0.4	54.6
	19	103 29.6	N21 27.8	317 47.0	9.5	S27 11.5	0.2	54.6
	20	118 29.6	N21 27.4	332 15.5	9.5	S27 11.6	0.1	54.6
	21	133 29.5	N21 27.0	346 44.1	9.5	S27 11.6	0.0	54.6
	22	148 29.5	N21 26.6	1 12.6	9.6	S27 11.4	0.2	54.5
	23	163 29.4	N21 26.2	15 41.2	9.6	S27 11.1	0.3	54.5
16	0	178 29.3	N21 25.8	30 09.8	9.6	S27 10.7	0.4	54.5
	1	193 29.3	N21 25.4	44 38.4	9.6	S27 10.1	0.6	54.5
	2	208 29.2	N21 25.0	59 07.0	9.6	S27 09.4	0.7	54.5
	3	223 29.2	N21 24.6	73 35.6	9.6	S27 08.6	0.8	54.5
	4	238 29.1	N21 24.2	88 04.3	9.7	S27 07.6	1.0	54.5
F	5	253 29.0	N21 23.8	102 33.0	9.7	S27 06.5	1.1	54.5
R								
I	6	268 29.0	N21 23.4	117 01.7	9.7	S27 05.3	1.2	54.4
D	7	283 28.9	N21 23.0	131 30.5	9.7	S27 03.9	1.4	54.4
A	8	298 28.9	N21 22.6	145 59.2	9.8	S27 02.4	1.5	54.4
Y	9	313 28.8	N21 22.1	160 28.0	9.8	S27 00.8	1.6	54.4
	10	328 28.8	N21 21.7	174 56.9	9.8	S26 59.0	1.8	54.4
	11	343 28.7	N21 21.3	189 25.7	9.9	S26 57.1	1.9	54.4
	12	358 28.6	N21 20.9	203 54.6	9.9	S26 55.0	2.0	54.4
	13	13 28.6	N21 20.5	218 23.5	9.9	S26 52.9	2.2	54.4
	14	28 28.5	N21 20.1	232 52.5	10.0	S26 50.6	2.3	54.4
	15	43 28.5	N21 19.7	247 21.5	10.0	S26 48.1	2.4	54.3
	16	58 28.4	N21 19.3	261 50.5	10.0	S26 45.6	2.6	54.3
	17	73 28.4	N21 18.9	276 19.5	10.1	S26 42.9	2.7	54.3
	18	88 28.3	N21 18.4	290 48.6	10.1	S26 40.1	2.8	54.3
	19	103 28.2	N21 18.0	305 17.8	10.1	S26 37.1	3.0	54.3
	20	118 28.2	N21 17.6	319 46.9	10.2	S26 34.0	3.1	54.3
	21	133 28.1	N21 17.2	334 16.2	10.2	S26 30.8	3.2	54.3
	22	148 28.1	N21 16.8	348 45.4	10.3	S26 27.5	3.3	54.3
	23	163 28.0	N21 16.4	3 14.7	10.3	S26 24.0	3.5	54.3
17	0	178 28.0	N21 15.9	17 44.1	10.3	S26 20.4	3.6	54.3
	1	193 27.9	N21 15.5	32 13.5	10.4	S26 16.7	3.7	54.2
	2	208 27.9	N21 15.1	46 42.9	10.4	S26 12.9	3.8	54.2
	3	223 27.8	N21 14.7	61 12.4	10.5	S26 08.9	4.0	54.2
	4	238 27.8	N21 14.3	75 41.9	10.5	S26 04.8	4.1	54.2
S	5	253 27.7	N21 13.9	90 11.5	10.6	S26 00.6	4.2	54.2
A								
T	6	268 27.6	N21 13.4	104 41.1	10.6	S25 56.3	4.3	54.2
U	7	283 27.6	N21 13.0	119 10.8	10.7	S25 51.8	4.5	54.2
R	8	298 27.5	N21 12.6	133 40.5	10.7	S25 47.2	4.6	54.2
D	9	313 27.5	N21 12.2	148 10.3	10.8	S25 42.5	4.7	54.2
A	10	328 27.4	N21 11.7	162 40.1	10.8	S25 37.7	4.8	54.2
Y	11	343 27.4	N21 11.3	177 10.0	10.9	S25 32.8	4.9	54.2
	12	358 27.3	N21 10.9	191 39.9	10.9	S25 27.7	5.1	54.2
	13	13 27.3	N21 10.5	206 09.9	11.0	S25 22.6	5.2	54.1
	14	28 27.2	N21 10.0	220 39.9	11.0	S25 17.3	5.3	54.1
	15	43 27.2	N21 09.6	235 10.0	11.1	S25 11.9	5.4	54.1
	16	58 27.1	N21 09.2	249 40.2	11.1	S25 06.3	5.5	54.1
	17	73 27.1	N21 08.8	264 10.4	11.2	S25 00.7	5.6	54.1
	18	88 27.0	N21 08.3	278 40.6	11.3	S24 54.9	5.8	54.1
	19	103 27.0	N21 07.9	293 10.9	11.3	S24 49.1	5.9	54.1
	20	118 26.9	N21 07.5	307 41.3	11.4	S24 43.1	6.0	54.1
	21	133 26.9	N21 07.0	322 11.8	11.4	S24 37.0	6.1	54.1
	22	148 26.8	N21 06.6	336 42.3	11.5	S24 30.8	6.2	54.1
	23	163 26.8	N21 06.2	351 12.8	11.6	S24 24.4	6.3	54.1
		S.D. 15.7	d 0.4	S.D. 14.9		14.8		14.8

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.3
Achernar	335 18.7	S57 05.4
Acrux	172 57.9	S63 15.4
Adhara	255 04.6	S29 00.5
Albireo	67 02.0	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.2	N55 48.9
Alkaid	152 50.3	N49 10.7
Al Na-ir	27 29.9	S46 49.4
Alnilam	275 35.9	S 1 11.0
Alphard	217 46.0	S 8 46.7
Alphecca	126 01.8	N26 37.4
Alpheratz	357 32.5	N29 14.6
Altair	61 57.6	N 8 56.5
Ankaa	353 05.0	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.8
Avior	234 14.5	S59 35.9
Bellatrix	278 20.9	N 6 22.5
Betelgeuse	270 50.1	N 7 24.8
Canopus	263 52.0	S52 42.5
Capella	280 19.2	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 23.9	N45 22.7
Denebola	182 23.0	N14 25.1
Diphda	348 45.2	S17 49.9
Dubhe	193 38.9	N61 36.3
Elnath	277 59.6	N28 37.8
Eltanin	90 40.7	N51 29.2
Enif	33 36.4	N10 00.2
Fomalhaut	15 12.0	S29 28.3
Gacrux	171 49.5	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 33.0	S60 30.7
Hamal	327 48.9	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.7	N74 02.8
Markab	13 27.6	N15 21.2
Menkar	314 04.1	N 4 12.0
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.6	S69 50.0
Mirfak	308 25.5	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.8	S56 38.6
Polaris	315 47.5	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.3	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.1	S 8 10.1
Rigil Kent	139 37.3	S60 57.2
Sabik	102 00.1	S15 45.6
Schedar	349 28.5	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.7	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.7
Vega	80 31.4	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

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	295 35.0	185 41.7	N22 42.4	113 59.1	S 0 17.8	144 45.1	N12 54.0	269 12.8	N 8 14.2
	1	310 37.5	200 40.8	N22 42.1	129 00.2	S 0 18.4	159 47.1	N12 53.8	284 15.2	N 8 14.2
	2	325 40.0	215 40.0	N22 41.8	144 01.4	S 0 19.0	174 49.1	N12 53.6	299 17.6	N 8 14.2
	3	340 42.4	230 39.1	N22 41.4	159 02.5	S 0 19.6	189 51.1	N12 53.4	314 19.9	N 8 14.3
	4	355 44.9	245 38.3	N22 41.1	174 03.7	S 0 20.2	204 53.1	N12 53.3	329 22.3	N 8 14.3
S	5	10 47.3	260 37.4	N22 40.8	189 04.8	S 0 20.8	219 55.1	N12 53.1	344 24.7	N 8 14.3
U										
N	6	25 49.8	275 36.6	N22 40.5	204 06.0	S 0 21.4	234 57.0	N12 52.9	359 27.1	N 8 14.3
D	7	40 52.3	290 35.7	N22 40.1	219 07.2	S 0 22.0	249 59.0	N12 52.8	14 29.4	N 8 14.4
A	8	55 54.7	305 34.9	N22 39.8	234 08.3	S 0 22.6	265 01.0	N12 52.6	29 31.8	N 8 14.4
Y	9	70 57.2	320 34.0	N22 39.5	249 09.5	S 0 23.2	280 03.0	N12 52.4	44 34.2	N 8 14.4
	10	85 59.7	335 33.2	N22 39.1	264 10.6	S 0 23.9	295 05.0	N12 52.2	59 36.5	N 8 14.4
	11	101 02.1	350 32.3	N22 38.8	279 11.8	S 0 24.5	310 07.0	N12 52.1	74 38.9	N 8 14.5
	12	116 04.6	5 31.5	N22 38.4	294 12.9	S 0 25.1	325 09.0	N12 51.9	89 41.3	N 8 14.5
	13	131 07.1	20 30.7	N22 38.1	309 14.1	S 0 25.7	340 11.0	N12 51.7	104 43.6	N 8 14.5
	14	146 09.5	35 29.8	N22 37.8	324 15.3	S 0 26.3	355 12.9	N12 51.5	119 46.0	N 8 14.5
	15	161 12.0	50 29.0	N22 37.4	339 16.4	S 0 26.9	10 14.9	N12 51.4	134 48.4	N 8 14.6
	16	176 14.5	65 28.1	N22 37.1	354 17.6	S 0 27.5	25 16.9	N12 51.2	149 50.8	N 8 14.6
	17	191 16.9	80 27.3	N22 36.7	9 18.7	S 0 28.1	40 18.9	N12 51.0	164 53.1	N 8 14.6
	18	206 19.4	95 26.4	N22 36.4	24 19.9	S 0 28.7	55 20.9	N12 50.8	179 55.5	N 8 14.6
	19	221 21.8	110 25.6	N22 36.1	39 21.0	S 0 29.3	70 22.9	N12 50.7	194 57.9	N 8 14.6
	20	236 24.3	125 24.8	N22 35.7	54 22.2	S 0 30.0	85 24.9	N12 50.5	210 00.2	N 8 14.7
	21	251 26.8	140 23.9	N22 35.4	69 23.3	S 0 30.6	100 26.9	N12 50.3	225 02.6	N 8 14.7
	22	266 29.2	155 23.1	N22 35.0	84 24.5	S 0 31.2	115 28.8	N12 50.2	240 05.0	N 8 14.7
	23	281 31.7	170 22.2	N22 34.7	99 25.6	S 0 31.8	130 30.8	N12 50.0	255 07.4	N 8 14.7
19	0	296 34.2	185 21.4	N22 34.3	114 26.8	S 0 32.4	145 32.8	N12 49.8	270 09.7	N 8 14.8
	1	311 36.6	200 20.5	N22 34.0	129 28.0	S 0 33.0	160 34.8	N12 49.6	285 12.1	N 8 14.8
	2	326 39.1	215 19.7	N22 33.6	144 29.1	S 0 33.6	175 36.8	N12 49.5	300 14.5	N 8 14.8
	3	341 41.6	230 18.9	N22 33.3	159 30.3	S 0 34.2	190 38.8	N12 49.3	315 16.9	N 8 14.8
	4	356 44.0	245 18.0	N22 32.9	174 31.4	S 0 34.8	205 40.8	N12 49.1	330 19.2	N 8 14.9
M	5	11 46.5	260 17.2	N22 32.5	189 32.6	S 0 35.5	220 42.8	N12 48.9	345 21.6	N 8 14.9
O										
N	6	26 49.0	275 16.3	N22 32.2	204 33.7	S 0 36.1	235 44.7	N12 48.8	0 24.0	N 8 14.9
D	7	41 51.4	290 15.5	N22 31.8	219 34.9	S 0 36.7	250 46.7	N12 48.6	15 26.4	N 8 14.9
A	8	56 53.9	305 14.7	N22 31.5	234 36.0	S 0 37.3	265 48.7	N12 48.4	30 28.7	N 8 14.9
Y	9	71 56.3	320 13.8	N22 31.1	249 37.2	S 0 37.9	280 50.7	N12 48.2	45 31.1	N 8 15.0
	10	86 58.8	335 13.0	N22 30.7	264 38.3	S 0 38.5	295 52.7	N12 48.1	60 33.5	N 8 15.0
	11	102 01.3	350 12.1	N22 30.4	279 39.5	S 0 39.1	310 54.7	N12 47.9	75 35.8	N 8 15.0
	12	117 03.7	5 11.3	N22 30.0	294 40.6	S 0 39.7	325 56.7	N12 47.7	90 38.2	N 8 15.0
	13	132 06.2	20 10.5	N22 29.6	309 41.8	S 0 40.3	340 58.6	N12 47.5	105 40.6	N 8 15.1
	14	147 08.7	35 09.6	N22 29.3	324 42.9	S 0 41.0	356 00.6	N12 47.4	120 43.0	N 8 15.1
	15	162 11.1	50 08.8	N22 28.9	339 44.1	S 0 41.6	11 02.6	N12 47.2	135 45.3	N 8 15.1
	16	177 13.6	65 08.0	N22 28.5	354 45.2	S 0 42.2	26 04.6	N12 47.0	150 47.7	N 8 15.1
	17	192 16.1	80 07.1	N22 28.2	9 46.4	S 0 42.8	41 06.6	N12 46.8	165 50.1	N 8 15.1
	18	207 18.5	95 06.3	N22 27.8	24 47.5	S 0 43.4	56 08.6	N12 46.7	180 52.5	N 8 15.2
	19	222 21.0	110 05.4	N22 27.4	39 48.7	S 0 44.0	71 10.5	N12 46.5	195 54.8	N 8 15.2
	20	237 23.5	125 04.6	N22 27.0	54 49.8	S 0 44.6	86 12.5	N12 46.3	210 57.2	N 8 15.2
	21	252 25.9	140 03.8	N22 26.7	69 51.0	S 0 45.2	101 14.5	N12 46.1	225 59.6	N 8 15.2
	22	267 28.4	155 02.9	N22 26.3	84 52.1	S 0 45.9	116 16.5	N12 46.0	241 02.0	N 8 15.2
	23	282 30.8	170 02.1	N22 25.9	99 53.3	S 0 46.5	131 18.5	N12 45.8	256 04.4	N 8 15.3
20	0	297 33.3	185 01.3	N22 25.5	114 54.4	S 0 47.1	146 20.5	N12 45.6	271 06.7	N 8 15.3
	1	312 35.8	200 00.4	N22 25.2	129 55.6	S 0 47.7	161 22.5	N12 45.5	286 09.1	N 8 15.3
	2	327 38.2	214 59.6	N22 24.8	144 56.7	S 0 48.3	176 24.4	N12 45.3	301 11.5	N 8 15.3
	3	342 40.7	229 58.8	N22 24.4	159 57.9	S 0 48.9	191 26.4	N12 45.1	316 13.9	N 8 15.4
	4	357 43.2	244 57.9	N22 24.0	174 59.0	S 0 49.5	206 28.4	N12 44.9	331 16.2	N 8 15.4
T	5	12 45.6	259 57.1	N22 23.6	190 00.2	S 0 50.1	221 30.4	N12 44.8	346 18.6	N 8 15.4
U										
E	6	27 48.1	274 56.3	N22 23.2	205 01.3	S 0 50.8	236 32.4	N12 44.6	1 21.0	N 8 15.4
S	7	42 50.6	289 55.4	N22 22.9	220 02.5	S 0 51.4	251 34.4	N12 44.4	16 23.4	N 8 15.4
D	8	57 53.0	304 54.6	N22 22.5	235 03.6	S 0 52.0	266 36.4	N12 44.2	31 25.7	N 8 15.5
A	9	72 55.5	319 53.8	N22 22.1	250 04.8	S 0 52.6	281 38.3	N12 44.1	46 28.1	N 8 15.5
Y	10	87 58.0	334 52.9	N22 21.7	265 05.9	S 0 53.2	296 40.3	N12 43.9	61 30.5	N 8 15.5
	11	103 00.4	349 52.1	N22 21.3	280 07.1	S 0 53.8	311 42.3	N12 43.7	76 32.9	N 8 15.5
	12	118 02.9	4 51.3	N22 20.9	295 08.2	S 0 54.4	326 44.3	N12 43.5	91 35.3	N 8 15.5
	13	133 05.3	19 50.4	N22 20.5	310 09.4	S 0 55.1	341 46.3	N12 43.4	106 37.6	N 8 15.6
	14	148 07.8	34 49.6	N22 20.1	325 10.5	S 0 55.7	356 48.3	N12 43.2	121 40.0	N 8 15.6
	15	163 10.3	49 48.8	N22 19.7	340 11.6	S 0 56.3	11 50.2	N12 43.0	136 42.4	N 8 15.6
	16	178 12.7	64 47.9	N22 19.3	355 12.8	S 0 56.9	26 52.2	N12 42.8	151 44.8	N 8 15.6
	17	193 15.2	79 47.1	N22 18.9	10 13.9	S 0 57.5	41 54.2	N12 42.7	166 47.2	N 8 15.6
	18	208 17.7	94 46.3	N22 18.5	25 15.1	S 0 58.1	56 56.2	N12 42.5	181 49.5	N 8 15.7
	19	223 20.1	109 45.5	N22 18.1	40 16.2	S 0 58.7	71 58.2	N12 42.3	196 51.9	N 8 15.7
	20	238 22.6	124 44.6	N22 17.7	55 17.4	S 0 59.3	87 00.2	N12 42.1	211 54.3	N 8 15.7
	21	253 25.1	139 43.8	N22 17.3	70 18.5	S 0 60.0	102 02.1	N12 42.0	226 56.7	N 8 15.7
	22	268 27.5	154 43.0	N22 16.9	85 19.7	S 1 00.6	117 04.1	N12 41.8	241 59.1	N 8 15.7
	23	283 30.0	169 42.1	N22 16.5	100 20.8	S 1 01.2	132 06.1	N12 41.6	257 01.4	N 8 15.8
			v -0.8	d 0.4	v 1.2	d 0.6	v 2.0	d 0.2	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
18	0	178 26.7	N21 05.7	5 43.4	11.6	S24 18.0	6.4	54.1
	1	193 26.7	N21 05.3	20 14.1	11.7	S24 11.5	6.5	54.1
	2	208 26.6	N21 04.9	34 44.8	11.7	S24 04.8	6.6	54.1
	3	223 26.6	N21 04.4	49 15.6	11.8	S23 58.1	6.8	54.1
	4	238 26.5	N21 04.0	63 46.5	11.9	S23 51.2	6.9	54.1
S	5	253 26.5	N21 03.6	78 17.4	11.9	S23 44.2	7.0	54.1
U								
N	6	268 26.4	N21 03.1	92 48.4	12.0	S23 37.2	7.1	54.0
D	7	283 26.4	N21 02.7	107 19.4	12.0	S23 30.0	7.2	54.0
A	8	298 26.3	N21 02.3	121 50.5	12.1	S23 22.7	7.3	54.0
Y	9	313 26.3	N21 01.8	136 21.7	12.2	S23 15.3	7.4	54.0
	10	328 26.2	N21 01.4	150 52.9	12.2	S23 07.8	7.5	54.0
	11	343 26.2	N21 01.0	165 24.2	12.3	S23 00.3	7.6	54.0
	12	358 26.1	N21 00.5	179 55.6	12.4	S22 52.6	7.7	54.0
	13	13 26.1	N21 00.1	194 27.0	12.4	S22 44.8	7.8	54.0
	14	28 26.1	N20 59.6	208 58.5	12.5	S22 36.9	7.9	54.0
	15	43 26.0	N20 59.2	223 30.0	12.5	S22 28.9	8.0	54.0
	16	58 26.0	N20 58.7	238 01.6	12.6	S22 20.8	8.1	54.0
	17	73 25.9	N20 58.3	252 33.3	12.7	S22 12.6	8.2	54.0
	18	88 25.9	N20 57.9	267 05.0	12.7	S22 04.4	8.3	54.0
	19	103 25.8	N20 57.4	281 36.8	12.8	S21 56.0	8.4	54.0
	20	118 25.8	N20 57.0	296 08.7	12.9	S21 47.5	8.5	54.0
	21	133 25.7	N20 56.5	310 40.6	12.9	S21 39.0	8.6	54.0
	22	148 25.7	N20 56.1	325 12.6	13.0	S21 30.3	8.6	54.0
	23	163 25.7	N20 55.6	339 44.7	13.1	S21 21.6	8.7	54.0
19	0	178 25.6	N20 55.2	354 16.8	13.1	S21 12.7	8.8	54.0
	1	193 25.6	N20 54.7	8 49.0	13.2	S21 03.8	8.9	54.0
	2	208 25.5	N20 54.3	23 21.2	13.2	S20 54.8	9.0	54.0
	3	223 25.5	N20 53.8	37 53.5	13.3	S20 45.7	9.1	54.0
	4	238 25.4	N20 53.4	52 25.9	13.4	S20 36.5	9.2	54.0
M	5	253 25.4	N20 52.9	66 58.3	13.4	S20 27.3	9.3	54.0
O								
N	6	268 25.4	N20 52.5	81 30.8	13.5	S20 17.9	9.4	54.0
D	7	283 25.3	N20 52.0	96 03.4	13.6	S20 08.5	9.4	54.0
A	8	298 25.3	N20 51.6	110 36.0	13.6	S19 58.9	9.5	54.0
Y	9	313 25.2	N20 51.1	125 08.7	13.7	S19 49.3	9.6	54.0
	10	328 25.2	N20 50.7	139 41.4	13.7	S19 39.7	9.7	54.0
	11	343 25.1	N20 50.2	154 14.2	13.8	S19 29.9	9.8	54.0
	12	358 25.1	N20 49.8	168 47.1	13.9	S19 20.0	9.8	54.0
	13	13 25.1	N20 49.3	183 20.0	13.9	S19 10.1	9.9	54.0
	14	28 25.0	N20 48.9	197 53.0	14.0	S19 00.1	10.0	54.0
	15	43 25.0	N20 48.4	212 26.0	14.0	S18 50.0	10.1	54.0
	16	58 24.9	N20 48.0	226 59.1	14.1	S18 39.9	10.2	54.0
	17	73 24.9	N20 47.5	241 32.3	14.2	S18 29.6	10.2	54.0
	18	88 24.9	N20 47.0	256 05.5	14.2	S18 19.3	10.3	54.0
	19	103 24.8	N20 46.6	270 38.8	14.3	S18 08.9	10.4	54.0
	20	118 24.8	N20 46.1	285 12.1	14.3	S17 58.5	10.5	54.0
	21	133 24.7	N20 45.7	299 45.5	14.4	S17 47.9	10.5	54.0
	22	148 24.7	N20 45.2	314 19.0	14.5	S17 37.3	10.6	54.0
	23	163 24.7	N20 44.7	328 52.5	14.5	S17 26.6	10.7	54.0
20	0	178 24.6	N20 44.3	343 26.0	14.6	S17 15.9	10.7	54.0
	1	193 24.6	N20 43.8	357 59.6	14.6	S17 05.1	10.8	54.0
	2	208 24.6	N20 43.4	12 33.3	14.7	S16 54.2	10.9	54.0
	3	223 24.5	N20 42.9	27 07.0	14.7	S16 43.2	11.0	54.0
	4	238 24.5	N20 42.4	41 40.8	14.8	S16 32.2	11.0	54.0
T	5	253 24.4	N20 42.0	56 14.7	14.8	S16 21.1	11.1	54.0
U								
E	6	268 24.4	N20 41.5	70 48.5	14.9	S16 10.0	11.1	54.0
S	7	283 24.4	N20 41.0	85 22.5	14.9	S15 58.8	11.2	54.0
D	8	298 24.3	N20 40.6	99 56.5	15.0	S15 47.5	11.3	54.0
A	9	313 24.3	N20 40.1	114 30.5	15.0	S15 36.2	11.3	54.0
Y	10	328 24.3	N20 39.6	129 04.6	15.1	S15 24.8	11.4	54.0
	11	343 24.2	N20 39.2	143 38.7	15.1	S15 13.3	11.5	54.0
	12	358 24.2	N20 38.7	158 12.9	15.2	S15 01.8	11.5	54.0
	13	13 24.2	N20 38.2	172 47.2	15.2	S14 50.2	11.6	54.0
	14	28 24.1	N20 37.8	187 21.5	15.3	S14 38.6	11.6	54.0
	15	43 24.1	N20 37.3	201 55.8	15.3	S14 26.9	11.7	54.0
	16	58 24.1	N20 36.8	216 30.2	15.4	S14 15.1	11.8	54.0
	17	73 24.0	N20 36.3	231 04.6	15.4	S14 03.3	11.8	54.0
	18	88 24.0	N20 35.9	245 39.1	15.5	S13 51.5	11.9	54.1
	19	103 24.0	N20 35.4	260 13.6	15.5	S13 39.5	11.9	54.1
	20	118 23.9	N20 34.9	274 48.1	15.6	S13 27.6	12.0	54.1
	21	133 23.9	N20 34.4	289 22.7	15.6	S13 15.5	12.0	54.1
	22	148 23.9	N20 34.0	303 57.4	15.6	S13 03.5	12.1	54.1
	23	163 23.8	N20 33.5	318 32.1	15.7	S12 51.3	12.1	54.1
		S.D. 15.7	d 0.5	S.D.	14.7	14.7	14.7	

STARS Name	SHA	Dec
Acamar	315 10.3	S40 11.3
Achernar	335 18.6	S57 05.4
Acrux	172 58.0	S63 15.4
Adhara	255 04.6	S29 00.5
Albireo	67 02.0	N28 01.1
Aldebaran	290 37.5	N16 33.9
Alioth	166 11.2	N55 48.9
Alkaid	152 50.4	N49 10.7
Al Na-ir	27 29.9	S46 49.4
Alnilam	275 35.9	S 1 11.0
Alphard	217 46.0	S 8 46.7
Alphecca	126 01.8	N26 37.4
Alpheratz	357 32.5	N29 14.6
Altair	61 57.6	N 8 56.6
Ankaa	353 04.9	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 45.9	N19 02.4
Atria	107 05.0	S69 04.8
Avior	234 14.5	S59 35.9
Bellatrix	278 20.9	N 6 22.5
Betelgeuse	270 50.1	N 7 24.8
Canopus	263 52.0	S52 42.5
Capella	280 19.2	N46 01.5
Castor	245 54.8	N31 49.7
Deneb	49 23.9	N45 22.7
Denebola	182 23.0	N14 25.1
Diphda	348 45.1	S17 49.9
Dubhe	193 38.9	N61 36.3
Elnath	277 59.6	N28 37.8
Eltanin	90 40.7	N51 29.2
Enif	33 36.4	N10 00.2
Fomalhaut	15 11.9	S29 28.3
Gacrux	171 49.5	S57 16.4
Gienah	175 41.5	S17 41.8
Hadar	148 33.0	S60 30.7
Hamal	327 48.9	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.7	N74 02.8
Markab	13 27.6	N15 21.3
Menkar	314 04.0	N 4 12.0
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.6	S69 50.0
Mirfak	308 25.5	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.8	S56 38.6
Polaris	315 46.2	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 49.0	N 5 09.3
Rasalhague	95 56.3	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.1	S 8 10.1
Rigil Kent	139 37.4	S60 57.3
Sabik	102 00.1	S15 45.6
Schedar	349 28.4	N56 41.1
Shaula	96 07.2	S37 07.5
Sirius	258 24.7	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.7
Vega	80 31.4	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

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 32.4	184 41.3	N22 16.1	115 21.9	S 1 01.8	147 08.1	N12 41.4	272 03.8	N 8 15.8
	1	313 34.9	199 40.5	N22 15.7	130 23.1	S 1 02.4	162 10.1	N12 41.2	287 06.2	N 8 15.8
	2	328 37.4	214 39.7	N22 15.3	145 24.2	S 1 03.0	177 12.1	N12 41.1	302 08.6	N 8 15.8
	3	343 39.8	229 38.8	N22 14.9	160 25.4	S 1 03.6	192 14.0	N12 40.9	317 11.0	N 8 15.8
	4	358 42.3	244 38.0	N22 14.5	175 26.5	S 1 04.3	207 16.0	N12 40.7	332 13.3	N 8 15.9
W	5	13 44.8	259 37.2	N22 14.1	190 27.7	S 1 04.9	222 18.0	N12 40.5	347 15.7	N 8 15.9
E										
D	6	28 47.2	274 36.3	N22 13.6	205 28.8	S 1 05.5	237 20.0	N12 40.4	2 18.1	N 8 15.9
N	7	43 49.7	289 35.5	N22 13.2	220 30.0	S 1 06.1	252 22.0	N12 40.2	17 20.5	N 8 15.9
E	8	58 52.2	304 34.7	N22 12.8	235 31.1	S 1 06.7	267 24.0	N12 40.0	32 22.9	N 8 15.9
S	9	73 54.6	319 33.9	N22 12.4	250 32.2	S 1 07.3	282 25.9	N12 39.8	47 25.2	N 8 16.0
D	10	88 57.1	334 33.0	N22 12.0	265 33.4	S 1 07.9	297 27.9	N12 39.7	62 27.6	N 8 16.0
A	11	103 59.6	349 32.2	N22 11.6	280 34.5	S 1 08.6	312 29.9	N12 39.5	77 30.0	N 8 16.0
Y										
	12	119 02.0	4 31.4	N22 11.1	295 35.7	S 1 09.2	327 31.9	N12 39.3	92 32.4	N 8 16.0
	13	134 04.5	19 30.6	N22 10.7	310 36.8	S 1 09.8	342 33.9	N12 39.1	107 34.8	N 8 16.0
	14	149 06.9	34 29.7	N22 10.3	325 37.9	S 1 10.4	357 35.8	N12 39.0	122 37.2	N 8 16.1
	15	164 09.4	49 28.9	N22 09.9	340 39.1	S 1 11.0	12 37.8	N12 38.8	137 39.5	N 8 16.1
	16	179 11.9	64 28.1	N22 09.5	355 40.2	S 1 11.6	27 39.8	N12 38.6	152 41.9	N 8 16.1
	17	194 14.3	79 27.3	N22 09.0	10 41.4	S 1 12.2	42 41.8	N12 38.4	167 44.3	N 8 16.1
	18	209 16.8	94 26.4	N22 08.6	25 42.5	S 1 12.9	57 43.8	N12 38.3	182 46.7	N 8 16.1
	19	224 19.3	109 25.6	N22 08.2	40 43.7	S 1 13.5	72 45.8	N12 38.1	197 49.1	N 8 16.1
	20	239 21.7	124 24.8	N22 07.7	55 44.8	S 1 14.1	87 47.7	N12 37.9	212 51.5	N 8 16.2
	21	254 24.2	139 24.0	N22 07.3	70 45.9	S 1 14.7	102 49.7	N12 37.7	227 53.8	N 8 16.2
	22	269 26.7	154 23.2	N22 06.9	85 47.1	S 1 15.3	117 51.7	N12 37.6	242 56.2	N 8 16.2
	23	284 29.1	169 22.3	N22 06.5	100 48.2	S 1 15.9	132 53.7	N12 37.4	257 58.6	N 8 16.2
22	0	299 31.6	184 21.5	N22 06.0	115 49.4	S 1 16.5	147 55.7	N12 37.2	273 01.0	N 8 16.2
	1	314 34.1	199 20.7	N22 05.6	130 50.5	S 1 17.2	162 57.6	N12 37.0	288 03.4	N 8 16.3
	2	329 36.5	214 19.9	N22 05.1	145 51.6	S 1 17.8	177 59.6	N12 36.8	303 05.8	N 8 16.3
	3	344 39.0	229 19.1	N22 04.7	160 52.8	S 1 18.4	193 01.6	N12 36.7	318 08.1	N 8 16.3
	4	359 41.4	244 18.2	N22 04.3	175 53.9	S 1 19.0	208 03.6	N12 36.5	333 10.5	N 8 16.3
T	5	14 43.9	259 17.4	N22 03.8	190 55.1	S 1 19.6	223 05.6	N12 36.3	348 12.9	N 8 16.3
H										
U	6	29 46.4	274 16.6	N22 03.4	205 56.2	S 1 20.2	238 07.5	N12 36.1	3 15.3	N 8 16.3
R	7	44 48.8	289 15.8	N22 03.0	220 57.3	S 1 20.9	253 09.5	N12 36.0	18 17.7	N 8 16.4
S	8	59 51.3	304 15.0	N22 02.5	235 58.5	S 1 21.5	268 11.5	N12 35.8	33 20.1	N 8 16.4
D	9	74 53.8	319 14.1	N22 02.1	250 59.6	S 1 22.1	283 13.5	N12 35.6	48 22.5	N 8 16.4
A	10	89 56.2	334 13.3	N22 01.6	266 00.7	S 1 22.7	298 15.5	N12 35.4	63 24.8	N 8 16.4
Y	11	104 58.7	349 12.5	N22 01.2	281 01.9	S 1 23.3	313 17.5	N12 35.3	78 27.2	N 8 16.4
	12	120 01.2	4 11.7	N22 00.7	296 03.0	S 1 23.9	328 19.4	N12 35.1	93 29.6	N 8 16.5
	13	135 03.6	19 10.9	N22 00.3	311 04.2	S 1 24.5	343 21.4	N12 34.9	108 32.0	N 8 16.5
	14	150 06.1	34 10.1	N21 59.8	326 05.3	S 1 25.2	358 23.4	N12 34.7	123 34.4	N 8 16.5
	15	165 08.5	49 09.2	N21 59.4	341 06.4	S 1 25.8	13 25.4	N12 34.5	138 36.8	N 8 16.5
	16	180 11.0	64 08.4	N21 58.9	356 07.6	S 1 26.4	28 27.4	N12 34.4	153 39.2	N 8 16.5
	17	195 13.5	79 07.6	N21 58.5	11 08.7	S 1 27.0	43 29.3	N12 34.2	168 41.5	N 8 16.5
	18	210 15.9	94 06.8	N21 58.0	26 09.8	S 1 27.6	58 31.3	N12 34.0	183 43.9	N 8 16.6
	19	225 18.4	109 06.0	N21 57.6	41 11.0	S 1 28.2	73 33.3	N12 33.8	198 46.3	N 8 16.6
	20	240 20.9	124 05.2	N21 57.1	56 12.1	S 1 28.9	88 35.3	N12 33.7	213 48.7	N 8 16.6
	21	255 23.3	139 04.3	N21 56.7	71 13.2	S 1 29.5	103 37.3	N12 33.5	228 51.1	N 8 16.6
	22	270 25.8	154 03.5	N21 56.2	86 14.4	S 1 30.1	118 39.2	N12 33.3	243 53.5	N 8 16.6
	23	285 28.3	169 02.7	N21 55.7	101 15.5	S 1 30.7	133 41.2	N12 33.1	258 55.9	N 8 16.6
23	0	300 30.7	184 01.9	N21 55.3	116 16.6	S 1 31.3	148 43.2	N12 32.9	273 58.3	N 8 16.7
	1	315 33.2	199 01.1	N21 54.8	131 17.8	S 1 31.9	163 45.2	N12 32.8	289 00.6	N 8 16.7
	2	330 35.7	214 00.3	N21 54.4	146 18.9	S 1 32.6	178 47.2	N12 32.6	304 03.0	N 8 16.7
	3	345 38.1	228 59.5	N21 53.9	161 20.1	S 1 33.2	193 49.1	N12 32.4	319 05.4	N 8 16.7
	4	0 40.6	243 58.6	N21 53.4	176 21.2	S 1 33.8	208 51.1	N12 32.2	334 07.8	N 8 16.7
F	5	15 43.0	258 57.8	N21 53.0	191 22.3	S 1 34.4	223 53.1	N12 32.1	349 10.2	N 8 16.7
R										
I	6	30 45.5	273 57.0	N21 52.5	206 23.5	S 1 35.0	238 55.1	N12 31.9	4 12.6	N 8 16.8
D	7	45 48.0	288 56.2	N21 52.0	221 24.6	S 1 35.6	253 57.0	N12 31.7	19 15.0	N 8 16.8
A	8	60 50.4	303 55.4	N21 51.6	236 25.7	S 1 36.3	268 59.0	N12 31.5	34 17.4	N 8 16.8
Y	9	75 52.9	318 54.6	N21 51.1	251 26.9	S 1 36.9	284 01.0	N12 31.4	49 19.8	N 8 16.8
	10	90 55.4	333 53.8	N21 50.6	266 28.0	S 1 37.5	299 03.0	N12 31.2	64 22.1	N 8 16.8
	11	105 57.8	348 53.0	N21 50.1	281 29.1	S 1 38.1	314 05.0	N12 31.0	79 24.5	N 8 16.8
	12	121 00.3	3 52.2	N21 49.7	296 30.3	S 1 38.7	329 06.9	N12 30.8	94 26.9	N 8 16.8
	13	136 02.8	18 51.4	N21 49.2	311 31.4	S 1 39.3	344 08.9	N12 30.6	109 29.3	N 8 16.9
	14	151 05.2	33 50.5	N21 48.7	326 32.5	S 1 40.0	359 10.9	N12 30.5	124 31.7	N 8 16.9
	15	166 07.7	48 49.7	N21 48.2	341 33.6	S 1 40.6	14 12.9	N12 30.3	139 34.1	N 8 16.9
	16	181 10.2	63 48.9	N21 47.8	356 34.8	S 1 41.2	29 14.9	N12 30.1	154 36.5	N 8 16.9
	17	196 12.6	78 48.1	N21 47.3	11 35.9	S 1 41.8	44 16.8	N12 29.9	169 38.9	N 8 16.9
	18	211 15.1	93 47.3	N21 46.8	26 37.0	S 1 42.4	59 18.8	N12 29.7	184 41.3	N 8 16.9
	19	226 17.5	108 46.5	N21 46.3	41 38.2	S 1 43.0	74 20.8	N12 29.6	199 43.7	N 8 17.0
	20	241 20.0	123 45.7	N21 45.8	56 39.3	S 1 43.7	89 22.8	N12 29.4	214 46.1	N 8 17.0
	21	256 22.5	138 44.9	N21 45.4	71 40.4	S 1 44.3	104 24.8	N12 29.2	229 48.4	N 8 17.0
	22	271 24.9	153 44.1	N21 44.9	86 41.6	S 1 44.9	119 26.7	N12 29.0	244 50.8	N 8 17.0
	23	286 27.4	168 43.3	N21 44.4	101 42.7	S 1 45.5	134 28.7	N12 28.9	259 53.2	N 8 17.0
			v -0.8	d 0.4	v 1.1	d 0.6	v 2.0	d 0.2	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	178 23.8	N20 33.0	333 06.8	15.7	S12 39.2	12.2	54.1	Acamar	315 10.3 S40 11.3
1	193 23.8	N20 32.5	347 41.6	15.8	S12 26.9	12.2	54.1	Achernar	335 18.6 S57 05.4
2	208 23.7	N20 32.1	2 16.4	15.8	S12 14.6	12.3	54.1	Acrux	172 58.0 S63 15.4
3	223 23.7	N20 31.6	16 51.2	15.8	S12 02.3	12.3	54.1	Adhara	255 04.6 S29 00.5
4	238 23.7	N20 31.1	31 26.1	15.9	S11 49.9	12.4	54.1	Albireo	67 02.0 N28 01.1
W 5	253 23.6	N20 30.6	46 01.0	15.9	S11 37.5	12.4	54.1		
E								Aldebaran	290 37.4 N16 33.9
D 6	268 23.6	N20 30.2	60 36.0	16.0	S11 25.1	12.5	54.1	Alioth	166 11.3 N55 48.9
N 7	283 23.6	N20 29.7	75 10.9	16.0	S11 12.5	12.5	54.1	Alkaid	152 50.4 N49 10.7
E 8	298 23.5	N20 29.2	89 46.0	16.0	S10 60.0	12.6	54.1	Al Na-ir	27 29.8 S46 49.4
S 9	313 23.5	N20 28.7	104 21.0	16.1	S10 47.4	12.6	54.1	Alnilam	275 35.8 S 1 11.0
D 10	328 23.5	N20 28.2	118 56.1	16.1	S10 34.7	12.6	54.2		
A 11	343 23.5	N20 27.7	133 31.2	16.1	S10 22.1	12.7	54.2	Alphard	217 46.0 S 8 46.7
Y								Alphecca	126 01.8 N26 37.4
12	358 23.4	N20 27.3	148 06.4	16.1	S10 09.3	12.7	54.2	Alpheratz	357 32.4 N29 14.6
13	13 23.4	N20 26.8	162 41.6	16.2	S 9 56.6	12.8	54.2	Altair	61 57.6 N 8 56.6
14	28 23.4	N20 26.3	177 16.8	16.2	S 9 43.8	12.8	54.2	Ankaa	353 04.9 S42 09.1
15	43 23.3	N20 25.8	191 52.0	16.2	S 9 30.9	12.8	54.2		
16	58 23.3	N20 25.3	206 27.3	16.3	S 9 18.0	12.9	54.2	Antares	112 13.0 S26 29.7
17	73 23.3	N20 24.8	221 02.6	16.3	S 9 05.1	12.9	54.2	Arcturus	145 46.0 N19 02.4
								Atria	107 05.0 S69 04.8
18	88 23.3	N20 24.4	235 37.9	16.3	S 8 52.2	13.0	54.2	Avior	234 14.5 S59 35.9
19	103 23.2	N20 23.9	250 13.2	16.3	S 8 39.2	13.0	54.2	Bellatrix	278 20.9 N 6 22.5
20	118 23.2	N20 23.4	264 48.6	16.4	S 8 26.1	13.0	54.2		
21	133 23.2	N20 22.9	279 24.0	16.4	S 8 13.1	13.1	54.3	Betelgeuse	270 50.1 N 7 24.8
22	148 23.2	N20 22.4	293 59.4	16.4	S 7 60.0	13.1	54.3	Canopus	263 51.9 S52 42.5
23	163 23.1	N20 21.9	308 34.8	16.4	S 7 46.8	13.1	54.3	Capella	280 19.2 N46 01.5
22 0	178 23.1	N20 21.4	323 10.3	16.5	S 7 33.7	13.2	54.3	Castor	245 54.8 N31 49.7
1	193 23.1	N20 20.9	337 45.7	16.5	S 7 20.5	13.2	54.3	Deneb	49 23.9 N45 22.8
2	208 23.0	N20 20.4	352 21.2	16.5	S 7 07.2	13.2	54.3		
3	223 23.0	N20 19.9	6 56.7	16.5	S 6 54.0	13.3	54.3	Denebola	182 23.0 N14 25.1
4	238 23.0	N20 19.5	21 32.2	16.5	S 6 40.7	13.3	54.3	Diphda	348 45.1 S17 49.9
T 5	253 23.0	N20 19.0	36 07.8	16.5	S 6 27.4	13.3	54.3	Dubhe	193 38.9 N61 36.3
H								Elnath	277 59.5 N28 37.8
U 6	268 22.9	N20 18.5	50 43.3	16.6	S 6 14.0	13.3	54.4	Eltanin	90 40.8 N51 29.2
R 7	283 22.9	N20 18.0	65 18.9	16.6	S 6 00.7	13.4	54.4	Enif	33 36.4 N10 00.2
S 8	298 22.9	N20 17.5	79 54.5	16.6	S 5 47.3	13.4	54.4	Fomalhaut	15 11.9 S29 28.3
D 9	313 22.9	N20 17.0	94 30.1	16.6	S 5 33.8	13.4	54.4	Gacrux	171 49.5 S57 16.4
A 10	328 22.8	N20 16.5	109 05.7	16.6	S 5 20.4	13.5	54.4	Gienah	175 41.6 S17 41.8
Y 11	343 22.8	N20 16.0	123 41.3	16.6	S 5 06.9	13.5	54.4	Hadar	148 33.0 S60 30.7
12	358 22.8	N20 15.5	138 16.9	16.6	S 4 53.4	13.5	54.4	Hamal	327 48.9 N23 35.6
13	13 22.8	N20 15.0	152 52.5	16.6	S 4 39.9	13.5	54.4	Kaus Austr.	83 29.4 S34 22.3
14	28 22.8	N20 14.5	167 28.2	16.6	S 4 26.3	13.5	54.5	Kochab	137 19.8 N74 02.8
15	43 22.7	N20 14.0	182 03.8	16.6	S 4 12.8	13.6	54.5	Markab	13 27.6 N15 21.3
16	58 22.7	N20 13.5	196 39.4	16.6	S 3 59.2	13.6	54.5	Menkar	314 04.0 N 4 12.0
17	73 22.7	N20 13.0	211 15.1	16.6	S 3 45.6	13.6	54.5		
								Menkent	147 55.1 S36 30.6
18	88 22.7	N20 12.5	225 50.7	16.6	S 3 32.0	13.6	54.5	Miaplacidus	221 38.6 S69 49.9
19	103 22.6	N20 12.0	240 26.4	16.7	S 3 18.3	13.6	54.5	Mirfak	308 25.5 N49 57.4
20	118 22.6	N20 11.5	255 02.0	16.7	S 3 04.6	13.7	54.5	Nunki	75 44.8 S26 15.7
21	133 22.6	N20 11.0	269 37.7	16.6	S 2 51.0	13.7	54.6	Peacock	53 01.8 S56 38.7
22	148 22.6	N20 10.5	284 13.3	16.6	S 2 37.3	13.7	54.6		
23	163 22.6	N20 10.0	298 49.0	16.6	S 2 23.5	13.7	54.6	Polaris	315 45.1 N89 21.9
23 0	178 22.5	N20 09.5	313 24.6	16.6	S 2 09.8	13.7	54.6	Pollux	243 15.1 N27 57.6
1	193 22.5	N20 09.0	328 00.3	16.6	S 1 56.1	13.7	54.6	Procyon	244 49.0 N 5 09.3
2	208 22.5	N20 08.5	342 35.9	16.6	S 1 42.3	13.8	54.6	Rasalhague	95 56.3 N12 32.5
3	223 22.5	N20 08.0	357 11.5	16.6	S 1 28.5	13.8	54.6	Regulus	207 32.5 N11 50.0
4	238 22.5	N20 07.4	11 47.1	16.6	S 1 14.8	13.8	54.7		
F 5	253 22.4	N20 06.9	26 22.7	16.6	S 1 01.0	13.8	54.7	Rigel	281 02.1 S 8 10.1
R								Rigil Kent	139 37.4 S60 57.3
I 6	268 22.4	N20 06.4	40 58.3	16.6	S 0 47.2	13.8	54.7	Sabik	102 00.1 S15 45.6
D 7	283 22.4	N20 05.9	55 33.9	16.6	S 0 33.3	13.8	54.7	Schedar	349 28.4 N56 41.1
A 8	298 22.4	N20 05.4	70 09.5	16.6	S 0 19.5	13.8	54.7	Shaula	96 07.2 S37 07.5
Y 9	313 22.4	N20 04.9	84 45.0	16.6	S 0 05.7	13.8	54.7		
10	328 22.3	N20 04.4	99 20.6	16.5	N 0 08.2	13.8	54.8	Sirius	258 24.7 S16 45.1
11	343 22.3	N20 03.9	113 56.1	16.5	N 0 22.0	13.9	54.8	Spica	158 20.1 S11 18.4
								Suhail	222 45.2 S43 32.7
12	358 22.3	N20 03.4	128 31.6	16.5	N 0 35.9	13.9	54.8	Vega	80 31.4 N38 48.6
13	13 22.3	N20 02.9	143 07.1	16.5	N 0 49.7	13.9	54.8	Zuben-ubi	136 54.5 S16 09.5
14	28 22.3	N20 02.3	157 42.6	16.5	N 1 03.6	13.9	54.8		
15	43 22.3	N20 01.8	172 18.1	16.5	N 1 17.5	13.9	54.9		
16	58 22.2	N20 01.3	186 53.5	16.4	N 1 31.4	13.9	54.9		
17	73 22.2	N20 00.8	201 28.9	16.4	N 1 45.2	13.9	54.9		
18	88 22.2	N20 00.3	216 04.3	16.4	N 1 59.1	13.9	54.9		
19	103 22.2	N19 59.8	230 39.7	16.4	N 2 13.0	13.9	54.9		
20	118 22.2	N19 59.3	245 15.0	16.3	N 2 26.9	13.9	54.9		
21	133 22.2	N19 58.7	259 50.3	16.3	N 2 40.8	13.9	55.0		
22	148 22.2	N19 58.2	274 25.6	16.3	N 2 54.6	13.9	55.0		
23	163 22.1	N19 57.7	289 00.9	16.3	N 3 08.5	13.9	55.0		
	S.D. 15.7	d 0.5	S.D.	14.8	14.8	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 ° '
24	0	301 29.9	183 42.5	N21 43.9	116 43.8	S 1 46.1	149 30.7	N12 28.7	274 55.6	N 8 17.0
	1	316 32.3	198 41.7	N21 43.4	131 45.0	S 1 46.8	164 32.7	N12 28.5	289 58.0	N 8 17.1
	2	331 34.8	213 40.9	N21 42.9	146 46.1	S 1 47.4	179 34.6	N12 28.3	305 00.4	N 8 17.1
	3	346 37.3	228 40.1	N21 42.4	161 47.2	S 1 48.0	194 36.6	N12 28.1	320 02.8	N 8 17.1
	4	1 39.7	243 39.2	N21 41.9	176 48.3	S 1 48.6	209 38.6	N12 28.0	335 05.2	N 8 17.1
S	5	16 42.2	258 38.4	N21 41.5	191 49.5	S 1 49.2	224 40.6	N12 27.8	350 07.6	N 8 17.1
A										
T	6	31 44.6	273 37.6	N21 41.0	206 50.6	S 1 49.8	239 42.6	N12 27.6	5 10.0	N 8 17.1
U	7	46 47.1	288 36.8	N21 40.5	221 51.7	S 1 50.5	254 44.5	N12 27.4	20 12.4	N 8 17.1
R	8	61 49.6	303 36.0	N21 40.0	236 52.9	S 1 51.1	269 46.5	N12 27.2	35 14.8	N 8 17.2
D	9	76 52.0	318 35.2	N21 39.5	251 54.0	S 1 51.7	284 48.5	N12 27.1	50 17.2	N 8 17.2
A	10	91 54.5	333 34.4	N21 39.0	266 55.1	S 1 52.3	299 50.5	N12 26.9	65 19.5	N 8 17.2
Y	11	106 57.0	348 33.6	N21 38.5	281 56.2	S 1 52.9	314 52.4	N12 26.7	80 21.9	N 8 17.2
	12	121 59.4	3 32.8	N21 38.0	296 57.4	S 1 53.5	329 54.4	N12 26.5	95 24.3	N 8 17.2
	13	137 01.9	18 32.0	N21 37.5	311 58.5	S 1 54.2	344 56.4	N12 26.4	110 26.7	N 8 17.2
	14	152 04.4	33 31.2	N21 37.0	326 59.6	S 1 54.8	359 58.4	N12 26.2	125 29.1	N 8 17.2
	15	167 06.8	48 30.4	N21 36.5	342 00.8	S 1 55.4	15 00.3	N12 26.0	140 31.5	N 8 17.3
	16	182 09.3	63 29.6	N21 36.0	357 01.9	S 1 56.0	30 02.3	N12 25.8	155 33.9	N 8 17.3
	17	197 11.8	78 28.8	N21 35.5	12 03.0	S 1 56.6	45 04.3	N12 25.6	170 36.3	N 8 17.3
	18	212 14.2	93 28.0	N21 35.0	27 04.1	S 1 57.3	60 06.3	N12 25.5	185 38.7	N 8 17.3
	19	227 16.7	108 27.2	N21 34.4	42 05.3	S 1 57.9	75 08.3	N12 25.3	200 41.1	N 8 17.3
	20	242 19.1	123 26.4	N21 33.9	57 06.4	S 1 58.5	90 10.2	N12 25.1	215 43.5	N 8 17.3
	21	257 21.6	138 25.6	N21 33.4	72 07.5	S 1 59.1	105 12.2	N12 24.9	230 45.9	N 8 17.3
	22	272 24.1	153 24.8	N21 32.9	87 08.6	S 1 59.7	120 14.2	N12 24.7	245 48.3	N 8 17.4
	23	287 26.5	168 24.0	N21 32.4	102 09.8	S 2 00.4	135 16.2	N12 24.6	260 50.7	N 8 17.4
25	0	302 29.0	183 23.2	N21 31.9	117 10.9	S 2 01.0	150 18.1	N12 24.4	275 53.1	N 8 17.4
	1	317 31.5	198 22.4	N21 31.4	132 12.0	S 2 01.6	165 20.1	N12 24.2	290 55.5	N 8 17.4
	2	332 33.9	213 21.6	N21 30.9	147 13.1	S 2 02.2	180 22.1	N12 24.0	305 57.9	N 8 17.4
	3	347 36.4	228 20.8	N21 30.3	162 14.3	S 2 02.8	195 24.1	N12 23.8	321 00.3	N 8 17.4
	4	2 38.9	243 20.0	N21 29.8	177 15.4	S 2 03.4	210 26.0	N12 23.7	336 02.7	N 8 17.4
S	5	17 41.3	258 19.3	N21 29.3	192 16.5	S 2 04.1	225 28.0	N12 23.5	351 05.1	N 8 17.4
U										
N	6	32 43.8	273 18.5	N21 28.8	207 17.6	S 2 04.7	240 30.0	N12 23.3	6 07.5	N 8 17.5
D	7	47 46.2	288 17.7	N21 28.3	222 18.8	S 2 05.3	255 32.0	N12 23.1	21 09.9	N 8 17.5
A	8	62 48.7	303 16.9	N21 27.7	237 19.9	S 2 05.9	270 33.9	N12 22.9	36 12.2	N 8 17.5
Y	9	77 51.2	318 16.1	N21 27.2	252 21.0	S 2 06.5	285 35.9	N12 22.8	51 14.6	N 8 17.5
	10	92 53.6	333 15.3	N21 26.7	267 22.1	S 2 07.2	300 37.9	N12 22.6	66 17.0	N 8 17.5
	11	107 56.1	348 14.5	N21 26.2	282 23.3	S 2 07.8	315 39.9	N12 22.4	81 19.4	N 8 17.5
	12	122 58.6	3 13.7	N21 25.7	297 24.4	S 2 08.4	330 41.9	N12 22.2	96 21.8	N 8 17.5
	13	138 01.0	18 12.9	N21 25.1	312 25.5	S 2 09.0	345 43.8	N12 22.0	111 24.2	N 8 17.6
	14	153 03.5	33 12.1	N21 24.6	327 26.6	S 2 09.6	0 45.8	N12 21.9	126 26.6	N 8 17.6
	15	168 06.0	48 11.3	N21 24.1	342 27.7	S 2 10.3	15 47.8	N12 21.7	141 29.0	N 8 17.6
	16	183 08.4	63 10.5	N21 23.5	357 28.9	S 2 10.9	30 49.8	N12 21.5	156 31.4	N 8 17.6
	17	198 10.9	78 09.7	N21 23.0	12 30.0	S 2 11.5	45 51.7	N12 21.3	171 33.8	N 8 17.6
	18	213 13.4	93 08.9	N21 22.5	27 31.1	S 2 12.1	60 53.7	N12 21.1	186 36.2	N 8 17.6
	19	228 15.8	108 08.2	N21 21.9	42 32.2	S 2 12.7	75 55.7	N12 21.0	201 38.6	N 8 17.6
	20	243 18.3	123 07.4	N21 21.4	57 33.4	S 2 13.4	90 57.7	N12 20.8	216 41.0	N 8 17.6
	21	258 20.7	138 06.6	N21 20.9	72 34.5	S 2 14.0	105 59.6	N12 20.6	231 43.4	N 8 17.7
	22	273 23.2	153 05.8	N21 20.3	87 35.6	S 2 14.6	121 01.6	N12 20.4	246 45.8	N 8 17.7
	23	288 25.7	168 05.0	N21 19.8	102 36.7	S 2 15.2	136 03.6	N12 20.2	261 48.2	N 8 17.7
26	0	303 28.1	183 04.2	N21 19.3	117 37.8	S 2 15.8	151 05.6	N12 20.1	276 50.6	N 8 17.7
	1	318 30.6	198 03.4	N21 18.7	132 39.0	S 2 16.5	166 07.5	N12 19.9	291 53.0	N 8 17.7
	2	333 33.1	213 02.6	N21 18.2	147 40.1	S 2 17.1	181 09.5	N12 19.7	306 55.4	N 8 17.7
	3	348 35.5	228 01.8	N21 17.6	162 41.2	S 2 17.7	196 11.5	N12 19.5	321 57.8	N 8 17.7
	4	3 38.0	243 01.1	N21 17.1	177 42.3	S 2 18.3	211 13.5	N12 19.3	337 00.2	N 8 17.7
M	5	18 40.5	258 00.3	N21 16.5	192 43.4	S 2 18.9	226 15.4	N12 19.2	352 02.6	N 8 17.7
O										
N	6	33 42.9	272 59.5	N21 16.0	207 44.6	S 2 19.6	241 17.4	N12 19.0	7 05.0	N 8 17.8
D	7	48 45.4	287 58.7	N21 15.4	222 45.7	S 2 20.2	256 19.4	N12 18.8	22 07.4	N 8 17.8
A	8	63 47.9	302 57.9	N21 14.9	237 46.8	S 2 20.8	271 21.4	N12 18.6	37 09.8	N 8 17.8
Y	9	78 50.3	317 57.1	N21 14.4	252 47.9	S 2 21.4	286 23.3	N12 18.4	52 12.2	N 8 17.8
	10	93 52.8	332 56.3	N21 13.8	267 49.0	S 2 22.0	301 25.3	N12 18.3	67 14.6	N 8 17.8
	11	108 55.2	347 55.6	N21 13.3	282 50.2	S 2 22.7	316 27.3	N12 18.1	82 17.0	N 8 17.8
	12	123 57.7	2 54.8	N21 12.7	297 51.3	S 2 23.3	331 29.2	N12 17.9	97 19.4	N 8 17.8
	13	139 00.2	17 54.0	N21 12.1	312 52.4	S 2 23.9	346 31.2	N12 17.7	112 21.8	N 8 17.8
	14	154 02.6	32 53.2	N21 11.6	327 53.5	S 2 24.5	1 33.2	N12 17.5	127 24.2	N 8 17.9
	15	169 05.1	47 52.4	N21 11.0	342 54.6	S 2 25.1	16 35.2	N12 17.4	142 26.6	N 8 17.9
	16	184 07.6	62 51.6	N21 10.5	357 55.7	S 2 25.8	31 37.1	N12 17.2	157 29.0	N 8 17.9
	17	199 10.0	77 50.9	N21 09.9	12 56.9	S 2 26.4	46 39.1	N12 17.0	172 31.4	N 8 17.9
	18	214 12.5	92 50.1	N21 09.4	27 58.0	S 2 27.0	61 41.1	N12 16.8	187 33.9	N 8 17.9
	19	229 15.0	107 49.3	N21 08.8	42 59.1	S 2 27.6	76 43.1	N12 16.6	202 36.3	N 8 17.9
	20	244 17.4	122 48.5	N21 08.2	58 00.2	S 2 28.2	91 45.0	N12 16.5	217 38.7	N 8 17.9
	21	259 19.9	137 47.7	N21 07.7	73 01.3	S 2 28.9	106 47.0	N12 16.3	232 41.1	N 8 17.9
	22	274 22.3	152 47.0	N21 07.1	88 02.4	S 2 29.5	121 49.0	N12 16.1	247 43.5	N 8 17.9
	23	289 24.8	167 46.2	N21 06.6	103 03.6	S 2 30.1	136 51.0	N12 15.9	262 45.9	N 8 18.0
			v -0.8	d 0.5	v 1.1	d 0.6	v 2.0	d 0.2	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	178 22.1	N19 57.2	303 36.1	16.2	N 3 22.4	13.9	55.0
	1	193 22.1	N19 56.7	318 11.3	16.2	N 3 36.3	13.9	55.1
	2	208 22.1	N19 56.2	332 46.4	16.2	N 3 50.2	13.9	55.1
	3	223 22.1	N19 55.6	347 21.6	16.1	N 4 04.0	13.9	55.1
	4	238 22.1	N19 55.1	1 56.7	16.1	N 4 17.9	13.9	55.1
S	5	253 22.1	N19 54.6	16 31.7	16.1	N 4 31.7	13.9	55.1
A								
T	6	268 22.0	N19 54.1	31 06.7	16.0	N 4 45.6	13.8	55.2
U	7	283 22.0	N19 53.5	45 41.7	16.0	N 4 59.4	13.8	55.2
R	8	298 22.0	N19 53.0	60 16.6	15.9	N 5 13.3	13.8	55.2
D	9	313 22.0	N19 52.5	74 51.5	15.9	N 5 27.1	13.8	55.2
A	10	328 22.0	N19 52.0	89 26.4	15.9	N 5 40.9	13.8	55.3
Y	11	343 22.0	N19 51.4	104 01.2	15.8	N 5 54.7	13.8	55.3
	12	358 22.0	N19 50.9	118 36.0	15.8	N 6 08.5	13.8	55.3
	13	13 22.0	N19 50.4	133 10.7	15.7	N 6 22.2	13.8	55.3
	14	28 21.9	N19 49.9	147 45.4	15.7	N 6 36.0	13.8	55.3
	15	43 21.9	N19 49.3	162 20.0	15.6	N 6 49.8	13.7	55.4
	16	58 21.9	N19 48.8	176 54.6	15.6	N 7 03.5	13.7	55.4
	17	73 21.9	N19 48.3	191 29.1	15.5	N 7 17.2	13.7	55.4
	18	88 21.9	N19 47.8	206 03.6	15.5	N 7 30.9	13.7	55.4
	19	103 21.9	N19 47.2	220 38.0	15.4	N 7 44.6	13.7	55.5
	20	118 21.9	N19 46.7	235 12.4	15.4	N 7 58.2	13.7	55.5
	21	133 21.9	N19 46.2	249 46.7	15.3	N 8 11.9	13.6	55.5
	22	148 21.9	N19 45.6	264 21.0	15.3	N 8 25.5	13.6	55.5
	23	163 21.9	N19 45.1	278 55.2	15.2	N 8 39.1	13.6	55.6
25	0	178 21.8	N19 44.6	293 29.3	15.1	N 8 52.7	13.6	55.6
	1	193 21.8	N19 44.0	308 03.4	15.1	N 9 06.2	13.6	55.6
	2	208 21.8	N19 43.5	322 37.4	15.0	N 9 19.7	13.5	55.6
	3	223 21.8	N19 43.0	337 11.4	15.0	N 9 33.2	13.5	55.7
	4	238 21.8	N19 42.4	351 45.3	14.9	N 9 46.7	13.5	55.7
S	5	253 21.8	N19 41.9	6 19.1	14.8	N10 00.2	13.4	55.7
U								
N	6	268 21.8	N19 41.4	20 52.9	14.8	N10 13.6	13.4	55.8
D	7	283 21.8	N19 40.8	35 26.6	14.7	N10 27.0	13.4	55.8
A	8	298 21.8	N19 40.3	50 00.2	14.6	N10 40.3	13.4	55.8
Y	9	313 21.8	N19 39.8	64 33.7	14.6	N10 53.7	13.3	55.8
	10	328 21.8	N19 39.2	79 07.2	14.5	N11 07.0	13.3	55.9
	11	343 21.8	N19 38.7	93 40.6	14.4	N11 20.2	13.3	55.9
	12	358 21.8	N19 38.1	108 14.0	14.3	N11 33.4	13.2	55.9
	13	13 21.8	N19 37.6	122 47.2	14.3	N11 46.6	13.2	56.0
	14	28 21.8	N19 37.1	137 20.4	14.2	N11 59.8	13.2	56.0
	15	43 21.7	N19 36.5	151 53.5	14.1	N12 12.9	13.1	56.0
	16	58 21.7	N19 36.0	166 26.6	14.0	N12 26.0	13.1	56.0
	17	73 21.7	N19 35.4	180 59.5	14.0	N12 39.0	13.0	56.1
	18	88 21.7	N19 34.9	195 32.4	13.9	N12 52.0	13.0	56.1
	19	103 21.7	N19 34.4	210 05.2	13.8	N13 05.0	13.0	56.1
	20	118 21.7	N19 33.8	224 37.9	13.7	N13 17.9	12.9	56.2
	21	133 21.7	N19 33.3	239 10.5	13.6	N13 30.8	12.9	56.2
	22	148 21.7	N19 32.7	253 43.0	13.5	N13 43.6	12.8	56.2
	23	163 21.7	N19 32.2	268 15.5	13.4	N13 56.4	12.8	56.3
26	0	178 21.7	N19 31.6	282 47.9	13.4	N14 09.1	12.7	56.3
	1	193 21.7	N19 31.1	297 20.1	13.3	N14 21.8	12.7	56.3
	2	208 21.7	N19 30.5	311 52.3	13.2	N14 34.4	12.6	56.4
	3	223 21.7	N19 30.0	326 24.4	13.1	N14 47.0	12.6	56.4
	4	238 21.7	N19 29.4	340 56.4	13.0	N14 59.5	12.5	56.4
M	5	253 21.7	N19 28.9	355 28.3	12.9	N15 12.0	12.5	56.4
O								
N	6	268 21.7	N19 28.3	10 00.1	12.8	N15 24.4	12.4	56.5
D	7	283 21.7	N19 27.8	24 31.8	12.7	N15 36.8	12.4	56.5
A	8	298 21.7	N19 27.2	39 03.4	12.6	N15 49.1	12.3	56.5
Y	9	313 21.7	N19 26.7	53 35.0	12.5	N16 01.3	12.2	56.6
	10	328 21.7	N19 26.1	68 06.4	12.4	N16 13.5	12.2	56.6
	11	343 21.7	N19 25.6	82 37.7	12.3	N16 25.7	12.1	56.6
	12	358 21.7	N19 25.0	97 08.9	12.2	N16 37.7	12.1	56.7
	13	13 21.7	N19 24.5	111 40.0	12.1	N16 49.7	12.0	56.7
	14	28 21.7	N19 23.9	126 11.0	12.0	N17 01.7	11.9	56.7
	15	43 21.7	N19 23.4	140 42.0	11.9	N17 13.5	11.9	56.8
	16	58 21.7	N19 22.8	155 12.8	11.8	N17 25.3	11.8	56.8
	17	73 21.7	N19 22.3	169 43.4	11.7	N17 37.1	11.7	56.8
	18	88 21.7	N19 21.7	184 14.0	11.6	N17 48.7	11.7	56.9
	19	103 21.7	N19 21.1	198 44.5	11.5	N18 00.3	11.6	56.9
	20	118 21.7	N19 20.6	213 14.9	11.4	N18 11.8	11.5	57.0
	21	133 21.7	N19 20.0	227 45.1	11.3	N18 23.3	11.4	57.0
	22	148 21.7	N19 19.5	242 15.3	11.1	N18 34.6	11.4	57.0
	23	163 21.7	N19 18.9	256 45.3	11.0	N18 45.9	11.3	57.1
		S.D. 15.7	d 0.5	S.D. 15.1		15.2	15.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.3	S40 11.3
Achernar	335 18.6	S57 05.4
Acrux	172 58.0	S63 15.4
Adhara	255 04.6	S29 00.5
Albireo	67 02.0	N28 01.1
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.3	N55 48.9
Alkaid	152 50.4	N49 10.7
Al Na-ir	27 29.8	S46 49.4
Alnilam	275 35.8	S 1 11.0
Alphard	217 46.0	S 8 46.7
Alphecca	126 01.8	N26 37.4
Alpheratz	357 32.4	N29 14.6
Altair	61 57.6	N 8 56.6
Ankaa	353 04.9	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.0	S69 04.9
Avior	234 14.5	S59 35.9
Bellatrix	278 20.9	N 6 22.5
Betelgeuse	270 50.1	N 7 24.8
Canopus	263 51.9	S52 42.4
Capella	280 19.1	N46 01.4
Castor	245 54.7	N31 49.7
Deneb	49 23.9	N45 22.8
Denebola	182 23.0	N14 25.1
Diphda	348 45.1	S17 49.8
Dubhe	193 38.9	N61 36.3
Elnath	277 59.5	N28 37.8
Eltanin	90 40.8	N51 29.2
Enif	33 36.4	N10 00.2
Fomalhaut	15 11.9	S29 28.3
Gacrux	171 49.5	S57 16.4
Gienah	175 41.6	S17 41.8
Hadar	148 33.1	S60 30.7
Hamal	327 48.8	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.8	N74 02.8
Markab	13 27.5	N15 21.3
Menkar	314 04.0	N 4 12.0
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.6	S69 49.9
Mirfak	308 25.4	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.8	S56 38.7
Polaris	315 43.9	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.3
Rasalhague	95 56.4	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.1	S 8 10.1
Rigil Kent	139 37.4	S60 57.3
Sabik	102 00.1	S15 45.6
Schedar	349 28.4	N56 41.2
Shaula	96 07.2	S37 07.5
Sirius	258 24.7	S16 45.1
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.7
Vega	80 31.4	N38 48.7
Zuben-ubi	136 54.5	S16 09.5

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 27.3	182 45.4	N21 06.0	118 04.7	S 2 30.7	151 52.9	N12 15.7	277 48.3	N 8 18.0
	1	319 29.7	197 44.6	N21 05.4	133 05.8	S 2 31.3	166 54.9	N12 15.5	292 50.7	N 8 18.0
	2	334 32.2	212 43.8	N21 04.9	148 06.9	S 2 32.0	181 56.9	N12 15.4	307 53.1	N 8 18.0
	3	349 34.7	227 43.1	N21 04.3	163 08.0	S 2 32.6	196 58.9	N12 15.2	322 55.5	N 8 18.0
	4	4 37.1	242 42.3	N21 03.7	178 09.1	S 2 33.2	212 00.8	N12 15.0	337 57.9	N 8 18.0
T	5	19 39.6	257 41.5	N21 03.1	193 10.2	S 2 33.8	227 02.8	N12 14.8	353 00.3	N 8 18.0
U										
E	6	34 42.1	272 40.7	N21 02.6	208 11.4	S 2 34.4	242 04.8	N12 14.6	8 02.7	N 8 18.0
S	7	49 44.5	287 39.9	N21 02.0	223 12.5	S 2 35.1	257 06.7	N12 14.5	23 05.1	N 8 18.0
D	8	64 47.0	302 39.2	N21 01.4	238 13.6	S 2 35.7	272 08.7	N12 14.3	38 07.5	N 8 18.0
A	9	79 49.5	317 38.4	N21 00.9	253 14.7	S 2 36.3	287 10.7	N12 14.1	53 09.9	N 8 18.1
Y	10	94 51.9	332 37.6	N21 00.3	268 15.8	S 2 36.9	302 12.7	N12 13.9	68 12.3	N 8 18.1
	11	109 54.4	347 36.8	N20 59.7	283 16.9	S 2 37.6	317 14.6	N12 13.7	83 14.7	N 8 18.1
	12	124 56.8	2 36.1	N20 59.1	298 18.0	S 2 38.2	332 16.6	N12 13.6	98 17.1	N 8 18.1
	13	139 59.3	17 35.3	N20 58.6	313 19.2	S 2 38.8	347 18.6	N12 13.4	113 19.5	N 8 18.1
	14	155 01.8	32 34.5	N20 58.0	328 20.3	S 2 39.4	2 20.6	N12 13.2	128 21.9	N 8 18.1
	15	170 04.2	47 33.7	N20 57.4	343 21.4	S 2 40.0	17 22.5	N12 13.0	143 24.3	N 8 18.1
	16	185 06.7	62 33.0	N20 56.8	358 22.5	S 2 40.7	32 24.5	N12 12.8	158 26.8	N 8 18.1
	17	200 09.2	77 32.2	N20 56.2	13 23.6	S 2 41.3	47 26.5	N12 12.6	173 29.2	N 8 18.1
	18	215 11.6	92 31.4	N20 55.6	28 24.7	S 2 41.9	62 28.4	N12 12.5	188 31.6	N 8 18.1
	19	230 14.1	107 30.7	N20 55.1	43 25.8	S 2 42.5	77 30.4	N12 12.3	203 34.0	N 8 18.2
	20	245 16.6	122 29.9	N20 54.5	58 26.9	S 2 43.1	92 32.4	N12 12.1	218 36.4	N 8 18.2
	21	260 19.0	137 29.1	N20 53.9	73 28.1	S 2 43.8	107 34.4	N12 11.9	233 38.8	N 8 18.2
	22	275 21.5	152 28.3	N20 53.3	88 29.2	S 2 44.4	122 36.3	N12 11.7	248 41.2	N 8 18.2
	23	290 24.0	167 27.6	N20 52.7	103 30.3	S 2 45.0	137 38.3	N12 11.6	263 43.6	N 8 18.2
28	0	305 26.4	182 26.8	N20 52.1	118 31.4	S 2 45.6	152 40.3	N12 11.4	278 46.0	N 8 18.2
	1	320 28.9	197 26.0	N20 51.5	133 32.5	S 2 46.3	167 42.3	N12 11.2	293 48.4	N 8 18.2
	2	335 31.3	212 25.3	N20 50.9	148 33.6	S 2 46.9	182 44.2	N12 11.0	308 50.8	N 8 18.2
	3	350 33.8	227 24.5	N20 50.3	163 34.7	S 2 47.5	197 46.2	N12 10.8	323 53.2	N 8 18.2
	4	5 36.3	242 23.7	N20 49.7	178 35.8	S 2 48.1	212 48.2	N12 10.6	338 55.6	N 8 18.2
W	5	20 38.7	257 23.0	N20 49.1	193 36.9	S 2 48.7	227 50.1	N12 10.5	353 58.1	N 8 18.2
E										
D	6	35 41.2	272 22.2	N20 48.6	208 38.1	S 2 49.4	242 52.1	N12 10.3	9 00.5	N 8 18.2
N	7	50 43.7	287 21.4	N20 48.0	223 39.2	S 2 50.0	257 54.1	N12 10.1	24 02.9	N 8 18.3
E	8	65 46.1	302 20.6	N20 47.4	238 40.3	S 2 50.6	272 56.1	N12 09.9	39 05.3	N 8 18.3
S	9	80 48.6	317 19.9	N20 46.8	253 41.4	S 2 51.2	287 58.0	N12 09.7	54 07.7	N 8 18.3
D	10	95 51.1	332 19.1	N20 46.2	268 42.5	S 2 51.9	302 60.0	N12 09.5	69 10.1	N 8 18.3
A	11	110 53.5	347 18.3	N20 45.6	283 43.6	S 2 52.5	318 02.0	N12 09.4	84 12.5	N 8 18.3
Y										
	12	125 56.0	2 17.6	N20 45.0	298 44.7	S 2 53.1	333 03.9	N12 09.2	99 14.9	N 8 18.3
	13	140 58.5	17 16.8	N20 44.3	313 45.8	S 2 53.7	348 05.9	N12 09.0	114 17.3	N 8 18.3
	14	156 00.9	32 16.1	N20 43.7	328 46.9	S 2 54.3	3 07.9	N12 08.8	129 19.7	N 8 18.3
	15	171 03.4	47 15.3	N20 43.1	343 48.0	S 2 55.0	18 09.9	N12 08.6	144 22.1	N 8 18.3
	16	186 05.8	62 14.5	N20 42.5	358 49.1	S 2 55.6	33 11.8	N12 08.4	159 24.6	N 8 18.3
	17	201 08.3	77 13.8	N20 41.9	13 50.2	S 2 56.2	48 13.8	N12 08.3	174 27.0	N 8 18.3
	18	216 10.8	92 13.0	N20 41.3	28 51.3	S 2 56.8	63 15.8	N12 08.1	189 29.4	N 8 18.3
	19	231 13.2	107 12.2	N20 40.7	43 52.5	S 2 57.5	78 17.7	N12 07.9	204 31.8	N 8 18.4
	20	246 15.7	122 11.5	N20 40.1	58 53.6	S 2 58.1	93 19.7	N12 07.7	219 34.2	N 8 18.4
	21	261 18.2	137 10.7	N20 39.5	73 54.7	S 2 58.7	108 21.7	N12 07.5	234 36.6	N 8 18.4
	22	276 20.6	152 09.9	N20 38.9	88 55.8	S 2 59.3	123 23.7	N12 07.4	249 39.0	N 8 18.4
	23	291 23.1	167 09.2	N20 38.3	103 56.9	S 2 60.0	138 25.6	N12 07.2	264 41.4	N 8 18.4
29	0	306 25.6	182 08.4	N20 37.6	118 58.0	S 3 00.6	153 27.6	N12 07.0	279 43.9	N 8 18.4
	1	321 28.0	197 07.7	N20 37.0	133 59.1	S 3 01.2	168 29.6	N12 06.8	294 46.3	N 8 18.4
	2	336 30.5	212 06.9	N20 36.4	149 00.2	S 3 01.8	183 31.5	N12 06.6	309 48.7	N 8 18.4
	3	351 32.9	227 06.1	N20 35.8	164 01.3	S 3 02.4	198 33.5	N12 06.4	324 51.1	N 8 18.4
	4	6 35.4	242 05.4	N20 35.2	179 02.4	S 3 03.1	213 35.5	N12 06.3	339 53.5	N 8 18.4
T	5	21 37.9	257 04.6	N20 34.5	194 03.5	S 3 03.7	228 37.4	N12 06.1	354 55.9	N 8 18.4
H										
U	6	36 40.3	272 03.9	N20 33.9	209 04.6	S 3 04.3	243 39.4	N12 05.9	9 58.3	N 8 18.4
R	7	51 42.8	287 03.1	N20 33.3	224 05.7	S 3 04.9	258 41.4	N12 05.7	25 00.7	N 8 18.4
S	8	66 45.3	302 02.4	N20 32.7	239 06.8	S 3 05.6	273 43.4	N12 05.5	40 03.2	N 8 18.5
D	9	81 47.7	317 01.6	N20 32.1	254 07.9	S 3 06.2	288 45.3	N12 05.3	55 05.6	N 8 18.5
A	10	96 50.2	332 00.8	N20 31.4	269 09.0	S 3 06.8	303 47.3	N12 05.2	70 08.0	N 8 18.5
Y	11	111 52.7	347 00.1	N20 30.8	284 10.1	S 3 07.4	318 49.3	N12 05.0	85 10.4	N 8 18.5
	12	126 55.1	1 59.3	N20 30.2	299 11.2	S 3 08.0	333 51.2	N12 04.8	100 12.8	N 8 18.5
	13	141 57.6	16 58.6	N20 29.5	314 12.3	S 3 08.7	348 53.2	N12 04.6	115 15.2	N 8 18.5
	14	157 00.1	31 57.8	N20 28.9	329 13.4	S 3 09.3	3 55.2	N12 04.4	130 17.6	N 8 18.5
	15	172 02.5	46 57.1	N20 28.3	344 14.5	S 3 09.9	18 57.1	N12 04.2	145 20.0	N 8 18.5
	16	187 05.0	61 56.3	N20 27.7	359 15.7	S 3 10.5	33 59.1	N12 04.1	160 22.5	N 8 18.5
	17	202 07.4	76 55.6	N20 27.0	14 16.8	S 3 11.2	49 01.1	N12 03.9	175 24.9	N 8 18.5
	18	217 09.9	91 54.8	N20 26.4	29 17.9	S 3 11.8	64 03.1	N12 03.7	190 27.3	N 8 18.5
	19	232 12.4	106 54.1	N20 25.8	44 19.0	S 3 12.4	79 05.0	N12 03.5	205 29.7	N 8 18.5
	20	247 14.8	121 53.3	N20 25.1	59 20.1	S 3 13.0	94 07.0	N12 03.3	220 32.1	N 8 18.5
	21	262 17.3	136 52.5	N20 24.5	74 21.2	S 3 13.7	109 09.0	N12 03.1	235 34.5	N 8 18.5
	22	277 19.8	151 51.8	N20 23.8	89 22.3	S 3 14.3	124 10.9	N12 03.0	250 37.0	N 8 18.5
	23	292 22.2	166 51.0	N20 23.2	104 23.4	S 3 14.9	139 12.9	N12 02.8	265 39.4	N 8 18.6
			v -0.8	d 0.6	v 1.1	d 0.6	v 2.0	d 0.2	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	178 21.7	N19 18.4	271 15.2	10.9	N18 57.1	11.2	57.1
	1	193 21.7	N19 17.8	285 45.1	10.8	N19 08.2	11.1	57.1
	2	208 21.7	N19 17.2	300 14.8	10.7	N19 19.3	11.0	57.2
	3	223 21.7	N19 16.7	314 44.3	10.6	N19 30.2	11.0	57.2
	4	238 21.7	N19 16.1	329 13.8	10.5	N19 41.1	10.9	57.2
T	5	253 21.7	N19 15.5	343 43.1	10.3	N19 51.9	10.8	57.3
U								
E	6	268 21.8	N19 15.0	358 12.4	10.2	N20 02.6	10.7	57.3
S	7	283 21.8	N19 14.4	12 41.5	10.1	N20 13.2	10.6	57.3
D	8	298 21.8	N19 13.9	27 10.5	10.0	N20 23.7	10.5	57.4
A	9	313 21.8	N19 13.3	41 39.3	9.9	N20 34.2	10.4	57.4
Y	10	328 21.8	N19 12.7	56 08.1	9.8	N20 44.5	10.3	57.5
	11	343 21.8	N19 12.2	70 36.7	9.6	N20 54.7	10.2	57.5
	12	358 21.8	N19 11.6	85 05.2	9.5	N21 04.8	10.1	57.5
	13	13 21.8	N19 11.0	99 33.6	9.4	N21 14.9	10.0	57.6
	14	28 21.8	N19 10.5	114 01.9	9.3	N21 24.8	9.9	57.6
	15	43 21.8	N19 09.9	128 30.0	9.1	N21 34.6	9.8	57.6
	16	58 21.8	N19 09.3	142 58.1	9.0	N21 44.4	9.7	57.7
	17	73 21.8	N19 08.8	157 25.9	8.9	N21 54.0	9.6	57.7
	18	88 21.8	N19 08.2	171 53.7	8.8	N22 03.5	9.5	57.8
	19	103 21.8	N19 07.6	186 21.4	8.6	N22 12.9	9.4	57.8
	20	118 21.8	N19 07.0	200 48.9	8.5	N22 22.2	9.3	57.8
	21	133 21.9	N19 06.5	215 16.3	8.4	N22 31.4	9.2	57.9
	22	148 21.9	N19 05.9	229 43.6	8.3	N22 40.4	9.1	57.9
	23	163 21.9	N19 05.3	244 10.7	8.1	N22 49.4	8.9	57.9
28	0	178 21.9	N19 04.8	258 37.7	8.0	N22 58.2	8.8	58.0
	1	193 21.9	N19 04.2	273 04.6	7.9	N23 06.9	8.7	58.0
	2	208 21.9	N19 03.6	287 31.4	7.8	N23 15.5	8.6	58.1
	3	223 21.9	N19 03.0	301 58.1	7.6	N23 24.0	8.5	58.1
	4	238 21.9	N19 02.5	316 24.6	7.5	N23 32.3	8.3	58.1
W	5	253 21.9	N19 01.9	330 51.0	7.4	N23 40.5	8.2	58.2
E								
D	6	268 21.9	N19 01.3	345 17.3	7.3	N23 48.6	8.1	58.2
N	7	283 22.0	N19 00.7	359 43.4	7.2	N23 56.6	8.0	58.3
E	8	298 22.0	N19 00.2	14 09.4	7.0	N24 04.4	7.8	58.3
S	9	313 22.0	N18 59.6	28 35.4	6.9	N24 12.1	7.7	58.3
D	10	328 22.0	N18 59.0	43 01.1	6.8	N24 19.6	7.6	58.4
A	11	343 22.0	N18 58.4	57 26.8	6.7	N24 27.0	7.4	58.4
Y								
	12	358 22.0	N18 57.8	71 52.3	6.5	N24 34.3	7.3	58.4
	13	13 22.0	N18 57.3	86 17.7	6.4	N24 41.4	7.1	58.5
	14	28 22.0	N18 56.7	100 43.0	6.3	N24 48.4	7.0	58.5
	15	43 22.1	N18 56.1	115 08.2	6.2	N24 55.3	6.8	58.6
	16	58 22.1	N18 55.5	129 33.3	6.1	N25 02.0	6.7	58.6
	17	73 22.1	N18 54.9	143 58.2	5.9	N25 08.5	6.6	58.6
	18	88 22.1	N18 54.4	158 23.0	5.8	N25 14.9	6.4	58.7
	19	103 22.1	N18 53.8	172 47.7	5.7	N25 21.2	6.3	58.7
	20	118 22.1	N18 53.2	187 12.3	5.6	N25 27.3	6.1	58.8
	21	133 22.1	N18 52.6	201 36.8	5.5	N25 33.3	5.9	58.8
	22	148 22.2	N18 52.0	216 01.1	5.4	N25 39.0	5.8	58.8
	23	163 22.2	N18 51.4	230 25.4	5.2	N25 44.7	5.6	58.9
29	0	178 22.2	N18 50.9	244 49.5	5.1	N25 50.2	5.5	58.9
	1	193 22.2	N18 50.3	259 13.5	5.0	N25 55.5	5.3	58.9
	2	208 22.2	N18 49.7	273 37.4	4.9	N26 00.6	5.2	59.0
	3	223 22.2	N18 49.1	288 01.2	4.8	N26 05.6	5.0	59.0
	4	238 22.3	N18 48.5	302 24.9	4.7	N26 10.4	4.8	59.1
T	5	253 22.3	N18 47.9	316 48.5	4.6	N26 15.1	4.7	59.1
H								
U	6	268 22.3	N18 47.3	331 12.0	4.5	N26 19.6	4.5	59.1
R	7	283 22.3	N18 46.7	345 35.4	4.4	N26 23.9	4.3	59.2
S	8	298 22.3	N18 46.1	359 58.6	4.3	N26 28.0	4.1	59.2
D	9	313 22.3	N18 45.6	14 21.8	4.2	N26 32.0	4.0	59.2
A	10	328 22.4	N18 45.0	28 44.9	4.1	N26 35.8	3.8	59.3
Y	11	343 22.4	N18 44.4	43 07.9	4.0	N26 39.4	3.6	59.3
	12	358 22.4	N18 43.8	57 30.8	3.9	N26 42.9	3.4	59.4
	13	13 22.4	N18 43.2	71 53.6	3.8	N26 46.1	3.3	59.4
	14	28 22.4	N18 42.6	86 16.3	3.7	N26 49.2	3.1	59.4
	15	43 22.5	N18 42.0	100 39.0	3.6	N26 52.1	2.9	59.5
	16	58 22.5	N18 41.4	115 01.5	3.5	N26 54.9	2.7	59.5
	17	73 22.5	N18 40.8	129 24.0	3.5	N26 57.4	2.5	59.5
	18	88 22.5	N18 40.2	143 46.4	3.4	N26 59.7	2.4	59.6
	19	103 22.5	N18 39.6	158 08.7	3.3	N27 01.9	2.2	59.6
	20	118 22.6	N18 39.0	172 30.9	3.2	N27 03.9	2.0	59.7
	21	133 22.6	N18 38.4	186 53.1	3.2	N27 05.7	1.8	59.7
	22	148 22.6	N18 37.8	201 15.2	3.1	N27 07.3	1.6	59.7
	23	163 22.6	N18 37.2	215 37.2	3.0	N27 08.7	1.4	59.8
		S.D. 15.8	d 0.6	S.D.	15.7	15.9	16.2	

Name	SHA	Dec
Acamar	315 10.2	S40 11.3
Achernar	335 18.5	S57 05.4
Acrux	172 58.1	S63 15.4
Adhara	255 04.6	S29 00.5
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.3	N55 48.9
Alkaid	152 50.4	N49 10.7
Al Na-ir	27 29.8	S46 49.4
Alnilam	275 35.8	S 1 11.0
Alphard	217 46.0	S 8 46.7
Alphecca	126 01.8	N26 37.5
Alpheratz	357 32.4	N29 14.6
Altair	61 57.6	N 8 56.6
Ankaa	353 04.9	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.1	S69 04.9
Avior	234 14.5	S59 35.9
Bellatrix	278 20.9	N 6 22.5
Betelgeuse	270 50.1	N 7 24.8
Canopus	263 51.9	S52 42.4
Capella	280 19.1	N46 01.4
Castor	245 54.7	N31 49.7
Deneb	49 23.9	N45 22.8
Denebola	182 23.0	N14 25.1
Diphda	348 45.1	S17 49.8
Dubhe	193 38.9	N61 36.2
Elnath	277 59.5	N28 37.8
Eltanin	90 40.8	N51 29.2
Enif	33 36.3	N10 00.2
Fomalhaut	15 11.9	S29 28.3
Gacrux	171 49.6	S57 16.4
Gienah	175 41.6	S17 41.8
Hadar	148 33.1	S60 30.7
Hamal	327 48.8	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.9	N74 02.8
Markab	13 27.5	N15 21.3
Menkar	314 04.0	N 4 12.0
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.6	S69 49.9
Mirfak	308 25.4	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 42.4	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.3
Rasalhague	95 56.4	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.1	S 8 10.0
Rigil Kent	139 37.4	S60 57.3
Sabik	102 00.1	S15 45.6
Schedar	349 28.4	N56 41.2
Shaula	96 07.2	S37 07.5
Sirius	258 24.7	S16 45.1
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.7
Vega	80 31.4	N38 48.7
Zuben-ubi	136 54.5	S16 09.5

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 24.7	181 50.3	N20 22.6	119 24.5	S 3 15.5	154 14.9	N12 02.6	280 41.8	N 8 18.6
	1	322 27.2	196 49.5	N20 21.9	134 25.6	S 3 16.2	169 16.8	N12 02.4	295 44.2	N 8 18.6
	2	337 29.6	211 48.8	N20 21.3	149 26.7	S 3 16.8	184 18.8	N12 02.2	310 46.6	N 8 18.6
	3	352 32.1	226 48.0	N20 20.6	164 27.8	S 3 17.4	199 20.8	N12 02.0	325 49.0	N 8 18.6
	4	7 34.6	241 47.3	N20 20.0	179 28.9	S 3 18.0	214 22.7	N12 01.8	340 51.5	N 8 18.6
F	5	22 37.0	256 46.6	N20 19.3	194 30.0	S 3 18.7	229 24.7	N12 01.7	355 53.9	N 8 18.6
R										
I	6	37 39.5	271 45.8	N20 18.7	209 31.1	S 3 19.3	244 26.7	N12 01.5	10 56.3	N 8 18.6
D	7	52 41.9	286 45.1	N20 18.1	224 32.2	S 3 19.9	259 28.7	N12 01.3	25 58.7	N 8 18.6
A	8	67 44.4	301 44.3	N20 17.4	239 33.3	S 3 20.5	274 30.6	N12 01.1	41 01.1	N 8 18.6
Y	9	82 46.9	316 43.6	N20 16.8	254 34.4	S 3 21.1	289 32.6	N12 00.9	56 03.5	N 8 18.6
	10	97 49.3	331 42.8	N20 16.1	269 35.5	S 3 21.8	304 34.6	N12 00.7	71 06.0	N 8 18.6
	11	112 51.8	346 42.1	N20 15.5	284 36.6	S 3 22.4	319 36.5	N12 00.6	86 08.4	N 8 18.6
	12	127 54.3	1 41.3	N20 14.8	299 37.7	S 3 23.0	334 38.5	N12 00.4	101 10.8	N 8 18.6
	13	142 56.7	16 40.6	N20 14.2	314 38.8	S 3 23.6	349 40.5	N12 00.2	116 13.2	N 8 18.6
	14	157 59.2	31 39.8	N20 13.5	329 39.9	S 3 24.3	4 42.4	N12 00.0	131 15.6	N 8 18.6
	15	173 01.7	46 39.1	N20 12.8	344 41.0	S 3 24.9	19 44.4	N11 59.8	146 18.0	N 8 18.6
	16	188 04.1	61 38.3	N20 12.2	359 42.0	S 3 25.5	34 46.4	N11 59.6	161 20.5	N 8 18.6
	17	203 06.6	76 37.6	N20 11.5	14 43.1	S 3 26.1	49 48.3	N11 59.5	176 22.9	N 8 18.6
	18	218 09.1	91 36.9	N20 10.9	29 44.2	S 3 26.8	64 50.3	N11 59.3	191 25.3	N 8 18.7
	19	233 11.5	106 36.1	N20 10.2	44 45.3	S 3 27.4	79 52.3	N11 59.1	206 27.7	N 8 18.7
	20	248 14.0	121 35.4	N20 09.6	59 46.4	S 3 28.0	94 54.2	N11 58.9	221 30.1	N 8 18.7
	21	263 16.4	136 34.6	N20 08.9	74 47.5	S 3 28.6	109 56.2	N11 58.7	236 32.6	N 8 18.7
	22	278 18.9	151 33.9	N20 08.2	89 48.6	S 3 29.3	124 58.2	N11 58.5	251 35.0	N 8 18.7
	23	293 21.4	166 33.1	N20 07.6	104 49.7	S 3 29.9	140 00.1	N11 58.3	266 37.4	N 8 18.7
31	0	308 23.8	181 32.4	N20 06.9	119 50.8	S 3 30.5	155 02.1	N11 58.2	281 39.8	N 8 18.7
	1	323 26.3	196 31.7	N20 06.2	134 51.9	S 3 31.1	170 04.1	N11 58.0	296 42.2	N 8 18.7
	2	338 28.8	211 30.9	N20 05.6	149 53.0	S 3 31.8	185 06.1	N11 57.8	311 44.7	N 8 18.7
	3	353 31.2	226 30.2	N20 04.9	164 54.1	S 3 32.4	200 08.0	N11 57.6	326 47.1	N 8 18.7
	4	8 33.7	241 29.5	N20 04.2	179 55.2	S 3 33.0	215 10.0	N11 57.4	341 49.5	N 8 18.7
S	5	23 36.2	256 28.7	N20 03.6	194 56.3	S 3 33.6	230 12.0	N11 57.2	356 51.9	N 8 18.7
A										
T	6	38 38.6	271 28.0	N20 02.9	209 57.4	S 3 34.3	245 13.9	N11 57.1	11 54.3	N 8 18.7
U	7	53 41.1	286 27.2	N20 02.2	224 58.5	S 3 34.9	260 15.9	N11 56.9	26 56.8	N 8 18.7
R	8	68 43.6	301 26.5	N20 01.6	239 59.6	S 3 35.5	275 17.9	N11 56.7	41 59.2	N 8 18.7
D	9	83 46.0	316 25.8	N20 00.9	255 00.7	S 3 36.1	290 19.8	N11 56.5	57 01.6	N 8 18.7
A	10	98 48.5	331 25.0	N20 00.2	270 01.8	S 3 36.8	305 21.8	N11 56.3	72 04.0	N 8 18.7
Y	11	113 50.9	346 24.3	N19 59.5	285 02.9	S 3 37.4	320 23.8	N11 56.1	87 06.4	N 8 18.7
	12	128 53.4	1 23.6	N19 58.9	300 04.0	S 3 38.0	335 25.7	N11 55.9	102 08.9	N 8 18.7
	13	143 55.9	16 22.8	N19 58.2	315 05.0	S 3 38.6	350 27.7	N11 55.8	117 11.3	N 8 18.7
	14	158 58.3	31 22.1	N19 57.5	330 06.1	S 3 39.3	5 29.7	N11 55.6	132 13.7	N 8 18.7
	15	174 00.8	46 21.4	N19 56.8	345 07.2	S 3 39.9	20 31.6	N11 55.4	147 16.1	N 8 18.7
	16	189 03.3	61 20.6	N19 56.1	0 08.3	S 3 40.5	35 33.6	N11 55.2	162 18.6	N 8 18.7
	17	204 05.7	76 19.9	N19 55.5	15 09.4	S 3 41.1	50 35.6	N11 55.0	177 21.0	N 8 18.7
	18	219 08.2	91 19.2	N19 54.8	30 10.5	S 3 41.8	65 37.5	N11 54.8	192 23.4	N 8 18.8
	19	234 10.7	106 18.4	N19 54.1	45 11.6	S 3 42.4	80 39.5	N11 54.6	207 25.8	N 8 18.8
	20	249 13.1	121 17.7	N19 53.4	60 12.7	S 3 43.0	95 41.5	N11 54.5	222 28.3	N 8 18.8
	21	264 15.6	136 17.0	N19 52.7	75 13.8	S 3 43.6	110 43.4	N11 54.3	237 30.7	N 8 18.8
	22	279 18.0	151 16.2	N19 52.0	90 14.9	S 3 44.3	125 45.4	N11 54.1	252 33.1	N 8 18.8
	23	294 20.5	166 15.5	N19 51.4	105 16.0	S 3 44.9	140 47.4	N11 53.9	267 35.5	N 8 18.8
1	0	309 23.0	181 14.8	N19 50.7	120 17.1	S 3 45.5	155 49.3	N11 53.7	282 37.9	N 8 18.8
	1	324 25.4	196 14.0	N19 50.0	135 18.2	S 3 46.1	170 51.3	N11 53.5	297 40.4	N 8 18.8
	2	339 27.9	211 13.3	N19 49.3	150 19.2	S 3 46.8	185 53.3	N11 53.3	312 42.8	N 8 18.8
	3	354 30.4	226 12.6	N19 48.6	165 20.3	S 3 47.4	200 55.2	N11 53.2	327 45.2	N 8 18.8
	4	9 32.8	241 11.9	N19 47.9	180 21.4	S 3 48.0	215 57.2	N11 53.0	342 47.6	N 8 18.8
S	5	24 35.3	256 11.1	N19 47.2	195 22.5	S 3 48.6	230 59.2	N11 52.8	357 50.1	N 8 18.8
U										
N	6	39 37.8	271 10.4	N19 46.5	210 23.6	S 3 49.3	246 01.1	N11 52.6	12 52.5	N 8 18.8
D	7	54 40.2	286 09.7	N19 45.8	225 24.7	S 3 49.9	261 03.1	N11 52.4	27 54.9	N 8 18.8
A	8	69 42.7	301 08.9	N19 45.1	240 25.8	S 3 50.5	276 05.1	N11 52.2	42 57.3	N 8 18.8
Y	9	84 45.2	316 08.2	N19 44.4	255 26.9	S 3 51.1	291 07.0	N11 52.1	57 59.8	N 8 18.8
	10	99 47.6	331 07.5	N19 43.7	270 28.0	S 3 51.8	306 09.0	N11 51.9	73 02.2	N 8 18.8
	11	114 50.1	346 06.8	N19 43.0	285 29.0	S 3 52.4	321 11.0	N11 51.7	88 04.6	N 8 18.8
	12	129 52.5	1 06.0	N19 42.3	300 30.1	S 3 53.0	336 12.9	N11 51.5	103 07.0	N 8 18.8
	13	144 55.0	16 05.3	N19 41.6	315 31.2	S 3 53.6	351 14.9	N11 51.3	118 09.5	N 8 18.8
	14	159 57.5	31 04.6	N19 40.9	330 32.3	S 3 54.3	6 16.9	N11 51.1	133 11.9	N 8 18.8
	15	174 59.9	46 03.9	N19 40.2	345 33.4	S 3 54.9	21 18.8	N11 50.9	148 14.3	N 8 18.8
	16	190 02.4	61 03.1	N19 39.5	0 34.5	S 3 55.5	36 20.8	N11 50.7	163 16.8	N 8 18.8
	17	205 04.9	76 02.4	N19 38.8	15 35.6	S 3 56.1	51 22.8	N11 50.6	178 19.2	N 8 18.8
	18	220 07.3	91 01.7	N19 38.1	30 36.7	S 3 56.8	66 24.7	N11 50.4	193 21.6	N 8 18.8
	19	235 09.8	106 01.0	N19 37.4	45 37.7	S 3 57.4	81 26.7	N11 50.2	208 24.0	N 8 18.8
	20	250 12.3	121 00.3	N19 36.7	60 38.8	S 3 58.0	96 28.7	N11 50.0	223 26.5	N 8 18.8
	21	265 14.7	135 59.5	N19 36.0	75 39.9	S 3 58.6	111 30.6	N11 49.8	238 28.9	N 8 18.8
	22	280 17.2	150 58.8	N19 35.3	90 41.0	S 3 59.3	126 32.6	N11 49.6	253 31.3	N 8 18.8
	23	295 19.7	165 58.1	N19 34.6	105 42.1	S 3 59.9	141 34.6	N11 49.4	268 33.7	N 8 18.8
			v -0.7	d 0.7	v 1.1	d 0.6	v 2.0	d 0.2	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	178 22.6	N18 36.6	229 59.1	3.0	N27 09.9	1.2	59.8
	1	193 22.7	N18 36.0	244 21.0	2.9	N27 10.9	1.0	59.8
	2	208 22.7	N18 35.4	258 42.9	2.8	N27 11.7	0.8	59.9
	3	223 22.7	N18 34.8	273 04.6	2.8	N27 12.4	0.6	59.9
	4	238 22.7	N18 34.2	287 26.4	2.7	N27 12.8	0.4	59.9
F	5	253 22.8	N18 33.6	301 48.0	2.7	N27 13.1	0.2	60.0
R								
I	6	268 22.8	N18 33.0	316 09.6	2.6	N27 13.1	0.0	60.0
D	7	283 22.8	N18 32.4	330 31.2	2.6	N27 12.9	0.2	60.0
A	8	298 22.8	N18 31.8	344 52.7	2.5	N27 12.6	0.4	60.1
Y	9	313 22.8	N18 31.2	359 14.2	2.5	N27 12.0	0.6	60.1
	10	328 22.9	N18 30.6	13 35.6	2.4	N27 11.3	0.8	60.1
	11	343 22.9	N18 30.0	27 57.0	2.4	N27 10.3	1.0	60.2
	12	358 22.9	N18 29.4	42 18.4	2.4	N27 09.2	1.2	60.2
	13	13 22.9	N18 28.8	56 39.7	2.3	N27 07.8	1.4	60.2
	14	28 23.0	N18 28.2	71 01.0	2.3	N27 06.3	1.6	60.3
	15	43 23.0	N18 27.6	85 22.3	2.3	N27 04.5	1.8	60.3
	16	58 23.0	N18 27.0	99 43.6	2.3	N27 02.6	2.0	60.3
	17	73 23.0	N18 26.4	114 04.8	2.2	N27 00.4	2.2	60.4
	18	88 23.1	N18 25.8	128 26.0	2.2	N26 58.1	2.4	60.4
	19	103 23.1	N18 25.2	142 47.2	2.2	N26 55.5	2.6	60.4
	20	118 23.1	N18 24.5	157 08.4	2.2	N26 52.7	2.8	60.4
	21	133 23.2	N18 23.9	171 29.6	2.2	N26 49.7	3.0	60.5
	22	148 23.2	N18 23.3	185 50.8	2.2	N26 46.6	3.2	60.5
	23	163 23.2	N18 22.7	200 12.0	2.2	N26 43.2	3.4	60.5
31	0	178 23.2	N18 22.1	214 33.2	2.2	N26 39.6	3.6	60.6
	1	193 23.3	N18 21.5	228 54.4	2.2	N26 35.8	3.8	60.6
	2	208 23.3	N18 20.9	243 15.6	2.2	N26 31.9	4.0	60.6
	3	223 23.3	N18 20.3	257 36.8	2.2	N26 27.7	4.2	60.6
	4	238 23.4	N18 19.7	271 58.0	2.2	N26 23.3	4.4	60.7
S	5	253 23.4	N18 19.0	286 19.2	2.2	N26 18.7	4.6	60.7
A								
T	6	268 23.4	N18 18.4	300 40.5	2.3	N26 13.9	4.8	60.7
U	7	283 23.4	N18 17.8	315 01.8	2.3	N26 08.9	5.0	60.7
R	8	298 23.5	N18 17.2	329 23.1	2.3	N26 03.7	5.2	60.8
D	9	313 23.5	N18 16.6	343 44.4	2.3	N25 58.3	5.4	60.8
A	10	328 23.5	N18 16.0	358 05.7	2.4	N25 52.8	5.6	60.8
Y	11	343 23.6	N18 15.3	12 27.1	2.4	N25 47.0	5.8	60.8
	12	358 23.6	N18 14.7	26 48.5	2.4	N25 41.0	6.0	60.9
	13	13 23.6	N18 14.1	41 10.0	2.5	N25 34.8	6.2	60.9
	14	28 23.7	N18 13.5	55 31.5	2.5	N25 28.5	6.4	60.9
	15	43 23.7	N18 12.9	69 53.0	2.5	N25 21.9	6.6	60.9
	16	58 23.7	N18 12.2	84 14.6	2.6	N25 15.1	6.8	60.9
	17	73 23.8	N18 11.6	98 36.2	2.6	N25 08.2	7.0	61.0
	18	88 23.8	N18 11.0	112 57.9	2.7	N25 01.0	7.1	61.0
	19	103 23.8	N18 10.4	127 19.6	2.7	N24 53.7	7.3	61.0
	20	118 23.8	N18 09.8	141 41.4	2.8	N24 46.2	7.5	61.0
	21	133 23.9	N18 09.1	156 03.3	2.8	N24 38.5	7.7	61.0
	22	148 23.9	N18 08.5	170 25.2	2.9	N24 30.6	7.9	61.1
	23	163 23.9	N18 07.9	184 47.1	3.0	N24 22.5	8.1	61.1
1	0	178 24.0	N18 07.3	199 09.1	3.0	N24 14.2	8.3	61.1
	1	193 24.0	N18 06.6	213 31.2	3.1	N24 05.8	8.4	61.1
	2	208 24.1	N18 06.0	227 53.4	3.1	N23 57.1	8.6	61.1
	3	223 24.1	N18 05.4	242 15.6	3.2	N23 48.3	8.8	61.1
	4	238 24.1	N18 04.8	256 37.9	3.3	N23 39.3	9.0	61.2
S	5	253 24.2	N18 04.1	271 00.2	3.4	N23 30.2	9.2	61.2
U								
N	6	268 24.2	N18 03.5	285 22.7	3.4	N23 20.8	9.3	61.2
D	7	283 24.2	N18 02.9	299 45.2	3.5	N23 11.3	9.5	61.2
A	8	298 24.3	N18 02.3	314 07.8	3.6	N23 01.6	9.7	61.2
Y	9	313 24.3	N18 01.6	328 30.4	3.7	N22 51.8	9.9	61.2
	10	328 24.3	N18 01.0	342 53.2	3.7	N22 41.7	10.0	61.2
	11	343 24.4	N18 00.4	357 16.0	3.8	N22 31.5	10.2	61.3
	12	358 24.4	N17 59.7	11 38.9	3.9	N22 21.2	10.4	61.3
	13	13 24.5	N17 59.1	26 01.9	4.0	N22 10.7	10.5	61.3
	14	28 24.5	N17 58.5	40 25.0	4.1	N21 60.0	10.7	61.3
	15	43 24.5	N17 57.9	54 48.1	4.2	N21 49.1	10.8	61.3
	16	58 24.6	N17 57.2	69 11.4	4.3	N21 38.1	11.0	61.3
	17	73 24.6	N17 56.6	83 34.7	4.3	N21 27.0	11.2	61.3
	18	88 24.6	N17 56.0	97 58.2	4.4	N21 15.6	11.3	61.3
	19	103 24.7	N17 55.3	112 21.7	4.5	N21 04.2	11.5	61.3
	20	118 24.7	N17 54.7	126 45.3	4.6	N20 52.6	11.6	61.3
	21	133 24.8	N17 54.1	141 09.0	4.7	N20 40.8	11.8	61.3
	22	148 24.8	N17 53.4	155 32.8	4.8	N20 28.9	11.9	61.3
	23	163 24.8	N17 52.8	169 56.7	4.9	N20 16.8	12.1	61.3
		S.D. 15.8	d 0.6	S.D. 16.4		16.6		16.7

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.3
Achernar	335 18.5	S57 05.4
Acrux	172 58.1	S63 15.4
Adhara	255 04.5	S29 00.4
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.4	N16 33.9
Alioth	166 11.3	N55 48.9
Alkaid	152 50.4	N49 10.7
Al Na-ir	27 29.8	S46 49.4
Alnilam	275 35.8	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.8	N26 37.5
Alpheratz	357 32.4	N29 14.6
Altair	61 57.5	N 8 56.6
Ankaa	353 04.8	S42 09.1
Antares	112 13.0	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.1	S69 04.9
Avior	234 14.5	S59 35.9
Bellatrix	278 20.8	N 6 22.6
Betelgeuse	270 50.0	N 7 24.8
Canopus	263 51.9	S52 42.4
Capella	280 19.1	N46 01.4
Castor	245 54.7	N31 49.7
Deneb	49 23.9	N45 22.8
Denebola	182 23.0	N14 25.1
Diphda	348 45.0	S17 49.8
Dubhe	193 38.9	N61 36.2
Elnath	277 59.5	N28 37.8
Eltanin	90 40.8	N51 29.2
Enif	33 36.3	N10 00.2
Fomalhaut	15 11.9	S29 28.3
Gacrux	171 49.6	S57 16.3
Gienah	175 41.6	S17 41.8
Hadar	148 33.1	S60 30.7
Hamal	327 48.8	N23 35.6
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 19.9	N74 02.8
Markab	13 27.5	N15 21.3
Menkar	314 04.0	N 4 12.0
Menkent	147 55.1	S36 30.6
Miaplacidus	221 38.6	S69 49.9
Mirfak	308 25.4	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 41.0	N89 21.9
Pollux	243 15.1	N27 57.6
Procyon	244 48.9	N 5 09.3
Rasalhague	95 56.4	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.0	S 8 10.0
Rigil Kent	139 37.4	S60 57.3
Sabik	102 00.1	S15 45.6
Schedar	349 28.3	N56 41.2
Shaula	96 07.2	S37 07.5
Sirius	258 24.7	S16 45.1
Spica	158 20.1	S11 18.4
Suhail	222 45.2	S43 32.7
Vega	80 31.4	N38 48.7
Zuben-ubi	136 54.5	S16 09.5

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
2 0	310 22.1	180 57.4	N19 33.9	120 43.2	S 4 00.5	156 36.5	N11 49.3	283 36.2	N 8 18.8
1	325 24.6	195 56.7	N19 33.1	135 44.3	S 4 01.1	171 38.5	N11 49.1	298 38.6	N 8 18.8
2	340 27.0	210 55.9	N19 32.4	150 45.3	S 4 01.8	186 40.5	N11 48.9	313 41.0	N 8 18.8
3	355 29.5	225 55.2	N19 31.7	165 46.4	S 4 02.4	201 42.4	N11 48.7	328 43.5	N 8 18.8
4	10 32.0	240 54.5	N19 31.0	180 47.5	S 4 03.0	216 44.4	N11 48.5	343 45.9	N 8 18.8
M 5	25 34.4	255 53.8	N19 30.3	195 48.6	S 4 03.6	231 46.4	N11 48.3	358 48.3	N 8 18.8
O									
N 6	40 36.9	270 53.1	N19 29.6	210 49.7	S 4 04.3	246 48.3	N11 48.1	13 50.7	N 8 18.8
D 7	55 39.4	285 52.4	N19 28.8	225 50.8	S 4 04.9	261 50.3	N11 48.0	28 53.2	N 8 18.8
A 8	70 41.8	300 51.6	N19 28.1	240 51.9	S 4 05.5	276 52.2	N11 47.8	43 55.6	N 8 18.8
Y 9	85 44.3	315 50.9	N19 27.4	255 52.9	S 4 06.1	291 54.2	N11 47.6	58 58.0	N 8 18.8
10	100 46.8	330 50.2	N19 26.7	270 54.0	S 4 06.8	306 56.2	N11 47.4	74 00.5	N 8 18.8
11	115 49.2	345 49.5	N19 26.0	285 55.1	S 4 07.4	321 58.1	N11 47.2	89 02.9	N 8 18.8
12	130 51.7	0 48.8	N19 25.2	300 56.2	S 4 08.0	337 00.1	N11 47.0	104 05.3	N 8 18.8
13	145 54.2	15 48.1	N19 24.5	315 57.3	S 4 08.7	352 02.1	N11 46.8	119 07.8	N 8 18.8
14	160 56.6	30 47.4	N19 23.8	330 58.4	S 4 09.3	7 04.0	N11 46.7	134 10.2	N 8 18.8
15	175 59.1	45 46.6	N19 23.1	345 59.4	S 4 09.9	22 06.0	N11 46.5	149 12.6	N 8 18.8
16	191 01.5	60 45.9	N19 22.3	1 00.5	S 4 10.5	37 08.0	N11 46.3	164 15.0	N 8 18.8
17	206 04.0	75 45.2	N19 21.6	16 01.6	S 4 11.2	52 09.9	N11 46.1	179 17.5	N 8 18.8
18	221 06.5	90 44.5	N19 20.9	31 02.7	S 4 11.8	67 11.9	N11 45.9	194 19.9	N 8 18.8
19	236 08.9	105 43.8	N19 20.2	46 03.8	S 4 12.4	82 13.9	N11 45.7	209 22.3	N 8 18.8
20	251 11.4	120 43.1	N19 19.4	61 04.8	S 4 13.0	97 15.8	N11 45.5	224 24.8	N 8 18.8
21	266 13.9	135 42.4	N19 18.7	76 05.9	S 4 13.7	112 17.8	N11 45.3	239 27.2	N 8 18.8
22	281 16.3	150 41.7	N19 18.0	91 07.0	S 4 14.3	127 19.8	N11 45.2	254 29.6	N 8 18.8
23	296 18.8	165 41.0	N19 17.2	106 08.1	S 4 14.9	142 21.7	N11 45.0	269 32.1	N 8 18.8
3 0	311 21.3	180 40.2	N19 16.5	121 09.2	S 4 15.5	157 23.7	N11 44.8	284 34.5	N 8 18.8
1	326 23.7	195 39.5	N19 15.8	136 10.3	S 4 16.2	172 25.6	N11 44.6	299 36.9	N 8 18.8
2	341 26.2	210 38.8	N19 15.0	151 11.3	S 4 16.8	187 27.6	N11 44.4	314 39.4	N 8 18.8
3	356 28.7	225 38.1	N19 14.3	166 12.4	S 4 17.4	202 29.6	N11 44.2	329 41.8	N 8 18.8
4	11 31.1	240 37.4	N19 13.5	181 13.5	S 4 18.0	217 31.5	N11 44.0	344 44.2	N 8 18.8
T 5	26 33.6	255 36.7	N19 12.8	196 14.6	S 4 18.7	232 33.5	N11 43.8	359 46.7	N 8 18.8
U									
E 6	41 36.0	270 36.0	N19 12.1	211 15.7	S 4 19.3	247 35.5	N11 43.7	14 49.1	N 8 18.8
S 7	56 38.5	285 35.3	N19 11.3	226 16.7	S 4 19.9	262 37.4	N11 43.5	29 51.5	N 8 18.8
D 8	71 41.0	300 34.6	N19 10.6	241 17.8	S 4 20.6	277 39.4	N11 43.3	44 54.0	N 8 18.8
A 9	86 43.4	315 33.9	N19 09.8	256 18.9	S 4 21.2	292 41.4	N11 43.1	59 56.4	N 8 18.8
Y 10	101 45.9	330 33.2	N19 09.1	271 20.0	S 4 21.8	307 43.3	N11 42.9	74 58.8	N 8 18.8
11	116 48.4	345 32.5	N19 08.3	286 21.0	S 4 22.4	322 45.3	N11 42.7	90 01.3	N 8 18.8
12	131 50.8	0 31.8	N19 07.6	301 22.1	S 4 23.1	337 47.3	N11 42.5	105 03.7	N 8 18.8
13	146 53.3	15 31.1	N19 06.9	316 23.2	S 4 23.7	352 49.2	N11 42.3	120 06.1	N 8 18.8
14	161 55.8	30 30.4	N19 06.1	331 24.3	S 4 24.3	7 51.2	N11 42.2	135 08.6	N 8 18.8
15	176 58.2	45 29.7	N19 05.4	346 25.4	S 4 24.9	22 53.1	N11 42.0	150 11.0	N 8 18.8
16	192 00.7	60 29.0	N19 04.6	1 26.4	S 4 25.6	37 55.1	N11 41.8	165 13.4	N 8 18.8
17	207 03.1	75 28.3	N19 03.9	16 27.5	S 4 26.2	52 57.1	N11 41.6	180 15.9	N 8 18.8
18	222 05.6	90 27.6	N19 03.1	31 28.6	S 4 26.8	67 59.0	N11 41.4	195 18.3	N 8 18.8
19	237 08.1	105 26.9	N19 02.4	46 29.7	S 4 27.4	83 01.0	N11 41.2	210 20.7	N 8 18.8
20	252 10.5	120 26.2	N19 01.6	61 30.7	S 4 28.1	98 03.0	N11 41.0	225 23.2	N 8 18.8
21	267 13.0	135 25.5	N19 00.8	76 31.8	S 4 28.7	113 04.9	N11 40.8	240 25.6	N 8 18.8
22	282 15.5	150 24.8	N19 00.1	91 32.9	S 4 29.3	128 06.9	N11 40.7	255 28.1	N 8 18.8
23	297 17.9	165 24.1	N18 59.3	106 34.0	S 4 30.0	143 08.9	N11 40.5	270 30.5	N 8 18.8
4 0	312 20.4	180 23.4	N18 58.6	121 35.0	S 4 30.6	158 10.8	N11 40.3	285 32.9	N 8 18.8
1	327 22.9	195 22.7	N18 57.8	136 36.1	S 4 31.2	173 12.8	N11 40.1	300 35.4	N 8 18.8
2	342 25.3	210 22.0	N18 57.1	151 37.2	S 4 31.8	188 14.7	N11 39.9	315 37.8	N 8 18.8
3	357 27.8	225 21.3	N18 56.3	166 38.3	S 4 32.5	203 16.7	N11 39.7	330 40.2	N 8 18.8
4	12 30.3	240 20.6	N18 55.5	181 39.3	S 4 33.1	218 18.7	N11 39.5	345 42.7	N 8 18.8
W 5	27 32.7	255 19.9	N18 54.8	196 40.4	S 4 33.7	233 20.6	N11 39.3	0 45.1	N 8 18.8
E									
D 6	42 35.2	270 19.2	N18 54.0	211 41.5	S 4 34.3	248 22.6	N11 39.2	15 47.5	N 8 18.8
N 7	57 37.6	285 18.5	N18 53.3	226 42.6	S 4 35.0	263 24.6	N11 39.0	30 50.0	N 8 18.8
E 8	72 40.1	300 17.8	N18 52.5	241 43.6	S 4 35.6	278 26.5	N11 38.8	45 52.4	N 8 18.8
S 9	87 42.6	315 17.1	N18 51.7	256 44.7	S 4 36.2	293 28.5	N11 38.6	60 54.9	N 8 18.8
D 10	102 45.0	330 16.4	N18 51.0	271 45.8	S 4 36.8	308 30.5	N11 38.4	75 57.3	N 8 18.8
A 11	117 47.5	345 15.7	N18 50.2	286 46.9	S 4 37.5	323 32.4	N11 38.2	90 59.7	N 8 18.8
Y									
12	132 50.0	0 15.1	N18 49.4	301 47.9	S 4 38.1	338 34.4	N11 38.0	106 02.2	N 8 18.8
13	147 52.4	15 14.4	N18 48.7	316 49.0	S 4 38.7	353 36.3	N11 37.8	121 04.6	N 8 18.8
14	162 54.9	30 13.7	N18 47.9	331 50.1	S 4 39.4	8 38.3	N11 37.7	136 07.1	N 8 18.8
15	177 57.4	45 13.0	N18 47.1	346 51.2	S 4 40.0	23 40.3	N11 37.5	151 09.5	N 8 18.8
16	192 59.8	60 12.3	N18 46.3	1 52.2	S 4 40.6	38 42.2	N11 37.3	166 11.9	N 8 18.8
17	208 02.3	75 11.6	N18 45.6	16 53.3	S 4 41.2	53 44.2	N11 37.1	181 14.4	N 8 18.8
18	223 04.8	90 10.9	N18 44.8	31 54.4	S 4 41.9	68 46.2	N11 36.9	196 16.8	N 8 18.8
19	238 07.2	105 10.2	N18 44.0	46 55.4	S 4 42.5	83 48.1	N11 36.7	211 19.3	N 8 18.8
20	253 09.7	120 09.5	N18 43.2	61 56.5	S 4 43.1	98 50.1	N11 36.5	226 21.7	N 8 18.8
21	268 12.1	135 08.8	N18 42.5	76 57.6	S 4 43.7	113 52.0	N11 36.3	241 24.1	N 8 18.8
22	283 14.6	150 08.2	N18 41.7	91 58.7	S 4 44.4	128 54.0	N11 36.1	256 26.6	N 8 18.8
23	298 17.1	165 07.5	N18 40.9	106 59.7	S 4 45.0	143 56.0	N11 36.0	271 29.0	N 8 18.8
		v -0.7	d 0.7	v 1.1	d 0.6	v 2.0	d 0.2	v 2.4	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
2 0	178 24.9	N17 52.1	184 20.7	5.0	N20 04.6	12.2	61.3	Acamar	315 10.2 S40 11.3
1	193 24.9	N17 51.5	198 44.7	5.1	N19 52.3	12.3	61.4	Achernar	335 18.5 S57 05.4
2	208 25.0	N17 50.9	213 08.9	5.2	N19 39.8	12.5	61.4	Acrux	172 58.1 S63 15.4
3	223 25.0	N17 50.2	227 33.2	5.3	N19 27.2	12.6	61.4	Adhara	255 04.5 S29 00.4
4	238 25.0	N17 49.6	241 57.6	5.4	N19 14.4	12.7	61.4	Albireo	67 02.0 N28 01.2
M 5	253 25.1	N17 49.0	256 22.0	5.5	N19 01.6	12.9	61.4		
O								Aldebaran	290 37.3 N16 33.9
N 6	268 25.1	N17 48.3	270 46.6	5.6	N18 48.6	13.0	61.4	Alioth	166 11.3 N55 48.8
D 7	283 25.2	N17 47.7	285 11.2	5.7	N18 35.4	13.1	61.4	Alkaid	152 50.4 N49 10.7
A 8	298 25.2	N17 47.0	299 36.0	5.8	N18 22.2	13.3	61.4	Al Na-ir	27 29.8 S46 49.4
Y 9	313 25.3	N17 46.4	314 00.8	5.9	N18 08.8	13.4	61.4	Alnilam	275 35.8 S 1 10.9
10	328 25.3	N17 45.8	328 25.8	6.0	N17 55.3	13.5	61.4		
11	343 25.3	N17 45.1	342 50.9	6.1	N17 41.6	13.6	61.4	Alphard	217 45.9 S 8 46.7
								Alphecca	126 01.8 N26 37.5
12	358 25.4	N17 44.5	357 16.0	6.1	N17 27.9	13.7	61.4	Alpheratz	357 32.3 N29 14.6
13	13 25.4	N17 43.8	11 41.3	6.2	N17 14.0	13.9	61.3	Altair	61 57.5 N 8 56.6
14	28 25.5	N17 43.2	26 06.6	6.3	N17 00.1	14.0	61.3	Ankaa	353 04.8 S42 09.1
15	43 25.5	N17 42.5	40 32.0	6.4	N16 46.0	14.1	61.3		
16	58 25.6	N17 41.9	54 57.6	6.5	N16 31.8	14.2	61.3	Antares	112 13.1 S26 29.7
17	73 25.6	N17 41.3	69 23.2	6.6	N16 17.5	14.3	61.3	Arcturus	145 46.0 N19 02.4
								Atria	107 05.1 S69 04.9
18	88 25.7	N17 40.6	83 49.0	6.7	N16 03.1	14.4	61.3	Avior	234 14.5 S59 35.9
19	103 25.7	N17 40.0	98 14.8	6.8	N15 48.6	14.5	61.3	Bellatrix	278 20.8 N 6 22.6
20	118 25.7	N17 39.3	112 40.7	6.9	N15 34.1	14.6	61.3		
21	133 25.8	N17 38.7	127 06.8	7.0	N15 19.4	14.7	61.3	Betelgeuse	270 50.0 N 7 24.8
22	148 25.8	N17 38.0	141 32.9	7.1	N15 04.6	14.8	61.3	Canopus	263 51.9 S52 42.4
23	163 25.9	N17 37.4	155 59.1	7.2	N14 49.7	14.9	61.3	Capella	280 19.0 N46 01.4
3 0	178 25.9	N17 36.7	170 25.4	7.3	N14 34.8	15.0	61.3	Castor	245 54.7 N31 49.7
1	193 26.0	N17 36.1	184 51.8	7.4	N14 19.7	15.0	61.3	Deneb	49 23.9 N45 22.8
2	208 26.0	N17 35.4	199 18.3	7.5	N14 04.6	15.1	61.2		
3	223 26.1	N17 34.8	213 44.9	7.6	N13 49.4	15.2	61.2	Denebola	182 23.0 N14 25.1
4	238 26.1	N17 34.1	228 11.6	7.7	N13 34.1	15.3	61.2	Diphda	348 45.0 S17 49.8
T 5	253 26.2	N17 33.5	242 38.4	7.8	N13 18.7	15.4	61.2	Dubhe	193 38.9 N61 36.2
U								Elnath	277 59.5 N28 37.8
E 6	268 26.2	N17 32.8	257 05.3	7.9	N13 03.2	15.5	61.2	Eltanin	90 40.8 N51 29.3
S 7	283 26.3	N17 32.2	271 32.2	8.0	N12 47.7	15.5	61.2		
D 8	298 26.3	N17 31.5	285 59.3	8.1	N12 32.1	15.6	61.2	Enif	33 36.3 N10 00.2
A 9	313 26.4	N17 30.9	300 26.4	8.1	N12 16.4	15.7	61.2	Fomalhaut	15 11.8 S29 28.3
Y 10	328 26.4	N17 30.2	314 53.7	8.2	N12 00.7	15.7	61.1	Gacrux	171 49.6 S57 16.3
11	343 26.5	N17 29.6	329 21.0	8.3	N11 44.9	15.8	61.1	Gienah	175 41.6 S17 41.8
								Hadar	148 33.1 S60 30.7
12	358 26.5	N17 28.9	343 48.4	8.4	N11 29.1	15.9	61.1		
13	13 26.6	N17 28.3	358 15.9	8.5	N11 13.1	15.9	61.1	Hamal	327 48.8 N23 35.6
14	28 26.6	N17 27.6	12 43.5	8.6	N10 57.2	16.0	61.1	Kaus Austr.	83 29.4 S34 22.3
15	43 26.7	N17 27.0	27 11.1	8.7	N10 41.1	16.0	61.1	Kochab	137 20.0 N74 02.8
16	58 26.7	N17 26.3	41 38.9	8.7	N10 25.0	16.1	61.0	Markab	13 27.5 N15 21.3
17	73 26.8	N17 25.6	56 06.7	8.8	N10 08.9	16.1	61.0	Menkar	314 03.9 N 4 12.0
								Menkent	147 55.2 S36 30.6
18	88 26.8	N17 25.0	70 34.6	8.9	N 9 52.7	16.2	61.0	Miaplacidus	221 38.6 S69 49.9
19	103 26.9	N17 24.3	85 02.6	9.0	N 9 36.5	16.2	61.0	Mirfak	308 25.3 N49 57.4
20	118 26.9	N17 23.7	99 30.7	9.1	N 9 20.2	16.3	61.0	Nunki	75 44.8 S26 15.7
21	133 27.0	N17 23.0	113 58.8	9.1	N 9 03.9	16.3	60.9	Peacock	53 01.7 S56 38.7
22	148 27.0	N17 22.3	128 27.0	9.2	N 8 47.5	16.4	60.9		
23	163 27.1	N17 21.7	142 55.3	9.3	N 8 31.1	16.4	60.9	Polaris	315 39.8 N89 21.9
4 0	178 27.1	N17 21.0	157 23.7	9.4	N 8 14.6	16.4	60.9	Pollux	243 15.1 N27 57.6
1	193 27.2	N17 20.4	171 52.2	9.5	N 7 58.2	16.5	60.8	Procyon	244 48.9 N 5 09.3
2	208 27.2	N17 19.7	186 20.7	9.5	N 7 41.7	16.5	60.8	Rasalhague	95 56.4 N12 32.5
3	223 27.3	N17 19.0	200 49.3	9.6	N 7 25.1	16.5	60.8	Regulus	207 32.5 N11 50.0
4	238 27.4	N17 18.4	215 18.0	9.7	N 7 08.5	16.6	60.8		
W 5	253 27.4	N17 17.7	229 46.7	9.7	N 6 51.9	16.6	60.8	Rigel	281 02.0 S 8 10.0
E								Rigil Kent	139 37.5 S60 57.3
D 6	268 27.5	N17 17.1	244 15.5	9.8	N 6 35.3	16.6	60.7	Sabik	102 00.1 S15 45.6
N 7	283 27.5	N17 16.4	258 44.4	9.9	N 6 18.7	16.6	60.7	Schedar	349 28.3 N56 41.2
E 8	298 27.6	N17 15.7	273 13.3	9.9	N 6 02.0	16.7	60.7	Shaula	96 07.2 S37 07.5
S 9	313 27.6	N17 15.1	287 42.3	10.0	N 5 45.3	16.7	60.7	Sirius	258 24.7 S16 45.1
D 10	328 27.7	N17 14.4	302 11.4	10.1	N 5 28.6	16.7	60.6	Spica	158 20.2 S11 18.4
A 11	343 27.7	N17 13.7	316 40.5	10.1	N 5 11.9	16.7	60.6	Suhail	222 45.2 S43 32.6
Y								Vega	80 31.4 N38 48.7
12	358 27.8	N17 13.1	331 09.7	10.2	N 4 55.2	16.7	60.6	Zuben-ubi	136 54.5 S16 09.5
13	13 27.9	N17 12.4	345 39.0	10.3	N 4 38.5	16.7	60.5		
14	28 27.9	N17 11.7	0 08.3	10.3	N 4 21.7	16.7	60.5		
15	43 28.0	N17 11.1	14 37.6	10.4	N 4 04.9	16.8	60.5		
16	58 28.0	N17 10.4	29 07.1	10.4	N 3 48.2	16.8	60.5		
17	73 28.1	N17 09.7	43 36.5	10.5	N 3 31.4	16.8	60.4		
18	88 28.1	N17 09.1	58 06.1	10.5	N 3 14.7	16.8	60.4		
19	103 28.2	N17 08.4	72 35.7	10.6	N 2 57.9	16.8	60.4		
20	118 28.3	N17 07.7	87 05.3	10.6	N 2 41.1	16.8	60.3		
21	133 28.3	N17 07.1	101 35.0	10.7	N 2 24.4	16.8	60.3		
22	148 28.4	N17 06.4	116 04.7	10.7	N 2 07.6	16.8	60.3		
23	163 28.4	N17 05.7	130 34.5	10.8	N 1 50.9	16.7	60.2		
	S.D. 15.8	d 0.7	S.D.	16.7		16.7	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 ° '
5	0	313 19.5	180 06.8	N18 40.1	122 00.8	S 4 45.6	158 57.9	N11 35.8	286 31.5	N 8 18.8
	1	328 22.0	195 06.1	N18 39.3	137 01.9	S 4 46.3	173 59.9	N11 35.6	301 33.9	N 8 18.7
	2	343 24.5	210 05.4	N18 38.6	152 02.9	S 4 46.9	189 01.9	N11 35.4	316 36.3	N 8 18.7
	3	358 26.9	225 04.7	N18 37.8	167 04.0	S 4 47.5	204 03.8	N11 35.2	331 38.8	N 8 18.7
	4	13 29.4	240 04.0	N18 37.0	182 05.1	S 4 48.1	219 05.8	N11 35.0	346 41.2	N 8 18.7
T	5	28 31.9	255 03.4	N18 36.2	197 06.1	S 4 48.8	234 07.7	N11 34.8	1 43.7	N 8 18.7
H										
U	6	43 34.3	270 02.7	N18 35.4	212 07.2	S 4 49.4	249 09.7	N11 34.6	16 46.1	N 8 18.7
R	7	58 36.8	285 02.0	N18 34.6	227 08.3	S 4 50.0	264 11.7	N11 34.5	31 48.5	N 8 18.7
S	8	73 39.2	300 01.3	N18 33.9	242 09.4	S 4 50.6	279 13.6	N11 34.3	46 51.0	N 8 18.7
D	9	88 41.7	315 00.6	N18 33.1	257 10.4	S 4 51.3	294 15.6	N11 34.1	61 53.4	N 8 18.7
A	10	103 44.2	329 59.9	N18 32.3	272 11.5	S 4 51.9	309 17.6	N11 33.9	76 55.9	N 8 18.7
Y	11	118 46.6	344 59.3	N18 31.5	287 12.6	S 4 52.5	324 19.5	N11 33.7	91 58.3	N 8 18.7
	12	133 49.1	359 58.6	N18 30.7	302 13.6	S 4 53.2	339 21.5	N11 33.5	107 00.8	N 8 18.7
	13	148 51.6	14 57.9	N18 29.9	317 14.7	S 4 53.8	354 23.4	N11 33.3	122 03.2	N 8 18.7
	14	163 54.0	29 57.2	N18 29.1	332 15.8	S 4 54.4	9 25.4	N11 33.1	137 05.6	N 8 18.7
	15	178 56.5	44 56.5	N18 28.3	347 16.8	S 4 55.0	24 27.4	N11 32.9	152 08.1	N 8 18.7
	16	193 59.0	59 55.9	N18 27.5	2 17.9	S 4 55.7	39 29.3	N11 32.8	167 10.5	N 8 18.7
	17	209 01.4	74 55.2	N18 26.7	17 19.0	S 4 56.3	54 31.3	N11 32.6	182 13.0	N 8 18.7
	18	224 03.9	89 54.5	N18 25.9	32 20.0	S 4 56.9	69 33.2	N11 32.4	197 15.4	N 8 18.7
	19	239 06.4	104 53.8	N18 25.1	47 21.1	S 4 57.5	84 35.2	N11 32.2	212 17.9	N 8 18.7
	20	254 08.8	119 53.2	N18 24.4	62 22.2	S 4 58.2	99 37.2	N11 32.0	227 20.3	N 8 18.7
	21	269 11.3	134 52.5	N18 23.6	77 23.2	S 4 58.8	114 39.1	N11 31.8	242 22.7	N 8 18.7
	22	284 13.7	149 51.8	N18 22.8	92 24.3	S 4 59.4	129 41.1	N11 31.6	257 25.2	N 8 18.7
	23	299 16.2	164 51.1	N18 22.0	107 25.4	S 5 00.1	144 43.1	N11 31.4	272 27.6	N 8 18.7
6	0	314 18.7	179 50.5	N18 21.2	122 26.4	S 5 00.7	159 45.0	N11 31.2	287 30.1	N 8 18.7
	1	329 21.1	194 49.8	N18 20.4	137 27.5	S 5 01.3	174 47.0	N11 31.1	302 32.5	N 8 18.6
	2	344 23.6	209 49.1	N18 19.5	152 28.6	S 5 01.9	189 48.9	N11 30.9	317 35.0	N 8 18.6
	3	359 26.1	224 48.4	N18 18.7	167 29.6	S 5 02.6	204 50.9	N11 30.7	332 37.4	N 8 18.6
	4	14 28.5	239 47.8	N18 17.9	182 30.7	S 5 03.2	219 52.9	N11 30.5	347 39.9	N 8 18.6
F	5	29 31.0	254 47.1	N18 17.1	197 31.7	S 5 03.8	234 54.8	N11 30.3	2 42.3	N 8 18.6
R										
I	6	44 33.5	269 46.4	N18 16.3	212 32.8	S 5 04.4	249 56.8	N11 30.1	17 44.7	N 8 18.6
D	7	59 35.9	284 45.7	N18 15.5	227 33.9	S 5 05.1	264 58.7	N11 29.9	32 47.2	N 8 18.6
A	8	74 38.4	299 45.1	N18 14.7	242 34.9	S 5 05.7	280 00.7	N11 29.7	47 49.6	N 8 18.6
Y	9	89 40.8	314 44.4	N18 13.9	257 36.0	S 5 06.3	295 02.7	N11 29.5	62 52.1	N 8 18.6
	10	104 43.3	329 43.7	N18 13.1	272 37.1	S 5 07.0	310 04.6	N11 29.3	77 54.5	N 8 18.6
	11	119 45.8	344 43.1	N18 12.3	287 38.1	S 5 07.6	325 06.6	N11 29.2	92 57.0	N 8 18.6
	12	134 48.2	359 42.4	N18 11.5	302 39.2	S 5 08.2	340 08.5	N11 29.0	107 59.4	N 8 18.6
	13	149 50.7	14 41.7	N18 10.7	317 40.3	S 5 08.8	355 10.5	N11 28.8	123 01.9	N 8 18.6
	14	164 53.2	29 41.1	N18 09.8	332 41.3	S 5 09.5	10 12.5	N11 28.6	138 04.3	N 8 18.6
	15	179 55.6	44 40.4	N18 09.0	347 42.4	S 5 10.1	25 14.4	N11 28.4	153 06.8	N 8 18.6
	16	194 58.1	59 39.7	N18 08.2	2 43.4	S 5 10.7	40 16.4	N11 28.2	168 09.2	N 8 18.6
	17	210 00.6	74 39.1	N18 07.4	17 44.5	S 5 11.3	55 18.4	N11 28.0	183 11.7	N 8 18.6
	18	225 03.0	89 38.4	N18 06.6	32 45.6	S 5 12.0	70 20.3	N11 27.8	198 14.1	N 8 18.6
	19	240 05.5	104 37.7	N18 05.8	47 46.6	S 5 12.6	85 22.3	N11 27.6	213 16.6	N 8 18.5
	20	255 08.0	119 37.1	N18 04.9	62 47.7	S 5 13.2	100 24.2	N11 27.5	228 19.0	N 8 18.5
	21	270 10.4	134 36.4	N18 04.1	77 48.7	S 5 13.9	115 26.2	N11 27.3	243 21.5	N 8 18.5
	22	285 12.9	149 35.7	N18 03.3	92 49.8	S 5 14.5	130 28.2	N11 27.1	258 23.9	N 8 18.5
	23	300 15.3	164 35.1	N18 02.5	107 50.9	S 5 15.1	145 30.1	N11 26.9	273 26.3	N 8 18.5
7	0	315 17.8	179 34.4	N18 01.7	122 51.9	S 5 15.7	160 32.1	N11 26.7	288 28.8	N 8 18.5
	1	330 20.3	194 33.7	N18 00.8	137 53.0	S 5 16.4	175 34.0	N11 26.5	303 31.2	N 8 18.5
	2	345 22.7	209 33.1	N18 00.0	152 54.0	S 5 17.0	190 36.0	N11 26.3	318 33.7	N 8 18.5
	3	0 25.2	224 32.4	N17 59.2	167 55.1	S 5 17.6	205 38.0	N11 26.1	333 36.1	N 8 18.5
	4	15 27.7	239 31.7	N17 58.4	182 56.2	S 5 18.2	220 39.9	N11 25.9	348 38.6	N 8 18.5
S	5	30 30.1	254 31.1	N17 57.5	197 57.2	S 5 18.9	235 41.9	N11 25.7	3 41.0	N 8 18.5
A										
T	6	45 32.6	269 30.4	N17 56.7	212 58.3	S 5 19.5	250 43.8	N11 25.6	18 43.5	N 8 18.5
U	7	60 35.1	284 29.8	N17 55.9	227 59.3	S 5 20.1	265 45.8	N11 25.4	33 45.9	N 8 18.5
R	8	75 37.5	299 29.1	N17 55.0	243 00.4	S 5 20.8	280 47.8	N11 25.2	48 48.4	N 8 18.5
D	9	90 40.0	314 28.4	N17 54.2	258 01.5	S 5 21.4	295 49.7	N11 25.0	63 50.8	N 8 18.5
A	10	105 42.5	329 27.8	N17 53.4	273 02.5	S 5 22.0	310 51.7	N11 24.8	78 53.3	N 8 18.5
Y	11	120 44.9	344 27.1	N17 52.6	288 03.6	S 5 22.6	325 53.6	N11 24.6	93 55.7	N 8 18.4
	12	135 47.4	359 26.5	N17 51.7	303 04.6	S 5 23.3	340 55.6	N11 24.4	108 58.2	N 8 18.4
	13	150 49.8	14 25.8	N17 50.9	318 05.7	S 5 23.9	355 57.6	N11 24.2	124 00.6	N 8 18.4
	14	165 52.3	29 25.2	N17 50.1	333 06.7	S 5 24.5	10 59.5	N11 24.0	139 03.1	N 8 18.4
	15	180 54.8	44 24.5	N17 49.2	348 07.8	S 5 25.2	26 01.5	N11 23.8	154 05.5	N 8 18.4
	16	195 57.2	59 23.8	N17 48.4	3 08.9	S 5 25.8	41 03.4	N11 23.7	169 08.0	N 8 18.4
	17	210 59.7	74 23.2	N17 47.5	18 09.9	S 5 26.4	56 05.4	N11 23.5	184 10.5	N 8 18.4
	18	226 02.2	89 22.5	N17 46.7	33 11.0	S 5 27.0	71 07.4	N11 23.3	199 12.9	N 8 18.4
	19	241 04.6	104 21.9	N17 45.9	48 12.0	S 5 27.7	86 09.3	N11 23.1	214 15.4	N 8 18.4
	20	256 07.1	119 21.2	N17 45.0	63 13.1	S 5 28.3	101 11.3	N11 22.9	229 17.8	N 8 18.4
	21	271 09.6	134 20.6	N17 44.2	78 14.1	S 5 28.9	116 13.2	N11 22.7	244 20.3	N 8 18.4
	22	286 12.0	149 19.9	N17 43.3	93 15.2	S 5 29.5	131 15.2	N11 22.5	259 22.7	N 8 18.4
	23	301 14.5	164 19.3	N17 42.5	108 16.3	S 5 30.2	146 17.2	N11 22.3	274 25.2	N 8 18.4
			v -0.7	d 0.8	v 1.1	d 0.6	v 2.0	d 0.2	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 '
5	0	178 28.5	N17 05.0	145 04.4	10.8	N 1 34.1	16.7	60.2
	1	193 28.6	N17 04.4	159 34.2	10.9	N 1 17.4	16.7	60.2
	2	208 28.6	N17 03.7	174 04.2	10.9	N 1 00.7	16.7	60.1
	3	223 28.7	N17 03.0	188 34.1	11.0	N 0 44.0	16.7	60.1
	4	238 28.7	N17 02.4	203 04.1	11.0	N 0 27.3	16.7	60.1
T	5	253 28.8	N17 01.7	217 34.2	11.1	N 0 10.6	16.7	60.0
H								
U	6	268 28.9	N17 01.0	232 04.3	11.1	S 0 06.1	16.7	60.0
R	7	283 28.9	N17 00.3	246 34.4	11.1	S 0 22.7	16.6	60.0
S	8	298 29.0	N16 59.7	261 04.6	11.2	S 0 39.3	16.6	59.9
D	9	313 29.0	N16 59.0	275 34.8	11.2	S 0 55.9	16.6	59.9
A	10	328 29.1	N16 58.3	290 05.0	11.2	S 1 12.4	16.6	59.9
Y	11	343 29.2	N16 57.6	304 35.3	11.3	S 1 29.0	16.5	59.8
	12	358 29.2	N16 57.0	319 05.6	11.3	S 1 45.5	16.5	59.8
	13	13 29.3	N16 56.3	333 35.9	11.3	S 2 02.0	16.5	59.8
	14	28 29.4	N16 55.6	348 06.3	11.4	S 2 18.4	16.4	59.7
	15	43 29.4	N16 54.9	2 36.7	11.4	S 2 34.8	16.4	59.7
	16	58 29.5	N16 54.2	17 07.1	11.4	S 2 51.2	16.4	59.7
	17	73 29.5	N16 53.6	31 37.5	11.4	S 3 07.5	16.3	59.6
	18	88 29.6	N16 52.9	46 08.0	11.5	S 3 23.8	16.3	59.6
	19	103 29.7	N16 52.2	60 38.5	11.5	S 3 40.1	16.3	59.6
	20	118 29.7	N16 51.5	75 09.0	11.5	S 3 56.3	16.2	59.5
	21	133 29.8	N16 50.8	89 39.5	11.5	S 4 12.5	16.2	59.5
	22	148 29.9	N16 50.2	104 10.1	11.6	S 4 28.7	16.1	59.4
	23	163 29.9	N16 49.5	118 40.6	11.6	S 4 44.8	16.1	59.4
6	0	178 30.0	N16 48.8	133 11.2	11.6	S 5 00.8	16.1	59.4
	1	193 30.1	N16 48.1	147 41.8	11.6	S 5 16.8	16.0	59.3
	2	208 30.1	N16 47.4	162 12.5	11.6	S 5 32.8	16.0	59.3
	3	223 30.2	N16 46.7	176 43.1	11.6	S 5 48.7	15.9	59.3
	4	238 30.3	N16 46.1	191 13.7	11.6	S 6 04.5	15.9	59.2
F	5	253 30.3	N16 45.4	205 44.4	11.7	S 6 20.3	15.8	59.2
R								
I	6	268 30.4	N16 44.7	220 15.1	11.7	S 6 36.1	15.7	59.1
D	7	283 30.5	N16 44.0	234 45.7	11.7	S 6 51.8	15.7	59.1
A	8	298 30.5	N16 43.3	249 16.4	11.7	S 7 07.4	15.6	59.1
Y	9	313 30.6	N16 42.6	263 47.1	11.7	S 7 23.0	15.6	59.0
	10	328 30.7	N16 41.9	278 17.8	11.7	S 7 38.5	15.5	59.0
	11	343 30.7	N16 41.2	292 48.5	11.7	S 7 53.9	15.5	58.9
	12	358 30.8	N16 40.6	307 19.3	11.7	S 8 09.3	15.4	58.9
	13	13 30.9	N16 39.9	321 50.0	11.7	S 8 24.7	15.3	58.9
	14	28 31.0	N16 39.2	336 20.7	11.7	S 8 40.0	15.3	58.8
	15	43 31.0	N16 38.5	350 51.4	11.7	S 8 55.2	15.2	58.8
	16	58 31.1	N16 37.8	5 22.1	11.7	S 9 10.3	15.1	58.7
	17	73 31.2	N16 37.1	19 52.9	11.7	S 9 25.4	15.1	58.7
	18	88 31.2	N16 36.4	34 23.6	11.7	S 9 40.4	15.0	58.7
	19	103 31.3	N16 35.7	48 54.3	11.7	S 9 55.3	14.9	58.6
	20	118 31.4	N16 35.0	63 25.0	11.7	S10 10.2	14.9	58.6
	21	133 31.4	N16 34.3	77 55.7	11.7	S10 25.0	14.8	58.6
	22	148 31.5	N16 33.6	92 26.4	11.7	S10 39.7	14.7	58.5
	23	163 31.6	N16 33.0	106 57.1	11.7	S10 54.3	14.6	58.5
7	0	178 31.7	N16 32.3	121 27.8	11.7	S11 08.9	14.6	58.4
	1	193 31.7	N16 31.6	135 58.5	11.7	S11 23.4	14.5	58.4
	2	208 31.8	N16 30.9	150 29.2	11.7	S11 37.8	14.4	58.4
	3	223 31.9	N16 30.2	164 59.8	11.7	S11 52.2	14.3	58.3
	4	238 32.0	N16 29.5	179 30.5	11.7	S12 06.4	14.3	58.3
S	5	253 32.0	N16 28.8	194 01.1	11.6	S12 20.6	14.2	58.2
A								
T	6	268 32.1	N16 28.1	208 31.7	11.6	S12 34.7	14.1	58.2
U	7	283 32.2	N16 27.4	223 02.4	11.6	S12 48.7	14.0	58.2
R	8	298 32.3	N16 26.7	237 33.0	11.6	S13 02.6	13.9	58.1
D	9	313 32.3	N16 26.0	252 03.5	11.6	S13 16.5	13.8	58.1
A	10	328 32.4	N16 25.3	266 34.1	11.6	S13 30.2	13.8	58.0
Y	11	343 32.5	N16 24.6	281 04.7	11.6	S13 43.9	13.7	58.0
	12	358 32.6	N16 23.9	295 35.2	11.5	S13 57.5	13.6	58.0
	13	13 32.6	N16 23.2	310 05.7	11.5	S14 11.0	13.5	57.9
	14	28 32.7	N16 22.5	324 36.2	11.5	S14 24.4	13.4	57.9
	15	43 32.8	N16 21.8	339 06.7	11.5	S14 37.7	13.3	57.8
	16	58 32.9	N16 21.1	353 37.2	11.5	S14 51.0	13.2	57.8
	17	73 32.9	N16 20.4	8 07.6	11.4	S15 04.1	13.1	57.8
	18	88 33.0	N16 19.7	22 38.0	11.4	S15 17.1	13.0	57.7
	19	103 33.1	N16 19.0	37 08.4	11.4	S15 30.1	12.9	57.7
	20	118 33.2	N16 18.3	51 38.8	11.4	S15 42.9	12.9	57.7
	21	133 33.2	N16 17.6	66 09.1	11.4	S15 55.7	12.8	57.6
	22	148 33.3	N16 16.9	80 39.5	11.3	S16 08.4	12.7	57.6
	23	163 33.4	N16 16.2	95 09.8	11.3	S16 20.9	12.6	57.5
		S.D. 15.8	d 0.7	S.D.	16.3	16.0	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.2	S40 11.3
Achernar	335 18.4	S57 05.4
Acrux	172 58.1	S63 15.4
Adhara	255 04.5	S29 00.4
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.3	N16 33.9
Alioth	166 11.3	N55 48.8
Alkaid	152 50.5	N49 10.7
Al Na-ir	27 29.7	S46 49.4
Alnilam	275 35.7	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.9	N26 37.5
Alpheratz	357 32.3	N29 14.7
Altair	61 57.5	N 8 56.6
Ankaa	353 04.8	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.1	S69 04.9
Avior	234 14.5	S59 35.8
Bellatrix	278 20.8	N 6 22.6
Betelgeuse	270 50.0	N 7 24.8
Canopus	263 51.9	S52 42.4
Capella	280 19.0	N46 01.4
Castor	245 54.7	N31 49.7
Deneb	49 23.9	N45 22.8
Denebola	182 23.0	N14 25.1
Diphda	348 45.0	S17 49.8
Dubhe	193 39.0	N61 36.2
Elnath	277 59.4	N28 37.8
Eltanin	90 40.8	N51 29.3
Enif	33 36.3	N10 00.2
Fomalhaut	15 11.8	S29 28.3
Gacrux	171 49.6	S57 16.3
Gienah	175 41.6	S17 41.8
Hadar	148 33.1	S60 30.7
Hamal	327 48.7	N23 35.7
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 20.0	N74 02.8
Markab	13 27.5	N15 21.3
Menkar	314 03.9	N 4 12.0
Menkent	147 55.2	S36 30.6
Miaplacidus	221 38.6	S69 49.9
Mirfak	308 25.3	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 38.7	N89 21.9
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.3
Rasalhague	95 56.4	N12 32.5
Regulus	207 32.5	N11 50.0
Rigel	281 02.0	S 8 10.0
Rigil Kent	139 37.5	S60 57.3
Sabik	102 00.1	S15 45.6
Schedar	349 28.3	N56 41.2
Shaula	96 07.2	S37 07.5
Sirius	258 24.7	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.2	S43 32.6
Vega	80 31.4	N38 48.7
Zuben-ubi	136 54.6	S16 09.5

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	316 16.9	179 18.6	N17 41.7	123 17.3	S 5 30.8	161 19.1	N11 22.1	289 27.6	N 8 18.3
	1	331 19.4	194 18.0	N17 40.8	138 18.4	S 5 31.4	176 21.1	N11 21.9	304 30.1	N 8 18.3
	2	346 21.9	209 17.3	N17 40.0	153 19.4	S 5 32.1	191 23.0	N11 21.7	319 32.5	N 8 18.3
	3	1 24.3	224 16.7	N17 39.1	168 20.5	S 5 32.7	206 25.0	N11 21.6	334 35.0	N 8 18.3
	4	16 26.8	239 16.0	N17 38.3	183 21.5	S 5 33.3	221 27.0	N11 21.4	349 37.4	N 8 18.3
S	5	31 29.3	254 15.4	N17 37.4	198 22.6	S 5 33.9	236 28.9	N11 21.2	4 39.9	N 8 18.3
U										
N	6	46 31.7	269 14.7	N17 36.6	213 23.6	S 5 34.6	251 30.9	N11 21.0	19 42.3	N 8 18.3
D	7	61 34.2	284 14.1	N17 35.7	228 24.7	S 5 35.2	266 32.8	N11 20.8	34 44.8	N 8 18.3
A	8	76 36.7	299 13.4	N17 34.9	243 25.7	S 5 35.8	281 34.8	N11 20.6	49 47.2	N 8 18.3
Y	9	91 39.1	314 12.8	N17 34.0	258 26.8	S 5 36.4	296 36.8	N11 20.4	64 49.7	N 8 18.3
	10	106 41.6	329 12.1	N17 33.2	273 27.8	S 5 37.1	311 38.7	N11 20.2	79 52.2	N 8 18.3
	11	121 44.1	344 11.5	N17 32.3	288 28.9	S 5 37.7	326 40.7	N11 20.0	94 54.6	N 8 18.3
	12	136 46.5	359 10.8	N17 31.5	303 30.0	S 5 38.3	341 42.6	N11 19.8	109 57.1	N 8 18.2
	13	151 49.0	14 10.2	N17 30.6	318 31.0	S 5 39.0	356 44.6	N11 19.6	124 59.5	N 8 18.2
	14	166 51.4	29 09.5	N17 29.8	333 32.1	S 5 39.6	11 46.6	N11 19.5	140 02.0	N 8 18.2
	15	181 53.9	44 08.9	N17 28.9	348 33.1	S 5 40.2	26 48.5	N11 19.3	155 04.4	N 8 18.2
	16	196 56.4	59 08.2	N17 28.1	3 34.2	S 5 40.8	41 50.5	N11 19.1	170 06.9	N 8 18.2
	17	211 58.8	74 07.6	N17 27.2	18 35.2	S 5 41.5	56 52.4	N11 18.9	185 09.3	N 8 18.2
	18	227 01.3	89 07.0	N17 26.3	33 36.3	S 5 42.1	71 54.4	N11 18.7	200 11.8	N 8 18.2
	19	242 03.8	104 06.3	N17 25.5	48 37.3	S 5 42.7	86 56.3	N11 18.5	215 14.3	N 8 18.2
	20	257 06.2	119 05.7	N17 24.6	63 38.4	S 5 43.4	101 58.3	N11 18.3	230 16.7	N 8 18.2
	21	272 08.7	134 05.0	N17 23.8	78 39.4	S 5 44.0	117 00.3	N11 18.1	245 19.2	N 8 18.2
	22	287 11.2	149 04.4	N17 22.9	93 40.5	S 5 44.6	132 02.2	N11 17.9	260 21.6	N 8 18.2
	23	302 13.6	164 03.7	N17 22.0	108 41.5	S 5 45.2	147 04.2	N11 17.7	275 24.1	N 8 18.1
9	0	317 16.1	179 03.1	N17 21.2	123 42.6	S 5 45.9	162 06.1	N11 17.5	290 26.5	N 8 18.1
	1	332 18.5	194 02.5	N17 20.3	138 43.6	S 5 46.5	177 08.1	N11 17.4	305 29.0	N 8 18.1
	2	347 21.0	209 01.8	N17 19.4	153 44.7	S 5 47.1	192 10.1	N11 17.2	320 31.4	N 8 18.1
	3	2 23.5	224 01.2	N17 18.6	168 45.7	S 5 47.7	207 12.0	N11 17.0	335 33.9	N 8 18.1
	4	17 25.9	239 00.5	N17 17.7	183 46.8	S 5 48.4	222 14.0	N11 16.8	350 36.4	N 8 18.1
M	5	32 28.4	253 59.9	N17 16.8	198 47.8	S 5 49.0	237 15.9	N11 16.6	5 38.8	N 8 18.1
O										
N	6	47 30.9	268 59.3	N17 16.0	213 48.9	S 5 49.6	252 17.9	N11 16.4	20 41.3	N 8 18.1
D	7	62 33.3	283 58.6	N17 15.1	228 49.9	S 5 50.3	267 19.9	N11 16.2	35 43.7	N 8 18.1
A	8	77 35.8	298 58.0	N17 14.2	243 51.0	S 5 50.9	282 21.8	N11 16.0	50 46.2	N 8 18.1
Y	9	92 38.3	313 57.4	N17 13.4	258 52.0	S 5 51.5	297 23.8	N11 15.8	65 48.7	N 8 18.1
	10	107 40.7	328 56.7	N17 12.5	273 53.1	S 5 52.1	312 25.7	N11 15.6	80 51.1	N 8 18.0
	11	122 43.2	343 56.1	N17 11.6	288 54.1	S 5 52.8	327 27.7	N11 15.4	95 53.6	N 8 18.0
	12	137 45.7	358 55.5	N17 10.7	303 55.2	S 5 53.4	342 29.6	N11 15.3	110 56.0	N 8 18.0
	13	152 48.1	13 54.8	N17 09.9	318 56.2	S 5 54.0	357 31.6	N11 15.1	125 58.5	N 8 18.0
	14	167 50.6	28 54.2	N17 09.0	333 57.2	S 5 54.7	12 33.6	N11 14.9	141 00.9	N 8 18.0
	15	182 53.0	43 53.6	N17 08.1	348 58.3	S 5 55.3	27 35.5	N11 14.7	156 03.4	N 8 18.0
	16	197 55.5	58 52.9	N17 07.2	3 59.3	S 5 55.9	42 37.5	N11 14.5	171 05.9	N 8 18.0
	17	212 58.0	73 52.3	N17 06.4	19 00.4	S 5 56.5	57 39.4	N11 14.3	186 08.3	N 8 18.0
	18	228 00.4	88 51.7	N17 05.5	34 01.4	S 5 57.2	72 41.4	N11 14.1	201 10.8	N 8 18.0
	19	243 02.9	103 51.0	N17 04.6	49 02.5	S 5 57.8	87 43.4	N11 13.9	216 13.2	N 8 17.9
	20	258 05.4	118 50.4	N17 03.7	64 03.5	S 5 58.4	102 45.3	N11 13.7	231 15.7	N 8 17.9
	21	273 07.8	133 49.8	N17 02.8	79 04.6	S 5 59.0	117 47.3	N11 13.5	246 18.2	N 8 17.9
	22	288 10.3	148 49.1	N17 02.0	94 05.6	S 5 59.7	132 49.2	N11 13.3	261 20.6	N 8 17.9
	23	303 12.8	163 48.5	N17 01.1	109 06.7	S 6 00.3	147 51.2	N11 13.1	276 23.1	N 8 17.9
10	0	318 15.2	178 47.9	N17 00.2	124 07.7	S 6 00.9	162 53.1	N11 13.0	291 25.6	N 8 17.9
	1	333 17.7	193 47.2	N16 59.3	139 08.7	S 6 01.6	177 55.1	N11 12.8	306 28.0	N 8 17.9
	2	348 20.2	208 46.6	N16 58.4	154 09.8	S 6 02.2	192 57.1	N11 12.6	321 30.5	N 8 17.9
	3	3 22.6	223 46.0	N16 57.5	169 10.8	S 6 02.8	207 59.0	N11 12.4	336 32.9	N 8 17.9
	4	18 25.1	238 45.4	N16 56.6	184 11.9	S 6 03.4	223 01.0	N11 12.2	351 35.4	N 8 17.9
T	5	33 27.5	253 44.7	N16 55.8	199 12.9	S 6 04.1	238 02.9	N11 12.0	6 37.9	N 8 17.8
U										
E	6	48 30.0	268 44.1	N16 54.9	214 14.0	S 6 04.7	253 04.9	N11 11.8	21 40.3	N 8 17.8
S	7	63 32.5	283 43.5	N16 54.0	229 15.0	S 6 05.3	268 06.9	N11 11.6	36 42.8	N 8 17.8
D	8	78 34.9	298 42.9	N16 53.1	244 16.1	S 6 05.9	283 08.8	N11 11.4	51 45.2	N 8 17.8
A	9	93 37.4	313 42.2	N16 52.2	259 17.1	S 6 06.6	298 10.8	N11 11.2	66 47.7	N 8 17.8
Y	10	108 39.9	328 41.6	N16 51.3	274 18.1	S 6 07.2	313 12.7	N11 11.0	81 50.2	N 8 17.8
	11	123 42.3	343 41.0	N16 50.4	289 19.2	S 6 07.8	328 14.7	N11 10.8	96 52.6	N 8 17.8
	12	138 44.8	358 40.4	N16 49.5	304 20.2	S 6 08.5	343 16.6	N11 10.6	111 55.1	N 8 17.8
	13	153 47.3	13 39.7	N16 48.6	319 21.3	S 6 09.1	358 18.6	N11 10.5	126 57.6	N 8 17.7
	14	168 49.7	28 39.1	N16 47.7	334 22.3	S 6 09.7	13 20.6	N11 10.3	142 00.0	N 8 17.7
	15	183 52.2	43 38.5	N16 46.8	349 23.4	S 6 10.3	28 22.5	N11 10.1	157 02.5	N 8 17.7
	16	198 54.7	58 37.9	N16 45.9	4 24.4	S 6 11.0	43 24.5	N11 09.9	172 05.0	N 8 17.7
	17	213 57.1	73 37.3	N16 45.0	19 25.4	S 6 11.6	58 26.4	N11 09.7	187 07.4	N 8 17.7
	18	228 59.6	88 36.6	N16 44.1	34 26.5	S 6 12.2	73 28.4	N11 09.5	202 09.9	N 8 17.7
	19	244 02.0	103 36.0	N16 43.2	49 27.5	S 6 12.9	88 30.3	N11 09.3	217 12.3	N 8 17.7
	20	259 04.5	118 35.4	N16 42.3	64 28.6	S 6 13.5	103 32.3	N11 09.1	232 14.8	N 8 17.7
	21	274 07.0	133 34.8	N16 41.4	79 29.6	S 6 14.1	118 34.3	N11 08.9	247 17.3	N 8 17.7
	22	289 09.4	148 34.2	N16 40.5	94 30.6	S 6 14.7	133 36.2	N11 08.7	262 19.7	N 8 17.6
	23	304 11.9	163 33.5	N16 39.6	109 31.7	S 6 15.4	148 38.2	N11 08.5	277 22.2	N 8 17.6
			v -0.6	d 0.9	v 1.0	d 0.6	v 2.0	d 0.2	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 33.5	N16 15.5	109 40.1	11.3	S16 33.4	12.5	57.5
	1	193 33.6	N16 14.8	124 10.3	11.3	S16 45.8	12.4	57.5
	2	208 33.6	N16 14.1	138 40.5	11.2	S16 58.0	12.3	57.4
	3	223 33.7	N16 13.3	153 10.7	11.2	S17 10.2	12.2	57.4
	4	238 33.8	N16 12.6	167 40.9	11.2	S17 22.3	12.1	57.3
S	5	253 33.9	N16 11.9	182 11.1	11.1	S17 34.2	12.0	57.3
U								
N	6	268 34.0	N16 11.2	196 41.2	11.1	S17 46.1	11.9	57.3
D	7	283 34.0	N16 10.5	211 11.3	11.1	S17 57.8	11.8	57.2
A	8	298 34.1	N16 09.8	225 41.3	11.1	S18 09.5	11.6	57.2
Y	9	313 34.2	N16 09.1	240 11.4	11.0	S18 21.0	11.5	57.2
	10	328 34.3	N16 08.4	254 41.4	11.0	S18 32.4	11.4	57.1
	11	343 34.4	N16 07.7	269 11.3	11.0	S18 43.8	11.3	57.1
	12	358 34.4	N16 07.0	283 41.3	10.9	S18 55.0	11.2	57.0
	13	13 34.5	N16 06.3	298 11.2	10.9	S19 06.1	11.1	57.0
	14	28 34.6	N16 05.5	312 41.1	10.9	S19 17.1	11.0	57.0
	15	43 34.7	N16 04.8	327 10.9	10.9	S19 28.0	10.9	56.9
	16	58 34.8	N16 04.1	341 40.8	10.8	S19 38.8	10.8	56.9
	17	73 34.9	N16 03.4	356 10.6	10.8	S19 49.5	10.7	56.9
	18	88 34.9	N16 02.7	10 40.3	10.8	S20 00.0	10.6	56.8
	19	103 35.0	N16 02.0	25 10.1	10.7	S20 10.4	10.4	56.8
	20	118 35.1	N16 01.3	39 39.8	10.7	S20 20.8	10.3	56.8
	21	133 35.2	N16 00.6	54 09.4	10.7	S20 31.0	10.2	56.7
	22	148 35.3	N15 59.8	68 39.1	10.6	S20 41.1	10.1	56.7
	23	163 35.4	N15 59.1	83 08.7	10.6	S20 51.1	10.0	56.7
9	0	178 35.4	N15 58.4	97 38.2	10.6	S21 00.9	9.9	56.6
	1	193 35.5	N15 57.7	112 07.8	10.5	S21 10.7	9.7	56.6
	2	208 35.6	N15 57.0	126 37.3	10.5	S21 20.3	9.6	56.6
	3	223 35.7	N15 56.3	141 06.8	10.5	S21 29.8	9.5	56.5
	4	238 35.8	N15 55.5	155 36.2	10.4	S21 39.2	9.4	56.5
M	5	253 35.9	N15 54.8	170 05.6	10.4	S21 48.5	9.3	56.5
O								
N	6	268 36.0	N15 54.1	184 35.0	10.4	S21 57.6	9.2	56.4
D	7	283 36.0	N15 53.4	199 04.4	10.4	S22 06.7	9.0	56.4
A	8	298 36.1	N15 52.7	213 33.7	10.3	S22 15.6	8.9	56.4
Y	9	313 36.2	N15 52.0	228 03.0	10.3	S22 24.4	8.8	56.3
	10	328 36.3	N15 51.2	242 32.2	10.3	S22 33.0	8.7	56.3
	11	343 36.4	N15 50.5	257 01.4	10.2	S22 41.6	8.5	56.3
	12	358 36.5	N15 49.8	271 30.6	10.2	S22 50.0	8.4	56.2
	13	13 36.6	N15 49.1	285 59.8	10.2	S22 58.3	8.3	56.2
	14	28 36.7	N15 48.3	300 28.9	10.1	S23 06.4	8.2	56.2
	15	43 36.8	N15 47.6	314 58.0	10.1	S23 14.5	8.0	56.1
	16	58 36.8	N15 46.9	329 27.1	10.1	S23 22.4	7.9	56.1
	17	73 36.9	N15 46.2	343 56.2	10.0	S23 30.2	7.8	56.1
	18	88 37.0	N15 45.5	358 25.2	10.0	S23 37.8	7.7	56.0
	19	103 37.1	N15 44.7	12 54.2	10.0	S23 45.4	7.5	56.0
	20	118 37.2	N15 44.0	27 23.1	10.0	S23 52.8	7.4	56.0
	21	133 37.3	N15 43.3	41 52.1	9.9	S24 00.0	7.3	55.9
	22	148 37.4	N15 42.6	56 21.0	9.9	S24 07.2	7.1	55.9
	23	163 37.5	N15 41.8	70 49.8	9.9	S24 14.2	7.0	55.9
10	0	178 37.6	N15 41.1	85 18.7	9.9	S24 21.1	6.9	55.9
	1	193 37.7	N15 40.4	99 47.5	9.8	S24 27.8	6.8	55.8
	2	208 37.7	N15 39.6	114 16.3	9.8	S24 34.5	6.6	55.8
	3	223 37.8	N15 38.9	128 45.1	9.8	S24 40.9	6.5	55.8
	4	238 37.9	N15 38.2	143 13.9	9.8	S24 47.3	6.4	55.7
T	5	253 38.0	N15 37.5	157 42.6	9.7	S24 53.5	6.2	55.7
U								
E	6	268 38.1	N15 36.7	172 11.3	9.7	S24 59.6	6.1	55.7
S	7	283 38.2	N15 36.0	186 40.0	9.7	S25 05.6	6.0	55.7
D	8	298 38.3	N15 35.3	201 08.6	9.7	S25 11.4	5.8	55.6
A	9	313 38.4	N15 34.5	215 37.3	9.6	S25 17.1	5.7	55.6
Y	10	328 38.5	N15 33.8	230 05.9	9.6	S25 22.7	5.6	55.6
	11	343 38.6	N15 33.1	244 34.5	9.6	S25 28.1	5.4	55.5
	12	358 38.7	N15 32.4	259 03.1	9.6	S25 33.4	5.3	55.5
	13	13 38.8	N15 31.6	273 31.6	9.6	S25 38.6	5.2	55.5
	14	28 38.9	N15 30.9	288 00.2	9.5	S25 43.6	5.0	55.5
	15	43 39.0	N15 30.2	302 28.7	9.5	S25 48.5	4.9	55.4
	16	58 39.1	N15 29.4	316 57.2	9.5	S25 53.2	4.8	55.4
	17	73 39.2	N15 28.7	331 25.7	9.5	S25 57.8	4.6	55.4
	18	88 39.2	N15 28.0	345 54.2	9.5	S26 02.3	4.5	55.4
	19	103 39.3	N15 27.2	0 22.7	9.5	S26 06.7	4.3	55.3
	20	118 39.4	N15 26.5	14 51.1	9.5	S26 10.9	4.2	55.3
	21	133 39.5	N15 25.8	29 19.6	9.4	S26 14.9	4.1	55.3
	22	148 39.6	N15 25.0	43 48.0	9.4	S26 18.9	3.9	55.3
	23	163 39.7	N15 24.3	58 16.4	9.4	S26 22.7	3.8	55.2
		S.D. 15.8	d 0.7	S.D.	15.5	15.3	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.1	S40 11.3
Achernar	335 18.4	S57 05.4
Acrux	172 58.1	S63 15.4
Adhara	255 04.5	S29 00.4
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.3	N16 33.9
Alioth	166 11.4	N55 48.8
Alkaid	152 50.5	N49 10.7
Al Na-ir	27 29.7	S46 49.4
Alnilam	275 35.7	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.9	N26 37.5
Alpheratz	357 32.3	N29 14.7
Altair	61 57.5	N 8 56.6
Ankaa	353 04.8	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.2	S69 04.9
Avior	234 14.5	S59 35.8
Bellatrix	278 20.8	N 6 22.6
Betelgeuse	270 50.0	N 7 24.8
Canopus	263 51.8	S52 42.4
Capella	280 19.0	N46 01.4
Castor	245 54.7	N31 49.7
Deneb	49 23.9	N45 22.9
Denebola	182 23.0	N14 25.1
Diphda	348 45.0	S17 49.8
Dubhe	193 39.0	N61 36.2
Elnath	277 59.4	N28 37.8
Eltanin	90 40.8	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.8	S29 28.3
Gacrux	171 49.6	S57 16.3
Gienah	175 41.6	S17 41.8
Hadar	148 33.2	S60 30.7
Hamal	327 48.7	N23 35.7
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 20.1	N74 02.8
Markab	13 27.5	N15 21.3
Menkar	314 03.9	N 4 12.0
Menkent	147 55.2	S36 30.6
Miaplacidus	221 38.6	S69 49.9
Mirfak	308 25.3	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 37.4	N89 22.0
Pollux	243 15.0	N27 57.6
Procyon	244 48.9	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.5	N11 50.0
Rigel	281 02.0	S 8 10.0
Rigil Kent	139 37.5	S60 57.3
Sabik	102 00.2	S15 45.6
Schedar	349 28.2	N56 41.2
Shaula	96 07.2	S37 07.5
Sirius	258 24.6	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.2	S43 32.6
Vega	80 31.4	N38 48.7
Zuben-ubi	136 54.6	S16 09.5

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
11	0	319 14.4	178 32.9	N16 38.7	124 32.7	S 6 16.0	163 40.1	N11 08.3	292 24.7	N 8 17.6
	1	334 16.8	193 32.3	N16 37.8	139 33.8	S 6 16.6	178 42.1	N11 08.1	307 27.1	N 8 17.6
	2	349 19.3	208 31.7	N16 36.9	154 34.8	S 6 17.2	193 44.1	N11 08.0	322 29.6	N 8 17.6
	3	4 21.8	223 31.1	N16 36.0	169 35.8	S 6 17.9	208 46.0	N11 07.8	337 32.1	N 8 17.6
	4	19 24.2	238 30.4	N16 35.1	184 36.9	S 6 18.5	223 48.0	N11 07.6	352 34.5	N 8 17.6
W	5	34 26.7	253 29.8	N16 34.2	199 37.9	S 6 19.1	238 49.9	N11 07.4	7 37.0	N 8 17.6
E										
D	6	49 29.1	268 29.2	N16 33.3	214 39.0	S 6 19.8	253 51.9	N11 07.2	22 39.5	N 8 17.5
N	7	64 31.6	283 28.6	N16 32.4	229 40.0	S 6 20.4	268 53.8	N11 07.0	37 41.9	N 8 17.5
E	8	79 34.1	298 28.0	N16 31.5	244 41.0	S 6 21.0	283 55.8	N11 06.8	52 44.4	N 8 17.5
S	9	94 36.5	313 27.4	N16 30.6	259 42.1	S 6 21.6	298 57.8	N11 06.6	67 46.9	N 8 17.5
D	10	109 39.0	328 26.8	N16 29.7	274 43.1	S 6 22.3	313 59.7	N11 06.4	82 49.3	N 8 17.5
A	11	124 41.5	343 26.2	N16 28.8	289 44.1	S 6 22.9	329 01.7	N11 06.2	97 51.8	N 8 17.5
Y										
	12	139 43.9	358 25.5	N16 27.8	304 45.2	S 6 23.5	344 03.6	N11 06.0	112 54.3	N 8 17.5
	13	154 46.4	13 24.9	N16 26.9	319 46.2	S 6 24.1	359 05.6	N11 05.8	127 56.7	N 8 17.4
	14	169 48.9	28 24.3	N16 26.0	334 47.2	S 6 24.8	14 07.5	N11 05.6	142 59.2	N 8 17.4
	15	184 51.3	43 23.7	N16 25.1	349 48.3	S 6 25.4	29 09.5	N11 05.5	158 01.7	N 8 17.4
	16	199 53.8	58 23.1	N16 24.2	4 49.3	S 6 26.0	44 11.5	N11 05.3	173 04.1	N 8 17.4
	17	214 56.3	73 22.5	N16 23.3	19 50.4	S 6 26.7	59 13.4	N11 05.1	188 06.6	N 8 17.4
	18	229 58.7	88 21.9	N16 22.3	34 51.4	S 6 27.3	74 15.4	N11 04.9	203 09.1	N 8 17.4
	19	245 01.2	103 21.3	N16 21.4	49 52.4	S 6 27.9	89 17.3	N11 04.7	218 11.5	N 8 17.4
	20	260 03.6	118 20.7	N16 20.5	64 53.5	S 6 28.5	104 19.3	N11 04.5	233 14.0	N 8 17.4
	21	275 06.1	133 20.1	N16 19.6	79 54.5	S 6 29.2	119 21.2	N11 04.3	248 16.5	N 8 17.3
	22	290 08.6	148 19.4	N16 18.7	94 55.5	S 6 29.8	134 23.2	N11 04.1	263 18.9	N 8 17.3
	23	305 11.0	163 18.8	N16 17.7	109 56.6	S 6 30.4	149 25.1	N11 03.9	278 21.4	N 8 17.3
12	0	320 13.5	178 18.2	N16 16.8	124 57.6	S 6 31.0	164 27.1	N11 03.7	293 23.9	N 8 17.3
	1	335 16.0	193 17.6	N16 15.9	139 58.6	S 6 31.7	179 29.1	N11 03.5	308 26.4	N 8 17.3
	2	350 18.4	208 17.0	N16 15.0	154 59.7	S 6 32.3	194 31.0	N11 03.3	323 28.8	N 8 17.3
	3	5 20.9	223 16.4	N16 14.1	170 00.7	S 6 32.9	209 33.0	N11 03.1	338 31.3	N 8 17.3
	4	20 23.4	238 15.8	N16 13.1	185 01.7	S 6 33.6	224 34.9	N11 02.9	353 33.8	N 8 17.2
T	5	35 25.8	253 15.2	N16 12.2	200 02.8	S 6 34.2	239 36.9	N11 02.8	8 36.2	N 8 17.2
H										
U	6	50 28.3	268 14.6	N16 11.3	215 03.8	S 6 34.8	254 38.8	N11 02.6	23 38.7	N 8 17.2
R	7	65 30.8	283 14.0	N16 10.4	230 04.8	S 6 35.4	269 40.8	N11 02.4	38 41.2	N 8 17.2
S	8	80 33.2	298 13.4	N16 09.4	245 05.9	S 6 36.1	284 42.8	N11 02.2	53 43.6	N 8 17.2
D	9	95 35.7	313 12.8	N16 08.5	260 06.9	S 6 36.7	299 44.7	N11 02.0	68 46.1	N 8 17.2
A	10	110 38.1	328 12.2	N16 07.6	275 07.9	S 6 37.3	314 46.7	N11 01.8	83 48.6	N 8 17.2
Y	11	125 40.6	343 11.6	N16 06.6	290 09.0	S 6 37.9	329 48.6	N11 01.6	98 51.1	N 8 17.1
	12	140 43.1	358 11.0	N16 05.7	305 10.0	S 6 38.6	344 50.6	N11 01.4	113 53.5	N 8 17.1
	13	155 45.5	13 10.4	N16 04.8	320 11.0	S 6 39.2	359 52.5	N11 01.2	128 56.0	N 8 17.1
	14	170 48.0	28 09.8	N16 03.8	335 12.1	S 6 39.8	14 54.5	N11 01.0	143 58.5	N 8 17.1
	15	185 50.5	43 09.2	N16 02.9	350 13.1	S 6 40.5	29 56.5	N11 00.8	159 00.9	N 8 17.1
	16	200 52.9	58 08.6	N16 02.0	5 14.1	S 6 41.1	44 58.4	N11 00.6	174 03.4	N 8 17.1
	17	215 55.4	73 08.0	N16 01.0	20 15.2	S 6 41.7	60 00.4	N11 00.4	189 05.9	N 8 17.1
	18	230 57.9	88 07.4	N16 00.1	35 16.2	S 6 42.3	75 02.3	N11 00.2	204 08.4	N 8 17.0
	19	246 00.3	103 06.8	N15 59.2	50 17.2	S 6 43.0	90 04.3	N11 00.0	219 10.8	N 8 17.0
	20	261 02.8	118 06.2	N15 58.2	65 18.2	S 6 43.6	105 06.2	N10 59.9	234 13.3	N 8 17.0
	21	276 05.3	133 05.6	N15 57.3	80 19.3	S 6 44.2	120 08.2	N10 59.7	249 15.8	N 8 17.0
	22	291 07.7	148 05.0	N15 56.3	95 20.3	S 6 44.8	135 10.1	N10 59.5	264 18.2	N 8 17.0
	23	306 10.2	163 04.4	N15 55.4	110 21.3	S 6 45.5	150 12.1	N10 59.3	279 20.7	N 8 17.0
13	0	321 12.6	178 03.8	N15 54.5	125 22.4	S 6 46.1	165 14.1	N10 59.1	294 23.2	N 8 16.9
	1	336 15.1	193 03.2	N15 53.5	140 23.4	S 6 46.7	180 16.0	N10 58.9	309 25.7	N 8 16.9
	2	351 17.6	208 02.6	N15 52.6	155 24.4	S 6 47.3	195 18.0	N10 58.7	324 28.1	N 8 16.9
	3	6 20.0	223 02.0	N15 51.6	170 25.5	S 6 48.0	210 19.9	N10 58.5	339 30.6	N 8 16.9
	4	21 22.5	238 01.4	N15 50.7	185 26.5	S 6 48.6	225 21.9	N10 58.3	354 33.1	N 8 16.9
F	5	36 25.0	253 00.9	N15 49.8	200 27.5	S 6 49.2	240 23.8	N10 58.1	9 35.6	N 8 16.9
R										
I	6	51 27.4	268 00.3	N15 48.8	215 28.5	S 6 49.9	255 25.8	N10 57.9	24 38.0	N 8 16.9
D	7	66 29.9	282 59.7	N15 47.9	230 29.6	S 6 50.5	270 27.8	N10 57.7	39 40.5	N 8 16.8
A	8	81 32.4	297 59.1	N15 46.9	245 30.6	S 6 51.1	285 29.7	N10 57.5	54 43.0	N 8 16.8
Y	9	96 34.8	312 58.5	N15 46.0	260 31.6	S 6 51.7	300 31.7	N10 57.3	69 45.5	N 8 16.8
	10	111 37.3	327 57.9	N15 45.0	275 32.6	S 6 52.4	315 33.6	N10 57.1	84 47.9	N 8 16.8
	11	126 39.7	342 57.3	N15 44.1	290 33.7	S 6 53.0	330 35.6	N10 56.9	99 50.4	N 8 16.8
	12	141 42.2	357 56.7	N15 43.1	305 34.7	S 6 53.6	345 37.5	N10 56.8	114 52.9	N 8 16.8
	13	156 44.7	12 56.1	N15 42.2	320 35.7	S 6 54.2	0 39.5	N10 56.6	129 55.4	N 8 16.7
	14	171 47.1	27 55.5	N15 41.2	335 36.8	S 6 54.9	15 41.4	N10 56.4	144 57.8	N 8 16.7
	15	186 49.6	42 54.9	N15 40.3	350 37.8	S 6 55.5	30 43.4	N10 56.2	160 00.3	N 8 16.7
	16	201 52.1	57 54.4	N15 39.3	5 38.8	S 6 56.1	45 45.4	N10 56.0	175 02.8	N 8 16.7
	17	216 54.5	72 53.8	N15 38.4	20 39.8	S 6 56.7	60 47.3	N10 55.8	190 05.3	N 8 16.7
	18	231 57.0	87 53.2	N15 37.4	35 40.9	S 6 57.4	75 49.3	N10 55.6	205 07.7	N 8 16.7
	19	246 59.5	102 52.6	N15 36.5	50 41.9	S 6 58.0	90 51.2	N10 55.4	220 10.2	N 8 16.6
	20	262 01.9	117 52.0	N15 35.5	65 42.9	S 6 58.6	105 53.2	N10 55.2	235 12.7	N 8 16.6
	21	277 04.4	132 51.4	N15 34.5	80 43.9	S 6 59.3	120 55.1	N10 55.0	250 15.2	N 8 16.6
	22	292 06.9	147 50.8	N15 33.6	95 45.0	S 6 59.9	135 57.1	N10 54.8	265 17.6	N 8 16.6
	23	307 09.3	162 50.3	N15 32.6	110 46.0	S 7 00.5	150 59.0	N10 54.6	280 20.1	N 8 16.6
			v -0.6	d 0.9	v 1.0	d 0.6	v 2.0	d 0.2	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 39.8	N15 23.5	72 44.9	9.4	S26 26.3	3.7	55.2
	1	193 39.9	N15 22.8	87 13.3	9.4	S26 29.8	3.5	55.2
	2	208 40.0	N15 22.1	101 41.7	9.4	S26 33.2	3.4	55.2
	3	223 40.1	N15 21.3	116 10.1	9.4	S26 36.5	3.2	55.1
	4	238 40.2	N15 20.6	130 38.5	9.4	S26 39.6	3.1	55.1
W	5	253 40.3	N15 19.9	145 06.8	9.4	S26 42.6	3.0	55.1
E								
D	6	268 40.4	N15 19.1	159 35.2	9.4	S26 45.4	2.8	55.1
N	7	283 40.5	N15 18.4	174 03.6	9.4	S26 48.1	2.7	55.1
E	8	298 40.6	N15 17.6	188 32.0	9.4	S26 50.6	2.6	55.0
S	9	313 40.7	N15 16.9	203 00.4	9.4	S26 53.1	2.4	55.0
D	10	328 40.8	N15 16.2	217 28.7	9.4	S26 55.3	2.3	55.0
A	11	343 40.9	N15 15.4	231 57.1	9.4	S26 57.5	2.1	55.0
Y								
	12	358 41.0	N15 14.7	246 25.5	9.4	S26 59.5	2.0	55.0
	13	13 41.1	N15 13.9	260 53.9	9.4	S27 01.4	1.9	54.9
	14	28 41.2	N15 13.2	275 22.3	9.4	S27 03.1	1.7	54.9
	15	43 41.3	N15 12.4	289 50.7	9.4	S27 04.7	1.6	54.9
	16	58 41.4	N15 11.7	304 19.1	9.4	S27 06.1	1.5	54.9
	17	73 41.5	N15 11.0	318 47.5	9.4	S27 07.5	1.3	54.9
	18	88 41.6	N15 10.2	333 15.9	9.4	S27 08.6	1.2	54.8
	19	103 41.7	N15 09.5	347 44.4	9.4	S27 09.7	1.0	54.8
	20	118 41.8	N15 08.7	2 12.8	9.4	S27 10.6	0.9	54.8
	21	133 41.9	N15 08.0	16 41.3	9.5	S27 11.3	0.8	54.8
	22	148 42.0	N15 07.2	31 09.7	9.5	S27 12.0	0.6	54.8
	23	163 42.1	N15 06.5	45 38.2	9.5	S27 12.5	0.5	54.7
12	0	178 42.2	N15 05.7	60 06.7	9.5	S27 12.8	0.4	54.7
	1	193 42.3	N15 05.0	74 35.2	9.5	S27 13.0	0.2	54.7
	2	208 42.4	N15 04.3	89 03.8	9.5	S27 13.1	0.1	54.7
	3	223 42.6	N15 03.5	103 32.3	9.6	S27 13.1	0.1	54.7
	4	238 42.7	N15 02.8	118 00.9	9.6	S27 12.9	0.2	54.7
T	5	253 42.8	N15 02.0	132 29.5	9.6	S27 12.6	0.3	54.6
H								
U	6	268 42.9	N15 01.3	146 58.1	9.6	S27 12.1	0.5	54.6
R	7	283 43.0	N15 00.5	161 26.7	9.6	S27 11.5	0.6	54.6
S	8	298 43.1	N14 59.8	175 55.4	9.7	S27 10.8	0.7	54.6
D	9	313 43.2	N14 59.0	190 24.1	9.7	S27 09.9	0.9	54.6
A	10	328 43.3	N14 58.3	204 52.8	9.7	S27 08.9	1.0	54.6
Y	11	343 43.4	N14 57.5	219 21.5	9.7	S27 07.8	1.1	54.5
	12	358 43.5	N14 56.8	233 50.3	9.8	S27 06.5	1.3	54.5
	13	13 43.6	N14 56.0	248 19.1	9.8	S27 05.1	1.4	54.5
	14	28 43.7	N14 55.2	262 47.9	9.8	S27 03.6	1.5	54.5
	15	43 43.8	N14 54.5	277 16.8	9.9	S27 01.9	1.7	54.5
	16	58 43.9	N14 53.7	291 45.7	9.9	S27 00.1	1.8	54.5
	17	73 44.0	N14 53.0	306 14.6	9.9	S26 58.2	1.9	54.5
	18	88 44.1	N14 52.2	320 43.6	10.0	S26 56.2	2.1	54.4
	19	103 44.3	N14 51.5	335 12.6	10.0	S26 54.0	2.2	54.4
	20	118 44.4	N14 50.7	349 41.6	10.0	S26 51.6	2.3	54.4
	21	133 44.5	N14 50.0	4 10.7	10.1	S26 49.2	2.4	54.4
	22	148 44.6	N14 49.2	18 39.8	10.1	S26 46.6	2.6	54.4
	23	163 44.7	N14 48.5	33 08.9	10.1	S26 43.9	2.7	54.4
13	0	178 44.8	N14 47.7	47 38.1	10.2	S26 41.1	2.8	54.4
	1	193 44.9	N14 46.9	62 07.3	10.2	S26 38.1	3.0	54.3
	2	208 45.0	N14 46.2	76 36.6	10.3	S26 35.0	3.1	54.3
	3	223 45.1	N14 45.4	91 05.9	10.3	S26 31.8	3.2	54.3
	4	238 45.2	N14 44.7	105 35.2	10.3	S26 28.4	3.3	54.3
F	5	253 45.3	N14 43.9	120 04.6	10.4	S26 25.0	3.5	54.3
R								
I	6	268 45.5	N14 43.2	134 34.0	10.4	S26 21.4	3.6	54.3
D	7	283 45.6	N14 42.4	149 03.5	10.5	S26 17.7	3.7	54.3
A	8	298 45.7	N14 41.6	163 33.0	10.5	S26 13.8	3.8	54.3
Y	9	313 45.8	N14 40.9	178 02.6	10.6	S26 09.8	4.0	54.3
	10	328 45.9	N14 40.1	192 32.2	10.6	S26 05.7	4.1	54.2
	11	343 46.0	N14 39.4	207 01.9	10.7	S26 01.5	4.2	54.2
	12	358 46.1	N14 38.6	221 31.6	10.7	S25 57.2	4.3	54.2
	13	13 46.2	N14 37.8	236 01.4	10.8	S25 52.7	4.5	54.2
	14	28 46.4	N14 37.1	250 31.2	10.8	S25 48.2	4.6	54.2
	15	43 46.5	N14 36.3	265 01.1	10.9	S25 43.5	4.7	54.2
	16	58 46.6	N14 35.5	279 31.0	10.9	S25 38.6	4.8	54.2
	17	73 46.7	N14 34.8	294 01.0	11.0	S25 33.7	4.9	54.2
	18	88 46.8	N14 34.0	308 31.0	11.0	S25 28.6	5.1	54.2
	19	103 46.9	N14 33.3	323 01.1	11.1	S25 23.5	5.2	54.2
	20	118 47.0	N14 32.5	337 31.2	11.1	S25 18.2	5.3	54.2
	21	133 47.2	N14 31.7	352 01.4	11.2	S25 12.8	5.4	54.2
	22	148 47.3	N14 31.0	6 31.6	11.2	S25 07.2	5.5	54.1
	23	163 47.4	N14 30.2	21 01.9	11.3	S25 01.6	5.6	54.1
		S.D. 15.8	d 0.8	S.D.	15.0	14.9	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.1	S40 11.3
Achernar	335 18.4	S57 05.4
Acrux	172 58.2	S63 15.4
Adhara	255 04.5	S29 00.4
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.3	N16 33.9
Alioth	166 11.4	N55 48.8
Alkaid	152 50.5	N49 10.7
Al Na-ir	27 29.7	S46 49.4
Alnilam	275 35.7	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.9	N26 37.5
Alpheratz	357 32.3	N29 14.7
Altair	61 57.5	N 8 56.6
Ankaa	353 04.7	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.2	S69 04.9
Avior	234 14.4	S59 35.8
Bellatrix	278 20.8	N 6 22.6
Betelgeuse	270 50.0	N 7 24.8
Canopus	263 51.8	S52 42.4
Capella	280 19.0	N46 01.4
Castor	245 54.7	N31 49.7
Deneb	49 23.9	N45 22.9
Denebola	182 23.0	N14 25.1
Diphda	348 45.0	S17 49.8
Dubhe	193 39.0	N61 36.2
Elnath	277 59.4	N28 37.8
Eltanin	90 40.9	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.8	S29 28.3
Gacrux	171 49.6	S57 16.3
Gienah	175 41.6	S17 41.8
Hadar	148 33.2	S60 30.7
Hamal	327 48.7	N23 35.7
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 20.2	N74 02.8
Markab	13 27.5	N15 21.3
Menkar	314 03.9	N 4 12.0
Menkent	147 55.2	S36 30.6
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 25.2	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 36.0	N89 22.0
Pollux	243 15.0	N27 57.5
Procyon	244 48.9	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.5	N11 50.0
Rigel	281 02.0	S 8 10.0
Rigil Kent	139 37.6	S60 57.3
Sabik	102 00.2	S15 45.6
Schedar	349 28.2	N56 41.2
Shaula	96 07.2	S37 07.5
Sirius	258 24.6	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.1	S43 32.6
Vega	80 31.4	N38 48.7
Zuben-ubi	136 54.6	S16 09.5

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 11.8	177 49.7	N15 31.7	125 47.0	S 7 01.1	166 01.0	N10 54.4	295 22.6	N 8 16.6
	1	337 14.2	192 49.1	N15 30.7	140 48.0	S 7 01.8	181 03.0	N10 54.2	310 25.1	N 8 16.5
	2	352 16.7	207 48.5	N15 29.7	155 49.1	S 7 02.4	196 04.9	N10 54.0	325 27.6	N 8 16.5
	3	7 19.2	222 47.9	N15 28.8	170 50.1	S 7 03.0	211 06.9	N10 53.8	340 30.0	N 8 16.5
	4	22 21.6	237 47.3	N15 27.8	185 51.1	S 7 03.6	226 08.8	N10 53.7	355 32.5	N 8 16.5
S	5	37 24.1	252 46.8	N15 26.9	200 52.1	S 7 04.3	241 10.8	N10 53.5	10 35.0	N 8 16.5
A										
T	6	52 26.6	267 46.2	N15 25.9	215 53.1	S 7 04.9	256 12.7	N10 53.3	25 37.5	N 8 16.5
U	7	67 29.0	282 45.6	N15 24.9	230 54.2	S 7 05.5	271 14.7	N10 53.1	40 40.0	N 8 16.4
R	8	82 31.5	297 45.0	N15 24.0	245 55.2	S 7 06.1	286 16.6	N10 52.9	55 42.4	N 8 16.4
D	9	97 34.0	312 44.4	N15 23.0	260 56.2	S 7 06.8	301 18.6	N10 52.7	70 44.9	N 8 16.4
A	10	112 36.4	327 43.9	N15 22.0	275 57.2	S 7 07.4	316 20.6	N10 52.5	85 47.4	N 8 16.4
Y	11	127 38.9	342 43.3	N15 21.1	290 58.3	S 7 08.0	331 22.5	N10 52.3	100 49.9	N 8 16.4
	12	142 41.4	357 42.7	N15 20.1	305 59.3	S 7 08.7	346 24.5	N10 52.1	115 52.3	N 8 16.4
	13	157 43.8	12 42.1	N15 19.1	321 00.3	S 7 09.3	1 26.4	N10 51.9	130 54.8	N 8 16.3
	14	172 46.3	27 41.6	N15 18.2	336 01.3	S 7 09.9	16 28.4	N10 51.7	145 57.3	N 8 16.3
	15	187 48.7	42 41.0	N15 17.2	351 02.3	S 7 10.5	31 30.3	N10 51.5	160 59.8	N 8 16.3
	16	202 51.2	57 40.4	N15 16.2	6 03.4	S 7 11.2	46 32.3	N10 51.3	176 02.3	N 8 16.3
	17	217 53.7	72 39.8	N15 15.3	21 04.4	S 7 11.8	61 34.2	N10 51.1	191 04.7	N 8 16.3
	18	232 56.1	87 39.2	N15 14.3	36 05.4	S 7 12.4	76 36.2	N10 50.9	206 07.2	N 8 16.2
	19	247 58.6	102 38.7	N15 13.3	51 06.4	S 7 13.0	91 38.2	N10 50.7	221 09.7	N 8 16.2
	20	263 01.1	117 38.1	N15 12.3	66 07.4	S 7 13.7	106 40.1	N10 50.5	236 12.2	N 8 16.2
	21	278 03.5	132 37.5	N15 11.4	81 08.5	S 7 14.3	121 42.1	N10 50.3	251 14.7	N 8 16.2
	22	293 06.0	147 36.9	N15 10.4	96 09.5	S 7 14.9	136 44.0	N10 50.2	266 17.2	N 8 16.2
	23	308 08.5	162 36.4	N15 09.4	111 10.5	S 7 15.5	151 46.0	N10 50.0	281 19.6	N 8 16.2
15	0	323 10.9	177 35.8	N15 08.4	126 11.5	S 7 16.2	166 47.9	N10 49.8	296 22.1	N 8 16.1
	1	338 13.4	192 35.2	N15 07.5	141 12.5	S 7 16.8	181 49.9	N10 49.6	311 24.6	N 8 16.1
	2	353 15.9	207 34.7	N15 06.5	156 13.6	S 7 17.4	196 51.8	N10 49.4	326 27.1	N 8 16.1
	3	8 18.3	222 34.1	N15 05.5	171 14.6	S 7 18.0	211 53.8	N10 49.2	341 29.6	N 8 16.1
	4	23 20.8	237 33.5	N15 04.5	186 15.6	S 7 18.7	226 55.8	N10 49.0	356 32.0	N 8 16.1
S	5	38 23.2	252 32.9	N15 03.5	201 16.6	S 7 19.3	241 57.7	N10 48.8	11 34.5	N 8 16.0
U										
N	6	53 25.7	267 32.4	N15 02.6	216 17.6	S 7 19.9	256 59.7	N10 48.6	26 37.0	N 8 16.0
D	7	68 28.2	282 31.8	N15 01.6	231 18.6	S 7 20.5	272 01.6	N10 48.4	41 39.5	N 8 16.0
A	8	83 30.6	297 31.2	N15 00.6	246 19.7	S 7 21.2	287 03.6	N10 48.2	56 42.0	N 8 16.0
Y	9	98 33.1	312 30.7	N14 59.6	261 20.7	S 7 21.8	302 05.5	N10 48.0	71 44.5	N 8 16.0
	10	113 35.6	327 30.1	N14 58.6	276 21.7	S 7 22.4	317 07.5	N10 47.8	86 46.9	N 8 16.0
	11	128 38.0	342 29.5	N14 57.7	291 22.7	S 7 23.0	332 09.4	N10 47.6	101 49.4	N 8 15.9
	12	143 40.5	357 29.0	N14 56.7	306 23.7	S 7 23.7	347 11.4	N10 47.4	116 51.9	N 8 15.9
	13	158 43.0	12 28.4	N14 55.7	321 24.7	S 7 24.3	2 13.3	N10 47.2	131 54.4	N 8 15.9
	14	173 45.4	27 27.8	N14 54.7	336 25.8	S 7 24.9	17 15.3	N10 47.0	146 56.9	N 8 15.9
	15	188 47.9	42 27.3	N14 53.7	351 26.8	S 7 25.6	32 17.3	N10 46.8	161 59.4	N 8 15.9
	16	203 50.4	57 26.7	N14 52.7	6 27.8	S 7 26.2	47 19.2	N10 46.6	177 01.8	N 8 15.8
	17	218 52.8	72 26.1	N14 51.7	21 28.8	S 7 26.8	62 21.2	N10 46.5	192 04.3	N 8 15.8
	18	233 55.3	87 25.6	N14 50.7	36 29.8	S 7 27.4	77 23.1	N10 46.3	207 06.8	N 8 15.8
	19	248 57.7	102 25.0	N14 49.8	51 30.8	S 7 28.1	92 25.1	N10 46.1	222 09.3	N 8 15.8
	20	264 00.2	117 24.4	N14 48.8	66 31.8	S 7 28.7	107 27.0	N10 45.9	237 11.8	N 8 15.8
	21	279 02.7	132 23.9	N14 47.8	81 32.9	S 7 29.3	122 29.0	N10 45.7	252 14.3	N 8 15.7
	22	294 05.1	147 23.3	N14 46.8	96 33.9	S 7 29.9	137 30.9	N10 45.5	267 16.7	N 8 15.7
	23	309 07.6	162 22.8	N14 45.8	111 34.9	S 7 30.6	152 32.9	N10 45.3	282 19.2	N 8 15.7
16	0	324 10.1	177 22.2	N14 44.8	126 35.9	S 7 31.2	167 34.8	N10 45.1	297 21.7	N 8 15.7
	1	339 12.5	192 21.6	N14 43.8	141 36.9	S 7 31.8	182 36.8	N10 44.9	312 24.2	N 8 15.7
	2	354 15.0	207 21.1	N14 42.8	156 37.9	S 7 32.4	197 38.8	N10 44.7	327 26.7	N 8 15.6
	3	9 17.5	222 20.5	N14 41.8	171 38.9	S 7 33.1	212 40.7	N10 44.5	342 29.2	N 8 15.6
	4	24 19.9	237 19.9	N14 40.8	186 40.0	S 7 33.7	227 42.7	N10 44.3	357 31.7	N 8 15.6
M	5	39 22.4	252 19.4	N14 39.8	201 41.0	S 7 34.3	242 44.6	N10 44.1	12 34.2	N 8 15.6
O										
N	6	54 24.8	267 18.8	N14 38.8	216 42.0	S 7 34.9	257 46.6	N10 43.9	27 36.6	N 8 15.6
D	7	69 27.3	282 18.3	N14 37.8	231 43.0	S 7 35.6	272 48.5	N10 43.7	42 39.1	N 8 15.5
A	8	84 29.8	297 17.7	N14 36.8	246 44.0	S 7 36.2	287 50.5	N10 43.5	57 41.6	N 8 15.5
Y	9	99 32.2	312 17.2	N14 35.8	261 45.0	S 7 36.8	302 52.4	N10 43.3	72 44.1	N 8 15.5
	10	114 34.7	327 16.6	N14 34.8	276 46.0	S 7 37.4	317 54.4	N10 43.1	87 46.6	N 8 15.5
	11	129 37.2	342 16.0	N14 33.8	291 47.0	S 7 38.1	332 56.3	N10 42.9	102 49.1	N 8 15.5
	12	144 39.6	357 15.5	N14 32.8	306 48.0	S 7 38.7	347 58.3	N10 42.7	117 51.6	N 8 15.4
	13	159 42.1	12 14.9	N14 31.8	321 49.1	S 7 39.3	3 00.3	N10 42.5	132 54.0	N 8 15.4
	14	174 44.6	27 14.4	N14 30.8	336 50.1	S 7 39.9	18 02.2	N10 42.4	147 56.5	N 8 15.4
	15	189 47.0	42 13.8	N14 29.8	351 51.1	S 7 40.6	33 04.2	N10 42.2	162 59.0	N 8 15.4
	16	204 49.5	57 13.3	N14 28.8	6 52.1	S 7 41.2	48 06.1	N10 42.0	178 01.5	N 8 15.4
	17	219 52.0	72 12.7	N14 27.8	21 53.1	S 7 41.8	63 08.1	N10 41.8	193 04.0	N 8 15.3
	18	234 54.4	87 12.2	N14 26.8	36 54.1	S 7 42.4	78 10.0	N10 41.6	208 06.5	N 8 15.3
	19	249 56.9	102 11.6	N14 25.8	51 55.1	S 7 43.1	93 12.0	N10 41.4	223 09.0	N 8 15.3
	20	264 59.3	117 11.0	N14 24.8	66 56.1	S 7 43.7	108 13.9	N10 41.2	238 11.5	N 8 15.3
	21	280 01.8	132 10.5	N14 23.8	81 57.1	S 7 44.3	123 15.9	N10 41.0	253 14.0	N 8 15.2
	22	295 04.3	147 09.9	N14 22.8	96 58.1	S 7 44.9	138 17.8	N10 40.8	268 16.4	N 8 15.2
	23	310 06.7	162 09.4	N14 21.8	111 59.2	S 7 45.6	153 19.8	N10 40.6	283 18.9	N 8 15.2
			v -0.6	d 1.0	v 1.0	d 0.6	v 2.0	d 0.2	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 47.5	N14 29.4	35 32.3	11.4	S24 55.9	5.8	54.1
	1	193 47.6	N14 28.7	50 02.7	11.4	S24 50.0	5.9	54.1
	2	208 47.7	N14 27.9	64 33.1	11.5	S24 44.0	6.0	54.1
	3	223 47.8	N14 27.1	79 03.7	11.5	S24 37.9	6.1	54.1
	4	238 48.0	N14 26.4	93 34.2	11.6	S24 31.7	6.2	54.1
S	5	253 48.1	N14 25.6	108 04.9	11.6	S24 25.4	6.3	54.1
A								
T	6	268 48.2	N14 24.8	122 35.6	11.7	S24 19.0	6.4	54.1
U	7	283 48.3	N14 24.1	137 06.3	11.8	S24 12.5	6.5	54.1
R	8	298 48.4	N14 23.3	151 37.1	11.8	S24 05.8	6.6	54.1
D	9	313 48.5	N14 22.5	166 08.0	11.9	S23 59.1	6.7	54.1
A	10	328 48.7	N14 21.7	180 38.9	11.9	S23 52.2	6.9	54.1
Y	11	343 48.8	N14 21.0	195 09.9	12.0	S23 45.3	7.0	54.1
	12	358 48.9	N14 20.2	209 41.0	12.0	S23 38.2	7.1	54.1
	13	13 49.0	N14 19.4	224 12.1	12.1	S23 31.1	7.2	54.1
	14	28 49.1	N14 18.7	238 43.2	12.2	S23 23.8	7.3	54.0
	15	43 49.3	N14 17.9	253 14.5	12.2	S23 16.4	7.4	54.0
	16	58 49.4	N14 17.1	267 45.8	12.3	S23 08.9	7.5	54.0
	17	73 49.5	N14 16.3	282 17.1	12.4	S23 01.4	7.6	54.0
	18	88 49.6	N14 15.6	296 48.5	12.4	S22 53.7	7.7	54.0
	19	103 49.7	N14 14.8	311 20.0	12.5	S22 45.9	7.8	54.0
	20	118 49.9	N14 14.0	325 51.5	12.5	S22 38.0	7.9	54.0
	21	133 50.0	N14 13.3	340 23.1	12.6	S22 30.1	8.0	54.0
	22	148 50.1	N14 12.5	354 54.8	12.7	S22 22.0	8.1	54.0
	23	163 50.2	N14 11.7	9 26.5	12.7	S22 13.8	8.2	54.0
15	0	178 50.3	N14 10.9	23 58.3	12.8	S22 05.5	8.3	54.0
	1	193 50.5	N14 10.2	38 30.1	12.8	S21 57.2	8.4	54.0
	2	208 50.6	N14 09.4	53 02.0	12.9	S21 48.7	8.5	54.0
	3	223 50.7	N14 08.6	67 34.0	13.0	S21 40.2	8.5	54.0
	4	238 50.8	N14 07.8	82 06.0	13.0	S21 31.5	8.6	54.0
S	5	253 50.9	N14 07.0	96 38.1	13.1	S21 22.8	8.7	54.0
U								
N	6	268 51.1	N14 06.3	111 10.2	13.1	S21 14.0	8.8	54.0
D	7	283 51.2	N14 05.5	125 42.4	13.2	S21 05.1	8.9	54.0
A	8	298 51.3	N14 04.7	140 14.7	13.3	S20 56.1	9.0	54.0
Y	9	313 51.4	N14 03.9	154 47.0	13.3	S20 47.0	9.1	54.0
	10	328 51.6	N14 03.1	169 19.4	13.4	S20 37.8	9.2	54.0
	11	343 51.7	N14 02.4	183 51.8	13.4	S20 28.5	9.3	54.0
	12	358 51.8	N14 01.6	198 24.3	13.5	S20 19.2	9.4	54.0
	13	13 51.9	N14 00.8	212 56.9	13.6	S20 09.8	9.4	54.0
	14	28 52.1	N14 00.0	227 29.5	13.6	S20 00.2	9.5	54.0
	15	43 52.2	N13 59.2	242 02.2	13.7	S19 50.6	9.6	54.0
	16	58 52.3	N13 58.5	256 35.0	13.7	S19 41.0	9.7	54.0
	17	73 52.4	N13 57.7	271 07.8	13.8	S19 31.2	9.8	54.0
	18	88 52.5	N13 56.9	285 40.6	13.9	S19 21.3	9.8	54.0
	19	103 52.7	N13 56.1	300 13.5	13.9	S19 11.4	9.9	54.0
	20	118 52.8	N13 55.3	314 46.5	14.0	S19 01.4	10.0	54.0
	21	133 52.9	N13 54.6	329 19.5	14.0	S18 51.3	10.1	54.0
	22	148 53.1	N13 53.8	343 52.6	14.1	S18 41.1	10.2	54.0
	23	163 53.2	N13 53.0	358 25.8	14.1	S18 30.9	10.2	54.0
16	0	178 53.3	N13 52.2	12 59.0	14.2	S18 20.6	10.3	54.0
	1	193 53.4	N13 51.4	27 32.2	14.3	S18 10.2	10.4	54.0
	2	208 53.6	N13 50.6	42 05.5	14.3	S17 59.7	10.5	54.0
	3	223 53.7	N13 49.8	56 38.9	14.4	S17 49.2	10.5	54.0
	4	238 53.8	N13 49.1	71 12.3	14.4	S17 38.6	10.6	54.0
M	5	253 53.9	N13 48.3	85 45.8	14.5	S17 27.9	10.7	54.0
O								
N	6	268 54.1	N13 47.5	100 19.3	14.5	S17 17.1	10.8	54.0
D	7	283 54.2	N13 46.7	114 52.9	14.6	S17 06.3	10.8	54.0
A	8	298 54.3	N13 45.9	129 26.5	14.6	S16 55.4	10.9	54.0
Y	9	313 54.5	N13 45.1	144 00.2	14.7	S16 44.4	11.0	54.0
	10	328 54.6	N13 44.3	158 33.9	14.7	S16 33.4	11.0	54.0
	11	343 54.7	N13 43.5	173 07.7	14.8	S16 22.3	11.1	54.0
	12	358 54.8	N13 42.8	187 41.5	14.8	S16 11.1	11.2	54.0
	13	13 55.0	N13 42.0	202 15.4	14.9	S15 59.9	11.2	54.0
	14	28 55.1	N13 41.2	216 49.3	14.9	S15 48.6	11.3	54.0
	15	43 55.2	N13 40.4	231 23.3	15.0	S15 37.3	11.4	54.0
	16	58 55.4	N13 39.6	245 57.3	15.0	S15 25.8	11.4	54.1
	17	73 55.5	N13 38.8	260 31.4	15.1	S15 14.4	11.5	54.1
	18	88 55.6	N13 38.0	275 05.5	15.1	S15 02.8	11.5	54.1
	19	103 55.8	N13 37.2	289 39.7	15.2	S14 51.2	11.6	54.1
	20	118 55.9	N13 36.4	304 13.9	15.2	S14 39.5	11.7	54.1
	21	133 56.0	N13 35.6	318 48.2	15.3	S14 27.8	11.7	54.1
	22	148 56.1	N13 34.8	333 22.5	15.3	S14 16.0	11.8	54.1
	23	163 56.3	N13 34.0	347 56.8	15.3	S14 04.2	11.8	54.1
		S.D. 15.8	d 0.8	S.D.	14.7		14.7	14.7

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.1	S40 11.3
Achernar	335 18.3	S57 05.4
Acrux	172 58.2	S63 15.3
Adhara	255 04.5	S29 00.4
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.2	N16 33.9
Alioth	166 11.4	N55 48.8
Alkaid	152 50.5	N49 10.7
Al Na-ir	27 29.7	S46 49.4
Alnilam	275 35.7	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.9	N26 37.5
Alpheratz	357 32.3	N29 14.7
Altair	61 57.5	N 8 56.6
Ankaa	353 04.7	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.2	S69 04.9
Avior	234 14.4	S59 35.8
Bellatrix	278 20.7	N 6 22.6
Betelgeuse	270 49.9	N 7 24.8
Canopus	263 51.8	S52 42.4
Capella	280 18.9	N46 01.4
Castor	245 54.6	N31 49.7
Deneb	49 23.9	N45 22.9
Denebola	182 23.0	N14 25.1
Diphda	348 44.9	S17 49.8
Dubhe	193 39.0	N61 36.2
Elnath	277 59.4	N28 37.8
Eltanin	90 40.9	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.8	S29 28.3
Gacrux	171 49.6	S57 16.3
Gienah	175 41.6	S17 41.8
Hadar	148 33.2	S60 30.7
Hamal	327 48.7	N23 35.7
Kaus Austr.	83 29.4	S34 22.3
Kochab	137 20.2	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.8	N 4 12.0
Menkent	147 55.2	S36 30.6
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 25.2	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 34.7	N89 22.0
Pollux	243 15.0	N27 57.5
Procyon	244 48.9	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.5	N11 50.0
Rigel	281 01.9	S 8 10.0
Rigil Kent	139 37.6	S60 57.3
Sabik	102 00.2	S15 45.6
Schedar	349 28.2	N56 41.3
Shaula	96 07.2	S37 07.5
Sirius	258 24.6	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.1	S43 32.6
Vega	80 31.4	N38 48.7
Zuben-ubi	136 54.6	S16 09.5

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
17	0	325 09.2	177 08.8	N14 20.8	127 00.2	S 7 46.2	168 21.8	N10 40.4	298 21.4	N 8 15.2
	1	340 11.7	192 08.3	N14 19.7	142 01.2	S 7 46.8	183 23.7	N10 40.2	313 23.9	N 8 15.2
	2	355 14.1	207 07.7	N14 18.7	157 02.2	S 7 47.4	198 25.7	N10 40.0	328 26.4	N 8 15.1
	3	10 16.6	222 07.2	N14 17.7	172 03.2	S 7 48.1	213 27.6	N10 39.8	343 28.9	N 8 15.1
	4	25 19.1	237 06.6	N14 16.7	187 04.2	S 7 48.7	228 29.6	N10 39.6	358 31.4	N 8 15.1
T	5	40 21.5	252 06.1	N14 15.7	202 05.2	S 7 49.3	243 31.5	N10 39.4	13 33.9	N 8 15.1
U										
E	6	55 24.0	267 05.5	N14 14.7	217 06.2	S 7 49.9	258 33.5	N10 39.2	28 36.4	N 8 15.1
S	7	70 26.5	282 05.0	N14 13.7	232 07.2	S 7 50.6	273 35.4	N10 39.0	43 38.9	N 8 15.0
D	8	85 28.9	297 04.4	N14 12.7	247 08.2	S 7 51.2	288 37.4	N10 38.8	58 41.3	N 8 15.0
A	9	100 31.4	312 03.9	N14 11.6	262 09.2	S 7 51.8	303 39.3	N10 38.6	73 43.8	N 8 15.0
Y	10	115 33.8	327 03.4	N14 10.6	277 10.2	S 7 52.4	318 41.3	N10 38.4	88 46.3	N 8 15.0
	11	130 36.3	342 02.8	N14 09.6	292 11.2	S 7 53.1	333 43.2	N10 38.2	103 48.8	N 8 14.9
	12	145 38.8	357 02.3	N14 08.6	307 12.2	S 7 53.7	348 45.2	N10 38.0	118 51.3	N 8 14.9
	13	160 41.2	12 01.7	N14 07.6	322 13.2	S 7 54.3	3 47.2	N10 37.9	133 53.8	N 8 14.9
	14	175 43.7	27 01.2	N14 06.5	337 14.2	S 7 54.9	18 49.1	N10 37.7	148 56.3	N 8 14.9
	15	190 46.2	42 00.6	N14 05.5	352 15.3	S 7 55.6	33 51.1	N10 37.5	163 58.8	N 8 14.9
	16	205 48.6	57 00.1	N14 04.5	7 16.3	S 7 56.2	48 53.0	N10 37.3	179 01.3	N 8 14.8
	17	220 51.1	71 59.5	N14 03.5	22 17.3	S 7 56.8	63 55.0	N10 37.1	194 03.8	N 8 14.8
	18	235 53.6	86 59.0	N14 02.5	37 18.3	S 7 57.4	78 56.9	N10 36.9	209 06.3	N 8 14.8
	19	250 56.0	101 58.5	N14 01.4	52 19.3	S 7 58.0	93 58.9	N10 36.7	224 08.8	N 8 14.8
	20	265 58.5	116 57.9	N14 00.4	67 20.3	S 7 58.7	109 00.8	N10 36.5	239 11.3	N 8 14.7
	21	281 00.9	131 57.4	N13 59.4	82 21.3	S 7 59.3	124 02.8	N10 36.3	254 13.7	N 8 14.7
	22	296 03.4	146 56.8	N13 58.4	97 22.3	S 7 59.9	139 04.7	N10 36.1	269 16.2	N 8 14.7
	23	311 05.9	161 56.3	N13 57.3	112 23.3	S 8 00.5	154 06.7	N10 35.9	284 18.7	N 8 14.7
18	0	326 08.3	176 55.7	N13 56.3	127 24.3	S 8 01.2	169 08.6	N10 35.7	299 21.2	N 8 14.7
	1	341 10.8	191 55.2	N13 55.3	142 25.3	S 8 01.8	184 10.6	N10 35.5	314 23.7	N 8 14.6
	2	356 13.3	206 54.7	N13 54.3	157 26.3	S 8 02.4	199 12.6	N10 35.3	329 26.2	N 8 14.6
	3	11 15.7	221 54.1	N13 53.2	172 27.3	S 8 03.0	214 14.5	N10 35.1	344 28.7	N 8 14.6
	4	26 18.2	236 53.6	N13 52.2	187 28.3	S 8 03.7	229 16.5	N10 34.9	359 31.2	N 8 14.6
W	5	41 20.7	251 53.1	N13 51.2	202 29.3	S 8 04.3	244 18.4	N10 34.7	14 33.7	N 8 14.5
E										
D	6	56 23.1	266 52.5	N13 50.1	217 30.3	S 8 04.9	259 20.4	N10 34.5	29 36.2	N 8 14.5
N	7	71 25.6	281 52.0	N13 49.1	232 31.3	S 8 05.5	274 22.3	N10 34.3	44 38.7	N 8 14.5
E	8	86 28.1	296 51.4	N13 48.1	247 32.3	S 8 06.2	289 24.3	N10 34.1	59 41.2	N 8 14.5
S	9	101 30.5	311 50.9	N13 47.1	262 33.3	S 8 06.8	304 26.2	N10 33.9	74 43.7	N 8 14.4
D	10	116 33.0	326 50.4	N13 46.0	277 34.3	S 8 07.4	319 28.2	N10 33.7	89 46.2	N 8 14.4
A	11	131 35.4	341 49.8	N13 45.0	292 35.3	S 8 08.0	334 30.1	N10 33.5	104 48.7	N 8 14.4
Y										
	12	146 37.9	356 49.3	N13 44.0	307 36.3	S 8 08.7	349 32.1	N10 33.3	119 51.2	N 8 14.4
	13	161 40.4	11 48.8	N13 42.9	322 37.3	S 8 09.3	4 34.0	N10 33.1	134 53.7	N 8 14.4
	14	176 42.8	26 48.2	N13 41.9	337 38.3	S 8 09.9	19 36.0	N10 32.9	149 56.2	N 8 14.3
	15	191 45.3	41 47.7	N13 40.8	352 39.3	S 8 10.5	34 38.0	N10 32.8	164 58.7	N 8 14.3
	16	206 47.8	56 47.2	N13 39.8	7 40.3	S 8 11.1	49 39.9	N10 32.6	180 01.1	N 8 14.3
	17	221 50.2	71 46.6	N13 38.8	22 41.3	S 8 11.8	64 41.9	N10 32.4	195 03.6	N 8 14.3
	18	236 52.7	86 46.1	N13 37.7	37 42.3	S 8 12.4	79 43.8	N10 32.2	210 06.1	N 8 14.2
	19	251 55.2	101 45.6	N13 36.7	52 43.3	S 8 13.0	94 45.8	N10 32.0	225 08.6	N 8 14.2
	20	266 57.6	116 45.0	N13 35.7	67 44.3	S 8 13.6	109 47.7	N10 31.8	240 11.1	N 8 14.2
	21	282 00.1	131 44.5	N13 34.6	82 45.3	S 8 14.3	124 49.7	N10 31.6	255 13.6	N 8 14.2
	22	297 02.6	146 44.0	N13 33.6	97 46.3	S 8 14.9	139 51.6	N10 31.4	270 16.1	N 8 14.1
	23	312 05.0	161 43.4	N13 32.5	112 47.3	S 8 15.5	154 53.6	N10 31.2	285 18.6	N 8 14.1
19	0	327 07.5	176 42.9	N13 31.5	127 48.3	S 8 16.1	169 55.5	N10 31.0	300 21.1	N 8 14.1
	1	342 09.9	191 42.4	N13 30.5	142 49.3	S 8 16.8	184 57.5	N10 30.8	315 23.6	N 8 14.1
	2	357 12.4	206 41.8	N13 29.4	157 50.3	S 8 17.4	199 59.4	N10 30.6	330 26.1	N 8 14.0
	3	12 14.9	221 41.3	N13 28.4	172 51.3	S 8 18.0	215 01.4	N10 30.4	345 28.6	N 8 14.0
	4	27 17.3	236 40.8	N13 27.3	187 52.3	S 8 18.6	230 03.3	N10 30.2	0 31.1	N 8 14.0
T	5	42 19.8	251 40.3	N13 26.3	202 53.3	S 8 19.3	245 05.3	N10 30.0	15 33.6	N 8 14.0
H										
U	6	57 22.3	266 39.7	N13 25.2	217 54.3	S 8 19.9	260 07.3	N10 29.8	30 36.1	N 8 13.9
R	7	72 24.7	281 39.2	N13 24.2	232 55.3	S 8 20.5	275 09.2	N10 29.6	45 38.6	N 8 13.9
S	8	87 27.2	296 38.7	N13 23.1	247 56.2	S 8 21.1	290 11.2	N10 29.4	60 41.1	N 8 13.9
D	9	102 29.7	311 38.2	N13 22.1	262 57.2	S 8 21.7	305 13.1	N10 29.2	75 43.6	N 8 13.9
A	10	117 32.1	326 37.6	N13 21.0	277 58.2	S 8 22.4	320 15.1	N10 29.0	90 46.1	N 8 13.8
Y	11	132 34.6	341 37.1	N13 20.0	292 59.2	S 8 23.0	335 17.0	N10 28.8	105 48.6	N 8 13.8
	12	147 37.0	356 36.6	N13 19.0	308 00.2	S 8 23.6	350 19.0	N10 28.6	120 51.1	N 8 13.8
	13	162 39.5	11 36.1	N13 17.9	323 01.2	S 8 24.2	5 20.9	N10 28.4	135 53.6	N 8 13.8
	14	177 42.0	26 35.5	N13 16.9	338 02.2	S 8 24.9	20 22.9	N10 28.2	150 56.1	N 8 13.7
	15	192 44.4	41 35.0	N13 15.8	353 03.2	S 8 25.5	35 24.8	N10 28.0	165 58.6	N 8 13.7
	16	207 46.9	56 34.5	N13 14.7	8 04.2	S 8 26.1	50 26.8	N10 27.8	181 01.1	N 8 13.7
	17	222 49.4	71 34.0	N13 13.7	23 05.2	S 8 26.7	65 28.7	N10 27.6	196 03.6	N 8 13.7
	18	237 51.8	86 33.4	N13 12.6	38 06.2	S 8 27.3	80 30.7	N10 27.4	211 06.1	N 8 13.6
	19	252 54.3	101 32.9	N13 11.6	53 07.2	S 8 28.0	95 32.6	N10 27.2	226 08.6	N 8 13.6
	20	267 56.8	116 32.4	N13 10.5	68 08.2	S 8 28.6	110 34.6	N10 27.1	241 11.1	N 8 13.6
	21	282 59.2	131 31.9	N13 09.5	83 09.2	S 8 29.2	125 36.5	N10 26.9	256 13.6	N 8 13.6
	22	298 01.7	146 31.4	N13 08.4	98 10.2	S 8 29.8	140 38.5	N10 26.7	271 16.1	N 8 13.5
	23	313 04.2	161 30.8	N13 07.4	113 11.1	S 8 30.5	155 40.5	N10 26.5	286 18.6	N 8 13.5
			v -0.5	d 1.0	v 1.0	d 0.6	v 2.0	d 0.2	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 56.4	N13 33.3	2 31.2	15.4	S13 52.3	11.9	54.1
	1	193 56.5	N13 32.5	17 05.7	15.4	S13 40.3	12.0	54.1
	2	208 56.7	N13 31.7	31 40.1	15.5	S13 28.3	12.0	54.1
	3	223 56.8	N13 30.9	46 14.6	15.5	S13 16.3	12.1	54.1
	4	238 56.9	N13 30.1	60 49.2	15.6	S13 04.2	12.1	54.1
T	5	253 57.1	N13 29.3	75 23.8	15.6	S12 52.0	12.2	54.1
U								
E	6	268 57.2	N13 28.5	89 58.4	15.6	S12 39.8	12.2	54.1
S	7	283 57.3	N13 27.7	104 33.1	15.7	S12 27.5	12.3	54.1
D	8	298 57.5	N13 26.9	119 07.8	15.7	S12 15.2	12.3	54.1
A	9	313 57.6	N13 26.1	133 42.6	15.7	S12 02.8	12.4	54.1
Y	10	328 57.7	N13 25.3	148 17.3	15.8	S11 50.4	12.4	54.1
	11	343 57.9	N13 24.5	162 52.1	15.8	S11 37.9	12.5	54.2
	12	358 58.0	N13 23.7	177 27.0	15.9	S11 25.4	12.5	54.2
	13	13 58.1	N13 22.9	192 01.9	15.9	S11 12.9	12.6	54.2
	14	28 58.3	N13 22.1	206 36.8	15.9	S11 00.3	12.6	54.2
	15	43 58.4	N13 21.3	221 11.7	15.9	S10 47.6	12.6	54.2
	16	58 58.6	N13 20.5	235 46.7	16.0	S10 34.9	12.7	54.2
	17	73 58.7	N13 19.7	250 21.7	16.0	S10 22.2	12.7	54.2
	18	88 58.8	N13 18.9	264 56.8	16.0	S10 09.4	12.8	54.2
	19	103 59.0	N13 18.1	279 31.8	16.1	S 9 56.6	12.8	54.2
	20	118 59.1	N13 17.3	294 06.9	16.1	S 9 43.7	12.9	54.2
	21	133 59.2	N13 16.5	308 42.1	16.1	S 9 30.8	12.9	54.2
	22	148 59.4	N13 15.7	323 17.2	16.2	S 9 17.9	12.9	54.2
	23	163 59.5	N13 14.9	337 52.4	16.2	S 9 04.9	13.0	54.2
18	0	178 59.6	N13 14.1	352 27.6	16.2	S 8 51.9	13.0	54.3
	1	193 59.8	N13 13.3	7 02.8	16.2	S 8 38.9	13.0	54.3
	2	208 59.9	N13 12.5	21 38.1	16.2	S 8 25.8	13.1	54.3
	3	224 00.1	N13 11.7	36 13.3	16.3	S 8 12.7	13.1	54.3
	4	239 00.2	N13 10.9	50 48.6	16.3	S 7 59.5	13.2	54.3
W	5	254 00.3	N13 10.1	65 23.9	16.3	S 7 46.3	13.2	54.3
E								
D	6	269 00.5	N13 09.3	79 59.3	16.3	S 7 33.1	13.2	54.3
N	7	284 00.6	N13 08.5	94 34.6	16.4	S 7 19.8	13.3	54.3
E	8	299 00.8	N13 07.7	109 10.0	16.4	S 7 06.6	13.3	54.3
S	9	314 00.9	N13 06.9	123 45.4	16.4	S 6 53.2	13.3	54.3
D	10	329 01.0	N13 06.0	138 20.8	16.4	S 6 39.9	13.3	54.3
A	11	344 01.2	N13 05.2	152 56.2	16.4	S 6 26.5	13.4	54.4
Y								
	12	359 01.3	N13 04.4	167 31.6	16.4	S 6 13.1	13.4	54.4
	13	14 01.5	N13 03.6	182 07.1	16.4	S 5 59.7	13.4	54.4
	14	29 01.6	N13 02.8	196 42.5	16.5	S 5 46.2	13.5	54.4
	15	44 01.7	N13 02.0	211 18.0	16.5	S 5 32.8	13.5	54.4
	16	59 01.9	N13 01.2	225 53.5	16.5	S 5 19.2	13.5	54.4
	17	74 02.0	N13 00.4	240 29.0	16.5	S 5 05.7	13.5	54.4
	18	89 02.2	N12 59.6	255 04.5	16.5	S 4 52.2	13.6	54.4
	19	104 02.3	N12 58.8	269 40.0	16.5	S 4 38.6	13.6	54.4
	20	119 02.4	N12 58.0	284 15.5	16.5	S 4 25.0	13.6	54.5
	21	134 02.6	N12 57.2	298 51.0	16.5	S 4 11.4	13.6	54.5
	22	149 02.7	N12 56.3	313 26.6	16.5	S 3 57.7	13.6	54.5
	23	164 02.9	N12 55.5	328 02.1	16.5	S 3 44.1	13.7	54.5
19	0	179 03.0	N12 54.7	342 37.6	16.5	S 3 30.4	13.7	54.5
	1	194 03.1	N12 53.9	357 13.2	16.5	S 3 16.7	13.7	54.5
	2	209 03.3	N12 53.1	11 48.7	16.5	S 3 03.0	13.7	54.5
	3	224 03.4	N12 52.3	26 24.2	16.5	S 2 49.2	13.7	54.5
	4	239 03.6	N12 51.5	40 59.8	16.5	S 2 35.5	13.7	54.6
T	5	254 03.7	N12 50.7	55 35.3	16.5	S 2 21.7	13.8	54.6
H								
U	6	269 03.9	N12 49.8	70 10.9	16.5	S 2 07.9	13.8	54.6
R	7	284 04.0	N12 49.0	84 46.4	16.5	S 1 54.2	13.8	54.6
S	8	299 04.2	N12 48.2	99 21.9	16.5	S 1 40.3	13.8	54.6
D	9	314 04.3	N12 47.4	113 57.4	16.5	S 1 26.5	13.8	54.6
A	10	329 04.4	N12 46.6	128 33.0	16.5	S 1 12.7	13.8	54.6
Y	11	344 04.6	N12 45.8	143 08.5	16.5	S 0 58.9	13.8	54.6
	12	359 04.7	N12 45.0	157 44.0	16.5	S 0 45.0	13.8	54.7
	13	14 04.9	N12 44.1	172 19.5	16.5	S 0 31.2	13.9	54.7
	14	29 05.0	N12 43.3	186 54.9	16.5	S 0 17.3	13.9	54.7
	15	44 05.2	N12 42.5	201 30.4	16.5	S 0 03.4	13.9	54.7
	16	59 05.3	N12 41.7	216 05.9	16.5	N 0 10.4	13.9	54.7
	17	74 05.5	N12 40.9	230 41.3	16.4	N 0 24.3	13.9	54.7
	18	89 05.6	N12 40.1	245 16.7	16.4	N 0 38.2	13.9	54.7
	19	104 05.8	N12 39.2	259 52.2	16.4	N 0 52.1	13.9	54.8
	20	119 05.9	N12 38.4	274 27.6	16.4	N 1 06.0	13.9	54.8
	21	134 06.0	N12 37.6	289 02.9	16.4	N 1 19.9	13.9	54.8
	22	149 06.2	N12 36.8	303 38.3	16.4	N 1 33.8	13.9	54.8
	23	164 06.3	N12 36.0	318 13.7	16.3	N 1 47.7	13.9	54.8
		S.D. 15.8	d 0.8	S.D. 14.8		14.8	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.0	S40 11.3
Achernar	335 18.3	S57 05.4
Acrux	172 58.2	S63 15.3
Adhara	255 04.4	S29 00.4
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.2	N16 33.9
Alioth	166 11.4	N55 48.8
Alkaid	152 50.5	N49 10.7
Al Na-ir	27 29.7	S46 49.4
Alnilam	275 35.7	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.9	N26 37.5
Alpheratz	357 32.2	N29 14.7
Altair	61 57.5	N 8 56.6
Ankaa	353 04.7	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.0	N19 02.4
Atria	107 05.3	S69 04.9
Avior	234 14.4	S59 35.8
Bellatrix	278 20.7	N 6 22.6
Betelgeuse	270 49.9	N 7 24.8
Canopus	263 51.8	S52 42.3
Capella	280 18.9	N46 01.4
Castor	245 54.6	N31 49.6
Deneb	49 23.9	N45 22.9
Denebola	182 23.0	N14 25.1
Diphda	348 44.9	S17 49.8
Dubhe	193 39.0	N61 36.2
Elnath	277 59.3	N28 37.8
Eltanin	90 40.9	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.8	S29 28.3
Gacrux	171 49.7	S57 16.3
Gienah	175 41.6	S17 41.7
Hadar	148 33.2	S60 30.6
Hamal	327 48.6	N23 35.7
Kaus Austr.	83 29.4	S34 22.4
Kochab	137 20.3	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.8	N 4 12.0
Menkent	147 55.2	S36 30.6
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 25.2	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 33.6	N89 22.0
Pollux	243 15.0	N27 57.5
Procyon	244 48.8	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.5	N11 50.0
Rigel	281 01.9	S 8 10.0
Rigil Kent	139 37.6	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.1	N56 41.3
Shaula	96 07.2	S37 07.5
Sirius	258 24.6	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.1	S43 32.6
Vega	80 31.5	N38 48.8
Zuben-ubi	136 54.6	S16 09.5

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 06.6	176 30.3	N13 06.3	128 12.1	S 8 31.1	170 42.4	N10 26.3	301 21.1	N 8 13.5
	1	343 09.1	191 29.8	N13 05.3	143 13.1	S 8 31.7	185 44.4	N10 26.1	316 23.6	N 8 13.5
	2	358 11.5	206 29.3	N13 04.2	158 14.1	S 8 32.3	200 46.3	N10 25.9	331 26.1	N 8 13.4
	3	13 14.0	221 28.8	N13 03.1	173 15.1	S 8 32.9	215 48.3	N10 25.7	346 28.6	N 8 13.4
	4	28 16.5	236 28.2	N13 02.1	188 16.1	S 8 33.6	230 50.2	N10 25.5	1 31.1	N 8 13.4
F	5	43 18.9	251 27.7	N13 01.0	203 17.1	S 8 34.2	245 52.2	N10 25.3	16 33.6	N 8 13.4
R										
I	6	58 21.4	266 27.2	N12 60.0	218 18.1	S 8 34.8	260 54.1	N10 25.1	31 36.1	N 8 13.3
D	7	73 23.9	281 26.7	N12 58.9	233 19.1	S 8 35.4	275 56.1	N10 24.9	46 38.6	N 8 13.3
A	8	88 26.3	296 26.2	N12 57.8	248 20.1	S 8 36.1	290 58.0	N10 24.7	61 41.1	N 8 13.3
Y	9	103 28.8	311 25.7	N12 56.8	263 21.1	S 8 36.7	305 60.0	N10 24.5	76 43.6	N 8 13.3
	10	118 31.3	326 25.1	N12 55.7	278 22.0	S 8 37.3	321 01.9	N10 24.3	91 46.1	N 8 13.2
	11	133 33.7	341 24.6	N12 54.6	293 23.0	S 8 37.9	336 03.9	N10 24.1	106 48.7	N 8 13.2
	12	148 36.2	356 24.1	N12 53.6	308 24.0	S 8 38.5	351 05.8	N10 23.9	121 51.2	N 8 13.2
	13	163 38.6	11 23.6	N12 52.5	323 25.0	S 8 39.2	6 07.8	N10 23.7	136 53.7	N 8 13.2
	14	178 41.1	26 23.1	N12 51.5	338 26.0	S 8 39.8	21 09.7	N10 23.5	151 56.2	N 8 13.1
	15	193 43.6	41 22.6	N12 50.4	353 27.0	S 8 40.4	36 11.7	N10 23.3	166 58.7	N 8 13.1
	16	208 46.0	56 22.0	N12 49.3	8 28.0	S 8 41.0	51 13.7	N10 23.1	182 01.2	N 8 13.1
	17	223 48.5	71 21.5	N12 48.3	23 29.0	S 8 41.7	66 15.6	N10 22.9	197 03.7	N 8 13.0
	18	238 51.0	86 21.0	N12 47.2	38 29.9	S 8 42.3	81 17.6	N10 22.7	212 06.2	N 8 13.0
	19	253 53.4	101 20.5	N12 46.1	53 30.9	S 8 42.9	96 19.5	N10 22.5	227 08.7	N 8 13.0
	20	268 55.9	116 20.0	N12 45.1	68 31.9	S 8 43.5	111 21.5	N10 22.3	242 11.2	N 8 13.0
	21	283 58.4	131 19.5	N12 44.0	83 32.9	S 8 44.1	126 23.4	N10 22.1	257 13.7	N 8 12.9
	22	299 00.8	146 19.0	N12 42.9	98 33.9	S 8 44.8	141 25.4	N10 21.9	272 16.2	N 8 12.9
	23	314 03.3	161 18.5	N12 41.8	113 34.9	S 8 45.4	156 27.3	N10 21.7	287 18.7	N 8 12.9
21	0	329 05.8	176 18.0	N12 40.8	128 35.9	S 8 46.0	171 29.3	N10 21.5	302 21.2	N 8 12.9
	1	344 08.2	191 17.4	N12 39.7	143 36.9	S 8 46.6	186 31.2	N10 21.3	317 23.7	N 8 12.8
	2	359 10.7	206 16.9	N12 38.6	158 37.8	S 8 47.2	201 33.2	N10 21.1	332 26.2	N 8 12.8
	3	14 13.1	221 16.4	N12 37.6	173 38.8	S 8 47.9	216 35.1	N10 20.9	347 28.7	N 8 12.8
	4	29 15.6	236 15.9	N12 36.5	188 39.8	S 8 48.5	231 37.1	N10 20.7	2 31.2	N 8 12.7
S	5	44 18.1	251 15.4	N12 35.4	203 40.8	S 8 49.1	246 39.0	N10 20.5	17 33.7	N 8 12.7
A										
T	6	59 20.5	266 14.9	N12 34.3	218 41.8	S 8 49.7	261 41.0	N10 20.3	32 36.3	N 8 12.7
U	7	74 23.0	281 14.4	N12 33.3	233 42.8	S 8 50.4	276 42.9	N10 20.1	47 38.8	N 8 12.7
R	8	89 25.5	296 13.9	N12 32.2	248 43.7	S 8 51.0	291 44.9	N10 19.9	62 41.3	N 8 12.6
D	9	104 27.9	311 13.4	N12 31.1	263 44.7	S 8 51.6	306 46.9	N10 19.8	77 43.8	N 8 12.6
A	10	119 30.4	326 12.9	N12 30.0	278 45.7	S 8 52.2	321 48.8	N10 19.6	92 46.3	N 8 12.6
Y	11	134 32.9	341 12.4	N12 28.9	293 46.7	S 8 52.8	336 50.8	N10 19.4	107 48.8	N 8 12.6
	12	149 35.3	356 11.9	N12 27.9	308 47.7	S 8 53.5	351 52.7	N10 19.2	122 51.3	N 8 12.5
	13	164 37.8	11 11.4	N12 26.8	323 48.7	S 8 54.1	6 54.7	N10 19.0	137 53.8	N 8 12.5
	14	179 40.3	26 10.9	N12 25.7	338 49.6	S 8 54.7	21 56.6	N10 18.8	152 56.3	N 8 12.5
	15	194 42.7	41 10.4	N12 24.6	353 50.6	S 8 55.3	36 58.6	N10 18.6	167 58.8	N 8 12.4
	16	209 45.2	56 09.9	N12 23.5	8 51.6	S 8 55.9	52 00.5	N10 18.4	183 01.3	N 8 12.4
	17	224 47.6	71 09.3	N12 22.5	23 52.6	S 8 56.6	67 02.5	N10 18.2	198 03.8	N 8 12.4
	18	239 50.1	86 08.8	N12 21.4	38 53.6	S 8 57.2	82 04.4	N10 18.0	213 06.3	N 8 12.4
	19	254 52.6	101 08.3	N12 20.3	53 54.6	S 8 57.8	97 06.4	N10 17.8	228 08.9	N 8 12.3
	20	269 55.0	116 07.8	N12 19.2	68 55.5	S 8 58.4	112 08.3	N10 17.6	243 11.4	N 8 12.3
	21	284 57.5	131 07.3	N12 18.1	83 56.5	S 8 59.0	127 10.3	N10 17.4	258 13.9	N 8 12.3
	22	299 60.0	146 06.8	N12 17.1	98 57.5	S 8 59.7	142 12.2	N10 17.2	273 16.4	N 8 12.2
	23	315 02.4	161 06.3	N12 16.0	113 58.5	S 9 00.3	157 14.2	N10 17.0	288 18.9	N 8 12.2
22	0	330 04.9	176 05.8	N12 14.9	128 59.5	S 9 00.9	172 16.1	N10 16.8	303 21.4	N 8 12.2
	1	345 07.4	191 05.3	N12 13.8	144 00.4	S 9 01.5	187 18.1	N10 16.6	318 23.9	N 8 12.2
	2	0 09.8	206 04.8	N12 12.7	159 01.4	S 9 02.1	202 20.0	N10 16.4	333 26.4	N 8 12.1
	3	15 12.3	221 04.3	N12 11.6	174 02.4	S 9 02.8	217 22.0	N10 16.2	348 28.9	N 8 12.1
	4	30 14.7	236 03.8	N12 10.5	189 03.4	S 9 03.4	232 23.9	N10 16.0	3 31.4	N 8 12.1
S	5	45 17.2	251 03.3	N12 09.4	204 04.4	S 9 04.0	247 25.9	N10 15.8	18 34.0	N 8 12.0
U										
N	6	60 19.7	266 02.8	N12 08.4	219 05.3	S 9 04.6	262 27.9	N10 15.6	33 36.5	N 8 12.0
D	7	75 22.1	281 02.3	N12 07.3	234 06.3	S 9 05.2	277 29.8	N10 15.4	48 39.0	N 8 12.0
A	8	90 24.6	296 01.8	N12 06.2	249 07.3	S 9 05.9	292 31.8	N10 15.2	63 41.5	N 8 12.0
Y	9	105 27.1	311 01.4	N12 05.1	264 08.3	S 9 06.5	307 33.7	N10 15.0	78 44.0	N 8 11.9
	10	120 29.5	326 00.9	N12 04.0	279 09.2	S 9 07.1	322 35.7	N10 14.8	93 46.5	N 8 11.9
	11	135 32.0	341 00.4	N12 02.9	294 10.2	S 9 07.7	337 37.6	N10 14.6	108 49.0	N 8 11.9
	12	150 34.5	355 59.9	N12 01.8	309 11.2	S 9 08.3	352 39.6	N10 14.4	123 51.5	N 8 11.8
	13	165 36.9	10 59.4	N12 00.7	324 12.2	S 9 09.0	7 41.5	N10 14.2	138 54.0	N 8 11.8
	14	180 39.4	25 58.9	N11 59.6	339 13.2	S 9 09.6	22 43.5	N10 14.0	153 56.6	N 8 11.8
	15	195 41.9	40 58.4	N11 58.5	354 14.1	S 9 10.2	37 45.4	N10 13.8	168 59.1	N 8 11.7
	16	210 44.3	55 57.9	N11 57.4	9 15.1	S 9 10.8	52 47.4	N10 13.6	184 01.6	N 8 11.7
	17	225 46.8	70 57.4	N11 56.3	24 16.1	S 9 11.4	67 49.3	N10 13.4	199 04.1	N 8 11.7
	18	240 49.2	85 56.9	N11 55.2	39 17.1	S 9 12.1	82 51.3	N10 13.2	214 06.6	N 8 11.7
	19	255 51.7	100 56.4	N11 54.1	54 18.0	S 9 12.7	97 53.2	N10 13.0	229 09.1	N 8 11.6
	20	270 54.2	115 55.9	N11 53.1	69 19.0	S 9 13.3	112 55.2	N10 12.8	244 11.6	N 8 11.6
	21	285 56.6	130 55.4	N11 52.0	84 20.0	S 9 13.9	127 57.1	N10 12.6	259 14.1	N 8 11.6
	22	300 59.1	145 54.9	N11 50.9	99 21.0	S 9 14.5	142 59.1	N10 12.4	274 16.7	N 8 11.5
	23	316 01.6	160 54.4	N11 49.8	114 21.9	S 9 15.2	158 01.0	N10 12.2	289 19.2	N 8 11.5
			v -0.5	d 1.1	v 1.0	d 0.6	v 2.0	d 0.2	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
		° '	° '	° '	'	° '	'	'
20	0	179 06.5	N12 35.1	332 49.0	16.3	N 2 01.6	13.9	54.8
	1	194 06.6	N12 34.3	347 24.3	16.3	N 2 15.5	13.9	54.9
	2	209 06.8	N12 33.5	1 59.6	16.3	N 2 29.4	13.9	54.9
	3	224 06.9	N12 32.7	16 34.8	16.3	N 2 43.3	13.9	54.9
	4	239 07.1	N12 31.9	31 10.1	16.2	N 2 57.2	13.9	54.9
F	5	254 07.2	N12 31.0	45 45.3	16.2	N 3 11.1	13.9	54.9
R								
I	6	269 07.4	N12 30.2	60 20.5	16.2	N 3 25.0	13.9	54.9
D	7	284 07.5	N12 29.4	74 55.6	16.2	N 3 38.8	13.9	54.9
A	8	299 07.7	N12 28.6	89 30.7	16.1	N 3 52.7	13.9	55.0
Y	9	314 07.8	N12 27.8	104 05.8	16.1	N 4 06.6	13.9	55.0
	10	329 08.0	N12 26.9	118 40.9	16.1	N 4 20.4	13.9	55.0
	11	344 08.1	N12 26.1	133 15.9	16.0	N 4 34.3	13.8	55.0
	12	359 08.3	N12 25.3	147 50.9	16.0	N 4 48.1	13.8	55.0
	13	14 08.4	N12 24.5	162 25.9	16.0	N 5 01.9	13.8	55.1
	14	29 08.6	N12 23.6	177 00.8	15.9	N 5 15.7	13.8	55.1
	15	44 08.7	N12 22.8	191 35.7	15.9	N 5 29.5	13.8	55.1
	16	59 08.9	N12 22.0	206 10.6	15.9	N 5 43.3	13.8	55.1
	17	74 09.0	N12 21.2	220 45.4	15.8	N 5 57.1	13.8	55.1
	18	89 09.2	N12 20.3	235 20.2	15.8	N 6 10.9	13.8	55.1
	19	104 09.3	N12 19.5	249 54.9	15.7	N 6 24.6	13.7	55.2
	20	119 09.5	N12 18.7	264 29.6	15.7	N 6 38.3	13.7	55.2
	21	134 09.6	N12 17.9	279 04.3	15.7	N 6 52.0	13.7	55.2
	22	149 09.8	N12 17.0	293 38.9	15.6	N 7 05.7	13.7	55.2
	23	164 09.9	N12 16.2	308 13.5	15.6	N 7 19.4	13.7	55.2
21	0	179 10.1	N12 15.4	322 48.0	15.5	N 7 33.1	13.6	55.3
	1	194 10.2	N12 14.5	337 22.5	15.5	N 7 46.7	13.6	55.3
	2	209 10.4	N12 13.7	351 56.9	15.4	N 8 00.3	13.6	55.3
	3	224 10.5	N12 12.9	6 31.3	15.4	N 8 13.9	13.6	55.3
	4	239 10.7	N12 12.1	21 05.7	15.3	N 8 27.4	13.6	55.3
S	5	254 10.9	N12 11.2	35 39.9	15.3	N 8 41.0	13.5	55.4
A								
T	6	269 11.0	N12 10.4	50 14.2	15.2	N 8 54.5	13.5	55.4
U	7	284 11.2	N12 09.6	64 48.4	15.2	N 9 07.9	13.5	55.4
R	8	299 11.3	N12 08.7	79 22.5	15.1	N 9 21.4	13.5	55.4
D	9	314 11.5	N12 07.9	93 56.5	15.1	N 9 34.8	13.4	55.4
A	10	329 11.6	N12 07.1	108 30.6	15.0	N 9 48.2	13.4	55.5
Y	11	344 11.8	N12 06.2	123 04.5	15.0	N10 01.6	13.4	55.5
	12	359 11.9	N12 05.4	137 38.4	14.9	N10 14.9	13.3	55.5
	13	14 12.1	N12 04.6	152 12.2	14.8	N10 28.2	13.3	55.5
	14	29 12.2	N12 03.7	166 46.0	14.8	N10 41.5	13.3	55.5
	15	44 12.4	N12 02.9	181 19.7	14.7	N10 54.7	13.2	55.6
	16	59 12.6	N12 02.1	195 53.4	14.7	N11 07.9	13.2	55.6
	17	74 12.7	N12 01.2	210 27.0	14.6	N11 21.1	13.2	55.6
	18	89 12.9	N12 00.4	225 00.5	14.5	N11 34.2	13.1	55.6
	19	104 13.0	N11 59.6	239 34.0	14.5	N11 47.3	13.1	55.6
	20	119 13.2	N11 58.7	254 07.4	14.4	N12 00.3	13.0	55.7
	21	134 13.3	N11 57.9	268 40.7	14.3	N12 13.3	13.0	55.7
	22	149 13.5	N11 57.1	283 13.9	14.3	N12 26.3	13.0	55.7
	23	164 13.6	N11 56.2	297 47.1	14.2	N12 39.2	12.9	55.7
22	0	179 13.8	N11 55.4	312 20.2	14.1	N12 52.1	12.9	55.8
	1	194 14.0	N11 54.6	326 53.3	14.0	N13 04.9	12.8	55.8
	2	209 14.1	N11 53.7	341 26.3	14.0	N13 17.7	12.8	55.8
	3	224 14.3	N11 52.9	355 59.1	13.9	N13 30.4	12.7	55.8
	4	239 14.4	N11 52.0	10 32.0	13.8	N13 43.1	12.7	55.9
S	5	254 14.6	N11 51.2	25 04.7	13.7	N13 55.7	12.6	55.9
U								
N	6	269 14.8	N11 50.4	39 37.4	13.7	N14 08.3	12.6	55.9
D	7	284 14.9	N11 49.5	54 10.0	13.6	N14 20.8	12.5	55.9
A	8	299 15.1	N11 48.7	68 42.5	13.5	N14 33.3	12.5	55.9
Y	9	314 15.2	N11 47.9	83 14.9	13.4	N14 45.7	12.4	56.0
	10	329 15.4	N11 47.0	97 47.2	13.3	N14 58.1	12.4	56.0
	11	344 15.5	N11 46.2	112 19.5	13.3	N15 10.4	12.3	56.0
	12	359 15.7	N11 45.3	126 51.7	13.2	N15 22.7	12.3	56.0
	13	14 15.9	N11 44.5	141 23.8	13.1	N15 34.9	12.2	56.1
	14	29 16.0	N11 43.7	155 55.8	13.0	N15 47.0	12.1	56.1
	15	44 16.2	N11 42.8	170 27.7	12.9	N15 59.1	12.1	56.1
	16	59 16.3	N11 42.0	184 59.6	12.8	N16 11.1	12.0	56.1
	17	74 16.5	N11 41.1	199 31.3	12.8	N16 23.1	12.0	56.2
	18	89 16.7	N11 40.3	214 03.0	12.7	N16 35.0	11.9	56.2
	19	104 16.8	N11 39.5	228 34.6	12.6	N16 46.8	11.8	56.2
	20	119 17.0	N11 38.6	243 06.0	12.5	N16 58.6	11.8	56.3
	21	134 17.1	N11 37.8	257 37.4	12.4	N17 10.3	11.7	56.3
	22	149 17.3	N11 36.9	272 08.7	12.3	N17 21.9	11.6	56.3
	23	164 17.5	N11 36.1	286 39.9	12.2	N17 33.4	11.5	56.3
		S.D. 15.8	d 0.8	S.D.	15.0	15.1	15.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.0	S40 11.3
Achernar	335 18.3	S57 05.4
Acrux	172 58.2	S63 15.3
Adhara	255 04.4	S29 00.4
Albireo	67 02.0	N28 01.2
Aldebaran	290 37.2	N16 33.9
Alioth	166 11.4	N55 48.8
Alkaid	152 50.5	N49 10.7
Al Na-ir	27 29.7	S46 49.4
Alnilam	275 35.6	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.9	N26 37.5
Alpheratz	357 32.2	N29 14.7
Altair	61 57.6	N 8 56.6
Ankaa	353 04.7	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.3	S69 04.9
Avior	234 14.4	S59 35.8
Bellatrix	278 20.7	N 6 22.6
Betelgeuse	270 49.9	N 7 24.8
Canopus	263 51.7	S52 42.3
Capella	280 18.9	N46 01.4
Castor	245 54.6	N31 49.6
Deneb	49 23.9	N45 22.9
Denebola	182 23.0	N14 25.1
Diphda	348 44.9	S17 49.8
Dubhe	193 39.0	N61 36.1
Elnath	277 59.3	N28 37.8
Eltanin	90 40.9	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.8	S29 28.3
Gacrux	171 49.7	S57 16.3
Gienah	175 41.6	S17 41.7
Hadar	148 33.3	S60 30.6
Hamal	327 48.6	N23 35.7
Kaus Austr.	83 29.4	S34 22.4
Kochab	137 20.3	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.8	N 4 12.0
Menkent	147 55.2	S36 30.6
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 25.1	N49 57.4
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.7
Polaris	315 32.5	N89 22.0
Pollux	243 15.0	N27 57.5
Procyon	244 48.8	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.5	N11 50.0
Rigel	281 01.9	S 8 10.0
Rigil Kent	139 37.6	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.1	N56 41.3
Shaula	96 07.2	S37 07.5
Sirius	258 24.6	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.1	S43 32.6
Vega	80 31.5	N38 48.8
Zuben-ubi	136 54.6	S16 09.5

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
23	0	331 04.0	175 53.9	N11 48.7	129 22.9	S 9 15.8	173 03.0	N10 12.0	304 21.7	N 8 11.5
	1	346 06.5	190 53.5	N11 47.6	144 23.9	S 9 16.4	188 04.9	N10 11.8	319 24.2	N 8 11.5
	2	1 09.0	205 53.0	N11 46.5	159 24.9	S 9 17.0	203 06.9	N10 11.6	334 26.7	N 8 11.4
	3	16 11.4	220 52.5	N11 45.4	174 25.8	S 9 17.6	218 08.9	N10 11.4	349 29.2	N 8 11.4
	4	31 13.9	235 52.0	N11 44.3	189 26.8	S 9 18.3	233 10.8	N10 11.2	4 31.7	N 8 11.4
M	5	46 16.3	250 51.5	N11 43.2	204 27.8	S 9 18.9	248 12.8	N10 11.0	19 34.3	N 8 11.3
O										
N	6	61 18.8	265 51.0	N11 42.1	219 28.8	S 9 19.5	263 14.7	N10 10.8	34 36.8	N 8 11.3
D	7	76 21.3	280 50.5	N11 40.9	234 29.7	S 9 20.1	278 16.7	N10 10.6	49 39.3	N 8 11.3
A	8	91 23.7	295 50.0	N11 39.8	249 30.7	S 9 20.7	293 18.6	N10 10.4	64 41.8	N 8 11.2
Y	9	106 26.2	310 49.5	N11 38.7	264 31.7	S 9 21.3	308 20.6	N10 10.2	79 44.3	N 8 11.2
	10	121 28.7	325 49.1	N11 37.6	279 32.6	S 9 22.0	323 22.5	N10 10.0	94 46.8	N 8 11.2
	11	136 31.1	340 48.6	N11 36.5	294 33.6	S 9 22.6	338 24.5	N10 09.8	109 49.3	N 8 11.1
	12	151 33.6	355 48.1	N11 35.4	309 34.6	S 9 23.2	353 26.4	N10 09.7	124 51.9	N 8 11.1
	13	166 36.1	10 47.6	N11 34.3	324 35.6	S 9 23.8	8 28.4	N10 09.5	139 54.4	N 8 11.1
	14	181 38.5	25 47.1	N11 33.2	339 36.5	S 9 24.4	23 30.3	N10 09.3	154 56.9	N 8 11.1
	15	196 41.0	40 46.6	N11 32.1	354 37.5	S 9 25.1	38 32.3	N10 09.1	169 59.4	N 8 11.0
	16	211 43.5	55 46.1	N11 31.0	9 38.5	S 9 25.7	53 34.2	N10 08.9	185 01.9	N 8 11.0
	17	226 45.9	70 45.7	N11 29.9	24 39.4	S 9 26.3	68 36.2	N10 08.7	200 04.4	N 8 11.0
	18	241 48.4	85 45.2	N11 28.8	39 40.4	S 9 26.9	83 38.1	N10 08.5	215 07.0	N 8 10.9
	19	256 50.8	100 44.7	N11 27.7	54 41.4	S 9 27.5	98 40.1	N10 08.3	230 09.5	N 8 10.9
	20	271 53.3	115 44.2	N11 26.6	69 42.4	S 9 28.2	113 42.0	N10 08.1	245 12.0	N 8 10.9
	21	286 55.8	130 43.7	N11 25.4	84 43.3	S 9 28.8	128 44.0	N10 07.9	260 14.5	N 8 10.8
	22	301 58.2	145 43.2	N11 24.3	99 44.3	S 9 29.4	143 45.9	N10 07.7	275 17.0	N 8 10.8
	23	317 00.7	160 42.8	N11 23.2	114 45.3	S 9 30.0	158 47.9	N10 07.5	290 19.5	N 8 10.8
24	0	332 03.2	175 42.3	N11 22.1	129 46.2	S 9 30.6	173 49.8	N10 07.3	305 22.1	N 8 10.7
	1	347 05.6	190 41.8	N11 21.0	144 47.2	S 9 31.2	188 51.8	N10 07.1	320 24.6	N 8 10.7
	2	2 08.1	205 41.3	N11 19.9	159 48.2	S 9 31.9	203 53.8	N10 06.9	335 27.1	N 8 10.7
	3	17 10.6	220 40.8	N11 18.8	174 49.1	S 9 32.5	218 55.7	N10 06.7	350 29.6	N 8 10.6
	4	32 13.0	235 40.4	N11 17.7	189 50.1	S 9 33.1	233 57.7	N10 06.5	5 32.1	N 8 10.6
T	5	47 15.5	250 39.9	N11 16.5	204 51.1	S 9 33.7	248 59.6	N10 06.3	20 34.7	N 8 10.6
U										
E	6	62 18.0	265 39.4	N11 15.4	219 52.0	S 9 34.3	264 01.6	N10 06.1	35 37.2	N 8 10.6
S	7	77 20.4	280 38.9	N11 14.3	234 53.0	S 9 34.9	279 03.5	N10 05.9	50 39.7	N 8 10.5
D	8	92 22.9	295 38.4	N11 13.2	249 54.0	S 9 35.6	294 05.5	N10 05.7	65 42.2	N 8 10.5
A	9	107 25.3	310 38.0	N11 12.1	264 54.9	S 9 36.2	309 07.4	N10 05.5	80 44.7	N 8 10.5
Y	10	122 27.8	325 37.5	N11 11.0	279 55.9	S 9 36.8	324 09.4	N10 05.3	95 47.3	N 8 10.4
	11	137 30.3	340 37.0	N11 09.8	294 56.9	S 9 37.4	339 11.3	N10 05.1	110 49.8	N 8 10.4
	12	152 32.7	355 36.5	N11 08.7	309 57.8	S 9 38.0	354 13.3	N10 04.9	125 52.3	N 8 10.4
	13	167 35.2	10 36.1	N11 07.6	324 58.8	S 9 38.7	9 15.2	N10 04.7	140 54.8	N 8 10.3
	14	182 37.7	25 35.6	N11 06.5	339 59.8	S 9 39.3	24 17.2	N10 04.5	155 57.3	N 8 10.3
	15	197 40.1	40 35.1	N11 05.4	355 00.7	S 9 39.9	39 19.1	N10 04.3	170 59.9	N 8 10.3
	16	212 42.6	55 34.6	N11 04.2	10 01.7	S 9 40.5	54 21.1	N10 04.1	186 02.4	N 8 10.2
	17	227 45.1	70 34.1	N11 03.1	25 02.7	S 9 41.1	69 23.0	N10 03.9	201 04.9	N 8 10.2
	18	242 47.5	85 33.7	N11 02.0	40 03.6	S 9 41.7	84 25.0	N10 03.7	216 07.4	N 8 10.2
	19	257 50.0	100 33.2	N11 00.9	55 04.6	S 9 42.4	99 26.9	N10 03.5	231 09.9	N 8 10.1
	20	272 52.4	115 32.7	N10 59.8	70 05.6	S 9 43.0	114 28.9	N10 03.3	246 12.5	N 8 10.1
	21	287 54.9	130 32.3	N10 58.6	85 06.5	S 9 43.6	129 30.8	N10 03.1	261 15.0	N 8 10.1
	22	302 57.4	145 31.8	N10 57.5	100 07.5	S 9 44.2	144 32.8	N10 02.9	276 17.5	N 8 10.0
	23	317 59.8	160 31.3	N10 56.4	115 08.4	S 9 44.8	159 34.7	N10 02.7	291 20.0	N 8 10.0
25	0	333 02.3	175 30.8	N10 55.3	130 09.4	S 9 45.4	174 36.7	N10 02.5	306 22.5	N 8 10.0
	1	348 04.8	190 30.4	N10 54.1	145 10.4	S 9 46.1	189 38.6	N10 02.3	321 25.1	N 8 09.9
	2	3 07.2	205 29.9	N10 53.0	160 11.3	S 9 46.7	204 40.6	N10 02.1	336 27.6	N 8 09.9
	3	18 09.7	220 29.4	N10 51.9	175 12.3	S 9 47.3	219 42.6	N10 01.9	351 30.1	N 8 09.9
	4	33 12.2	235 28.9	N10 50.8	190 13.3	S 9 47.9	234 44.5	N10 01.7	6 32.6	N 8 09.8
W	5	48 14.6	250 28.5	N10 49.6	205 14.2	S 9 48.5	249 46.5	N10 01.5	21 35.2	N 8 09.8
E										
D	6	63 17.1	265 28.0	N10 48.5	220 15.2	S 9 49.1	264 48.4	N10 01.3	36 37.7	N 8 09.8
N	7	78 19.6	280 27.5	N10 47.4	235 16.1	S 9 49.8	279 50.4	N10 01.1	51 40.2	N 8 09.7
E	8	93 22.0	295 27.1	N10 46.2	250 17.1	S 9 50.4	294 52.3	N10 00.9	66 42.7	N 8 09.7
S	9	108 24.5	310 26.6	N10 45.1	265 18.1	S 9 51.0	309 54.3	N10 00.7	81 45.2	N 8 09.7
D	10	123 26.9	325 26.1	N10 44.0	280 19.0	S 9 51.6	324 56.2	N10 00.5	96 47.8	N 8 09.6
A	11	138 29.4	340 25.7	N10 42.8	295 20.0	S 9 52.2	339 58.2	N10 00.3	111 50.3	N 8 09.6
Y										
	12	153 31.9	355 25.2	N10 41.7	310 20.9	S 9 52.8	355 00.1	N10 00.1	126 52.8	N 8 09.6
	13	168 34.3	10 24.7	N10 40.6	325 21.9	S 9 53.5	10 02.1	N 9 59.9	141 55.3	N 8 09.5
	14	183 36.8	25 24.2	N10 39.5	340 22.9	S 9 54.1	25 04.0	N 9 59.7	156 57.9	N 8 09.5
	15	198 39.3	40 23.8	N10 38.3	355 23.8	S 9 54.7	40 06.0	N 9 59.5	172 00.4	N 8 09.5
	16	213 41.7	55 23.3	N10 37.2	10 24.8	S 9 55.3	55 07.9	N 9 59.3	187 02.9	N 8 09.4
	17	228 44.2	70 22.8	N10 36.1	25 25.7	S 9 55.9	70 09.9	N 9 59.1	202 05.4	N 8 09.4
	18	243 46.7	85 22.4	N10 34.9	40 26.7	S 9 56.5	85 11.8	N 9 58.9	217 08.0	N 8 09.4
	19	258 49.1	100 21.9	N10 33.8	55 27.7	S 9 57.1	100 13.8	N 9 58.7	232 10.5	N 8 09.3
	20	273 51.6	115 21.4	N10 32.7	70 28.6	S 9 57.8	115 15.7	N 9 58.5	247 13.0	N 8 09.3
	21	288 54.1	130 21.0	N10 31.5	85 29.6	S 9 58.4	130 17.7	N 9 58.3	262 15.5	N 8 09.3
	22	303 56.5	145 20.5	N10 30.4	100 30.5	S 9 59.0	145 19.6	N 9 58.1	277 18.1	N 8 09.2
	23	318 59.0	160 20.1	N10 29.2	115 31.5	S 9 59.6	160 21.6	N 9 57.9	292 20.6	N 8 09.2
			v -0.5	d 1.1	v 1.0	d 0.6	v 2.0	d 0.2	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 '
23	0	179 17.6	N11 35.2	301 11.0	12.1	N17 44.9	11.5	56.4
	1	194 17.8	N11 34.4	315 42.1	12.0	N17 56.3	11.4	56.4
	2	209 18.0	N11 33.5	330 13.0	11.9	N18 07.6	11.3	56.4
	3	224 18.1	N11 32.7	344 43.8	11.8	N18 18.9	11.3	56.4
	4	239 18.3	N11 31.9	359 14.5	11.7	N18 30.1	11.2	56.5
M	5	254 18.4	N11 31.0	13 45.2	11.6	N18 41.2	11.1	56.5
O								
N	6	269 18.6	N11 30.2	28 15.7	11.5	N18 52.2	11.0	56.5
D	7	284 18.8	N11 29.3	42 46.1	11.4	N19 03.1	10.9	56.5
A	8	299 18.9	N11 28.5	57 16.4	11.3	N19 14.0	10.9	56.6
Y	9	314 19.1	N11 27.6	71 46.7	11.2	N19 24.8	10.8	56.6
	10	329 19.3	N11 26.8	86 16.8	11.1	N19 35.4	10.7	56.6
	11	344 19.4	N11 25.9	100 46.8	11.0	N19 46.0	10.6	56.7
	12	359 19.6	N11 25.1	115 16.8	10.9	N19 56.6	10.5	56.7
	13	14 19.7	N11 24.2	129 46.6	10.8	N20 07.0	10.4	56.7
	14	29 19.9	N11 23.4	144 16.3	10.7	N20 17.3	10.3	56.7
	15	44 20.1	N11 22.5	158 45.9	10.6	N20 27.6	10.2	56.8
	16	59 20.2	N11 21.7	173 15.4	10.5	N20 37.7	10.1	56.8
	17	74 20.4	N11 20.8	187 44.8	10.4	N20 47.8	10.1	56.8
	18	89 20.6	N11 20.0	202 14.1	10.3	N20 57.7	10.0	56.9
	19	104 20.7	N11 19.1	216 43.3	10.2	N21 07.6	9.9	56.9
	20	119 20.9	N11 18.3	231 12.4	10.1	N21 17.3	9.8	56.9
	21	134 21.1	N11 17.4	245 41.4	10.0	N21 27.0	9.7	57.0
	22	149 21.2	N11 16.6	260 10.2	9.9	N21 36.6	9.6	57.0
	23	164 21.4	N11 15.7	274 39.0	9.8	N21 46.0	9.5	57.0
24	0	179 21.6	N11 14.9	289 07.6	9.7	N21 55.4	9.4	57.0
	1	194 21.7	N11 14.0	303 36.2	9.5	N22 04.6	9.2	57.1
	2	209 21.9	N11 13.2	318 04.6	9.4	N22 13.7	9.1	57.1
	3	224 22.1	N11 12.3	332 32.9	9.3	N22 22.8	9.0	57.1
	4	239 22.2	N11 11.5	347 01.2	9.2	N22 31.7	8.9	57.2
T	5	254 22.4	N11 10.6	1 29.3	9.1	N22 40.5	8.8	57.2
U								
E	6	269 22.6	N11 09.8	15 57.3	9.0	N22 49.2	8.7	57.2
S	7	284 22.7	N11 08.9	30 25.2	8.9	N22 57.8	8.6	57.3
D	8	299 22.9	N11 08.1	44 52.9	8.8	N23 06.2	8.5	57.3
A	9	314 23.1	N11 07.2	59 20.6	8.7	N23 14.6	8.3	57.3
Y	10	329 23.2	N11 06.4	73 48.2	8.6	N23 22.8	8.2	57.4
	11	344 23.4	N11 05.5	88 15.6	8.5	N23 30.9	8.1	57.4
	12	359 23.6	N11 04.6	102 43.0	8.3	N23 38.9	8.0	57.4
	13	14 23.7	N11 03.8	117 10.2	8.2	N23 46.7	7.9	57.4
	14	29 23.9	N11 02.9	131 37.3	8.1	N23 54.5	7.7	57.5
	15	44 24.1	N11 02.1	146 04.3	8.0	N24 02.1	7.6	57.5
	16	59 24.2	N11 01.2	160 31.2	7.9	N24 09.6	7.5	57.5
	17	74 24.4	N11 00.4	174 58.0	7.8	N24 16.9	7.3	57.6
	18	89 24.6	N10 59.5	189 24.7	7.7	N24 24.1	7.2	57.6
	19	104 24.8	N10 58.7	203 51.3	7.6	N24 31.2	7.1	57.6
	20	119 24.9	N10 57.8	218 17.8	7.5	N24 38.2	7.0	57.7
	21	134 25.1	N10 56.9	232 44.2	7.4	N24 45.0	6.8	57.7
	22	149 25.3	N10 56.1	247 10.4	7.3	N24 51.7	6.7	57.7
	23	164 25.4	N10 55.2	261 36.6	7.2	N24 58.2	6.5	57.8
25	0	179 25.6	N10 54.4	276 02.7	7.1	N25 04.6	6.4	57.8
	1	194 25.8	N10 53.5	290 28.6	7.0	N25 10.9	6.3	57.8
	2	209 25.9	N10 52.6	304 54.5	6.9	N25 17.0	6.1	57.9
	3	224 26.1	N10 51.8	319 20.2	6.7	N25 22.9	6.0	57.9
	4	239 26.3	N10 50.9	333 45.9	6.6	N25 28.8	5.8	57.9
W	5	254 26.5	N10 50.1	348 11.4	6.5	N25 34.5	5.7	58.0
E								
D	6	269 26.6	N10 49.2	2 36.9	6.4	N25 40.0	5.5	58.0
N	7	284 26.8	N10 48.3	17 02.2	6.3	N25 45.4	5.4	58.0
E	8	299 27.0	N10 47.5	31 27.5	6.2	N25 50.6	5.2	58.1
S	9	314 27.1	N10 46.6	45 52.6	6.2	N25 55.7	5.1	58.1
D	10	329 27.3	N10 45.8	60 17.7	6.1	N26 00.6	4.9	58.1
A	11	344 27.5	N10 44.9	74 42.6	6.0	N26 05.4	4.8	58.2
Y								
	12	359 27.7	N10 44.0	89 07.5	5.9	N26 10.0	4.6	58.2
	13	14 27.8	N10 43.2	103 32.3	5.8	N26 14.4	4.5	58.2
	14	29 28.0	N10 42.3	117 57.0	5.7	N26 18.7	4.3	58.3
	15	44 28.2	N10 41.4	132 21.6	5.6	N26 22.9	4.1	58.3
	16	59 28.3	N10 40.6	146 46.1	5.5	N26 26.8	4.0	58.3
	17	74 28.5	N10 39.7	161 10.5	5.4	N26 30.6	3.8	58.4
	18	89 28.7	N10 38.9	175 34.8	5.3	N26 34.3	3.6	58.4
	19	104 28.9	N10 38.0	189 59.1	5.3	N26 37.8	3.5	58.4
	20	119 29.0	N10 37.1	204 23.2	5.2	N26 41.1	3.3	58.5
	21	134 29.2	N10 36.3	218 47.3	5.1	N26 44.2	3.1	58.5
	22	149 29.4	N10 35.4	233 11.3	5.0	N26 47.2	3.0	58.5
	23	164 29.6	N10 34.5	247 35.3	4.9	N26 50.0	2.8	58.6
		S.D. 15.8	d 0.9	S.D.	15.4	15.6	15.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.0	S40 11.3
Achernar	335 18.2	S57 05.4
Acrux	172 58.2	S63 15.3
Adhara	255 04.4	S29 00.4
Albireo	67 02.0	N28 01.3
Aldebaran	290 37.2	N16 33.9
Alioth	166 11.5	N55 48.8
Alkaid	152 50.6	N49 10.7
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.6	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 01.9	N26 37.5
Alpheratz	357 32.2	N29 14.7
Altair	61 57.6	N 8 56.6
Ankaa	353 04.6	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.3	S69 04.9
Avior	234 14.4	S59 35.7
Bellatrix	278 20.7	N 6 22.6
Betelgeuse	270 49.9	N 7 24.8
Canopus	263 51.7	S52 42.3
Capella	280 18.8	N46 01.4
Castor	245 54.6	N31 49.6
Deneb	49 23.9	N45 22.9
Denebola	182 23.0	N14 25.1
Diphda	348 44.9	S17 49.8
Dubhe	193 39.0	N61 36.1
Elnath	277 59.3	N28 37.8
Eltanin	90 40.9	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.3
Gienah	175 41.6	S17 41.7
Hadar	148 33.3	S60 30.6
Hamal	327 48.6	N23 35.7
Kaus Austr.	83 29.4	S34 22.4
Kochab	137 20.4	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.8	N 4 12.0
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 25.1	N49 57.5
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.8
Polaris	315 31.1	N89 22.0
Pollux	243 14.9	N27 57.5
Procyon	244 48.8	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.4	N11 50.0
Rigel	281 01.9	S 8 10.0
Rigil Kent	139 37.7	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.1	N56 41.3
Shaula	96 07.2	S37 07.5
Sirius	258 24.5	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.1	S43 32.6
Vega	80 31.5	N38 48.8
Zuben-ubi	136 54.6	S16 09.5

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 01.4	175 19.6	N10 28.1	130 32.4	S10 00.2	175 23.5	N 9 57.7	307 23.1	N 8 09.2
	1	349 03.9	190 19.1	N10 27.0	145 33.4	S10 00.8	190 25.5	N 9 57.5	322 25.6	N 8 09.1
	2	4 06.4	205 18.7	N10 25.8	160 34.4	S10 01.5	205 27.4	N 9 57.3	337 28.2	N 8 09.1
	3	19 08.8	220 18.2	N10 24.7	175 35.3	S10 02.1	220 29.4	N 9 57.1	352 30.7	N 8 09.1
	4	34 11.3	235 17.7	N10 23.6	190 36.3	S10 02.7	235 31.3	N 9 56.9	7 33.2	N 8 09.0
T	5	49 13.8	250 17.3	N10 22.4	205 37.2	S10 03.3	250 33.3	N 9 56.7	22 35.7	N 8 09.0
H										
U	6	64 16.2	265 16.8	N10 21.3	220 38.2	S10 03.9	265 35.3	N 9 56.5	37 38.3	N 8 09.0
R	7	79 18.7	280 16.3	N10 20.1	235 39.1	S10 04.5	280 37.2	N 9 56.3	52 40.8	N 8 08.9
S	8	94 21.2	295 15.9	N10 19.0	250 40.1	S10 05.1	295 39.2	N 9 56.1	67 43.3	N 8 08.9
D	9	109 23.6	310 15.4	N10 17.8	265 41.0	S10 05.8	310 41.1	N 9 55.9	82 45.9	N 8 08.9
A	10	124 26.1	325 15.0	N10 16.7	280 42.0	S10 06.4	325 43.1	N 9 55.7	97 48.4	N 8 08.8
Y	11	139 28.6	340 14.5	N10 15.6	295 42.9	S10 07.0	340 45.0	N 9 55.5	112 50.9	N 8 08.8
	12	154 31.0	355 14.0	N10 14.4	310 43.9	S10 07.6	355 47.0	N 9 55.3	127 53.4	N 8 08.8
	13	169 33.5	10 13.6	N10 13.3	325 44.9	S10 08.2	10 48.9	N 9 55.1	142 56.0	N 8 08.7
	14	184 35.9	25 13.1	N10 12.1	340 45.8	S10 08.8	25 50.9	N 9 54.9	157 58.5	N 8 08.7
	15	199 38.4	40 12.7	N10 11.0	355 46.8	S10 09.4	40 52.8	N 9 54.7	173 01.0	N 8 08.6
	16	214 40.9	55 12.2	N10 09.8	10 47.7	S10 10.1	55 54.8	N 9 54.5	188 03.5	N 8 08.6
	17	229 43.3	70 11.7	N10 08.7	25 48.7	S10 10.7	70 56.7	N 9 54.3	203 06.1	N 8 08.6
	18	244 45.8	85 11.3	N10 07.6	40 49.6	S10 11.3	85 58.7	N 9 54.1	218 08.6	N 8 08.5
	19	259 48.3	100 10.8	N10 06.4	55 50.6	S10 11.9	101 00.6	N 9 53.9	233 11.1	N 8 08.5
	20	274 50.7	115 10.4	N10 05.3	70 51.5	S10 12.5	116 02.6	N 9 53.7	248 13.7	N 8 08.5
	21	289 53.2	130 09.9	N10 04.1	85 52.5	S10 13.1	131 04.5	N 9 53.5	263 16.2	N 8 08.4
	22	304 55.7	145 09.5	N10 03.0	100 53.4	S10 13.7	146 06.5	N 9 53.3	278 18.7	N 8 08.4
	23	319 58.1	160 09.0	N10 01.8	115 54.4	S10 14.4	161 08.4	N 9 53.1	293 21.2	N 8 08.4
27	0	335 00.6	175 08.6	N10 00.7	130 55.3	S10 15.0	176 10.4	N 9 52.9	308 23.8	N 8 08.3
	1	350 03.1	190 08.1	N 9 59.5	145 56.3	S10 15.6	191 12.3	N 9 52.7	323 26.3	N 8 08.3
	2	5 05.5	205 07.6	N 9 58.4	160 57.2	S10 16.2	206 14.3	N 9 52.5	338 28.8	N 8 08.3
	3	20 08.0	220 07.2	N 9 57.2	175 58.2	S10 16.8	221 16.2	N 9 52.3	353 31.4	N 8 08.2
	4	35 10.4	235 06.7	N 9 56.1	190 59.1	S10 17.4	236 18.2	N 9 52.1	8 33.9	N 8 08.2
F	5	50 12.9	250 06.3	N 9 54.9	206 00.1	S10 18.0	251 20.1	N 9 51.9	23 36.4	N 8 08.2
R										
I	6	65 15.4	265 05.8	N 9 53.8	221 01.0	S10 18.7	266 22.1	N 9 51.7	38 39.0	N 8 08.1
D	7	80 17.8	280 05.4	N 9 52.6	236 02.0	S10 19.3	281 24.0	N 9 51.5	53 41.5	N 8 08.1
A	8	95 20.3	295 04.9	N 9 51.5	251 02.9	S10 19.9	296 26.0	N 9 51.3	68 44.0	N 8 08.0
Y	9	110 22.8	310 04.5	N 9 50.3	266 03.9	S10 20.5	311 27.9	N 9 51.1	83 46.6	N 8 08.0
	10	125 25.2	325 04.0	N 9 49.2	281 04.8	S10 21.1	326 29.9	N 9 50.9	98 49.1	N 8 08.0
	11	140 27.7	340 03.6	N 9 48.0	296 05.8	S10 21.7	341 31.9	N 9 50.7	113 51.6	N 8 07.9
	12	155 30.2	355 03.1	N 9 46.8	311 06.7	S10 22.3	356 33.8	N 9 50.5	128 54.1	N 8 07.9
	13	170 32.6	10 02.7	N 9 45.7	326 07.7	S10 22.9	11 35.8	N 9 50.3	143 56.7	N 8 07.9
	14	185 35.1	25 02.2	N 9 44.5	341 08.6	S10 23.6	26 37.7	N 9 50.1	158 59.2	N 8 07.8
	15	200 37.5	40 01.7	N 9 43.4	356 09.6	S10 24.2	41 39.7	N 9 49.9	174 01.7	N 8 07.8
	16	215 40.0	55 01.3	N 9 42.2	11 10.5	S10 24.8	56 41.6	N 9 49.7	189 04.3	N 8 07.8
	17	230 42.5	70 00.8	N 9 41.1	26 11.5	S10 25.4	71 43.6	N 9 49.5	204 06.8	N 8 07.7
	18	245 44.9	85 00.4	N 9 39.9	41 12.4	S10 26.0	86 45.5	N 9 49.3	219 09.3	N 8 07.7
	19	260 47.4	99 59.9	N 9 38.8	56 13.3	S10 26.6	101 47.5	N 9 49.1	234 11.9	N 8 07.6
	20	275 49.9	114 59.5	N 9 37.6	71 14.3	S10 27.2	116 49.4	N 9 48.9	249 14.4	N 8 07.6
	21	290 52.3	129 59.1	N 9 36.4	86 15.2	S10 27.8	131 51.4	N 9 48.7	264 16.9	N 8 07.6
	22	305 54.8	144 58.6	N 9 35.3	101 16.2	S10 28.5	146 53.3	N 9 48.5	279 19.5	N 8 07.5
	23	320 57.3	159 58.2	N 9 34.1	116 17.1	S10 29.1	161 55.3	N 9 48.3	294 22.0	N 8 07.5
28	0	335 59.7	174 57.7	N 9 33.0	131 18.1	S10 29.7	176 57.2	N 9 48.1	309 24.5	N 8 07.5
	1	351 02.2	189 57.3	N 9 31.8	146 19.0	S10 30.3	191 59.2	N 9 47.9	324 27.1	N 8 07.4
	2	6 04.7	204 56.8	N 9 30.6	161 20.0	S10 30.9	207 01.1	N 9 47.7	339 29.6	N 8 07.4
	3	21 07.1	219 56.4	N 9 29.5	176 20.9	S10 31.5	222 03.1	N 9 47.5	354 32.1	N 8 07.3
	4	36 09.6	234 55.9	N 9 28.3	191 21.9	S10 32.1	237 05.0	N 9 47.3	9 34.7	N 8 07.3
S	5	51 12.0	249 55.5	N 9 27.2	206 22.8	S10 32.7	252 07.0	N 9 47.1	24 37.2	N 8 07.3
A										
T	6	66 14.5	264 55.0	N 9 26.0	221 23.7	S10 33.4	267 08.9	N 9 46.9	39 39.7	N 8 07.2
U	7	81 17.0	279 54.6	N 9 24.8	236 24.7	S10 34.0	282 10.9	N 9 46.7	54 42.3	N 8 07.2
R	8	96 19.4	294 54.1	N 9 23.7	251 25.6	S10 34.6	297 12.8	N 9 46.5	69 44.8	N 8 07.2
D	9	111 21.9	309 53.7	N 9 22.5	266 26.6	S10 35.2	312 14.8	N 9 46.3	84 47.3	N 8 07.1
A	10	126 24.4	324 53.2	N 9 21.3	281 27.5	S10 35.8	327 16.7	N 9 46.1	99 49.9	N 8 07.1
Y	11	141 26.8	339 52.8	N 9 20.2	296 28.5	S10 36.4	342 18.7	N 9 45.9	114 52.4	N 8 07.0
	12	156 29.3	354 52.4	N 9 19.0	311 29.4	S10 37.0	357 20.6	N 9 45.7	129 55.0	N 8 07.0
	13	171 31.8	9 51.9	N 9 17.8	326 30.3	S10 37.6	12 22.6	N 9 45.5	144 57.5	N 8 07.0
	14	186 34.2	24 51.5	N 9 16.7	341 31.3	S10 38.3	27 24.6	N 9 45.3	160 00.0	N 8 06.9
	15	201 36.7	39 51.0	N 9 15.5	356 32.2	S10 38.9	42 26.5	N 9 45.1	175 02.6	N 8 06.9
	16	216 39.2	54 50.6	N 9 14.3	11 33.2	S10 39.5	57 28.5	N 9 44.9	190 05.1	N 8 06.9
	17	231 41.6	69 50.1	N 9 13.2	26 34.1	S10 40.1	72 30.4	N 9 44.7	205 07.6	N 8 06.8
	18	246 44.1	84 49.7	N 9 12.0	41 35.0	S10 40.7	87 32.4	N 9 44.5	220 10.2	N 8 06.8
	19	261 46.5	99 49.3	N 9 10.8	56 36.0	S10 41.3	102 34.3	N 9 44.3	235 12.7	N 8 06.7
	20	276 49.0	114 48.8	N 9 09.7	71 36.9	S10 41.9	117 36.3	N 9 44.1	250 15.2	N 8 06.7
	21	291 51.5	129 48.4	N 9 08.5	86 37.9	S10 42.5	132 38.2	N 9 43.9	265 17.8	N 8 06.7
	22	306 53.9	144 47.9	N 9 07.3	101 38.8	S10 43.1	147 40.2	N 9 43.7	280 20.3	N 8 06.6
	23	321 56.4	159 47.5	N 9 06.2	116 39.7	S10 43.8	162 42.1	N 9 43.5	295 22.9	N 8 06.6
			v -0.5	d 1.2	v 0.9	d 0.6	v 2.0	d 0.2	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 '
26	0	179 29.7	N10 33.7	261 59.1	4.9	N26 52.6	2.6	58.6
	1	194 29.9	N10 32.8	276 22.9	4.8	N26 55.1	2.5	58.6
	2	209 30.1	N10 31.9	290 46.6	4.7	N26 57.4	2.3	58.7
	3	224 30.3	N10 31.1	305 10.3	4.6	N26 59.5	2.1	58.7
	4	239 30.4	N10 30.2	319 33.8	4.6	N27 01.4	1.9	58.7
T	5	254 30.6	N10 29.3	333 57.3	4.5	N27 03.2	1.8	58.8
H								
U	6	269 30.8	N10 28.5	348 20.8	4.4	N27 04.8	1.6	58.8
R	7	284 31.0	N10 27.6	2 44.1	4.4	N27 06.2	1.4	58.8
S	8	299 31.1	N10 26.7	17 07.5	4.3	N27 07.4	1.2	58.9
D	9	314 31.3	N10 25.9	31 30.7	4.3	N27 08.5	1.1	58.9
A	10	329 31.5	N10 25.0	45 53.9	4.2	N27 09.4	0.9	58.9
Y	11	344 31.7	N10 24.1	60 17.1	4.1	N27 10.1	0.7	59.0
	12	359 31.8	N10 23.2	74 40.1	4.1	N27 10.6	0.5	59.0
	13	14 32.0	N10 22.4	89 03.2	4.0	N27 10.9	0.3	59.0
	14	29 32.2	N10 21.5	103 26.2	4.0	N27 11.0	0.1	59.1
	15	44 32.4	N10 20.6	117 49.1	3.9	N27 11.0	0.0	59.1
	16	59 32.5	N10 19.8	132 12.0	3.9	N27 10.7	0.2	59.1
	17	74 32.7	N10 18.9	146 34.9	3.9	N27 10.3	0.4	59.2
	18	89 32.9	N10 18.0	160 57.7	3.8	N27 09.7	0.6	59.2
	19	104 33.1	N10 17.1	175 20.5	3.8	N27 08.9	0.8	59.2
	20	119 33.3	N10 16.3	189 43.2	3.7	N27 08.0	1.0	59.3
	21	134 33.4	N10 15.4	204 06.0	3.7	N27 06.8	1.2	59.3
	22	149 33.6	N10 14.5	218 28.6	3.7	N27 05.5	1.4	59.3
	23	164 33.8	N10 13.7	232 51.3	3.7	N27 03.9	1.5	59.3
27	0	179 34.0	N10 12.8	247 13.9	3.6	N27 02.2	1.7	59.4
	1	194 34.1	N10 11.9	261 36.5	3.6	N27 00.3	1.9	59.4
	2	209 34.3	N10 11.0	275 59.1	3.6	N26 58.2	2.1	59.4
	3	224 34.5	N10 10.2	290 21.7	3.6	N26 55.9	2.3	59.5
	4	239 34.7	N10 09.3	304 44.3	3.6	N26 53.4	2.5	59.5
F	5	254 34.9	N10 08.4	319 06.8	3.5	N26 50.7	2.7	59.5
R								
I	6	269 35.0	N10 07.5	333 29.3	3.5	N26 47.9	2.9	59.6
D	7	284 35.2	N10 06.7	347 51.8	3.5	N26 44.8	3.1	59.6
A	8	299 35.4	N10 05.8	2 14.4	3.5	N26 41.6	3.2	59.6
Y	9	314 35.6	N10 04.9	16 36.9	3.5	N26 38.1	3.4	59.7
	10	329 35.8	N10 04.0	30 59.4	3.5	N26 34.5	3.6	59.7
	11	344 35.9	N10 03.2	45 21.9	3.5	N26 30.7	3.8	59.7
	12	359 36.1	N10 02.3	59 44.4	3.5	N26 26.7	4.0	59.8
	13	14 36.3	N10 01.4	74 06.9	3.5	N26 22.5	4.2	59.8
	14	29 36.5	N10 00.5	88 29.4	3.5	N26 18.1	4.4	59.8
	15	44 36.7	N 9 59.7	102 52.0	3.5	N26 13.5	4.6	59.8
	16	59 36.8	N 9 58.8	117 14.5	3.5	N26 08.8	4.8	59.9
	17	74 37.0	N 9 57.9	131 37.1	3.6	N26 03.8	4.9	59.9
	18	89 37.2	N 9 57.0	145 59.6	3.6	N25 58.7	5.1	59.9
	19	104 37.4	N 9 56.1	160 22.2	3.6	N25 53.4	5.3	60.0
	20	119 37.6	N 9 55.3	174 44.8	3.6	N25 47.9	5.5	60.0
	21	134 37.7	N 9 54.4	189 07.5	3.6	N25 42.2	5.7	60.0
	22	149 37.9	N 9 53.5	203 30.1	3.7	N25 36.3	5.9	60.0
	23	164 38.1	N 9 52.6	217 52.8	3.7	N25 30.2	6.1	60.1
28	0	179 38.3	N 9 51.8	232 15.6	3.7	N25 24.0	6.3	60.1
	1	194 38.5	N 9 50.9	246 38.3	3.7	N25 17.5	6.4	60.1
	2	209 38.7	N 9 50.0	261 01.1	3.8	N25 10.9	6.6	60.1
	3	224 38.8	N 9 49.1	275 23.9	3.8	N25 04.1	6.8	60.2
	4	239 39.0	N 9 48.2	289 46.8	3.9	N24 57.1	7.0	60.2
S	5	254 39.2	N 9 47.3	304 09.7	3.9	N24 50.0	7.2	60.2
A								
T	6	269 39.4	N 9 46.5	318 32.6	3.9	N24 42.6	7.3	60.2
U	7	284 39.6	N 9 45.6	332 55.6	4.0	N24 35.1	7.5	60.3
R	8	299 39.8	N 9 44.7	347 18.6	4.0	N24 27.4	7.7	60.3
D	9	314 39.9	N 9 43.8	1 41.6	4.1	N24 19.5	7.9	60.3
A	10	329 40.1	N 9 42.9	16 04.8	4.1	N24 11.5	8.1	60.3
Y	11	344 40.3	N 9 42.1	30 27.9	4.2	N24 03.3	8.2	60.4
	12	359 40.5	N 9 41.2	44 51.1	4.2	N23 54.9	8.4	60.4
	13	14 40.7	N 9 40.3	59 14.4	4.3	N23 46.3	8.6	60.4
	14	29 40.9	N 9 39.4	73 37.7	4.3	N23 37.5	8.7	60.4
	15	44 41.0	N 9 38.5	88 01.1	4.4	N23 28.6	8.9	60.5
	16	59 41.2	N 9 37.6	102 24.5	4.4	N23 19.5	9.1	60.5
	17	74 41.4	N 9 36.8	116 48.0	4.5	N23 10.3	9.3	60.5
	18	89 41.6	N 9 35.9	131 11.6	4.6	N23 00.9	9.4	60.5
	19	104 41.8	N 9 35.0	145 35.2	4.6	N22 51.3	9.6	60.6
	20	119 42.0	N 9 34.1	159 58.9	4.7	N22 41.5	9.8	60.6
	21	134 42.1	N 9 33.2	174 22.6	4.7	N22 31.6	9.9	60.6
	22	149 42.3	N 9 32.3	188 46.4	4.8	N22 21.5	10.1	60.6
	23	164 42.5	N 9 31.4	203 10.3	4.9	N22 11.3	10.2	60.6
		S.D. 15.8	d 0.9	S.D. 16.1		16.3	16.5	

STARS Name	SHA ° '	Dec ° '
Acamar	315 10.0	S40 11.3
Achernar	335 18.2	S57 05.4
Acrux	172 58.2	S63 15.3
Adhara	255 04.4	S29 00.4
Albireo	67 02.0	N28 01.3
Aldebaran	290 37.2	N16 34.0
Alioth	166 11.5	N55 48.8
Alkaid	152 50.6	N49 10.7
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.6	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.2	N29 14.7
Altair	61 57.6	N 8 56.7
Ankaa	353 04.6	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.4	S69 04.9
Avior	234 14.4	S59 35.7
Bellatrix	278 20.6	N 6 22.6
Betelgeuse	270 49.9	N 7 24.8
Canopus	263 51.7	S52 42.3
Capella	280 18.8	N46 01.4
Castor	245 54.6	N31 49.6
Deneb	49 23.9	N45 22.9
Denebola	182 23.0	N14 25.1
Diphda	348 44.9	S17 49.8
Dubhe	193 39.0	N61 36.1
Elnath	277 59.3	N28 37.8
Eltanin	90 41.0	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.3
Gienah	175 41.6	S17 41.7
Hadar	148 33.3	S60 30.6
Hamal	327 48.6	N23 35.7
Kaus Austr.	83 29.4	S34 22.4
Kochab	137 20.5	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.8	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.6	S69 49.8
Mirfak	308 25.1	N49 57.5
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.8
Polaris	315 29.8	N89 22.0
Pollux	243 14.9	N27 57.5
Procyon	244 48.8	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.4	N11 50.0
Rigel	281 01.9	S 8 10.0
Rigil Kent	139 37.7	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.1	N56 41.3
Shaula	96 07.3	S37 07.5
Sirius	258 24.5	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 45.1	S43 32.5
Vega	80 31.5	N38 48.8
Zuben-ubi	136 54.6	S16 09.5

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	336 58.9	174 47.0	N 9 05.0	131 40.7	S10 44.4	177 44.1	N 9 43.3	310 25.4	N 8 06.6
	1	352 01.3	189 46.6	N 9 03.8	146 41.6	S10 45.0	192 46.0	N 9 43.1	325 27.9	N 8 06.5
	2	7 03.8	204 46.2	N 9 02.6	161 42.6	S10 45.6	207 48.0	N 9 42.9	340 30.5	N 8 06.5
	3	22 06.3	219 45.7	N 9 01.5	176 43.5	S10 46.2	222 49.9	N 9 42.7	355 33.0	N 8 06.4
	4	37 08.7	234 45.3	N 9 00.3	191 44.4	S10 46.8	237 51.9	N 9 42.5	10 35.5	N 8 06.4
S	5	52 11.2	249 44.9	N 8 59.1	206 45.4	S10 47.4	252 53.8	N 9 42.3	25 38.1	N 8 06.4
U										
N	6	67 13.7	264 44.4	N 8 58.0	221 46.3	S10 48.0	267 55.8	N 9 42.1	40 40.6	N 8 06.3
D	7	82 16.1	279 44.0	N 8 56.8	236 47.2	S10 48.6	282 57.7	N 9 41.9	55 43.2	N 8 06.3
A	8	97 18.6	294 43.5	N 8 55.6	251 48.2	S10 49.2	297 59.7	N 9 41.7	70 45.7	N 8 06.2
Y	9	112 21.0	309 43.1	N 8 54.4	266 49.1	S10 49.9	313 01.6	N 9 41.5	85 48.2	N 8 06.2
	10	127 23.5	324 42.7	N 8 53.3	281 50.0	S10 50.5	328 03.6	N 9 41.3	100 50.8	N 8 06.2
	11	142 26.0	339 42.2	N 8 52.1	296 51.0	S10 51.1	343 05.5	N 9 41.1	115 53.3	N 8 06.1
	12	157 28.4	354 41.8	N 8 50.9	311 51.9	S10 51.7	358 07.5	N 9 40.9	130 55.8	N 8 06.1
	13	172 30.9	9 41.4	N 8 49.7	326 52.9	S10 52.3	13 09.4	N 9 40.7	145 58.4	N 8 06.1
	14	187 33.4	24 40.9	N 8 48.6	341 53.8	S10 52.9	28 11.4	N 9 40.5	161 00.9	N 8 06.0
	15	202 35.8	39 40.5	N 8 47.4	356 54.7	S10 53.5	43 13.3	N 9 40.3	176 03.5	N 8 06.0
	16	217 38.3	54 40.0	N 8 46.2	11 55.7	S10 54.1	58 15.3	N 9 40.1	191 06.0	N 8 05.9
	17	232 40.8	69 39.6	N 8 45.0	26 56.6	S10 54.7	73 17.3	N 9 39.9	206 08.5	N 8 05.9
	18	247 43.2	84 39.2	N 8 43.8	41 57.5	S10 55.3	88 19.2	N 9 39.7	221 11.1	N 8 05.9
	19	262 45.7	99 38.7	N 8 42.7	56 58.5	S10 56.0	103 21.2	N 9 39.5	236 13.6	N 8 05.8
	20	277 48.1	114 38.3	N 8 41.5	71 59.4	S10 56.6	118 23.1	N 9 39.3	251 16.2	N 8 05.8
	21	292 50.6	129 37.9	N 8 40.3	87 00.3	S10 57.2	133 25.1	N 9 39.1	266 18.7	N 8 05.7
	22	307 53.1	144 37.4	N 8 39.1	102 01.3	S10 57.8	148 27.0	N 9 38.9	281 21.3	N 8 05.7
	23	322 55.5	159 37.0	N 8 37.9	117 02.2	S10 58.4	163 29.0	N 9 38.7	296 23.8	N 8 05.7
30	0	337 58.0	174 36.6	N 8 36.8	132 03.1	S10 59.0	178 30.9	N 9 38.5	311 26.3	N 8 05.6
	1	353 00.5	189 36.1	N 8 35.6	147 04.1	S10 59.6	193 32.9	N 9 38.3	326 28.9	N 8 05.6
	2	8 02.9	204 35.7	N 8 34.4	162 05.0	S11 00.2	208 34.8	N 9 38.1	341 31.4	N 8 05.5
	3	23 05.4	219 35.3	N 8 33.2	177 05.9	S11 00.8	223 36.8	N 9 37.9	356 34.0	N 8 05.5
	4	38 07.9	234 34.8	N 8 32.0	192 06.9	S11 01.4	238 38.7	N 9 37.7	11 36.5	N 8 05.5
M	5	53 10.3	249 34.4	N 8 30.9	207 07.8	S11 02.0	253 40.7	N 9 37.5	26 39.0	N 8 05.4
O										
N	6	68 12.8	264 34.0	N 8 29.7	222 08.7	S11 02.6	268 42.6	N 9 37.3	41 41.6	N 8 05.4
D	7	83 15.3	279 33.5	N 8 28.5	237 09.6	S11 03.3	283 44.6	N 9 37.1	56 44.1	N 8 05.3
A	8	98 17.7	294 33.1	N 8 27.3	252 10.6	S11 03.9	298 46.5	N 9 36.9	71 46.7	N 8 05.3
Y	9	113 20.2	309 32.7	N 8 26.1	267 11.5	S11 04.5	313 48.5	N 9 36.7	86 49.2	N 8 05.3
	10	128 22.6	324 32.3	N 8 24.9	282 12.4	S11 05.1	328 50.4	N 9 36.5	101 51.8	N 8 05.2
	11	143 25.1	339 31.8	N 8 23.8	297 13.4	S11 05.7	343 52.4	N 9 36.3	116 54.3	N 8 05.2
	12	158 27.6	354 31.4	N 8 22.6	312 14.3	S11 06.3	358 54.3	N 9 36.1	131 56.8	N 8 05.1
	13	173 30.0	9 31.0	N 8 21.4	327 15.2	S11 06.9	13 56.3	N 9 35.9	146 59.4	N 8 05.1
	14	188 32.5	24 30.5	N 8 20.2	342 16.2	S11 07.5	28 58.2	N 9 35.7	162 01.9	N 8 05.1
	15	203 35.0	39 30.1	N 8 19.0	357 17.1	S11 08.1	44 00.2	N 9 35.5	177 04.5	N 8 05.0
	16	218 37.4	54 29.7	N 8 17.8	12 18.0	S11 08.7	59 02.1	N 9 35.3	192 07.0	N 8 05.0
	17	233 39.9	69 29.3	N 8 16.6	27 18.9	S11 09.3	74 04.1	N 9 35.1	207 09.6	N 8 04.9
	18	248 42.4	84 28.8	N 8 15.4	42 19.9	S11 09.9	89 06.1	N 9 34.9	222 12.1	N 8 04.9
	19	263 44.8	99 28.4	N 8 14.3	57 20.8	S11 10.6	104 08.0	N 9 34.7	237 14.6	N 8 04.9
	20	278 47.3	114 28.0	N 8 13.1	72 21.7	S11 11.2	119 10.0	N 9 34.5	252 17.2	N 8 04.8
	21	293 49.8	129 27.5	N 8 11.9	87 22.6	S11 11.8	134 11.9	N 9 34.3	267 19.7	N 8 04.8
	22	308 52.2	144 27.1	N 8 10.7	102 23.6	S11 12.4	149 13.9	N 9 34.1	282 22.3	N 8 04.7
	23	323 54.7	159 26.7	N 8 09.5	117 24.5	S11 13.0	164 15.8	N 9 33.9	297 24.8	N 8 04.7
31	0	338 57.1	174 26.3	N 8 08.3	132 25.4	S11 13.6	179 17.8	N 9 33.7	312 27.4	N 8 04.7
	1	353 59.6	189 25.8	N 8 07.1	147 26.4	S11 14.2	194 19.7	N 9 33.5	327 29.9	N 8 04.6
	2	9 02.1	204 25.4	N 8 05.9	162 27.3	S11 14.8	209 21.7	N 9 33.3	342 32.5	N 8 04.6
	3	24 04.5	219 25.0	N 8 04.7	177 28.2	S11 15.4	224 23.6	N 9 33.1	357 35.0	N 8 04.5
	4	39 07.0	234 24.6	N 8 03.5	192 29.1	S11 16.0	239 25.6	N 9 32.9	12 37.6	N 8 04.5
T	5	54 09.5	249 24.1	N 8 02.4	207 30.1	S11 16.6	254 27.5	N 9 32.7	27 40.1	N 8 04.4
U										
E	6	69 11.9	264 23.7	N 8 01.2	222 31.0	S11 17.2	269 29.5	N 9 32.5	42 42.6	N 8 04.4
S	7	84 14.4	279 23.3	N 7 60.0	237 31.9	S11 17.8	284 31.4	N 9 32.3	57 45.2	N 8 04.4
D	8	99 16.9	294 22.9	N 7 58.8	252 32.8	S11 18.4	299 33.4	N 9 32.1	72 47.7	N 8 04.3
A	9	114 19.3	309 22.4	N 7 57.6	267 33.8	S11 19.0	314 35.3	N 9 31.9	87 50.3	N 8 04.3
Y	10	129 21.8	324 22.0	N 7 56.4	282 34.7	S11 19.7	329 37.3	N 9 31.7	102 52.8	N 8 04.2
	11	144 24.2	339 21.6	N 7 55.2	297 35.6	S11 20.3	344 39.2	N 9 31.5	117 55.4	N 8 04.2
	12	159 26.7	354 21.2	N 7 54.0	312 36.5	S11 20.9	359 41.2	N 9 31.3	132 57.9	N 8 04.2
	13	174 29.2	9 20.8	N 7 52.8	327 37.4	S11 21.5	14 43.1	N 9 31.1	148 00.5	N 8 04.1
	14	189 31.6	24 20.3	N 7 51.6	342 38.4	S11 22.1	29 45.1	N 9 30.9	163 03.0	N 8 04.1
	15	204 34.1	39 19.9	N 7 50.4	357 39.3	S11 22.7	44 47.0	N 9 30.7	178 05.6	N 8 04.0
	16	219 36.6	54 19.5	N 7 49.2	12 40.2	S11 23.3	59 49.0	N 9 30.5	193 08.1	N 8 04.0
	17	234 39.0	69 19.1	N 7 48.0	27 41.1	S11 23.9	74 51.0	N 9 30.3	208 10.7	N 8 03.9
	18	249 41.5	84 18.6	N 7 46.8	42 42.1	S11 24.5	89 52.9	N 9 30.1	223 13.2	N 8 03.9
	19	264 44.0	99 18.2	N 7 45.6	57 43.0	S11 25.1	104 54.9	N 9 29.9	238 15.8	N 8 03.9
	20	279 46.4	114 17.8	N 7 44.4	72 43.9	S11 25.7	119 56.8	N 9 29.7	253 18.3	N 8 03.8
	21	294 48.9	129 17.4	N 7 43.2	87 44.8	S11 26.3	134 58.8	N 9 29.5	268 20.9	N 8 03.8
	22	309 51.4	144 17.0	N 7 42.0	102 45.7	S11 26.9	150 00.7	N 9 29.3	283 23.4	N 8 03.7
	23	324 53.8	159 16.5	N 7 40.8	117 46.7	S11 27.5	165 02.7	N 9 29.1	298 25.9	N 8 03.7
			v -0.4	d 1.2	v 0.9	d 0.6	v 2.0	d 0.2	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
29	0	179 42.7	N 9 30.6	217 34.3	4.9	N22 00.9	10.4	60.7
	1	194 42.9	N 9 29.7	231 58.3	5.0	N21 50.3	10.6	60.7
	2	209 43.1	N 9 28.8	246 22.3	5.1	N21 39.6	10.7	60.7
	3	224 43.3	N 9 27.9	260 46.5	5.1	N21 28.8	10.9	60.7
	4	239 43.4	N 9 27.0	275 10.7	5.2	N21 17.8	11.0	60.7
S	5	254 43.6	N 9 26.1	289 35.0	5.3	N21 06.6	11.2	60.7
U								
N	6	269 43.8	N 9 25.2	303 59.3	5.4	N20 55.3	11.3	60.8
D	7	284 44.0	N 9 24.3	318 23.8	5.4	N20 43.8	11.5	60.8
A	8	299 44.2	N 9 23.5	332 48.3	5.5	N20 32.2	11.6	60.8
Y	9	314 44.4	N 9 22.6	347 12.9	5.6	N20 20.5	11.7	60.8
	10	329 44.6	N 9 21.7	1 37.5	5.7	N20 08.6	11.9	60.8
	11	344 44.8	N 9 20.8	16 02.3	5.7	N19 56.6	12.0	60.8
	12	359 44.9	N 9 19.9	30 27.1	5.8	N19 44.4	12.2	60.8
	13	14 45.1	N 9 19.0	44 52.0	5.9	N19 32.1	12.3	60.9
	14	29 45.3	N 9 18.1	59 16.9	6.0	N19 19.6	12.4	60.9
	15	44 45.5	N 9 17.2	73 42.0	6.0	N19 07.1	12.6	60.9
	16	59 45.7	N 9 16.3	88 07.1	6.1	N18 54.4	12.7	60.9
	17	74 45.9	N 9 15.5	102 32.3	6.2	N18 41.5	12.8	60.9
	18	89 46.1	N 9 14.6	116 57.6	6.3	N18 28.6	13.0	60.9
	19	104 46.3	N 9 13.7	131 22.9	6.4	N18 15.5	13.1	60.9
	20	119 46.4	N 9 12.8	145 48.3	6.4	N18 02.3	13.2	60.9
	21	134 46.6	N 9 11.9	160 13.9	6.5	N17 48.9	13.3	61.0
	22	149 46.8	N 9 11.0	174 39.4	6.6	N17 35.5	13.5	61.0
	23	164 47.0	N 9 10.1	189 05.1	6.7	N17 21.9	13.6	61.0
30	0	179 47.2	N 9 09.2	203 30.9	6.7	N17 08.2	13.7	61.0
	1	194 47.4	N 9 08.3	217 56.7	6.8	N16 54.4	13.8	61.0
	2	209 47.6	N 9 07.4	232 22.6	6.9	N16 40.5	13.9	61.0
	3	224 47.8	N 9 06.5	246 48.6	7.0	N16 26.4	14.0	61.0
	4	239 48.0	N 9 05.6	261 14.6	7.1	N16 12.3	14.1	61.0
M	5	254 48.1	N 9 04.7	275 40.8	7.1	N15 58.1	14.2	61.0
O								
N	6	269 48.3	N 9 03.9	290 07.0	7.2	N15 43.7	14.3	61.0
D	7	284 48.5	N 9 03.0	304 33.3	7.3	N15 29.3	14.5	61.0
A	8	299 48.7	N 9 02.1	318 59.7	7.4	N15 14.7	14.6	61.0
Y	9	314 48.9	N 9 01.2	333 26.1	7.5	N15 00.1	14.6	61.0
	10	329 49.1	N 9 00.3	347 52.6	7.5	N14 45.3	14.7	61.0
	11	344 49.3	N 8 59.4	2 19.2	7.6	N14 30.5	14.8	61.0
	12	359 49.5	N 8 58.5	16 45.9	7.7	N14 15.6	14.9	61.0
	13	14 49.7	N 8 57.6	31 12.7	7.8	N14 00.5	15.0	61.0
	14	29 49.9	N 8 56.7	45 39.5	7.8	N13 45.4	15.1	61.0
	15	44 50.1	N 8 55.8	60 06.4	7.9	N13 30.2	15.2	61.0
	16	59 50.2	N 8 54.9	74 33.4	8.0	N13 14.9	15.3	61.0
	17	74 50.4	N 8 54.0	89 00.4	8.1	N12 59.6	15.4	61.0
	18	89 50.6	N 8 53.1	103 27.6	8.1	N12 44.1	15.4	61.0
	19	104 50.8	N 8 52.2	117 54.8	8.2	N12 28.6	15.5	61.0
	20	119 51.0	N 8 51.3	132 22.0	8.3	N12 13.0	15.6	61.0
	21	134 51.2	N 8 50.4	146 49.4	8.3	N11 57.4	15.7	61.0
	22	149 51.4	N 8 49.5	161 16.8	8.4	N11 41.6	15.7	61.0
	23	164 51.6	N 8 48.6	175 44.3	8.5	N11 25.8	15.8	61.0
31	0	179 51.8	N 8 47.7	190 11.8	8.5	N11 09.9	15.9	61.0
	1	194 52.0	N 8 46.8	204 39.4	8.6	N10 54.0	15.9	61.0
	2	209 52.2	N 8 45.9	219 07.1	8.7	N10 38.0	16.0	61.0
	3	224 52.4	N 8 45.0	233 34.8	8.7	N10 21.9	16.1	61.0
	4	239 52.6	N 8 44.1	248 02.7	8.8	N10 05.8	16.1	61.0
T	5	254 52.7	N 8 43.2	262 30.5	8.9	N 9 49.6	16.2	61.0
U								
E	6	269 52.9	N 8 42.3	276 58.5	8.9	N 9 33.4	16.2	61.0
S	7	284 53.1	N 8 41.4	291 26.5	9.0	N 9 17.1	16.3	61.0
D	8	299 53.3	N 8 40.5	305 54.5	9.1	N 9 00.8	16.3	61.0
A	9	314 53.5	N 8 39.6	320 22.7	9.1	N 8 44.4	16.4	61.0
Y	10	329 53.7	N 8 38.7	334 50.9	9.2	N 8 27.9	16.4	61.0
	11	344 53.9	N 8 37.8	349 19.1	9.2	N 8 11.5	16.5	60.9
	12	359 54.1	N 8 36.9	3 47.4	9.3	N 7 54.9	16.5	60.9
	13	14 54.3	N 8 36.0	18 15.8	9.4	N 7 38.4	16.6	60.9
	14	29 54.5	N 8 35.1	32 44.2	9.4	N 7 21.8	16.6	60.9
	15	44 54.7	N 8 34.2	47 12.7	9.5	N 7 05.2	16.6	60.9
	16	59 54.9	N 8 33.3	61 41.2	9.5	N 6 48.5	16.7	60.9
	17	74 55.1	N 8 32.4	76 09.8	9.6	N 6 31.8	16.7	60.9
	18	89 55.3	N 8 31.5	90 38.4	9.6	N 6 15.0	16.7	60.9
	19	104 55.5	N 8 30.6	105 07.1	9.7	N 5 58.3	16.8	60.8
	20	119 55.7	N 8 29.7	119 35.8	9.7	N 5 41.5	16.8	60.8
	21	134 55.9	N 8 28.8	134 04.6	9.8	N 5 24.7	16.8	60.8
	22	149 56.0	N 8 27.9	148 33.5	9.8	N 5 07.9	16.8	60.8
	23	164 56.2	N 8 27.0	163 02.4	9.9	N 4 51.0	16.9	60.8
		S.D. 15.8	d 0.9	S.D.	16.6		16.6	16.6

STARS Name	SHA	Dec
Acamar	315 09.9	S40 11.3
Achernar	335 18.2	S57 05.4
Acrux	172 58.3	S63 15.3
Adhara	255 04.4	S29 00.3
Albireo	67 02.0	N28 01.3
Aldebaran	290 37.1	N16 34.0
Alioth	166 11.5	N55 48.8
Alkaid	152 50.6	N49 10.7
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.6	S 1 10.9
Alphard	217 45.9	S 8 46.7
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.2	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.6	S42 09.1
Antares	112 13.1	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.4	S69 04.9
Avior	234 14.4	S59 35.7
Bellatrix	278 20.6	N 6 22.6
Betelgeuse	270 49.8	N 7 24.8
Canopus	263 51.7	S52 42.3
Capella	280 18.8	N46 01.4
Castor	245 54.5	N31 49.6
Deneb	49 23.9	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.9	S17 49.8
Dubhe	193 39.0	N61 36.1
Elnath	277 59.2	N28 37.8
Eltanin	90 41.0	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.3
Gienah	175 41.6	S17 41.7
Hadar	148 33.3	S60 30.6
Hamal	327 48.6	N23 35.7
Kaus Austr.	83 29.4	S34 22.4
Kochab	137 20.5	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.7	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.6	S69 49.7
Mirfak	308 25.0	N49 57.5
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.8
Polaris	315 28.8	N89 22.0
Pollux	243 14.9	N27 57.5
Procyon	244 48.8	N 5 09.3
Rasalhague	95 56.4	N12 32.6
Regulus	207 32.4	N11 50.0
Rigel	281 01.8	S 8 10.0
Rigil Kent	139 37.7	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.0	N56 41.3
Shaula	96 07.3	S37 07.5
Sirius	258 24.5	S16 45.0
Spica	158 20.2	S11 18.4
Suhail	222 45.1	S43 32.5
Vega	80 31.5	N38 48.8
Zuben-ubi	136 54.6	S16 09.5

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	339 56.3	174 16.1	N 7 39.6	132 47.6	S11 28.1	180 04.6	N 9 28.9	313 28.5	N 8 03.7
	1	354 58.7	189 15.7	N 7 38.4	147 48.5	S11 28.7	195 06.6	N 9 28.7	328 31.0	N 8 03.6
	2	10 01.2	204 15.3	N 7 37.2	162 49.4	S11 29.3	210 08.5	N 9 28.5	343 33.6	N 8 03.6
	3	25 03.7	219 14.9	N 7 36.0	177 50.3	S11 29.9	225 10.5	N 9 28.3	358 36.1	N 8 03.5
	4	40 06.1	234 14.4	N 7 34.8	192 51.3	S11 30.5	240 12.4	N 9 28.1	13 38.7	N 8 03.5
W	5	55 08.6	249 14.0	N 7 33.6	207 52.2	S11 31.2	255 14.4	N 9 27.9	28 41.2	N 8 03.4
E										
D	6	70 11.1	264 13.6	N 7 32.4	222 53.1	S11 31.8	270 16.3	N 9 27.7	43 43.8	N 8 03.4
N	7	85 13.5	279 13.2	N 7 31.2	237 54.0	S11 32.4	285 18.3	N 9 27.5	58 46.3	N 8 03.4
E	8	100 16.0	294 12.8	N 7 30.0	252 54.9	S11 33.0	300 20.2	N 9 27.3	73 48.9	N 8 03.3
S	9	115 18.5	309 12.4	N 7 28.8	267 55.9	S11 33.6	315 22.2	N 9 27.1	88 51.4	N 8 03.3
D	10	130 20.9	324 11.9	N 7 27.6	282 56.8	S11 34.2	330 24.1	N 9 26.9	103 54.0	N 8 03.2
A	11	145 23.4	339 11.5	N 7 26.4	297 57.7	S11 34.8	345 26.1	N 9 26.7	118 56.5	N 8 03.2
Y										
	12	160 25.9	354 11.1	N 7 25.2	312 58.6	S11 35.4	0 28.0	N 9 26.5	133 59.1	N 8 03.1
	13	175 28.3	9 10.7	N 7 24.0	327 59.5	S11 36.0	15 30.0	N 9 26.3	149 01.6	N 8 03.1
	14	190 30.8	24 10.3	N 7 22.8	343 00.4	S11 36.6	30 31.9	N 9 26.1	164 04.2	N 8 03.1
	15	205 33.2	39 09.9	N 7 21.6	358 01.4	S11 37.2	45 33.9	N 9 25.9	179 06.7	N 8 03.0
	16	220 35.7	54 09.5	N 7 20.4	13 02.3	S11 37.8	60 35.9	N 9 25.7	194 09.3	N 8 03.0
	17	235 38.2	69 09.0	N 7 19.2	28 03.2	S11 38.4	75 37.8	N 9 25.5	209 11.8	N 8 02.9
	18	250 40.6	84 08.6	N 7 18.0	43 04.1	S11 39.0	90 39.8	N 9 25.3	224 14.4	N 8 02.9
	19	265 43.1	99 08.2	N 7 16.8	58 05.0	S11 39.6	105 41.7	N 9 25.1	239 17.0	N 8 02.8
	20	280 45.6	114 07.8	N 7 15.6	73 05.9	S11 40.2	120 43.7	N 9 24.9	254 19.5	N 8 02.8
	21	295 48.0	129 07.4	N 7 14.4	88 06.8	S11 40.8	135 45.6	N 9 24.7	269 22.1	N 8 02.8
	22	310 50.5	144 07.0	N 7 13.2	103 07.8	S11 41.4	150 47.6	N 9 24.5	284 24.6	N 8 02.7
	23	325 53.0	159 06.6	N 7 12.0	118 08.7	S11 42.0	165 49.5	N 9 24.3	299 27.2	N 8 02.7
2	0	340 55.4	174 06.1	N 7 10.7	133 09.6	S11 42.6	180 51.5	N 9 24.1	314 29.7	N 8 02.6
	1	355 57.9	189 05.7	N 7 09.5	148 10.5	S11 43.2	195 53.4	N 9 23.9	329 32.3	N 8 02.6
	2	11 00.3	204 05.3	N 7 08.3	163 11.4	S11 43.8	210 55.4	N 9 23.7	344 34.8	N 8 02.5
	3	26 02.8	219 04.9	N 7 07.1	178 12.3	S11 44.4	225 57.3	N 9 23.5	359 37.4	N 8 02.5
	4	41 05.3	234 04.5	N 7 05.9	193 13.2	S11 45.0	240 59.3	N 9 23.3	14 39.9	N 8 02.4
T	5	56 07.7	249 04.1	N 7 04.7	208 14.1	S11 45.6	256 01.2	N 9 23.1	29 42.5	N 8 02.4
H										
U	6	71 10.2	264 03.7	N 7 03.5	223 15.1	S11 46.2	271 03.2	N 9 22.9	44 45.0	N 8 02.4
R	7	86 12.7	279 03.3	N 7 02.3	238 16.0	S11 46.8	286 05.1	N 9 22.6	59 47.6	N 8 02.3
S	8	101 15.1	294 02.8	N 7 01.1	253 16.9	S11 47.4	301 07.1	N 9 22.4	74 50.1	N 8 02.3
D	9	116 17.6	309 02.4	N 6 59.9	268 17.8	S11 48.0	316 09.0	N 9 22.2	89 52.7	N 8 02.2
A	10	131 20.1	324 02.0	N 6 58.6	283 18.7	S11 48.7	331 11.0	N 9 22.0	104 55.2	N 8 02.2
Y	11	146 22.5	339 01.6	N 6 57.4	298 19.6	S11 49.3	346 13.0	N 9 21.8	119 57.8	N 8 02.1
	12	161 25.0	354 01.2	N 6 56.2	313 20.5	S11 49.9	1 14.9	N 9 21.6	135 00.4	N 8 02.1
	13	176 27.5	9 00.8	N 6 55.0	328 21.4	S11 50.5	16 16.9	N 9 21.4	150 02.9	N 8 02.0
	14	191 29.9	24 00.4	N 6 53.8	343 22.4	S11 51.1	31 18.8	N 9 21.2	165 05.5	N 8 02.0
	15	206 32.4	38 60.0	N 6 52.6	358 23.3	S11 51.7	46 20.8	N 9 21.0	180 08.0	N 8 02.0
	16	221 34.8	53 59.6	N 6 51.4	13 24.2	S11 52.3	61 22.7	N 9 20.8	195 10.6	N 8 01.9
	17	236 37.3	68 59.2	N 6 50.2	28 25.1	S11 52.9	76 24.7	N 9 20.6	210 13.1	N 8 01.9
	18	251 39.8	83 58.7	N 6 48.9	43 26.0	S11 53.5	91 26.6	N 9 20.4	225 15.7	N 8 01.8
	19	266 42.2	98 58.3	N 6 47.7	58 26.9	S11 54.1	106 28.6	N 9 20.2	240 18.2	N 8 01.8
	20	281 44.7	113 57.9	N 6 46.5	73 27.8	S11 54.7	121 30.5	N 9 20.0	255 20.8	N 8 01.7
	21	296 47.2	128 57.5	N 6 45.3	88 28.7	S11 55.3	136 32.5	N 9 19.8	270 23.4	N 8 01.7
	22	311 49.6	143 57.1	N 6 44.1	103 29.6	S11 55.9	151 34.4	N 9 19.6	285 25.9	N 8 01.6
	23	326 52.1	158 56.7	N 6 42.9	118 30.5	S11 56.5	166 36.4	N 9 19.4	300 28.5	N 8 01.6
3	0	341 54.6	173 56.3	N 6 41.7	133 31.4	S11 57.1	181 38.3	N 9 19.2	315 31.0	N 8 01.6
	1	356 57.0	188 55.9	N 6 40.4	148 32.3	S11 57.7	196 40.3	N 9 19.0	330 33.6	N 8 01.5
	2	11 59.5	203 55.5	N 6 39.2	163 33.3	S11 58.3	211 42.2	N 9 18.8	345 36.1	N 8 01.5
	3	27 01.9	218 55.1	N 6 38.0	178 34.2	S11 58.9	226 44.2	N 9 18.6	0 38.7	N 8 01.4
	4	42 04.4	233 54.7	N 6 36.8	193 35.1	S11 59.5	241 46.1	N 9 18.4	15 41.2	N 8 01.4
F	5	57 06.9	248 54.3	N 6 35.6	208 36.0	S12 00.1	256 48.1	N 9 18.2	30 43.8	N 8 01.3
R										
I	6	72 09.3	263 53.9	N 6 34.4	223 36.9	S12 00.7	271 50.1	N 9 18.0	45 46.4	N 8 01.3
D	7	87 11.8	278 53.5	N 6 33.1	238 37.8	S12 01.3	286 52.0	N 9 17.8	60 48.9	N 8 01.2
A	8	102 14.3	293 53.1	N 6 31.9	253 38.7	S12 01.9	301 54.0	N 9 17.6	75 51.5	N 8 01.2
Y	9	117 16.7	308 52.6	N 6 30.7	268 39.6	S12 02.5	316 55.9	N 9 17.4	90 54.0	N 8 01.2
	10	132 19.2	323 52.2	N 6 29.5	283 40.5	S12 03.1	331 57.9	N 9 17.2	105 56.6	N 8 01.1
	11	147 21.7	338 51.8	N 6 28.3	298 41.4	S12 03.7	346 59.8	N 9 17.0	120 59.1	N 8 01.1
	12	162 24.1	353 51.4	N 6 27.0	313 42.3	S12 04.3	2 01.8	N 9 16.8	136 01.7	N 8 01.0
	13	177 26.6	8 51.0	N 6 25.8	328 43.2	S12 04.9	17 03.7	N 9 16.6	151 04.3	N 8 01.0
	14	192 29.1	23 50.6	N 6 24.6	343 44.1	S12 05.5	32 05.7	N 9 16.4	166 06.8	N 8 00.9
	15	207 31.5	38 50.2	N 6 23.4	358 45.0	S12 06.1	47 07.6	N 9 16.2	181 09.4	N 8 00.9
	16	222 34.0	53 49.8	N 6 22.2	13 45.9	S12 06.7	62 09.6	N 9 16.0	196 11.9	N 8 00.8
	17	237 36.4	68 49.4	N 6 20.9	28 46.8	S12 07.3	77 11.5	N 9 15.8	211 14.5	N 8 00.8
	18	252 38.9	83 49.0	N 6 19.7	43 47.7	S12 07.9	92 13.5	N 9 15.6	226 17.1	N 8 00.7
	19	267 41.4	98 48.6	N 6 18.5	58 48.6	S12 08.5	107 15.4	N 9 15.4	241 19.6	N 8 00.7
	20	282 43.8	113 48.2	N 6 17.3	73 49.5	S12 09.1	122 17.4	N 9 15.2	256 22.2	N 8 00.6
	21	297 46.3	128 47.8	N 6 16.0	88 50.4	S12 09.7	137 19.4	N 9 15.0	271 24.7	N 8 00.6
	22	312 48.8	143 47.4	N 6 14.8	103 51.3	S12 10.3	152 21.3	N 9 14.8	286 27.3	N 8 00.6
	23	327 51.2	158 47.0	N 6 13.6	118 52.2	S12 10.9	167 23.3	N 9 14.6	301 29.9	N 8 00.5
			v -0.4	d 1.2	v 0.9	d 0.6	v 2.0	d 0.2	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
1	0	179 56.4	N 8 26.1	177 31.3	9.9	N 4 34.1	16.9	60.8
	1	194 56.6	N 8 25.2	192 00.3	10.0	N 4 17.3	16.9	60.8
	2	209 56.8	N 8 24.3	206 29.3	10.0	N 4 00.3	16.9	60.7
	3	224 57.0	N 8 23.4	220 58.3	10.1	N 3 43.4	16.9	60.7
	4	239 57.2	N 8 22.5	235 27.4	10.1	N 3 26.5	16.9	60.7
W	5	254 57.4	N 8 21.6	249 56.6	10.1	N 3 09.6	16.9	60.7
E								
D	6	269 57.6	N 8 20.7	264 25.8	10.2	N 2 52.6	16.9	60.7
N	7	284 57.8	N 8 19.8	278 55.0	10.2	N 2 35.7	16.9	60.6
E	8	299 58.0	N 8 18.8	293 24.2	10.3	N 2 18.8	16.9	60.6
S	9	314 58.2	N 8 17.9	307 53.5	10.3	N 2 01.8	16.9	60.6
D	10	329 58.4	N 8 17.0	322 22.9	10.3	N 1 44.9	16.9	60.6
A	11	344 58.6	N 8 16.1	336 52.2	10.4	N 1 27.9	16.9	60.6
Y								
	12	359 58.8	N 8 15.2	351 21.6	10.4	N 1 11.0	16.9	60.5
	13	14 59.0	N 8 14.3	5 51.1	10.4	N 0 54.0	16.9	60.5
	14	29 59.2	N 8 13.4	20 20.5	10.5	N 0 37.1	16.9	60.5
	15	44 59.4	N 8 12.5	34 50.0	10.5	N 0 20.2	16.9	60.5
	16	59 59.6	N 8 11.6	49 19.5	10.5	N 0 03.3	16.9	60.4
	17	74 59.8	N 8 10.7	63 49.1	10.5	S 0 13.6	16.9	60.4
	18	89 60.0	N 8 09.8	78 18.7	10.6	S 0 30.4	16.9	60.4
	19	105 00.2	N 8 08.9	92 48.3	10.6	S 0 47.3	16.9	60.4
	20	120 00.4	N 8 08.0	107 17.9	10.6	S 1 04.1	16.8	60.3
	21	135 00.6	N 8 07.0	121 47.5	10.6	S 1 20.9	16.8	60.3
	22	150 00.8	N 8 06.1	136 17.2	10.7	S 1 37.7	16.8	60.3
	23	165 01.0	N 8 05.2	150 46.9	10.7	S 1 54.5	16.8	60.3
2	0	180 01.2	N 8 04.3	165 16.6	10.7	S 2 11.2	16.7	60.2
	1	195 01.4	N 8 03.4	179 46.3	10.7	S 2 28.0	16.7	60.2
	2	210 01.6	N 8 02.5	194 16.1	10.7	S 2 44.6	16.7	60.2
	3	225 01.8	N 8 01.6	208 45.9	10.8	S 3 01.3	16.7	60.1
	4	240 02.0	N 8 00.7	223 15.6	10.8	S 3 17.9	16.6	60.1
T	5	255 02.2	N 7 59.8	237 45.4	10.8	S 3 34.5	16.6	60.1
H								
U	6	270 02.4	N 7 58.9	252 15.2	10.8	S 3 51.0	16.5	60.1
R	7	285 02.6	N 7 57.9	266 45.1	10.8	S 4 07.5	16.5	60.0
S	8	300 02.8	N 7 57.0	281 14.9	10.8	S 4 24.0	16.5	60.0
D	9	315 03.0	N 7 56.1	295 44.7	10.8	S 4 40.4	16.4	60.0
A	10	330 03.2	N 7 55.2	310 14.6	10.9	S 4 56.8	16.4	59.9
Y	11	345 03.4	N 7 54.3	324 44.5	10.9	S 5 13.2	16.3	59.9
	12	0 03.6	N 7 53.4	339 14.3	10.9	S 5 29.5	16.3	59.9
	13	15 03.8	N 7 52.5	353 44.2	10.9	S 5 45.7	16.2	59.8
	14	30 04.0	N 7 51.6	8 14.1	10.9	S 6 01.9	16.2	59.8
	15	45 04.2	N 7 50.7	22 44.0	10.9	S 6 18.0	16.1	59.8
	16	60 04.4	N 7 49.7	37 13.8	10.9	S 6 34.1	16.1	59.7
	17	75 04.6	N 7 48.8	51 43.7	10.9	S 6 50.2	16.0	59.7
	18	90 04.8	N 7 47.9	66 13.6	10.9	S 7 06.2	16.0	59.7
	19	105 05.0	N 7 47.0	80 43.5	10.9	S 7 22.1	15.9	59.6
	20	120 05.2	N 7 46.1	95 13.4	10.9	S 7 38.0	15.9	59.6
	21	135 05.4	N 7 45.2	109 43.3	10.9	S 7 53.8	15.8	59.6
	22	150 05.6	N 7 44.3	124 13.2	10.9	S 8 09.5	15.7	59.5
	23	165 05.8	N 7 43.3	138 43.1	10.9	S 8 25.2	15.7	59.5
3	0	180 06.0	N 7 42.4	153 13.0	10.9	S 8 40.8	15.6	59.5
	1	195 06.2	N 7 41.5	167 42.8	10.9	S 8 56.4	15.6	59.4
	2	210 06.4	N 7 40.6	182 12.7	10.9	S 9 11.9	15.5	59.4
	3	225 06.6	N 7 39.7	196 42.6	10.9	S 9 27.3	15.4	59.4
	4	240 06.8	N 7 38.8	211 12.4	10.9	S 9 42.6	15.4	59.3
F	5	255 07.0	N 7 37.8	225 42.3	10.8	S 9 57.9	15.3	59.3
R								
I	6	270 07.2	N 7 36.9	240 12.1	10.8	S10 13.1	15.2	59.3
D	7	285 07.4	N 7 36.0	254 41.9	10.8	S10 28.3	15.1	59.2
A	8	300 07.6	N 7 35.1	269 11.7	10.8	S10 43.3	15.1	59.2
Y	9	315 07.8	N 7 34.2	283 41.6	10.8	S10 58.3	15.0	59.2
	10	330 08.0	N 7 33.3	298 11.3	10.8	S11 13.2	14.9	59.1
	11	345 08.2	N 7 32.3	312 41.1	10.8	S11 28.0	14.8	59.1
	12	0 08.4	N 7 31.4	327 10.9	10.8	S11 42.8	14.7	59.0
	13	15 08.6	N 7 30.5	341 40.6	10.8	S11 57.4	14.7	59.0
	14	30 08.8	N 7 29.6	356 10.4	10.7	S12 12.0	14.6	59.0
	15	45 09.0	N 7 28.7	10 40.1	10.7	S12 26.5	14.5	58.9
	16	60 09.2	N 7 27.8	25 09.8	10.7	S12 40.9	14.4	58.9
	17	75 09.4	N 7 26.8	39 39.5	10.7	S12 55.2	14.3	58.9
	18	90 09.6	N 7 25.9	54 09.2	10.7	S13 09.5	14.2	58.8
	19	105 09.8	N 7 25.0	68 38.8	10.6	S13 23.6	14.1	58.8
	20	120 10.1	N 7 24.1	83 08.4	10.6	S13 37.7	14.1	58.7
	21	135 10.3	N 7 23.2	97 38.0	10.6	S13 51.6	14.0	58.7
	22	150 10.5	N 7 22.2	112 07.6	10.6	S14 05.5	13.9	58.7
	23	165 10.7	N 7 21.3	126 37.2	10.6	S14 19.3	13.8	58.6
		S.D. 15.9	d 0.9	S.D.	16.5		16.3	16.1

STARS Name	SHA	Dec
Acamar	315 09.9	S40 11.3
Achernar	335 18.1	S57 05.4
Acrux	172 58.3	S63 15.3
Adhara	255 04.3	S29 00.3
Albireo	67 02.0	N28 01.3
Aldebaran	290 37.1	N16 34.0
Alioth	166 11.5	N55 48.7
Alkaid	152 50.6	N49 10.7
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.6	S 1 10.9
Alphard	217 45.9	S 8 46.6
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.2	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.6	S42 09.1
Antares	112 13.2	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.4	S69 04.9
Avior	234 14.3	S59 35.7
Bellatrix	278 20.6	N 6 22.6
Betelgeuse	270 49.8	N 7 24.8
Canopus	263 51.6	S52 42.3
Capella	280 18.7	N46 01.4
Castor	245 54.5	N31 49.6
Deneb	49 23.9	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 39.0	N61 36.1
Elnath	277 59.2	N28 37.8
Eltanin	90 41.0	N51 29.3
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.3	S60 30.6
Hamal	327 48.5	N23 35.7
Kaus Austr.	83 29.5	S34 22.4
Kochab	137 20.6	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.7	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.6	S69 49.7
Mirfak	308 25.0	N49 57.5
Nunki	75 44.8	S26 15.7
Peacock	53 01.7	S56 38.8
Polaris	315 27.8	N89 22.0
Pollux	243 14.9	N27 57.5
Procyon	244 48.8	N 5 09.3
Rasalhague	95 56.5	N12 32.6
Regulus	207 32.4	N11 50.0
Rigel	281 01.8	S 8 10.0
Rigil Kent	139 37.7	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.0	N56 41.3
Shaula	96 07.3	S37 07.5
Sirius	258 24.5	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 45.1	S43 32.5
Vega	80 31.5	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	342 53.7	173 46.6	N 6 12.4	133 53.1	S12 11.5	182 25.2	N 9 14.4	316 32.4	N 8 00.5
	1	357 56.2	188 46.2	N 6 11.2	148 54.0	S12 12.1	197 27.2	N 9 14.2	331 35.0	N 8 00.4
	2	12 58.6	203 45.8	N 6 09.9	163 54.9	S12 12.7	212 29.1	N 9 14.0	346 37.5	N 8 00.4
	3	28 01.1	218 45.4	N 6 08.7	178 55.8	S12 13.3	227 31.1	N 9 13.8	1 40.1	N 8 00.3
	4	43 03.5	233 45.0	N 6 07.5	193 56.7	S12 13.9	242 33.0	N 9 13.6	16 42.7	N 8 00.3
S	5	58 06.0	248 44.6	N 6 06.3	208 57.6	S12 14.5	257 35.0	N 9 13.4	31 45.2	N 8 00.2
A										
T	6	73 08.5	263 44.2	N 6 05.0	223 58.5	S12 15.0	272 36.9	N 9 13.2	46 47.8	N 8 00.2
U	7	88 10.9	278 43.8	N 6 03.8	238 59.4	S12 15.6	287 38.9	N 9 13.0	61 50.3	N 8 00.1
R	8	103 13.4	293 43.4	N 6 02.6	254 00.3	S12 16.2	302 40.8	N 9 12.8	76 52.9	N 8 00.1
D	9	118 15.9	308 43.0	N 6 01.4	269 01.2	S12 16.8	317 42.8	N 9 12.6	91 55.5	N 8 00.0
A	10	133 18.3	323 42.6	N 6 00.1	284 02.1	S12 17.4	332 44.7	N 9 12.4	106 58.0	N 8 00.0
Y	11	148 20.8	338 42.2	N 5 58.9	299 03.0	S12 18.0	347 46.7	N 9 12.2	122 00.6	N 7 60.0
	12	163 23.3	353 41.8	N 5 57.7	314 03.9	S12 18.6	2 48.7	N 9 12.0	137 03.1	N 7 59.9
	13	178 25.7	8 41.4	N 5 56.4	329 04.8	S12 19.2	17 50.6	N 9 11.8	152 05.7	N 7 59.9
	14	193 28.2	23 41.0	N 5 55.2	344 05.7	S12 19.8	32 52.6	N 9 11.6	167 08.3	N 7 59.8
	15	208 30.7	38 40.6	N 5 54.0	359 06.6	S12 20.4	47 54.5	N 9 11.4	182 10.8	N 7 59.8
	16	223 33.1	53 40.2	N 5 52.8	14 07.5	S12 21.0	62 56.5	N 9 11.2	197 13.4	N 7 59.7
	17	238 35.6	68 39.8	N 5 51.5	29 08.4	S12 21.6	77 58.4	N 9 11.0	212 16.0	N 7 59.7
	18	253 38.0	83 39.4	N 5 50.3	44 09.3	S12 22.2	93 00.4	N 9 10.8	227 18.5	N 7 59.6
	19	268 40.5	98 39.0	N 5 49.1	59 10.2	S12 22.8	108 02.3	N 9 10.6	242 21.1	N 7 59.6
	20	283 43.0	113 38.6	N 5 47.8	74 11.1	S12 23.4	123 04.3	N 9 10.4	257 23.6	N 7 59.5
	21	298 45.4	128 38.2	N 5 46.6	89 12.0	S12 24.0	138 06.2	N 9 10.2	272 26.2	N 7 59.5
	22	313 47.9	143 37.8	N 5 45.4	104 12.9	S12 24.6	153 08.2	N 9 10.0	287 28.8	N 7 59.4
	23	328 50.4	158 37.4	N 5 44.2	119 13.8	S12 25.2	168 10.1	N 9 09.8	302 31.3	N 7 59.4
5	0	343 52.8	173 37.0	N 5 42.9	134 14.7	S12 25.8	183 12.1	N 9 09.6	317 33.9	N 7 59.3
	1	358 55.3	188 36.6	N 5 41.7	149 15.6	S12 26.4	198 14.0	N 9 09.4	332 36.5	N 7 59.3
	2	13 57.8	203 36.2	N 5 40.5	164 16.5	S12 27.0	213 16.0	N 9 09.2	347 39.0	N 7 59.2
	3	29 00.2	218 35.8	N 5 39.2	179 17.4	S12 27.6	228 18.0	N 9 09.0	2 41.6	N 7 59.2
	4	44 02.7	233 35.5	N 5 38.0	194 18.3	S12 28.2	243 19.9	N 9 08.8	17 44.1	N 7 59.2
S	5	59 05.2	248 35.1	N 5 36.8	209 19.2	S12 28.8	258 21.9	N 9 08.6	32 46.7	N 7 59.1
U										
N	6	74 07.6	263 34.7	N 5 35.5	224 20.0	S12 29.4	273 23.8	N 9 08.4	47 49.3	N 7 59.1
D	7	89 10.1	278 34.3	N 5 34.3	239 20.9	S12 30.0	288 25.8	N 9 08.2	62 51.8	N 7 59.0
A	8	104 12.5	293 33.9	N 5 33.1	254 21.8	S12 30.6	303 27.7	N 9 08.0	77 54.4	N 7 59.0
Y	9	119 15.0	308 33.5	N 5 31.8	269 22.7	S12 31.2	318 29.7	N 9 07.8	92 57.0	N 7 58.9
	10	134 17.5	323 33.1	N 5 30.6	284 23.6	S12 31.7	333 31.6	N 9 07.5	107 59.5	N 7 58.9
	11	149 19.9	338 32.7	N 5 29.4	299 24.5	S12 32.3	348 33.6	N 9 07.3	123 02.1	N 7 58.8
	12	164 22.4	353 32.3	N 5 28.1	314 25.4	S12 32.9	3 35.5	N 9 07.1	138 04.7	N 7 58.8
	13	179 24.9	8 31.9	N 5 26.9	329 26.3	S12 33.5	18 37.5	N 9 06.9	153 07.2	N 7 58.7
	14	194 27.3	23 31.5	N 5 25.7	344 27.2	S12 34.1	33 39.4	N 9 06.7	168 09.8	N 7 58.7
	15	209 29.8	38 31.1	N 5 24.4	359 28.1	S12 34.7	48 41.4	N 9 06.5	183 12.4	N 7 58.6
	16	224 32.3	53 30.7	N 5 23.2	14 29.0	S12 35.3	63 43.4	N 9 06.3	198 14.9	N 7 58.6
	17	239 34.7	68 30.3	N 5 22.0	29 29.9	S12 35.9	78 45.3	N 9 06.1	213 17.5	N 7 58.5
	18	254 37.2	83 29.9	N 5 20.7	44 30.7	S12 36.5	93 47.3	N 9 05.9	228 20.1	N 7 58.5
	19	269 39.6	98 29.5	N 5 19.5	59 31.6	S12 37.1	108 49.2	N 9 05.7	243 22.6	N 7 58.4
	20	284 42.1	113 29.2	N 5 18.3	74 32.5	S12 37.7	123 51.2	N 9 05.5	258 25.2	N 7 58.4
	21	299 44.6	128 28.8	N 5 17.0	89 33.4	S12 38.3	138 53.1	N 9 05.3	273 27.8	N 7 58.3
	22	314 47.0	143 28.4	N 5 15.8	104 34.3	S12 38.9	153 55.1	N 9 05.1	288 30.3	N 7 58.3
	23	329 49.5	158 28.0	N 5 14.6	119 35.2	S12 39.5	168 57.0	N 9 04.9	303 32.9	N 7 58.2
6	0	344 52.0	173 27.6	N 5 13.3	134 36.1	S12 40.1	183 59.0	N 9 04.7	318 35.5	N 7 58.2
	1	359 54.4	188 27.2	N 5 12.1	149 37.0	S12 40.7	199 00.9	N 9 04.5	333 38.0	N 7 58.1
	2	14 56.9	203 26.8	N 5 10.8	164 37.9	S12 41.3	214 02.9	N 9 04.3	348 40.6	N 7 58.1
	3	29 59.4	218 26.4	N 5 09.6	179 38.7	S12 41.8	229 04.8	N 9 04.1	3 43.2	N 7 58.0
	4	45 01.8	233 26.0	N 5 08.4	194 39.6	S12 42.4	244 06.8	N 9 03.9	18 45.7	N 7 58.0
M	5	60 04.3	248 25.6	N 5 07.1	209 40.5	S12 43.0	259 08.8	N 9 03.7	33 48.3	N 7 57.9
O										
N	6	75 06.8	263 25.2	N 5 05.9	224 41.4	S12 43.6	274 10.7	N 9 03.5	48 50.9	N 7 57.9
D	7	90 09.2	278 24.9	N 5 04.7	239 42.3	S12 44.2	289 12.7	N 9 03.3	63 53.4	N 7 57.9
A	8	105 11.7	293 24.5	N 5 03.4	254 43.2	S12 44.8	304 14.6	N 9 03.1	78 56.0	N 7 57.8
Y	9	120 14.1	308 24.1	N 5 02.2	269 44.1	S12 45.4	319 16.6	N 9 02.9	93 58.6	N 7 57.8
	10	135 16.6	323 23.7	N 5 00.9	284 44.9	S12 46.0	334 18.5	N 9 02.7	109 01.1	N 7 57.7
	11	150 19.1	338 23.3	N 4 59.7	299 45.8	S12 46.6	349 20.5	N 9 02.5	124 03.7	N 7 57.7
	12	165 21.5	353 22.9	N 4 58.5	314 46.7	S12 47.2	4 22.4	N 9 02.3	139 06.3	N 7 57.6
	13	180 24.0	8 22.5	N 4 57.2	329 47.6	S12 47.8	19 24.4	N 9 02.1	154 08.8	N 7 57.6
	14	195 26.5	23 22.1	N 4 56.0	344 48.5	S12 48.4	34 26.3	N 9 01.9	169 11.4	N 7 57.5
	15	210 28.9	38 21.7	N 4 54.7	359 49.4	S12 49.0	49 28.3	N 9 01.7	184 14.0	N 7 57.5
	16	225 31.4	53 21.4	N 4 53.5	14 50.3	S12 49.5	64 30.3	N 9 01.5	199 16.5	N 7 57.4
	17	240 33.9	68 21.0	N 4 52.3	29 51.1	S12 50.1	79 32.2	N 9 01.3	214 19.1	N 7 57.4
	18	255 36.3	83 20.6	N 4 51.0	44 52.0	S12 50.7	94 34.2	N 9 01.1	229 21.7	N 7 57.3
	19	270 38.8	98 20.2	N 4 49.8	59 52.9	S12 51.3	109 36.1	N 9 00.9	244 24.3	N 7 57.3
	20	285 41.3	113 19.8	N 4 48.5	74 53.8	S12 51.9	124 38.1	N 9 00.7	259 26.8	N 7 57.2
	21	300 43.7	128 19.4	N 4 47.3	89 54.7	S12 52.5	139 40.0	N 9 00.5	274 29.4	N 7 57.2
	22	315 46.2	143 19.0	N 4 46.0	104 55.6	S12 53.1	154 42.0	N 9 00.3	289 32.0	N 7 57.1
	23	330 48.6	158 18.6	N 4 44.8	119 56.4	S12 53.7	169 43.9	N 9 00.1	304 34.5	N 7 57.1
			v -0.4	d 1.2	v 0.9	d 0.6	v 2.0	d 0.2	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
4	0	180 10.9	N 7 20.4	141 06.7	10.5	S14 33.0	13.7	58.6
	1	195 11.1	N 7 19.5	155 36.3	10.5	S14 46.6	13.6	58.6
	2	210 11.3	N 7 18.6	170 05.8	10.5	S15 00.1	13.5	58.5
	3	225 11.5	N 7 17.6	184 35.2	10.5	S15 13.5	13.4	58.5
	4	240 11.7	N 7 16.7	199 04.7	10.5	S15 26.8	13.3	58.4
S	5	255 11.9	N 7 15.8	213 34.1	10.4	S15 40.0	13.2	58.4
A								
T	6	270 12.1	N 7 14.9	228 03.5	10.4	S15 53.1	13.1	58.4
U	7	285 12.3	N 7 14.0	242 32.9	10.4	S16 06.0	13.0	58.3
R	8	300 12.5	N 7 13.0	257 02.3	10.4	S16 18.9	12.9	58.3
D	9	315 12.7	N 7 12.1	271 31.6	10.3	S16 31.7	12.8	58.2
A	10	330 12.9	N 7 11.2	286 00.9	10.3	S16 44.4	12.7	58.2
Y	11	345 13.1	N 7 10.3	300 30.2	10.3	S16 57.0	12.6	58.2
	12	0 13.3	N 7 09.4	314 59.4	10.3	S17 09.4	12.5	58.1
	13	15 13.5	N 7 08.4	329 28.7	10.2	S17 21.8	12.4	58.1
	14	30 13.7	N 7 07.5	343 57.9	10.2	S17 34.0	12.2	58.0
	15	45 14.0	N 7 06.6	358 27.0	10.2	S17 46.2	12.1	58.0
	16	60 14.2	N 7 05.7	12 56.2	10.1	S17 58.2	12.0	58.0
	17	75 14.4	N 7 04.7	27 25.3	10.1	S18 10.1	11.9	57.9
	18	90 14.6	N 7 03.8	41 54.4	10.1	S18 21.9	11.8	57.9
	19	105 14.8	N 7 02.9	56 23.4	10.1	S18 33.6	11.7	57.8
	20	120 15.0	N 7 02.0	70 52.5	10.0	S18 45.2	11.6	57.8
	21	135 15.2	N 7 01.0	85 21.5	10.0	S18 56.6	11.5	57.8
	22	150 15.4	N 7 00.1	99 50.4	10.0	S19 08.0	11.3	57.7
	23	165 15.6	N 6 59.2	114 19.4	9.9	S19 19.2	11.2	57.7
5	0	180 15.8	N 6 58.3	128 48.3	9.9	S19 30.3	11.1	57.7
	1	195 16.0	N 6 57.3	143 17.2	9.9	S19 41.3	11.0	57.6
	2	210 16.2	N 6 56.4	157 46.0	9.9	S19 52.2	10.9	57.6
	3	225 16.4	N 6 55.5	172 14.8	9.8	S20 02.9	10.7	57.5
	4	240 16.6	N 6 54.6	186 43.6	9.8	S20 13.5	10.6	57.5
S	5	255 16.9	N 6 53.6	201 12.4	9.8	S20 24.1	10.5	57.5
U								
N	6	270 17.1	N 6 52.7	215 41.2	9.7	S20 34.4	10.4	57.4
D	7	285 17.3	N 6 51.8	230 09.9	9.7	S20 44.7	10.3	57.4
A	8	300 17.5	N 6 50.9	244 38.5	9.7	S20 54.8	10.1	57.3
Y	9	315 17.7	N 6 49.9	259 07.2	9.7	S21 04.8	10.0	57.3
	10	330 17.9	N 6 49.0	273 35.8	9.6	S21 14.7	9.9	57.3
	11	345 18.1	N 6 48.1	288 04.4	9.6	S21 24.5	9.8	57.2
	12	0 18.3	N 6 47.2	302 33.0	9.6	S21 34.1	9.6	57.2
	13	15 18.5	N 6 46.2	317 01.5	9.5	S21 43.6	9.5	57.2
	14	30 18.7	N 6 45.3	331 30.0	9.5	S21 53.0	9.4	57.1
	15	45 18.9	N 6 44.4	345 58.5	9.5	S22 02.2	9.2	57.1
	16	60 19.2	N 6 43.4	0 27.0	9.5	S22 11.3	9.1	57.0
	17	75 19.4	N 6 42.5	14 55.4	9.4	S22 20.3	9.0	57.0
	18	90 19.6	N 6 41.6	29 23.8	9.4	S22 29.2	8.9	57.0
	19	105 19.8	N 6 40.7	43 52.2	9.4	S22 37.9	8.7	56.9
	20	120 20.0	N 6 39.7	58 20.6	9.4	S22 46.5	8.6	56.9
	21	135 20.2	N 6 38.8	72 48.9	9.3	S22 55.0	8.5	56.9
	22	150 20.4	N 6 37.9	87 17.2	9.3	S23 03.3	8.3	56.8
	23	165 20.6	N 6 36.9	101 45.5	9.3	S23 11.5	8.2	56.8
6	0	180 20.8	N 6 36.0	116 13.7	9.3	S23 19.5	8.1	56.8
	1	195 21.0	N 6 35.1	130 42.0	9.2	S23 27.5	7.9	56.7
	2	210 21.2	N 6 34.2	145 10.2	9.2	S23 35.2	7.8	56.7
	3	225 21.5	N 6 33.2	159 38.4	9.2	S23 42.9	7.7	56.6
	4	240 21.7	N 6 32.3	174 06.5	9.2	S23 50.4	7.5	56.6
M	5	255 21.9	N 6 31.4	188 34.7	9.1	S23 57.8	7.4	56.6
O								
N	6	270 22.1	N 6 30.4	203 02.8	9.1	S24 05.0	7.2	56.5
D	7	285 22.3	N 6 29.5	217 30.9	9.1	S24 12.1	7.1	56.5
A	8	300 22.5	N 6 28.6	231 59.0	9.1	S24 19.1	7.0	56.5
Y	9	315 22.7	N 6 27.6	246 27.0	9.1	S24 25.9	6.8	56.4
	10	330 22.9	N 6 26.7	260 55.1	9.0	S24 32.6	6.7	56.4
	11	345 23.1	N 6 25.8	275 23.1	9.0	S24 39.2	6.6	56.4
	12	0 23.4	N 6 24.9	289 51.1	9.0	S24 45.6	6.4	56.3
	13	15 23.6	N 6 23.9	304 19.1	9.0	S24 51.9	6.3	56.3
	14	30 23.8	N 6 23.0	318 47.1	9.0	S24 58.0	6.1	56.3
	15	45 24.0	N 6 22.1	333 15.1	9.0	S25 04.0	6.0	56.2
	16	60 24.2	N 6 21.1	347 43.0	9.0	S25 09.9	5.9	56.2
	17	75 24.4	N 6 20.2	2 11.0	8.9	S25 15.6	5.7	56.2
	18	90 24.6	N 6 19.3	16 38.9	8.9	S25 21.2	5.6	56.1
	19	105 24.8	N 6 18.3	31 06.8	8.9	S25 26.6	5.4	56.1
	20	120 25.0	N 6 17.4	45 34.7	8.9	S25 31.9	5.3	56.1
	21	135 25.3	N 6 16.5	60 02.6	8.9	S25 37.1	5.2	56.0
	22	150 25.5	N 6 15.5	74 30.5	8.9	S25 42.1	5.0	56.0
	23	165 25.7	N 6 14.6	88 58.4	8.9	S25 46.9	4.9	56.0
		S.D. 15.9	d 0.9	S.D.	15.8	15.6	15.3	

STARS Name	SHA	Dec
Acamar	315 09.9	S40 11.3
Achernar	335 18.1	S57 05.4
Acrux	172 58.3	S63 15.3
Adhara	255 04.3	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 37.1	N16 34.0
Alioth	166 11.5	N55 48.7
Alkaid	152 50.6	N49 10.7
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.5	S 1 10.9
Alphard	217 45.9	S 8 46.6
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.2	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.6	S42 09.1
Antares	112 13.2	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.5	S69 04.9
Avior	234 14.3	S59 35.7
Bellatrix	278 20.6	N 6 22.6
Betelgeuse	270 49.8	N 7 24.8
Canopus	263 51.6	S52 42.3
Capella	280 18.7	N46 01.4
Castor	245 54.5	N31 49.6
Deneb	49 23.9	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 39.0	N61 36.1
Elnath	277 59.2	N28 37.8
Eltanin	90 41.0	N51 29.4
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.4	S60 30.6
Hamal	327 48.5	N23 35.7
Kaus Austr.	83 29.5	S34 22.4
Kochab	137 20.6	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.7	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.5	S69 49.7
Mirfak	308 25.0	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.7	S56 38.8
Polaris	315 26.7	N89 22.0
Pollux	243 14.9	N27 57.5
Procyon	244 48.7	N 5 09.3
Rasalhague	95 56.5	N12 32.6
Regulus	207 32.4	N11 50.0
Rigel	281 01.8	S 8 10.0
Rigil Kent	139 37.8	S60 57.2
Sabik	102 00.2	S15 45.6
Schedar	349 28.0	N56 41.4
Shaula	96 07.3	S37 07.5
Sirius	258 24.5	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 45.1	S43 32.5
Vega	80 31.5	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	345 51.1	173 18.3	N 4 43.6	134 57.3	S12 54.3	184 45.9	N 8 59.9	319 37.1	N 7 57.0
	1	0 53.6	188 17.9	N 4 42.3	149 58.2	S12 54.9	199 47.8	N 8 59.7	334 39.7	N 7 57.0
	2	15 56.0	203 17.5	N 4 41.1	164 59.1	S12 55.5	214 49.8	N 8 59.5	349 42.2	N 7 56.9
	3	30 58.5	218 17.1	N 4 39.8	179 60.0	S12 56.1	229 51.8	N 8 59.3	4 44.8	N 7 56.9
	4	46 01.0	233 16.7	N 4 38.6	195 00.8	S12 56.6	244 53.7	N 8 59.1	19 47.4	N 7 56.8
T	5	61 03.4	248 16.3	N 4 37.3	210 01.7	S12 57.2	259 55.7	N 8 58.9	34 50.0	N 7 56.8
U										
E	6	76 05.9	263 15.9	N 4 36.1	225 02.6	S12 57.8	274 57.6	N 8 58.7	49 52.5	N 7 56.7
S	7	91 08.4	278 15.6	N 4 34.9	240 03.5	S12 58.4	289 59.6	N 8 58.5	64 55.1	N 7 56.7
D	8	106 10.8	293 15.2	N 4 33.6	255 04.4	S12 59.0	305 01.5	N 8 58.3	79 57.7	N 7 56.6
A	9	121 13.3	308 14.8	N 4 32.4	270 05.2	S12 59.6	320 03.5	N 8 58.1	95 00.2	N 7 56.6
Y	10	136 15.7	323 14.4	N 4 31.1	285 06.1	S13 00.2	335 05.4	N 8 57.9	110 02.8	N 7 56.5
	11	151 18.2	338 14.0	N 4 29.9	300 07.0	S13 00.8	350 07.4	N 8 57.7	125 05.4	N 7 56.5
	12	166 20.7	353 13.6	N 4 28.6	315 07.9	S13 01.4	5 09.3	N 8 57.5	140 08.0	N 7 56.4
	13	181 23.1	8 13.2	N 4 27.4	330 08.8	S13 02.0	20 11.3	N 8 57.3	155 10.5	N 7 56.4
	14	196 25.6	23 12.9	N 4 26.1	345 09.6	S13 02.5	35 13.3	N 8 57.1	170 13.1	N 7 56.3
	15	211 28.1	38 12.5	N 4 24.9	0 10.5	S13 03.1	50 15.2	N 8 56.9	185 15.7	N 7 56.3
	16	226 30.5	53 12.1	N 4 23.6	15 11.4	S13 03.7	65 17.2	N 8 56.7	200 18.3	N 7 56.2
	17	241 33.0	68 11.7	N 4 22.4	30 12.3	S13 04.3	80 19.1	N 8 56.5	215 20.8	N 7 56.2
	18	256 35.5	83 11.3	N 4 21.1	45 13.1	S13 04.9	95 21.1	N 8 56.3	230 23.4	N 7 56.1
	19	271 37.9	98 10.9	N 4 19.9	60 14.0	S13 05.5	110 23.0	N 8 56.1	245 26.0	N 7 56.1
	20	286 40.4	113 10.6	N 4 18.7	75 14.9	S13 06.1	125 25.0	N 8 55.9	260 28.5	N 7 56.0
	21	301 42.9	128 10.2	N 4 17.4	90 15.8	S13 06.7	140 26.9	N 8 55.7	275 31.1	N 7 56.0
	22	316 45.3	143 09.8	N 4 16.2	105 16.7	S13 07.3	155 28.9	N 8 55.5	290 33.7	N 7 55.9
	23	331 47.8	158 09.4	N 4 14.9	120 17.5	S13 07.8	170 30.8	N 8 55.3	305 36.3	N 7 55.9
8	0	346 50.2	173 09.0	N 4 13.7	135 18.4	S13 08.4	185 32.8	N 8 55.0	320 38.8	N 7 55.8
	1	1 52.7	188 08.6	N 4 12.4	150 19.3	S13 09.0	200 34.8	N 8 54.8	335 41.4	N 7 55.8
	2	16 55.2	203 08.3	N 4 11.2	165 20.2	S13 09.6	215 36.7	N 8 54.6	350 44.0	N 7 55.7
	3	31 57.6	218 07.9	N 4 09.9	180 21.0	S13 10.2	230 38.7	N 8 54.4	5 46.6	N 7 55.7
	4	47 00.1	233 07.5	N 4 08.7	195 21.9	S13 10.8	245 40.6	N 8 54.2	20 49.1	N 7 55.6
W	5	62 02.6	248 07.1	N 4 07.4	210 22.8	S13 11.4	260 42.6	N 8 54.0	35 51.7	N 7 55.6
E										
D	6	77 05.0	263 06.7	N 4 06.2	225 23.7	S13 12.0	275 44.5	N 8 53.8	50 54.3	N 7 55.5
N	7	92 07.5	278 06.3	N 4 04.9	240 24.5	S13 12.5	290 46.5	N 8 53.6	65 56.9	N 7 55.4
E	8	107 10.0	293 06.0	N 4 03.7	255 25.4	S13 13.1	305 48.4	N 8 53.4	80 59.4	N 7 55.4
S	9	122 12.4	308 05.6	N 4 02.4	270 26.3	S13 13.7	320 50.4	N 8 53.2	96 02.0	N 7 55.3
D	10	137 14.9	323 05.2	N 4 01.2	285 27.1	S13 14.3	335 52.4	N 8 53.0	111 04.6	N 7 55.3
A	11	152 17.4	338 04.8	N 3 59.9	300 28.0	S13 14.9	350 54.3	N 8 52.8	126 07.2	N 7 55.2
Y										
	12	167 19.8	353 04.4	N 3 58.7	315 28.9	S13 15.5	5 56.3	N 8 52.6	141 09.7	N 7 55.2
	13	182 22.3	8 04.1	N 3 57.4	330 29.8	S13 16.1	20 58.2	N 8 52.4	156 12.3	N 7 55.1
	14	197 24.7	23 03.7	N 3 56.2	345 30.6	S13 16.7	36 00.2	N 8 52.2	171 14.9	N 7 55.1
	15	212 27.2	38 03.3	N 3 54.9	0 31.5	S13 17.2	51 02.1	N 8 52.0	186 17.5	N 7 55.0
	16	227 29.7	53 02.9	N 3 53.7	15 32.4	S13 17.8	66 04.1	N 8 51.8	201 20.0	N 7 55.0
	17	242 32.1	68 02.5	N 3 52.4	30 33.3	S13 18.4	81 06.0	N 8 51.6	216 22.6	N 7 54.9
	18	257 34.6	83 02.2	N 3 51.2	45 34.1	S13 19.0	96 08.0	N 8 51.4	231 25.2	N 7 54.9
	19	272 37.1	98 01.8	N 3 49.9	60 35.0	S13 19.6	111 10.0	N 8 51.2	246 27.8	N 7 54.8
	20	287 39.5	113 01.4	N 3 48.6	75 35.9	S13 20.2	126 11.9	N 8 51.0	261 30.3	N 7 54.8
	21	302 42.0	128 01.0	N 3 47.4	90 36.7	S13 20.8	141 13.9	N 8 50.8	276 32.9	N 7 54.7
	22	317 44.5	143 00.6	N 3 46.1	105 37.6	S13 21.3	156 15.8	N 8 50.6	291 35.5	N 7 54.7
	23	332 46.9	158 00.3	N 3 44.9	120 38.5	S13 21.9	171 17.8	N 8 50.4	306 38.1	N 7 54.6
9	0	347 49.4	172 59.9	N 3 43.6	135 39.3	S13 22.5	186 19.7	N 8 50.2	321 40.7	N 7 54.6
	1	2 51.8	187 59.5	N 3 42.4	150 40.2	S13 23.1	201 21.7	N 8 50.0	336 43.2	N 7 54.5
	2	17 54.3	202 59.1	N 3 41.1	165 41.1	S13 23.7	216 23.6	N 8 49.8	351 45.8	N 7 54.5
	3	32 56.8	217 58.7	N 3 39.9	180 41.9	S13 24.3	231 25.6	N 8 49.6	6 48.4	N 7 54.4
	4	47 59.2	232 58.4	N 3 38.6	195 42.8	S13 24.9	246 27.6	N 8 49.4	21 51.0	N 7 54.4
T	5	63 01.7	247 58.0	N 3 37.4	210 43.7	S13 25.4	261 29.5	N 8 49.2	36 53.5	N 7 54.3
H										
U	6	78 04.2	262 57.6	N 3 36.1	225 44.5	S13 26.0	276 31.5	N 8 49.0	51 56.1	N 7 54.3
R	7	93 06.6	277 57.2	N 3 34.9	240 45.4	S13 26.6	291 33.4	N 8 48.8	66 58.7	N 7 54.2
S	8	108 09.1	292 56.9	N 3 33.6	255 46.3	S13 27.2	306 35.4	N 8 48.6	82 01.3	N 7 54.2
D	9	123 11.6	307 56.5	N 3 32.3	270 47.2	S13 27.8	321 37.3	N 8 48.4	97 03.9	N 7 54.1
A	10	138 14.0	322 56.1	N 3 31.1	285 48.0	S13 28.4	336 39.3	N 8 48.2	112 06.4	N 7 54.1
Y	11	153 16.5	337 55.7	N 3 29.8	300 48.9	S13 28.9	351 41.2	N 8 48.0	127 09.0	N 7 54.0
	12	168 19.0	352 55.3	N 3 28.6	315 49.7	S13 29.5	6 43.2	N 8 47.8	142 11.6	N 7 53.9
	13	183 21.4	7 55.0	N 3 27.3	330 50.6	S13 30.1	21 45.2	N 8 47.6	157 14.2	N 7 53.9
	14	198 23.9	22 54.6	N 3 26.1	345 51.5	S13 30.7	36 47.1	N 8 47.4	172 16.7	N 7 53.8
	15	213 26.3	37 54.2	N 3 24.8	0 52.3	S13 31.3	51 49.1	N 8 47.2	187 19.3	N 7 53.8
	16	228 28.8	52 53.8	N 3 23.6	15 53.2	S13 31.9	66 51.0	N 8 47.0	202 21.9	N 7 53.7
	17	243 31.3	67 53.5	N 3 22.3	30 54.1	S13 32.4	81 53.0	N 8 46.8	217 24.5	N 7 53.7
	18	258 33.7	82 53.1	N 3 21.0	45 54.9	S13 33.0	96 54.9	N 8 46.6	232 27.1	N 7 53.6
	19	273 36.2	97 52.7	N 3 19.8	60 55.8	S13 33.6	111 56.9	N 8 46.4	247 29.6	N 7 53.6
	20	288 38.7	112 52.3	N 3 18.5	75 56.7	S13 34.2	126 58.9	N 8 46.2	262 32.2	N 7 53.5
	21	303 41.1	127 52.0	N 3 17.3	90 57.5	S13 34.8	142 00.8	N 8 46.0	277 34.8	N 7 53.5
	22	318 43.6	142 51.6	N 3 16.0	105 58.4	S13 35.4	157 02.8	N 8 45.8	292 37.4	N 7 53.4
	23	333 46.1	157 51.2	N 3 14.8	120 59.3	S13 35.9	172 04.7	N 8 45.6	307 40.0	N 7 53.4
			v -0.4	d 1.3	v 0.9	d 0.6	v 2.0	d 0.2	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	180 25.9	N 6 13.7	103 26.3	8.9	S25 51.7	4.7	55.9
	1	195 26.1	N 6 12.7	117 54.2	8.9	S25 56.3	4.6	55.9
	2	210 26.3	N 6 11.8	132 22.0	8.9	S26 00.7	4.4	55.9
	3	225 26.5	N 6 10.9	146 49.9	8.9	S26 05.0	4.3	55.8
	4	240 26.7	N 6 09.9	161 17.8	8.9	S26 09.2	4.2	55.8
T	5	255 27.0	N 6 09.0	175 45.6	8.9	S26 13.2	4.0	55.8
U								
E	6	270 27.2	N 6 08.1	190 13.5	8.9	S26 17.0	3.9	55.8
S	7	285 27.4	N 6 07.1	204 41.3	8.9	S26 20.8	3.7	55.7
D	8	300 27.6	N 6 06.2	219 09.2	8.9	S26 24.4	3.6	55.7
A	9	315 27.8	N 6 05.3	233 37.0	8.9	S26 27.8	3.4	55.7
Y	10	330 28.0	N 6 04.3	248 04.9	8.9	S26 31.1	3.3	55.6
	11	345 28.2	N 6 03.4	262 32.8	8.9	S26 34.3	3.2	55.6
	12	0 28.5	N 6 02.4	277 00.6	8.9	S26 37.3	3.0	55.6
	13	15 28.7	N 6 01.5	291 28.5	8.9	S26 40.2	2.9	55.6
	14	30 28.9	N 6 00.6	305 56.4	8.9	S26 42.9	2.7	55.5
	15	45 29.1	N 5 59.6	320 24.3	8.9	S26 45.5	2.6	55.5
	16	60 29.3	N 5 58.7	334 52.2	8.9	S26 48.0	2.4	55.5
	17	75 29.5	N 5 57.8	349 20.1	8.9	S26 50.3	2.3	55.4
	18	90 29.7	N 5 56.8	3 48.0	8.9	S26 52.4	2.2	55.4
	19	105 29.9	N 5 55.9	18 15.9	8.9	S26 54.4	2.0	55.4
	20	120 30.2	N 5 55.0	32 43.9	8.9	S26 56.3	1.9	55.4
	21	135 30.4	N 5 54.0	47 11.8	9.0	S26 58.1	1.7	55.3
	22	150 30.6	N 5 53.1	61 39.8	9.0	S26 59.7	1.6	55.3
	23	165 30.8	N 5 52.1	76 07.8	9.0	S27 01.1	1.5	55.3
8	0	180 31.0	N 5 51.2	90 35.8	9.0	S27 02.4	1.3	55.3
	1	195 31.2	N 5 50.3	105 03.9	9.0	S27 03.6	1.2	55.2
	2	210 31.4	N 5 49.3	119 31.9	9.0	S27 04.6	1.0	55.2
	3	225 31.7	N 5 48.4	133 60.0	9.1	S27 05.5	0.9	55.2
	4	240 31.9	N 5 47.5	148 28.1	9.1	S27 06.3	0.8	55.2
W	5	255 32.1	N 5 46.5	162 56.2	9.1	S27 06.9	0.6	55.1
E								
D	6	270 32.3	N 5 45.6	177 24.3	9.1	S27 07.4	0.5	55.1
N	7	285 32.5	N 5 44.6	191 52.5	9.2	S27 07.7	0.3	55.1
E	8	300 32.7	N 5 43.7	206 20.7	9.2	S27 07.9	0.2	55.1
S	9	315 33.0	N 5 42.8	220 48.9	9.2	S27 08.0	0.1	55.0
D	10	330 33.2	N 5 41.8	235 17.1	9.2	S27 07.9	0.1	55.0
A	11	345 33.4	N 5 40.9	249 45.4	9.3	S27 07.7	0.2	55.0
Y								
	12	0 33.6	N 5 39.9	264 13.7	9.3	S27 07.3	0.4	55.0
	13	15 33.8	N 5 39.0	278 42.0	9.3	S27 06.8	0.5	55.0
	14	30 34.0	N 5 38.1	293 10.4	9.4	S27 06.2	0.6	54.9
	15	45 34.2	N 5 37.1	307 38.8	9.4	S27 05.4	0.8	54.9
	16	60 34.5	N 5 36.2	322 07.2	9.4	S27 04.5	0.9	54.9
	17	75 34.7	N 5 35.2	336 35.7	9.5	S27 03.5	1.0	54.9
	18	90 34.9	N 5 34.3	351 04.2	9.5	S27 02.3	1.2	54.9
	19	105 35.1	N 5 33.4	5 32.7	9.5	S27 01.0	1.3	54.8
	20	120 35.3	N 5 32.4	20 01.3	9.6	S26 59.6	1.4	54.8
	21	135 35.5	N 5 31.5	34 29.9	9.6	S26 58.0	1.6	54.8
	22	150 35.8	N 5 30.5	48 58.5	9.7	S26 56.3	1.7	54.8
	23	165 36.0	N 5 29.6	63 27.2	9.7	S26 54.4	1.8	54.8
9	0	180 36.2	N 5 28.7	77 56.0	9.7	S26 52.4	2.0	54.7
	1	195 36.4	N 5 27.7	92 24.7	9.8	S26 50.3	2.1	54.7
	2	210 36.6	N 5 26.8	106 53.5	9.8	S26 48.1	2.2	54.7
	3	225 36.8	N 5 25.8	121 22.4	9.9	S26 45.7	2.4	54.7
	4	240 37.1	N 5 24.9	135 51.3	9.9	S26 43.2	2.5	54.7
T	5	255 37.3	N 5 23.9	150 20.3	9.9	S26 40.6	2.6	54.6
H								
U	6	270 37.5	N 5 23.0	164 49.3	10.0	S26 37.8	2.8	54.6
R	7	285 37.7	N 5 22.1	179 18.3	10.0	S26 34.9	2.9	54.6
S	8	300 37.9	N 5 21.1	193 47.4	10.1	S26 31.9	3.0	54.6
D	9	315 38.1	N 5 20.2	208 16.5	10.1	S26 28.8	3.1	54.6
A	10	330 38.4	N 5 19.2	222 45.7	10.2	S26 25.5	3.3	54.6
Y	11	345 38.6	N 5 18.3	237 14.9	10.2	S26 22.1	3.4	54.5
	12	0 38.8	N 5 17.3	251 44.2	10.3	S26 18.6	3.5	54.5
	13	15 39.0	N 5 16.4	266 13.6	10.3	S26 14.9	3.6	54.5
	14	30 39.2	N 5 15.5	280 43.0	10.4	S26 11.2	3.8	54.5
	15	45 39.4	N 5 14.5	295 12.4	10.4	S26 07.3	3.9	54.5
	16	60 39.7	N 5 13.6	309 41.9	10.5	S26 03.3	4.0	54.5
	17	75 39.9	N 5 12.6	324 11.4	10.5	S25 59.1	4.1	54.5
	18	90 40.1	N 5 11.7	338 41.0	10.6	S25 54.8	4.3	54.4
	19	105 40.3	N 5 10.7	353 10.7	10.7	S25 50.5	4.4	54.4
	20	120 40.5	N 5 09.8	7 40.4	10.7	S25 46.0	4.5	54.4
	21	135 40.8	N 5 08.9	22 10.2	10.8	S25 41.3	4.6	54.4
	22	150 41.0	N 5 07.9	36 40.0	10.8	S25 36.6	4.7	54.4
	23	165 41.2	N 5 07.0	51 09.9	10.9	S25 31.7	4.9	54.4
		S.D. 15.9	d 0.9	S.D.	15.1	15.0	14.9	

STARS Name	SHA	Dec
Acamar	315 09.9	S40 11.3
Achernar	335 18.1	S57 05.4
Acrux	172 58.3	S63 15.2
Adhara	255 04.3	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 37.1	N16 34.0
Alioth	166 11.5	N55 48.7
Alkaid	152 50.6	N49 10.7
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.5	S 1 10.9
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.2	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.6	S42 09.1
Antares	112 13.2	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.5	S69 04.9
Avior	234 14.3	S59 35.7
Bellatrix	278 20.6	N 6 22.6
Betelgeuse	270 49.8	N 7 24.8
Canopus	263 51.6	S52 42.3
Capella	280 18.7	N46 01.4
Castor	245 54.5	N31 49.6
Deneb	49 23.9	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 39.0	N61 36.0
Elnath	277 59.2	N28 37.8
Eltanin	90 41.1	N51 29.4
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.4	S60 30.6
Hamal	327 48.5	N23 35.7
Kaus Austr.	83 29.5	S34 22.4
Kochab	137 20.7	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.7	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.5	S69 49.7
Mirfak	308 24.9	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.8	S56 38.8
Polaris	315 25.5	N89 22.1
Pollux	243 14.8	N27 57.5
Procyon	244 48.7	N 5 09.3
Rasalhague	95 56.5	N12 32.6
Regulus	207 32.4	N11 50.0
Rigel	281 01.8	S 8 10.0
Rigil Kent	139 37.8	S60 57.2
Sabik	102 00.3	S15 45.5
Schedar	349 28.0	N56 41.4
Shaula	96 07.3	S37 07.5
Sirius	258 24.5	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 45.1	S43 32.5
Vega	80 31.6	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	348 48.5	172 50.8	N 3 13.5	136 00.1	S13 36.5	187 06.7	N 8 45.4	322 42.5	N 7 53.3
	1	3 51.0	187 50.5	N 3 12.2	151 01.0	S13 37.1	202 08.6	N 8 45.2	337 45.1	N 7 53.3
	2	18 53.5	202 50.1	N 3 11.0	166 01.8	S13 37.7	217 10.6	N 8 45.0	352 47.7	N 7 53.2
	3	33 55.9	217 49.7	N 3 09.7	181 02.7	S13 38.3	232 12.5	N 8 44.8	7 50.3	N 7 53.2
	4	48 58.4	232 49.3	N 3 08.5	196 03.6	S13 38.9	247 14.5	N 8 44.6	22 52.9	N 7 53.1
F	5	64 00.8	247 48.9	N 3 07.2	211 04.4	S13 39.4	262 16.5	N 8 44.4	37 55.4	N 7 53.0
R										
I	6	79 03.3	262 48.6	N 3 05.9	226 05.3	S13 40.0	277 18.4	N 8 44.2	52 58.0	N 7 53.0
D	7	94 05.8	277 48.2	N 3 04.7	241 06.1	S13 40.6	292 20.4	N 8 44.0	68 00.6	N 7 52.9
A	8	109 08.2	292 47.8	N 3 03.4	256 07.0	S13 41.2	307 22.3	N 8 43.8	83 03.2	N 7 52.9
Y	9	124 10.7	307 47.5	N 3 02.2	271 07.9	S13 41.8	322 24.3	N 8 43.6	98 05.8	N 7 52.8
	10	139 13.2	322 47.1	N 3 00.9	286 08.7	S13 42.3	337 26.2	N 8 43.4	113 08.4	N 7 52.8
	11	154 15.6	337 46.7	N 2 59.7	301 09.6	S13 42.9	352 28.2	N 8 43.1	128 10.9	N 7 52.7
	12	169 18.1	352 46.3	N 2 58.4	316 10.4	S13 43.5	7 30.2	N 8 42.9	143 13.5	N 7 52.7
	13	184 20.6	7 46.0	N 2 57.1	331 11.3	S13 44.1	22 32.1	N 8 42.7	158 16.1	N 7 52.6
	14	199 23.0	22 45.6	N 2 55.9	346 12.2	S13 44.7	37 34.1	N 8 42.5	173 18.7	N 7 52.6
	15	214 25.5	37 45.2	N 2 54.6	1 13.0	S13 45.2	52 36.0	N 8 42.3	188 21.3	N 7 52.5
	16	229 28.0	52 44.8	N 2 53.4	16 13.9	S13 45.8	67 38.0	N 8 42.1	203 23.8	N 7 52.5
	17	244 30.4	67 44.5	N 2 52.1	31 14.7	S13 46.4	82 39.9	N 8 41.9	218 26.4	N 7 52.4
	18	259 32.9	82 44.1	N 2 50.8	46 15.6	S13 47.0	97 41.9	N 8 41.7	233 29.0	N 7 52.4
	19	274 35.3	97 43.7	N 2 49.6	61 16.5	S13 47.6	112 43.9	N 8 41.5	248 31.6	N 7 52.3
	20	289 37.8	112 43.3	N 2 48.3	76 17.3	S13 48.1	127 45.8	N 8 41.3	263 34.2	N 7 52.2
	21	304 40.3	127 43.0	N 2 47.0	91 18.2	S13 48.7	142 47.8	N 8 41.1	278 36.8	N 7 52.2
	22	319 42.7	142 42.6	N 2 45.8	106 19.0	S13 49.3	157 49.7	N 8 40.9	293 39.3	N 7 52.1
	23	334 45.2	157 42.2	N 2 44.5	121 19.9	S13 49.9	172 51.7	N 8 40.7	308 41.9	N 7 52.1
11	0	349 47.7	172 41.8	N 2 43.3	136 20.7	S13 50.5	187 53.6	N 8 40.5	323 44.5	N 7 52.0
	1	4 50.1	187 41.5	N 2 42.0	151 21.6	S13 51.0	202 55.6	N 8 40.3	338 47.1	N 7 52.0
	2	19 52.6	202 41.1	N 2 40.7	166 22.5	S13 51.6	217 57.6	N 8 40.1	353 49.7	N 7 51.9
	3	34 55.1	217 40.7	N 2 39.5	181 23.3	S13 52.2	232 59.5	N 8 39.9	8 52.3	N 7 51.9
	4	49 57.5	232 40.4	N 2 38.2	196 24.2	S13 52.8	248 01.5	N 8 39.7	23 54.9	N 7 51.8
S	5	64 60.0	247 40.0	N 2 36.9	211 25.0	S13 53.4	263 03.4	N 8 39.5	38 57.4	N 7 51.8
A										
T	6	80 02.5	262 39.6	N 2 35.7	226 25.9	S13 53.9	278 05.4	N 8 39.3	54 00.0	N 7 51.7
U	7	95 04.9	277 39.2	N 2 34.4	241 26.7	S13 54.5	293 07.3	N 8 39.1	69 02.6	N 7 51.6
R	8	110 07.4	292 38.9	N 2 33.2	256 27.6	S13 55.1	308 09.3	N 8 38.9	84 05.2	N 7 51.6
D	9	125 09.8	307 38.5	N 2 31.9	271 28.4	S13 55.7	323 11.3	N 8 38.7	99 07.8	N 7 51.5
A	10	140 12.3	322 38.1	N 2 30.6	286 29.3	S13 56.2	338 13.2	N 8 38.5	114 10.4	N 7 51.5
Y	11	155 14.8	337 37.7	N 2 29.4	301 30.1	S13 56.8	353 15.2	N 8 38.3	129 12.9	N 7 51.4
	12	170 17.2	352 37.4	N 2 28.1	316 31.0	S13 57.4	8 17.1	N 8 38.1	144 15.5	N 7 51.4
	13	185 19.7	7 37.0	N 2 26.8	331 31.8	S13 58.0	23 19.1	N 8 37.9	159 18.1	N 7 51.3
	14	200 22.2	22 36.6	N 2 25.6	346 32.7	S13 58.6	38 21.0	N 8 37.7	174 20.7	N 7 51.3
	15	215 24.6	37 36.3	N 2 24.3	1 33.5	S13 59.1	53 23.0	N 8 37.5	189 23.3	N 7 51.2
	16	230 27.1	52 35.9	N 2 23.1	16 34.4	S13 59.7	68 25.0	N 8 37.3	204 25.9	N 7 51.2
	17	245 29.6	67 35.5	N 2 21.8	31 35.3	S14 00.3	83 26.9	N 8 37.1	219 28.5	N 7 51.1
	18	260 32.0	82 35.1	N 2 20.5	46 36.1	S14 00.9	98 28.9	N 8 36.9	234 31.0	N 7 51.0
	19	275 34.5	97 34.8	N 2 19.3	61 37.0	S14 01.4	113 30.8	N 8 36.7	249 33.6	N 7 51.0
	20	290 36.9	112 34.4	N 2 18.0	76 37.8	S14 02.0	128 32.8	N 8 36.5	264 36.2	N 7 50.9
	21	305 39.4	127 34.0	N 2 16.7	91 38.7	S14 02.6	143 34.7	N 8 36.3	279 38.8	N 7 50.9
	22	320 41.9	142 33.7	N 2 15.5	106 39.5	S14 03.2	158 36.7	N 8 36.1	294 41.4	N 7 50.8
	23	335 44.3	157 33.3	N 2 14.2	121 40.4	S14 03.8	173 38.7	N 8 35.9	309 44.0	N 7 50.8
12	0	350 46.8	172 32.9	N 2 12.9	136 41.2	S14 04.3	188 40.6	N 8 35.7	324 46.6	N 7 50.7
	1	5 49.3	187 32.6	N 2 11.7	151 42.1	S14 04.9	203 42.6	N 8 35.5	339 49.2	N 7 50.7
	2	20 51.7	202 32.2	N 2 10.4	166 42.9	S14 05.5	218 44.5	N 8 35.3	354 51.7	N 7 50.6
	3	35 54.2	217 31.8	N 2 09.1	181 43.8	S14 06.1	233 46.5	N 8 35.1	9 54.3	N 7 50.5
	4	50 56.7	232 31.4	N 2 07.9	196 44.6	S14 06.6	248 48.4	N 8 34.9	24 56.9	N 7 50.5
S	5	65 59.1	247 31.1	N 2 06.6	211 45.4	S14 07.2	263 50.4	N 8 34.7	39 59.5	N 7 50.4
U										
N	6	81 01.6	262 30.7	N 2 05.3	226 46.3	S14 07.8	278 52.4	N 8 34.5	55 02.1	N 7 50.4
D	7	96 04.1	277 30.3	N 2 04.1	241 47.1	S14 08.4	293 54.3	N 8 34.3	70 04.7	N 7 50.3
A	8	111 06.5	292 30.0	N 2 02.8	256 48.0	S14 08.9	308 56.3	N 8 34.1	85 07.3	N 7 50.3
Y	9	126 09.0	307 29.6	N 2 01.5	271 48.8	S14 09.5	323 58.2	N 8 33.9	100 09.9	N 7 50.2
	10	141 11.4	322 29.2	N 2 00.3	286 49.7	S14 10.1	339 00.2	N 8 33.7	115 12.4	N 7 50.2
	11	156 13.9	337 28.8	N 1 59.0	301 50.5	S14 10.7	354 02.2	N 8 33.5	130 15.0	N 7 50.1
	12	171 16.4	352 28.5	N 1 57.7	316 51.4	S14 11.2	9 04.1	N 8 33.3	145 17.6	N 7 50.0
	13	186 18.8	7 28.1	N 1 56.5	331 52.2	S14 11.8	24 06.1	N 8 33.1	160 20.2	N 7 50.0
	14	201 21.3	22 27.7	N 1 55.2	346 53.1	S14 12.4	39 08.0	N 8 32.9	175 22.8	N 7 49.9
	15	216 23.8	37 27.4	N 1 53.9	1 53.9	S14 13.0	54 10.0	N 8 32.7	190 25.4	N 7 49.9
	16	231 26.2	52 27.0	N 1 52.7	16 54.8	S14 13.5	69 11.9	N 8 32.5	205 28.0	N 7 49.8
	17	246 28.7	67 26.6	N 1 51.4	31 55.6	S14 14.1	84 13.9	N 8 32.3	220 30.6	N 7 49.8
	18	261 31.2	82 26.3	N 1 50.1	46 56.4	S14 14.7	99 15.9	N 8 32.1	235 33.2	N 7 49.7
	19	276 33.6	97 25.9	N 1 48.9	61 57.3	S14 15.3	114 17.8	N 8 31.9	250 35.7	N 7 49.7
	20	291 36.1	112 25.5	N 1 47.6	76 58.1	S14 15.8	129 19.8	N 8 31.7	265 38.3	N 7 49.6
	21	306 38.6	127 25.2	N 1 46.3	91 59.0	S14 16.4	144 21.7	N 8 31.5	280 40.9	N 7 49.5
	22	321 41.0	142 24.8	N 1 45.1	106 59.8	S14 17.0	159 23.7	N 8 31.3	295 43.5	N 7 49.5
	23	336 43.5	157 24.4	N 1 43.8	122 00.7	S14 17.5	174 25.7	N 8 31.1	310 46.1	N 7 49.4
			v -0.4	d 1.3	v 0.9	d 0.6	v 2.0	d 0.2	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 41.4	N 5 06.0	65 39.8	10.9	S25 26.7	5.0	54.4
	1	195 41.6	N 5 05.1	80 09.8	11.0	S25 21.6	5.1	54.4
	2	210 41.8	N 5 04.1	94 39.9	11.1	S25 16.4	5.2	54.3
	3	225 42.1	N 5 03.2	109 10.0	11.1	S25 11.1	5.3	54.3
	4	240 42.3	N 5 02.2	123 40.2	11.2	S25 05.6	5.4	54.3
F	5	255 42.5	N 5 01.3	138 10.4	11.2	S25 00.1	5.6	54.3
R								
I	6	270 42.7	N 5 00.3	152 40.7	11.3	S24 54.4	5.7	54.3
D	7	285 42.9	N 4 59.4	167 11.0	11.3	S24 48.6	5.8	54.3
A	8	300 43.2	N 4 58.5	181 41.4	11.4	S24 42.7	5.9	54.3
Y	9	315 43.4	N 4 57.5	196 11.9	11.5	S24 36.7	6.0	54.3
	10	330 43.6	N 4 56.6	210 42.4	11.5	S24 30.6	6.1	54.3
	11	345 43.8	N 4 55.6	225 13.0	11.6	S24 24.4	6.2	54.3
	12	0 44.0	N 4 54.7	239 43.7	11.7	S24 18.0	6.3	54.2
	13	15 44.3	N 4 53.7	254 14.4	11.7	S24 11.6	6.4	54.2
	14	30 44.5	N 4 52.8	268 45.1	11.8	S24 05.0	6.6	54.2
	15	45 44.7	N 4 51.8	283 16.0	11.8	S23 58.3	6.7	54.2
	16	60 44.9	N 4 50.9	297 46.9	11.9	S23 51.6	6.8	54.2
	17	75 45.1	N 4 49.9	312 17.8	12.0	S23 44.7	6.9	54.2
	18	90 45.3	N 4 49.0	326 48.9	12.0	S23 37.7	7.0	54.2
	19	105 45.6	N 4 48.0	341 19.9	12.1	S23 30.6	7.1	54.2
	20	120 45.8	N 4 47.1	355 51.1	12.1	S23 23.5	7.2	54.2
	21	135 46.0	N 4 46.1	10 22.3	12.2	S23 16.2	7.3	54.2
	22	150 46.2	N 4 45.2	24 53.5	12.3	S23 08.8	7.4	54.2
	23	165 46.4	N 4 44.2	39 24.9	12.3	S23 01.3	7.5	54.2
11	0	180 46.7	N 4 43.3	53 56.3	12.4	S22 53.7	7.6	54.2
	1	195 46.9	N 4 42.3	68 27.7	12.5	S22 46.0	7.7	54.2
	2	210 47.1	N 4 41.4	82 59.2	12.5	S22 38.2	7.8	54.1
	3	225 47.3	N 4 40.4	97 30.8	12.6	S22 30.3	7.9	54.1
	4	240 47.5	N 4 39.5	112 02.5	12.6	S22 22.3	8.0	54.1
S	5	255 47.8	N 4 38.5	126 34.2	12.7	S22 14.2	8.1	54.1
A								
T	6	270 48.0	N 4 37.6	141 05.9	12.8	S22 06.1	8.2	54.1
U	7	285 48.2	N 4 36.6	155 37.8	12.8	S21 57.8	8.3	54.1
R	8	300 48.4	N 4 35.7	170 09.6	12.9	S21 49.4	8.4	54.1
D	9	315 48.6	N 4 34.7	184 41.6	12.9	S21 41.0	8.5	54.1
A	10	330 48.9	N 4 33.8	199 13.6	13.0	S21 32.4	8.6	54.1
Y	11	345 49.1	N 4 32.8	213 45.7	13.1	S21 23.8	8.6	54.1
	12	0 49.3	N 4 31.9	228 17.8	13.1	S21 15.1	8.7	54.1
	13	15 49.5	N 4 30.9	242 50.0	13.2	S21 06.2	8.8	54.1
	14	30 49.7	N 4 30.0	257 22.3	13.3	S20 57.3	8.9	54.1
	15	45 50.0	N 4 29.0	271 54.6	13.3	S20 48.3	9.0	54.1
	16	60 50.2	N 4 28.1	286 26.9	13.4	S20 39.2	9.1	54.1
	17	75 50.4	N 4 27.1	300 59.4	13.4	S20 30.1	9.2	54.1
	18	90 50.6	N 4 26.2	315 31.9	13.5	S20 20.8	9.3	54.1
	19	105 50.9	N 4 25.2	330 04.4	13.6	S20 11.5	9.3	54.1
	20	120 51.1	N 4 24.3	344 37.0	13.6	S20 02.0	9.4	54.1
	21	135 51.3	N 4 23.3	359 09.7	13.7	S19 52.5	9.5	54.1
	22	150 51.5	N 4 22.4	13 42.4	13.7	S19 42.9	9.6	54.1
	23	165 51.7	N 4 21.4	28 15.2	13.8	S19 33.2	9.7	54.1
12	0	180 52.0	N 4 20.5	42 48.0	13.8	S19 23.5	9.8	54.1
	1	195 52.2	N 4 19.5	57 20.9	13.9	S19 13.6	9.8	54.1
	2	210 52.4	N 4 18.6	71 53.9	14.0	S19 03.7	9.9	54.1
	3	225 52.6	N 4 17.6	86 26.9	14.0	S18 53.7	10.0	54.1
	4	240 52.8	N 4 16.7	100 60.0	14.1	S18 43.6	10.1	54.1
S	5	255 53.1	N 4 15.7	115 33.1	14.1	S18 33.5	10.2	54.1
U								
N	6	270 53.3	N 4 14.8	130 06.2	14.2	S18 23.3	10.2	54.1
D	7	285 53.5	N 4 13.8	144 39.5	14.2	S18 12.9	10.3	54.1
A	8	300 53.7	N 4 12.9	159 12.8	14.3	S18 02.6	10.4	54.1
Y	9	315 53.9	N 4 11.9	173 46.1	14.3	S17 52.1	10.5	54.1
	10	330 54.2	N 4 11.0	188 19.5	14.4	S17 41.6	10.5	54.1
	11	345 54.4	N 4 10.0	202 52.9	14.4	S17 31.0	10.6	54.1
	12	0 54.6	N 4 09.1	217 26.4	14.5	S17 20.3	10.7	54.1
	13	15 54.8	N 4 08.1	231 59.9	14.5	S17 09.6	10.7	54.1
	14	30 55.1	N 4 07.2	246 33.5	14.6	S16 58.7	10.8	54.1
	15	45 55.3	N 4 06.2	261 07.2	14.6	S16 47.9	10.9	54.1
	16	60 55.5	N 4 05.2	275 40.9	14.7	S16 36.9	11.0	54.1
	17	75 55.7	N 4 04.3	290 14.6	14.7	S16 25.9	11.0	54.1
	18	90 55.9	N 4 03.3	304 48.4	14.8	S16 14.8	11.1	54.1
	19	105 56.2	N 4 02.4	319 22.2	14.8	S16 03.6	11.2	54.1
	20	120 56.4	N 4 01.4	333 56.1	14.9	S15 52.4	11.2	54.1
	21	135 56.6	N 4 00.5	348 30.0	14.9	S15 41.1	11.3	54.1
	22	150 56.8	N 3 59.5	3 04.0	15.0	S15 29.8	11.3	54.1
	23	165 57.1	N 3 58.6	17 38.0	15.0	S15 18.4	11.4	54.1
		S.D. 15.9	d 1.0	S.D.	14.8	14.7	14.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.8	S40 11.3
Achernar	335 18.1	S57 05.4
Acrux	172 58.3	S63 15.2
Adhara	255 04.3	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 37.0	N16 34.0
Alioth	166 11.5	N55 48.7
Alkaid	152 50.6	N49 10.6
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.5	S 1 10.9
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.1	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.6	S42 09.1
Antares	112 13.2	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.5	S69 04.9
Avior	234 14.3	S59 35.7
Bellatrix	278 20.5	N 6 22.6
Betelgeuse	270 49.8	N 7 24.8
Canopus	263 51.6	S52 42.3
Capella	280 18.6	N46 01.4
Castor	245 54.4	N31 49.6
Deneb	49 23.9	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 39.0	N61 36.0
Elnath	277 59.1	N28 37.8
Eltanin	90 41.1	N51 29.4
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.4	S60 30.6
Hamal	327 48.5	N23 35.8
Kaus Austr.	83 29.5	S34 22.4
Kochab	137 20.7	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.6	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.5	S69 49.7
Mirfak	308 24.9	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.8	S56 38.8
Polaris	315 24.4	N89 22.1
Pollux	243 14.8	N27 57.5
Procyon	244 48.7	N 5 09.3
Rasalhague	95 56.5	N12 32.6
Regulus	207 32.4	N11 49.9
Rigel	281 01.7	S 8 10.0
Rigil Kent	139 37.8	S60 57.2
Sabik	102 00.3	S15 45.5
Schedar	349 28.0	N56 41.4
Shaula	96 07.3	S37 07.5
Sirius	258 24.4	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 45.0	S43 32.5
Vega	80 31.6	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
13	0	351 45.9	172 24.1	N 1 42.5	137 01.5	S14 18.1	189 27.6	N 8 30.9	325 48.7	N 7 49.4
	1	6 48.4	187 23.7	N 1 41.3	152 02.4	S14 18.7	204 29.6	N 8 30.7	340 51.3	N 7 49.3
	2	21 50.9	202 23.3	N 1 40.0	167 03.2	S14 19.3	219 31.5	N 8 30.5	355 53.9	N 7 49.3
	3	36 53.3	217 22.9	N 1 38.7	182 04.0	S14 19.8	234 33.5	N 8 30.2	10 56.5	N 7 49.2
	4	51 55.8	232 22.6	N 1 37.5	197 04.9	S14 20.4	249 35.4	N 8 30.0	25 59.1	N 7 49.2
M	5	66 58.3	247 22.2	N 1 36.2	212 05.7	S14 21.0	264 37.4	N 8 29.8	41 01.6	N 7 49.1
O										
N	6	82 00.7	262 21.8	N 1 34.9	227 06.6	S14 21.6	279 39.4	N 8 29.6	56 04.2	N 7 49.0
D	7	97 03.2	277 21.5	N 1 33.6	242 07.4	S14 22.1	294 41.3	N 8 29.4	71 06.8	N 7 49.0
A	8	112 05.7	292 21.1	N 1 32.4	257 08.2	S14 22.7	309 43.3	N 8 29.2	86 09.4	N 7 48.9
Y	9	127 08.1	307 20.7	N 1 31.1	272 09.1	S14 23.3	324 45.2	N 8 29.0	101 12.0	N 7 48.9
	10	142 10.6	322 20.4	N 1 29.8	287 09.9	S14 23.8	339 47.2	N 8 28.8	116 14.6	N 7 48.8
	11	157 13.0	337 20.0	N 1 28.6	302 10.8	S14 24.4	354 49.2	N 8 28.6	131 17.2	N 7 48.8
	12	172 15.5	352 19.6	N 1 27.3	317 11.6	S14 25.0	9 51.1	N 8 28.4	146 19.8	N 7 48.7
	13	187 18.0	7 19.3	N 1 26.0	332 12.4	S14 25.6	24 53.1	N 8 28.2	161 22.4	N 7 48.6
	14	202 20.4	22 18.9	N 1 24.8	347 13.3	S14 26.1	39 55.0	N 8 28.0	176 25.0	N 7 48.6
	15	217 22.9	37 18.5	N 1 23.5	2 14.1	S14 26.7	54 57.0	N 8 27.8	191 27.6	N 7 48.5
	16	232 25.4	52 18.2	N 1 22.2	17 15.0	S14 27.3	69 59.0	N 8 27.6	206 30.2	N 7 48.5
	17	247 27.8	67 17.8	N 1 21.0	32 15.8	S14 27.8	85 00.9	N 8 27.4	221 32.7	N 7 48.4
	18	262 30.3	82 17.4	N 1 19.7	47 16.6	S14 28.4	100 02.9	N 8 27.2	236 35.3	N 7 48.4
	19	277 32.8	97 17.1	N 1 18.4	62 17.5	S14 29.0	115 04.8	N 8 27.0	251 37.9	N 7 48.3
	20	292 35.2	112 16.7	N 1 17.1	77 18.3	S14 29.5	130 06.8	N 8 26.8	266 40.5	N 7 48.2
	21	307 37.7	127 16.3	N 1 15.9	92 19.1	S14 30.1	145 08.7	N 8 26.6	281 43.1	N 7 48.2
	22	322 40.2	142 16.0	N 1 14.6	107 20.0	S14 30.7	160 10.7	N 8 26.4	296 45.7	N 7 48.1
	23	337 42.6	157 15.6	N 1 13.3	122 20.8	S14 31.3	175 12.7	N 8 26.2	311 48.3	N 7 48.1
14	0	352 45.1	172 15.2	N 1 12.1	137 21.7	S14 31.8	190 14.6	N 8 26.0	326 50.9	N 7 48.0
	1	7 47.5	187 14.9	N 1 10.8	152 22.5	S14 32.4	205 16.6	N 8 25.8	341 53.5	N 7 48.0
	2	22 50.0	202 14.5	N 1 09.5	167 23.3	S14 33.0	220 18.5	N 8 25.6	356 56.1	N 7 47.9
	3	37 52.5	217 14.1	N 1 08.2	182 24.2	S14 33.5	235 20.5	N 8 25.4	11 58.7	N 7 47.8
	4	52 54.9	232 13.8	N 1 07.0	197 25.0	S14 34.1	250 22.5	N 8 25.2	27 01.3	N 7 47.8
T	5	67 57.4	247 13.4	N 1 05.7	212 25.8	S14 34.7	265 24.4	N 8 25.0	42 03.9	N 7 47.7
U										
E	6	82 59.9	262 13.0	N 1 04.4	227 26.7	S14 35.2	280 26.4	N 8 24.8	57 06.5	N 7 47.7
S	7	98 02.3	277 12.7	N 1 03.2	242 27.5	S14 35.8	295 28.3	N 8 24.6	72 09.0	N 7 47.6
D	8	113 04.8	292 12.3	N 1 01.9	257 28.3	S14 36.4	310 30.3	N 8 24.4	87 11.6	N 7 47.6
A	9	128 07.3	307 11.9	N 1 00.6	272 29.2	S14 36.9	325 32.3	N 8 24.2	102 14.2	N 7 47.5
Y	10	143 09.7	322 11.6	N 0 59.3	287 30.0	S14 37.5	340 34.2	N 8 24.0	117 16.8	N 7 47.4
	11	158 12.2	337 11.2	N 0 58.1	302 30.8	S14 38.1	355 36.2	N 8 23.8	132 19.4	N 7 47.4
	12	173 14.7	352 10.8	N 0 56.8	317 31.7	S14 38.6	10 38.1	N 8 23.6	147 22.0	N 7 47.3
	13	188 17.1	7 10.5	N 0 55.5	332 32.5	S14 39.2	25 40.1	N 8 23.4	162 24.6	N 7 47.3
	14	203 19.6	22 10.1	N 0 54.3	347 33.3	S14 39.8	40 42.1	N 8 23.2	177 27.2	N 7 47.2
	15	218 22.0	37 09.7	N 0 53.0	2 34.2	S14 40.3	55 44.0	N 8 23.0	192 29.8	N 7 47.2
	16	233 24.5	52 09.4	N 0 51.7	17 35.0	S14 40.9	70 46.0	N 8 22.8	207 32.4	N 7 47.1
	17	248 27.0	67 09.0	N 0 50.4	32 35.8	S14 41.5	85 47.9	N 8 22.6	222 35.0	N 7 47.0
	18	263 29.4	82 08.6	N 0 49.2	47 36.7	S14 42.1	100 49.9	N 8 22.4	237 37.6	N 7 47.0
	19	278 31.9	97 08.3	N 0 47.9	62 37.5	S14 42.6	115 51.9	N 8 22.2	252 40.2	N 7 46.9
	20	293 34.4	112 07.9	N 0 46.6	77 38.3	S14 43.2	130 53.8	N 8 22.0	267 42.8	N 7 46.9
	21	308 36.8	127 07.5	N 0 45.4	92 39.2	S14 43.7	145 55.8	N 8 21.8	282 45.4	N 7 46.8
	22	323 39.3	142 07.2	N 0 44.1	107 40.0	S14 44.3	160 57.7	N 8 21.6	297 48.0	N 7 46.7
	23	338 41.8	157 06.8	N 0 42.8	122 40.8	S14 44.9	175 59.7	N 8 21.4	312 50.6	N 7 46.7
15	0	353 44.2	172 06.4	N 0 41.5	137 41.6	S14 45.4	191 01.7	N 8 21.2	327 53.2	N 7 46.6
	1	8 46.7	187 06.1	N 0 40.3	152 42.5	S14 46.0	206 03.6	N 8 21.0	342 55.8	N 7 46.6
	2	23 49.1	202 05.7	N 0 39.0	167 43.3	S14 46.6	221 05.6	N 8 20.8	357 58.4	N 7 46.5
	3	38 51.6	217 05.3	N 0 37.7	182 44.1	S14 47.1	236 07.5	N 8 20.6	13 01.0	N 7 46.5
	4	53 54.1	232 05.0	N 0 36.4	197 45.0	S14 47.7	251 09.5	N 8 20.4	28 03.6	N 7 46.4
W	5	68 56.5	247 04.6	N 0 35.2	212 45.8	S14 48.3	266 11.5	N 8 20.2	43 06.1	N 7 46.3
E										
D	6	83 59.0	262 04.2	N 0 33.9	227 46.6	S14 48.8	281 13.4	N 8 20.0	58 08.7	N 7 46.3
N	7	99 01.5	277 03.9	N 0 32.6	242 47.4	S14 49.4	296 15.4	N 8 19.8	73 11.3	N 7 46.2
E	8	114 03.9	292 03.5	N 0 31.4	257 48.3	S14 50.0	311 17.3	N 8 19.6	88 13.9	N 7 46.2
S	9	129 06.4	307 03.1	N 0 30.1	272 49.1	S14 50.5	326 19.3	N 8 19.4	103 16.5	N 7 46.1
D	10	144 08.9	322 02.8	N 0 28.8	287 49.9	S14 51.1	341 21.3	N 8 19.2	118 19.1	N 7 46.0
A	11	159 11.3	337 02.4	N 0 27.5	302 50.8	S14 51.7	356 23.2	N 8 19.0	133 21.7	N 7 46.0
Y										
	12	174 13.8	352 02.0	N 0 26.3	317 51.6	S14 52.2	11 25.2	N 8 18.8	148 24.3	N 7 45.9
	13	189 16.3	7 01.7	N 0 25.0	332 52.4	S14 52.8	26 27.1	N 8 18.6	163 26.9	N 7 45.9
	14	204 18.7	22 01.3	N 0 23.7	347 53.2	S14 53.4	41 29.1	N 8 18.4	178 29.5	N 7 45.8
	15	219 21.2	37 00.9	N 0 22.4	2 54.1	S14 53.9	56 31.1	N 8 18.2	193 32.1	N 7 45.7
	16	234 23.6	52 00.6	N 0 21.2	17 54.9	S14 54.5	71 33.0	N 8 18.0	208 34.7	N 7 45.7
	17	249 26.1	67 00.2	N 0 19.9	32 55.7	S14 55.0	86 35.0	N 8 17.8	223 37.3	N 7 45.6
	18	264 28.6	81 59.8	N 0 18.6	47 56.5	S14 55.6	101 36.9	N 8 17.6	238 39.9	N 7 45.6
	19	279 31.0	96 59.5	N 0 17.3	62 57.4	S14 56.2	116 38.9	N 8 17.4	253 42.5	N 7 45.5
	20	294 33.5	111 59.1	N 0 16.1	77 58.2	S14 56.7	131 40.9	N 8 17.2	268 45.1	N 7 45.5
	21	309 36.0	126 58.7	N 0 14.8	92 59.0	S14 57.3	146 42.8	N 8 17.0	283 47.7	N 7 45.4
	22	324 38.4	141 58.4	N 0 13.5	107 59.8	S14 57.9	161 44.8	N 8 16.8	298 50.3	N 7 45.3
	23	339 40.9	156 58.0	N 0 12.2	123 00.6	S14 58.4	176 46.7	N 8 16.6	313 52.9	N 7 45.3
			v -0.4	d 1.3	v 0.8	d 0.6	v 2.0	d 0.2	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 57.3	N 3 57.6	32 12.1	15.1	S15 06.9	11.5	54.2
	1	195 57.5	N 3 56.7	46 46.2	15.1	S14 55.4	11.5	54.2
	2	210 57.7	N 3 55.7	61 20.3	15.1	S14 43.8	11.6	54.2
	3	225 57.9	N 3 54.7	75 54.5	15.2	S14 32.1	11.7	54.2
	4	240 58.2	N 3 53.8	90 28.8	15.2	S14 20.4	11.7	54.2
M	5	255 58.4	N 3 52.8	105 03.0	15.3	S14 08.6	11.8	54.2
O								
N	6	270 58.6	N 3 51.9	119 37.4	15.3	S13 56.8	11.8	54.2
D	7	285 58.8	N 3 50.9	134 11.7	15.4	S13 44.9	11.9	54.2
A	8	300 59.1	N 3 50.0	148 46.1	15.4	S13 32.9	11.9	54.2
Y	9	315 59.3	N 3 49.0	163 20.5	15.4	S13 20.9	12.0	54.2
	10	330 59.5	N 3 48.1	177 55.0	15.5	S13 08.9	12.1	54.2
	11	345 59.7	N 3 47.1	192 29.5	15.5	S12 56.8	12.1	54.2
	12	0 59.9	N 3 46.1	207 04.1	15.5	S12 44.6	12.2	54.2
	13	16 00.2	N 3 45.2	221 38.6	15.6	S12 32.4	12.2	54.2
	14	31 00.4	N 3 44.2	236 13.2	15.6	S12 20.1	12.3	54.2
	15	46 00.6	N 3 43.3	250 47.9	15.6	S12 07.8	12.3	54.2
	16	61 00.8	N 3 42.3	265 22.6	15.7	S11 55.4	12.4	54.3
	17	76 01.1	N 3 41.4	279 57.3	15.7	S11 43.0	12.4	54.3
	18	91 01.3	N 3 40.4	294 32.0	15.7	S11 30.5	12.5	54.3
	19	106 01.5	N 3 39.4	309 06.8	15.8	S11 18.0	12.5	54.3
	20	121 01.7	N 3 38.5	323 41.6	15.8	S11 05.4	12.6	54.3
	21	136 02.0	N 3 37.5	338 16.4	15.8	S10 52.8	12.6	54.3
	22	151 02.2	N 3 36.6	352 51.3	15.9	S10 40.2	12.7	54.3
	23	166 02.4	N 3 35.6	7 26.2	15.9	S10 27.5	12.7	54.3
14	0	181 02.6	N 3 34.7	22 01.1	15.9	S10 14.7	12.7	54.3
	1	196 02.8	N 3 33.7	36 36.0	15.9	S10 01.9	12.8	54.3
	2	211 03.1	N 3 32.7	51 11.0	16.0	S 9 49.1	12.8	54.3
	3	226 03.3	N 3 31.8	65 46.0	16.0	S 9 36.2	12.9	54.4
	4	241 03.5	N 3 30.8	80 21.0	16.0	S 9 23.3	12.9	54.4
T	5	256 03.7	N 3 29.9	94 56.0	16.0	S 9 10.3	13.0	54.4
U								
E	6	271 04.0	N 3 28.9	109 31.1	16.1	S 8 57.3	13.0	54.4
S	7	286 04.2	N 3 28.0	124 06.2	16.1	S 8 44.3	13.0	54.4
D	8	301 04.4	N 3 27.0	138 41.3	16.1	S 8 31.2	13.1	54.4
A	9	316 04.6	N 3 26.0	153 16.4	16.1	S 8 18.1	13.1	54.4
Y	10	331 04.9	N 3 25.1	167 51.5	16.1	S 8 05.0	13.1	54.4
	11	346 05.1	N 3 24.1	182 26.7	16.2	S 7 51.8	13.2	54.4
	12	1 05.3	N 3 23.2	197 01.9	16.2	S 7 38.6	13.2	54.4
	13	16 05.5	N 3 22.2	211 37.0	16.2	S 7 25.3	13.3	54.5
	14	31 05.7	N 3 21.2	226 12.3	16.2	S 7 12.0	13.3	54.5
	15	46 06.0	N 3 20.3	240 47.5	16.2	S 6 58.7	13.3	54.5
	16	61 06.2	N 3 19.3	255 22.7	16.2	S 6 45.4	13.4	54.5
	17	76 06.4	N 3 18.4	269 57.9	16.2	S 6 32.0	13.4	54.5
	18	91 06.6	N 3 17.4	284 33.2	16.3	S 6 18.6	13.4	54.5
	19	106 06.9	N 3 16.4	299 08.5	16.3	S 6 05.1	13.4	54.5
	20	121 07.1	N 3 15.5	313 43.7	16.3	S 5 51.7	13.5	54.5
	21	136 07.3	N 3 14.5	328 19.0	16.3	S 5 38.2	13.5	54.6
	22	151 07.5	N 3 13.6	342 54.3	16.3	S 5 24.6	13.5	54.6
	23	166 07.8	N 3 12.6	357 29.6	16.3	S 5 11.1	13.6	54.6
15	0	181 08.0	N 3 11.7	12 04.9	16.3	S 4 57.5	13.6	54.6
	1	196 08.2	N 3 10.7	26 40.2	16.3	S 4 43.9	13.6	54.6
	2	211 08.4	N 3 09.7	41 15.5	16.3	S 4 30.3	13.6	54.6
	3	226 08.7	N 3 08.8	55 50.8	16.3	S 4 16.6	13.6	54.6
	4	241 08.9	N 3 07.8	70 26.1	16.3	S 4 03.0	13.7	54.6
W	5	256 09.1	N 3 06.8	85 01.5	16.3	S 3 49.3	13.7	54.7
E								
D	6	271 09.3	N 3 05.9	99 36.8	16.3	S 3 35.6	13.7	54.7
N	7	286 09.5	N 3 04.9	114 12.1	16.3	S 3 21.8	13.7	54.7
E	8	301 09.8	N 3 04.0	128 47.4	16.3	S 3 08.1	13.8	54.7
S	9	316 10.0	N 3 03.0	143 22.7	16.3	S 2 54.3	13.8	54.7
D	10	331 10.2	N 3 02.0	157 58.1	16.3	S 2 40.5	13.8	54.7
A	11	346 10.4	N 3 01.1	172 33.4	16.3	S 2 26.7	13.8	54.7
Y								
	12	1 10.7	N 3 00.1	187 08.7	16.3	S 2 12.9	13.8	54.7
	13	16 10.9	N 2 59.2	201 44.0	16.3	S 1 59.0	13.8	54.8
	14	31 11.1	N 2 58.2	216 19.3	16.3	S 1 45.2	13.9	54.8
	15	46 11.3	N 2 57.2	230 54.5	16.3	S 1 31.3	13.9	54.8
	16	61 11.6	N 2 56.3	245 29.8	16.3	S 1 17.4	13.9	54.8
	17	76 11.8	N 2 55.3	260 05.1	16.3	S 1 03.5	13.9	54.8
	18	91 12.0	N 2 54.4	274 40.3	16.3	S 0 49.6	13.9	54.8
	19	106 12.2	N 2 53.4	289 15.6	16.2	S 0 35.7	13.9	54.8
	20	121 12.5	N 2 52.4	303 50.8	16.2	S 0 21.8	13.9	54.9
	21	136 12.7	N 2 51.5	318 26.0	16.2	S 0 07.9	13.9	54.9
	22	151 12.9	N 2 50.5	333 01.2	16.2	N 0 06.1	13.9	54.9
	23	166 13.1	N 2 49.5	347 36.4	16.2	N 0 20.0	13.9	54.9
		S.D. 15.9	d 1.0	S.D. 14.8		14.8	14.9	

STARS	SHA	Dec
Acamar	315 09.8	S40 11.3
Achernar	335 18.1	S57 05.5
Acrux	172 58.3	S63 15.2
Adhara	255 04.3	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 37.0	N16 34.0
Alioth	166 11.5	N55 48.7
Alkaid	152 50.7	N49 10.6
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.5	S 1 10.9
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.1	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.5	S42 09.1
Antares	112 13.2	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.6	S69 04.9
Avior	234 14.2	S59 35.7
Bellatrix	278 20.5	N 6 22.6
Betelgeuse	270 49.7	N 7 24.8
Canopus	263 51.5	S52 42.3
Capella	280 18.6	N46 01.4
Castor	245 54.4	N31 49.6
Deneb	49 23.9	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 38.9	N61 36.0
Elnath	277 59.1	N28 37.8
Eltanin	90 41.1	N51 29.4
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.3
Gacrux	171 49.7	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.4	S60 30.6
Hamal	327 48.5	N23 35.8
Kaus Austr.	83 29.5	S34 22.4
Kochab	137 20.8	N74 02.7
Markab	13 27.4	N15 21.4
Menkar	314 03.6	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.5	S69 49.7
Mirfak	308 24.9	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.8	S56 38.8
Polaris	315 23.5	N89 22.1
Pollux	243 14.8	N27 57.5
Procyon	244 48.7	N 5 09.3
Rasalhague	95 56.5	N12 32.6
Regulus	207 32.4	N11 49.9
Rigel	281 01.7	S 8 10.0
Rigil Kent	139 37.8	S60 57.2
Sabik	102 00.3	S15 45.6
Schedar	349 28.0	N56 41.4
Shaula	96 07.3	S37 07.5
Sirius	258 24.4	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 45.0	S43 32.5
Vega	80 31.6	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	354 43.4	171 57.6	N 0 11.0	138 01.5	S14 59.0	191 48.7	N 8 16.4	328 55.5	N 7 45.2
	1	9 45.8	186 57.3	N 0 09.7	153 02.3	S14 59.5	206 50.7	N 8 16.2	343 58.1	N 7 45.2
	2	24 48.3	201 56.9	N 0 08.4	168 03.1	S15 00.1	221 52.6	N 8 16.0	359 00.7	N 7 45.1
	3	39 50.7	216 56.5	N 0 07.2	183 03.9	S15 00.7	236 54.6	N 8 15.8	14 03.3	N 7 45.0
	4	54 53.2	231 56.2	N 0 05.9	198 04.8	S15 01.2	251 56.6	N 8 15.6	29 05.9	N 7 45.0
T	5	69 55.7	246 55.8	N 0 04.6	213 05.6	S15 01.8	266 58.5	N 8 15.4	44 08.5	N 7 44.9
H										
U	6	84 58.1	261 55.4	N 0 03.3	228 06.4	S15 02.4	282 00.5	N 8 15.2	59 11.1	N 7 44.9
R	7	100 00.6	276 55.1	N 0 02.1	243 07.2	S15 02.9	297 02.4	N 8 15.0	74 13.7	N 7 44.8
S	8	115 03.1	291 54.7	N 0 00.8	258 08.0	S15 03.5	312 04.4	N 8 14.7	89 16.3	N 7 44.7
D	9	130 05.5	306 54.4	S 0 00.5	273 08.9	S15 04.0	327 06.4	N 8 14.5	104 18.9	N 7 44.7
A	10	145 08.0	321 54.0	S 0 01.8	288 09.7	S15 04.6	342 08.3	N 8 14.3	119 21.5	N 7 44.6
Y	11	160 10.5	336 53.6	S 0 03.0	303 10.5	S15 05.2	357 10.3	N 8 14.1	134 24.1	N 7 44.6
	12	175 12.9	351 53.3	S 0 04.3	318 11.3	S15 05.7	12 12.2	N 8 13.9	149 26.7	N 7 44.5
	13	190 15.4	6 52.9	S 0 05.6	333 12.1	S15 06.3	27 14.2	N 8 13.7	164 29.3	N 7 44.4
	14	205 17.9	21 52.5	S 0 06.9	348 13.0	S15 06.8	42 16.2	N 8 13.5	179 31.9	N 7 44.4
	15	220 20.3	36 52.2	S 0 08.1	3 13.8	S15 07.4	57 18.1	N 8 13.3	194 34.5	N 7 44.3
	16	235 22.8	51 51.8	S 0 09.4	18 14.6	S15 08.0	72 20.1	N 8 13.1	209 37.1	N 7 44.3
	17	250 25.2	66 51.4	S 0 10.7	33 15.4	S15 08.5	87 22.1	N 8 12.9	224 39.7	N 7 44.2
	18	265 27.7	81 51.1	S 0 12.0	48 16.2	S15 09.1	102 24.0	N 8 12.7	239 42.3	N 7 44.1
	19	280 30.2	96 50.7	S 0 13.2	63 17.1	S15 09.6	117 26.0	N 8 12.5	254 44.9	N 7 44.1
	20	295 32.6	111 50.3	S 0 14.5	78 17.9	S15 10.2	132 27.9	N 8 12.3	269 47.5	N 7 44.0
	21	310 35.1	126 50.0	S 0 15.8	93 18.7	S15 10.8	147 29.9	N 8 12.1	284 50.1	N 7 44.0
	22	325 37.6	141 49.6	S 0 17.1	108 19.5	S15 11.3	162 31.9	N 8 11.9	299 52.7	N 7 43.9
	23	340 40.0	156 49.2	S 0 18.3	123 20.3	S15 11.9	177 33.8	N 8 11.7	314 55.3	N 7 43.8
17	0	355 42.5	171 48.9	S 0 19.6	138 21.1	S15 12.4	192 35.8	N 8 11.5	329 57.9	N 7 43.8
	1	10 45.0	186 48.5	S 0 20.9	153 21.9	S15 13.0	207 37.7	N 8 11.3	345 00.5	N 7 43.7
	2	25 47.4	201 48.1	S 0 22.2	168 22.8	S15 13.6	222 39.7	N 8 11.1	0 03.1	N 7 43.7
	3	40 49.9	216 47.8	S 0 23.4	183 23.6	S15 14.1	237 41.7	N 8 10.9	15 05.7	N 7 43.6
	4	55 52.3	231 47.4	S 0 24.7	198 24.4	S15 14.7	252 43.6	N 8 10.7	30 08.3	N 7 43.5
F	5	70 54.8	246 47.0	S 0 26.0	213 25.2	S15 15.2	267 45.6	N 8 10.5	45 10.9	N 7 43.5
R										
I	6	85 57.3	261 46.7	S 0 27.3	228 26.0	S15 15.8	282 47.6	N 8 10.3	60 13.5	N 7 43.4
D	7	100 59.7	276 46.3	S 0 28.5	243 26.8	S15 16.3	297 49.5	N 8 10.1	75 16.1	N 7 43.4
A	8	116 02.2	291 45.9	S 0 29.8	258 27.7	S15 16.9	312 51.5	N 8 09.9	90 18.7	N 7 43.3
Y	9	131 04.7	306 45.6	S 0 31.1	273 28.5	S15 17.5	327 53.4	N 8 09.7	105 21.4	N 7 43.2
	10	146 07.1	321 45.2	S 0 32.4	288 29.3	S15 18.0	342 55.4	N 8 09.5	120 24.0	N 7 43.2
	11	161 09.6	336 44.8	S 0 33.6	303 30.1	S15 18.6	357 57.4	N 8 09.3	135 26.6	N 7 43.1
	12	176 12.1	351 44.5	S 0 34.9	318 30.9	S15 19.1	12 59.3	N 8 09.1	150 29.2	N 7 43.1
	13	191 14.5	6 44.1	S 0 36.2	333 31.7	S15 19.7	28 01.3	N 8 08.9	165 31.8	N 7 43.0
	14	206 17.0	21 43.8	S 0 37.5	348 32.5	S15 20.2	43 03.3	N 8 08.7	180 34.4	N 7 42.9
	15	221 19.5	36 43.4	S 0 38.7	3 33.3	S15 20.8	58 05.2	N 8 08.5	195 37.0	N 7 42.9
	16	236 21.9	51 43.0	S 0 40.0	18 34.2	S15 21.4	73 07.2	N 8 08.3	210 39.6	N 7 42.8
	17	251 24.4	66 42.7	S 0 41.3	33 35.0	S15 21.9	88 09.1	N 8 08.1	225 42.2	N 7 42.8
	18	266 26.8	81 42.3	S 0 42.6	48 35.8	S15 22.5	103 11.1	N 8 07.9	240 44.8	N 7 42.7
	19	281 29.3	96 41.9	S 0 43.9	63 36.6	S15 23.0	118 13.1	N 8 07.7	255 47.4	N 7 42.6
	20	296 31.8	111 41.6	S 0 45.1	78 37.4	S15 23.6	133 15.0	N 8 07.5	270 50.0	N 7 42.6
	21	311 34.2	126 41.2	S 0 46.4	93 38.2	S15 24.1	148 17.0	N 8 07.3	285 52.6	N 7 42.5
	22	326 36.7	141 40.8	S 0 47.7	108 39.0	S15 24.7	163 19.0	N 8 07.1	300 55.2	N 7 42.5
	23	341 39.2	156 40.5	S 0 49.0	123 39.8	S15 25.2	178 20.9	N 8 06.9	315 57.8	N 7 42.4
18	0	356 41.6	171 40.1	S 0 50.2	138 40.6	S15 25.8	193 22.9	N 8 06.7	331 00.4	N 7 42.3
	1	11 44.1	186 39.7	S 0 51.5	153 41.4	S15 26.4	208 24.8	N 8 06.5	346 03.0	N 7 42.3
	2	26 46.6	201 39.4	S 0 52.8	168 42.2	S15 26.9	223 26.8	N 8 06.3	1 05.6	N 7 42.2
	3	41 49.0	216 39.0	S 0 54.1	183 43.1	S15 27.5	238 28.8	N 8 06.1	16 08.2	N 7 42.1
	4	56 51.5	231 38.6	S 0 55.3	198 43.9	S15 28.0	253 30.7	N 8 05.9	31 10.8	N 7 42.1
S	5	71 53.9	246 38.3	S 0 56.6	213 44.7	S15 28.6	268 32.7	N 8 05.7	46 13.4	N 7 42.0
A										
T	6	86 56.4	261 37.9	S 0 57.9	228 45.5	S15 29.1	283 34.7	N 8 05.5	61 16.0	N 7 42.0
U	7	101 58.9	276 37.5	S 0 59.2	243 46.3	S15 29.7	298 36.6	N 8 05.3	76 18.6	N 7 41.9
R	8	117 01.3	291 37.2	S 1 00.4	258 47.1	S15 30.2	313 38.6	N 8 05.1	91 21.3	N 7 41.8
D	9	132 03.8	306 36.8	S 1 01.7	273 47.9	S15 30.8	328 40.5	N 8 04.9	106 23.9	N 7 41.8
A	10	147 06.3	321 36.4	S 1 03.0	288 48.7	S15 31.3	343 42.5	N 8 04.7	121 26.5	N 7 41.7
Y	11	162 08.7	336 36.1	S 1 04.3	303 49.5	S15 31.9	358 44.5	N 8 04.5	136 29.1	N 7 41.7
	12	177 11.2	351 35.7	S 1 05.5	318 50.3	S15 32.4	13 46.4	N 8 04.3	151 31.7	N 7 41.6
	13	192 13.7	6 35.3	S 1 06.8	333 51.1	S15 33.0	28 48.4	N 8 04.1	166 34.3	N 7 41.5
	14	207 16.1	21 35.0	S 1 08.1	348 51.9	S15 33.6	43 50.4	N 8 03.9	181 36.9	N 7 41.5
	15	222 18.6	36 34.6	S 1 09.4	3 52.7	S15 34.1	58 52.3	N 8 03.7	196 39.5	N 7 41.4
	16	237 21.1	51 34.2	S 1 10.6	18 53.5	S15 34.7	73 54.3	N 8 03.5	211 42.1	N 7 41.3
	17	252 23.5	66 33.9	S 1 11.9	33 54.3	S15 35.2	88 56.3	N 8 03.3	226 44.7	N 7 41.3
	18	267 26.0	81 33.5	S 1 13.2	48 55.1	S15 35.8	103 58.2	N 8 03.1	241 47.3	N 7 41.2
	19	282 28.4	96 33.1	S 1 14.5	63 56.0	S15 36.3	119 00.2	N 8 02.9	256 49.9	N 7 41.2
	20	297 30.9	111 32.8	S 1 15.7	78 56.8	S15 36.9	134 02.1	N 8 02.7	271 52.5	N 7 41.1
	21	312 33.4	126 32.4	S 1 17.0	93 57.6	S15 37.4	149 04.1	N 8 02.5	286 55.1	N 7 41.0
	22	327 35.8	141 32.0	S 1 18.3	108 58.4	S15 38.0	164 06.1	N 8 02.3	301 57.7	N 7 41.0
	23	342 38.3	156 31.7	S 1 19.6	123 59.2	S15 38.5	179 08.0	N 8 02.1	317 00.4	N 7 40.9
			v -0.4	d 1.3	v 0.8	d 0.6	v 2.0	d 0.2	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 13.4	N 2 48.6	2 11.6	16.2	N 0 34.0	14.0	54.9
	1	196 13.6	N 2 47.6	16 46.7	16.2	N 0 47.9	14.0	54.9
	2	211 13.8	N 2 46.7	31 21.9	16.1	N 1 01.9	14.0	55.0
	3	226 14.0	N 2 45.7	45 57.0	16.1	N 1 15.8	14.0	55.0
	4	241 14.3	N 2 44.7	60 32.1	16.1	N 1 29.8	14.0	55.0
T	5	256 14.5	N 2 43.8	75 07.1	16.1	N 1 43.8	14.0	55.0
H								
U	6	271 14.7	N 2 42.8	89 42.2	16.1	N 1 57.8	14.0	55.0
R	7	286 14.9	N 2 41.8	104 17.2	16.0	N 2 11.7	14.0	55.0
S	8	301 15.1	N 2 40.9	118 52.2	16.0	N 2 25.7	14.0	55.0
D	9	316 15.4	N 2 39.9	133 27.2	16.0	N 2 39.7	14.0	55.1
A	10	331 15.6	N 2 39.0	148 02.2	16.0	N 2 53.6	14.0	55.1
Y	11	346 15.8	N 2 38.0	162 37.1	15.9	N 3 07.6	14.0	55.1
	12	1 16.0	N 2 37.0	177 12.0	15.9	N 3 21.5	14.0	55.1
	13	16 16.3	N 2 36.1	191 46.8	15.9	N 3 35.5	14.0	55.1
	14	31 16.5	N 2 35.1	206 21.7	15.8	N 3 49.4	13.9	55.1
	15	46 16.7	N 2 34.1	220 56.5	15.8	N 4 03.4	13.9	55.2
	16	61 16.9	N 2 33.2	235 31.3	15.8	N 4 17.3	13.9	55.2
	17	76 17.2	N 2 32.2	250 06.0	15.7	N 4 31.2	13.9	55.2
	18	91 17.4	N 2 31.2	264 40.7	15.7	N 4 45.2	13.9	55.2
	19	106 17.6	N 2 30.3	279 15.4	15.7	N 4 59.1	13.9	55.2
	20	121 17.8	N 2 29.3	293 50.0	15.6	N 5 12.9	13.9	55.2
	21	136 18.1	N 2 28.3	308 24.6	15.6	N 5 26.8	13.9	55.3
	22	151 18.3	N 2 27.4	322 59.2	15.6	N 5 40.7	13.9	55.3
	23	166 18.5	N 2 26.4	337 33.7	15.5	N 5 54.5	13.8	55.3
17	0	181 18.7	N 2 25.5	352 08.2	15.5	N 6 08.4	13.8	55.3
	1	196 19.0	N 2 24.5	6 42.6	15.4	N 6 22.2	13.8	55.3
	2	211 19.2	N 2 23.5	21 17.0	15.4	N 6 36.0	13.8	55.3
	3	226 19.4	N 2 22.6	35 51.4	15.4	N 6 49.8	13.8	55.4
	4	241 19.6	N 2 21.6	50 25.7	15.3	N 7 03.5	13.8	55.4
F	5	256 19.9	N 2 20.6	64 60.0	15.3	N 7 17.3	13.7	55.4
R								
I	6	271 20.1	N 2 19.7	79 34.2	15.2	N 7 31.0	13.7	55.4
D	7	286 20.3	N 2 18.7	94 08.4	15.2	N 7 44.7	13.7	55.4
A	8	301 20.5	N 2 17.7	108 42.5	15.1	N 7 58.4	13.7	55.5
Y	9	316 20.8	N 2 16.8	123 16.6	15.1	N 8 12.0	13.7	55.5
	10	331 21.0	N 2 15.8	137 50.6	15.0	N 8 25.7	13.6	55.5
	11	346 21.2	N 2 14.8	152 24.6	15.0	N 8 39.3	13.6	55.5
	12	1 21.4	N 2 13.9	166 58.5	14.9	N 8 52.8	13.6	55.5
	13	16 21.7	N 2 12.9	181 32.4	14.9	N 9 06.4	13.5	55.5
	14	31 21.9	N 2 11.9	196 06.2	14.8	N 9 19.9	13.5	55.6
	15	46 22.1	N 2 11.0	210 40.0	14.8	N 9 33.4	13.5	55.6
	16	61 22.3	N 2 10.0	225 13.7	14.7	N 9 46.8	13.5	55.6
	17	76 22.6	N 2 09.0	239 47.3	14.7	N10 00.3	13.4	55.6
	18	91 22.8	N 2 08.1	254 20.9	14.6	N10 13.6	13.4	55.6
	19	106 23.0	N 2 07.1	268 54.5	14.5	N10 27.0	13.4	55.7
	20	121 23.2	N 2 06.1	283 28.0	14.5	N10 40.3	13.3	55.7
	21	136 23.4	N 2 05.2	298 01.4	14.4	N10 53.6	13.3	55.7
	22	151 23.7	N 2 04.2	312 34.7	14.4	N11 06.8	13.2	55.7
	23	166 23.9	N 2 03.2	327 08.0	14.3	N11 20.0	13.2	55.7
18	0	181 24.1	N 2 02.3	341 41.3	14.2	N11 33.2	13.2	55.7
	1	196 24.3	N 2 01.3	356 14.4	14.2	N11 46.3	13.1	55.8
	2	211 24.6	N 2 00.4	10 47.5	14.1	N11 59.4	13.1	55.8
	3	226 24.8	N 1 59.4	25 20.6	14.0	N12 12.5	13.0	55.8
	4	241 25.0	N 1 58.4	39 53.5	14.0	N12 25.5	13.0	55.8
S	5	256 25.2	N 1 57.5	54 26.4	13.9	N12 38.4	12.9	55.8
A								
T	6	271 25.5	N 1 56.5	68 59.3	13.8	N12 51.3	12.9	55.9
U	7	286 25.7	N 1 55.5	83 32.0	13.8	N13 04.2	12.9	55.9
R	8	301 25.9	N 1 54.5	98 04.7	13.7	N13 17.0	12.8	55.9
D	9	316 26.1	N 1 53.6	112 37.4	13.6	N13 29.7	12.8	55.9
A	10	331 26.4	N 1 52.6	127 09.9	13.6	N13 42.4	12.7	55.9
Y	11	346 26.6	N 1 51.6	141 42.4	13.5	N13 55.1	12.7	56.0
	12	1 26.8	N 1 50.7	156 14.8	13.4	N14 07.7	12.6	56.0
	13	16 27.0	N 1 49.7	170 47.1	13.3	N14 20.2	12.5	56.0
	14	31 27.3	N 1 48.7	185 19.4	13.3	N14 32.7	12.5	56.0
	15	46 27.5	N 1 47.8	199 51.6	13.2	N14 45.1	12.4	56.0
	16	61 27.7	N 1 46.8	214 23.7	13.1	N14 57.5	12.4	56.1
	17	76 27.9	N 1 45.8	228 55.7	13.0	N15 09.8	12.3	56.1
	18	91 28.2	N 1 44.9	243 27.6	12.9	N15 22.1	12.3	56.1
	19	106 28.4	N 1 43.9	257 59.5	12.9	N15 34.3	12.2	56.1
	20	121 28.6	N 1 42.9	272 31.3	12.8	N15 46.4	12.1	56.1
	21	136 28.8	N 1 42.0	287 03.0	12.7	N15 58.5	12.1	56.2
	22	151 29.0	N 1 41.0	301 34.6	12.6	N16 10.5	12.0	56.2
	23	166 29.3	N 1 40.0	316 06.1	12.5	N16 22.4	11.9	56.2
		S.D. 15.9	d 1.0	S.D. 15.0	15.1	15.3		

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.8	S40 11.3
Achernar	335 18.0	S57 05.5
Acrux	172 58.3	S63 15.2
Adhara	255 04.2	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 37.0	N16 34.0
Alioth	166 11.5	N55 48.7
Alkaid	152 50.7	N49 10.6
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.5	S 1 10.9
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.0	N26 37.5
Alpheratz	357 32.1	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.5	S42 09.1
Antares	112 13.2	S26 29.7
Arcturus	145 46.1	N19 02.4
Atria	107 05.6	S69 04.9
Avior	234 14.2	S59 35.7
Bellatrix	278 20.5	N 6 22.6
Betelgeuse	270 49.7	N 7 24.8
Canopus	263 51.5	S52 42.3
Capella	280 18.6	N46 01.4
Castor	245 54.4	N31 49.6
Deneb	49 24.0	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 38.9	N61 36.0
Elnath	277 59.1	N28 37.8
Eltanin	90 41.1	N51 29.4
Enif	33 36.3	N10 00.3
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.8	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.4	S60 30.6
Hamal	327 48.4	N23 35.8
Kaus Austr.	83 29.5	S34 22.4
Kochab	137 20.8	N74 02.7
Markab	13 27.4	N15 21.5
Menkar	314 03.6	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.4	S69 49.7
Mirfak	308 24.8	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.8	S56 38.8
Polaris	315 22.7	N89 22.1
Pollux	243 14.8	N27 57.5
Procyon	244 48.7	N 5 09.3
Rasalhague	95 56.5	N12 32.6
Regulus	207 32.4	N11 49.9
Rigel	281 01.7	S 8 10.0
Rigil Kent	139 37.8	S60 57.2
Sabik	102 00.3	S15 45.5
Schedar	349 27.9	N56 41.4
Shaula	96 07.4	S37 07.5
Sirius	258 24.4	S16 45.0
Spica	158 20.3	S11 18.3
Suhail	222 45.0	S43 32.5
Vega	80 31.6	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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 40.8	171 31.3	S 1 20.8	138 60.0	S15 39.1	194 10.0	N 8 01.9	332 03.0	N 7 40.9
	1	12 43.2	186 30.9	S 1 22.1	154 00.8	S15 39.6	209 12.0	N 8 01.7	347 05.6	N 7 40.8
	2	27 45.7	201 30.6	S 1 23.4	169 01.6	S15 40.2	224 13.9	N 8 01.5	2 08.2	N 7 40.7
	3	42 48.2	216 30.2	S 1 24.7	184 02.4	S15 40.7	239 15.9	N 8 01.3	17 10.8	N 7 40.7
	4	57 50.6	231 29.8	S 1 25.9	199 03.2	S15 41.3	254 17.9	N 8 01.1	32 13.4	N 7 40.6
S	5	72 53.1	246 29.5	S 1 27.2	214 04.0	S15 41.8	269 19.8	N 8 00.9	47 16.0	N 7 40.5
U										
N	6	87 55.6	261 29.1	S 1 28.5	229 04.8	S15 42.4	284 21.8	N 8 00.7	62 18.6	N 7 40.5
D	7	102 58.0	276 28.7	S 1 29.8	244 05.6	S15 42.9	299 23.7	N 8 00.5	77 21.2	N 7 40.4
A	8	118 00.5	291 28.4	S 1 31.0	259 06.4	S15 43.5	314 25.7	N 8 00.3	92 23.8	N 7 40.4
Y	9	133 02.9	306 28.0	S 1 32.3	274 07.2	S15 44.0	329 27.7	N 8 00.1	107 26.4	N 7 40.3
	10	148 05.4	321 27.6	S 1 33.6	289 08.0	S15 44.6	344 29.6	N 7 59.9	122 29.0	N 7 40.2
	11	163 07.9	336 27.3	S 1 34.9	304 08.8	S15 45.1	359 31.6	N 7 59.7	137 31.7	N 7 40.2
	12	178 10.3	351 26.9	S 1 36.2	319 09.6	S15 45.7	14 33.6	N 7 59.5	152 34.3	N 7 40.1
	13	193 12.8	6 26.5	S 1 37.4	334 10.4	S15 46.2	29 35.5	N 7 59.3	167 36.9	N 7 40.0
	14	208 15.3	21 26.2	S 1 38.7	349 11.2	S15 46.8	44 37.5	N 7 59.1	182 39.5	N 7 40.0
	15	223 17.7	36 25.8	S 1 40.0	4 12.0	S15 47.3	59 39.5	N 7 58.9	197 42.1	N 7 39.9
	16	238 20.2	51 25.4	S 1 41.3	19 12.8	S15 47.9	74 41.4	N 7 58.7	212 44.7	N 7 39.9
	17	253 22.7	66 25.1	S 1 42.5	34 13.6	S15 48.4	89 43.4	N 7 58.5	227 47.3	N 7 39.8
	18	268 25.1	81 24.7	S 1 43.8	49 14.4	S15 49.0	104 45.4	N 7 58.3	242 49.9	N 7 39.7
	19	283 27.6	96 24.3	S 1 45.1	64 15.2	S15 49.5	119 47.3	N 7 58.1	257 52.5	N 7 39.7
	20	298 30.0	111 24.0	S 1 46.4	79 16.0	S15 50.1	134 49.3	N 7 57.9	272 55.1	N 7 39.6
	21	313 32.5	126 23.6	S 1 47.6	94 16.7	S15 50.6	149 51.2	N 7 57.7	287 57.7	N 7 39.5
	22	328 35.0	141 23.2	S 1 48.9	109 17.5	S15 51.1	164 53.2	N 7 57.5	303 00.4	N 7 39.5
	23	343 37.4	156 22.9	S 1 50.2	124 18.3	S15 51.7	179 55.2	N 7 57.3	318 03.0	N 7 39.4
20	0	358 39.9	171 22.5	S 1 51.5	139 19.1	S15 52.2	194 57.1	N 7 57.1	333 05.6	N 7 39.4
	1	13 42.4	186 22.1	S 1 52.7	154 19.9	S15 52.8	209 59.1	N 7 56.9	348 08.2	N 7 39.3
	2	28 44.8	201 21.8	S 1 54.0	169 20.7	S15 53.3	225 01.1	N 7 56.7	3 10.8	N 7 39.2
	3	43 47.3	216 21.4	S 1 55.3	184 21.5	S15 53.9	240 03.0	N 7 56.5	18 13.4	N 7 39.2
	4	58 49.8	231 21.0	S 1 56.6	199 22.3	S15 54.4	255 05.0	N 7 56.3	33 16.0	N 7 39.1
M	5	73 52.2	246 20.7	S 1 57.8	214 23.1	S15 55.0	270 07.0	N 7 56.1	48 18.6	N 7 39.0
O										
N	6	88 54.7	261 20.3	S 1 59.1	229 23.9	S15 55.5	285 08.9	N 7 55.9	63 21.2	N 7 39.0
D	7	103 57.2	276 19.9	S 2 00.4	244 24.7	S15 56.1	300 10.9	N 7 55.7	78 23.9	N 7 38.9
A	8	118 59.6	291 19.5	S 2 01.7	259 25.5	S15 56.6	315 12.9	N 7 55.5	93 26.5	N 7 38.9
Y	9	134 02.1	306 19.2	S 2 02.9	274 26.3	S15 57.2	330 14.8	N 7 55.3	108 29.1	N 7 38.8
	10	149 04.5	321 18.8	S 2 04.2	289 27.1	S15 57.7	345 16.8	N 7 55.1	123 31.7	N 7 38.7
	11	164 07.0	336 18.4	S 2 05.5	304 27.9	S15 58.2	0 18.8	N 7 54.9	138 34.3	N 7 38.7
	12	179 09.5	351 18.1	S 2 06.8	319 28.7	S15 58.8	15 20.7	N 7 54.7	153 36.9	N 7 38.6
	13	194 11.9	6 17.7	S 2 08.0	334 29.4	S15 59.3	30 22.7	N 7 54.5	168 39.5	N 7 38.5
	14	209 14.4	21 17.3	S 2 09.3	349 30.2	S15 59.9	45 24.7	N 7 54.3	183 42.1	N 7 38.5
	15	224 16.9	36 17.0	S 2 10.6	4 31.0	S16 00.4	60 26.6	N 7 54.1	198 44.7	N 7 38.4
	16	239 19.3	51 16.6	S 2 11.9	19 31.8	S16 01.0	75 28.6	N 7 53.9	213 47.4	N 7 38.3
	17	254 21.8	66 16.2	S 2 13.1	34 32.6	S16 01.5	90 30.6	N 7 53.7	228 50.0	N 7 38.3
	18	269 24.3	81 15.9	S 2 14.4	49 33.4	S16 02.1	105 32.5	N 7 53.5	243 52.6	N 7 38.2
	19	284 26.7	96 15.5	S 2 15.7	64 34.2	S16 02.6	120 34.5	N 7 53.3	258 55.2	N 7 38.2
	20	299 29.2	111 15.1	S 2 17.0	79 35.0	S16 03.1	135 36.4	N 7 53.1	273 57.8	N 7 38.1
	21	314 31.7	126 14.8	S 2 18.2	94 35.8	S16 03.7	150 38.4	N 7 52.9	289 00.4	N 7 38.0
	22	329 34.1	141 14.4	S 2 19.5	109 36.6	S16 04.2	165 40.4	N 7 52.7	304 03.0	N 7 38.0
	23	344 36.6	156 14.0	S 2 20.8	124 37.3	S16 04.8	180 42.3	N 7 52.5	319 05.6	N 7 37.9
21	0	359 39.0	171 13.6	S 2 22.0	139 38.1	S16 05.3	195 44.3	N 7 52.3	334 08.3	N 7 37.8
	1	14 41.5	186 13.3	S 2 23.3	154 38.9	S16 05.9	210 46.3	N 7 52.1	349 10.9	N 7 37.8
	2	29 44.0	201 12.9	S 2 24.6	169 39.7	S16 06.4	225 48.2	N 7 51.9	4 13.5	N 7 37.7
	3	44 46.4	216 12.5	S 2 25.9	184 40.5	S16 06.9	240 50.2	N 7 51.7	19 16.1	N 7 37.6
	4	59 48.9	231 12.2	S 2 27.1	199 41.3	S16 07.5	255 52.2	N 7 51.5	34 18.7	N 7 37.6
T	5	74 51.4	246 11.8	S 2 28.4	214 42.1	S16 08.0	270 54.1	N 7 51.3	49 21.3	N 7 37.5
U										
E	6	89 53.8	261 11.4	S 2 29.7	229 42.9	S16 08.6	285 56.1	N 7 51.1	64 23.9	N 7 37.5
S	7	104 56.3	276 11.1	S 2 31.0	244 43.6	S16 09.1	300 58.1	N 7 50.9	79 26.6	N 7 37.4
D	8	119 58.8	291 10.7	S 2 32.2	259 44.4	S16 09.7	316 00.0	N 7 50.7	94 29.2	N 7 37.3
A	9	135 01.2	306 10.3	S 2 33.5	274 45.2	S16 10.2	331 02.0	N 7 50.5	109 31.8	N 7 37.3
Y	10	150 03.7	321 09.9	S 2 34.8	289 46.0	S16 10.7	346 04.0	N 7 50.3	124 34.4	N 7 37.2
	11	165 06.1	336 09.6	S 2 36.1	304 46.8	S16 11.3	1 05.9	N 7 50.1	139 37.0	N 7 37.1
	12	180 08.6	351 09.2	S 2 37.3	319 47.6	S16 11.8	16 07.9	N 7 49.9	154 39.6	N 7 37.1
	13	195 11.1	6 08.8	S 2 38.6	334 48.4	S16 12.4	31 09.9	N 7 49.7	169 42.2	N 7 37.0
	14	210 13.5	21 08.5	S 2 39.9	349 49.1	S16 12.9	46 11.8	N 7 49.5	184 44.9	N 7 36.9
	15	225 16.0	36 08.1	S 2 41.2	4 49.9	S16 13.4	61 13.8	N 7 49.3	199 47.5	N 7 36.9
	16	240 18.5	51 07.7	S 2 42.4	19 50.7	S16 14.0	76 15.8	N 7 49.1	214 50.1	N 7 36.8
	17	255 20.9	66 07.3	S 2 43.7	34 51.5	S16 14.5	91 17.7	N 7 48.9	229 52.7	N 7 36.8
	18	270 23.4	81 07.0	S 2 45.0	49 52.3	S16 15.1	106 19.7	N 7 48.7	244 55.3	N 7 36.7
	19	285 25.9	96 06.6	S 2 46.2	64 53.1	S16 15.6	121 21.7	N 7 48.5	259 57.9	N 7 36.6
	20	300 28.3	111 06.2	S 2 47.5	79 53.8	S16 16.1	136 23.6	N 7 48.3	275 00.5	N 7 36.6
	21	315 30.8	126 05.9	S 2 48.8	94 54.6	S16 16.7	151 25.6	N 7 48.1	290 03.2	N 7 36.5
	22	330 33.3	141 05.5	S 2 50.1	109 55.4	S16 17.2	166 27.6	N 7 47.9	305 05.8	N 7 36.4
	23	345 35.7	156 05.1	S 2 51.3	124 56.2	S16 17.8	181 29.5	N 7 47.7	320 08.4	N 7 36.4
			v -0.4	d 1.3	v 0.8	d 0.5	v 2.0	d 0.2	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 29.5	N 1 39.1	330 37.6	12.5	N16 34.3	11.9	56.2
	1	196 29.7	N 1 38.1	345 09.0	12.4	N16 46.1	11.8	56.2
	2	211 29.9	N 1 37.1	359 40.2	12.3	N16 57.8	11.7	56.3
	3	226 30.2	N 1 36.2	14 11.4	12.2	N17 09.5	11.7	56.3
	4	241 30.4	N 1 35.2	28 42.6	12.1	N17 21.0	11.6	56.3
S	5	256 30.6	N 1 34.2	43 13.6	12.0	N17 32.5	11.5	56.3
U								
N	6	271 30.8	N 1 33.3	57 44.5	11.9	N17 44.0	11.4	56.3
D	7	286 31.1	N 1 32.3	72 15.4	11.9	N17 55.3	11.4	56.4
A	8	301 31.3	N 1 31.3	86 46.1	11.8	N18 06.6	11.3	56.4
Y	9	316 31.5	N 1 30.4	101 16.8	11.7	N18 17.8	11.2	56.4
	10	331 31.7	N 1 29.4	115 47.4	11.6	N18 28.9	11.1	56.4
	11	346 32.0	N 1 28.4	130 17.9	11.5	N18 40.0	11.0	56.5
	12	1 32.2	N 1 27.4	144 48.3	11.4	N18 50.9	11.0	56.5
	13	16 32.4	N 1 26.5	159 18.6	11.3	N19 01.8	10.9	56.5
	14	31 32.6	N 1 25.5	173 48.8	11.2	N19 12.6	10.8	56.5
	15	46 32.9	N 1 24.5	188 19.0	11.1	N19 23.3	10.7	56.5
	16	61 33.1	N 1 23.6	202 49.0	11.0	N19 33.9	10.6	56.6
	17	76 33.3	N 1 22.6	217 18.9	10.9	N19 44.4	10.5	56.6
	18	91 33.5	N 1 21.6	231 48.8	10.8	N19 54.8	10.4	56.6
	19	106 33.7	N 1 20.7	246 18.5	10.8	N20 05.1	10.3	56.6
	20	121 34.0	N 1 19.7	260 48.2	10.7	N20 15.4	10.2	56.6
	21	136 34.2	N 1 18.7	275 17.8	10.6	N20 25.5	10.1	56.7
	22	151 34.4	N 1 17.8	289 47.2	10.5	N20 35.6	10.0	56.7
	23	166 34.6	N 1 16.8	304 16.6	10.4	N20 45.5	9.9	56.7
20	0	181 34.9	N 1 15.8	318 45.9	10.3	N20 55.4	9.8	56.7
	1	196 35.1	N 1 14.8	333 15.1	10.2	N21 05.1	9.7	56.8
	2	211 35.3	N 1 13.9	347 44.2	10.1	N21 14.8	9.6	56.8
	3	226 35.5	N 1 12.9	2 13.1	10.0	N21 24.3	9.5	56.8
	4	241 35.8	N 1 11.9	16 42.0	9.9	N21 33.7	9.4	56.8
M	5	256 36.0	N 1 11.0	31 10.8	9.8	N21 43.1	9.3	56.8
O								
N	6	271 36.2	N 1 10.0	45 39.5	9.7	N21 52.3	9.2	56.9
D	7	286 36.4	N 1 09.0	60 08.1	9.6	N22 01.4	9.1	56.9
A	8	301 36.6	N 1 08.1	74 36.7	9.5	N22 10.4	9.0	56.9
Y	9	316 36.9	N 1 07.1	89 05.1	9.4	N22 19.3	8.9	56.9
	10	331 37.1	N 1 06.1	103 33.4	9.3	N22 28.1	8.8	57.0
	11	346 37.3	N 1 05.1	118 01.6	9.2	N22 36.8	8.7	57.0
	12	1 37.5	N 1 04.2	132 29.7	9.1	N22 45.3	8.6	57.0
	13	16 37.8	N 1 03.2	146 57.8	9.0	N22 53.8	8.4	57.0
	14	31 38.0	N 1 02.2	161 25.7	8.9	N23 02.1	8.3	57.1
	15	46 38.2	N 1 01.3	175 53.5	8.8	N23 10.3	8.2	57.1
	16	61 38.4	N 1 00.3	190 21.3	8.7	N23 18.4	8.1	57.1
	17	76 38.7	N 0 59.3	204 48.9	8.6	N23 26.3	8.0	57.1
	18	91 38.9	N 0 58.3	219 16.5	8.5	N23 34.2	7.8	57.1
	19	106 39.1	N 0 57.4	233 43.9	8.5	N23 41.9	7.7	57.2
	20	121 39.3	N 0 56.4	248 11.3	8.4	N23 49.4	7.6	57.2
	21	136 39.5	N 0 55.4	262 38.5	8.3	N23 56.9	7.5	57.2
	22	151 39.8	N 0 54.5	277 05.7	8.2	N24 04.2	7.3	57.2
	23	166 40.0	N 0 53.5	291 32.8	8.1	N24 11.4	7.2	57.3
21	0	181 40.2	N 0 52.5	305 59.8	8.0	N24 18.5	7.1	57.3
	1	196 40.4	N 0 51.6	320 26.7	7.9	N24 25.4	6.9	57.3
	2	211 40.7	N 0 50.6	334 53.5	7.8	N24 32.2	6.8	57.3
	3	226 40.9	N 0 49.6	349 20.2	7.7	N24 38.9	6.7	57.4
	4	241 41.1	N 0 48.6	3 46.8	7.6	N24 45.4	6.5	57.4
T	5	256 41.3	N 0 47.7	18 13.3	7.5	N24 51.8	6.4	57.4
U								
E	6	271 41.5	N 0 46.7	32 39.8	7.4	N24 58.0	6.2	57.4
S	7	286 41.8	N 0 45.7	47 06.1	7.4	N25 04.2	6.1	57.4
D	8	301 42.0	N 0 44.8	61 32.4	7.3	N25 10.1	6.0	57.5
A	9	316 42.2	N 0 43.8	75 58.6	7.2	N25 15.9	5.8	57.5
Y	10	331 42.4	N 0 42.8	90 24.7	7.1	N25 21.6	5.7	57.5
	11	346 42.7	N 0 41.8	104 50.7	7.0	N25 27.2	5.5	57.5
	12	1 42.9	N 0 40.9	119 16.6	6.9	N25 32.6	5.4	57.6
	13	16 43.1	N 0 39.9	133 42.5	6.8	N25 37.8	5.2	57.6
	14	31 43.3	N 0 38.9	148 08.2	6.8	N25 42.9	5.1	57.6
	15	46 43.5	N 0 38.0	162 33.9	6.7	N25 47.8	4.9	57.6
	16	61 43.8	N 0 37.0	176 59.5	6.6	N25 52.6	4.8	57.7
	17	76 44.0	N 0 36.0	191 25.1	6.5	N25 57.3	4.6	57.7
	18	91 44.2	N 0 35.0	205 50.5	6.5	N26 01.8	4.5	57.7
	19	106 44.4	N 0 34.1	220 15.9	6.4	N26 06.1	4.3	57.7
	20	121 44.7	N 0 33.1	234 41.2	6.3	N26 10.3	4.2	57.8
	21	136 44.9	N 0 32.1	249 06.4	6.2	N26 14.3	4.0	57.8
	22	151 45.1	N 0 31.1	263 31.6	6.2	N26 18.2	3.9	57.8
	23	166 45.3	N 0 30.2	277 56.7	6.1	N26 21.9	3.7	57.8
		S.D. 15.9	d 1.0	S.D.	15.4	15.5	15.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.8	S40 11.3
Achernar	335 18.0	S57 05.5
Acrux	172 58.3	S63 15.2
Adhara	255 04.2	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 37.0	N16 34.0
Alioth	166 11.5	N55 48.7
Alkaid	152 50.7	N49 10.6
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.4	S 1 10.9
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.5	S42 09.1
Antares	112 13.2	S26 29.7
Arcturus	145 46.2	N19 02.4
Atria	107 05.7	S69 04.9
Avior	234 14.2	S59 35.6
Bellatrix	278 20.5	N 6 22.6
Betelgeuse	270 49.7	N 7 24.8
Canopus	263 51.5	S52 42.3
Capella	280 18.6	N46 01.4
Castor	245 54.4	N31 49.6
Deneb	49 24.0	N45 23.0
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 38.9	N61 36.0
Elnath	277 59.1	N28 37.8
Eltanin	90 41.2	N51 29.4
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.8	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.4	S60 30.5
Hamal	327 48.4	N23 35.8
Kaus Austr.	83 29.5	S34 22.4
Kochab	137 20.9	N74 02.6
Markab	13 27.4	N15 21.5
Menkar	314 03.6	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.4	S69 49.7
Mirfak	308 24.8	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.8	S56 38.8
Polaris	315 21.6	N89 22.1
Pollux	243 14.8	N27 57.5
Procyon	244 48.6	N 5 09.3
Rasalhague	95 56.5	N12 32.6
Regulus	207 32.4	N11 49.9
Rigel	281 01.7	S 8 10.0
Rigil Kent	139 37.9	S60 57.2
Sabik	102 00.3	S15 45.5
Schedar	349 27.9	N56 41.4
Shaula	96 07.4	S37 07.5
Sirius	258 24.4	S16 45.0
Spica	158 20.3	S11 18.3
Suhail	222 45.0	S43 32.5
Vega	80 31.6	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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 38.2	171 04.7	S 2 52.6	139 57.0	S16 18.3	196 31.5	N 7 47.5	335 11.0	N 7 36.3
	1	15 40.6	186 04.4	S 2 53.9	154 57.7	S16 18.8	211 33.5	N 7 47.3	350 13.6	N 7 36.2
	2	30 43.1	201 04.0	S 2 55.2	169 58.5	S16 19.4	226 35.4	N 7 47.1	5 16.2	N 7 36.2
	3	45 45.6	216 03.6	S 2 56.4	184 59.3	S16 19.9	241 37.4	N 7 46.9	20 18.9	N 7 36.1
	4	60 48.0	231 03.3	S 2 57.7	200 00.1	S16 20.4	256 39.4	N 7 46.7	35 21.5	N 7 36.0
W	5	75 50.5	246 02.9	S 2 59.0	215 00.9	S16 21.0	271 41.3	N 7 46.5	50 24.1	N 7 36.0
E										
D	6	90 53.0	261 02.5	S 3 00.2	230 01.6	S16 21.5	286 43.3	N 7 46.3	65 26.7	N 7 35.9
N	7	105 55.4	276 02.1	S 3 01.5	245 02.4	S16 22.1	301 45.3	N 7 46.1	80 29.3	N 7 35.9
E	8	120 57.9	291 01.8	S 3 02.8	260 03.2	S16 22.6	316 47.2	N 7 45.9	95 31.9	N 7 35.8
S	9	136 00.4	306 01.4	S 3 04.1	275 04.0	S16 23.1	331 49.2	N 7 45.7	110 34.5	N 7 35.7
D	10	151 02.8	321 01.0	S 3 05.3	290 04.8	S16 23.7	346 51.2	N 7 45.5	125 37.2	N 7 35.7
A	11	166 05.3	336 00.6	S 3 06.6	305 05.5	S16 24.2	1 53.1	N 7 45.3	140 39.8	N 7 35.6
Y										
	12	181 07.8	351 00.3	S 3 07.9	320 06.3	S16 24.7	16 55.1	N 7 45.1	155 42.4	N 7 35.5
	13	196 10.2	5 59.9	S 3 09.1	335 07.1	S16 25.3	31 57.1	N 7 44.9	170 45.0	N 7 35.5
	14	211 12.7	20 59.5	S 3 10.4	350 07.9	S16 25.8	46 59.1	N 7 44.7	185 47.6	N 7 35.4
	15	226 15.1	35 59.2	S 3 11.7	5 08.6	S16 26.3	62 01.0	N 7 44.5	200 50.2	N 7 35.3
	16	241 17.6	50 58.8	S 3 13.0	20 09.4	S16 26.9	77 03.0	N 7 44.3	215 52.9	N 7 35.3
	17	256 20.1	65 58.4	S 3 14.2	35 10.2	S16 27.4	92 05.0	N 7 44.1	230 55.5	N 7 35.2
	18	271 22.5	80 58.0	S 3 15.5	50 11.0	S16 28.0	107 06.9	N 7 43.9	245 58.1	N 7 35.1
	19	286 25.0	95 57.7	S 3 16.8	65 11.7	S16 28.5	122 08.9	N 7 43.7	261 00.7	N 7 35.1
	20	301 27.5	110 57.3	S 3 18.0	80 12.5	S16 29.0	137 10.9	N 7 43.5	276 03.3	N 7 35.0
	21	316 29.9	125 56.9	S 3 19.3	95 13.3	S16 29.6	152 12.8	N 7 43.3	291 06.0	N 7 34.9
	22	331 32.4	140 56.5	S 3 20.6	110 14.1	S16 30.1	167 14.8	N 7 43.1	306 08.6	N 7 34.9
	23	346 34.9	155 56.2	S 3 21.9	125 14.8	S16 30.6	182 16.8	N 7 42.9	321 11.2	N 7 34.8
23	0	1 37.3	170 55.8	S 3 23.1	140 15.6	S16 31.2	197 18.7	N 7 42.7	336 13.8	N 7 34.7
	1	16 39.8	185 55.4	S 3 24.4	155 16.4	S16 31.7	212 20.7	N 7 42.5	351 16.4	N 7 34.7
	2	31 42.3	200 55.0	S 3 25.7	170 17.2	S16 32.2	227 22.7	N 7 42.3	6 19.0	N 7 34.6
	3	46 44.7	215 54.7	S 3 26.9	185 17.9	S16 32.8	242 24.6	N 7 42.1	21 21.7	N 7 34.6
	4	61 47.2	230 54.3	S 3 28.2	200 18.7	S16 33.3	257 26.6	N 7 41.9	36 24.3	N 7 34.5
T	5	76 49.6	245 53.9	S 3 29.5	215 19.5	S16 33.8	272 28.6	N 7 41.7	51 26.9	N 7 34.4
H										
U	6	91 52.1	260 53.5	S 3 30.8	230 20.3	S16 34.4	287 30.5	N 7 41.5	66 29.5	N 7 34.4
R	7	106 54.6	275 53.2	S 3 32.0	245 21.0	S16 34.9	302 32.5	N 7 41.3	81 32.1	N 7 34.3
S	8	121 57.0	290 52.8	S 3 33.3	260 21.8	S16 35.4	317 34.5	N 7 41.1	96 34.8	N 7 34.2
D	9	136 59.5	305 52.4	S 3 34.6	275 22.6	S16 36.0	332 36.4	N 7 40.9	111 37.4	N 7 34.2
A	10	152 02.0	320 52.0	S 3 35.8	290 23.3	S16 36.5	347 38.4	N 7 40.7	126 40.0	N 7 34.1
Y	11	167 04.4	335 51.7	S 3 37.1	305 24.1	S16 37.0	2 40.4	N 7 40.5	141 42.6	N 7 34.0
	12	182 06.9	350 51.3	S 3 38.4	320 24.9	S16 37.6	17 42.4	N 7 40.3	156 45.2	N 7 34.0
	13	197 09.4	5 50.9	S 3 39.6	335 25.7	S16 38.1	32 44.3	N 7 40.1	171 47.9	N 7 33.9
	14	212 11.8	20 50.5	S 3 40.9	350 26.4	S16 38.6	47 46.3	N 7 39.9	186 50.5	N 7 33.8
	15	227 14.3	35 50.2	S 3 42.2	5 27.2	S16 39.2	62 48.3	N 7 39.7	201 53.1	N 7 33.8
	16	242 16.7	50 49.8	S 3 43.4	20 28.0	S16 39.7	77 50.2	N 7 39.5	216 55.7	N 7 33.7
	17	257 19.2	65 49.4	S 3 44.7	35 28.7	S16 40.2	92 52.2	N 7 39.3	231 58.3	N 7 33.6
	18	272 21.7	80 49.0	S 3 46.0	50 29.5	S16 40.7	107 54.2	N 7 39.1	247 00.9	N 7 33.6
	19	287 24.1	95 48.7	S 3 47.3	65 30.3	S16 41.3	122 56.1	N 7 38.9	262 03.6	N 7 33.5
	20	302 26.6	110 48.3	S 3 48.5	80 31.0	S16 41.8	137 58.1	N 7 38.7	277 06.2	N 7 33.4
	21	317 29.1	125 47.9	S 3 49.8	95 31.8	S16 42.3	153 00.1	N 7 38.5	292 08.8	N 7 33.4
	22	332 31.5	140 47.5	S 3 51.1	110 32.6	S16 42.9	168 02.0	N 7 38.3	307 11.4	N 7 33.3
	23	347 34.0	155 47.1	S 3 52.3	125 33.3	S16 43.4	183 04.0	N 7 38.1	322 14.0	N 7 33.2
24	0	2 36.5	170 46.8	S 3 53.6	140 34.1	S16 43.9	198 06.0	N 7 37.9	337 16.7	N 7 33.2
	1	17 38.9	185 46.4	S 3 54.9	155 34.9	S16 44.5	213 08.0	N 7 37.7	352 19.3	N 7 33.1
	2	32 41.4	200 46.0	S 3 56.1	170 35.6	S16 45.0	228 09.9	N 7 37.5	7 21.9	N 7 33.0
	3	47 43.9	215 45.6	S 3 57.4	185 36.4	S16 45.5	243 11.9	N 7 37.3	22 24.5	N 7 33.0
	4	62 46.3	230 45.3	S 3 58.7	200 37.2	S16 46.0	258 13.9	N 7 37.1	37 27.2	N 7 32.9
F	5	77 48.8	245 44.9	S 3 59.9	215 37.9	S16 46.6	273 15.8	N 7 36.9	52 29.8	N 7 32.8
R										
I	6	92 51.2	260 44.5	S 4 01.2	230 38.7	S16 47.1	288 17.8	N 7 36.7	67 32.4	N 7 32.8
D	7	107 53.7	275 44.1	S 4 02.5	245 39.5	S16 47.6	303 19.8	N 7 36.5	82 35.0	N 7 32.7
A	8	122 56.2	290 43.7	S 4 03.7	260 40.2	S16 48.2	318 21.7	N 7 36.3	97 37.6	N 7 32.6
Y	9	137 58.6	305 43.4	S 4 05.0	275 41.0	S16 48.7	333 23.7	N 7 36.1	112 40.3	N 7 32.6
	10	153 01.1	320 43.0	S 4 06.3	290 41.8	S16 49.2	348 25.7	N 7 35.9	127 42.9	N 7 32.5
	11	168 03.6	335 42.6	S 4 07.5	305 42.5	S16 49.7	3 27.6	N 7 35.7	142 45.5	N 7 32.4
	12	183 06.0	350 42.2	S 4 08.8	320 43.3	S16 50.3	18 29.6	N 7 35.5	157 48.1	N 7 32.4
	13	198 08.5	5 41.8	S 4 10.1	335 44.1	S16 50.8	33 31.6	N 7 35.3	172 50.7	N 7 32.3
	14	213 11.0	20 41.5	S 4 11.3	350 44.8	S16 51.3	48 33.6	N 7 35.1	187 53.4	N 7 32.3
	15	228 13.4	35 41.1	S 4 12.6	5 45.6	S16 51.9	63 35.5	N 7 34.9	202 56.0	N 7 32.2
	16	243 15.9	50 40.7	S 4 13.9	20 46.3	S16 52.4	78 37.5	N 7 34.7	217 58.6	N 7 32.1
	17	258 18.4	65 40.3	S 4 15.1	35 47.1	S16 52.9	93 39.5	N 7 34.5	233 01.2	N 7 32.1
	18	273 20.8	80 39.9	S 4 16.4	50 47.9	S16 53.4	108 41.4	N 7 34.3	248 03.9	N 7 32.0
	19	288 23.3	95 39.6	S 4 17.7	65 48.6	S16 54.0	123 43.4	N 7 34.1	263 06.5	N 7 31.9
	20	303 25.7	110 39.2	S 4 18.9	80 49.4	S16 54.5	138 45.4	N 7 33.9	278 09.1	N 7 31.9
	21	318 28.2	125 38.8	S 4 20.2	95 50.1	S16 55.0	153 47.4	N 7 33.7	293 11.7	N 7 31.8
	22	333 30.7	140 38.4	S 4 21.5	110 50.9	S16 55.5	168 49.3	N 7 33.5	308 14.3	N 7 31.7
	23	348 33.1	155 38.0	S 4 22.7	125 51.7	S16 56.1	183 51.3	N 7 33.3	323 17.0	N 7 31.7
			v -0.4	d 1.3	v 0.8	d 0.5	v 2.0	d 0.2	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 45.5	N 0 29.2	292 21.7	6.0	N26 25.4	3.5	57.9
	1	196 45.8	N 0 28.2	306 46.6	6.0	N26 28.8	3.4	57.9
	2	211 46.0	N 0 27.3	321 11.5	5.9	N26 32.0	3.2	57.9
	3	226 46.2	N 0 26.3	335 36.3	5.8	N26 35.1	3.1	57.9
	4	241 46.4	N 0 25.3	350 01.1	5.8	N26 38.0	2.9	58.0
W	5	256 46.6	N 0 24.3	4 25.8	5.7	N26 40.7	2.7	58.0
E								
D	6	271 46.9	N 0 23.4	18 50.4	5.6	N26 43.3	2.6	58.0
N	7	286 47.1	N 0 22.4	33 15.0	5.6	N26 45.7	2.4	58.0
E	8	301 47.3	N 0 21.4	47 39.5	5.5	N26 48.0	2.2	58.1
S	9	316 47.5	N 0 20.5	62 04.0	5.5	N26 50.0	2.1	58.1
D	10	331 47.8	N 0 19.5	76 28.4	5.4	N26 51.9	1.9	58.1
A	11	346 48.0	N 0 18.5	90 52.8	5.4	N26 53.7	1.7	58.1
Y								
	12	1 48.2	N 0 17.5	105 17.1	5.3	N26 55.2	1.6	58.1
	13	16 48.4	N 0 16.6	119 41.4	5.3	N26 56.6	1.4	58.2
	14	31 48.6	N 0 15.6	134 05.6	5.2	N26 57.9	1.2	58.2
	15	46 48.9	N 0 14.6	148 29.8	5.2	N26 58.9	1.1	58.2
	16	61 49.1	N 0 13.6	162 53.9	5.1	N26 59.8	0.9	58.2
	17	76 49.3	N 0 12.7	177 18.0	5.1	N27 00.5	0.7	58.3
	18	91 49.5	N 0 11.7	191 42.1	5.1	N27 01.1	0.5	58.3
	19	106 49.7	N 0 10.7	206 06.1	5.0	N27 01.4	0.4	58.3
	20	121 50.0	N 0 09.8	220 30.1	5.0	N27 01.6	0.2	58.3
	21	136 50.2	N 0 08.8	234 54.0	5.0	N27 01.6	0.0	58.4
	22	151 50.4	N 0 07.8	249 17.9	4.9	N27 01.5	0.2	58.4
	23	166 50.6	N 0 06.8	263 41.8	4.9	N27 01.2	0.3	58.4
23	0	181 50.8	N 0 05.9	278 05.7	4.9	N27 00.6	0.5	58.4
	1	196 51.1	N 0 04.9	292 29.5	4.8	N26 60.0	0.7	58.5
	2	211 51.3	N 0 03.9	306 53.3	4.8	N26 59.1	0.9	58.5
	3	226 51.5	N 0 02.9	321 17.1	4.8	N26 58.1	1.0	58.5
	4	241 51.7	N 0 02.0	335 40.9	4.8	N26 56.9	1.2	58.5
T	5	256 51.9	N 0 01.0	350 04.7	4.8	N26 55.5	1.4	58.6
H								
U	6	271 52.2	N 0 00.0	4 28.4	4.7	N26 53.9	1.6	58.6
R	7	286 52.4	S 0 00.9	18 52.2	4.7	N26 52.1	1.7	58.6
S	8	301 52.6	S 0 01.9	33 15.9	4.7	N26 50.2	1.9	58.6
D	9	316 52.8	S 0 02.9	47 39.6	4.7	N26 48.1	2.1	58.7
A	10	331 53.0	S 0 03.9	62 03.3	4.7	N26 45.8	2.3	58.7
Y	11	346 53.3	S 0 04.8	76 27.0	4.7	N26 43.4	2.5	58.7
	12	1 53.5	S 0 05.8	90 50.7	4.7	N26 40.8	2.6	58.7
	13	16 53.7	S 0 06.8	105 14.4	4.7	N26 37.9	2.8	58.8
	14	31 53.9	S 0 07.8	119 38.1	4.7	N26 35.0	3.0	58.8
	15	46 54.1	S 0 08.7	134 01.8	4.7	N26 31.8	3.2	58.8
	16	61 54.4	S 0 09.7	148 25.5	4.7	N26 28.4	3.3	58.8
	17	76 54.6	S 0 10.7	162 49.2	4.7	N26 24.9	3.5	58.9
	18	91 54.8	S 0 11.6	177 12.9	4.7	N26 21.2	3.7	58.9
	19	106 55.0	S 0 12.6	191 36.7	4.7	N26 17.4	3.9	58.9
	20	121 55.2	S 0 13.6	206 00.4	4.7	N26 13.3	4.1	58.9
	21	136 55.5	S 0 14.6	220 24.2	4.8	N26 09.1	4.2	58.9
	22	151 55.7	S 0 15.5	234 48.0	4.8	N26 04.7	4.4	59.0
	23	166 55.9	S 0 16.5	249 11.7	4.8	N26 00.1	4.6	59.0
24	0	181 56.1	S 0 17.5	263 35.6	4.8	N25 55.3	4.8	59.0
	1	196 56.3	S 0 18.5	277 59.4	4.8	N25 50.4	4.9	59.0
	2	211 56.5	S 0 19.4	292 23.3	4.9	N25 45.3	5.1	59.1
	3	226 56.8	S 0 20.4	306 47.1	4.9	N25 40.0	5.3	59.1
	4	241 57.0	S 0 21.4	321 11.1	4.9	N25 34.6	5.4	59.1
F	5	256 57.2	S 0 22.4	335 35.0	4.9	N25 29.0	5.6	59.1
R								
I	6	271 57.4	S 0 23.3	349 59.0	5.0	N25 23.2	5.8	59.2
D	7	286 57.6	S 0 24.3	4 23.0	5.0	N25 17.2	6.0	59.2
A	8	301 57.9	S 0 25.3	18 47.0	5.0	N25 11.1	6.1	59.2
Y	9	316 58.1	S 0 26.3	33 11.1	5.1	N25 04.8	6.3	59.2
	10	331 58.3	S 0 27.2	47 35.2	5.1	N24 58.3	6.5	59.2
	11	346 58.5	S 0 28.2	61 59.3	5.1	N24 51.7	6.6	59.3
	12	1 58.7	S 0 29.2	76 23.5	5.2	N24 44.8	6.8	59.3
	13	16 58.9	S 0 30.1	90 47.7	5.2	N24 37.9	7.0	59.3
	14	31 59.2	S 0 31.1	105 12.0	5.3	N24 30.7	7.1	59.3
	15	46 59.4	S 0 32.1	119 36.3	5.3	N24 23.4	7.3	59.4
	16	61 59.6	S 0 33.1	134 00.7	5.4	N24 15.9	7.5	59.4
	17	76 59.8	S 0 34.0	148 25.1	5.4	N24 08.3	7.6	59.4
	18	92 00.0	S 0 35.0	162 49.5	5.5	N24 00.5	7.8	59.4
	19	107 00.3	S 0 36.0	177 14.0	5.5	N23 52.5	8.0	59.4
	20	122 00.5	S 0 37.0	191 38.6	5.6	N23 44.4	8.1	59.5
	21	137 00.7	S 0 37.9	206 03.2	5.6	N23 36.1	8.3	59.5
	22	152 00.9	S 0 38.9	220 27.8	5.7	N23 27.7	8.4	59.5
	23	167 01.1	S 0 39.9	234 52.5	5.7	N23 19.1	8.6	59.5
		S.D. 15.9	d 1.0	S.D. 15.8		16.0		16.2

STARS Name	SHA	Dec
Acamar	315 09.8	S40 11.3
Achernar	335 18.0	S57 05.5
Acrux	172 58.3	S63 15.2
Adhara	255 04.2	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 36.9	N16 34.0
Alioth	166 11.5	N55 48.6
Alkaid	152 50.7	N49 10.6
Al Na-ir	27 29.7	S46 49.5
Alnilam	275 35.4	S 1 10.9
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.8
Altair	61 57.6	N 8 56.7
Ankaa	353 04.5	S42 09.1
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.4
Atria	107 05.7	S69 04.9
Avior	234 14.1	S59 35.6
Bellatrix	278 20.4	N 6 22.6
Betelgeuse	270 49.7	N 7 24.8
Canopus	263 51.4	S52 42.3
Capella	280 18.5	N46 01.4
Castor	245 54.4	N31 49.6
Deneb	49 24.0	N45 23.1
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 38.9	N61 36.0
Elnath	277 59.0	N28 37.8
Eltanin	90 41.2	N51 29.4
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.2
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.5
Hamal	327 48.4	N23 35.8
Kaus Austr.	83 29.6	S34 22.4
Kochab	137 20.9	N74 02.6
Markab	13 27.4	N15 21.5
Menkar	314 03.6	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.4	S69 49.6
Mirfak	308 24.8	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.8	S56 38.8
Polaris	315 20.6	N89 22.1
Pollux	243 14.7	N27 57.5
Procyon	244 48.6	N 5 09.3
Rasalhague	95 56.6	N12 32.6
Regulus	207 32.3	N11 49.9
Rigel	281 01.7	S 8 10.0
Rigil Kent	139 37.9	S60 57.2
Sabik	102 00.3	S15 45.5
Schedar	349 27.9	N56 41.5
Shaula	96 07.4	S37 07.5
Sirius	258 24.3	S16 45.0
Spica	158 20.3	S11 18.3
Suhail	222 45.0	S43 32.5
Vega	80 31.7	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	3 35.6	170 37.7	S 4 24.0	140 52.4	S16 56.6	198 53.3	N 7 33.1	338 19.6	N 7 31.6
	1	18 38.1	185 37.3	S 4 25.3	155 53.2	S16 57.1	213 55.2	N 7 32.9	353 22.2	N 7 31.5
	2	33 40.5	200 36.9	S 4 26.5	170 53.9	S16 57.6	228 57.2	N 7 32.7	8 24.8	N 7 31.5
	3	48 43.0	215 36.5	S 4 27.8	185 54.7	S16 58.2	243 59.2	N 7 32.5	23 27.5	N 7 31.4
	4	63 45.5	230 36.1	S 4 29.1	200 55.5	S16 58.7	259 01.1	N 7 32.3	38 30.1	N 7 31.3
S	5	78 47.9	245 35.8	S 4 30.3	215 56.2	S16 59.2	274 03.1	N 7 32.1	53 32.7	N 7 31.3
A										
T	6	93 50.4	260 35.4	S 4 31.6	230 57.0	S16 59.7	289 05.1	N 7 31.9	68 35.3	N 7 31.2
U	7	108 52.9	275 35.0	S 4 32.8	245 57.7	S17 00.3	304 07.1	N 7 31.7	83 38.0	N 7 31.1
R	8	123 55.3	290 34.6	S 4 34.1	260 58.5	S17 00.8	319 09.0	N 7 31.5	98 40.6	N 7 31.1
D	9	138 57.8	305 34.2	S 4 35.4	275 59.3	S17 01.3	334 11.0	N 7 31.3	113 43.2	N 7 31.0
A	10	154 00.2	320 33.8	S 4 36.6	291 00.0	S17 01.8	349 13.0	N 7 31.1	128 45.8	N 7 30.9
Y	11	169 02.7	335 33.5	S 4 37.9	306 00.8	S17 02.4	4 14.9	N 7 30.9	143 48.4	N 7 30.9
	12	184 05.2	350 33.1	S 4 39.2	321 01.5	S17 02.9	19 16.9	N 7 30.7	158 51.1	N 7 30.8
	13	199 07.6	5 32.7	S 4 40.4	336 02.3	S17 03.4	34 18.9	N 7 30.5	173 53.7	N 7 30.7
	14	214 10.1	20 32.3	S 4 41.7	351 03.0	S17 03.9	49 20.9	N 7 30.3	188 56.3	N 7 30.7
	15	229 12.6	35 31.9	S 4 43.0	6 03.8	S17 04.4	64 22.8	N 7 30.1	203 58.9	N 7 30.6
	16	244 15.0	50 31.5	S 4 44.2	21 04.5	S17 05.0	79 24.8	N 7 29.9	219 01.6	N 7 30.5
	17	259 17.5	65 31.2	S 4 45.5	36 05.3	S17 05.5	94 26.8	N 7 29.7	234 04.2	N 7 30.4
	18	274 20.0	80 30.8	S 4 46.7	51 06.1	S17 06.0	109 28.7	N 7 29.5	249 06.8	N 7 30.4
	19	289 22.4	95 30.4	S 4 48.0	66 06.8	S17 06.5	124 30.7	N 7 29.3	264 09.4	N 7 30.3
	20	304 24.9	110 30.0	S 4 49.3	81 07.6	S17 07.1	139 32.7	N 7 29.1	279 12.1	N 7 30.2
	21	319 27.3	125 29.6	S 4 50.5	96 08.3	S17 07.6	154 34.7	N 7 28.9	294 14.7	N 7 30.2
	22	334 29.8	140 29.2	S 4 51.8	111 09.1	S17 08.1	169 36.6	N 7 28.7	309 17.3	N 7 30.1
	23	349 32.3	155 28.9	S 4 53.0	126 09.8	S17 08.6	184 38.6	N 7 28.5	324 19.9	N 7 30.0
26	0	4 34.7	170 28.5	S 4 54.3	141 10.6	S17 09.1	199 40.6	N 7 28.3	339 22.6	N 7 30.0
	1	19 37.2	185 28.1	S 4 55.6	156 11.3	S17 09.7	214 42.5	N 7 28.1	354 25.2	N 7 29.9
	2	34 39.7	200 27.7	S 4 56.8	171 12.1	S17 10.2	229 44.5	N 7 27.9	9 27.8	N 7 29.8
	3	49 42.1	215 27.3	S 4 58.1	186 12.8	S17 10.7	244 46.5	N 7 27.7	24 30.4	N 7 29.8
	4	64 44.6	230 26.9	S 4 59.4	201 13.6	S17 11.2	259 48.5	N 7 27.5	39 33.1	N 7 29.7
S	5	79 47.1	245 26.5	S 5 00.6	216 14.3	S17 11.7	274 50.4	N 7 27.3	54 35.7	N 7 29.6
U										
N	6	94 49.5	260 26.2	S 5 01.9	231 15.1	S17 12.3	289 52.4	N 7 27.1	69 38.3	N 7 29.6
D	7	109 52.0	275 25.8	S 5 03.1	246 15.8	S17 12.8	304 54.4	N 7 26.9	84 40.9	N 7 29.5
A	8	124 54.5	290 25.4	S 5 04.4	261 16.6	S17 13.3	319 56.4	N 7 26.7	99 43.6	N 7 29.4
Y	9	139 56.9	305 25.0	S 5 05.7	276 17.3	S17 13.8	334 58.3	N 7 26.5	114 46.2	N 7 29.4
	10	154 59.4	320 24.6	S 5 06.9	291 18.1	S17 14.3	350 00.3	N 7 26.3	129 48.8	N 7 29.3
	11	170 01.8	335 24.2	S 5 08.2	306 18.8	S17 14.8	5 02.3	N 7 26.1	144 51.4	N 7 29.2
	12	185 04.3	350 23.8	S 5 09.4	321 19.6	S17 15.4	20 04.2	N 7 25.9	159 54.1	N 7 29.2
	13	200 06.8	5 23.4	S 5 10.7	336 20.3	S17 15.9	35 06.2	N 7 25.7	174 56.7	N 7 29.1
	14	215 09.2	20 23.1	S 5 12.0	351 21.1	S17 16.4	50 08.2	N 7 25.6	189 59.3	N 7 29.0
	15	230 11.7	35 22.7	S 5 13.2	6 21.8	S17 16.9	65 10.2	N 7 25.4	205 02.0	N 7 29.0
	16	245 14.2	50 22.3	S 5 14.5	21 22.6	S17 17.4	80 12.1	N 7 25.2	220 04.6	N 7 28.9
	17	260 16.6	65 21.9	S 5 15.7	36 23.3	S17 18.0	95 14.1	N 7 25.0	235 07.2	N 7 28.8
	18	275 19.1	80 21.5	S 5 17.0	51 24.1	S17 18.5	110 16.1	N 7 24.8	250 09.8	N 7 28.8
	19	290 21.6	95 21.1	S 5 18.2	66 24.8	S17 19.0	125 18.1	N 7 24.6	265 12.5	N 7 28.7
	20	305 24.0	110 20.7	S 5 19.5	81 25.6	S17 19.5	140 20.0	N 7 24.4	280 15.1	N 7 28.6
	21	320 26.5	125 20.3	S 5 20.8	96 26.3	S17 20.0	155 22.0	N 7 24.2	295 17.7	N 7 28.6
	22	335 29.0	140 20.0	S 5 22.0	111 27.0	S17 20.5	170 24.0	N 7 24.0	310 20.3	N 7 28.5
	23	350 31.4	155 19.6	S 5 23.3	126 27.8	S17 21.1	185 25.9	N 7 23.8	325 23.0	N 7 28.4
27	0	5 33.9	170 19.2	S 5 24.5	141 28.5	S17 21.6	200 27.9	N 7 23.6	340 25.6	N 7 28.4
	1	20 36.3	185 18.8	S 5 25.8	156 29.3	S17 22.1	215 29.9	N 7 23.4	355 28.2	N 7 28.3
	2	35 38.8	200 18.4	S 5 27.0	171 30.0	S17 22.6	230 31.9	N 7 23.2	10 30.8	N 7 28.2
	3	50 41.3	215 18.0	S 5 28.3	186 30.8	S17 23.1	245 33.8	N 7 23.0	25 33.5	N 7 28.2
	4	65 43.7	230 17.6	S 5 29.6	201 31.5	S17 23.6	260 35.8	N 7 22.8	40 36.1	N 7 28.1
M	5	80 46.2	245 17.2	S 5 30.8	216 32.3	S17 24.1	275 37.8	N 7 22.6	55 38.7	N 7 28.0
O										
N	6	95 48.7	260 16.8	S 5 32.1	231 33.0	S17 24.7	290 39.8	N 7 22.4	70 41.4	N 7 27.9
D	7	110 51.1	275 16.4	S 5 33.3	246 33.7	S17 25.2	305 41.7	N 7 22.2	85 44.0	N 7 27.9
A	8	125 53.6	290 16.1	S 5 34.6	261 34.5	S17 25.7	320 43.7	N 7 22.0	100 46.6	N 7 27.8
Y	9	140 56.1	305 15.7	S 5 35.8	276 35.2	S17 26.2	335 45.7	N 7 21.8	115 49.2	N 7 27.7
	10	155 58.5	320 15.3	S 5 37.1	291 36.0	S17 26.7	350 47.7	N 7 21.6	130 51.9	N 7 27.7
	11	171 01.0	335 14.9	S 5 38.4	306 36.7	S17 27.2	5 49.6	N 7 21.4	145 54.5	N 7 27.6
	12	186 03.4	350 14.5	S 5 39.6	321 37.5	S17 27.7	20 51.6	N 7 21.2	160 57.1	N 7 27.5
	13	201 05.9	5 14.1	S 5 40.9	336 38.2	S17 28.3	35 53.6	N 7 21.0	175 59.8	N 7 27.5
	14	216 08.4	20 13.7	S 5 42.1	351 38.9	S17 28.8	50 55.6	N 7 20.8	191 02.4	N 7 27.4
	15	231 10.8	35 13.3	S 5 43.4	6 39.7	S17 29.3	65 57.5	N 7 20.6	206 05.0	N 7 27.3
	16	246 13.3	50 12.9	S 5 44.6	21 40.4	S17 29.8	80 59.5	N 7 20.4	221 07.6	N 7 27.3
	17	261 15.8	65 12.5	S 5 45.9	36 41.2	S17 30.3	96 01.5	N 7 20.2	236 10.3	N 7 27.2
	18	276 18.2	80 12.1	S 5 47.1	51 41.9	S17 30.8	111 03.4	N 7 20.0	251 12.9	N 7 27.1
	19	291 20.7	95 11.7	S 5 48.4	66 42.6	S17 31.3	126 05.4	N 7 19.8	266 15.5	N 7 27.1
	20	306 23.2	110 11.3	S 5 49.6	81 43.4	S17 31.8	141 07.4	N 7 19.6	281 18.2	N 7 27.0
	21	321 25.6	125 11.0	S 5 50.9	96 44.1	S17 32.3	156 09.4	N 7 19.4	296 20.8	N 7 26.9
	22	336 28.1	140 10.6	S 5 52.1	111 44.9	S17 32.9	171 11.3	N 7 19.2	311 23.4	N 7 26.9
	23	351 30.6	155 10.2	S 5 53.4	126 45.6	S17 33.4	186 13.3	N 7 19.0	326 26.0	N 7 26.8
			v -0.4	d 1.3	v 0.7	d 0.5	v 2.0	d 0.2	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	182 01.3	S 0 40.9	249 17.3	5.8	N23 10.3	8.8	59.5
	1	197 01.6	S 0 41.8	263 42.1	5.8	N23 01.4	8.9	59.6
	2	212 01.8	S 0 42.8	278 07.0	5.9	N22 52.3	9.1	59.6
	3	227 02.0	S 0 43.8	292 31.9	5.9	N22 43.1	9.2	59.6
	4	242 02.2	S 0 44.8	306 56.9	6.0	N22 33.8	9.4	59.6
S	5	257 02.4	S 0 45.7	321 22.0	6.0	N22 24.2	9.5	59.6
A								
T	6	272 02.6	S 0 46.7	335 47.1	6.1	N22 14.6	9.7	59.7
U	7	287 02.9	S 0 47.7	350 12.2	6.2	N22 04.7	9.8	59.7
R	8	302 03.1	S 0 48.6	4 37.5	6.2	N21 54.8	10.0	59.7
D	9	317 03.3	S 0 49.6	19 02.8	6.3	N21 44.6	10.1	59.7
A	10	332 03.5	S 0 50.6	33 28.1	6.4	N21 34.4	10.3	59.7
Y	11	347 03.7	S 0 51.6	47 53.5	6.4	N21 24.0	10.4	59.8
	12	2 03.9	S 0 52.5	62 19.0	6.5	N21 13.4	10.5	59.8
	13	17 04.2	S 0 53.5	76 44.5	6.5	N21 02.7	10.7	59.8
	14	32 04.4	S 0 54.5	91 10.2	6.6	N20 51.9	10.8	59.8
	15	47 04.6	S 0 55.5	105 35.8	6.7	N20 41.0	11.0	59.8
	16	62 04.8	S 0 56.4	120 01.6	6.7	N20 29.9	11.1	59.8
	17	77 05.0	S 0 57.4	134 27.4	6.8	N20 18.6	11.2	59.9
	18	92 05.2	S 0 58.4	148 53.2	6.9	N20 07.2	11.4	59.9
	19	107 05.4	S 0 59.4	163 19.2	6.9	N19 55.7	11.5	59.9
	20	122 05.7	S 1 00.3	177 45.2	7.0	N19 44.1	11.6	59.9
	21	137 05.9	S 1 01.3	192 11.3	7.1	N19 32.3	11.8	59.9
	22	152 06.1	S 1 02.3	206 37.4	7.1	N19 20.4	11.9	59.9
	23	167 06.3	S 1 03.3	221 03.6	7.2	N19 08.4	12.0	60.0
26	0	182 06.5	S 1 04.2	235 29.9	7.3	N18 56.3	12.1	60.0
	1	197 06.7	S 1 05.2	249 56.2	7.3	N18 44.0	12.3	60.0
	2	212 07.0	S 1 06.2	264 22.6	7.4	N18 31.6	12.4	60.0
	3	227 07.2	S 1 07.2	278 49.1	7.5	N18 19.1	12.5	60.0
	4	242 07.4	S 1 08.1	293 15.6	7.5	N18 06.5	12.6	60.0
S	5	257 07.6	S 1 09.1	307 42.2	7.6	N17 53.7	12.7	60.0
U								
N	6	272 07.8	S 1 10.1	322 08.9	7.7	N17 40.9	12.9	60.1
D	7	287 08.0	S 1 11.0	336 35.7	7.7	N17 27.9	13.0	60.1
A	8	302 08.2	S 1 12.0	351 02.5	7.8	N17 14.8	13.1	60.1
Y	9	317 08.5	S 1 13.0	5 29.4	7.9	N17 01.6	13.2	60.1
	10	332 08.7	S 1 14.0	19 56.3	7.9	N16 48.3	13.3	60.1
	11	347 08.9	S 1 14.9	34 23.3	8.0	N16 34.9	13.4	60.1
	12	2 09.1	S 1 15.9	48 50.4	8.1	N16 21.4	13.5	60.1
	13	17 09.3	S 1 16.9	63 17.5	8.1	N16 07.7	13.6	60.1
	14	32 09.5	S 1 17.9	77 44.7	8.2	N15 54.0	13.7	60.2
	15	47 09.7	S 1 18.8	92 12.0	8.3	N15 40.2	13.8	60.2
	16	62 10.0	S 1 19.8	106 39.3	8.3	N15 26.3	13.9	60.2
	17	77 10.2	S 1 20.8	121 06.7	8.4	N15 12.2	14.0	60.2
	18	92 10.4	S 1 21.8	135 34.2	8.5	N14 58.1	14.1	60.2
	19	107 10.6	S 1 22.7	150 01.7	8.5	N14 43.9	14.2	60.2
	20	122 10.8	S 1 23.7	164 29.3	8.6	N14 29.6	14.3	60.2
	21	137 11.0	S 1 24.7	178 57.0	8.7	N14 15.2	14.4	60.2
	22	152 11.2	S 1 25.7	193 24.7	8.7	N14 00.7	14.5	60.2
	23	167 11.4	S 1 26.6	207 52.5	8.8	N13 46.1	14.6	60.2
27	0	182 11.7	S 1 27.6	222 20.3	8.8	N13 31.5	14.7	60.3
	1	197 11.9	S 1 28.6	236 48.2	8.9	N13 16.7	14.7	60.3
	2	212 12.1	S 1 29.5	251 16.1	9.0	N13 01.9	14.8	60.3
	3	227 12.3	S 1 30.5	265 44.2	9.0	N12 47.0	14.9	60.3
	4	242 12.5	S 1 31.5	280 12.2	9.1	N12 32.0	15.0	60.3
M	5	257 12.7	S 1 32.5	294 40.4	9.1	N12 16.9	15.1	60.3
O								
N	6	272 12.9	S 1 33.4	309 08.5	9.2	N12 01.8	15.1	60.3
D	7	287 13.1	S 1 34.4	323 36.8	9.2	N11 46.6	15.2	60.3
A	8	302 13.4	S 1 35.4	338 05.1	9.3	N11 31.3	15.3	60.3
Y	9	317 13.6	S 1 36.4	352 33.4	9.3	N11 15.9	15.4	60.3
	10	332 13.8	S 1 37.3	7 01.8	9.4	N11 00.5	15.4	60.3
	11	347 14.0	S 1 38.3	21 30.3	9.5	N10 45.0	15.5	60.3
	12	2 14.2	S 1 39.3	35 58.8	9.5	N10 29.5	15.5	60.3
	13	17 14.4	S 1 40.3	50 27.3	9.6	N10 13.9	15.6	60.3
	14	32 14.6	S 1 41.2	64 55.9	9.6	N 9 58.2	15.7	60.3
	15	47 14.8	S 1 42.2	79 24.6	9.7	N 9 42.5	15.7	60.3
	16	62 15.1	S 1 43.2	93 53.3	9.7	N 9 26.7	15.8	60.3
	17	77 15.3	S 1 44.1	108 22.1	9.8	N 9 10.8	15.8	60.3
	18	92 15.5	S 1 45.1	122 50.9	9.8	N 8 55.0	15.9	60.3
	19	107 15.7	S 1 46.1	137 19.7	9.8	N 8 39.0	15.9	60.3
	20	122 15.9	S 1 47.1	151 48.6	9.9	N 8 23.0	16.0	60.3
	21	137 16.1	S 1 48.0	166 17.5	9.9	N 8 07.0	16.0	60.3
	22	152 16.3	S 1 49.0	180 46.5	10.0	N 7 50.9	16.1	60.3
	23	167 16.5	S 1 50.0	195 15.5	10.0	N 7 34.7	16.1	60.3
		S.D. 16.0	d 1.0	S.D.	16.3		16.4	16.4

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.7	S40 11.3
Achernar	335 18.0	S57 05.5
Acrux	172 58.3	S63 15.2
Adhara	255 04.2	S29 00.3
Albireo	67 02.1	N28 01.3
Aldebaran	290 36.9	N16 34.0
Alioth	166 11.5	N55 48.6
Alkaid	152 50.7	N49 10.6
Al Na-ir	27 29.7	S46 49.6
Alnilam	275 35.4	S 1 10.9
Alphard	217 45.8	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.6	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.4
Atria	107 05.7	S69 04.9
Avior	234 14.1	S59 35.6
Bellatrix	278 20.4	N 6 22.6
Betelgeuse	270 49.6	N 7 24.8
Canopus	263 51.4	S52 42.3
Capella	280 18.5	N46 01.4
Castor	245 54.3	N31 49.6
Deneb	49 24.0	N45 23.1
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 38.9	N61 35.9
Elnath	277 59.0	N28 37.8
Eltanin	90 41.2	N51 29.4
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.1
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.5
Hamal	327 48.4	N23 35.8
Kaus Austr.	83 29.6	S34 22.4
Kochab	137 21.0	N74 02.6
Markab	13 27.4	N15 21.5
Menkar	314 03.6	N 4 12.1
Menkent	147 55.3	S36 30.5
Miaplacidus	221 38.3	S69 49.6
Mirfak	308 24.8	N49 57.5
Nunki	75 44.9	S26 15.7
Peacock	53 01.8	S56 38.9
Polaris	315 19.8	N89 22.1
Pollux	243 14.7	N27 57.5
Procyon	244 48.6	N 5 09.3
Rasalhague	95 56.6	N12 32.6
Regulus	207 32.3	N11 49.9
Rigel	281 01.6	S 8 10.0
Rigil Kent	139 37.9	S60 57.1
Sabik	102 00.3	S15 45.5
Schedar	349 27.9	N56 41.5
Shaula	96 07.4	S37 07.5
Sirius	258 24.3	S16 45.0
Spica	158 20.3	S11 18.3
Suhail	222 44.9	S43 32.5
Vega	80 31.7	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	6 33.0	170 09.8	S 5 54.7	141 46.3	S17 33.9	201 15.3	N 7 18.8	341 28.7	N 7 26.7
	1	21 35.5	185 09.4	S 5 55.9	156 47.1	S17 34.4	216 17.3	N 7 18.6	356 31.3	N 7 26.7
	2	36 37.9	200 09.0	S 5 57.2	171 47.8	S17 34.9	231 19.2	N 7 18.4	11 33.9	N 7 26.6
	3	51 40.4	215 08.6	S 5 58.4	186 48.5	S17 35.4	246 21.2	N 7 18.2	26 36.6	N 7 26.5
	4	66 42.9	230 08.2	S 5 59.7	201 49.3	S17 35.9	261 23.2	N 7 18.0	41 39.2	N 7 26.4
T	5	81 45.3	245 07.8	S 6 00.9	216 50.0	S17 36.4	276 25.2	N 7 17.8	56 41.8	N 7 26.4
U										
E	6	96 47.8	260 07.4	S 6 02.2	231 50.8	S17 36.9	291 27.1	N 7 17.6	71 44.5	N 7 26.3
S	7	111 50.3	275 07.0	S 6 03.4	246 51.5	S17 37.4	306 29.1	N 7 17.4	86 47.1	N 7 26.2
D	8	126 52.7	290 06.6	S 6 04.7	261 52.2	S17 38.0	321 31.1	N 7 17.2	101 49.7	N 7 26.2
A	9	141 55.2	305 06.2	S 6 05.9	276 53.0	S17 38.5	336 33.1	N 7 17.0	116 52.3	N 7 26.1
Y	10	156 57.7	320 05.8	S 6 07.2	291 53.7	S17 39.0	351 35.0	N 7 16.8	131 55.0	N 7 26.0
	11	172 00.1	335 05.4	S 6 08.4	306 54.4	S17 39.5	6 37.0	N 7 16.6	146 57.6	N 7 26.0
	12	187 02.6	350 05.0	S 6 09.7	321 55.2	S17 40.0	21 39.0	N 7 16.4	162 00.2	N 7 25.9
	13	202 05.1	5 04.6	S 6 10.9	336 55.9	S17 40.5	36 41.0	N 7 16.2	177 02.9	N 7 25.8
	14	217 07.5	20 04.2	S 6 12.2	351 56.6	S17 41.0	51 42.9	N 7 16.0	192 05.5	N 7 25.8
	15	232 10.0	35 03.8	S 6 13.4	6 57.4	S17 41.5	66 44.9	N 7 15.9	207 08.1	N 7 25.7
	16	247 12.4	50 03.4	S 6 14.7	21 58.1	S17 42.0	81 46.9	N 7 15.7	222 10.8	N 7 25.6
	17	262 14.9	65 03.0	S 6 15.9	36 58.8	S17 42.5	96 48.9	N 7 15.5	237 13.4	N 7 25.6
	18	277 17.4	80 02.6	S 6 17.2	51 59.6	S17 43.0	111 50.9	N 7 15.3	252 16.0	N 7 25.5
	19	292 19.8	95 02.2	S 6 18.4	67 00.3	S17 43.5	126 52.8	N 7 15.1	267 18.6	N 7 25.4
	20	307 22.3	110 01.8	S 6 19.7	82 01.0	S17 44.0	141 54.8	N 7 14.9	282 21.3	N 7 25.3
	21	322 24.8	125 01.4	S 6 20.9	97 01.8	S17 44.6	156 56.8	N 7 14.7	297 23.9	N 7 25.3
	22	337 27.2	140 01.0	S 6 22.2	112 02.5	S17 45.1	171 58.8	N 7 14.5	312 26.5	N 7 25.2
	23	352 29.7	155 00.6	S 6 23.4	127 03.2	S17 45.6	187 00.7	N 7 14.3	327 29.2	N 7 25.1
29	0	7 32.2	170 00.2	S 6 24.7	142 03.9	S17 46.1	202 02.7	N 7 14.1	342 31.8	N 7 25.1
	1	22 34.6	184 59.8	S 6 25.9	157 04.7	S17 46.6	217 04.7	N 7 13.9	357 34.4	N 7 25.0
	2	37 37.1	199 59.4	S 6 27.1	172 05.4	S17 47.1	232 06.7	N 7 13.7	12 37.1	N 7 24.9
	3	52 39.5	214 59.0	S 6 28.4	187 06.1	S17 47.6	247 08.6	N 7 13.5	27 39.7	N 7 24.9
	4	67 42.0	229 58.6	S 6 29.6	202 06.9	S17 48.1	262 10.6	N 7 13.3	42 42.3	N 7 24.8
W	5	82 44.5	244 58.2	S 6 30.9	217 07.6	S17 48.6	277 12.6	N 7 13.1	57 45.0	N 7 24.7
E										
D	6	97 46.9	259 57.8	S 6 32.1	232 08.3	S17 49.1	292 14.6	N 7 12.9	72 47.6	N 7 24.7
N	7	112 49.4	274 57.4	S 6 33.4	247 09.1	S17 49.6	307 16.5	N 7 12.7	87 50.2	N 7 24.6
E	8	127 51.9	289 57.0	S 6 34.6	262 09.8	S17 50.1	322 18.5	N 7 12.5	102 52.9	N 7 24.5
S	9	142 54.3	304 56.6	S 6 35.9	277 10.5	S17 50.6	337 20.5	N 7 12.3	117 55.5	N 7 24.4
D	10	157 56.8	319 56.2	S 6 37.1	292 11.2	S17 51.1	352 22.5	N 7 12.1	132 58.1	N 7 24.4
A	11	172 59.3	334 55.8	S 6 38.4	307 12.0	S17 51.6	7 24.5	N 7 11.9	148 00.8	N 7 24.3
Y										
	12	188 01.7	349 55.4	S 6 39.6	322 12.7	S17 52.1	22 26.4	N 7 11.7	163 03.4	N 7 24.2
	13	203 04.2	4 55.0	S 6 40.9	337 13.4	S17 52.6	37 28.4	N 7 11.5	178 06.0	N 7 24.2
	14	218 06.7	19 54.6	S 6 42.1	352 14.1	S17 53.1	52 30.4	N 7 11.3	193 08.7	N 7 24.1
	15	233 09.1	34 54.2	S 6 43.3	7 14.9	S17 53.6	67 32.4	N 7 11.1	208 11.3	N 7 24.0
	16	248 11.6	49 53.8	S 6 44.6	22 15.6	S17 54.1	82 34.3	N 7 10.9	223 13.9	N 7 24.0
	17	263 14.0	64 53.4	S 6 45.8	37 16.3	S17 54.6	97 36.3	N 7 10.7	238 16.5	N 7 23.9
	18	278 16.5	79 53.0	S 6 47.1	52 17.0	S17 55.1	112 38.3	N 7 10.5	253 19.2	N 7 23.8
	19	293 19.0	94 52.6	S 6 48.3	67 17.8	S17 55.6	127 40.3	N 7 10.3	268 21.8	N 7 23.8
	20	308 21.4	109 52.2	S 6 49.6	82 18.5	S17 56.1	142 42.2	N 7 10.1	283 24.4	N 7 23.7
	21	323 23.9	124 51.8	S 6 50.8	97 19.2	S17 56.6	157 44.2	N 7 09.9	298 27.1	N 7 23.6
	22	338 26.4	139 51.4	S 6 52.0	112 19.9	S17 57.1	172 46.2	N 7 09.7	313 29.7	N 7 23.5
	23	353 28.8	154 51.0	S 6 53.3	127 20.7	S17 57.6	187 48.2	N 7 09.5	328 32.3	N 7 23.5
30	0	8 31.3	169 50.6	S 6 54.5	142 21.4	S17 58.1	202 50.2	N 7 09.3	343 35.0	N 7 23.4
	1	23 33.8	184 50.2	S 6 55.8	157 22.1	S17 58.6	217 52.1	N 7 09.1	358 37.6	N 7 23.3
	2	38 36.2	199 49.8	S 6 57.0	172 22.8	S17 59.1	232 54.1	N 7 08.9	13 40.2	N 7 23.3
	3	53 38.7	214 49.4	S 6 58.3	187 23.6	S17 59.6	247 56.1	N 7 08.8	28 42.9	N 7 23.2
	4	68 41.1	229 49.0	S 6 59.5	202 24.3	S18 00.1	262 58.1	N 7 08.6	43 45.5	N 7 23.1
T	5	83 43.6	244 48.6	S 7 00.7	217 25.0	S18 00.6	278 00.0	N 7 08.4	58 48.1	N 7 23.1
H										
U	6	98 46.1	259 48.2	S 7 02.0	232 25.7	S18 01.1	293 02.0	N 7 08.2	73 50.8	N 7 23.0
R	7	113 48.5	274 47.7	S 7 03.2	247 26.4	S18 01.6	308 04.0	N 7 08.0	88 53.4	N 7 22.9
S	8	128 51.0	289 47.3	S 7 04.5	262 27.2	S18 02.1	323 06.0	N 7 07.8	103 56.0	N 7 22.8
D	9	143 53.5	304 46.9	S 7 05.7	277 27.9	S18 02.6	338 08.0	N 7 07.6	118 58.7	N 7 22.8
A	10	158 55.9	319 46.5	S 7 06.9	292 28.6	S18 03.1	353 09.9	N 7 07.4	134 01.3	N 7 22.7
Y	11	173 58.4	334 46.1	S 7 08.2	307 29.3	S18 03.6	8 11.9	N 7 07.2	149 04.0	N 7 22.6
	12	189 00.9	349 45.7	S 7 09.4	322 30.0	S18 04.1	23 13.9	N 7 07.0	164 06.6	N 7 22.6
	13	204 03.3	4 45.3	S 7 10.6	337 30.8	S18 04.6	38 15.9	N 7 06.8	179 09.2	N 7 22.5
	14	219 05.8	19 44.9	S 7 11.9	352 31.5	S18 05.1	53 17.9	N 7 06.6	194 11.9	N 7 22.4
	15	234 08.3	34 44.5	S 7 13.1	7 32.2	S18 05.6	68 19.8	N 7 06.4	209 14.5	N 7 22.4
	16	249 10.7	49 44.1	S 7 14.4	22 32.9	S18 06.1	83 21.8	N 7 06.2	224 17.1	N 7 22.3
	17	264 13.2	64 43.7	S 7 15.6	37 33.6	S18 06.6	98 23.8	N 7 06.0	239 19.8	N 7 22.2
	18	279 15.6	79 43.3	S 7 16.8	52 34.4	S18 07.1	113 25.8	N 7 05.8	254 22.4	N 7 22.1
	19	294 18.1	94 42.8	S 7 18.1	67 35.1	S18 07.6	128 27.7	N 7 05.6	269 25.0	N 7 22.1
	20	309 20.6	109 42.4	S 7 19.3	82 35.8	S18 08.1	143 29.7	N 7 05.4	284 27.7	N 7 22.0
	21	324 23.0	124 42.0	S 7 20.5	97 36.5	S18 08.6	158 31.7	N 7 05.2	299 30.3	N 7 21.9
	22	339 25.5	139 41.6	S 7 21.8	112 37.2	S18 09.1	173 33.7	N 7 05.0	314 32.9	N 7 21.9
	23	354 28.0	154 41.2	S 7 23.0	127 37.9	S18 09.6	188 35.7	N 7 04.8	329 35.6	N 7 21.8
			v -0.4	d 1.2	v 0.7	d 0.5	v 2.0	d 0.2	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
28	0	182 16.7	S 1 51.0	209 44.6	10.1	N 7 18.6	16.2	60.3
	1	197 17.0	S 1 51.9	224 13.7	10.1	N 7 02.3	16.2	60.3
	2	212 17.2	S 1 52.9	238 42.8	10.1	N 6 46.1	16.3	60.3
	3	227 17.4	S 1 53.9	253 12.0	10.2	N 6 29.8	16.3	60.3
	4	242 17.6	S 1 54.9	267 41.2	10.2	N 6 13.4	16.3	60.3
T	5	257 17.8	S 1 55.8	282 10.4	10.2	N 5 57.1	16.4	60.3
U								
E	6	272 18.0	S 1 56.8	296 39.7	10.3	N 5 40.7	16.4	60.3
S	7	287 18.2	S 1 57.8	311 09.0	10.3	N 5 24.3	16.4	60.3
D	8	302 18.4	S 1 58.7	325 38.4	10.3	N 5 07.8	16.5	60.3
A	9	317 18.6	S 1 59.7	340 07.8	10.4	N 4 51.3	16.5	60.3
Y	10	332 18.8	S 2 00.7	354 37.2	10.4	N 4 34.8	16.5	60.3
	11	347 19.1	S 2 01.7	9 06.6	10.4	N 4 18.3	16.5	60.3
	12	2 19.3	S 2 02.6	23 36.1	10.5	N 4 01.7	16.5	60.3
	13	17 19.5	S 2 03.6	38 05.6	10.5	N 3 45.2	16.6	60.3
	14	32 19.7	S 2 04.6	52 35.1	10.5	N 3 28.6	16.6	60.3
	15	47 19.9	S 2 05.6	67 04.7	10.6	N 3 12.0	16.6	60.3
	16	62 20.1	S 2 06.5	81 34.2	10.6	N 2 55.4	16.6	60.3
	17	77 20.3	S 2 07.5	96 03.8	10.6	N 2 38.7	16.6	60.2
	18	92 20.5	S 2 08.5	110 33.5	10.6	N 2 22.1	16.6	60.2
	19	107 20.7	S 2 09.4	125 03.1	10.6	N 2 05.5	16.6	60.2
	20	122 20.9	S 2 10.4	139 32.8	10.7	N 1 48.8	16.7	60.2
	21	137 21.1	S 2 11.4	154 02.4	10.7	N 1 32.2	16.7	60.2
	22	152 21.4	S 2 12.4	168 32.1	10.7	N 1 15.5	16.7	60.2
	23	167 21.6	S 2 13.3	183 01.9	10.7	N 0 58.8	16.7	60.2
29	0	182 21.8	S 2 14.3	197 31.6	10.7	N 0 42.2	16.7	60.2
	1	197 22.0	S 2 15.3	212 01.3	10.7	N 0 25.5	16.7	60.2
	2	212 22.2	S 2 16.3	226 31.1	10.8	N 0 08.9	16.7	60.1
	3	227 22.4	S 2 17.2	241 00.9	10.8	S 0 07.8	16.6	60.1
	4	242 22.6	S 2 18.2	255 30.7	10.8	S 0 24.4	16.6	60.1
W	5	257 22.8	S 2 19.2	270 00.5	10.8	S 0 41.1	16.6	60.1
E								
D	6	272 23.0	S 2 20.1	284 30.3	10.8	S 0 57.7	16.6	60.1
N	7	287 23.2	S 2 21.1	299 00.1	10.8	S 1 14.3	16.6	60.1
E	8	302 23.4	S 2 22.1	313 29.9	10.8	S 1 30.9	16.6	60.1
S	9	317 23.6	S 2 23.1	327 59.8	10.8	S 1 47.5	16.6	60.1
D	10	332 23.8	S 2 24.0	342 29.6	10.8	S 2 04.0	16.6	60.0
A	11	347 24.1	S 2 25.0	356 59.4	10.8	S 2 20.6	16.5	60.0
Y								
	12	2 24.3	S 2 26.0	11 29.3	10.8	S 2 37.1	16.5	60.0
	13	17 24.5	S 2 27.0	25 59.1	10.8	S 2 53.6	16.5	60.0
	14	32 24.7	S 2 27.9	40 29.0	10.9	S 3 10.0	16.5	60.0
	15	47 24.9	S 2 28.9	54 58.8	10.9	S 3 26.5	16.4	60.0
	16	62 25.1	S 2 29.9	69 28.7	10.9	S 3 42.9	16.4	59.9
	17	77 25.3	S 2 30.8	83 58.5	10.8	S 3 59.3	16.4	59.9
	18	92 25.5	S 2 31.8	98 28.4	10.8	S 4 15.6	16.4	59.9
	19	107 25.7	S 2 32.8	112 58.2	10.8	S 4 32.0	16.3	59.9
	20	122 25.9	S 2 33.8	127 28.1	10.8	S 4 48.2	16.3	59.9
	21	137 26.1	S 2 34.7	141 57.9	10.8	S 5 04.5	16.2	59.8
	22	152 26.3	S 2 35.7	156 27.7	10.8	S 5 20.7	16.2	59.8
	23	167 26.5	S 2 36.7	170 57.5	10.8	S 5 36.9	16.2	59.8
30	0	182 26.7	S 2 37.6	185 27.4	10.8	S 5 53.0	16.1	59.8
	1	197 26.9	S 2 38.6	199 57.2	10.8	S 6 09.1	16.1	59.8
	2	212 27.1	S 2 39.6	214 27.0	10.8	S 6 25.1	16.0	59.7
	3	227 27.4	S 2 40.6	228 56.7	10.8	S 6 41.1	16.0	59.7
	4	242 27.6	S 2 41.5	243 26.5	10.8	S 6 57.1	15.9	59.7
T	5	257 27.8	S 2 42.5	257 56.3	10.8	S 7 13.0	15.9	59.7
H								
U	6	272 28.0	S 2 43.5	272 26.0	10.7	S 7 28.8	15.8	59.7
R	7	287 28.2	S 2 44.4	286 55.8	10.7	S 7 44.6	15.8	59.6
S	8	302 28.4	S 2 45.4	301 25.5	10.7	S 8 00.3	15.7	59.6
D	9	317 28.6	S 2 46.4	315 55.2	10.7	S 8 16.0	15.7	59.6
A	10	332 28.8	S 2 47.4	330 24.9	10.7	S 8 31.6	15.6	59.6
Y	11	347 29.0	S 2 48.3	344 54.5	10.7	S 8 47.2	15.6	59.5
	12	2 29.2	S 2 49.3	359 24.2	10.6	S 9 02.7	15.5	59.5
	13	17 29.4	S 2 50.3	13 53.8	10.6	S 9 18.2	15.4	59.5
	14	32 29.6	S 2 51.2	28 23.4	10.6	S 9 33.5	15.4	59.5
	15	47 29.8	S 2 52.2	42 53.0	10.6	S 9 48.8	15.3	59.4
	16	62 30.0	S 2 53.2	57 22.6	10.6	S10 04.1	15.2	59.4
	17	77 30.2	S 2 54.2	71 52.1	10.5	S10 19.3	15.2	59.4
	18	92 30.4	S 2 55.1	86 21.6	10.5	S10 34.4	15.1	59.4
	19	107 30.6	S 2 56.1	100 51.1	10.5	S10 49.4	15.0	59.3
	20	122 30.8	S 2 57.1	115 20.6	10.5	S11 04.4	15.0	59.3
	21	137 31.0	S 2 58.0	129 50.0	10.4	S11 19.3	14.9	59.3
	22	152 31.2	S 2 59.0	144 19.5	10.4	S11 34.1	14.8	59.2
	23	167 31.4	S 2 60.0	158 48.9	10.4	S11 48.8	14.7	59.2
		S.D. 16.0	d 1.0	S.D.	16.4	16.3	16.2	

STARS Name	SHA	Dec
Acamar	315 09.7	S40 11.3
Achernar	335 18.0	S57 05.5
Acrux	172 58.3	S63 15.2
Adhara	255 04.1	S29 00.3
Albireo	67 02.2	N28 01.3
Aldebaran	290 36.9	N16 34.0
Alioth	166 11.5	N55 48.6
Alkaid	152 50.7	N49 10.6
Al Na-ir	27 29.7	S46 49.6
Alnilam	275 35.4	S 1 10.9
Alphard	217 45.7	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.7	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.4
Atria	107 05.8	S69 04.9
Avior	234 14.1	S59 35.6
Bellatrix	278 20.4	N 6 22.6
Betelgeuse	270 49.6	N 7 24.8
Canopus	263 51.4	S52 42.3
Capella	280 18.5	N46 01.4
Castor	245 54.3	N31 49.6
Deneb	49 24.0	N45 23.1
Denebola	182 23.0	N14 25.1
Diphda	348 44.8	S17 49.8
Dubhe	193 38.9	N61 35.9
Elnath	277 59.0	N28 37.8
Eltanin	90 41.2	N51 29.4
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.1
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.5
Hamal	327 48.4	N23 35.8
Kaus Austr.	83 29.6	S34 22.4
Kochab	137 21.0	N74 02.6
Markab	13 27.4	N15 21.5
Menkar	314 03.5	N 4 12.1
Menkent	147 55.4	S36 30.5
Miaplacidus	221 38.3	S69 49.6
Mirfak	308 24.7	N49 57.6
Nunki	75 45.0	S26 15.7
Peacock	53 01.9	S56 38.9
Polaris	315 19.2	N89 22.2
Pollux	243 14.7	N27 57.5
Procyon	244 48.6	N 5 09.3
Rasalhague	95 56.6	N12 32.6
Regulus	207 32.3	N11 49.9
Rigel	281 01.6	S 8 10.0
Rigil Kent	139 37.9	S60 57.1
Sabik	102 00.3	S15 45.5
Schedar	349 27.9	N56 41.5
Shaula	96 07.4	S37 07.5
Sirius	258 24.3	S16 45.0
Spica	158 20.3	S11 18.3
Suhail	222 44.9	S43 32.4
Vega	80 31.7	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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 30.4	169 40.8	S 7 24.3	142 38.7	S18 10.1	203 37.6	N 7 04.6	344 38.2	N 7 21.7
	1	24 32.9	184 40.4	S 7 25.5	157 39.4	S18 10.6	218 39.6	N 7 04.4	359 40.8	N 7 21.7
	2	39 35.4	199 40.0	S 7 26.7	172 40.1	S18 11.1	233 41.6	N 7 04.2	14 43.5	N 7 21.6
	3	54 37.8	214 39.6	S 7 28.0	187 40.8	S18 11.6	248 43.6	N 7 04.0	29 46.1	N 7 21.5
	4	69 40.3	229 39.1	S 7 29.2	202 41.5	S18 12.1	263 45.6	N 7 03.8	44 48.7	N 7 21.4
F	5	84 42.7	244 38.7	S 7 30.4	217 42.2	S18 12.6	278 47.5	N 7 03.6	59 51.4	N 7 21.4
R										
I	6	99 45.2	259 38.3	S 7 31.7	232 42.9	S18 13.0	293 49.5	N 7 03.4	74 54.0	N 7 21.3
D	7	114 47.7	274 37.9	S 7 32.9	247 43.7	S18 13.5	308 51.5	N 7 03.3	89 56.6	N 7 21.2
A	8	129 50.1	289 37.5	S 7 34.1	262 44.4	S18 14.0	323 53.5	N 7 03.1	104 59.3	N 7 21.2
Y	9	144 52.6	304 37.1	S 7 35.4	277 45.1	S18 14.5	338 55.5	N 7 02.9	120 01.9	N 7 21.1
	10	159 55.1	319 36.7	S 7 36.6	292 45.8	S18 15.0	353 57.4	N 7 02.7	135 04.6	N 7 21.0
	11	174 57.5	334 36.3	S 7 37.8	307 46.5	S18 15.5	8 59.4	N 7 02.5	150 07.2	N 7 21.0
	12	189 60.0	349 35.8	S 7 39.1	322 47.2	S18 16.0	24 01.4	N 7 02.3	165 09.8	N 7 20.9
	13	205 02.5	4 35.4	S 7 40.3	337 47.9	S18 16.5	39 03.4	N 7 02.1	180 12.5	N 7 20.8
	14	220 04.9	19 35.0	S 7 41.5	352 48.6	S18 17.0	54 05.4	N 7 01.9	195 15.1	N 7 20.7
	15	235 07.4	34 34.6	S 7 42.8	7 49.4	S18 17.5	69 07.3	N 7 01.7	210 17.7	N 7 20.7
	16	250 09.9	49 34.2	S 7 44.0	22 50.1	S18 18.0	84 09.3	N 7 01.5	225 20.4	N 7 20.6
	17	265 12.3	64 33.8	S 7 45.2	37 50.8	S18 18.5	99 11.3	N 7 01.3	240 23.0	N 7 20.5
	18	280 14.8	79 33.3	S 7 46.4	52 51.5	S18 19.0	114 13.3	N 7 01.1	255 25.6	N 7 20.5
	19	295 17.2	94 32.9	S 7 47.7	67 52.2	S18 19.4	129 15.3	N 7 00.9	270 28.3	N 7 20.4
	20	310 19.7	109 32.5	S 7 48.9	82 52.9	S18 19.9	144 17.2	N 7 00.7	285 30.9	N 7 20.3
	21	325 22.2	124 32.1	S 7 50.1	97 53.6	S18 20.4	159 19.2	N 7 00.5	300 33.6	N 7 20.2
	22	340 24.6	139 31.7	S 7 51.4	112 54.3	S18 20.9	174 21.2	N 7 00.3	315 36.2	N 7 20.2
	23	355 27.1	154 31.3	S 7 52.6	127 55.0	S18 21.4	189 23.2	N 7 00.1	330 38.8	N 7 20.1
2	0	10 29.6	169 30.8	S 7 53.8	142 55.7	S18 21.9	204 25.2	N 6 59.9	345 41.5	N 7 20.0
	1	25 32.0	184 30.4	S 7 55.1	157 56.5	S18 22.4	219 27.1	N 6 59.7	0 44.1	N 7 20.0
	2	40 34.5	199 30.0	S 7 56.3	172 57.2	S18 22.9	234 29.1	N 6 59.5	15 46.7	N 7 19.9
	3	55 37.0	214 29.6	S 7 57.5	187 57.9	S18 23.4	249 31.1	N 6 59.3	30 49.4	N 7 19.8
	4	70 39.4	229 29.2	S 7 58.7	202 58.6	S18 23.9	264 33.1	N 6 59.1	45 52.0	N 7 19.8
S	5	85 41.9	244 28.8	S 7 60.0	217 59.3	S18 24.3	279 35.1	N 6 58.9	60 54.6	N 7 19.7
A										
T	6	100 44.3	259 28.3	S 8 01.2	232 60.0	S18 24.8	294 37.1	N 6 58.7	75 57.3	N 7 19.6
U	7	115 46.8	274 27.9	S 8 02.4	248 00.7	S18 25.3	309 39.0	N 6 58.5	90 59.9	N 7 19.5
R	8	130 49.3	289 27.5	S 8 03.6	263 01.4	S18 25.8	324 41.0	N 6 58.4	106 02.6	N 7 19.5
D	9	145 51.7	304 27.1	S 8 04.9	278 02.1	S18 26.3	339 43.0	N 6 58.2	121 05.2	N 7 19.4
A	10	160 54.2	319 26.7	S 8 06.1	293 02.8	S18 26.8	354 45.0	N 6 58.0	136 07.8	N 7 19.3
Y	11	175 56.7	334 26.2	S 8 07.3	308 03.5	S18 27.3	9 47.0	N 6 57.8	151 10.5	N 7 19.3
	12	190 59.1	349 25.8	S 8 08.5	323 04.2	S18 27.8	24 48.9	N 6 57.6	166 13.1	N 7 19.2
	13	206 01.6	4 25.4	S 8 09.8	338 04.9	S18 28.2	39 50.9	N 6 57.4	181 15.7	N 7 19.1
	14	221 04.1	19 25.0	S 8 11.0	353 05.6	S18 28.7	54 52.9	N 6 57.2	196 18.4	N 7 19.0
	15	236 06.5	34 24.5	S 8 12.2	8 06.3	S18 29.2	69 54.9	N 6 57.0	211 21.0	N 7 19.0
	16	251 09.0	49 24.1	S 8 13.4	23 07.0	S18 29.7	84 56.9	N 6 56.8	226 23.7	N 7 18.9
	17	266 11.5	64 23.7	S 8 14.7	38 07.7	S18 30.2	99 58.9	N 6 56.6	241 26.3	N 7 18.8
	18	281 13.9	79 23.3	S 8 15.9	53 08.4	S18 30.7	115 00.8	N 6 56.4	256 28.9	N 7 18.8
	19	296 16.4	94 22.9	S 8 17.1	68 09.2	S18 31.2	130 02.8	N 6 56.2	271 31.6	N 7 18.7
	20	311 18.8	109 22.4	S 8 18.3	83 09.9	S18 31.6	145 04.8	N 6 56.0	286 34.2	N 7 18.6
	21	326 21.3	124 22.0	S 8 19.6	98 10.6	S18 32.1	160 06.8	N 6 55.8	301 36.8	N 7 18.6
	22	341 23.8	139 21.6	S 8 20.8	113 11.3	S18 32.6	175 08.8	N 6 55.6	316 39.5	N 7 18.5
	23	356 26.2	154 21.2	S 8 22.0	128 12.0	S18 33.1	190 10.8	N 6 55.4	331 42.1	N 7 18.4
3	0	11 28.7	169 20.7	S 8 23.2	143 12.7	S18 33.6	205 12.7	N 6 55.2	346 44.8	N 7 18.3
	1	26 31.2	184 20.3	S 8 24.4	158 13.4	S18 34.1	220 14.7	N 6 55.0	1 47.4	N 7 18.3
	2	41 33.6	199 19.9	S 8 25.7	173 14.1	S18 34.5	235 16.7	N 6 54.8	16 50.0	N 7 18.2
	3	56 36.1	214 19.5	S 8 26.9	188 14.8	S18 35.0	250 18.7	N 6 54.6	31 52.7	N 7 18.1
	4	71 38.6	229 19.0	S 8 28.1	203 15.5	S18 35.5	265 20.7	N 6 54.4	46 55.3	N 7 18.1
S	5	86 41.0	244 18.6	S 8 29.3	218 16.2	S18 36.0	280 22.6	N 6 54.2	61 58.0	N 7 18.0
U										
N	6	101 43.5	259 18.2	S 8 30.5	233 16.9	S18 36.5	295 24.6	N 6 54.1	77 00.6	N 7 17.9
D	7	116 46.0	274 17.8	S 8 31.8	248 17.6	S18 37.0	310 26.6	N 6 53.9	92 03.2	N 7 17.8
A	8	131 48.4	289 17.3	S 8 33.0	263 18.3	S18 37.4	325 28.6	N 6 53.7	107 05.9	N 7 17.8
Y	9	146 50.9	304 16.9	S 8 34.2	278 19.0	S18 37.9	340 30.6	N 6 53.5	122 08.5	N 7 17.7
	10	161 53.3	319 16.5	S 8 35.4	293 19.7	S18 38.4	355 32.6	N 6 53.3	137 11.2	N 7 17.6
	11	176 55.8	334 16.1	S 8 36.6	308 20.4	S18 38.9	10 34.5	N 6 53.1	152 13.8	N 7 17.6
	12	191 58.3	349 15.6	S 8 37.9	323 21.1	S18 39.4	25 36.5	N 6 52.9	167 16.4	N 7 17.5
	13	207 00.7	4 15.2	S 8 39.1	338 21.8	S18 39.8	40 38.5	N 6 52.7	182 19.1	N 7 17.4
	14	222 03.2	19 14.8	S 8 40.3	353 22.4	S18 40.3	55 40.5	N 6 52.5	197 21.7	N 7 17.3
	15	237 05.7	34 14.3	S 8 41.5	8 23.1	S18 40.8	70 42.5	N 6 52.3	212 24.3	N 7 17.3
	16	252 08.1	49 13.9	S 8 42.7	23 23.8	S18 41.3	85 44.5	N 6 52.1	227 27.0	N 7 17.2
	17	267 10.6	64 13.5	S 8 43.9	38 24.5	S18 41.8	100 46.4	N 6 51.9	242 29.6	N 7 17.1
	18	282 13.1	79 13.1	S 8 45.2	53 25.2	S18 42.2	115 48.4	N 6 51.7	257 32.3	N 7 17.1
	19	297 15.5	94 12.6	S 8 46.4	68 25.9	S18 42.7	130 50.4	N 6 51.5	272 34.9	N 7 17.0
	20	312 18.0	109 12.2	S 8 47.6	83 26.6	S18 43.2	145 52.4	N 6 51.3	287 37.5	N 7 16.9
	21	327 20.4	124 11.8	S 8 48.8	98 27.3	S18 43.7	160 54.4	N 6 51.1	302 40.2	N 7 16.8
	22	342 22.9	139 11.3	S 8 50.0	113 28.0	S18 44.2	175 56.4	N 6 50.9	317 42.8	N 7 16.8
	23	357 25.4	154 10.9	S 8 51.2	128 28.7	S18 44.6	190 58.4	N 6 50.7	332 45.5	N 7 16.7
			v -0.4	d 1.2	v 0.7	d 0.5	v 2.0	d 0.2	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	182 31.6	S 3 00.9	173 18.2	10.4	S12 03.5	14.7	59.2
	1	197 31.8	S 3 01.9	187 47.6	10.3	S12 18.1	14.6	59.2
	2	212 32.0	S 3 02.9	202 16.9	10.3	S12 32.6	14.5	59.1
	3	227 32.2	S 3 03.9	216 46.2	10.3	S12 47.0	14.4	59.1
	4	242 32.4	S 3 04.8	231 15.4	10.3	S13 01.3	14.3	59.1
F	5	257 32.7	S 3 05.8	245 44.6	10.2	S13 15.5	14.2	59.0
R								
I	6	272 32.9	S 3 06.8	260 13.8	10.2	S13 29.7	14.2	59.0
D	7	287 33.1	S 3 07.7	274 43.0	10.2	S13 43.8	14.1	59.0
A	8	302 33.3	S 3 08.7	289 12.1	10.1	S13 57.8	14.0	58.9
Y	9	317 33.5	S 3 09.7	303 41.2	10.1	S14 11.6	13.9	58.9
	10	332 33.7	S 3 10.6	318 10.3	10.1	S14 25.4	13.8	58.9
	11	347 33.9	S 3 11.6	332 39.4	10.0	S14 39.1	13.7	58.9
	12	2 34.1	S 3 12.6	347 08.4	10.0	S14 52.7	13.6	58.8
	13	17 34.3	S 3 13.6	1 37.3	10.0	S15 06.3	13.5	58.8
	14	32 34.5	S 3 14.5	16 06.3	9.9	S15 19.7	13.4	58.8
	15	47 34.7	S 3 15.5	30 35.2	9.9	S15 33.0	13.3	58.7
	16	62 34.9	S 3 16.5	45 04.0	9.9	S15 46.2	13.2	58.7
	17	77 35.1	S 3 17.4	59 32.9	9.8	S15 59.3	13.1	58.7
	18	92 35.3	S 3 18.4	74 01.7	9.8	S16 12.3	13.0	58.6
	19	107 35.5	S 3 19.4	88 30.5	9.8	S16 25.2	12.9	58.6
	20	122 35.7	S 3 20.3	102 59.2	9.7	S16 38.0	12.8	58.6
	21	137 35.9	S 3 21.3	117 27.9	9.7	S16 50.7	12.7	58.5
	22	152 36.1	S 3 22.3	131 56.5	9.7	S17 03.3	12.6	58.5
	23	167 36.3	S 3 23.2	146 25.2	9.6	S17 15.8	12.5	58.5
2	0	182 36.5	S 3 24.2	160 53.7	9.6	S17 28.2	12.4	58.4
	1	197 36.7	S 3 25.2	175 22.3	9.6	S17 40.4	12.3	58.4
	2	212 36.9	S 3 26.2	189 50.8	9.5	S17 52.6	12.1	58.4
	3	227 37.1	S 3 27.1	204 19.3	9.5	S18 04.6	12.0	58.3
	4	242 37.3	S 3 28.1	218 47.7	9.4	S18 16.5	11.9	58.3
S	5	257 37.5	S 3 29.1	233 16.2	9.4	S18 28.3	11.8	58.3
A								
T	6	272 37.7	S 3 30.0	247 44.5	9.4	S18 40.0	11.7	58.2
U	7	287 37.9	S 3 31.0	262 12.9	9.3	S18 51.6	11.6	58.2
R	8	302 38.1	S 3 32.0	276 41.2	9.3	S19 03.1	11.5	58.2
D	9	317 38.3	S 3 32.9	291 09.4	9.3	S19 14.4	11.3	58.1
A	10	332 38.5	S 3 33.9	305 37.7	9.2	S19 25.6	11.2	58.1
Y	11	347 38.7	S 3 34.9	320 05.8	9.2	S19 36.7	11.1	58.1
	12	2 38.9	S 3 35.8	334 34.0	9.2	S19 47.7	11.0	58.0
	13	17 39.1	S 3 36.8	349 02.1	9.1	S19 58.5	10.8	58.0
	14	32 39.3	S 3 37.8	3 30.2	9.1	S20 09.2	10.7	58.0
	15	47 39.5	S 3 38.7	17 58.3	9.1	S20 19.8	10.6	57.9
	16	62 39.7	S 3 39.7	32 26.3	9.0	S20 30.3	10.5	57.9
	17	77 39.9	S 3 40.7	46 54.3	9.0	S20 40.7	10.3	57.9
	18	92 40.0	S 3 41.6	61 22.2	9.0	S20 50.9	10.2	57.8
	19	107 40.2	S 3 42.6	75 50.1	8.9	S21 01.0	10.1	57.8
	20	122 40.4	S 3 43.6	90 18.0	8.9	S21 10.9	10.0	57.8
	21	137 40.6	S 3 44.5	104 45.9	8.9	S21 20.7	9.8	57.7
	22	152 40.8	S 3 45.5	119 13.7	8.8	S21 30.4	9.7	57.7
	23	167 41.0	S 3 46.5	133 41.5	8.8	S21 40.0	9.6	57.6
3	0	182 41.2	S 3 47.4	148 09.2	8.8	S21 49.4	9.4	57.6
	1	197 41.4	S 3 48.4	162 37.0	8.7	S21 58.7	9.3	57.6
	2	212 41.6	S 3 49.4	177 04.6	8.7	S22 07.9	9.2	57.5
	3	227 41.8	S 3 50.4	191 32.3	8.7	S22 16.9	9.0	57.5
	4	242 42.0	S 3 51.3	205 59.9	8.6	S22 25.8	8.9	57.5
S	5	257 42.2	S 3 52.3	220 27.6	8.6	S22 34.6	8.8	57.4
U								
N	6	272 42.4	S 3 53.3	234 55.1	8.6	S22 43.2	8.6	57.4
D	7	287 42.6	S 3 54.2	249 22.7	8.6	S22 51.7	8.5	57.4
A	8	302 42.8	S 3 55.2	263 50.2	8.5	S23 00.0	8.3	57.3
Y	9	317 43.0	S 3 56.2	278 17.7	8.5	S23 08.2	8.2	57.3
	10	332 43.2	S 3 57.1	292 45.2	8.5	S23 16.3	8.1	57.3
	11	347 43.4	S 3 58.1	307 12.6	8.4	S23 24.2	7.9	57.2
	12	2 43.6	S 3 59.0	321 40.0	8.4	S23 32.0	7.8	57.2
	13	17 43.8	S 4 00.0	336 07.4	8.4	S23 39.7	7.6	57.2
	14	32 44.0	S 4 01.0	350 34.8	8.4	S23 47.2	7.5	57.1
	15	47 44.2	S 4 01.9	5 02.2	8.4	S23 54.5	7.4	57.1
	16	62 44.4	S 4 02.9	19 29.5	8.3	S24 01.7	7.2	57.0
	17	77 44.6	S 4 03.9	33 56.8	8.3	S24 08.8	7.1	57.0
	18	92 44.8	S 4 04.8	48 24.1	8.3	S24 15.8	6.9	57.0
	19	107 44.9	S 4 05.8	62 51.4	8.3	S24 22.5	6.8	56.9
	20	122 45.1	S 4 06.8	77 18.7	8.3	S24 29.2	6.6	56.9
	21	137 45.3	S 4 07.7	91 45.9	8.2	S24 35.7	6.5	56.9
	22	152 45.5	S 4 08.7	106 13.2	8.2	S24 42.0	6.4	56.8
	23	167 45.7	S 4 09.7	120 40.4	8.2	S24 48.2	6.2	56.8
		S.D. 16.0	d 1.0	S.D.	16.0	15.8	15.6	

Name	SHA	Dec
Acamar	315 09.7	S40 11.3
Achernar	335 18.0	S57 05.5
Acrux	172 58.3	S63 15.1
Adhara	255 04.1	S29 00.3
Albireo	67 02.2	N28 01.3
Aldebaran	290 36.9	N16 34.0
Alioth	166 11.5	N55 48.6
Alkaid	152 50.7	N49 10.6
Al Na-ir	27 29.7	S46 49.6
Alnilam	275 35.3	S 1 10.9
Alphard	217 45.7	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.7	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.4
Atria	107 05.8	S69 04.9
Avior	234 14.1	S59 35.6
Bellatrix	278 20.4	N 6 22.6
Betelgeuse	270 49.6	N 7 24.8
Canopus	263 51.3	S52 42.3
Capella	280 18.4	N46 01.4
Castor	245 54.3	N31 49.6
Deneb	49 24.0	N45 23.1
Denebola	182 23.0	N14 25.0
Diphda	348 44.8	S17 49.8
Dubhe	193 38.9	N61 35.9
Elnath	277 59.0	N28 37.8
Eltanin	90 41.3	N51 29.4
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.1
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.5
Hamal	327 48.4	N23 35.8
Kaus Austr.	83 29.6	S34 22.4
Kochab	137 21.0	N74 02.6
Markab	13 27.4	N15 21.5
Menkar	314 03.5	N 4 12.1
Menkent	147 55.4	S36 30.5
Miaplacidus	221 38.3	S69 49.6
Mirfak	308 24.7	N49 57.6
Nunki	75 45.0	S26 15.7
Peacock	53 01.9	S56 38.9
Polaris	315 18.4	N89 22.2
Pollux	243 14.7	N27 57.5
Procyon	244 48.6	N 5 09.3
Rasalhague	95 56.6	N12 32.6
Regulus	207 32.3	N11 49.9
Rigel	281 01.6	S 8 10.0
Rigil Kent	139 37.9	S60 57.1
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.5
Shaula	96 07.4	S37 07.5
Sirius	258 24.3	S16 45.0
Spica	158 20.3	S11 18.3
Suhail	222 44.9	S43 32.4
Vega	80 31.7	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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 27.8	169 10.5	S 8 52.4	143 29.4	S18 45.1	206 00.3	N 6 50.5	347 48.1	N 7 16.6
1	27 30.3	184 10.0	S 8 53.7	158 30.1	S18 45.6	221 02.3	N 6 50.4	2 50.7	N 7 16.6
2	42 32.8	199 09.6	S 8 54.9	173 30.8	S18 46.1	236 04.3	N 6 50.2	17 53.4	N 7 16.5
3	57 35.2	214 09.2	S 8 56.1	188 31.5	S18 46.5	251 06.3	N 6 50.0	32 56.0	N 7 16.4
4	72 37.7	229 08.7	S 8 57.3	203 32.2	S18 47.0	266 08.3	N 6 49.8	47 58.7	N 7 16.3
M 5	87 40.2	244 08.3	S 8 58.5	218 32.9	S18 47.5	281 10.3	N 6 49.6	63 01.3	N 7 16.3
O									
N 6	102 42.6	259 07.9	S 8 59.7	233 33.6	S18 48.0	296 12.2	N 6 49.4	78 03.9	N 7 16.2
D 7	117 45.1	274 07.4	S 9 00.9	248 34.3	S18 48.5	311 14.2	N 6 49.2	93 06.6	N 7 16.1
A 8	132 47.6	289 07.0	S 9 02.1	263 34.9	S18 48.9	326 16.2	N 6 49.0	108 09.2	N 7 16.1
Y 9	147 50.0	304 06.6	S 9 03.4	278 35.6	S18 49.4	341 18.2	N 6 48.8	123 11.9	N 7 16.0
10	162 52.5	319 06.1	S 9 04.6	293 36.3	S18 49.9	356 20.2	N 6 48.6	138 14.5	N 7 15.9
11	177 54.9	334 05.7	S 9 05.8	308 37.0	S18 50.4	11 22.2	N 6 48.4	153 17.1	N 7 15.8
12	192 57.4	349 05.3	S 9 07.0	323 37.7	S18 50.8	26 24.2	N 6 48.2	168 19.8	N 7 15.8
13	207 59.9	4 04.8	S 9 08.2	338 38.4	S18 51.3	41 26.1	N 6 48.0	183 22.4	N 7 15.7
14	223 02.3	19 04.4	S 9 09.4	353 39.1	S18 51.8	56 28.1	N 6 47.8	198 25.1	N 7 15.6
15	238 04.8	34 04.0	S 9 10.6	8 39.8	S18 52.3	71 30.1	N 6 47.6	213 27.7	N 7 15.6
16	253 07.3	49 03.5	S 9 11.8	23 40.5	S18 52.7	86 32.1	N 6 47.4	228 30.3	N 7 15.5
17	268 09.7	64 03.1	S 9 13.0	38 41.2	S18 53.2	101 34.1	N 6 47.2	243 33.0	N 7 15.4
18	283 12.2	79 02.6	S 9 14.2	53 41.8	S18 53.7	116 36.1	N 6 47.0	258 35.6	N 7 15.3
19	298 14.7	94 02.2	S 9 15.4	68 42.5	S18 54.2	131 38.1	N 6 46.9	273 38.3	N 7 15.3
20	313 17.1	109 01.8	S 9 16.6	83 43.2	S18 54.6	146 40.0	N 6 46.7	288 40.9	N 7 15.2
21	328 19.6	124 01.3	S 9 17.9	98 43.9	S18 55.1	161 42.0	N 6 46.5	303 43.6	N 7 15.1
22	343 22.1	139 00.9	S 9 19.1	113 44.6	S18 55.6	176 44.0	N 6 46.3	318 46.2	N 7 15.1
23	358 24.5	154 00.5	S 9 20.3	128 45.3	S18 56.0	191 46.0	N 6 46.1	333 48.8	N 7 15.0
5 0	13 27.0	169 00.0	S 9 21.5	143 46.0	S18 56.5	206 48.0	N 6 45.9	348 51.5	N 7 14.9
1	28 29.4	183 59.6	S 9 22.7	158 46.7	S18 57.0	221 50.0	N 6 45.7	3 54.1	N 7 14.8
2	43 31.9	198 59.1	S 9 23.9	173 47.3	S18 57.5	236 52.0	N 6 45.5	18 56.8	N 7 14.8
3	58 34.4	213 58.7	S 9 25.1	188 48.0	S18 57.9	251 53.9	N 6 45.3	33 59.4	N 7 14.7
4	73 36.8	228 58.3	S 9 26.3	203 48.7	S18 58.4	266 55.9	N 6 45.1	49 02.0	N 7 14.6
T 5	88 39.3	243 57.8	S 9 27.5	218 49.4	S18 58.9	281 57.9	N 6 44.9	64 04.7	N 7 14.6
U									
E 6	103 41.8	258 57.4	S 9 28.7	233 50.1	S18 59.3	296 59.9	N 6 44.7	79 07.3	N 7 14.5
S 7	118 44.2	273 56.9	S 9 29.9	248 50.8	S18 59.8	312 01.9	N 6 44.5	94 10.0	N 7 14.4
D 8	133 46.7	288 56.5	S 9 31.1	263 51.5	S19 00.3	327 03.9	N 6 44.3	109 12.6	N 7 14.3
A 9	148 49.2	303 56.1	S 9 32.3	278 52.1	S19 00.8	342 05.9	N 6 44.1	124 15.3	N 7 14.3
Y 10	163 51.6	318 55.6	S 9 33.5	293 52.8	S19 01.2	357 07.9	N 6 43.9	139 17.9	N 7 14.2
11	178 54.1	333 55.2	S 9 34.7	308 53.5	S19 01.7	12 09.8	N 6 43.7	154 20.5	N 7 14.1
12	193 56.5	348 54.7	S 9 35.9	323 54.2	S19 02.2	27 11.8	N 6 43.6	169 23.2	N 7 14.1
13	208 59.0	3 54.3	S 9 37.1	338 54.9	S19 02.6	42 13.8	N 6 43.4	184 25.8	N 7 14.0
14	224 01.5	18 53.8	S 9 38.3	353 55.6	S19 03.1	57 15.8	N 6 43.2	199 28.5	N 7 13.9
15	239 03.9	33 53.4	S 9 39.5	8 56.2	S19 03.6	72 17.8	N 6 43.0	214 31.1	N 7 13.8
16	254 06.4	48 52.9	S 9 40.7	23 56.9	S19 04.0	87 19.8	N 6 42.8	229 33.7	N 7 13.8
17	269 08.9	63 52.5	S 9 41.9	38 57.6	S19 04.5	102 21.8	N 6 42.6	244 36.4	N 7 13.7
18	284 11.3	78 52.1	S 9 43.1	53 58.3	S19 05.0	117 23.8	N 6 42.4	259 39.0	N 7 13.6
19	299 13.8	93 51.6	S 9 44.3	68 59.0	S19 05.4	132 25.7	N 6 42.2	274 41.7	N 7 13.6
20	314 16.3	108 51.2	S 9 45.5	83 59.6	S19 05.9	147 27.7	N 6 42.0	289 44.3	N 7 13.5
21	329 18.7	123 50.7	S 9 46.7	99 00.3	S19 06.4	162 29.7	N 6 41.8	304 47.0	N 7 13.4
22	344 21.2	138 50.3	S 9 47.9	114 01.0	S19 06.8	177 31.7	N 6 41.6	319 49.6	N 7 13.3
23	359 23.7	153 49.8	S 9 49.1	129 01.7	S19 07.3	192 33.7	N 6 41.4	334 52.2	N 7 13.3
6 0	14 26.1	168 49.4	S 9 50.3	144 02.4	S19 07.8	207 35.7	N 6 41.2	349 54.9	N 7 13.2
1	29 28.6	183 48.9	S 9 51.5	159 03.0	S19 08.2	222 37.7	N 6 41.0	4 57.5	N 7 13.1
2	44 31.0	198 48.5	S 9 52.7	174 03.7	S19 08.7	237 39.7	N 6 40.8	20 00.2	N 7 13.1
3	59 33.5	213 48.0	S 9 53.9	189 04.4	S19 09.2	252 41.6	N 6 40.7	35 02.8	N 7 13.0
4	74 36.0	228 47.6	S 9 55.1	204 05.1	S19 09.6	267 43.6	N 6 40.5	50 05.5	N 7 12.9
W 5	89 38.4	243 47.1	S 9 56.3	219 05.8	S19 10.1	282 45.6	N 6 40.3	65 08.1	N 7 12.8
E									
D 6	104 40.9	258 46.7	S 9 57.5	234 06.4	S19 10.6	297 47.6	N 6 40.1	80 10.7	N 7 12.8
N 7	119 43.4	273 46.2	S 9 58.6	249 07.1	S19 11.0	312 49.6	N 6 39.9	95 13.4	N 7 12.7
E 8	134 45.8	288 45.8	S 9 59.8	264 07.8	S19 11.5	327 51.6	N 6 39.7	110 16.0	N 7 12.6
S 9	149 48.3	303 45.3	S10 01.0	279 08.5	S19 12.0	342 53.6	N 6 39.5	125 18.7	N 7 12.5
D 10	164 50.8	318 44.9	S10 02.2	294 09.1	S19 12.4	357 55.6	N 6 39.3	140 21.3	N 7 12.5
A 11	179 53.2	333 44.4	S10 03.4	309 09.8	S19 12.9	12 57.6	N 6 39.1	155 24.0	N 7 12.4
Y									
12	194 55.7	348 44.0	S10 04.6	324 10.5	S19 13.4	27 59.5	N 6 38.9	170 26.6	N 7 12.3
13	209 58.2	3 43.5	S10 05.8	339 11.2	S19 13.8	43 01.5	N 6 38.7	185 29.2	N 7 12.3
14	225 00.6	18 43.1	S10 07.0	354 11.8	S19 14.3	58 03.5	N 6 38.5	200 31.9	N 7 12.2
15	240 03.1	33 42.6	S10 08.2	9 12.5	S19 14.7	73 05.5	N 6 38.3	215 34.5	N 7 12.1
16	255 05.5	48 42.2	S10 09.4	24 13.2	S19 15.2	88 07.5	N 6 38.1	230 37.2	N 7 12.0
17	270 08.0	63 41.7	S10 10.6	39 13.9	S19 15.7	103 09.5	N 6 37.9	245 39.8	N 7 12.0
18	285 10.5	78 41.3	S10 11.8	54 14.5	S19 16.1	118 11.5	N 6 37.8	260 42.5	N 7 11.9
19	300 12.9	93 40.8	S10 12.9	69 15.2	S19 16.6	133 13.5	N 6 37.6	275 45.1	N 7 11.8
20	315 15.4	108 40.4	S10 14.1	84 15.9	S19 17.1	148 15.5	N 6 37.4	290 47.7	N 7 11.8
21	330 17.9	123 39.9	S10 15.3	99 16.6	S19 17.5	163 17.4	N 6 37.2	305 50.4	N 7 11.7
22	345 20.3	138 39.5	S10 16.5	114 17.2	S19 18.0	178 19.4	N 6 37.0	320 53.0	N 7 11.6
23	0 22.8	153 39.0	S10 17.7	129 17.9	S19 18.4	193 21.4	N 6 36.8	335 55.7	N 7 11.5
		v -0.4	d 1.2	v 0.7	d 0.5	v 2.0	d 0.2	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
4 0	182 45.9	S 4 10.6	135 07.6	8.2	S24 54.3	6.1	56.8	Acamar	315 09.7 S40 11.3
1	197 46.1	S 4 11.6	149 34.8	8.2	S25 00.2	5.9	56.7	Achernar	335 18.0 S57 05.5
2	212 46.3	S 4 12.6	164 02.0	8.2	S25 06.0	5.8	56.7	Acrux	172 58.3 S63 15.1
3	227 46.5	S 4 13.5	178 29.1	8.2	S25 11.6	5.6	56.7	Adhara	255 04.1 S29 00.3
4	242 46.7	S 4 14.5	192 56.3	8.2	S25 17.1	5.5	56.6	Albireo	67 02.2 N28 01.3
M 5	257 46.9	S 4 15.5	207 23.5	8.2	S25 22.4	5.3	56.6		
O								Aldebaran	290 36.9 N16 34.0
N 6	272 47.1	S 4 16.4	221 50.6	8.1	S25 27.6	5.2	56.6	Alioth	166 11.5 N55 48.6
D 7	287 47.3	S 4 17.4	236 17.7	8.1	S25 32.6	5.0	56.5	Alkaid	152 50.7 N49 10.5
A 8	302 47.5	S 4 18.4	250 44.9	8.1	S25 37.5	4.9	56.5	Al Na-ir	27 29.7 S46 49.6
Y 9	317 47.6	S 4 19.3	265 12.0	8.1	S25 42.3	4.7	56.5	Alnilam	275 35.3 S 1 10.9
10	332 47.8	S 4 20.3	279 39.2	8.1	S25 46.9	4.6	56.4		
11	347 48.0	S 4 21.2	294 06.3	8.1	S25 51.3	4.4	56.4	Alphard	217 45.7 S 8 46.6
								Alphecca	126 02.1 N26 37.4
12	2 48.2	S 4 22.2	308 33.4	8.1	S25 55.6	4.3	56.4	Alpheratz	357 32.1 N29 14.9
13	17 48.4	S 4 23.2	323 00.5	8.1	S25 59.7	4.1	56.3	Altair	61 57.7 N 8 56.7
14	32 48.6	S 4 24.1	337 27.7	8.1	S26 03.7	4.0	56.3	Ankaa	353 04.5 S42 09.2
15	47 48.8	S 4 25.1	351 54.8	8.1	S26 07.6	3.9	56.3		
16	62 49.0	S 4 26.1	6 22.0	8.1	S26 11.3	3.7	56.2	Antares	112 13.3 S26 29.6
17	77 49.2	S 4 27.0	20 49.1	8.2	S26 14.8	3.6	56.2	Arcturus	145 46.2 N19 02.4
								Atria	107 05.8 S69 04.9
18	92 49.4	S 4 28.0	35 16.3	8.2	S26 18.2	3.4	56.2	Avior	234 14.0 S59 35.6
19	107 49.6	S 4 29.0	49 43.4	8.2	S26 21.5	3.3	56.2	Bellatrix	278 20.4 N 6 22.6
20	122 49.8	S 4 29.9	64 10.6	8.2	S26 24.6	3.1	56.1		
21	137 49.9	S 4 30.9	78 37.8	8.2	S26 27.6	3.0	56.1	Betelgeuse	270 49.6 N 7 24.8
22	152 50.1	S 4 31.8	93 05.0	8.2	S26 30.4	2.8	56.1	Canopus	263 51.3 S52 42.3
23	167 50.3	S 4 32.8	107 32.2	8.2	S26 33.1	2.7	56.0	Capella	280 18.4 N46 01.5
5 0	182 50.5	S 4 33.8	121 59.4	8.2	S26 35.6	2.5	56.0	Castor	245 54.3 N31 49.6
1	197 50.7	S 4 34.7	136 26.7	8.2	S26 37.9	2.4	56.0	Deneb	49 24.1 N45 23.1
2	212 50.9	S 4 35.7	150 53.9	8.3	S26 40.2	2.2	55.9		
3	227 51.1	S 4 36.7	165 21.2	8.3	S26 42.2	2.1	55.9	Denebola	182 23.0 N14 25.0
4	242 51.3	S 4 37.6	179 48.5	8.3	S26 44.2	1.9	55.9	Diphda	348 44.7 S17 49.8
T 5	257 51.5	S 4 38.6	194 15.8	8.3	S26 45.9	1.8	55.8	Dubhe	193 38.9 N61 35.9
U								Elnath	277 58.9 N28 37.8
E 6	272 51.7	S 4 39.5	208 43.2	8.3	S26 47.6	1.6	55.8	Eltanin	90 41.3 N51 29.4
S 7	287 51.8	S 4 40.5	223 10.5	8.4	S26 49.1	1.5	55.8	Enif	33 36.3 N10 00.4
D 8	302 52.0	S 4 41.5	237 37.9	8.4	S26 50.4	1.3	55.8	Fomalhaut	15 11.7 S29 28.4
A 9	317 52.2	S 4 42.4	252 05.3	8.4	S26 51.6	1.2	55.7	Gacrux	171 49.7 S57 16.1
Y 10	332 52.4	S 4 43.4	266 32.8	8.4	S26 52.7	1.1	55.7	Gienah	175 41.6 S17 41.7
11	347 52.6	S 4 44.4	281 00.2	8.5	S26 53.6	0.9	55.7	Hadar	148 33.5 S60 30.5
12	2 52.8	S 4 45.3	295 27.7	8.5	S26 54.3	0.8	55.6	Hamal	327 48.4 N23 35.8
13	17 53.0	S 4 46.3	309 55.2	8.5	S26 54.9	0.6	55.6	Kaus Austr.	83 29.6 S34 22.4
14	32 53.2	S 4 47.2	324 22.8	8.6	S26 55.4	0.5	55.6	Kochab	137 21.1 N74 02.6
15	47 53.3	S 4 48.2	338 50.4	8.6	S26 55.8	0.3	55.6	Markab	13 27.4 N15 21.5
16	62 53.5	S 4 49.2	353 18.0	8.6	S26 55.9	0.2	55.5	Menkar	314 03.5 N 4 12.1
17	77 53.7	S 4 50.1	7 45.7	8.7	S26 56.0	0.0	55.5		
								Menkent	147 55.4 S36 30.5
18	92 53.9	S 4 51.1	22 13.4	8.7	S26 55.9	0.1	55.5	Miaplacidus	221 38.2 S69 49.6
19	107 54.1	S 4 52.0	36 41.1	8.7	S26 55.6	0.2	55.5	Mirfak	308 24.7 N49 57.6
20	122 54.3	S 4 53.0	51 08.9	8.8	S26 55.3	0.4	55.4	Nunki	75 45.0 S26 15.7
21	137 54.5	S 4 54.0	65 36.7	8.8	S26 54.7	0.5	55.4	Peacock	53 01.9 S56 38.9
22	152 54.7	S 4 54.9	80 04.5	8.8	S26 54.1	0.7	55.4		
23	167 54.8	S 4 55.9	94 32.4	8.9	S26 53.3	0.8	55.4	Polaris	315 17.6 N89 22.2
6 0	182 55.0	S 4 56.9	109 00.3	8.9	S26 52.3	0.9	55.3	Pollux	243 14.6 N27 57.5
1	197 55.2	S 4 57.8	123 28.3	9.0	S26 51.3	1.1	55.3	Procyon	244 48.5 N 5 09.3
2	212 55.4	S 4 58.8	137 56.3	9.0	S26 50.0	1.2	55.3	Rasalhague	95 56.6 N12 32.6
3	227 55.6	S 4 59.7	152 24.4	9.1	S26 48.7	1.4	55.3	Regulus	207 32.3 N11 49.9
4	242 55.8	S 5 00.7	166 52.5	9.1	S26 47.2	1.5	55.2		
W 5	257 56.0	S 5 01.7	181 20.6	9.2	S26 45.6	1.6	55.2	Rigel	281 01.6 S 8 10.0
E								Rigil Kent	139 37.9 S60 57.1
D 6	272 56.1	S 5 02.6	195 48.9	9.2	S26 43.8	1.8	55.2	Sabik	102 00.4 S15 45.5
N 7	287 56.3	S 5 03.6	210 17.1	9.3	S26 41.9	1.9	55.2	Schedar	349 27.9 N56 41.5
E 8	302 56.5	S 5 04.5	224 45.4	9.3	S26 39.8	2.0	55.1	Shaula	96 07.5 S37 07.5
S 9	317 56.7	S 5 05.5	239 13.8	9.4	S26 37.7	2.2	55.1	Sirius	258 24.3 S16 45.0
D 10	332 56.9	S 5 06.4	253 42.2	9.4	S26 35.4	2.3	55.1	Spica	158 20.3 S11 18.3
A 11	347 57.1	S 5 07.4	268 10.6	9.5	S26 32.9	2.4	55.1	Suhail	222 44.9 S43 32.4
Y								Vega	80 31.7 N38 48.8
12	2 57.3	S 5 08.4	282 39.1	9.5	S26 30.4	2.6	55.0	Zuben-ubi	136 54.7 S16 09.4
13	17 57.4	S 5 09.3	297 07.7	9.6	S26 27.7	2.7	55.0		
14	32 57.6	S 5 10.3	311 36.3	9.6	S26 24.8	2.8	55.0		
15	47 57.8	S 5 11.2	326 05.0	9.7	S26 21.9	3.0	55.0		
16	62 58.0	S 5 12.2	340 33.7	9.7	S26 18.8	3.1	55.0		
17	77 58.2	S 5 13.2	355 02.5	9.8	S26 15.6	3.2	54.9		
18	92 58.4	S 5 14.1	9 31.4	9.8	S26 12.2	3.3	54.9		
19	107 58.5	S 5 15.1	24 00.3	9.9	S26 08.7	3.5	54.9		
20	122 58.7	S 5 16.0	38 29.2	10.0	S26 05.1	3.6	54.9		
21	137 58.9	S 5 17.0	52 58.3	10.0	S26 01.4	3.7	54.9		
22	152 59.1	S 5 18.0	67 27.4	10.1	S25 57.5	3.9	54.8		
23	167 59.3	S 5 18.9	81 56.5	10.1	S25 53.6	4.0	54.8		
	S.D. 16.0	d 1.0	S.D.	15.4	15.2	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 ° '
7	0	15 25.3	168 38.6	S10 18.9	144 18.6	S19 18.9	208 23.4	N 6 36.6	350 58.3	N 7 11.5
	1	30 27.7	183 38.1	S10 20.1	159 19.3	S19 19.4	223 25.4	N 6 36.4	6 01.0	N 7 11.4
	2	45 30.2	198 37.6	S10 21.3	174 19.9	S19 19.8	238 27.4	N 6 36.2	21 03.6	N 7 11.3
	3	60 32.7	213 37.2	S10 22.4	189 20.6	S19 20.3	253 29.4	N 6 36.0	36 06.3	N 7 11.3
	4	75 35.1	228 36.7	S10 23.6	204 21.3	S19 20.7	268 31.4	N 6 35.8	51 08.9	N 7 11.2
T	5	90 37.6	243 36.3	S10 24.8	219 21.9	S19 21.2	283 33.4	N 6 35.6	66 11.5	N 7 11.1
H										
U	6	105 40.0	258 35.8	S10 26.0	234 22.6	S19 21.7	298 35.4	N 6 35.4	81 14.2	N 7 11.0
R	7	120 42.5	273 35.4	S10 27.2	249 23.3	S19 22.1	313 37.4	N 6 35.2	96 16.8	N 7 11.0
S	8	135 45.0	288 34.9	S10 28.4	264 23.9	S19 22.6	328 39.3	N 6 35.1	111 19.5	N 7 10.9
D	9	150 47.4	303 34.4	S10 29.5	279 24.6	S19 23.0	343 41.3	N 6 34.9	126 22.1	N 7 10.8
A	10	165 49.9	318 34.0	S10 30.7	294 25.3	S19 23.5	358 43.3	N 6 34.7	141 24.8	N 7 10.7
Y	11	180 52.4	333 33.5	S10 31.9	309 26.0	S19 23.9	13 45.3	N 6 34.5	156 27.4	N 7 10.7
	12	195 54.8	348 33.1	S10 33.1	324 26.6	S19 24.4	28 47.3	N 6 34.3	171 30.1	N 7 10.6
	13	210 57.3	3 32.6	S10 34.3	339 27.3	S19 24.9	43 49.3	N 6 34.1	186 32.7	N 7 10.5
	14	225 59.8	18 32.1	S10 35.5	354 28.0	S19 25.3	58 51.3	N 6 33.9	201 35.3	N 7 10.5
	15	241 02.2	33 31.7	S10 36.6	9 28.6	S19 25.8	73 53.3	N 6 33.7	216 38.0	N 7 10.4
	16	256 04.7	48 31.2	S10 37.8	24 29.3	S19 26.2	88 55.3	N 6 33.5	231 40.6	N 7 10.3
	17	271 07.2	63 30.8	S10 39.0	39 30.0	S19 26.7	103 57.3	N 6 33.3	246 43.3	N 7 10.2
	18	286 09.6	78 30.3	S10 40.2	54 30.6	S19 27.1	118 59.3	N 6 33.1	261 45.9	N 7 10.2
	19	301 12.1	93 29.8	S10 41.4	69 31.3	S19 27.6	134 01.2	N 6 32.9	276 48.6	N 7 10.1
	20	316 14.5	108 29.4	S10 42.5	84 32.0	S19 28.0	149 03.2	N 6 32.7	291 51.2	N 7 10.0
	21	331 17.0	123 28.9	S10 43.7	99 32.6	S19 28.5	164 05.2	N 6 32.6	306 53.9	N 7 10.0
	22	346 19.5	138 28.4	S10 44.9	114 33.3	S19 29.0	179 07.2	N 6 32.4	321 56.5	N 7 09.9
	23	1 21.9	153 28.0	S10 46.1	129 34.0	S19 29.4	194 09.2	N 6 32.2	336 59.1	N 7 09.8
8	0	16 24.4	168 27.5	S10 47.2	144 34.6	S19 29.9	209 11.2	N 6 32.0	352 01.8	N 7 09.7
	1	31 26.9	183 27.1	S10 48.4	159 35.3	S19 30.3	224 13.2	N 6 31.8	7 04.4	N 7 09.7
	2	46 29.3	198 26.6	S10 49.6	174 36.0	S19 30.8	239 15.2	N 6 31.6	22 07.1	N 7 09.6
	3	61 31.8	213 26.1	S10 50.8	189 36.6	S19 31.2	254 17.2	N 6 31.4	37 09.7	N 7 09.5
	4	76 34.3	228 25.7	S10 51.9	204 37.3	S19 31.7	269 19.2	N 6 31.2	52 12.4	N 7 09.4
F	5	91 36.7	243 25.2	S10 53.1	219 37.9	S19 32.1	284 21.2	N 6 31.0	67 15.0	N 7 09.4
R										
I	6	106 39.2	258 24.7	S10 54.3	234 38.6	S19 32.6	299 23.2	N 6 30.8	82 17.7	N 7 09.3
D	7	121 41.6	273 24.3	S10 55.5	249 39.3	S19 33.0	314 25.2	N 6 30.6	97 20.3	N 7 09.2
A	8	136 44.1	288 23.8	S10 56.6	264 39.9	S19 33.5	329 27.1	N 6 30.4	112 22.9	N 7 09.2
Y	9	151 46.6	303 23.3	S10 57.8	279 40.6	S19 33.9	344 29.1	N 6 30.3	127 25.6	N 7 09.1
	10	166 49.0	318 22.9	S10 59.0	294 41.3	S19 34.4	359 31.1	N 6 30.1	142 28.2	N 7 09.0
	11	181 51.5	333 22.4	S11 00.2	309 41.9	S19 34.8	14 33.1	N 6 29.9	157 30.9	N 7 08.9
	12	196 54.0	348 21.9	S11 01.3	324 42.6	S19 35.3	29 35.1	N 6 29.7	172 33.5	N 7 08.9
	13	211 56.4	3 21.5	S11 02.5	339 43.2	S19 35.7	44 37.1	N 6 29.5	187 36.2	N 7 08.8
	14	226 58.9	18 21.0	S11 03.7	354 43.9	S19 36.2	59 39.1	N 6 29.3	202 38.8	N 7 08.7
	15	242 01.4	33 20.5	S11 04.8	9 44.6	S19 36.6	74 41.1	N 6 29.1	217 41.5	N 7 08.6
	16	257 03.8	48 20.0	S11 06.0	24 45.2	S19 37.1	89 43.1	N 6 28.9	232 44.1	N 7 08.6
	17	272 06.3	63 19.6	S11 07.2	39 45.9	S19 37.5	104 45.1	N 6 28.7	247 46.8	N 7 08.5
	18	287 08.8	78 19.1	S11 08.4	54 46.5	S19 38.0	119 47.1	N 6 28.5	262 49.4	N 7 08.4
	19	302 11.2	93 18.6	S11 09.5	69 47.2	S19 38.4	134 49.1	N 6 28.3	277 52.0	N 7 08.4
	20	317 13.7	108 18.2	S11 10.7	84 47.9	S19 38.9	149 51.1	N 6 28.1	292 54.7	N 7 08.3
	21	332 16.1	123 17.7	S11 11.9	99 48.5	S19 39.3	164 53.1	N 6 28.0	307 57.3	N 7 08.2
	22	347 18.6	138 17.2	S11 13.0	114 49.2	S19 39.8	179 55.0	N 6 27.8	322 60.0	N 7 08.1
	23	2 21.1	153 16.8	S11 14.2	129 49.8	S19 40.2	194 57.0	N 6 27.6	338 02.6	N 7 08.1
9	0	17 23.5	168 16.3	S11 15.4	144 50.5	S19 40.7	209 59.0	N 6 27.4	353 05.3	N 7 08.0
	1	32 26.0	183 15.8	S11 16.5	159 51.2	S19 41.1	225 01.0	N 6 27.2	8 07.9	N 7 07.9
	2	47 28.5	198 15.3	S11 17.7	174 51.8	S19 41.6	240 03.0	N 6 27.0	23 10.6	N 7 07.9
	3	62 30.9	213 14.9	S11 18.9	189 52.5	S19 42.0	255 05.0	N 6 26.8	38 13.2	N 7 07.8
	4	77 33.4	228 14.4	S11 20.0	204 53.1	S19 42.5	270 07.0	N 6 26.6	53 15.9	N 7 07.7
S	5	92 35.9	243 13.9	S11 21.2	219 53.8	S19 42.9	285 09.0	N 6 26.4	68 18.5	N 7 07.6
A										
T	6	107 38.3	258 13.4	S11 22.3	234 54.4	S19 43.4	300 11.0	N 6 26.2	83 21.2	N 7 07.6
U	7	122 40.8	273 13.0	S11 23.5	249 55.1	S19 43.8	315 13.0	N 6 26.0	98 23.8	N 7 07.5
R	8	137 43.3	288 12.5	S11 24.7	264 55.8	S19 44.3	330 15.0	N 6 25.9	113 26.4	N 7 07.4
D	9	152 45.7	303 12.0	S11 25.8	279 56.4	S19 44.7	345 17.0	N 6 25.7	128 29.1	N 7 07.3
A	10	167 48.2	318 11.5	S11 27.0	294 57.1	S19 45.1	0 19.0	N 6 25.5	143 31.7	N 7 07.3
Y	11	182 50.6	333 11.1	S11 28.2	309 57.7	S19 45.6	15 21.0	N 6 25.3	158 34.4	N 7 07.2
	12	197 53.1	348 10.6	S11 29.3	324 58.4	S19 46.0	30 23.0	N 6 25.1	173 37.0	N 7 07.1
	13	212 55.6	3 10.1	S11 30.5	339 59.0	S19 46.5	45 25.0	N 6 24.9	188 39.7	N 7 07.1
	14	227 58.0	18 09.6	S11 31.6	354 59.7	S19 46.9	60 27.0	N 6 24.7	203 42.3	N 7 07.0
	15	243 00.5	33 09.1	S11 32.8	10 00.3	S19 47.4	75 29.0	N 6 24.5	218 45.0	N 7 06.9
	16	258 03.0	48 08.7	S11 34.0	25 01.0	S19 47.8	90 31.0	N 6 24.3	233 47.6	N 7 06.8
	17	273 05.4	63 08.2	S11 35.1	40 01.6	S19 48.3	105 32.9	N 6 24.1	248 50.3	N 7 06.8
	18	288 07.9	78 07.7	S11 36.3	55 02.3	S19 48.7	120 34.9	N 6 23.9	263 52.9	N 7 06.7
	19	303 10.4	93 07.2	S11 37.4	70 02.9	S19 49.1	135 36.9	N 6 23.8	278 55.6	N 7 06.6
	20	318 12.8	108 06.7	S11 38.6	85 03.6	S19 49.6	150 38.9	N 6 23.6	293 58.2	N 7 06.5
	21	333 15.3	123 06.3	S11 39.7	100 04.2	S19 50.0	165 40.9	N 6 23.4	309 00.9	N 7 06.5
	22	348 17.8	138 05.8	S11 40.9	115 04.9	S19 50.5	180 42.9	N 6 23.2	324 03.5	N 7 06.4
	23	3 20.2	153 05.3	S11 42.1	130 05.5	S19 50.9	195 44.9	N 6 23.0	339 06.1	N 7 06.3
			v -0.5	d 1.2	v 0.7	d 0.5	v 2.0	d 0.2	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	182 59.5	S 5 19.9	96 25.7	10.2	S25 49.5	4.1	54.8
	1	197 59.6	S 5 20.8	110 55.0	10.3	S25 45.2	4.2	54.8
	2	212 59.8	S 5 21.8	125 24.3	10.3	S25 40.9	4.3	54.8
	3	227 60.0	S 5 22.7	139 53.7	10.4	S25 36.4	4.5	54.7
	4	243 00.2	S 5 23.7	154 23.2	10.5	S25 31.8	4.6	54.7
T	5	258 00.4	S 5 24.7	168 52.7	10.5	S25 27.1	4.7	54.7
H								
U	6	273 00.5	S 5 25.6	183 22.3	10.6	S25 22.3	4.8	54.7
R	7	288 00.7	S 5 26.6	197 51.9	10.7	S25 17.3	4.9	54.7
S	8	303 00.9	S 5 27.5	212 21.7	10.7	S25 12.3	5.1	54.7
D	9	318 01.1	S 5 28.5	226 51.5	10.8	S25 07.1	5.2	54.6
A	10	333 01.3	S 5 29.4	241 21.3	10.9	S25 01.8	5.3	54.6
Y	11	348 01.4	S 5 30.4	255 51.2	10.9	S24 56.4	5.4	54.6
	12	3 01.6	S 5 31.3	270 21.2	11.0	S24 50.8	5.5	54.6
	13	18 01.8	S 5 32.3	284 51.3	11.1	S24 45.2	5.6	54.6
	14	33 02.0	S 5 33.3	299 21.4	11.1	S24 39.4	5.8	54.6
	15	48 02.2	S 5 34.2	313 51.6	11.2	S24 33.6	5.9	54.6
	16	63 02.3	S 5 35.2	328 21.8	11.3	S24 27.6	6.0	54.5
	17	78 02.5	S 5 36.1	342 52.1	11.3	S24 21.5	6.1	54.5
	18	93 02.7	S 5 37.1	357 22.5	11.4	S24 15.3	6.2	54.5
	19	108 02.9	S 5 38.0	11 53.0	11.5	S24 09.0	6.3	54.5
	20	123 03.1	S 5 39.0	26 23.5	11.5	S24 02.6	6.4	54.5
	21	138 03.2	S 5 39.9	40 54.1	11.6	S23 56.1	6.5	54.5
	22	153 03.4	S 5 40.9	55 24.8	11.7	S23 49.4	6.6	54.5
	23	168 03.6	S 5 41.9	69 55.5	11.7	S23 42.7	6.7	54.4
8	0	183 03.8	S 5 42.8	84 26.3	11.8	S23 35.9	6.8	54.4
	1	198 04.0	S 5 43.8	98 57.2	11.9	S23 28.9	6.9	54.4
	2	213 04.1	S 5 44.7	113 28.1	11.9	S23 21.9	7.0	54.4
	3	228 04.3	S 5 45.7	127 59.1	12.0	S23 14.7	7.1	54.4
	4	243 04.5	S 5 46.6	142 30.2	12.1	S23 07.5	7.2	54.4
F	5	258 04.7	S 5 47.6	157 01.3	12.1	S23 00.1	7.4	54.4
R								
I	6	273 04.8	S 5 48.5	171 32.5	12.2	S22 52.7	7.5	54.4
D	7	288 05.0	S 5 49.5	186 03.8	12.3	S22 45.1	7.5	54.4
A	8	303 05.2	S 5 50.4	200 35.1	12.3	S22 37.5	7.6	54.3
Y	9	318 05.4	S 5 51.4	215 06.5	12.4	S22 29.7	7.7	54.3
	10	333 05.6	S 5 52.4	229 38.0	12.5	S22 21.9	7.8	54.3
	11	348 05.7	S 5 53.3	244 09.6	12.5	S22 14.0	7.9	54.3
	12	3 05.9	S 5 54.3	258 41.2	12.6	S22 05.9	8.0	54.3
	13	18 06.1	S 5 55.2	273 12.9	12.7	S21 57.8	8.1	54.3
	14	33 06.3	S 5 56.2	287 44.6	12.7	S21 49.6	8.2	54.3
	15	48 06.4	S 5 57.1	302 16.4	12.8	S21 41.3	8.3	54.3
	16	63 06.6	S 5 58.1	316 48.3	12.9	S21 32.9	8.4	54.3
	17	78 06.8	S 5 59.0	331 20.2	12.9	S21 24.4	8.5	54.3
	18	93 07.0	S 5 60.0	345 52.3	13.0	S21 15.8	8.6	54.3
	19	108 07.1	S 6 00.9	0 24.3	13.1	S21 07.1	8.7	54.3
	20	123 07.3	S 6 01.9	14 56.5	13.1	S20 58.4	8.8	54.3
	21	138 07.5	S 6 02.8	29 28.7	13.2	S20 49.5	8.8	54.3
	22	153 07.7	S 6 03.8	44 00.9	13.3	S20 40.6	8.9	54.2
	23	168 07.8	S 6 04.7	58 33.3	13.3	S20 31.5	9.0	54.2
9	0	183 08.0	S 6 05.7	73 05.7	13.4	S20 22.4	9.1	54.2
	1	198 08.2	S 6 06.6	87 38.1	13.5	S20 13.2	9.2	54.2
	2	213 08.4	S 6 07.6	102 10.7	13.5	S20 04.0	9.3	54.2
	3	228 08.5	S 6 08.5	116 43.2	13.6	S19 54.6	9.4	54.2
	4	243 08.7	S 6 09.5	131 15.9	13.6	S19 45.2	9.4	54.2
S	5	258 08.9	S 6 10.4	145 48.6	13.7	S19 35.6	9.5	54.2
A								
T	6	273 09.0	S 6 11.4	160 21.4	13.8	S19 26.0	9.6	54.2
U	7	288 09.2	S 6 12.3	174 54.2	13.8	S19 16.4	9.7	54.2
R	8	303 09.4	S 6 13.3	189 27.1	13.9	S19 06.6	9.8	54.2
D	9	318 09.6	S 6 14.2	204 00.0	13.9	S18 56.8	9.8	54.2
A	10	333 09.7	S 6 15.2	218 33.0	14.0	S18 46.9	9.9	54.2
Y	11	348 09.9	S 6 16.1	233 06.1	14.1	S18 36.9	10.0	54.2
	12	3 10.1	S 6 17.1	247 39.2	14.1	S18 26.8	10.1	54.2
	13	18 10.3	S 6 18.0	262 12.4	14.2	S18 16.6	10.1	54.2
	14	33 10.4	S 6 19.0	276 45.6	14.2	S18 06.4	10.2	54.2
	15	48 10.6	S 6 19.9	291 18.9	14.3	S17 56.1	10.3	54.2
	16	63 10.8	S 6 20.9	305 52.2	14.3	S17 45.8	10.4	54.2
	17	78 10.9	S 6 21.8	320 25.6	14.4	S17 35.3	10.4	54.2
	18	93 11.1	S 6 22.8	334 59.1	14.5	S17 24.8	10.5	54.2
	19	108 11.3	S 6 23.7	349 32.6	14.5	S17 14.2	10.6	54.2
	20	123 11.5	S 6 24.7	4 06.2	14.6	S17 03.6	10.6	54.2
	21	138 11.6	S 6 25.6	18 39.8	14.6	S16 52.9	10.7	54.2
	22	153 11.8	S 6 26.6	33 13.4	14.7	S16 42.1	10.8	54.2
	23	168 12.0	S 6 27.5	47 47.1	14.7	S16 31.2	10.9	54.2
		S.D. 16.0	d 1.0	S.D.	14.9		14.8	14.8

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.7	S40 11.3
Achernar	335 17.9	S57 05.5
Acrux	172 58.3	S63 15.1
Adhara	255 04.1	S29 00.3
Albireo	67 02.2	N28 01.3
Aldebaran	290 36.8	N16 34.0
Alioth	166 11.5	N55 48.6
Alkaid	152 50.7	N49 10.5
Al Na-ir	27 29.7	S46 49.6
Alnilam	275 35.3	S 1 10.9
Alphard	217 45.7	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.7	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 05.9	S69 04.9
Avior	234 14.0	S59 35.6
Bellatrix	278 20.3	N 6 22.6
Betelgeuse	270 49.5	N 7 24.8
Canopus	263 51.3	S52 42.3
Capella	280 18.4	N46 01.5
Castor	245 54.2	N31 49.6
Deneb	49 24.1	N45 23.1
Denebola	182 23.0	N14 25.0
Diphda	348 44.7	S17 49.8
Dubhe	193 38.8	N61 35.9
Elnath	277 58.9	N28 37.8
Eltanin	90 41.3	N51 29.4
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.1
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.5
Hamal	327 48.3	N23 35.8
Kaus Austr.	83 29.6	S34 22.4
Kochab	137 21.1	N74 02.6
Markab	13 27.4	N15 21.5
Menkar	314 03.5	N 4 12.1
Menkent	147 55.4	S36 30.5
Miaplacidus	221 38.2	S69 49.6
Mirfak	308 24.7	N49 57.6
Nunki	75 45.0	S26 15.7
Peacock	53 01.9	S56 38.9
Polaris	315 16.8	N89 22.2
Pollux	243 14.6	N27 57.5
Procyon	244 48.5	N 5 09.3
Rasalhague	95 56.6	N12 32.6
Regulus	207 32.3	N11 49.9
Rigel	281 01.6	S 8 10.0
Rigil Kent	139 37.9	S60 57.1
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.5
Shaula	96 07.5	S37 07.5
Sirius	258 24.2	S16 45.0
Spica	158 20.3	S11 18.3
Suhail	222 44.8	S43 32.4
Vega	80 31.7	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	18 22.7	168 04.8	S11 43.2	145 06.2	S19 51.3	210 46.9	N 6 22.8	354 08.8	N 7 06.3
	1	33 25.1	183 04.3	S11 44.4	160 06.9	S19 51.8	225 48.9	N 6 22.6	9 11.4	N 7 06.2
	2	48 27.6	198 03.8	S11 45.5	175 07.5	S19 52.2	240 50.9	N 6 22.4	24 14.1	N 7 06.1
	3	63 30.1	213 03.4	S11 46.7	190 08.2	S19 52.7	255 52.9	N 6 22.2	39 16.7	N 7 06.0
	4	78 32.5	228 02.9	S11 47.8	205 08.8	S19 53.1	270 54.9	N 6 22.0	54 19.4	N 7 06.0
S	5	93 35.0	243 02.4	S11 49.0	220 09.4	S19 53.5	285 56.9	N 6 21.8	69 22.0	N 7 05.9
U										
N	6	108 37.5	258 01.9	S11 50.1	235 10.1	S19 54.0	300 58.9	N 6 21.7	84 24.7	N 7 05.8
D	7	123 39.9	273 01.4	S11 51.3	250 10.7	S19 54.4	316 00.9	N 6 21.5	99 27.3	N 7 05.7
A	8	138 42.4	288 00.9	S11 52.4	265 11.4	S19 54.9	331 02.9	N 6 21.3	114 30.0	N 7 05.7
Y	9	153 44.9	303 00.5	S11 53.6	280 12.0	S19 55.3	346 04.9	N 6 21.1	129 32.6	N 7 05.6
	10	168 47.3	317 60.0	S11 54.7	295 12.7	S19 55.7	1 06.9	N 6 20.9	144 35.3	N 7 05.5
	11	183 49.8	332 59.5	S11 55.9	310 13.3	S19 56.2	16 08.9	N 6 20.7	159 37.9	N 7 05.5
	12	198 52.2	347 59.0	S11 57.0	325 14.0	S19 56.6	31 10.9	N 6 20.5	174 40.6	N 7 05.4
	13	213 54.7	2 58.5	S11 58.2	340 14.6	S19 57.1	46 12.9	N 6 20.3	189 43.2	N 7 05.3
	14	228 57.2	17 58.0	S11 59.3	355 15.3	S19 57.5	61 14.9	N 6 20.1	204 45.9	N 7 05.2
	15	243 59.6	32 57.5	S12 00.5	10 15.9	S19 57.9	76 16.9	N 6 19.9	219 48.5	N 7 05.2
	16	259 02.1	47 57.0	S12 01.6	25 16.6	S19 58.4	91 18.9	N 6 19.8	234 51.1	N 7 05.1
	17	274 04.6	62 56.6	S12 02.8	40 17.2	S19 58.8	106 20.9	N 6 19.6	249 53.8	N 7 05.0
	18	289 07.0	77 56.1	S12 03.9	55 17.9	S19 59.2	121 22.9	N 6 19.4	264 56.4	N 7 04.9
	19	304 09.5	92 55.6	S12 05.1	70 18.5	S19 59.7	136 24.9	N 6 19.2	279 59.1	N 7 04.9
	20	319 12.0	107 55.1	S12 06.2	85 19.2	S20 00.1	151 26.9	N 6 19.0	295 01.7	N 7 04.8
	21	334 14.4	122 54.6	S12 07.4	100 19.8	S20 00.5	166 28.9	N 6 18.8	310 04.4	N 7 04.7
	22	349 16.9	137 54.1	S12 08.5	115 20.4	S20 01.0	181 30.9	N 6 18.6	325 07.0	N 7 04.7
	23	4 19.4	152 53.6	S12 09.6	130 21.1	S20 01.4	196 32.9	N 6 18.4	340 09.7	N 7 04.6
11	0	19 21.8	167 53.1	S12 10.8	145 21.7	S20 01.9	211 34.8	N 6 18.2	355 12.3	N 7 04.5
	1	34 24.3	182 52.6	S12 11.9	160 22.4	S20 02.3	226 36.8	N 6 18.0	10 15.0	N 7 04.4
	2	49 26.7	197 52.1	S12 13.1	175 23.0	S20 02.7	241 38.8	N 6 17.9	25 17.6	N 7 04.4
	3	64 29.2	212 51.6	S12 14.2	190 23.7	S20 03.2	256 40.8	N 6 17.7	40 20.3	N 7 04.3
	4	79 31.7	227 51.2	S12 15.4	205 24.3	S20 03.6	271 42.8	N 6 17.5	55 22.9	N 7 04.2
M	5	94 34.1	242 50.7	S12 16.5	220 24.9	S20 04.0	286 44.8	N 6 17.3	70 25.6	N 7 04.1
O										
N	6	109 36.6	257 50.2	S12 17.6	235 25.6	S20 04.5	301 46.8	N 6 17.1	85 28.2	N 7 04.1
D	7	124 39.1	272 49.7	S12 18.8	250 26.2	S20 04.9	316 48.8	N 6 16.9	100 30.9	N 7 04.0
A	8	139 41.5	287 49.2	S12 19.9	265 26.9	S20 05.3	331 50.8	N 6 16.7	115 33.5	N 7 03.9
Y	9	154 44.0	302 48.7	S12 21.1	280 27.5	S20 05.7	346 52.8	N 6 16.5	130 36.2	N 7 03.9
	10	169 46.5	317 48.2	S12 22.2	295 28.2	S20 06.2	1 54.8	N 6 16.3	145 38.8	N 7 03.8
	11	184 48.9	332 47.7	S12 23.3	310 28.8	S20 06.6	16 56.8	N 6 16.1	160 41.5	N 7 03.7
	12	199 51.4	347 47.2	S12 24.5	325 29.4	S20 07.0	31 58.8	N 6 16.0	175 44.1	N 7 03.6
	13	214 53.9	2 46.7	S12 25.6	340 30.1	S20 07.5	47 00.8	N 6 15.8	190 46.8	N 7 03.6
	14	229 56.3	17 46.2	S12 26.7	355 30.7	S20 07.9	62 02.8	N 6 15.6	205 49.4	N 7 03.5
	15	244 58.8	32 45.7	S12 27.9	10 31.3	S20 08.3	77 04.8	N 6 15.4	220 52.0	N 7 03.4
	16	260 01.2	47 45.2	S12 29.0	25 32.0	S20 08.8	92 06.8	N 6 15.2	235 54.7	N 7 03.3
	17	275 03.7	62 44.7	S12 30.2	40 32.6	S20 09.2	107 08.8	N 6 15.0	250 57.3	N 7 03.3
	18	290 06.2	77 44.2	S12 31.3	55 33.3	S20 09.6	122 10.8	N 6 14.8	265 60.0	N 7 03.2
	19	305 08.6	92 43.7	S12 32.4	70 33.9	S20 10.1	137 12.8	N 6 14.6	281 02.6	N 7 03.1
	20	320 11.1	107 43.2	S12 33.6	85 34.5	S20 10.5	152 14.8	N 6 14.4	296 05.3	N 7 03.1
	21	335 13.6	122 42.7	S12 34.7	100 35.2	S20 10.9	167 16.8	N 6 14.3	311 07.9	N 7 03.0
	22	350 16.0	137 42.2	S12 35.8	115 35.8	S20 11.3	182 18.8	N 6 14.1	326 10.6	N 7 02.9
	23	5 18.5	152 41.7	S12 37.0	130 36.5	S20 11.8	197 20.8	N 6 13.9	341 13.2	N 7 02.8
12	0	20 21.0	167 41.2	S12 38.1	145 37.1	S20 12.2	212 22.8	N 6 13.7	356 15.9	N 7 02.8
	1	35 23.4	182 40.7	S12 39.2	160 37.7	S20 12.6	227 24.8	N 6 13.5	11 18.5	N 7 02.7
	2	50 25.9	197 40.2	S12 40.3	175 38.4	S20 13.0	242 26.8	N 6 13.3	26 21.2	N 7 02.6
	3	65 28.3	212 39.7	S12 41.5	190 39.0	S20 13.5	257 28.8	N 6 13.1	41 23.8	N 7 02.5
	4	80 30.8	227 39.2	S12 42.6	205 39.6	S20 13.9	272 30.8	N 6 12.9	56 26.5	N 7 02.5
T	5	95 33.3	242 38.7	S12 43.7	220 40.3	S20 14.3	287 32.8	N 6 12.7	71 29.1	N 7 02.4
U										
E	6	110 35.7	257 38.2	S12 44.9	235 40.9	S20 14.8	302 34.8	N 6 12.6	86 31.8	N 7 02.3
S	7	125 38.2	272 37.7	S12 46.0	250 41.5	S20 15.2	317 36.8	N 6 12.4	101 34.4	N 7 02.3
D	8	140 40.7	287 37.2	S12 47.1	265 42.2	S20 15.6	332 38.8	N 6 12.2	116 37.1	N 7 02.2
A	9	155 43.1	302 36.7	S12 48.2	280 42.8	S20 16.0	347 40.8	N 6 12.0	131 39.7	N 7 02.1
Y	10	170 45.6	317 36.2	S12 49.4	295 43.4	S20 16.5	2 42.8	N 6 11.8	146 42.4	N 7 02.0
	11	185 48.1	332 35.6	S12 50.5	310 44.1	S20 16.9	17 44.8	N 6 11.6	161 45.0	N 7 02.0
	12	200 50.5	347 35.1	S12 51.6	325 44.7	S20 17.3	32 46.8	N 6 11.4	176 47.7	N 7 01.9
	13	215 53.0	2 34.6	S12 52.7	340 45.3	S20 17.7	47 48.8	N 6 11.2	191 50.3	N 7 01.8
	14	230 55.5	17 34.1	S12 53.9	355 46.0	S20 18.2	62 50.8	N 6 11.0	206 53.0	N 7 01.7
	15	245 57.9	32 33.6	S12 55.0	10 46.6	S20 18.6	77 52.8	N 6 10.9	221 55.6	N 7 01.7
	16	261 00.4	47 33.1	S12 56.1	25 47.2	S20 19.0	92 54.8	N 6 10.7	236 58.3	N 7 01.6
	17	276 02.8	62 32.6	S12 57.2	40 47.9	S20 19.4	107 56.8	N 6 10.5	252 00.9	N 7 01.5
	18	291 05.3	77 32.1	S12 58.4	55 48.5	S20 19.8	122 58.9	N 6 10.3	267 03.6	N 7 01.5
	19	306 07.8	92 31.6	S12 59.5	70 49.1	S20 20.3	138 00.9	N 6 10.1	282 06.2	N 7 01.4
	20	321 10.2	107 31.1	S13 00.6	85 49.8	S20 20.7	153 02.9	N 6 09.9	297 08.9	N 7 01.3
	21	336 12.7	122 30.6	S13 01.7	100 50.4	S20 21.1	168 04.9	N 6 09.7	312 11.5	N 7 01.2
	22	351 15.2	137 30.0	S13 02.8	115 51.0	S20 21.5	183 06.9	N 6 09.5	327 14.2	N 7 01.2
	23	6 17.6	152 29.5	S13 04.0	130 51.6	S20 22.0	198 08.9	N 6 09.4	342 16.8	N 7 01.1
			v -0.5	d 1.1	v 0.6	d 0.4	v 2.0	d 0.2	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	183 12.1	S 6 28.5	62 20.9	14.8	S16 20.3	10.9	54.2
	1	198 12.3	S 6 29.4	76 54.7	14.8	S16 09.3	11.0	54.2
	2	213 12.5	S 6 30.4	91 28.6	14.9	S15 58.3	11.1	54.2
	3	228 12.6	S 6 31.3	106 02.5	14.9	S15 47.2	11.1	54.2
	4	243 12.8	S 6 32.3	120 36.4	15.0	S15 36.0	11.2	54.2
S	5	258 13.0	S 6 33.2	135 10.4	15.0	S15 24.7	11.2	54.2
U								
N	6	273 13.1	S 6 34.2	149 44.5	15.0	S15 13.4	11.3	54.2
D	7	288 13.3	S 6 35.1	164 18.6	15.1	S15 02.1	11.4	54.2
A	8	303 13.5	S 6 36.1	178 52.7	15.1	S14 50.6	11.4	54.2
Y	9	318 13.6	S 6 37.0	193 26.9	15.2	S14 39.2	11.5	54.2
	10	333 13.8	S 6 37.9	208 01.1	15.2	S14 27.6	11.5	54.2
	11	348 14.0	S 6 38.9	222 35.3	15.3	S14 16.0	11.6	54.3
	12	3 14.2	S 6 39.8	237 09.6	15.3	S14 04.3	11.7	54.3
	13	18 14.3	S 6 40.8	251 44.0	15.3	S13 52.6	11.7	54.3
	14	33 14.5	S 6 41.7	266 18.4	15.4	S13 40.8	11.8	54.3
	15	48 14.7	S 6 42.7	280 52.8	15.4	S13 29.0	11.8	54.3
	16	63 14.8	S 6 43.6	295 27.2	15.5	S13 17.1	11.9	54.3
	17	78 15.0	S 6 44.6	310 01.7	15.5	S13 05.2	11.9	54.3
	18	93 15.1	S 6 45.5	324 36.2	15.5	S12 53.2	12.0	54.3
	19	108 15.3	S 6 46.5	339 10.8	15.6	S12 41.1	12.1	54.3
	20	123 15.5	S 6 47.4	353 45.4	15.6	S12 29.0	12.1	54.3
	21	138 15.6	S 6 48.3	8 20.0	15.6	S12 16.9	12.2	54.3
	22	153 15.8	S 6 49.3	22 54.7	15.7	S12 04.6	12.2	54.3
	23	168 16.0	S 6 50.2	37 29.4	15.7	S11 52.4	12.3	54.3
11	0	183 16.1	S 6 51.2	52 04.1	15.7	S11 40.1	12.3	54.3
	1	198 16.3	S 6 52.1	66 38.9	15.8	S11 27.7	12.4	54.4
	2	213 16.5	S 6 53.1	81 13.7	15.8	S11 15.3	12.4	54.4
	3	228 16.6	S 6 54.0	95 48.5	15.8	S11 02.9	12.5	54.4
	4	243 16.8	S 6 54.9	110 23.3	15.8	S10 50.4	12.5	54.4
M	5	258 17.0	S 6 55.9	124 58.2	15.9	S10 37.8	12.5	54.4
O								
N	6	273 17.1	S 6 56.8	139 33.1	15.9	S10 25.2	12.6	54.4
D	7	288 17.3	S 6 57.8	154 08.0	15.9	S10 12.6	12.6	54.4
A	8	303 17.5	S 6 58.7	168 43.0	15.9	S 9 59.9	12.7	54.4
Y	9	318 17.6	S 6 59.7	183 17.9	16.0	S 9 47.2	12.7	54.4
	10	333 17.8	S 7 00.6	197 52.9	16.0	S 9 34.4	12.8	54.4
	11	348 17.9	S 7 01.5	212 27.9	16.0	S 9 21.6	12.8	54.4
	12	3 18.1	S 7 02.5	227 02.9	16.0	S 9 08.8	12.8	54.5
	13	18 18.3	S 7 03.4	241 38.0	16.0	S 8 55.9	12.9	54.5
	14	33 18.4	S 7 04.4	256 13.1	16.1	S 8 43.0	12.9	54.5
	15	48 18.6	S 7 05.3	270 48.1	16.1	S 8 30.0	13.0	54.5
	16	63 18.8	S 7 06.3	285 23.2	16.1	S 8 17.0	13.0	54.5
	17	78 18.9	S 7 07.2	299 58.4	16.1	S 8 04.0	13.0	54.5
	18	93 19.1	S 7 08.1	314 33.5	16.1	S 7 50.9	13.1	54.5
	19	108 19.2	S 7 09.1	329 08.6	16.1	S 7 37.8	13.1	54.5
	20	123 19.4	S 7 10.0	343 43.8	16.2	S 7 24.6	13.2	54.6
	21	138 19.6	S 7 11.0	358 19.0	16.2	S 7 11.4	13.2	54.6
	22	153 19.7	S 7 11.9	12 54.2	16.2	S 6 58.2	13.2	54.6
	23	168 19.9	S 7 12.8	27 29.3	16.2	S 6 45.0	13.3	54.6
12	0	183 20.0	S 7 13.8	42 04.5	16.2	S 6 31.7	13.3	54.6
	1	198 20.2	S 7 14.7	56 39.8	16.2	S 6 18.4	13.3	54.6
	2	213 20.4	S 7 15.7	71 15.0	16.2	S 6 05.0	13.3	54.6
	3	228 20.5	S 7 16.6	85 50.2	16.2	S 5 51.6	13.4	54.6
	4	243 20.7	S 7 17.5	100 25.4	16.2	S 5 38.2	13.4	54.7
T	5	258 20.8	S 7 18.5	115 00.6	16.2	S 5 24.8	13.4	54.7
U								
E	6	273 21.0	S 7 19.4	129 35.9	16.2	S 5 11.3	13.5	54.7
S	7	288 21.2	S 7 20.4	144 11.1	16.2	S 4 57.8	13.5	54.7
D	8	303 21.3	S 7 21.3	158 46.4	16.2	S 4 44.3	13.5	54.7
A	9	318 21.5	S 7 22.2	173 21.6	16.2	S 4 30.8	13.5	54.7
Y	10	333 21.6	S 7 23.2	187 56.8	16.2	S 4 17.2	13.6	54.8
	11	348 21.8	S 7 24.1	202 32.1	16.2	S 4 03.6	13.6	54.8
	12	3 21.9	S 7 25.1	217 07.3	16.2	S 3 50.0	13.6	54.8
	13	18 22.1	S 7 26.0	231 42.5	16.2	S 3 36.3	13.6	54.8
	14	33 22.3	S 7 26.9	246 17.8	16.2	S 3 22.7	13.7	54.8
	15	48 22.4	S 7 27.9	260 53.0	16.2	S 3 09.0	13.7	54.8
	16	63 22.6	S 7 28.8	275 28.2	16.2	S 2 55.3	13.7	54.8
	17	78 22.7	S 7 29.7	290 03.4	16.2	S 2 41.6	13.7	54.9
	18	93 22.9	S 7 30.7	304 38.6	16.2	S 2 27.8	13.7	54.9
	19	108 23.0	S 7 31.6	319 13.8	16.2	S 2 14.0	13.8	54.9
	20	123 23.2	S 7 32.5	333 49.0	16.2	S 2 00.3	13.8	54.9
	21	138 23.3	S 7 33.5	348 24.2	16.2	S 1 46.5	13.8	54.9
	22	153 23.5	S 7 34.4	2 59.3	16.2	S 1 32.7	13.8	54.9
	23	168 23.7	S 7 35.4	17 34.5	16.1	S 1 18.8	13.8	55.0
		S.D. 16.0	d 0.9	S.D. 14.8		14.8	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.7	S40 11.3
Achernar	335 17.9	S57 05.6
Acrux	172 58.3	S63 15.1
Adhara	255 04.1	S29 00.3
Albireo	67 02.2	N28 01.3
Aldebaran	290 36.8	N16 34.0
Alioth	166 11.5	N55 48.5
Alkaid	152 50.7	N49 10.5
Al Na-ir	27 29.7	S46 49.6
Alnilam	275 35.3	S 1 10.9
Alphard	217 45.7	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.7	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 05.9	S69 04.9
Avior	234 14.0	S59 35.6
Bellatrix	278 20.3	N 6 22.6
Betelgeuse	270 49.5	N 7 24.8
Canopus	263 51.2	S52 42.3
Capella	280 18.3	N46 01.5
Castor	245 54.2	N31 49.6
Deneb	49 24.1	N45 23.1
Denebola	182 22.9	N14 25.0
Diphda	348 44.7	S17 49.8
Dubhe	193 38.8	N61 35.9
Elnath	277 58.9	N28 37.8
Eltanin	90 41.3	N51 29.4
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.1
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.5
Hamal	327 48.3	N23 35.8
Kaus Austr.	83 29.6	S34 22.4
Kochab	137 21.1	N74 02.5
Markab	13 27.4	N15 21.5
Menkar	314 03.5	N 4 12.1
Menkent	147 55.4	S36 30.4
Miaplacidus	221 38.1	S69 49.6
Mirfak	308 24.6	N49 57.6
Nunki	75 45.0	S26 15.7
Peacock	53 02.0	S56 38.9
Polaris	315 16.3	N89 22.2
Pollux	243 14.6	N27 57.5
Procyon	244 48.5	N 5 09.3
Rasalhague	95 56.6	N12 32.6
Regulus	207 32.3	N11 49.9
Rigel	281 01.5	S 8 10.0
Rigil Kent	139 37.9	S60 57.1
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.6
Shaula	96 07.5	S37 07.5
Sirius	258 24.2	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 44.8	S43 32.4
Vega	80 31.8	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	21 20.1	167 29.0	S13 05.1	145 52.3	S20 22.4	213 10.9	N 6 09.2	357 19.5	N 7 01.0
	1	36 22.6	182 28.5	S13 06.2	160 52.9	S20 22.8	228 12.9	N 6 09.0	12 22.1	N 7 00.9
	2	51 25.0	197 28.0	S13 07.3	175 53.5	S20 23.2	243 14.9	N 6 08.8	27 24.7	N 7 00.9
	3	66 27.5	212 27.5	S13 08.4	190 54.2	S20 23.6	258 16.9	N 6 08.6	42 27.4	N 7 00.8
	4	81 29.9	227 27.0	S13 09.5	205 54.8	S20 24.1	273 18.9	N 6 08.4	57 30.0	N 7 00.7
W	5	96 32.4	242 26.5	S13 10.7	220 55.4	S20 24.5	288 20.9	N 6 08.2	72 32.7	N 7 00.6
E										
D	6	111 34.9	257 25.9	S13 11.8	235 56.0	S20 24.9	303 22.9	N 6 08.0	87 35.3	N 7 00.6
N	7	126 37.3	272 25.4	S13 12.9	250 56.7	S20 25.3	318 24.9	N 6 07.9	102 38.0	N 7 00.5
E	8	141 39.8	287 24.9	S13 14.0	265 57.3	S20 25.7	333 26.9	N 6 07.7	117 40.6	N 7 00.4
S	9	156 42.3	302 24.4	S13 15.1	280 57.9	S20 26.2	348 28.9	N 6 07.5	132 43.3	N 7 00.4
D	10	171 44.7	317 23.9	S13 16.2	295 58.6	S20 26.6	3 30.9	N 6 07.3	147 45.9	N 7 00.3
A	11	186 47.2	332 23.4	S13 17.3	310 59.2	S20 27.0	18 32.9	N 6 07.1	162 48.6	N 7 00.2
Y										
	12	201 49.7	347 22.8	S13 18.5	325 59.8	S20 27.4	33 34.9	N 6 06.9	177 51.2	N 7 00.1
	13	216 52.1	2 22.3	S13 19.6	341 00.4	S20 27.8	48 36.9	N 6 06.7	192 53.9	N 7 00.1
	14	231 54.6	17 21.8	S13 20.7	356 01.1	S20 28.2	63 38.9	N 6 06.5	207 56.5	N 6 60.0
	15	246 57.1	32 21.3	S13 21.8	11 01.7	S20 28.7	78 40.9	N 6 06.3	222 59.2	N 6 59.9
	16	261 59.5	47 20.8	S13 22.9	26 02.3	S20 29.1	93 42.9	N 6 06.2	238 01.8	N 6 59.8
	17	277 02.0	62 20.3	S13 24.0	41 02.9	S20 29.5	108 44.9	N 6 06.0	253 04.5	N 6 59.8
	18	292 04.4	77 19.7	S13 25.1	56 03.6	S20 29.9	123 46.9	N 6 05.8	268 07.1	N 6 59.7
	19	307 06.9	92 19.2	S13 26.2	71 04.2	S20 30.3	138 48.9	N 6 05.6	283 09.8	N 6 59.6
	20	322 09.4	107 18.7	S13 27.3	86 04.8	S20 30.7	153 50.9	N 6 05.4	298 12.4	N 6 59.6
	21	337 11.8	122 18.2	S13 28.4	101 05.4	S20 31.1	168 52.9	N 6 05.2	313 15.1	N 6 59.5
	22	352 14.3	137 17.6	S13 29.6	116 06.0	S20 31.6	183 54.9	N 6 05.0	328 17.7	N 6 59.4
	23	7 16.8	152 17.1	S13 30.7	131 06.7	S20 32.0	198 56.9	N 6 04.8	343 20.4	N 6 59.3
14	0	22 19.2	167 16.6	S13 31.8	146 07.3	S20 32.4	213 58.9	N 6 04.7	358 23.0	N 6 59.3
	1	37 21.7	182 16.1	S13 32.9	161 07.9	S20 32.8	229 01.0	N 6 04.5	13 25.7	N 6 59.2
	2	52 24.2	197 15.6	S13 34.0	176 08.5	S20 33.2	244 03.0	N 6 04.3	28 28.3	N 6 59.1
	3	67 26.6	212 15.0	S13 35.1	191 09.2	S20 33.6	259 05.0	N 6 04.1	43 31.0	N 6 59.0
	4	82 29.1	227 14.5	S13 36.2	206 09.8	S20 34.0	274 07.0	N 6 03.9	58 33.6	N 6 59.0
T	5	97 31.5	242 14.0	S13 37.3	221 10.4	S20 34.5	289 09.0	N 6 03.7	73 36.3	N 6 58.9
H										
U	6	112 34.0	257 13.5	S13 38.4	236 11.0	S20 34.9	304 11.0	N 6 03.5	88 38.9	N 6 58.8
R	7	127 36.5	272 12.9	S13 39.5	251 11.6	S20 35.3	319 13.0	N 6 03.4	103 41.6	N 6 58.8
S	8	142 38.9	287 12.4	S13 40.6	266 12.3	S20 35.7	334 15.0	N 6 03.2	118 44.2	N 6 58.7
D	9	157 41.4	302 11.9	S13 41.7	281 12.9	S20 36.1	349 17.0	N 6 03.0	133 46.9	N 6 58.6
A	10	172 43.9	317 11.3	S13 42.8	296 13.5	S20 36.5	4 19.0	N 6 02.8	148 49.5	N 6 58.5
Y	11	187 46.3	332 10.8	S13 43.9	311 14.1	S20 36.9	19 21.0	N 6 02.6	163 52.2	N 6 58.5
	12	202 48.8	347 10.3	S13 45.0	326 14.7	S20 37.3	34 23.0	N 6 02.4	178 54.8	N 6 58.4
	13	217 51.3	2 09.8	S13 46.1	341 15.4	S20 37.7	49 25.0	N 6 02.2	193 57.5	N 6 58.3
	14	232 53.7	17 09.2	S13 47.2	356 16.0	S20 38.2	64 27.0	N 6 02.0	209 00.1	N 6 58.2
	15	247 56.2	32 08.7	S13 48.3	11 16.6	S20 38.6	79 29.0	N 6 01.9	224 02.8	N 6 58.2
	16	262 58.7	47 08.2	S13 49.4	26 17.2	S20 39.0	94 31.0	N 6 01.7	239 05.4	N 6 58.1
	17	278 01.1	62 07.6	S13 50.5	41 17.8	S20 39.4	109 33.0	N 6 01.5	254 08.1	N 6 58.0
	18	293 03.6	77 07.1	S13 51.6	56 18.4	S20 39.8	124 35.1	N 6 01.3	269 10.7	N 6 58.0
	19	308 06.0	92 06.6	S13 52.7	71 19.1	S20 40.2	139 37.1	N 6 01.1	284 13.4	N 6 57.9
	20	323 08.5	107 06.1	S13 53.8	86 19.7	S20 40.6	154 39.1	N 6 00.9	299 16.0	N 6 57.8
	21	338 11.0	122 05.5	S13 54.8	101 20.3	S20 41.0	169 41.1	N 6 00.7	314 18.7	N 6 57.7
	22	353 13.4	137 05.0	S13 55.9	116 20.9	S20 41.4	184 43.1	N 6 00.6	329 21.3	N 6 57.7
	23	8 15.9	152 04.5	S13 57.0	131 21.5	S20 41.8	199 45.1	N 6 00.4	344 24.0	N 6 57.6
15	0	23 18.4	167 03.9	S13 58.1	146 22.1	S20 42.2	214 47.1	N 6 00.2	359 26.6	N 6 57.5
	1	38 20.8	182 03.4	S13 59.2	161 22.8	S20 42.6	229 49.1	N 5 60.0	14 29.3	N 6 57.4
	2	53 23.3	197 02.8	S14 00.3	176 23.4	S20 43.0	244 51.1	N 5 59.8	29 31.9	N 6 57.4
	3	68 25.8	212 02.3	S14 01.4	191 24.0	S20 43.5	259 53.1	N 5 59.6	44 34.6	N 6 57.3
	4	83 28.2	227 01.8	S14 02.5	206 24.6	S20 43.9	274 55.1	N 5 59.4	59 37.2	N 6 57.2
F	5	98 30.7	242 01.2	S14 03.6	221 25.2	S20 44.3	289 57.1	N 5 59.2	74 39.9	N 6 57.2
R										
I	6	113 33.1	257 00.7	S14 04.7	236 25.8	S20 44.7	304 59.1	N 5 59.1	89 42.5	N 6 57.1
D	7	128 35.6	272 00.2	S14 05.7	251 26.4	S20 45.1	320 01.1	N 5 58.9	104 45.2	N 6 57.0
A	8	143 38.1	286 59.6	S14 06.8	266 27.0	S20 45.5	335 03.2	N 5 58.7	119 47.8	N 6 56.9
Y	9	158 40.5	301 59.1	S14 07.9	281 27.7	S20 45.9	350 05.2	N 5 58.5	134 50.5	N 6 56.9
	10	173 43.0	316 58.6	S14 09.0	296 28.3	S20 46.3	5 07.2	N 5 58.3	149 53.1	N 6 56.8
	11	188 45.5	331 58.0	S14 10.1	311 28.9	S20 46.7	20 09.2	N 5 58.1	164 55.8	N 6 56.7
	12	203 47.9	346 57.5	S14 11.2	326 29.5	S20 47.1	35 11.2	N 5 57.9	179 58.4	N 6 56.6
	13	218 50.4	1 56.9	S14 12.3	341 30.1	S20 47.5	50 13.2	N 5 57.8	195 01.1	N 6 56.6
	14	233 52.9	16 56.4	S14 13.3	356 30.7	S20 47.9	65 15.2	N 5 57.6	210 03.7	N 6 56.5
	15	248 55.3	31 55.9	S14 14.4	11 31.3	S20 48.3	80 17.2	N 5 57.4	225 06.4	N 6 56.4
	16	263 57.8	46 55.3	S14 15.5	26 31.9	S20 48.7	95 19.2	N 5 57.2	240 09.0	N 6 56.4
	17	279 00.3	61 54.8	S14 16.6	41 32.6	S20 49.1	110 21.2	N 5 57.0	255 11.7	N 6 56.3
	18	294 02.7	76 54.2	S14 17.7	56 33.2	S20 49.5	125 23.2	N 5 56.8	270 14.3	N 6 56.2
	19	309 05.2	91 53.7	S14 18.8	71 33.8	S20 49.9	140 25.2	N 5 56.6	285 17.0	N 6 56.1
	20	324 07.6	106 53.1	S14 19.8	86 34.4	S20 50.3	155 27.3	N 5 56.5	300 19.6	N 6 56.1
	21	339 10.1	121 52.6	S14 20.9	101 35.0	S20 50.7	170 29.3	N 5 56.3	315 22.3	N 6 56.0
	22	354 12.6	136 52.1	S14 22.0	116 35.6	S20 51.1	185 31.3	N 5 56.1	330 24.9	N 6 55.9
	23	9 15.0	151 51.5	S14 23.1	131 36.2	S20 51.5	200 33.3	N 5 55.9	345 27.6	N 6 55.8
			v -0.5	d 1.1	v 0.6	d 0.4	v 2.0	d 0.2	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 23.8	S 7 36.3	32 09.6	16.1	S 1 05.0	13.8	55.0
	1	198 24.0	S 7 37.2	46 44.7	16.1	S 0 51.1	13.9	55.0
	2	213 24.1	S 7 38.2	61 19.8	16.1	S 0 37.3	13.9	55.0
	3	228 24.3	S 7 39.1	75 54.9	16.1	S 0 23.4	13.9	55.0
	4	243 24.4	S 7 40.0	90 29.9	16.1	S 0 09.5	13.9	55.1
W	5	258 24.6	S 7 41.0	105 05.0	16.0	N 0 04.4	13.9	55.1
E								
D	6	273 24.7	S 7 41.9	119 40.0	16.0	N 0 18.3	13.9	55.1
N	7	288 24.9	S 7 42.8	134 15.0	16.0	N 0 32.3	13.9	55.1
E	8	303 25.0	S 7 43.8	148 50.0	16.0	N 0 46.2	13.9	55.1
S	9	318 25.2	S 7 44.7	163 24.9	16.0	N 1 00.1	13.9	55.1
D	10	333 25.3	S 7 45.6	177 59.8	15.9	N 1 14.1	13.9	55.2
A	11	348 25.5	S 7 46.6	192 34.8	15.9	N 1 28.0	13.9	55.2
Y								
	12	3 25.7	S 7 47.5	207 09.6	15.9	N 1 42.0	14.0	55.2
	13	18 25.8	S 7 48.4	221 44.5	15.8	N 1 55.9	14.0	55.2
	14	33 26.0	S 7 49.4	236 19.3	15.8	N 2 09.9	14.0	55.2
	15	48 26.1	S 7 50.3	250 54.1	15.8	N 2 23.8	14.0	55.3
	16	63 26.3	S 7 51.2	265 28.8	15.8	N 2 37.8	14.0	55.3
	17	78 26.4	S 7 52.2	280 03.6	15.7	N 2 51.8	14.0	55.3
	18	93 26.6	S 7 53.1	294 38.3	15.7	N 3 05.7	14.0	55.3
	19	108 26.7	S 7 54.0	309 12.9	15.7	N 3 19.7	14.0	55.3
	20	123 26.9	S 7 55.0	323 47.6	15.6	N 3 33.6	14.0	55.4
	21	138 27.0	S 7 55.9	338 22.2	15.6	N 3 47.6	14.0	55.4
	22	153 27.2	S 7 56.8	352 56.7	15.6	N 4 01.5	13.9	55.4
	23	168 27.3	S 7 57.8	7 31.2	15.5	N 4 15.5	13.9	55.4
14	0	183 27.5	S 7 58.7	22 05.7	15.5	N 4 29.4	13.9	55.4
	1	198 27.6	S 7 59.6	36 40.1	15.4	N 4 43.3	13.9	55.5
	2	213 27.8	S 8 00.6	51 14.5	15.4	N 4 57.3	13.9	55.5
	3	228 27.9	S 8 01.5	65 48.9	15.4	N 5 11.2	13.9	55.5
	4	243 28.1	S 8 02.4	80 23.2	15.3	N 5 25.1	13.9	55.5
T	5	258 28.2	S 8 03.3	94 57.5	15.3	N 5 39.0	13.9	55.5
H								
U	6	273 28.4	S 8 04.3	109 31.7	15.2	N 5 52.8	13.9	55.6
R	7	288 28.5	S 8 05.2	124 05.9	15.2	N 6 06.7	13.9	55.6
S	8	303 28.6	S 8 06.1	138 40.0	15.1	N 6 20.6	13.8	55.6
D	9	318 28.8	S 8 07.1	153 14.1	15.1	N 6 34.4	13.8	55.6
A	10	333 28.9	S 8 08.0	167 48.1	15.0	N 6 48.2	13.8	55.6
Y	11	348 29.1	S 8 08.9	182 22.1	15.0	N 7 02.0	13.8	55.7
	12	3 29.2	S 8 09.9	196 56.1	14.9	N 7 15.8	13.8	55.7
	13	18 29.4	S 8 10.8	211 29.9	14.9	N 7 29.6	13.8	55.7
	14	33 29.5	S 8 11.7	226 03.8	14.8	N 7 43.3	13.7	55.7
	15	48 29.7	S 8 12.6	240 37.5	14.8	N 7 57.0	13.7	55.7
	16	63 29.8	S 8 13.6	255 11.3	14.7	N 8 10.7	13.7	55.8
	17	78 30.0	S 8 14.5	269 44.9	14.7	N 8 24.4	13.7	55.8
	18	93 30.1	S 8 15.4	284 18.5	14.6	N 8 38.0	13.7	55.8
	19	108 30.3	S 8 16.4	298 52.1	14.6	N 8 51.7	13.6	55.8
	20	123 30.4	S 8 17.3	313 25.6	14.5	N 9 05.3	13.6	55.8
	21	138 30.5	S 8 18.2	327 59.0	14.4	N 9 18.8	13.6	55.9
	22	153 30.7	S 8 19.1	342 32.4	14.4	N 9 32.4	13.5	55.9
	23	168 30.8	S 8 20.1	357 05.7	14.3	N 9 45.9	13.5	55.9
15	0	183 31.0	S 8 21.0	11 38.9	14.2	N 9 59.4	13.5	55.9
	1	198 31.1	S 8 21.9	26 12.1	14.2	N10 12.8	13.4	56.0
	2	213 31.3	S 8 22.8	40 45.2	14.1	N10 26.2	13.4	56.0
	3	228 31.4	S 8 23.8	55 18.3	14.1	N10 39.6	13.4	56.0
	4	243 31.5	S 8 24.7	69 51.3	14.0	N10 53.0	13.3	56.0
F	5	258 31.7	S 8 25.6	84 24.2	13.9	N11 06.3	13.3	56.0
R								
I	6	273 31.8	S 8 26.5	98 57.1	13.9	N11 19.5	13.3	56.1
D	7	288 32.0	S 8 27.5	113 29.8	13.8	N11 32.8	13.2	56.1
A	8	303 32.1	S 8 28.4	128 02.6	13.7	N11 46.0	13.2	56.1
Y	9	318 32.3	S 8 29.3	142 35.2	13.6	N11 59.1	13.1	56.1
	10	333 32.4	S 8 30.2	157 07.8	13.6	N12 12.2	13.1	56.2
	11	348 32.5	S 8 31.2	171 40.3	13.5	N12 25.3	13.1	56.2
	12	3 32.7	S 8 32.1	186 12.7	13.4	N12 38.3	13.0	56.2
	13	18 32.8	S 8 33.0	200 45.0	13.3	N12 51.3	13.0	56.2
	14	33 33.0	S 8 33.9	215 17.3	13.3	N13 04.2	12.9	56.2
	15	48 33.1	S 8 34.9	229 49.5	13.2	N13 17.1	12.9	56.3
	16	63 33.2	S 8 35.8	244 21.6	13.1	N13 29.9	12.8	56.3
	17	78 33.4	S 8 36.7	258 53.7	13.0	N13 42.7	12.8	56.3
	18	93 33.5	S 8 37.6	273 25.6	13.0	N13 55.4	12.7	56.3
	19	108 33.7	S 8 38.6	287 57.5	12.9	N14 08.0	12.7	56.3
	20	123 33.8	S 8 39.5	302 29.3	12.8	N14 20.6	12.6	56.4
	21	138 33.9	S 8 40.4	317 01.0	12.7	N14 33.2	12.6	56.4
	22	153 34.1	S 8 41.3	331 32.7	12.6	N14 45.7	12.5	56.4
	23	168 34.2	S 8 42.2	346 04.2	12.6	N14 58.1	12.4	56.4
		S.D. 16.0	d 0.9	S.D. 15.0		15.2	15.3	

STARS Name	SHA	Dec
Acamar	315 09.7	S40 11.4
Achernar	335 17.9	S57 05.6
Acrux	172 58.2	S63 15.1
Adhara	255 04.0	S29 00.3
Albireo	67 02.2	N28 01.3
Aldebaran	290 36.8	N16 34.0
Alioth	166 11.5	N55 48.5
Alkaid	152 50.7	N49 10.5
Al Na-ir	27 29.8	S46 49.6
Alnilam	275 35.3	S 1 10.9
Alphard	217 45.7	S 8 46.6
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.7	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 05.9	S69 04.9
Avior	234 13.9	S59 35.6
Bellatrix	278 20.3	N 6 22.6
Betelgeuse	270 49.5	N 7 24.8
Canopus	263 51.2	S52 42.3
Capella	280 18.3	N46 01.5
Castor	245 54.2	N31 49.6
Deneb	49 24.1	N45 23.1
Denebola	182 22.9	N14 25.0
Diphda	348 44.7	S17 49.8
Dubhe	193 38.8	N61 35.8
Elnath	277 58.9	N28 37.8
Eltanin	90 41.4	N51 29.3
Enif	33 36.3	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.1
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.5
Hamal	327 48.3	N23 35.8
Kaus Austr.	83 29.7	S34 22.4
Kochab	137 21.2	N74 02.5
Markab	13 27.4	N15 21.5
Menkar	314 03.5	N 4 12.1
Menkent	147 55.4	S36 30.4
Miaplacidus	221 38.1	S69 49.6
Mirfak	308 24.6	N49 57.6
Nunki	75 45.0	S26 15.7
Peacock	53 02.0	S56 38.9
Polaris	315 15.9	N89 22.2
Pollux	243 14.6	N27 57.5
Procyon	244 48.5	N 5 09.3
Rasalhague	95 56.6	N12 32.6
Regulus	207 32.2	N11 49.9
Rigel	281 01.5	S 8 10.0
Rigil Kent	139 37.9	S60 57.1
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.6
Shaula	96 07.5	S37 07.5
Sirius	258 24.2	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 44.8	S43 32.4
Vega	80 31.8	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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 17.5	166 51.0	S14 24.1	146 36.8	S20 51.9	215 35.3	N 5 55.7	0 30.2	N 6 55.8
	1	39 20.0	181 50.4	S14 25.2	161 37.4	S20 52.3	230 37.3	N 5 55.5	15 32.9	N 6 55.7
	2	54 22.4	196 49.9	S14 26.3	176 38.0	S20 52.7	245 39.3	N 5 55.3	30 35.5	N 6 55.6
	3	69 24.9	211 49.3	S14 27.4	191 38.6	S20 53.1	260 41.3	N 5 55.2	45 38.2	N 6 55.6
	4	84 27.4	226 48.8	S14 28.4	206 39.2	S20 53.5	275 43.3	N 5 55.0	60 40.8	N 6 55.5
S	5	99 29.8	241 48.2	S14 29.5	221 39.9	S20 53.9	290 45.3	N 5 54.8	75 43.5	N 6 55.4
A										
T	6	114 32.3	256 47.7	S14 30.6	236 40.5	S20 54.3	305 47.3	N 5 54.6	90 46.1	N 6 55.3
U	7	129 34.8	271 47.1	S14 31.7	251 41.1	S20 54.7	320 49.4	N 5 54.4	105 48.8	N 6 55.3
R	8	144 37.2	286 46.6	S14 32.7	266 41.7	S20 55.1	335 51.4	N 5 54.2	120 51.4	N 6 55.2
D	9	159 39.7	301 46.0	S14 33.8	281 42.3	S20 55.5	350 53.4	N 5 54.0	135 54.1	N 6 55.1
A	10	174 42.1	316 45.5	S14 34.9	296 42.9	S20 55.9	5 55.4	N 5 53.9	150 56.7	N 6 55.0
Y	11	189 44.6	331 44.9	S14 36.0	311 43.5	S20 56.3	20 57.4	N 5 53.7	165 59.4	N 6 55.0
	12	204 47.1	346 44.4	S14 37.0	326 44.1	S20 56.7	35 59.4	N 5 53.5	181 02.0	N 6 54.9
	13	219 49.5	1 43.8	S14 38.1	341 44.7	S20 57.1	51 01.4	N 5 53.3	196 04.7	N 6 54.8
	14	234 52.0	16 43.3	S14 39.2	356 45.3	S20 57.5	66 03.4	N 5 53.1	211 07.3	N 6 54.8
	15	249 54.5	31 42.7	S14 40.2	11 45.9	S20 57.9	81 05.4	N 5 52.9	226 10.0	N 6 54.7
	16	264 56.9	46 42.2	S14 41.3	26 46.5	S20 58.3	96 07.4	N 5 52.8	241 12.6	N 6 54.6
	17	279 59.4	61 41.6	S14 42.4	41 47.1	S20 58.7	111 09.5	N 5 52.6	256 15.3	N 6 54.5
	18	295 01.9	76 41.1	S14 43.4	56 47.7	S20 59.0	126 11.5	N 5 52.4	271 17.9	N 6 54.5
	19	310 04.3	91 40.5	S14 44.5	71 48.3	S20 59.4	141 13.5	N 5 52.2	286 20.6	N 6 54.4
	20	325 06.8	106 40.0	S14 45.6	86 48.9	S20 59.8	156 15.5	N 5 52.0	301 23.2	N 6 54.3
	21	340 09.2	121 39.4	S14 46.6	101 49.5	S21 00.2	171 17.5	N 5 51.8	316 25.9	N 6 54.2
	22	355 11.7	136 38.9	S14 47.7	116 50.1	S21 00.6	186 19.5	N 5 51.6	331 28.5	N 6 54.2
	23	10 14.2	151 38.3	S14 48.8	131 50.7	S21 01.0	201 21.5	N 5 51.5	346 31.2	N 6 54.1
17	0	25 16.6	166 37.7	S14 49.8	146 51.3	S21 01.4	216 23.5	N 5 51.3	1 33.8	N 6 54.0
	1	40 19.1	181 37.2	S14 50.9	161 51.9	S21 01.8	231 25.6	N 5 51.1	16 36.5	N 6 54.0
	2	55 21.6	196 36.6	S14 51.9	176 52.5	S21 02.2	246 27.6	N 5 50.9	31 39.1	N 6 53.9
	3	70 24.0	211 36.1	S14 53.0	191 53.1	S21 02.6	261 29.6	N 5 50.7	46 41.8	N 6 53.8
	4	85 26.5	226 35.5	S14 54.1	206 53.7	S21 03.0	276 31.6	N 5 50.5	61 44.4	N 6 53.7
S	5	100 29.0	241 35.0	S14 55.1	221 54.3	S21 03.4	291 33.6	N 5 50.4	76 47.1	N 6 53.7
U										
N	6	115 31.4	256 34.4	S14 56.2	236 54.9	S21 03.8	306 35.6	N 5 50.2	91 49.7	N 6 53.6
D	7	130 33.9	271 33.8	S14 57.2	251 55.5	S21 04.1	321 37.6	N 5 50.0	106 52.4	N 6 53.5
A	8	145 36.4	286 33.3	S14 58.3	266 56.1	S21 04.5	336 39.6	N 5 49.8	121 55.0	N 6 53.4
Y	9	160 38.8	301 32.7	S14 59.3	281 56.7	S21 04.9	351 41.6	N 5 49.6	136 57.7	N 6 53.4
	10	175 41.3	316 32.2	S15 00.4	296 57.3	S21 05.3	6 43.7	N 5 49.4	152 00.4	N 6 53.3
	11	190 43.7	331 31.6	S15 01.5	311 57.9	S21 05.7	21 45.7	N 5 49.2	167 03.0	N 6 53.2
	12	205 46.2	346 31.0	S15 02.5	326 58.5	S21 06.1	36 47.7	N 5 49.1	182 05.7	N 6 53.2
	13	220 48.7	1 30.5	S15 03.6	341 59.1	S21 06.5	51 49.7	N 5 48.9	197 08.3	N 6 53.1
	14	235 51.1	16 29.9	S15 04.6	356 59.7	S21 06.9	66 51.7	N 5 48.7	212 11.0	N 6 53.0
	15	250 53.6	31 29.3	S15 05.7	12 00.3	S21 07.3	81 53.7	N 5 48.5	227 13.6	N 6 52.9
	16	265 56.1	46 28.8	S15 06.7	27 00.9	S21 07.6	96 55.7	N 5 48.3	242 16.3	N 6 52.9
	17	280 58.5	61 28.2	S15 07.8	42 01.5	S21 08.0	111 57.8	N 5 48.1	257 18.9	N 6 52.8
	18	296 01.0	76 27.7	S15 08.8	57 02.1	S21 08.4	126 59.8	N 5 48.0	272 21.6	N 6 52.7
	19	311 03.5	91 27.1	S15 09.9	72 02.7	S21 08.8	142 01.8	N 5 47.8	287 24.2	N 6 52.7
	20	326 05.9	106 26.5	S15 10.9	87 03.3	S21 09.2	157 03.8	N 5 47.6	302 26.9	N 6 52.6
	21	341 08.4	121 26.0	S15 12.0	102 03.9	S21 09.6	172 05.8	N 5 47.4	317 29.5	N 6 52.5
	22	356 10.9	136 25.4	S15 13.0	117 04.5	S21 10.0	187 07.8	N 5 47.2	332 32.2	N 6 52.4
	23	11 13.3	151 24.8	S15 14.1	132 05.1	S21 10.3	202 09.8	N 5 47.0	347 34.8	N 6 52.4
18	0	26 15.8	166 24.3	S15 15.1	147 05.7	S21 10.7	217 11.9	N 5 46.9	2 37.5	N 6 52.3
	1	41 18.2	181 23.7	S15 16.2	162 06.3	S21 11.1	232 13.9	N 5 46.7	17 40.1	N 6 52.2
	2	56 20.7	196 23.1	S15 17.2	177 06.8	S21 11.5	247 15.9	N 5 46.5	32 42.8	N 6 52.1
	3	71 23.2	211 22.5	S15 18.3	192 07.4	S21 11.9	262 17.9	N 5 46.3	47 45.4	N 6 52.1
	4	86 25.6	226 22.0	S15 19.3	207 08.0	S21 12.3	277 19.9	N 5 46.1	62 48.1	N 6 52.0
M	5	101 28.1	241 21.4	S15 20.3	222 08.6	S21 12.6	292 21.9	N 5 45.9	77 50.7	N 6 51.9
O										
N	6	116 30.6	256 20.8	S15 21.4	237 09.2	S21 13.0	307 23.9	N 5 45.8	92 53.4	N 6 51.9
D	7	131 33.0	271 20.3	S15 22.4	252 09.8	S21 13.4	322 26.0	N 5 45.6	107 56.0	N 6 51.8
A	8	146 35.5	286 19.7	S15 23.5	267 10.4	S21 13.8	337 28.0	N 5 45.4	122 58.7	N 6 51.7
Y	9	161 38.0	301 19.1	S15 24.5	282 11.0	S21 14.2	352 30.0	N 5 45.2	138 01.3	N 6 51.6
	10	176 40.4	316 18.5	S15 25.6	297 11.6	S21 14.6	7 32.0	N 5 45.0	153 04.0	N 6 51.6
	11	191 42.9	331 18.0	S15 26.6	312 12.2	S21 14.9	22 34.0	N 5 44.8	168 06.6	N 6 51.5
	12	206 45.3	346 17.4	S15 27.6	327 12.8	S21 15.3	37 36.0	N 5 44.7	183 09.3	N 6 51.4
	13	221 47.8	1 16.8	S15 28.7	342 13.4	S21 15.7	52 38.0	N 5 44.5	198 11.9	N 6 51.4
	14	236 50.3	16 16.2	S15 29.7	357 13.9	S21 16.1	67 40.1	N 5 44.3	213 14.6	N 6 51.3
	15	251 52.7	31 15.7	S15 30.7	12 14.5	S21 16.5	82 42.1	N 5 44.1	228 17.2	N 6 51.2
	16	266 55.2	46 15.1	S15 31.8	27 15.1	S21 16.8	97 44.1	N 5 43.9	243 19.9	N 6 51.1
	17	281 57.7	61 14.5	S15 32.8	42 15.7	S21 17.2	112 46.1	N 5 43.7	258 22.5	N 6 51.1
	18	297 00.1	76 13.9	S15 33.9	57 16.3	S21 17.6	127 48.1	N 5 43.6	273 25.2	N 6 51.0
	19	312 02.6	91 13.4	S15 34.9	72 16.9	S21 18.0	142 50.1	N 5 43.4	288 27.8	N 6 50.9
	20	327 05.1	106 12.8	S15 35.9	87 17.5	S21 18.4	157 52.2	N 5 43.2	303 30.5	N 6 50.8
	21	342 07.5	121 12.2	S15 37.0	102 18.1	S21 18.7	172 54.2	N 5 43.0	318 33.1	N 6 50.8
	22	357 10.0	136 11.6	S15 38.0	117 18.7	S21 19.1	187 56.2	N 5 42.8	333 35.8	N 6 50.7
	23	12 12.5	151 11.0	S15 39.0	132 19.2	S21 19.5	202 58.2	N 5 42.6	348 38.4	N 6 50.6
			v -0.6	d 1.1	v 0.6	d 0.4	v 2.0	d 0.2	v 2.7	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 34.4	S 8 43.2	0 35.7	12.5	N15 10.5	12.4	56.5
	1	198 34.5	S 8 44.1	15 07.1	12.4	N15 22.8	12.3	56.5
	2	213 34.6	S 8 45.0	29 38.4	12.3	N15 35.1	12.2	56.5
	3	228 34.8	S 8 45.9	44 09.6	12.2	N15 47.2	12.2	56.5
	4	243 34.9	S 8 46.8	58 40.8	12.1	N15 59.4	12.1	56.5
S	5	258 35.0	S 8 47.8	73 11.8	12.0	N16 11.4	12.1	56.6
A								
T	6	273 35.2	S 8 48.7	87 42.8	12.0	N16 23.4	12.0	56.6
U	7	288 35.3	S 8 49.6	102 13.7	11.9	N16 35.3	11.9	56.6
R	8	303 35.5	S 8 50.5	116 44.5	11.8	N16 47.1	11.8	56.6
D	9	318 35.6	S 8 51.5	131 15.1	11.7	N16 58.9	11.8	56.6
A	10	333 35.7	S 8 52.4	145 45.8	11.6	N17 10.6	11.7	56.7
Y	11	348 35.9	S 8 53.3	160 16.3	11.5	N17 22.2	11.6	56.7
	12	3 36.0	S 8 54.2	174 46.7	11.4	N17 33.8	11.5	56.7
	13	18 36.1	S 8 55.1	189 17.0	11.3	N17 45.2	11.5	56.7
	14	33 36.3	S 8 56.0	203 47.3	11.2	N17 56.6	11.4	56.8
	15	48 36.4	S 8 57.0	218 17.4	11.2	N18 07.9	11.3	56.8
	16	63 36.5	S 8 57.9	232 47.5	11.1	N18 19.1	11.2	56.8
	17	78 36.7	S 8 58.8	247 17.4	11.0	N18 30.3	11.1	56.8
	18	93 36.8	S 8 59.7	261 47.3	10.9	N18 41.3	11.1	56.8
	19	108 36.9	S 9 00.6	276 17.1	10.8	N18 52.3	11.0	56.9
	20	123 37.1	S 9 01.6	290 46.8	10.7	N19 03.2	10.9	56.9
	21	138 37.2	S 9 02.5	305 16.4	10.6	N19 14.0	10.8	56.9
	22	153 37.3	S 9 03.4	319 45.9	10.5	N19 24.7	10.7	56.9
	23	168 37.5	S 9 04.3	334 15.3	10.4	N19 35.3	10.6	56.9
17	0	183 37.6	S 9 05.2	348 44.6	10.3	N19 45.8	10.5	57.0
	1	198 37.7	S 9 06.1	3 13.8	10.2	N19 56.2	10.4	57.0
	2	213 37.9	S 9 07.1	17 42.9	10.1	N20 06.5	10.3	57.0
	3	228 38.0	S 9 08.0	32 11.9	10.0	N20 16.7	10.2	57.0
	4	243 38.1	S 9 08.9	46 40.8	9.9	N20 26.9	10.1	57.1
S	5	258 38.2	S 9 09.8	61 09.6	9.8	N20 36.9	10.0	57.1
U								
N	6	273 38.4	S 9 10.7	75 38.4	9.7	N20 46.8	9.9	57.1
D	7	288 38.5	S 9 11.6	90 07.0	9.6	N20 56.6	9.8	57.1
A	8	303 38.6	S 9 12.5	104 35.5	9.5	N21 06.3	9.7	57.1
Y	9	318 38.8	S 9 13.5	119 04.0	9.4	N21 15.9	9.6	57.2
	10	333 38.9	S 9 14.4	133 32.3	9.3	N21 25.4	9.5	57.2
	11	348 39.0	S 9 15.3	148 00.6	9.2	N21 34.8	9.4	57.2
	12	3 39.2	S 9 16.2	162 28.7	9.2	N21 44.1	9.3	57.2
	13	18 39.3	S 9 17.1	176 56.8	9.1	N21 53.2	9.2	57.2
	14	33 39.4	S 9 18.0	191 24.7	9.0	N22 02.3	9.0	57.3
	15	48 39.5	S 9 18.9	205 52.6	8.9	N22 11.2	8.9	57.3
	16	63 39.7	S 9 19.9	220 20.4	8.8	N22 20.0	8.8	57.3
	17	78 39.8	S 9 20.8	234 48.0	8.7	N22 28.7	8.7	57.3
	18	93 39.9	S 9 21.7	249 15.6	8.6	N22 37.3	8.6	57.3
	19	108 40.1	S 9 22.6	263 43.1	8.5	N22 45.7	8.5	57.4
	20	123 40.2	S 9 23.5	278 10.5	8.4	N22 54.1	8.3	57.4
	21	138 40.3	S 9 24.4	292 37.8	8.3	N23 02.3	8.2	57.4
	22	153 40.4	S 9 25.3	307 05.0	8.2	N23 10.4	8.1	57.4
	23	168 40.6	S 9 26.2	321 32.1	8.1	N23 18.3	8.0	57.4
18	0	183 40.7	S 9 27.1	335 59.1	8.0	N23 26.1	7.8	57.5
	1	198 40.8	S 9 28.1	350 26.0	7.9	N23 33.8	7.7	57.5
	2	213 40.9	S 9 29.0	4 52.9	7.8	N23 41.4	7.6	57.5
	3	228 41.1	S 9 29.9	19 19.6	7.7	N23 48.8	7.4	57.5
	4	243 41.2	S 9 30.8	33 46.3	7.7	N23 56.1	7.3	57.5
M	5	258 41.3	S 9 31.7	48 12.9	7.6	N24 03.3	7.2	57.5
O								
N	6	273 41.4	S 9 32.6	62 39.3	7.5	N24 10.3	7.0	57.6
D	7	288 41.6	S 9 33.5	77 05.7	7.4	N24 17.2	6.9	57.6
A	8	303 41.7	S 9 34.4	91 32.0	7.3	N24 24.0	6.8	57.6
Y	9	318 41.8	S 9 35.3	105 58.3	7.2	N24 30.6	6.6	57.6
	10	333 41.9	S 9 36.2	120 24.4	7.1	N24 37.1	6.5	57.6
	11	348 42.0	S 9 37.1	134 50.5	7.1	N24 43.4	6.3	57.7
	12	3 42.2	S 9 38.1	149 16.4	7.0	N24 49.6	6.2	57.7
	13	18 42.3	S 9 39.0	163 42.3	6.9	N24 55.6	6.0	57.7
	14	33 42.4	S 9 39.9	178 08.2	6.8	N25 01.5	5.9	57.7
	15	48 42.5	S 9 40.8	192 33.9	6.7	N25 07.3	5.8	57.7
	16	63 42.7	S 9 41.7	206 59.5	6.7	N25 12.9	5.6	57.8
	17	78 42.8	S 9 42.6	221 25.1	6.6	N25 18.4	5.5	57.8
	18	93 42.9	S 9 43.5	235 50.6	6.5	N25 23.7	5.3	57.8
	19	108 43.0	S 9 44.4	250 16.1	6.4	N25 28.8	5.2	57.8
	20	123 43.1	S 9 45.3	264 41.4	6.4	N25 33.8	5.0	57.8
	21	138 43.3	S 9 46.2	279 06.7	6.3	N25 38.6	4.8	57.8
	22	153 43.4	S 9 47.1	293 31.9	6.2	N25 43.3	4.7	57.9
	23	168 43.5	S 9 48.0	307 57.1	6.1	N25 47.9	4.5	57.9
		S.D. 16.1	d 0.9	S.D. 15.5		15.6		15.7

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.4
Achernar	335 17.9	S57 05.6
Acrux	172 58.2	S63 15.1
Adhara	255 04.0	S29 00.3
Albireo	67 02.3	N28 01.3
Aldebaran	290 36.8	N16 34.0
Alioth	166 11.5	N55 48.5
Alkaid	152 50.7	N49 10.5
Al Na-ir	27 29.8	S46 49.6
Alnilam	275 35.2	S 1 10.9
Alphard	217 45.6	S 8 46.7
Alphecca	126 02.1	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.7	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 06.0	S69 04.8
Avior	234 13.9	S59 35.6
Bellatrix	278 20.3	N 6 22.6
Betelgeuse	270 49.5	N 7 24.8
Canopus	263 51.2	S52 42.3
Capella	280 18.3	N46 01.5
Castor	245 54.2	N31 49.6
Deneb	49 24.1	N45 23.1
Denebola	182 22.9	N14 25.0
Diphda	348 44.7	S17 49.9
Dubhe	193 38.8	N61 35.8
Elnath	277 58.8	N28 37.8
Eltanin	90 41.4	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.1
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.4
Hamal	327 48.3	N23 35.8
Kaus Austr.	83 29.7	S34 22.4
Kochab	137 21.2	N74 02.5
Markab	13 27.4	N15 21.5
Menkar	314 03.5	N 4 12.1
Menkent	147 55.4	S36 30.4
Miaplacidus	221 38.0	S69 49.6
Mirfak	308 24.6	N49 57.6
Nunki	75 45.0	S26 15.7
Peacock	53 02.0	S56 38.9
Polaris	315 15.3	N89 22.3
Pollux	243 14.5	N27 57.4
Procyon	244 48.5	N 5 09.3
Rasalhague	95 56.7	N12 32.6
Regulus	207 32.2	N11 49.9
Rigel	281 01.5	S 8 10.0
Rigil Kent	139 38.0	S60 57.1
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.6
Shaula	96 07.5	S37 07.5
Sirius	258 24.2	S16 45.0
Spica	158 20.2	S11 18.3
Suhail	222 44.8	S43 32.4
Vega	80 31.8	N38 48.8
Zuben-ubi	136 54.8	S16 09.4

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	27 14.9	166 10.5	S15 40.0	147 19.8	S21 19.9	218 00.2	N 5 42.5	3 41.1	N 6 50.6
	1	42 17.4	181 09.9	S15 41.1	162 20.4	S21 20.2	233 02.2	N 5 42.3	18 43.7	N 6 50.5
	2	57 19.8	196 09.3	S15 42.1	177 21.0	S21 20.6	248 04.3	N 5 42.1	33 46.4	N 6 50.4
	3	72 22.3	211 08.7	S15 43.1	192 21.6	S21 21.0	263 06.3	N 5 41.9	48 49.0	N 6 50.3
	4	87 24.8	226 08.1	S15 44.2	207 22.2	S21 21.4	278 08.3	N 5 41.7	63 51.7	N 6 50.3
T	5	102 27.2	241 07.6	S15 45.2	222 22.8	S21 21.7	293 10.3	N 5 41.5	78 54.3	N 6 50.2
U										
E	6	117 29.7	256 07.0	S15 46.2	237 23.3	S21 22.1	308 12.3	N 5 41.4	93 57.0	N 6 50.1
S	7	132 32.2	271 06.4	S15 47.2	252 23.9	S21 22.5	323 14.3	N 5 41.2	108 59.6	N 6 50.1
D	8	147 34.6	286 05.8	S15 48.3	267 24.5	S21 22.9	338 16.4	N 5 41.0	124 02.3	N 6 50.0
A	9	162 37.1	301 05.2	S15 49.3	282 25.1	S21 23.2	353 18.4	N 5 40.8	139 04.9	N 6 49.9
Y	10	177 39.6	316 04.6	S15 50.3	297 25.7	S21 23.6	8 20.4	N 5 40.6	154 07.6	N 6 49.8
	11	192 42.0	331 04.1	S15 51.3	312 26.3	S21 24.0	23 22.4	N 5 40.5	169 10.2	N 6 49.8
	12	207 44.5	346 03.5	S15 52.4	327 26.8	S21 24.4	38 24.4	N 5 40.3	184 12.9	N 6 49.7
	13	222 47.0	1 02.9	S15 53.4	342 27.4	S21 24.7	53 26.4	N 5 40.1	199 15.5	N 6 49.6
	14	237 49.4	16 02.3	S15 54.4	357 28.0	S21 25.1	68 28.5	N 5 39.9	214 18.2	N 6 49.5
	15	252 51.9	31 01.7	S15 55.4	12 28.6	S21 25.5	83 30.5	N 5 39.7	229 20.8	N 6 49.5
	16	267 54.3	46 01.1	S15 56.5	27 29.2	S21 25.9	98 32.5	N 5 39.5	244 23.5	N 6 49.4
	17	282 56.8	61 00.5	S15 57.5	42 29.8	S21 26.2	113 34.5	N 5 39.4	259 26.1	N 6 49.3
	18	297 59.3	75 59.9	S15 58.5	57 30.3	S21 26.6	128 36.5	N 5 39.2	274 28.8	N 6 49.3
	19	313 01.7	90 59.4	S15 59.5	72 30.9	S21 27.0	143 38.6	N 5 39.0	289 31.4	N 6 49.2
	20	328 04.2	105 58.8	S16 00.5	87 31.5	S21 27.3	158 40.6	N 5 38.8	304 34.1	N 6 49.1
	21	343 06.7	120 58.2	S16 01.5	102 32.1	S21 27.7	173 42.6	N 5 38.6	319 36.7	N 6 49.0
	22	358 09.1	135 57.6	S16 02.6	117 32.7	S21 28.1	188 44.6	N 5 38.4	334 39.4	N 6 49.0
	23	13 11.6	150 57.0	S16 03.6	132 33.2	S21 28.5	203 46.6	N 5 38.3	349 42.0	N 6 48.9
20	0	28 14.1	165 56.4	S16 04.6	147 33.8	S21 28.8	218 48.6	N 5 38.1	4 44.7	N 6 48.8
	1	43 16.5	180 55.8	S16 05.6	162 34.4	S21 29.2	233 50.7	N 5 37.9	19 47.3	N 6 48.8
	2	58 19.0	195 55.2	S16 06.6	177 35.0	S21 29.6	248 52.7	N 5 37.7	34 50.0	N 6 48.7
	3	73 21.5	210 54.6	S16 07.6	192 35.6	S21 29.9	263 54.7	N 5 37.5	49 52.6	N 6 48.6
	4	88 23.9	225 54.0	S16 08.6	207 36.1	S21 30.3	278 56.7	N 5 37.4	64 55.3	N 6 48.5
W	5	103 26.4	240 53.4	S16 09.7	222 36.7	S21 30.7	293 58.7	N 5 37.2	79 57.9	N 6 48.5
E										
D	6	118 28.8	255 52.8	S16 10.7	237 37.3	S21 31.0	309 00.8	N 5 37.0	95 00.6	N 6 48.4
N	7	133 31.3	270 52.2	S16 11.7	252 37.9	S21 31.4	324 02.8	N 5 36.8	110 03.2	N 6 48.3
E	8	148 33.8	285 51.6	S16 12.7	267 38.5	S21 31.8	339 04.8	N 5 36.6	125 05.9	N 6 48.3
S	9	163 36.2	300 51.0	S16 13.7	282 39.0	S21 32.1	354 06.8	N 5 36.5	140 08.5	N 6 48.2
D	10	178 38.7	315 50.4	S16 14.7	297 39.6	S21 32.5	9 08.8	N 5 36.3	155 11.2	N 6 48.1
A	11	193 41.2	330 49.8	S16 15.7	312 40.2	S21 32.9	24 10.9	N 5 36.1	170 13.9	N 6 48.0
Y										
	12	208 43.6	345 49.3	S16 16.7	327 40.8	S21 33.2	39 12.9	N 5 35.9	185 16.5	N 6 48.0
	13	223 46.1	0 48.7	S16 17.7	342 41.3	S21 33.6	54 14.9	N 5 35.7	200 19.2	N 6 47.9
	14	238 48.6	15 48.1	S16 18.7	357 41.9	S21 34.0	69 16.9	N 5 35.5	215 21.8	N 6 47.8
	15	253 51.0	30 47.5	S16 19.7	12 42.5	S21 34.3	84 18.9	N 5 35.4	230 24.5	N 6 47.8
	16	268 53.5	45 46.9	S16 20.7	27 43.1	S21 34.7	99 21.0	N 5 35.2	245 27.1	N 6 47.7
	17	283 55.9	60 46.3	S16 21.7	42 43.6	S21 35.1	114 23.0	N 5 35.0	260 29.8	N 6 47.6
	18	298 58.4	75 45.6	S16 22.7	57 44.2	S21 35.4	129 25.0	N 5 34.8	275 32.4	N 6 47.5
	19	314 00.9	90 45.0	S16 23.7	72 44.8	S21 35.8	144 27.0	N 5 34.6	290 35.1	N 6 47.5
	20	329 03.3	105 44.4	S16 24.7	87 45.4	S21 36.1	159 29.1	N 5 34.5	305 37.7	N 6 47.4
	21	344 05.8	120 43.8	S16 25.7	102 45.9	S21 36.5	174 31.1	N 5 34.3	320 40.4	N 6 47.3
	22	359 08.3	135 43.2	S16 26.7	117 46.5	S21 36.9	189 33.1	N 5 34.1	335 43.0	N 6 47.3
	23	14 10.7	150 42.6	S16 27.7	132 47.1	S21 37.2	204 35.1	N 5 33.9	350 45.7	N 6 47.2
21	0	29 13.2	165 42.0	S16 28.7	147 47.7	S21 37.6	219 37.1	N 5 33.7	5 48.3	N 6 47.1
	1	44 15.7	180 41.4	S16 29.7	162 48.2	S21 38.0	234 39.2	N 5 33.6	20 51.0	N 6 47.0
	2	59 18.1	195 40.8	S16 30.7	177 48.8	S21 38.3	249 41.2	N 5 33.4	35 53.6	N 6 47.0
	3	74 20.6	210 40.2	S16 31.7	192 49.4	S21 38.7	264 43.2	N 5 33.2	50 56.3	N 6 46.9
	4	89 23.1	225 39.6	S16 32.7	207 50.0	S21 39.0	279 45.2	N 5 33.0	65 58.9	N 6 46.8
T	5	104 25.5	240 39.0	S16 33.7	222 50.5	S21 39.4	294 47.3	N 5 32.8	81 01.6	N 6 46.8
H										
U	6	119 28.0	255 38.4	S16 34.7	237 51.1	S21 39.8	309 49.3	N 5 32.7	96 04.2	N 6 46.7
R	7	134 30.4	270 37.8	S16 35.7	252 51.7	S21 40.1	324 51.3	N 5 32.5	111 06.9	N 6 46.6
S	8	149 32.9	285 37.2	S16 36.7	267 52.2	S21 40.5	339 53.3	N 5 32.3	126 09.5	N 6 46.5
D	9	164 35.4	300 36.6	S16 37.7	282 52.8	S21 40.8	354 55.3	N 5 32.1	141 12.2	N 6 46.5
A	10	179 37.8	315 36.0	S16 38.7	297 53.4	S21 41.2	9 57.4	N 5 31.9	156 14.8	N 6 46.4
Y	11	194 40.3	330 35.3	S16 39.7	312 53.9	S21 41.6	24 59.4	N 5 31.8	171 17.5	N 6 46.3
	12	209 42.8	345 34.7	S16 40.6	327 54.5	S21 41.9	40 01.4	N 5 31.6	186 20.1	N 6 46.3
	13	224 45.2	0 34.1	S16 41.6	342 55.1	S21 42.3	55 03.4	N 5 31.4	201 22.8	N 6 46.2
	14	239 47.7	15 33.5	S16 42.6	357 55.7	S21 42.6	70 05.5	N 5 31.2	216 25.4	N 6 46.1
	15	254 50.2	30 32.9	S16 43.6	12 56.2	S21 43.0	85 07.5	N 5 31.0	231 28.1	N 6 46.0
	16	269 52.6	45 32.3	S16 44.6	27 56.8	S21 43.3	100 09.5	N 5 30.9	246 30.7	N 6 46.0
	17	284 55.1	60 31.7	S16 45.6	42 57.4	S21 43.7	115 11.5	N 5 30.7	261 33.4	N 6 45.9
	18	299 57.6	75 31.1	S16 46.6	57 57.9	S21 44.0	130 13.5	N 5 30.5	276 36.0	N 6 45.8
	19	315 00.0	90 30.4	S16 47.5	72 58.5	S21 44.4	145 15.6	N 5 30.3	291 38.7	N 6 45.8
	20	330 02.5	105 29.8	S16 48.5	87 59.1	S21 44.8	160 17.6	N 5 30.1	306 41.3	N 6 45.7
	21	345 04.9	120 29.2	S16 49.5	102 59.6	S21 45.1	175 19.6	N 5 30.0	321 44.0	N 6 45.6
	22	0 07.4	135 28.6	S16 50.5	118 00.2	S21 45.5	190 21.6	N 5 29.8	336 46.6	N 6 45.5
	23	15 09.9	150 28.0	S16 51.5	133 00.8	S21 45.8	205 23.7	N 5 29.6	351 49.3	N 6 45.5
			v -0.6	d 1.0	v 0.6	d 0.4	v 2.0	d 0.2	v 2.7	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 43.6	S 9 48.9	322 22.2	6.1	N25 52.2	4.4	57.9
	1	198 43.7	S 9 49.8	336 47.2	6.0	N25 56.5	4.2	57.9
	2	213 43.9	S 9 50.7	351 12.1	6.0	N26 00.5	4.1	57.9
	3	228 44.0	S 9 51.6	5 37.0	5.9	N26 04.4	3.9	58.0
	4	243 44.1	S 9 52.6	20 01.9	5.8	N26 08.2	3.7	58.0
T	5	258 44.2	S 9 53.5	34 26.6	5.8	N26 11.7	3.6	58.0
U								
E	6	273 44.3	S 9 54.4	48 51.3	5.7	N26 15.2	3.4	58.0
S	7	288 44.4	S 9 55.3	63 16.0	5.7	N26 18.4	3.3	58.0
D	8	303 44.6	S 9 56.2	77 40.6	5.6	N26 21.5	3.1	58.0
A	9	318 44.7	S 9 57.1	92 05.2	5.6	N26 24.4	2.9	58.1
Y	10	333 44.8	S 9 58.0	106 29.7	5.5	N26 27.2	2.8	58.1
	11	348 44.9	S 9 58.9	120 54.1	5.5	N26 29.8	2.6	58.1
	12	3 45.0	S 9 59.8	135 18.5	5.4	N26 32.2	2.4	58.1
	13	18 45.1	S10 00.7	149 42.9	5.4	N26 34.4	2.3	58.1
	14	33 45.3	S10 01.6	164 07.2	5.3	N26 36.5	2.1	58.1
	15	48 45.4	S10 02.5	178 31.5	5.3	N26 38.5	1.9	58.2
	16	63 45.5	S10 03.4	192 55.7	5.2	N26 40.2	1.7	58.2
	17	78 45.6	S10 04.3	207 19.9	5.2	N26 41.8	1.6	58.2
	18	93 45.7	S10 05.2	221 44.1	5.2	N26 43.2	1.4	58.2
	19	108 45.8	S10 06.1	236 08.2	5.1	N26 44.4	1.2	58.2
	20	123 45.9	S10 07.0	250 32.3	5.1	N26 45.5	1.1	58.2
	21	138 46.1	S10 07.9	264 56.4	5.1	N26 46.4	0.9	58.3
	22	153 46.2	S10 08.8	279 20.4	5.0	N26 47.1	0.7	58.3
	23	168 46.3	S10 09.7	293 44.4	5.0	N26 47.7	0.5	58.3
20	0	183 46.4	S10 10.6	308 08.4	5.0	N26 48.0	0.4	58.3
	1	198 46.5	S10 11.5	322 32.4	5.0	N26 48.2	0.2	58.3
	2	213 46.6	S10 12.4	336 56.3	5.0	N26 48.3	0.0	58.3
	3	228 46.7	S10 13.3	351 20.3	4.9	N26 48.1	0.1	58.4
	4	243 46.8	S10 14.2	5 44.2	4.9	N26 47.8	0.3	58.4
W	5	258 47.0	S10 15.1	20 08.1	4.9	N26 47.3	0.5	58.4
E								
D	6	273 47.1	S10 16.0	34 32.0	4.9	N26 46.6	0.7	58.4
N	7	288 47.2	S10 16.9	48 55.9	4.9	N26 45.8	0.8	58.4
E	8	303 47.3	S10 17.8	63 19.8	4.9	N26 44.8	1.0	58.4
S	9	318 47.4	S10 18.7	77 43.6	4.9	N26 43.6	1.2	58.4
D	10	333 47.5	S10 19.6	92 07.5	4.9	N26 42.2	1.4	58.5
A	11	348 47.6	S10 20.5	106 31.4	4.9	N26 40.7	1.5	58.5
Y								
	12	3 47.7	S10 21.4	120 55.3	4.9	N26 38.9	1.7	58.5
	13	18 47.8	S10 22.3	135 19.1	4.9	N26 37.1	1.9	58.5
	14	33 47.9	S10 23.1	149 43.0	4.9	N26 35.0	2.1	58.5
	15	48 48.1	S10 24.0	164 06.9	4.9	N26 32.7	2.2	58.5
	16	63 48.2	S10 24.9	178 30.8	4.9	N26 30.3	2.4	58.5
	17	78 48.3	S10 25.8	192 54.7	4.9	N26 27.7	2.6	58.6
	18	93 48.4	S10 26.7	207 18.6	4.9	N26 25.0	2.8	58.6
	19	108 48.5	S10 27.6	221 42.6	4.9	N26 22.0	2.9	58.6
	20	123 48.6	S10 28.5	236 06.5	5.0	N26 18.9	3.1	58.6
	21	138 48.7	S10 29.4	250 30.5	5.0	N26 15.6	3.3	58.6
	22	153 48.8	S10 30.3	264 54.5	5.0	N26 12.2	3.5	58.6
	23	168 48.9	S10 31.2	279 18.5	5.0	N26 08.6	3.6	58.6
21	0	183 49.0	S10 32.1	293 42.5	5.0	N26 04.8	3.8	58.7
	1	198 49.1	S10 33.0	308 06.6	5.1	N26 00.8	4.0	58.7
	2	213 49.2	S10 33.9	322 30.7	5.1	N25 56.6	4.1	58.7
	3	228 49.3	S10 34.8	336 54.8	5.1	N25 52.3	4.3	58.7
	4	243 49.4	S10 35.7	351 19.0	5.2	N25 47.9	4.5	58.7
T	5	258 49.5	S10 36.5	5 43.2	5.2	N25 43.2	4.7	58.7
H								
U	6	273 49.6	S10 37.4	20 07.4	5.2	N25 38.4	4.8	58.7
R	7	288 49.8	S10 38.3	34 31.7	5.3	N25 33.4	5.0	58.8
S	8	303 49.9	S10 39.2	48 56.0	5.3	N25 28.2	5.2	58.8
D	9	318 50.0	S10 40.1	63 20.3	5.3	N25 22.9	5.3	58.8
A	10	333 50.1	S10 41.0	77 44.7	5.4	N25 17.4	5.5	58.8
Y	11	348 50.2	S10 41.9	92 09.1	5.4	N25 11.8	5.7	58.8
	12	3 50.3	S10 42.8	106 33.6	5.5	N25 06.0	5.8	58.8
	13	18 50.4	S10 43.7	120 58.1	5.5	N24 60.0	6.0	58.8
	14	33 50.5	S10 44.6	135 22.7	5.6	N24 53.8	6.1	58.8
	15	48 50.6	S10 45.5	149 47.3	5.6	N24 47.5	6.3	58.9
	16	63 50.7	S10 46.3	164 12.0	5.7	N24 41.1	6.5	58.9
	17	78 50.8	S10 47.2	178 36.7	5.7	N24 34.4	6.6	58.9
	18	93 50.9	S10 48.1	193 01.4	5.8	N24 27.7	6.8	58.9
	19	108 51.0	S10 49.0	207 26.3	5.8	N24 20.7	6.9	58.9
	20	123 51.1	S10 49.9	221 51.1	5.9	N24 13.6	7.1	58.9
	21	138 51.2	S10 50.8	236 16.1	5.9	N24 06.4	7.3	58.9
	22	153 51.3	S10 51.7	250 41.1	6.0	N23 59.0	7.4	58.9
	23	168 51.4	S10 52.6	265 06.1	6.0	N23 51.4	7.6	59.0
		S.D. 16.1	d 0.9	S.D.	15.8	15.9	16.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.4
Achernar	335 17.9	S57 05.6
Acrux	172 58.2	S63 15.1
Adhara	255 04.0	S29 00.3
Albireo	67 02.3	N28 01.3
Aldebaran	290 36.8	N16 34.0
Alioth	166 11.5	N55 48.5
Alkaid	152 50.7	N49 10.5
Al Na-ir	27 29.8	S46 49.6
Alnilam	275 35.2	S 1 10.9
Alphard	217 45.6	S 8 46.7
Alphecca	126 02.2	N26 37.4
Alpheratz	357 32.1	N29 14.9
Altair	61 57.7	N 8 56.7
Ankaa	353 04.5	S42 09.2
Antares	112 13.3	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 06.0	S69 04.8
Avior	234 13.8	S59 35.6
Bellatrix	278 20.2	N 6 22.6
Betelgeuse	270 49.5	N 7 24.8
Canopus	263 51.2	S52 42.3
Capella	280 18.2	N46 01.5
Castor	245 54.1	N31 49.5
Deneb	49 24.1	N45 23.1
Denebola	182 22.9	N14 25.0
Diphda	348 44.7	S17 49.9
Dubhe	193 38.7	N61 35.8
Elnath	277 58.8	N28 37.8
Eltanin	90 41.4	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.7	S29 28.4
Gacrux	171 49.7	S57 16.0
Gienah	175 41.6	S17 41.7
Hadar	148 33.5	S60 30.4
Hamal	327 48.3	N23 35.8
Kaus Austr.	83 29.7	S34 22.4
Kochab	137 21.2	N74 02.5
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 38.0	S69 49.6
Mirfak	308 24.6	N49 57.6
Nunki	75 45.0	S26 15.7
Peacock	53 02.0	S56 38.9
Polaris	315 14.7	N89 22.3
Pollux	243 14.5	N27 57.4
Procyon	244 48.4	N 5 09.3
Rasalhague	95 56.7	N12 32.6
Regulus	207 32.2	N11 49.9
Rigel	281 01.5	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.6
Shaula	96 07.5	S37 07.5
Sirius	258 24.1	S16 45.1
Spica	158 20.2	S11 18.3
Suhail	222 44.7	S43 32.4
Vega	80 31.8	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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 12.3	165 27.4	S16 52.4	148 01.3	S21 46.2	220 25.7	N 5 29.4	6 51.9	N 6 45.4
	1	45 14.8	180 26.7	S16 53.4	163 01.9	S21 46.5	235 27.7	N 5 29.2	21 54.6	N 6 45.3
	2	60 17.3	195 26.1	S16 54.4	178 02.5	S21 46.9	250 29.7	N 5 29.1	36 57.2	N 6 45.3
	3	75 19.7	210 25.5	S16 55.4	193 03.0	S21 47.2	265 31.8	N 5 28.9	51 59.9	N 6 45.2
	4	90 22.2	225 24.9	S16 56.4	208 03.6	S21 47.6	280 33.8	N 5 28.7	67 02.5	N 6 45.1
F	5	105 24.7	240 24.3	S16 57.3	223 04.2	S21 47.9	295 35.8	N 5 28.5	82 05.2	N 6 45.0
R										
I	6	120 27.1	255 23.6	S16 58.3	238 04.7	S21 48.3	310 37.8	N 5 28.3	97 07.8	N 6 45.0
D	7	135 29.6	270 23.0	S16 59.3	253 05.3	S21 48.6	325 39.9	N 5 28.2	112 10.5	N 6 44.9
A	8	150 32.1	285 22.4	S17 00.3	268 05.8	S21 49.0	340 41.9	N 5 28.0	127 13.1	N 6 44.8
Y	9	165 34.5	300 21.8	S17 01.2	283 06.4	S21 49.3	355 43.9	N 5 27.8	142 15.8	N 6 44.8
	10	180 37.0	315 21.2	S17 02.2	298 07.0	S21 49.7	10 45.9	N 5 27.6	157 18.4	N 6 44.7
	11	195 39.4	330 20.5	S17 03.2	313 07.5	S21 50.0	25 48.0	N 5 27.4	172 21.1	N 6 44.6
	12	210 41.9	345 19.9	S17 04.1	328 08.1	S21 50.4	40 50.0	N 5 27.3	187 23.7	N 6 44.5
	13	225 44.4	0 19.3	S17 05.1	343 08.7	S21 50.7	55 52.0	N 5 27.1	202 26.4	N 6 44.5
	14	240 46.8	15 18.7	S17 06.1	358 09.2	S21 51.1	70 54.0	N 5 26.9	217 29.0	N 6 44.4
	15	255 49.3	30 18.0	S17 07.1	13 09.8	S21 51.4	85 56.1	N 5 26.7	232 31.7	N 6 44.3
	16	270 51.8	45 17.4	S17 08.0	28 10.3	S21 51.8	100 58.1	N 5 26.5	247 34.3	N 6 44.3
	17	285 54.2	60 16.8	S17 09.0	43 10.9	S21 52.1	116 00.1	N 5 26.4	262 37.0	N 6 44.2
	18	300 56.7	75 16.2	S17 10.0	58 11.5	S21 52.5	131 02.2	N 5 26.2	277 39.6	N 6 44.1
	19	315 59.2	90 15.5	S17 10.9	73 12.0	S21 52.8	146 04.2	N 5 26.0	292 42.3	N 6 44.0
	20	331 01.6	105 14.9	S17 11.9	88 12.6	S21 53.2	161 06.2	N 5 25.8	307 44.9	N 6 44.0
	21	346 04.1	120 14.3	S17 12.9	103 13.1	S21 53.5	176 08.2	N 5 25.7	322 47.6	N 6 43.9
	22	1 06.6	135 13.7	S17 13.8	118 13.7	S21 53.9	191 10.3	N 5 25.5	337 50.2	N 6 43.8
	23	16 09.0	150 13.0	S17 14.8	133 14.3	S21 54.2	206 12.3	N 5 25.3	352 52.9	N 6 43.8
23	0	31 11.5	165 12.4	S17 15.7	148 14.8	S21 54.6	221 14.3	N 5 25.1	7 55.5	N 6 43.7
	1	46 13.9	180 11.8	S17 16.7	163 15.4	S21 54.9	236 16.3	N 5 24.9	22 58.2	N 6 43.6
	2	61 16.4	195 11.1	S17 17.7	178 15.9	S21 55.3	251 18.4	N 5 24.8	38 00.8	N 6 43.5
	3	76 18.9	210 10.5	S17 18.6	193 16.5	S21 55.6	266 20.4	N 5 24.6	53 03.5	N 6 43.5
	4	91 21.3	225 09.9	S17 19.6	208 17.1	S21 55.9	281 22.4	N 5 24.4	68 06.1	N 6 43.4
S	5	106 23.8	240 09.2	S17 20.5	223 17.6	S21 56.3	296 24.4	N 5 24.2	83 08.8	N 6 43.3
A										
T	6	121 26.3	255 08.6	S17 21.5	238 18.2	S21 56.6	311 26.5	N 5 24.0	98 11.4	N 6 43.3
U	7	136 28.7	270 08.0	S17 22.4	253 18.7	S21 57.0	326 28.5	N 5 23.9	113 14.1	N 6 43.2
R	8	151 31.2	285 07.3	S17 23.4	268 19.3	S21 57.3	341 30.5	N 5 23.7	128 16.7	N 6 43.1
D	9	166 33.7	300 06.7	S17 24.4	283 19.8	S21 57.7	356 32.6	N 5 23.5	143 19.4	N 6 43.1
A	10	181 36.1	315 06.1	S17 25.3	298 20.4	S21 58.0	11 34.6	N 5 23.3	158 22.0	N 6 43.0
Y	11	196 38.6	330 05.4	S17 26.3	313 21.0	S21 58.3	26 36.6	N 5 23.2	173 24.7	N 6 42.9
	12	211 41.0	345 04.8	S17 27.2	328 21.5	S21 58.7	41 38.6	N 5 23.0	188 27.3	N 6 42.8
	13	226 43.5	0 04.2	S17 28.2	343 22.1	S21 59.0	56 40.7	N 5 22.8	203 30.0	N 6 42.8
	14	241 46.0	15 03.5	S17 29.1	358 22.6	S21 59.4	71 42.7	N 5 22.6	218 32.6	N 6 42.7
	15	256 48.4	30 02.9	S17 30.1	13 23.2	S21 59.7	86 44.7	N 5 22.4	233 35.3	N 6 42.6
	16	271 50.9	45 02.2	S17 31.0	28 23.7	S22 00.1	101 46.8	N 5 22.3	248 37.9	N 6 42.6
	17	286 53.4	60 01.6	S17 32.0	43 24.3	S22 00.4	116 48.8	N 5 22.1	263 40.6	N 6 42.5
	18	301 55.8	75 01.0	S17 32.9	58 24.8	S22 00.7	131 50.8	N 5 21.9	278 43.2	N 6 42.4
	19	316 58.3	90 00.3	S17 33.9	73 25.4	S22 01.1	146 52.8	N 5 21.7	293 45.9	N 6 42.3
	20	332 00.8	104 59.7	S17 34.8	88 26.0	S22 01.4	161 54.9	N 5 21.6	308 48.5	N 6 42.3
	21	347 03.2	119 59.0	S17 35.8	103 26.5	S22 01.7	176 56.9	N 5 21.4	323 51.2	N 6 42.2
	22	2 05.7	134 58.4	S17 36.7	118 27.1	S22 02.1	191 58.9	N 5 21.2	338 53.8	N 6 42.1
	23	17 08.2	149 57.8	S17 37.6	133 27.6	S22 02.4	207 01.0	N 5 21.0	353 56.5	N 6 42.1
24	0	32 10.6	164 57.1	S17 38.6	148 28.2	S22 02.8	222 03.0	N 5 20.8	8 59.1	N 6 42.0
	1	47 13.1	179 56.5	S17 39.5	163 28.7	S22 03.1	237 05.0	N 5 20.7	24 01.8	N 6 41.9
	2	62 15.5	194 55.8	S17 40.5	178 29.3	S22 03.4	252 07.1	N 5 20.5	39 04.4	N 6 41.9
	3	77 18.0	209 55.2	S17 41.4	193 29.8	S22 03.8	267 09.1	N 5 20.3	54 07.1	N 6 41.8
	4	92 20.5	224 54.5	S17 42.4	208 30.4	S22 04.1	282 11.1	N 5 20.1	69 09.7	N 6 41.7
S	5	107 22.9	239 53.9	S17 43.3	223 30.9	S22 04.4	297 13.1	N 5 20.0	84 12.4	N 6 41.6
U										
N	6	122 25.4	254 53.2	S17 44.2	238 31.5	S22 04.8	312 15.2	N 5 19.8	99 15.0	N 6 41.6
D	7	137 27.9	269 52.6	S17 45.2	253 32.0	S22 05.1	327 17.2	N 5 19.6	114 17.7	N 6 41.5
A	8	152 30.3	284 52.0	S17 46.1	268 32.6	S22 05.4	342 19.2	N 5 19.4	129 20.3	N 6 41.4
Y	9	167 32.8	299 51.3	S17 47.0	283 33.1	S22 05.8	357 21.3	N 5 19.3	144 23.0	N 6 41.4
	10	182 35.3	314 50.7	S17 48.0	298 33.7	S22 06.1	12 23.3	N 5 19.1	159 25.6	N 6 41.3
	11	197 37.7	329 50.0	S17 48.9	313 34.2	S22 06.5	27 25.3	N 5 18.9	174 28.3	N 6 41.2
	12	212 40.2	344 49.4	S17 49.8	328 34.8	S22 06.8	42 27.4	N 5 18.7	189 30.9	N 6 41.1
	13	227 42.7	359 48.7	S17 50.8	343 35.3	S22 07.1	57 29.4	N 5 18.5	204 33.6	N 6 41.1
	14	242 45.1	14 48.1	S17 51.7	358 35.9	S22 07.4	72 31.4	N 5 18.4	219 36.2	N 6 41.0
	15	257 47.6	29 47.4	S17 52.6	13 36.4	S22 07.8	87 33.5	N 5 18.2	234 38.9	N 6 40.9
	16	272 50.0	44 46.8	S17 53.6	28 37.0	S22 08.1	102 35.5	N 5 18.0	249 41.5	N 6 40.9
	17	287 52.5	59 46.1	S17 54.5	43 37.5	S22 08.4	117 37.5	N 5 17.8	264 44.1	N 6 40.8
	18	302 55.0	74 45.5	S17 55.4	58 38.1	S22 08.8	132 39.6	N 5 17.7	279 46.8	N 6 40.7
	19	317 57.4	89 44.8	S17 56.4	73 38.6	S22 09.1	147 41.6	N 5 17.5	294 49.4	N 6 40.7
	20	332 59.9	104 44.2	S17 57.3	88 39.1	S22 09.4	162 43.6	N 5 17.3	309 52.1	N 6 40.6
	21	348 02.4	119 43.5	S17 58.2	103 39.7	S22 09.8	177 45.6	N 5 17.1	324 54.7	N 6 40.5
	22	3 04.8	134 42.8	S17 59.1	118 40.2	S22 10.1	192 47.7	N 5 17.0	339 57.4	N 6 40.4
	23	18 07.3	149 42.2	S18 00.1	133 40.8	S22 10.4	207 49.7	N 5 16.8	355 00.0	N 6 40.4
			v -0.6	d 1.0	v 0.6	d 0.3	v 2.0	d 0.2	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
22 0	183 51.5	S10 53.4	279 31.2	6.1	N23 43.7	7.7	59.0	Acamar	315 09.6	S40 11.4
1	198 51.6	S10 54.3	293 56.4	6.2	N23 35.8	7.9	59.0	Achernar	335 17.9	S57 05.6
2	213 51.7	S10 55.2	308 21.6	6.2	N23 27.8	8.0	59.0	Acrux	172 58.2	S63 15.1
3	228 51.8	S10 56.1	322 46.9	6.3	N23 19.6	8.2	59.0	Adhara	255 04.0	S29 00.3
4	243 51.9	S10 57.0	337 12.3	6.4	N23 11.3	8.3	59.0	Albireo	67 02.3	N28 01.3
F 5	258 52.0	S10 57.9	351 37.7	6.4	N23 02.8	8.5	59.0			
R								Aldebaran	290 36.7	N16 34.0
I 6	273 52.1	S10 58.8	6 03.2	6.5	N22 54.2	8.6	59.0	Alioth	166 11.5	N55 48.5
D 7	288 52.2	S10 59.6	20 28.7	6.6	N22 45.4	8.8	59.0	Alkaid	152 50.7	N49 10.4
A 8	303 52.2	S11 00.5	34 54.4	6.6	N22 36.5	8.9	59.1	Al Na-ir	27 29.8	S46 49.6
Y 9	318 52.3	S11 01.4	49 20.0	6.7	N22 27.5	9.0	59.1	Alnilam	275 35.2	S 1 10.9
10	333 52.4	S11 02.3	63 45.8	6.8	N22 18.3	9.2	59.1			
11	348 52.5	S11 03.2	78 11.6	6.8	N22 08.9	9.3	59.1	Alphard	217 45.6	S 8 46.7
								Alphecca	126 02.2	N26 37.4
12	3 52.6	S11 04.1	92 37.5	6.9	N21 59.5	9.5	59.1	Alpheratz	357 32.1	N29 14.9
13	18 52.7	S11 04.9	107 03.5	7.0	N21 49.9	9.6	59.1	Altair	61 57.8	N 8 56.7
14	33 52.8	S11 05.8	121 29.5	7.0	N21 40.1	9.7	59.1	Ankaa	353 04.5	S42 09.3
15	48 52.9	S11 06.7	135 55.6	7.1	N21 30.2	9.9	59.1			
16	63 53.0	S11 07.6	150 21.8	7.2	N21 20.2	10.0	59.1	Antares	112 13.3	S26 29.6
17	78 53.1	S11 08.5	164 48.0	7.2	N21 10.1	10.1	59.2	Arcturus	145 46.2	N19 02.3
								Atria	107 06.0	S69 04.8
18	93 53.2	S11 09.3	179 14.3	7.3	N20 59.8	10.3	59.2	Avior	234 13.8	S59 35.6
19	108 53.3	S11 10.2	193 40.7	7.4	N20 49.4	10.4	59.2	Bellatrix	278 20.2	N 6 22.6
20	123 53.4	S11 11.1	208 07.2	7.5	N20 38.8	10.5	59.2			
21	138 53.5	S11 12.0	222 33.7	7.5	N20 28.2	10.7	59.2	Betelgeuse	270 49.4	N 7 24.8
22	153 53.6	S11 12.9	237 00.3	7.6	N20 17.4	10.8	59.2	Canopus	263 51.1	S52 42.3
23	168 53.7	S11 13.7	251 27.0	7.7	N20 06.5	10.9	59.2	Capella	280 18.2	N46 01.5
								Castor	245 54.1	N31 49.5
23 0	183 53.7	S11 14.6	265 53.7	7.7	N19 55.4	11.0	59.2	Deneb	49 24.2	N45 23.1
1	198 53.8	S11 15.5	280 20.5	7.8	N19 44.3	11.2	59.2			
2	213 53.9	S11 16.4	294 47.4	7.9	N19 33.0	11.3	59.2	Denebola	182 22.9	N14 25.0
3	228 54.0	S11 17.3	309 14.4	8.0	N19 21.6	11.4	59.2	Diphda	348 44.7	S17 49.9
4	243 54.1	S11 18.1	323 41.4	8.0	N19 10.0	11.5	59.3	Dubhe	193 38.7	N61 35.8
S 5	258 54.2	S11 19.0	338 08.5	8.1	N18 58.4	11.6	59.3	Elnath	277 58.8	N28 37.8
A								Eltanin	90 41.4	N51 29.3
T 6	273 54.3	S11 19.9	352 35.7	8.2	N18 46.7	11.8	59.3			
U 7	288 54.4	S11 20.8	7 03.0	8.3	N18 34.8	11.9	59.3	Enif	33 36.4	N10 00.4
R 8	303 54.5	S11 21.7	21 30.3	8.3	N18 22.8	12.0	59.3	Fomalhaut	15 11.7	S29 28.4
D 9	318 54.6	S11 22.5	35 57.7	8.4	N18 10.7	12.1	59.3	Gacrux	171 49.6	S57 16.0
A 10	333 54.6	S11 23.4	50 25.1	8.5	N17 58.5	12.2	59.3	Gienah	175 41.5	S17 41.7
Y 11	348 54.7	S11 24.3	64 52.7	8.5	N17 46.2	12.3	59.3	Hadar	148 33.5	S60 30.4
12	3 54.8	S11 25.2	79 20.3	8.6	N17 33.8	12.4	59.3	Hamal	327 48.3	N23 35.9
13	18 54.9	S11 26.0	93 48.0	8.7	N17 21.3	12.5	59.3	Kaus Austr.	83 29.7	S34 22.4
14	33 55.0	S11 26.9	108 15.7	8.7	N17 08.7	12.6	59.3	Kochab	137 21.3	N74 02.5
15	48 55.1	S11 27.8	122 43.5	8.8	N16 55.9	12.7	59.3	Markab	13 27.4	N15 21.5
16	63 55.2	S11 28.7	137 11.4	8.9	N16 43.1	12.8	59.3	Menkar	314 03.4	N 4 12.1
17	78 55.3	S11 29.5	151 39.4	9.0	N16 30.2	12.9	59.4			
								Menkent	147 55.3	S36 30.4
18	93 55.3	S11 30.4	166 07.4	9.0	N16 17.2	13.0	59.4	Miaplacidus	221 37.9	S69 49.6
19	108 55.4	S11 31.3	180 35.5	9.1	N16 04.0	13.1	59.4	Mirfak	308 24.5	N49 57.6
20	123 55.5	S11 32.2	195 03.6	9.2	N15 50.8	13.2	59.4	Nunki	75 45.1	S26 15.7
21	138 55.6	S11 33.0	209 31.8	9.2	N15 37.5	13.3	59.4	Peacock	53 02.1	S56 38.9
22	153 55.7	S11 33.9	224 00.1	9.3	N15 24.1	13.4	59.4			
23	168 55.8	S11 34.8	238 28.5	9.4	N15 10.6	13.5	59.4	Polaris	315 14.3	N89 22.3
								Pollux	243 14.5	N27 57.4
24 0	183 55.9	S11 35.7	252 56.9	9.4	N14 57.1	13.6	59.4	Procyon	244 48.4	N 5 09.3
1	198 55.9	S11 36.5	267 25.4	9.5	N14 43.4	13.7	59.4	Rasalhague	95 56.7	N12 32.6
2	213 56.0	S11 37.4	281 53.9	9.5	N14 29.7	13.7	59.4	Regulus	207 32.2	N11 49.9
3	228 56.1	S11 38.3	296 22.5	9.6	N14 15.8	13.8	59.4			
4	243 56.2	S11 39.1	310 51.2	9.7	N14 01.9	13.9	59.4	Rigel	281 01.5	S 8 10.0
S 5	258 56.3	S11 40.0	325 19.9	9.7	N13 47.9	14.0	59.4	Rigil Kent	139 37.9	S60 57.0
U								Sabik	102 00.4	S15 45.5
N 6	273 56.3	S11 40.9	339 48.7	9.8	N13 33.9	14.1	59.4	Schedar	349 27.9	N56 41.6
D 7	288 56.4	S11 41.7	354 17.6	9.9	N13 19.7	14.2	59.4	Shaula	96 07.5	S37 07.5
A 8	303 56.5	S11 42.6	8 46.5	9.9	N13 05.5	14.2	59.4			
Y 9	318 56.6	S11 43.5	23 15.5	10.0	N12 51.2	14.3	59.4	Sirius	258 24.1	S16 45.1
10	333 56.7	S11 44.4	37 44.5	10.0	N12 36.8	14.4	59.4	Spica	158 20.2	S11 18.3
11	348 56.8	S11 45.2	52 13.6	10.1	N12 22.4	14.4	59.4	Suhail	222 44.7	S43 32.4
								Vega	80 31.8	N38 48.8
12	3 56.8	S11 46.1	66 42.7	10.1	N12 07.8	14.5	59.4	Zuben-ubi	136 54.7	S16 09.4
13	18 56.9	S11 47.0	81 11.9	10.2	N11 53.3	14.6	59.5			
14	33 57.0	S11 47.8	95 41.2	10.2	N11 38.6	14.7	59.5			
15	48 57.1	S11 48.7	110 10.5	10.3	N11 23.9	14.7	59.5			
16	63 57.2	S11 49.6	124 39.8	10.4	N11 09.1	14.8	59.5			
17	78 57.2	S11 50.4	139 09.2	10.4	N10 54.3	14.8	59.5			
18	93 57.3	S11 51.3	153 38.7	10.5	N10 39.4	14.9	59.5			
19	108 57.4	S11 52.2	168 08.2	10.5	N10 24.4	15.0	59.5			
20	123 57.5	S11 53.0	182 37.7	10.6	N10 09.4	15.0	59.5			
21	138 57.5	S11 53.9	197 07.3	10.6	N 9 54.3	15.1	59.5			
22	153 57.6	S11 54.8	211 37.0	10.6	N 9 39.2	15.1	59.5			
23	168 57.7	S11 55.6	226 06.7	10.7	N 9 24.0	15.2	59.5			
	S.D. 16.1	d 0.9	S.D.	16.1		16.2	16.2			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
25	0	33 09.8	164 41.5	S18 01.0	148 41.3	S22 10.8	222 51.7	N 5 16.6	10 02.7	N 6 40.3
	1	48 12.2	179 40.9	S18 01.9	163 41.9	S22 11.1	237 53.8	N 5 16.4	25 05.3	N 6 40.2
	2	63 14.7	194 40.2	S18 02.8	178 42.4	S22 11.4	252 55.8	N 5 16.3	40 08.0	N 6 40.2
	3	78 17.1	209 39.6	S18 03.7	193 43.0	S22 11.7	267 57.8	N 5 16.1	55 10.6	N 6 40.1
	4	93 19.6	224 38.9	S18 04.7	208 43.5	S22 12.1	282 59.9	N 5 15.9	70 13.3	N 6 40.0
M	5	108 22.1	239 38.2	S18 05.6	223 44.1	S22 12.4	298 01.9	N 5 15.7	85 15.9	N 6 40.0
O										
N	6	123 24.5	254 37.6	S18 06.5	238 44.6	S22 12.7	313 03.9	N 5 15.6	100 18.6	N 6 39.9
D	7	138 27.0	269 36.9	S18 07.4	253 45.1	S22 13.1	328 06.0	N 5 15.4	115 21.2	N 6 39.8
A	8	153 29.5	284 36.3	S18 08.3	268 45.7	S22 13.4	343 08.0	N 5 15.2	130 23.9	N 6 39.7
Y	9	168 31.9	299 35.6	S18 09.3	283 46.2	S22 13.7	358 10.0	N 5 15.0	145 26.5	N 6 39.7
	10	183 34.4	314 34.9	S18 10.2	298 46.8	S22 14.0	13 12.1	N 5 14.8	160 29.2	N 6 39.6
	11	198 36.9	329 34.3	S18 11.1	313 47.3	S22 14.4	28 14.1	N 5 14.7	175 31.8	N 6 39.5
	12	213 39.3	344 33.6	S18 12.0	328 47.9	S22 14.7	43 16.1	N 5 14.5	190 34.5	N 6 39.5
	13	228 41.8	359 33.0	S18 12.9	343 48.4	S22 15.0	58 18.2	N 5 14.3	205 37.1	N 6 39.4
	14	243 44.3	14 32.3	S18 13.8	358 48.9	S22 15.3	73 20.2	N 5 14.1	220 39.8	N 6 39.3
	15	258 46.7	29 31.6	S18 14.7	13 49.5	S22 15.7	88 22.3	N 5 14.0	235 42.4	N 6 39.3
	16	273 49.2	44 31.0	S18 15.6	28 50.0	S22 16.0	103 24.3	N 5 13.8	250 45.1	N 6 39.2
	17	288 51.6	59 30.3	S18 16.6	43 50.6	S22 16.3	118 26.3	N 5 13.6	265 47.7	N 6 39.1
	18	303 54.1	74 29.6	S18 17.5	58 51.1	S22 16.6	133 28.4	N 5 13.4	280 50.4	N 6 39.0
	19	318 56.6	89 29.0	S18 18.4	73 51.6	S22 16.9	148 30.4	N 5 13.3	295 53.0	N 6 39.0
	20	333 59.0	104 28.3	S18 19.3	88 52.2	S22 17.3	163 32.4	N 5 13.1	310 55.7	N 6 38.9
	21	349 01.5	119 27.6	S18 20.2	103 52.7	S22 17.6	178 34.5	N 5 12.9	325 58.3	N 6 38.8
	22	4 04.0	134 27.0	S18 21.1	118 53.3	S22 17.9	193 36.5	N 5 12.7	341 01.0	N 6 38.8
	23	19 06.4	149 26.3	S18 22.0	133 53.8	S22 18.2	208 38.5	N 5 12.6	356 03.6	N 6 38.7
26	0	34 08.9	164 25.6	S18 22.9	148 54.3	S22 18.6	223 40.6	N 5 12.4	11 06.3	N 6 38.6
	1	49 11.4	179 25.0	S18 23.8	163 54.9	S22 18.9	238 42.6	N 5 12.2	26 08.9	N 6 38.6
	2	64 13.8	194 24.3	S18 24.7	178 55.4	S22 19.2	253 44.6	N 5 12.0	41 11.6	N 6 38.5
	3	79 16.3	209 23.6	S18 25.6	193 56.0	S22 19.5	268 46.7	N 5 11.9	56 14.2	N 6 38.4
	4	94 18.8	224 23.0	S18 26.5	208 56.5	S22 19.8	283 48.7	N 5 11.7	71 16.8	N 6 38.4
T	5	109 21.2	239 22.3	S18 27.4	223 57.0	S22 20.2	298 50.7	N 5 11.5	86 19.5	N 6 38.3
U										
E	6	124 23.7	254 21.6	S18 28.3	238 57.6	S22 20.5	313 52.8	N 5 11.3	101 22.1	N 6 38.2
S	7	139 26.1	269 20.9	S18 29.2	253 58.1	S22 20.8	328 54.8	N 5 11.2	116 24.8	N 6 38.1
D	8	154 28.6	284 20.3	S18 30.1	268 58.6	S22 21.1	343 56.9	N 5 11.0	131 27.4	N 6 38.1
A	9	169 31.1	299 19.6	S18 31.0	283 59.2	S22 21.4	358 58.9	N 5 10.8	146 30.1	N 6 38.0
Y	10	184 33.5	314 18.9	S18 31.9	298 59.7	S22 21.7	14 00.9	N 5 10.6	161 32.7	N 6 37.9
	11	199 36.0	329 18.2	S18 32.8	314 00.2	S22 22.1	29 03.0	N 5 10.5	176 35.4	N 6 37.9
	12	214 38.5	344 17.6	S18 33.7	329 00.8	S22 22.4	44 05.0	N 5 10.3	191 38.0	N 6 37.8
	13	229 40.9	359 16.9	S18 34.6	344 01.3	S22 22.7	59 07.0	N 5 10.1	206 40.7	N 6 37.7
	14	244 43.4	14 16.2	S18 35.5	359 01.9	S22 23.0	74 09.1	N 5 10.0	221 43.3	N 6 37.7
	15	259 45.9	29 15.5	S18 36.4	14 02.4	S22 23.3	89 11.1	N 5 09.8	236 46.0	N 6 37.6
	16	274 48.3	44 14.9	S18 37.3	29 02.9	S22 23.6	104 13.2	N 5 09.6	251 48.6	N 6 37.5
	17	289 50.8	59 14.2	S18 38.1	44 03.5	S22 24.0	119 15.2	N 5 09.4	266 51.3	N 6 37.5
	18	304 53.2	74 13.5	S18 39.0	59 04.0	S22 24.3	134 17.2	N 5 09.3	281 53.9	N 6 37.4
	19	319 55.7	89 12.8	S18 39.9	74 04.5	S22 24.6	149 19.3	N 5 09.1	296 56.6	N 6 37.3
	20	334 58.2	104 12.1	S18 40.8	89 05.1	S22 24.9	164 21.3	N 5 08.9	311 59.2	N 6 37.2
	21	350 00.6	119 11.5	S18 41.7	104 05.6	S22 25.2	179 23.3	N 5 08.7	327 01.9	N 6 37.2
	22	5 03.1	134 10.8	S18 42.6	119 06.1	S22 25.5	194 25.4	N 5 08.6	342 04.5	N 6 37.1
	23	20 05.6	149 10.1	S18 43.5	134 06.7	S22 25.8	209 27.4	N 5 08.4	357 07.2	N 6 37.0
27	0	35 08.0	164 09.4	S18 44.3	149 07.2	S22 26.1	224 29.5	N 5 08.2	12 09.8	N 6 37.0
	1	50 10.5	179 08.7	S18 45.2	164 07.7	S22 26.5	239 31.5	N 5 08.0	27 12.5	N 6 36.9
	2	65 13.0	194 08.1	S18 46.1	179 08.2	S22 26.8	254 33.5	N 5 07.9	42 15.1	N 6 36.8
	3	80 15.4	209 07.4	S18 47.0	194 08.8	S22 27.1	269 35.6	N 5 07.7	57 17.7	N 6 36.8
	4	95 17.9	224 06.7	S18 47.9	209 09.3	S22 27.4	284 37.6	N 5 07.5	72 20.4	N 6 36.7
W	5	110 20.4	239 06.0	S18 48.7	224 09.8	S22 27.7	299 39.7	N 5 07.3	87 23.0	N 6 36.6
E										
D	6	125 22.8	254 05.3	S18 49.6	239 10.4	S22 28.0	314 41.7	N 5 07.2	102 25.7	N 6 36.6
N	7	140 25.3	269 04.6	S18 50.5	254 10.9	S22 28.3	329 43.7	N 5 07.0	117 28.3	N 6 36.5
E	8	155 27.7	284 04.0	S18 51.4	269 11.4	S22 28.6	344 45.8	N 5 06.8	132 31.0	N 6 36.4
S	9	170 30.2	299 03.3	S18 52.3	284 12.0	S22 28.9	359 47.8	N 5 06.6	147 33.6	N 6 36.3
D	10	185 32.7	314 02.6	S18 53.1	299 12.5	S22 29.2	14 49.8	N 5 06.5	162 36.3	N 6 36.3
A	11	200 35.1	329 01.9	S18 54.0	314 13.0	S22 29.6	29 51.9	N 5 06.3	177 38.9	N 6 36.2
Y										
	12	215 37.6	344 01.2	S18 54.9	329 13.5	S22 29.9	44 53.9	N 5 06.1	192 41.6	N 6 36.1
	13	230 40.1	359 00.5	S18 55.8	344 14.1	S22 30.2	59 56.0	N 5 06.0	207 44.2	N 6 36.1
	14	245 42.5	13 59.8	S18 56.6	359 14.6	S22 30.5	74 58.0	N 5 05.8	222 46.9	N 6 36.0
	15	260 45.0	28 59.1	S18 57.5	14 15.1	S22 30.8	90 00.1	N 5 05.6	237 49.5	N 6 35.9
	16	275 47.5	43 58.4	S18 58.4	29 15.7	S22 31.1	105 02.1	N 5 05.4	252 52.2	N 6 35.9
	17	290 49.9	58 57.8	S18 59.2	44 16.2	S22 31.4	120 04.1	N 5 05.3	267 54.8	N 6 35.8
	18	305 52.4	73 57.1	S19 00.1	59 16.7	S22 31.7	135 06.2	N 5 05.1	282 57.5	N 6 35.7
	19	320 54.8	88 56.4	S19 01.0	74 17.2	S22 32.0	150 08.2	N 5 04.9	298 00.1	N 6 35.7
	20	335 57.3	103 55.7	S19 01.8	89 17.8	S22 32.3	165 10.3	N 5 04.7	313 02.7	N 6 35.6
	21	350 59.8	118 55.0	S19 02.7	104 18.3	S22 32.6	180 12.3	N 5 04.6	328 05.4	N 6 35.5
	22	6 02.2	133 54.3	S19 03.6	119 18.8	S22 32.9	195 14.3	N 5 04.4	343 08.0	N 6 35.5
	23	21 04.7	148 53.6	S19 04.4	134 19.3	S22 33.2	210 16.4	N 5 04.2	358 10.7	N 6 35.4
			v -0.7	d 0.9	v 0.5	d 0.3	v 2.0	d 0.2	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 57.8	S11 56.5	240 36.4	10.7	N 9 08.7	15.2	59.5
	1	198 57.9	S11 57.4	255 06.2	10.8	N 8 53.5	15.3	59.5
	2	213 57.9	S11 58.2	269 36.0	10.8	N 8 38.1	15.3	59.5
	3	228 58.0	S11 59.1	284 05.9	10.9	N 8 22.7	15.4	59.5
	4	243 58.1	S11 60.0	298 35.8	10.9	N 8 07.3	15.4	59.5
M	5	258 58.2	S12 00.8	313 05.7	10.9	N 7 51.8	15.5	59.5
O								
N	6	273 58.2	S12 01.7	327 35.7	11.0	N 7 36.3	15.5	59.5
D	7	288 58.3	S12 02.5	342 05.7	11.0	N 7 20.8	15.6	59.5
A	8	303 58.4	S12 03.4	356 35.7	11.1	N 7 05.2	15.6	59.5
Y	9	318 58.4	S12 04.3	11 05.8	11.1	N 6 49.5	15.6	59.5
	10	333 58.5	S12 05.1	25 36.0	11.1	N 6 33.8	15.7	59.5
	11	348 58.6	S12 06.0	40 06.1	11.2	N 6 18.1	15.7	59.5
	12	3 58.7	S12 06.9	54 36.3	11.2	N 6 02.4	15.7	59.5
	13	18 58.7	S12 07.7	69 06.5	11.2	N 5 46.6	15.8	59.5
	14	33 58.8	S12 08.6	83 36.7	11.2	N 5 30.8	15.8	59.5
	15	48 58.9	S12 09.4	98 07.0	11.3	N 5 15.0	15.8	59.5
	16	63 59.0	S12 10.3	112 37.3	11.3	N 4 59.1	15.9	59.5
	17	78 59.0	S12 11.2	127 07.6	11.3	N 4 43.3	15.9	59.5
	18	93 59.1	S12 12.0	141 38.0	11.3	N 4 27.3	15.9	59.5
	19	108 59.2	S12 12.9	156 08.4	11.4	N 4 11.4	15.9	59.5
	20	123 59.2	S12 13.7	170 38.8	11.4	N 3 55.5	16.0	59.5
	21	138 59.3	S12 14.6	185 09.2	11.4	N 3 39.5	16.0	59.5
	22	153 59.4	S12 15.5	199 39.6	11.4	N 3 23.5	16.0	59.4
	23	168 59.4	S12 16.3	214 10.1	11.5	N 3 07.5	16.0	59.4
26	0	183 59.5	S12 17.2	228 40.5	11.5	N 2 51.5	16.0	59.4
	1	198 59.6	S12 18.0	243 11.0	11.5	N 2 35.4	16.0	59.4
	2	213 59.7	S12 18.9	257 41.5	11.5	N 2 19.4	16.0	59.4
	3	228 59.7	S12 19.7	272 12.1	11.5	N 2 03.3	16.1	59.4
	4	243 59.8	S12 20.6	286 42.6	11.5	N 1 47.3	16.1	59.4
T	5	258 59.9	S12 21.4	301 13.1	11.5	N 1 31.2	16.1	59.4
U								
E	6	273 59.9	S12 22.3	315 43.7	11.6	N 1 15.1	16.1	59.4
S	7	288 60.0	S12 23.2	330 14.3	11.6	N 0 59.0	16.1	59.4
D	8	304 00.1	S12 24.0	344 44.9	11.6	N 0 43.0	16.1	59.4
A	9	319 00.1	S12 24.9	359 15.4	11.6	N 0 26.9	16.1	59.4
Y	10	334 00.2	S12 25.7	13 46.0	11.6	N 0 10.8	16.1	59.4
	11	349 00.3	S12 26.6	28 16.6	11.6	S 0 05.3	16.1	59.4
	12	4 00.3	S12 27.4	42 47.2	11.6	S 0 21.4	16.1	59.4
	13	19 00.4	S12 28.3	57 17.8	11.6	S 0 37.5	16.1	59.4
	14	34 00.4	S12 29.1	71 48.4	11.6	S 0 53.5	16.1	59.4
	15	49 00.5	S12 30.0	86 19.1	11.6	S 1 09.6	16.1	59.4
	16	64 00.6	S12 30.8	100 49.7	11.6	S 1 25.6	16.1	59.3
	17	79 00.6	S12 31.7	115 20.3	11.6	S 1 41.7	16.0	59.3
	18	94 00.7	S12 32.5	129 50.9	11.6	S 1 57.7	16.0	59.3
	19	109 00.8	S12 33.4	144 21.5	11.6	S 2 13.7	16.0	59.3
	20	124 00.8	S12 34.2	158 52.1	11.6	S 2 29.7	16.0	59.3
	21	139 00.9	S12 35.1	173 22.7	11.6	S 2 45.7	16.0	59.3
	22	154 00.9	S12 35.9	187 53.3	11.6	S 3 01.7	16.0	59.3
	23	169 01.0	S12 36.8	202 23.8	11.6	S 3 17.6	15.9	59.3
27	0	184 01.1	S12 37.6	216 54.4	11.6	S 3 33.5	15.9	59.3
	1	199 01.1	S12 38.5	231 25.0	11.6	S 3 49.4	15.9	59.3
	2	214 01.2	S12 39.3	245 55.5	11.6	S 4 05.3	15.9	59.2
	3	229 01.3	S12 40.2	260 26.1	11.5	S 4 21.2	15.8	59.2
	4	244 01.3	S12 41.0	274 56.6	11.5	S 4 37.0	15.8	59.2
W	5	259 01.4	S12 41.9	289 27.1	11.5	S 4 52.8	15.8	59.2
E								
D	6	274 01.4	S12 42.7	303 57.6	11.5	S 5 08.5	15.8	59.2
N	7	289 01.5	S12 43.6	318 28.1	11.5	S 5 24.3	15.7	59.2
E	8	304 01.5	S12 44.4	332 58.5	11.5	S 5 40.0	15.7	59.2
S	9	319 01.6	S12 45.3	347 29.0	11.4	S 5 55.6	15.7	59.2
D	10	334 01.7	S12 46.1	1 59.4	11.4	S 6 11.2	15.6	59.2
A	11	349 01.7	S12 47.0	16 29.8	11.4	S 6 26.8	15.6	59.1
Y								
	12	4 01.8	S12 47.8	31 00.2	11.4	S 6 42.4	15.5	59.1
	13	19 01.8	S12 48.7	45 30.6	11.4	S 6 57.9	15.5	59.1
	14	34 01.9	S12 49.5	60 00.9	11.3	S 7 13.3	15.5	59.1
	15	49 01.9	S12 50.3	74 31.3	11.3	S 7 28.7	15.4	59.1
	16	64 02.0	S12 51.2	89 01.5	11.3	S 7 44.1	15.4	59.1
	17	79 02.1	S12 52.0	103 31.8	11.3	S 7 59.4	15.3	59.1
	18	94 02.1	S12 52.9	118 02.1	11.2	S 8 14.7	15.3	59.0
	19	109 02.2	S12 53.7	132 32.3	11.2	S 8 29.9	15.2	59.0
	20	124 02.2	S12 54.6	147 02.5	11.2	S 8 45.1	15.2	59.0
	21	139 02.3	S12 55.4	161 32.6	11.2	S 9 00.2	15.1	59.0
	22	154 02.3	S12 56.2	176 02.8	11.1	S 9 15.3	15.1	59.0
	23	169 02.4	S12 57.1	190 32.9	11.1	S 9 30.3	15.0	59.0
		S.D. 16.1	d 0.9	S.D.	16.2		16.2	16.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.4
Achernar	335 17.9	S57 05.6
Acrux	172 58.2	S63 15.0
Adhara	255 03.9	S29 00.3
Albireo	67 02.3	N28 01.3
Aldebaran	290 36.7	N16 34.0
Alioth	166 11.5	N55 48.4
Alkaid	152 50.7	N49 10.4
Al Na-ir	27 29.8	S46 49.6
Alnilam	275 35.2	S 1 10.9
Alphard	217 45.6	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 14.9
Altair	61 57.8	N 8 56.7
Ankaa	353 04.5	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 06.0	S69 04.8
Avior	234 13.8	S59 35.6
Bellatrix	278 20.2	N 6 22.6
Betelgeuse	270 49.4	N 7 24.8
Canopus	263 51.1	S52 42.3
Capella	280 18.2	N46 01.5
Castor	245 54.1	N31 49.5
Deneb	49 24.2	N45 23.1
Denebola	182 22.9	N14 25.0
Diphda	348 44.7	S17 49.9
Dubhe	193 38.7	N61 35.8
Elnath	277 58.8	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.8	S29 28.4
Gacrux	171 49.6	S57 16.0
Gienah	175 41.5	S17 41.7
Hadar	148 33.5	S60 30.4
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.7	S34 22.4
Kochab	137 21.3	N74 02.4
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.9	S69 49.6
Mirfak	308 24.5	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.1	S56 38.9
Polaris	315 14.2	N89 22.3
Pollux	243 14.5	N27 57.4
Procyon	244 48.4	N 5 09.3
Rasalhague	95 56.7	N12 32.6
Regulus	207 32.2	N11 49.9
Rigel	281 01.4	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.6
Shaula	96 07.5	S37 07.5
Sirius	258 24.1	S16 45.1
Spica	158 20.2	S11 18.3
Suhail	222 44.7	S43 32.4
Vega	80 31.9	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	36 07.2	163 52.9	S19 05.3	149 19.9	S22 33.5	225 18.4	N 5 04.1	13 13.3	N 6 35.3
	1	51 09.6	178 52.2	S19 06.2	164 20.4	S22 33.8	240 20.5	N 5 03.9	28 16.0	N 6 35.3
	2	66 12.1	193 51.5	S19 07.0	179 20.9	S22 34.1	255 22.5	N 5 03.7	43 18.6	N 6 35.2
	3	81 14.6	208 50.8	S19 07.9	194 21.4	S22 34.4	270 24.5	N 5 03.5	58 21.3	N 6 35.1
	4	96 17.0	223 50.1	S19 08.7	209 22.0	S22 34.7	285 26.6	N 5 03.4	73 23.9	N 6 35.0
T	5	111 19.5	238 49.4	S19 09.6	224 22.5	S22 35.0	300 28.6	N 5 03.2	88 26.6	N 6 35.0
H										
U	6	126 22.0	253 48.7	S19 10.4	239 23.0	S22 35.3	315 30.7	N 5 03.0	103 29.2	N 6 34.9
R	7	141 24.4	268 48.0	S19 11.3	254 23.5	S22 35.6	330 32.7	N 5 02.9	118 31.9	N 6 34.8
S	8	156 26.9	283 47.3	S19 12.2	269 24.1	S22 35.9	345 34.8	N 5 02.7	133 34.5	N 6 34.8
D	9	171 29.3	298 46.6	S19 13.0	284 24.6	S22 36.2	0 36.8	N 5 02.5	148 37.1	N 6 34.7
A	10	186 31.8	313 45.9	S19 13.9	299 25.1	S22 36.5	15 38.8	N 5 02.3	163 39.8	N 6 34.6
Y	11	201 34.3	328 45.2	S19 14.7	314 25.6	S22 36.8	30 40.9	N 5 02.2	178 42.4	N 6 34.6
	12	216 36.7	343 44.5	S19 15.6	329 26.2	S22 37.1	45 42.9	N 5 02.0	193 45.1	N 6 34.5
	13	231 39.2	358 43.8	S19 16.4	344 26.7	S22 37.4	60 45.0	N 5 01.8	208 47.7	N 6 34.4
	14	246 41.7	13 43.1	S19 17.3	359 27.2	S22 37.7	75 47.0	N 5 01.6	223 50.4	N 6 34.4
	15	261 44.1	28 42.4	S19 18.1	14 27.7	S22 38.0	90 49.1	N 5 01.5	238 53.0	N 6 34.3
	16	276 46.6	43 41.7	S19 19.0	29 28.2	S22 38.3	105 51.1	N 5 01.3	253 55.7	N 6 34.2
	17	291 49.1	58 41.0	S19 19.8	44 28.8	S22 38.6	120 53.1	N 5 01.1	268 58.3	N 6 34.2
	18	306 51.5	73 40.3	S19 20.7	59 29.3	S22 38.9	135 55.2	N 5 01.0	284 01.0	N 6 34.1
	19	321 54.0	88 39.6	S19 21.5	74 29.8	S22 39.2	150 57.2	N 5 00.8	299 03.6	N 6 34.0
	20	336 56.5	103 38.9	S19 22.4	89 30.3	S22 39.5	165 59.3	N 5 00.6	314 06.3	N 6 34.0
	21	351 58.9	118 38.2	S19 23.2	104 30.8	S22 39.8	181 01.3	N 5 00.4	329 08.9	N 6 33.9
	22	7 01.4	133 37.5	S19 24.0	119 31.4	S22 40.1	196 03.4	N 5 00.3	344 11.5	N 6 33.8
	23	22 03.8	148 36.8	S19 24.9	134 31.9	S22 40.4	211 05.4	N 5 00.1	359 14.2	N 6 33.8
29	0	37 06.3	163 36.1	S19 25.7	149 32.4	S22 40.7	226 07.5	N 4 59.9	14 16.8	N 6 33.7
	1	52 08.8	178 35.4	S19 26.6	164 32.9	S22 41.0	241 09.5	N 4 59.8	29 19.5	N 6 33.6
	2	67 11.2	193 34.7	S19 27.4	179 33.4	S22 41.3	256 11.5	N 4 59.6	44 22.1	N 6 33.5
	3	82 13.7	208 33.9	S19 28.2	194 34.0	S22 41.6	271 13.6	N 4 59.4	59 24.8	N 6 33.5
	4	97 16.2	223 33.2	S19 29.1	209 34.5	S22 41.9	286 15.6	N 4 59.3	74 27.4	N 6 33.4
F	5	112 18.6	238 32.5	S19 29.9	224 35.0	S22 42.2	301 17.7	N 4 59.1	89 30.1	N 6 33.3
R										
I	6	127 21.1	253 31.8	S19 30.8	239 35.5	S22 42.5	316 19.7	N 4 58.9	104 32.7	N 6 33.3
D	7	142 23.6	268 31.1	S19 31.6	254 36.0	S22 42.8	331 21.8	N 4 58.7	119 35.4	N 6 33.2
A	8	157 26.0	283 30.4	S19 32.4	269 36.5	S22 43.0	346 23.8	N 4 58.6	134 38.0	N 6 33.1
Y	9	172 28.5	298 29.7	S19 33.3	284 37.1	S22 43.3	1 25.9	N 4 58.4	149 40.6	N 6 33.1
	10	187 30.9	313 29.0	S19 34.1	299 37.6	S22 43.6	16 27.9	N 4 58.2	164 43.3	N 6 33.0
	11	202 33.4	328 28.3	S19 34.9	314 38.1	S22 43.9	31 30.0	N 4 58.1	179 45.9	N 6 32.9
	12	217 35.9	343 27.5	S19 35.8	329 38.6	S22 44.2	46 32.0	N 4 57.9	194 48.6	N 6 32.9
	13	232 38.3	358 26.8	S19 36.6	344 39.1	S22 44.5	61 34.0	N 4 57.7	209 51.2	N 6 32.8
	14	247 40.8	13 26.1	S19 37.4	359 39.6	S22 44.8	76 36.1	N 4 57.5	224 53.9	N 6 32.7
	15	262 43.3	28 25.4	S19 38.2	14 40.2	S22 45.1	91 38.1	N 4 57.4	239 56.5	N 6 32.7
	16	277 45.7	43 24.7	S19 39.1	29 40.7	S22 45.4	106 40.2	N 4 57.2	254 59.2	N 6 32.6
	17	292 48.2	58 24.0	S19 39.9	44 41.2	S22 45.7	121 42.2	N 4 57.0	270 01.8	N 6 32.5
	18	307 50.7	73 23.2	S19 40.7	59 41.7	S22 45.9	136 44.3	N 4 56.9	285 04.4	N 6 32.5
	19	322 53.1	88 22.5	S19 41.5	74 42.2	S22 46.2	151 46.3	N 4 56.7	300 07.1	N 6 32.4
	20	337 55.6	103 21.8	S19 42.4	89 42.7	S22 46.5	166 48.4	N 4 56.5	315 09.7	N 6 32.3
	21	352 58.1	118 21.1	S19 43.2	104 43.2	S22 46.8	181 50.4	N 4 56.4	330 12.4	N 6 32.3
	22	8 00.5	133 20.4	S19 44.0	119 43.8	S22 47.1	196 52.5	N 4 56.2	345 15.0	N 6 32.2
	23	23 03.0	148 19.6	S19 44.8	134 44.3	S22 47.4	211 54.5	N 4 56.0	0 17.7	N 6 32.1
30	0	38 05.4	163 18.9	S19 45.6	149 44.8	S22 47.7	226 56.6	N 4 55.8	15 20.3	N 6 32.1
	1	53 07.9	178 18.2	S19 46.5	164 45.3	S22 47.9	241 58.6	N 4 55.7	30 23.0	N 6 32.0
	2	68 10.4	193 17.5	S19 47.3	179 45.8	S22 48.2	257 00.7	N 4 55.5	45 25.6	N 6 31.9
	3	83 12.8	208 16.8	S19 48.1	194 46.3	S22 48.5	272 02.7	N 4 55.3	60 28.2	N 6 31.9
	4	98 15.3	223 16.0	S19 48.9	209 46.8	S22 48.8	287 04.8	N 4 55.2	75 30.9	N 6 31.8
S	5	113 17.8	238 15.3	S19 49.7	224 47.3	S22 49.1	302 06.8	N 4 55.0	90 33.5	N 6 31.7
A										
T	6	128 20.2	253 14.6	S19 50.5	239 47.8	S22 49.4	317 08.9	N 4 54.8	105 36.2	N 6 31.7
U	7	143 22.7	268 13.9	S19 51.4	254 48.4	S22 49.7	332 10.9	N 4 54.7	120 38.8	N 6 31.6
R	8	158 25.2	283 13.1	S19 52.2	269 48.9	S22 49.9	347 13.0	N 4 54.5	135 41.5	N 6 31.5
D	9	173 27.6	298 12.4	S19 53.0	284 49.4	S22 50.2	2 15.0	N 4 54.3	150 44.1	N 6 31.5
A	10	188 30.1	313 11.7	S19 53.8	299 49.9	S22 50.5	17 17.1	N 4 54.1	165 46.8	N 6 31.4
Y	11	203 32.5	328 11.0	S19 54.6	314 50.4	S22 50.8	32 19.1	N 4 54.0	180 49.4	N 6 31.3
	12	218 35.0	343 10.2	S19 55.4	329 50.9	S22 51.1	47 21.2	N 4 53.8	195 52.0	N 6 31.3
	13	233 37.5	358 09.5	S19 56.2	344 51.4	S22 51.3	62 23.2	N 4 53.6	210 54.7	N 6 31.2
	14	248 39.9	13 08.8	S19 57.0	359 51.9	S22 51.6	77 25.3	N 4 53.5	225 57.3	N 6 31.1
	15	263 42.4	28 08.1	S19 57.8	14 52.4	S22 51.9	92 27.3	N 4 53.3	240 60.0	N 6 31.1
	16	278 44.9	43 07.3	S19 58.6	29 52.9	S22 52.2	107 29.4	N 4 53.1	256 02.6	N 6 31.0
	17	293 47.3	58 06.6	S19 59.4	44 53.5	S22 52.5	122 31.4	N 4 53.0	271 05.3	N 6 30.9
	18	308 49.8	73 05.9	S20 00.2	59 54.0	S22 52.7	137 33.5	N 4 52.8	286 07.9	N 6 30.9
	19	323 52.3	88 05.1	S20 01.0	74 54.5	S22 53.0	152 35.5	N 4 52.6	301 10.5	N 6 30.8
	20	338 54.7	103 04.4	S20 01.8	89 55.0	S22 53.3	167 37.6	N 4 52.5	316 13.2	N 6 30.7
	21	353 57.2	118 03.7	S20 02.6	104 55.5	S22 53.6	182 39.6	N 4 52.3	331 15.8	N 6 30.7
	22	8 59.7	133 02.9	S20 03.4	119 56.0	S22 53.9	197 41.7	N 4 52.1	346 18.5	N 6 30.6
	23	24 02.1	148 02.2	S20 04.2	134 56.5	S22 54.1	212 43.7	N 4 52.0	1 21.1	N 6 30.5
			v -0.7	d 0.8	v 0.5	d 0.3	v 2.0	d 0.2	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
		° '	° '	° '	'	° '	'	'
28	0	184 02.4	S12 57.9	205 02.9	11.1	S 9 45.3	15.0	58.9
	1	199 02.5	S12 58.8	219 33.0	11.0	S10 00.2	14.9	58.9
	2	214 02.5	S12 59.6	234 03.0	11.0	S10 15.0	14.8	58.9
	3	229 02.6	S13 00.5	248 33.0	11.0	S10 29.8	14.8	58.9
	4	244 02.6	S13 01.3	263 02.9	10.9	S10 44.5	14.7	58.9
T	5	259 02.7	S13 02.1	277 32.8	10.9	S10 59.1	14.6	58.9
H								
U	6	274 02.8	S13 03.0	292 02.7	10.9	S11 13.7	14.6	58.8
R	7	289 02.8	S13 03.8	306 32.5	10.8	S11 28.2	14.5	58.8
S	8	304 02.9	S13 04.6	321 02.3	10.8	S11 42.6	14.4	58.8
D	9	319 02.9	S13 05.5	335 32.0	10.8	S11 57.0	14.4	58.8
A	10	334 03.0	S13 06.3	350 01.8	10.7	S12 11.3	14.3	58.8
Y	11	349 03.0	S13 07.2	4 31.4	10.7	S12 25.5	14.2	58.7
	12	4 03.1	S13 08.0	19 01.1	10.6	S12 39.6	14.1	58.7
	13	19 03.1	S13 08.8	33 30.7	10.6	S12 53.7	14.1	58.7
	14	34 03.2	S13 09.7	48 00.2	10.6	S13 07.7	14.0	58.7
	15	49 03.2	S13 10.5	62 29.8	10.5	S13 21.6	13.9	58.7
	16	64 03.2	S13 11.3	76 59.2	10.5	S13 35.5	13.8	58.6
	17	79 03.3	S13 12.2	91 28.7	10.4	S13 49.2	13.8	58.6
	18	94 03.3	S13 13.0	105 58.1	10.4	S14 02.9	13.7	58.6
	19	109 03.4	S13 13.8	120 27.4	10.3	S14 16.5	13.6	58.6
	20	124 03.4	S13 14.7	134 56.7	10.3	S14 29.9	13.5	58.6
	21	139 03.5	S13 15.5	149 26.0	10.3	S14 43.4	13.4	58.5
	22	154 03.5	S13 16.3	163 55.2	10.2	S14 56.7	13.3	58.5
	23	169 03.6	S13 17.2	178 24.4	10.2	S15 09.9	13.2	58.5
29	0	184 03.6	S13 18.0	192 53.5	10.1	S15 23.0	13.1	58.5
	1	199 03.7	S13 18.8	207 22.6	10.1	S15 36.1	13.0	58.5
	2	214 03.7	S13 19.7	221 51.6	10.0	S15 49.0	13.0	58.4
	3	229 03.8	S13 20.5	236 20.6	10.0	S16 01.9	12.9	58.4
	4	244 03.8	S13 21.3	250 49.5	9.9	S16 14.7	12.8	58.4
F	5	259 03.8	S13 22.2	265 18.4	9.9	S16 27.3	12.7	58.4
R								
I	6	274 03.9	S13 23.0	279 47.3	9.8	S16 39.9	12.6	58.3
D	7	289 03.9	S13 23.8	294 16.1	9.8	S16 52.3	12.5	58.3
A	8	304 04.0	S13 24.7	308 44.8	9.8	S17 04.7	12.4	58.3
Y	9	319 04.0	S13 25.5	323 13.6	9.7	S17 16.9	12.3	58.3
	10	334 04.1	S13 26.3	337 42.2	9.7	S17 29.1	12.2	58.2
	11	349 04.1	S13 27.2	352 10.8	9.6	S17 41.1	12.0	58.2
	12	4 04.1	S13 28.0	6 39.4	9.6	S17 53.1	11.9	58.2
	13	19 04.2	S13 28.8	21 07.9	9.5	S18 04.9	11.8	58.2
	14	34 04.2	S13 29.6	35 36.4	9.5	S18 16.6	11.7	58.1
	15	49 04.3	S13 30.5	50 04.8	9.4	S18 28.2	11.6	58.1
	16	64 04.3	S13 31.3	64 33.2	9.4	S18 39.7	11.5	58.1
	17	79 04.3	S13 32.1	79 01.5	9.3	S18 51.1	11.4	58.1
	18	94 04.4	S13 32.9	93 29.8	9.3	S19 02.4	11.3	58.0
	19	109 04.4	S13 33.8	107 58.0	9.2	S19 13.5	11.2	58.0
	20	124 04.5	S13 34.6	122 26.2	9.2	S19 24.6	11.0	58.0
	21	139 04.5	S13 35.4	136 54.4	9.1	S19 35.5	10.9	58.0
	22	154 04.5	S13 36.2	151 22.5	9.1	S19 46.3	10.8	57.9
	23	169 04.6	S13 37.1	165 50.5	9.1	S19 57.0	10.7	57.9
30	0	184 04.6	S13 37.9	180 18.5	9.0	S20 07.5	10.6	57.9
	1	199 04.6	S13 38.7	194 46.5	9.0	S20 18.0	10.4	57.9
	2	214 04.7	S13 39.5	209 14.4	8.9	S20 28.3	10.3	57.8
	3	229 04.7	S13 40.4	223 42.3	8.9	S20 38.5	10.2	57.8
	4	244 04.8	S13 41.2	238 10.1	8.8	S20 48.6	10.1	57.8
S	5	259 04.8	S13 42.0	252 37.9	8.8	S20 58.5	9.9	57.8
A								
T	6	274 04.8	S13 42.8	267 05.6	8.7	S21 08.3	9.8	57.7
U	7	289 04.9	S13 43.6	281 33.3	8.7	S21 18.0	9.7	57.7
R	8	304 04.9	S13 44.5	296 01.0	8.7	S21 27.6	9.6	57.7
D	9	319 04.9	S13 45.3	310 28.6	8.6	S21 37.0	9.4	57.6
A	10	334 05.0	S13 46.1	324 56.1	8.6	S21 46.3	9.3	57.6
Y	11	349 05.0	S13 46.9	339 23.7	8.5	S21 55.5	9.2	57.6
	12	4 05.0	S13 47.7	353 51.2	8.5	S22 04.5	9.0	57.6
	13	19 05.1	S13 48.6	8 18.6	8.5	S22 13.4	8.9	57.5
	14	34 05.1	S13 49.4	22 46.0	8.4	S22 22.2	8.8	57.5
	15	49 05.1	S13 50.2	37 13.4	8.4	S22 30.8	8.6	57.5
	16	64 05.2	S13 51.0	51 40.7	8.3	S22 39.3	8.5	57.5
	17	79 05.2	S13 51.8	66 08.0	8.3	S22 47.6	8.4	57.4
	18	94 05.2	S13 52.7	80 35.3	8.3	S22 55.9	8.2	57.4
	19	109 05.3	S13 53.5	95 02.5	8.2	S23 03.9	8.1	57.4
	20	124 05.3	S13 54.3	109 29.7	8.2	S23 11.9	7.9	57.3
	21	139 05.3	S13 55.1	123 56.9	8.2	S23 19.7	7.8	57.3
	22	154 05.3	S13 55.9	138 24.0	8.1	S23 27.3	7.7	57.3
	23	169 05.4	S13 56.7	152 51.1	8.1	S23 34.9	7.5	57.3
		S.D. 16.1	d 0.8	S.D.	16.0	15.9	15.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.4
Achernar	335 17.9	S57 05.7
Acrux	172 58.1	S63 15.0
Adhara	255 03.9	S29 00.4
Albireo	67 02.3	N28 01.3
Aldebaran	290 36.7	N16 34.0
Alioth	166 11.5	N55 48.4
Alkaid	152 50.7	N49 10.4
Al Na-ir	27 29.8	S46 49.6
Alnilam	275 35.2	S 1 10.9
Alphard	217 45.5	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 14.9
Altair	61 57.8	N 8 56.7
Ankaa	353 04.5	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 06.0	S69 04.8
Avior	234 13.7	S59 35.6
Bellatrix	278 20.2	N 6 22.6
Betelgeuse	270 49.4	N 7 24.8
Canopus	263 51.1	S52 42.3
Capella	280 18.2	N46 01.5
Castor	245 54.0	N31 49.5
Deneb	49 24.2	N45 23.1
Denebola	182 22.9	N14 25.0
Diphda	348 44.7	S17 49.9
Dubhe	193 38.6	N61 35.8
Elnath	277 58.7	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.8	S29 28.4
Gacrux	171 49.6	S57 16.0
Gienah	175 41.5	S17 41.7
Hadar	148 33.5	S60 30.4
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.7	S34 22.4
Kochab	137 21.3	N74 02.4
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.8	S69 49.6
Mirfak	308 24.5	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.1	S56 38.9
Polaris	315 13.9	N89 22.3
Pollux	243 14.4	N27 57.4
Procyon	244 48.4	N 5 09.3
Rasalhague	95 56.7	N12 32.6
Regulus	207 32.1	N11 49.8
Rigel	281 01.4	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.6
Shaula	96 07.5	S37 07.5
Sirius	258 24.1	S16 45.1
Spica	158 20.2	S11 18.3
Suhail	222 44.7	S43 32.4
Vega	80 31.9	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
31 0	39 04.6	163 01.5	S20 05.0	149 57.0	S22 54.4	227 45.8	N 4 51.8	16 23.8	N 6 30.5
1	54 07.0	178 00.7	S20 05.8	164 57.5	S22 54.7	242 47.8	N 4 51.6	31 26.4	N 6 30.4
2	69 09.5	193 00.0	S20 06.6	179 58.0	S22 55.0	257 49.9	N 4 51.4	46 29.0	N 6 30.3
3	84 12.0	207 59.3	S20 07.4	194 58.5	S22 55.2	272 51.9	N 4 51.3	61 31.7	N 6 30.3
4	99 14.4	222 58.5	S20 08.2	209 59.0	S22 55.5	287 54.0	N 4 51.1	76 34.3	N 6 30.2
S 5	114 16.9	237 57.8	S20 09.0	224 59.5	S22 55.8	302 56.0	N 4 50.9	91 37.0	N 6 30.1
U									
N 6	129 19.4	252 57.1	S20 09.8	240 00.0	S22 56.1	317 58.1	N 4 50.8	106 39.6	N 6 30.1
D 7	144 21.8	267 56.3	S20 10.6	255 00.5	S22 56.3	333 00.1	N 4 50.6	121 42.3	N 6 30.0
A 8	159 24.3	282 55.6	S20 11.4	270 01.0	S22 56.6	348 02.2	N 4 50.4	136 44.9	N 6 29.9
Y 9	174 26.8	297 54.8	S20 12.2	285 01.5	S22 56.9	3 04.2	N 4 50.3	151 47.5	N 6 29.9
10	189 29.2	312 54.1	S20 12.9	300 02.0	S22 57.2	18 06.3	N 4 50.1	166 50.2	N 6 29.8
11	204 31.7	327 53.4	S20 13.7	315 02.6	S22 57.4	33 08.3	N 4 49.9	181 52.8	N 6 29.7
12	219 34.2	342 52.6	S20 14.5	330 03.1	S22 57.7	48 10.4	N 4 49.8	196 55.5	N 6 29.7
13	234 36.6	357 51.9	S20 15.3	345 03.6	S22 58.0	63 12.4	N 4 49.6	211 58.1	N 6 29.6
14	249 39.1	12 51.2	S20 16.1	0 04.1	S22 58.2	78 14.5	N 4 49.4	227 00.8	N 6 29.5
15	264 41.5	27 50.4	S20 16.9	15 04.6	S22 58.5	93 16.5	N 4 49.3	242 03.4	N 6 29.5
16	279 44.0	42 49.7	S20 17.6	30 05.1	S22 58.8	108 18.6	N 4 49.1	257 06.0	N 6 29.4
17	294 46.5	57 48.9	S20 18.4	45 05.6	S22 59.1	123 20.6	N 4 48.9	272 08.7	N 6 29.3
18	309 48.9	72 48.2	S20 19.2	60 06.1	S22 59.3	138 22.7	N 4 48.8	287 11.3	N 6 29.3
19	324 51.4	87 47.4	S20 20.0	75 06.6	S22 59.6	153 24.8	N 4 48.6	302 14.0	N 6 29.2
20	339 53.9	102 46.7	S20 20.8	90 07.1	S22 59.9	168 26.8	N 4 48.4	317 16.6	N 6 29.1
21	354 56.3	117 46.0	S20 21.5	105 07.6	S23 00.1	183 28.9	N 4 48.3	332 19.3	N 6 29.1
22	9 58.8	132 45.2	S20 22.3	120 08.1	S23 00.4	198 30.9	N 4 48.1	347 21.9	N 6 29.0
23	25 01.3	147 44.5	S20 23.1	135 08.6	S23 00.7	213 33.0	N 4 47.9	2 24.5	N 6 28.9
1 0	40 03.7	162 43.7	S20 23.9	150 09.1	S23 00.9	228 35.0	N 4 47.8	17 27.2	N 6 28.9
1	55 06.2	177 43.0	S20 24.6	165 09.6	S23 01.2	243 37.1	N 4 47.6	32 29.8	N 6 28.8
2	70 08.7	192 42.2	S20 25.4	180 10.1	S23 01.5	258 39.1	N 4 47.4	47 32.5	N 6 28.7
3	85 11.1	207 41.5	S20 26.2	195 10.6	S23 01.7	273 41.2	N 4 47.3	62 35.1	N 6 28.7
4	100 13.6	222 40.7	S20 26.9	210 11.1	S23 02.0	288 43.2	N 4 47.1	77 37.7	N 6 28.6
M 5	115 16.0	237 40.0	S20 27.7	225 11.6	S23 02.3	303 45.3	N 4 46.9	92 40.4	N 6 28.5
O									
N 6	130 18.5	252 39.2	S20 28.5	240 12.1	S23 02.5	318 47.4	N 4 46.8	107 43.0	N 6 28.5
D 7	145 21.0	267 38.5	S20 29.3	255 12.6	S23 02.8	333 49.4	N 4 46.6	122 45.7	N 6 28.4
A 8	160 23.4	282 37.7	S20 30.0	270 13.1	S23 03.1	348 51.5	N 4 46.4	137 48.3	N 6 28.4
Y 9	175 25.9	297 37.0	S20 30.8	285 13.6	S23 03.3	3 53.5	N 4 46.3	152 51.0	N 6 28.3
10	190 28.4	312 36.2	S20 31.5	300 14.1	S23 03.6	18 55.6	N 4 46.1	167 53.6	N 6 28.2
11	205 30.8	327 35.5	S20 32.3	315 14.6	S23 03.9	33 57.6	N 4 45.9	182 56.2	N 6 28.2
12	220 33.3	342 34.7	S20 33.1	330 15.1	S23 04.1	48 59.7	N 4 45.8	197 58.9	N 6 28.1
13	235 35.8	357 34.0	S20 33.8	345 15.6	S23 04.4	64 01.7	N 4 45.6	213 01.5	N 6 28.0
14	250 38.2	12 33.2	S20 34.6	0 16.0	S23 04.6	79 03.8	N 4 45.4	228 04.2	N 6 28.0
15	265 40.7	27 32.5	S20 35.4	15 16.5	S23 04.9	94 05.9	N 4 45.3	243 06.8	N 6 27.9
16	280 43.1	42 31.7	S20 36.1	30 17.0	S23 05.2	109 07.9	N 4 45.1	258 09.4	N 6 27.8
17	295 45.6	57 31.0	S20 36.9	45 17.5	S23 05.4	124 10.0	N 4 44.9	273 12.1	N 6 27.8
18	310 48.1	72 30.2	S20 37.6	60 18.0	S23 05.7	139 12.0	N 4 44.8	288 14.7	N 6 27.7
19	325 50.5	87 29.4	S20 38.4	75 18.5	S23 06.0	154 14.1	N 4 44.6	303 17.4	N 6 27.6
20	340 53.0	102 28.7	S20 39.1	90 19.0	S23 06.2	169 16.1	N 4 44.4	318 20.0	N 6 27.6
21	355 55.5	117 27.9	S20 39.9	105 19.5	S23 06.5	184 18.2	N 4 44.3	333 22.6	N 6 27.5
22	10 57.9	132 27.2	S20 40.6	120 20.0	S23 06.7	199 20.3	N 4 44.1	348 25.3	N 6 27.4
23	26 00.4	147 26.4	S20 41.4	135 20.5	S23 07.0	214 22.3	N 4 43.9	3 27.9	N 6 27.4
2 0	41 02.9	162 25.7	S20 42.1	150 21.0	S23 07.2	229 24.4	N 4 43.8	18 30.6	N 6 27.3
1	56 05.3	177 24.9	S20 42.9	165 21.5	S23 07.5	244 26.4	N 4 43.6	33 33.2	N 6 27.2
2	71 07.8	192 24.1	S20 43.6	180 22.0	S23 07.8	259 28.5	N 4 43.4	48 35.9	N 6 27.2
3	86 10.3	207 23.4	S20 44.4	195 22.5	S23 08.0	274 30.5	N 4 43.3	63 38.5	N 6 27.1
4	101 12.7	222 22.6	S20 45.1	210 23.0	S23 08.3	289 32.6	N 4 43.1	78 41.1	N 6 27.0
T 5	116 15.2	237 21.9	S20 45.9	225 23.5	S23 08.5	304 34.7	N 4 42.9	93 43.8	N 6 27.0
U									
E 6	131 17.6	252 21.1	S20 46.6	240 24.0	S23 08.8	319 36.7	N 4 42.8	108 46.4	N 6 26.9
S 7	146 20.1	267 20.3	S20 47.4	255 24.5	S23 09.0	334 38.8	N 4 42.6	123 49.1	N 6 26.9
D 8	161 22.6	282 19.6	S20 48.1	270 24.9	S23 09.3	349 40.8	N 4 42.4	138 51.7	N 6 26.8
A 9	176 25.0	297 18.8	S20 48.8	285 25.4	S23 09.6	4 42.9	N 4 42.3	153 54.3	N 6 26.7
Y 10	191 27.5	312 18.0	S20 49.6	300 25.9	S23 09.8	19 45.0	N 4 42.1	168 57.0	N 6 26.7
11	206 30.0	327 17.3	S20 50.3	315 26.4	S23 10.1	34 47.0	N 4 41.9	183 59.6	N 6 26.6
12	221 32.4	342 16.5	S20 51.1	330 26.9	S23 10.3	49 49.1	N 4 41.8	199 02.3	N 6 26.5
13	236 34.9	357 15.7	S20 51.8	345 27.4	S23 10.6	64 51.1	N 4 41.6	214 04.9	N 6 26.5
14	251 37.4	12 15.0	S20 52.5	0 27.9	S23 10.8	79 53.2	N 4 41.5	229 07.5	N 6 26.4
15	266 39.8	27 14.2	S20 53.3	15 28.4	S23 11.1	94 55.3	N 4 41.3	244 10.2	N 6 26.3
16	281 42.3	42 13.4	S20 54.0	30 28.9	S23 11.3	109 57.3	N 4 41.1	259 12.8	N 6 26.3
17	296 44.8	57 12.7	S20 54.7	45 29.4	S23 11.6	124 59.4	N 4 41.0	274 15.4	N 6 26.2
18	311 47.2	72 11.9	S20 55.5	60 29.9	S23 11.8	140 01.4	N 4 40.8	289 18.1	N 6 26.1
19	326 49.7	87 11.1	S20 56.2	75 30.3	S23 12.1	155 03.5	N 4 40.6	304 20.7	N 6 26.1
20	341 52.1	102 10.4	S20 56.9	90 30.8	S23 12.3	170 05.6	N 4 40.5	319 23.4	N 6 26.0
21	356 54.6	117 09.6	S20 57.7	105 31.3	S23 12.6	185 07.6	N 4 40.3	334 26.0	N 6 26.0
22	11 57.1	132 08.8	S20 58.4	120 31.8	S23 12.8	200 09.7	N 4 40.1	349 28.6	N 6 25.9
23	26 59.5	147 08.1	S20 59.1	135 32.3	S23 13.1	215 11.7	N 4 40.0	4 31.3	N 6 25.8
		v -0.8	d 0.8	v 0.5	d 0.3	v 2.1	d 0.2	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 05.4	S13 57.5	167 18.2	8.1	S23 42.2	7.4	57.2
	1	199 05.4	S13 58.4	181 45.2	8.0	S23 49.5	7.2	57.2
	2	214 05.5	S13 59.2	196 12.3	8.0	S23 56.6	7.1	57.2
	3	229 05.5	S13 60.0	210 39.2	8.0	S24 03.5	7.0	57.1
	4	244 05.5	S14 00.8	225 06.2	8.0	S24 10.3	6.8	57.1
S	5	259 05.5	S14 01.6	239 33.1	7.9	S24 17.0	6.7	57.1
U								
N	6	274 05.6	S14 02.4	254 00.1	7.9	S24 23.5	6.5	57.1
D	7	289 05.6	S14 03.2	268 26.9	7.9	S24 29.9	6.4	57.0
A	8	304 05.6	S14 04.1	282 53.8	7.9	S24 36.1	6.2	57.0
Y	9	319 05.6	S14 04.9	297 20.7	7.8	S24 42.2	6.1	57.0
	10	334 05.7	S14 05.7	311 47.5	7.8	S24 48.1	5.9	56.9
	11	349 05.7	S14 06.5	326 14.3	7.8	S24 53.9	5.8	56.9
	12	4 05.7	S14 07.3	340 41.1	7.8	S24 59.5	5.6	56.9
	13	19 05.7	S14 08.1	355 07.9	7.8	S25 05.0	5.5	56.9
	14	34 05.8	S14 08.9	9 34.6	7.8	S25 10.4	5.3	56.8
	15	49 05.8	S14 09.7	24 01.4	7.8	S25 15.6	5.2	56.8
	16	64 05.8	S14 10.5	38 28.1	7.7	S25 20.6	5.0	56.8
	17	79 05.8	S14 11.3	52 54.9	7.7	S25 25.5	4.9	56.7
	18	94 05.9	S14 12.1	67 21.6	7.7	S25 30.2	4.7	56.7
	19	109 05.9	S14 13.0	81 48.3	7.7	S25 34.8	4.6	56.7
	20	124 05.9	S14 13.8	96 15.0	7.7	S25 39.3	4.4	56.6
	21	139 05.9	S14 14.6	110 41.7	7.7	S25 43.6	4.3	56.6
	22	154 06.0	S14 15.4	125 08.4	7.7	S25 47.7	4.1	56.6
	23	169 06.0	S14 16.2	139 35.1	7.7	S25 51.7	4.0	56.6
1	0	184 06.0	S14 17.0	154 01.8	7.7	S25 55.5	3.8	56.5
	1	199 06.0	S14 17.8	168 28.5	7.7	S25 59.2	3.7	56.5
	2	214 06.0	S14 18.6	182 55.2	7.7	S26 02.8	3.5	56.5
	3	229 06.1	S14 19.4	197 21.9	7.7	S26 06.1	3.4	56.4
	4	244 06.1	S14 20.2	211 48.6	7.7	S26 09.4	3.2	56.4
M	5	259 06.1	S14 21.0	226 15.4	7.7	S26 12.5	3.1	56.4
O								
N	6	274 06.1	S14 21.8	240 42.1	7.7	S26 15.4	2.9	56.4
D	7	289 06.1	S14 22.6	255 08.8	7.7	S26 18.2	2.8	56.3
A	8	304 06.2	S14 23.4	269 35.6	7.7	S26 20.8	2.6	56.3
Y	9	319 06.2	S14 24.2	284 02.3	7.8	S26 23.3	2.5	56.3
	10	334 06.2	S14 25.0	298 29.1	7.8	S26 25.6	2.3	56.2
	11	349 06.2	S14 25.8	312 55.9	7.8	S26 27.8	2.2	56.2
	12	4 06.2	S14 26.6	327 22.7	7.8	S26 29.8	2.0	56.2
	13	19 06.2	S14 27.4	341 49.5	7.8	S26 31.7	1.9	56.2
	14	34 06.3	S14 28.2	356 16.3	7.8	S26 33.5	1.7	56.1
	15	49 06.3	S14 29.0	10 43.2	7.9	S26 35.0	1.6	56.1
	16	64 06.3	S14 29.8	25 10.1	7.9	S26 36.5	1.4	56.1
	17	79 06.3	S14 30.6	39 37.0	7.9	S26 37.8	1.3	56.1
	18	94 06.3	S14 31.4	54 03.9	7.9	S26 38.9	1.1	56.0
	19	109 06.3	S14 32.2	68 30.9	8.0	S26 39.9	1.0	56.0
	20	124 06.3	S14 33.0	82 57.9	8.0	S26 40.7	0.8	56.0
	21	139 06.4	S14 33.8	97 24.9	8.0	S26 41.4	0.7	55.9
	22	154 06.4	S14 34.6	111 52.0	8.1	S26 41.9	0.5	55.9
	23	169 06.4	S14 35.4	126 19.0	8.1	S26 42.3	0.4	55.9
2	0	184 06.4	S14 36.2	140 46.2	8.1	S26 42.6	0.2	55.9
	1	199 06.4	S14 37.0	155 13.3	8.2	S26 42.7	0.1	55.8
	2	214 06.4	S14 37.8	169 40.5	8.2	S26 42.6	0.0	55.8
	3	229 06.4	S14 38.6	184 07.7	8.2	S26 42.4	0.2	55.8
	4	244 06.5	S14 39.4	198 35.0	8.3	S26 42.1	0.3	55.8
T	5	259 06.5	S14 40.2	213 02.3	8.3	S26 41.6	0.5	55.7
U								
E	6	274 06.5	S14 41.0	227 29.6	8.3	S26 41.0	0.6	55.7
S	7	289 06.5	S14 41.7	241 57.0	8.4	S26 40.2	0.8	55.7
D	8	304 06.5	S14 42.5	256 24.5	8.4	S26 39.3	0.9	55.7
A	9	319 06.5	S14 43.3	270 51.9	8.5	S26 38.3	1.1	55.6
Y	10	334 06.5	S14 44.1	285 19.5	8.5	S26 37.1	1.2	55.6
	11	349 06.5	S14 44.9	299 47.0	8.6	S26 35.7	1.3	55.6
	12	4 06.5	S14 45.7	314 14.7	8.6	S26 34.3	1.5	55.6
	13	19 06.5	S14 46.5	328 42.3	8.7	S26 32.7	1.6	55.5
	14	34 06.5	S14 47.3	343 10.0	8.7	S26 30.9	1.8	55.5
	15	49 06.6	S14 48.1	357 37.8	8.8	S26 29.0	1.9	55.5
	16	64 06.6	S14 48.9	12 05.6	8.8	S26 27.0	2.0	55.5
	17	79 06.6	S14 49.6	26 33.5	8.9	S26 24.8	2.2	55.4
	18	94 06.6	S14 50.4	41 01.5	8.9	S26 22.5	2.3	55.4
	19	109 06.6	S14 51.2	55 29.5	9.0	S26 20.1	2.4	55.4
	20	124 06.6	S14 52.0	69 57.5	9.1	S26 17.5	2.6	55.4
	21	139 06.6	S14 52.8	84 25.6	9.1	S26 14.8	2.7	55.3
	22	154 06.6	S14 53.6	98 53.8	9.2	S26 11.9	2.8	55.3
	23	169 06.6	S14 54.4	113 22.0	9.2	S26 09.0	3.0	55.3
		S.D. 16.1	d 0.8	S.D. 15.5		15.3		15.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.4
Achernar	335 17.9	S57 05.7
Acrux	172 58.1	S63 15.0
Adhara	255 03.9	S29 00.4
Albireo	67 02.3	N28 01.3
Aldebaran	290 36.7	N16 34.0
Alioth	166 11.5	N55 48.4
Alkaid	152 50.7	N49 10.4
Al Na-ir	27 29.8	S46 49.6
Alnilam	275 35.1	S 1 10.9
Alphard	217 45.5	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 15.0
Altair	61 57.8	N 8 56.7
Ankaa	353 04.5	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.2	N19 02.3
Atria	107 06.1	S69 04.8
Avior	234 13.7	S59 35.6
Bellatrix	278 20.2	N 6 22.6
Betelgeuse	270 49.4	N 7 24.8
Canopus	263 51.0	S52 42.3
Capella	280 18.1	N46 01.5
Castor	245 54.0	N31 49.5
Deneb	49 24.2	N45 23.1
Denebola	182 22.9	N14 25.0
Diphda	348 44.7	S17 49.9
Dubhe	193 38.6	N61 35.7
Elnath	277 58.7	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.6	S57 16.0
Gienah	175 41.5	S17 41.7
Hadar	148 33.4	S60 30.4
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.7	S34 22.4
Kochab	137 21.3	N74 02.4
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.8	S69 49.6
Mirfak	308 24.5	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.1	S56 38.9
Polaris	315 13.5	N89 22.4
Pollux	243 14.4	N27 57.4
Procyon	244 48.3	N 5 09.3
Rasalhague	95 56.7	N12 32.6
Regulus	207 32.1	N11 49.8
Rigel	281 01.4	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.5
Sirius	258 24.1	S16 45.1
Spica	158 20.2	S11 18.3
Suhail	222 44.6	S43 32.4
Vega	80 31.9	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
3 0	42 02.0	162 07.3	S20 59.8	150 32.8	S23 13.3	230 13.8	N 4 39.8	19 33.9	N 6 25.8
1	57 04.5	177 06.5	S21 00.6	165 33.3	S23 13.6	245 15.9	N 4 39.6	34 36.6	N 6 25.7
2	72 06.9	192 05.8	S21 01.3	180 33.8	S23 13.8	260 17.9	N 4 39.5	49 39.2	N 6 25.6
3	87 09.4	207 05.0	S21 02.0	195 34.2	S23 14.1	275 20.0	N 4 39.3	64 41.8	N 6 25.6
4	102 11.9	222 04.2	S21 02.7	210 34.7	S23 14.3	290 22.0	N 4 39.1	79 44.5	N 6 25.5
W 5	117 14.3	237 03.4	S21 03.5	225 35.2	S23 14.6	305 24.1	N 4 39.0	94 47.1	N 6 25.4
E									
D 6	132 16.8	252 02.7	S21 04.2	240 35.7	S23 14.8	320 26.2	N 4 38.8	109 49.8	N 6 25.4
N 7	147 19.3	267 01.9	S21 04.9	255 36.2	S23 15.1	335 28.2	N 4 38.7	124 52.4	N 6 25.3
E 8	162 21.7	282 01.1	S21 05.6	270 36.7	S23 15.3	350 30.3	N 4 38.5	139 55.0	N 6 25.3
S 9	177 24.2	297 00.3	S21 06.3	285 37.2	S23 15.6	5 32.4	N 4 38.3	154 57.7	N 6 25.2
D 10	192 26.6	311 59.6	S21 07.1	300 37.7	S23 15.8	20 34.4	N 4 38.2	170 00.3	N 6 25.1
A 11	207 29.1	326 58.8	S21 07.8	315 38.1	S23 16.0	35 36.5	N 4 38.0	185 02.9	N 6 25.1
Y									
12	222 31.6	341 58.0	S21 08.5	330 38.6	S23 16.3	50 38.5	N 4 37.8	200 05.6	N 6 25.0
13	237 34.0	356 57.2	S21 09.2	345 39.1	S23 16.5	65 40.6	N 4 37.7	215 08.2	N 6 24.9
14	252 36.5	11 56.5	S21 09.9	0 39.6	S23 16.8	80 42.7	N 4 37.5	230 10.9	N 6 24.9
15	267 39.0	26 55.7	S21 10.6	15 40.1	S23 17.0	95 44.7	N 4 37.4	245 13.5	N 6 24.8
16	282 41.4	41 54.9	S21 11.3	30 40.6	S23 17.3	110 46.8	N 4 37.2	260 16.1	N 6 24.7
17	297 43.9	56 54.1	S21 12.0	45 41.0	S23 17.5	125 48.9	N 4 37.0	275 18.8	N 6 24.7
18	312 46.4	71 53.3	S21 12.7	60 41.5	S23 17.7	140 50.9	N 4 36.9	290 21.4	N 6 24.6
19	327 48.8	86 52.6	S21 13.5	75 42.0	S23 18.0	155 53.0	N 4 36.7	305 24.0	N 6 24.6
20	342 51.3	101 51.8	S21 14.2	90 42.5	S23 18.2	170 55.0	N 4 36.5	320 26.7	N 6 24.5
21	357 53.7	116 51.0	S21 14.9	105 43.0	S23 18.5	185 57.1	N 4 36.4	335 29.3	N 6 24.4
22	12 56.2	131 50.2	S21 15.6	120 43.5	S23 18.7	200 59.2	N 4 36.2	350 32.0	N 6 24.4
23	27 58.7	146 49.4	S21 16.3	135 43.9	S23 19.0	216 01.2	N 4 36.0	5 34.6	N 6 24.3
4 0	43 01.1	161 48.6	S21 17.0	150 44.4	S23 19.2	231 03.3	N 4 35.9	20 37.2	N 6 24.2
1	58 03.6	176 47.9	S21 17.7	165 44.9	S23 19.4	246 05.4	N 4 35.7	35 39.9	N 6 24.2
2	73 06.1	191 47.1	S21 18.4	180 45.4	S23 19.7	261 07.4	N 4 35.6	50 42.5	N 6 24.1
3	88 08.5	206 46.3	S21 19.1	195 45.9	S23 19.9	276 09.5	N 4 35.4	65 45.1	N 6 24.0
4	103 11.0	221 45.5	S21 19.8	210 46.4	S23 20.1	291 11.6	N 4 35.2	80 47.8	N 6 24.0
T 5	118 13.5	236 44.7	S21 20.5	225 46.8	S23 20.4	306 13.6	N 4 35.1	95 50.4	N 6 23.9
H									
U 6	133 15.9	251 43.9	S21 21.2	240 47.3	S23 20.6	321 15.7	N 4 34.9	110 53.1	N 6 23.9
R 7	148 18.4	266 43.1	S21 21.9	255 47.8	S23 20.9	336 17.8	N 4 34.7	125 55.7	N 6 23.8
S 8	163 20.9	281 42.4	S21 22.6	270 48.3	S23 21.1	351 19.8	N 4 34.6	140 58.3	N 6 23.7
D 9	178 23.3	296 41.6	S21 23.2	285 48.8	S23 21.3	6 21.9	N 4 34.4	156 01.0	N 6 23.7
A 10	193 25.8	311 40.8	S21 23.9	300 49.2	S23 21.6	21 24.0	N 4 34.3	171 03.6	N 6 23.6
Y 11	208 28.2	326 40.0	S21 24.6	315 49.7	S23 21.8	36 26.0	N 4 34.1	186 06.2	N 6 23.5
12	223 30.7	341 39.2	S21 25.3	330 50.2	S23 22.0	51 28.1	N 4 33.9	201 08.9	N 6 23.5
13	238 33.2	356 38.4	S21 26.0	345 50.7	S23 22.3	66 30.2	N 4 33.8	216 11.5	N 6 23.4
14	253 35.6	11 37.6	S21 26.7	0 51.2	S23 22.5	81 32.2	N 4 33.6	231 14.2	N 6 23.4
15	268 38.1	26 36.8	S21 27.4	15 51.6	S23 22.7	96 34.3	N 4 33.4	246 16.8	N 6 23.3
16	283 40.6	41 36.0	S21 28.1	30 52.1	S23 23.0	111 36.4	N 4 33.3	261 19.4	N 6 23.2
17	298 43.0	56 35.3	S21 28.7	45 52.6	S23 23.2	126 38.4	N 4 33.1	276 22.1	N 6 23.2
18	313 45.5	71 34.5	S21 29.4	60 53.1	S23 23.4	141 40.5	N 4 33.0	291 24.7	N 6 23.1
19	328 48.0	86 33.7	S21 30.1	75 53.5	S23 23.7	156 42.6	N 4 32.8	306 27.3	N 6 23.0
20	343 50.4	101 32.9	S21 30.8	90 54.0	S23 23.9	171 44.6	N 4 32.6	321 30.0	N 6 23.0
21	358 52.9	116 32.1	S21 31.5	105 54.5	S23 24.1	186 46.7	N 4 32.5	336 32.6	N 6 22.9
22	13 55.4	131 31.3	S21 32.2	120 55.0	S23 24.4	201 48.8	N 4 32.3	351 35.2	N 6 22.9
23	28 57.8	146 30.5	S21 32.8	135 55.5	S23 24.6	216 50.8	N 4 32.2	6 37.9	N 6 22.8
5 0	44 00.3	161 29.7	S21 33.5	150 55.9	S23 24.8	231 52.9	N 4 32.0	21 40.5	N 6 22.7
1	59 02.7	176 28.9	S21 34.2	165 56.4	S23 25.1	246 55.0	N 4 31.8	36 43.1	N 6 22.7
2	74 05.2	191 28.1	S21 34.9	180 56.9	S23 25.3	261 57.0	N 4 31.7	51 45.8	N 6 22.6
3	89 07.7	206 27.3	S21 35.5	195 57.4	S23 25.5	276 59.1	N 4 31.5	66 48.4	N 6 22.5
4	104 10.1	221 26.5	S21 36.2	210 57.8	S23 25.7	292 01.2	N 4 31.4	81 51.1	N 6 22.5
F 5	119 12.6	236 25.7	S21 36.9	225 58.3	S23 26.0	307 03.2	N 4 31.2	96 53.7	N 6 22.4
R									
I 6	134 15.1	251 24.9	S21 37.5	240 58.8	S23 26.2	322 05.3	N 4 31.0	111 56.3	N 6 22.4
D 7	149 17.5	266 24.1	S21 38.2	255 59.3	S23 26.4	337 07.4	N 4 30.9	126 59.0	N 6 22.3
A 8	164 20.0	281 23.3	S21 38.9	270 59.7	S23 26.6	352 09.5	N 4 30.7	142 01.6	N 6 22.2
Y 9	179 22.5	296 22.5	S21 39.6	286 00.2	S23 26.9	7 11.5	N 4 30.5	157 04.2	N 6 22.2
10	194 24.9	311 21.7	S21 40.2	301 00.7	S23 27.1	22 13.6	N 4 30.4	172 06.9	N 6 22.1
11	209 27.4	326 20.9	S21 40.9	316 01.2	S23 27.3	37 15.7	N 4 30.2	187 09.5	N 6 22.0
12	224 29.9	341 20.1	S21 41.5	331 01.6	S23 27.6	52 17.7	N 4 30.1	202 12.1	N 6 22.0
13	239 32.3	356 19.3	S21 42.2	346 02.1	S23 27.8	67 19.8	N 4 29.9	217 14.8	N 6 21.9
14	254 34.8	11 18.5	S21 42.9	1 02.6	S23 28.0	82 21.9	N 4 29.7	232 17.4	N 6 21.9
15	269 37.2	26 17.7	S21 43.5	16 03.1	S23 28.2	97 23.9	N 4 29.6	247 20.0	N 6 21.8
16	284 39.7	41 16.9	S21 44.2	31 03.5	S23 28.4	112 26.0	N 4 29.4	262 22.7	N 6 21.7
17	299 42.2	56 16.1	S21 44.9	46 04.0	S23 28.7	127 28.1	N 4 29.3	277 25.3	N 6 21.7
18	314 44.6	71 15.3	S21 45.5	61 04.5	S23 28.9	142 30.2	N 4 29.1	292 27.9	N 6 21.6
19	329 47.1	86 14.5	S21 46.2	76 04.9	S23 29.1	157 32.2	N 4 28.9	307 30.6	N 6 21.6
20	344 49.6	101 13.7	S21 46.8	91 05.4	S23 29.3	172 34.3	N 4 28.8	322 33.2	N 6 21.5
21	359 52.0	116 12.9	S21 47.5	106 05.9	S23 29.6	187 36.4	N 4 28.6	337 35.8	N 6 21.4
22	14 54.5	131 12.1	S21 48.1	121 06.4	S23 29.8	202 38.4	N 4 28.5	352 38.5	N 6 21.4
23	29 57.0	146 11.3	S21 48.8	136 06.8	S23 30.0	217 40.5	N 4 28.3	7 41.1	N 6 21.3
		v -0.8	d 0.7	v 0.5	d 0.2	v 2.1	d 0.2	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 06.6	S14 55.2	127 50.3	9.3	S26 05.8	3.1	55.3
	1	199 06.6	S14 55.9	142 18.7	9.4	S26 02.6	3.2	55.2
	2	214 06.6	S14 56.7	156 47.1	9.4	S25 59.2	3.4	55.2
	3	229 06.6	S14 57.5	171 15.6	9.5	S25 55.7	3.5	55.2
	4	244 06.6	S14 58.3	185 44.1	9.5	S25 52.1	3.6	55.2
W	5	259 06.6	S14 59.1	200 12.7	9.6	S25 48.3	3.8	55.2
E								
D	6	274 06.6	S14 59.9	214 41.4	9.7	S25 44.5	3.9	55.1
N	7	289 06.6	S15 00.6	229 10.1	9.7	S25 40.4	4.0	55.1
E	8	304 06.6	S15 01.4	243 38.9	9.8	S25 36.3	4.1	55.1
S	9	319 06.6	S15 02.2	258 07.8	9.9	S25 32.0	4.3	55.1
D	10	334 06.6	S15 03.0	272 36.7	9.9	S25 27.7	4.4	55.0
A	11	349 06.6	S15 03.8	287 05.8	10.0	S25 23.1	4.5	55.0
Y								
	12	4 06.6	S15 04.5	301 34.8	10.1	S25 18.5	4.6	55.0
	13	19 06.6	S15 05.3	316 04.0	10.2	S25 13.8	4.8	55.0
	14	34 06.6	S15 06.1	330 33.2	10.2	S25 08.9	4.9	55.0
	15	49 06.6	S15 06.9	345 02.5	10.3	S25 03.9	5.0	54.9
	16	64 06.6	S15 07.7	359 31.9	10.4	S24 58.8	5.1	54.9
	17	79 06.6	S15 08.4	14 01.3	10.4	S24 53.5	5.2	54.9
	18	94 06.6	S15 09.2	28 30.8	10.5	S24 48.2	5.3	54.9
	19	109 06.6	S15 10.0	43 00.4	10.6	S24 42.7	5.5	54.9
	20	124 06.6	S15 10.8	57 30.1	10.7	S24 37.2	5.6	54.9
	21	139 06.6	S15 11.6	71 59.8	10.7	S24 31.5	5.7	54.8
	22	154 06.6	S15 12.3	86 29.6	10.8	S24 25.7	5.8	54.8
	23	169 06.6	S15 13.1	100 59.5	10.9	S24 19.7	5.9	54.8
4	0	184 06.6	S15 13.9	115 29.4	11.0	S24 13.7	6.0	54.8
	1	199 06.6	S15 14.7	129 59.4	11.0	S24 07.6	6.1	54.8
	2	214 06.6	S15 15.4	144 29.5	11.1	S24 01.3	6.3	54.7
	3	229 06.6	S15 16.2	158 59.7	11.2	S23 55.0	6.4	54.7
	4	244 06.6	S15 17.0	173 30.0	11.3	S23 48.5	6.5	54.7
T	5	259 06.6	S15 17.7	188 00.3	11.3	S23 41.9	6.6	54.7
H								
U	6	274 06.6	S15 18.5	202 30.7	11.4	S23 35.2	6.7	54.7
R	7	289 06.6	S15 19.3	217 01.2	11.5	S23 28.4	6.8	54.7
S	8	304 06.6	S15 20.1	231 31.7	11.6	S23 21.5	6.9	54.7
D	9	319 06.6	S15 20.8	246 02.4	11.6	S23 14.5	7.0	54.6
A	10	334 06.6	S15 21.6	260 33.1	11.7	S23 07.5	7.1	54.6
Y	11	349 06.6	S15 22.4	275 03.8	11.8	S23 00.3	7.2	54.6
	12	4 06.5	S15 23.1	289 34.7	11.9	S22 53.0	7.3	54.6
	13	19 06.5	S15 23.9	304 05.6	11.9	S22 45.6	7.4	54.6
	14	34 06.5	S15 24.7	318 36.6	12.0	S22 38.1	7.5	54.6
	15	49 06.5	S15 25.5	333 07.7	12.1	S22 30.5	7.6	54.6
	16	64 06.5	S15 26.2	347 38.8	12.2	S22 22.8	7.7	54.5
	17	79 06.5	S15 27.0	2 10.1	12.2	S22 15.0	7.8	54.5
	18	94 06.5	S15 27.8	16 41.4	12.3	S22 07.1	7.9	54.5
	19	109 06.5	S15 28.5	31 12.7	12.4	S21 59.1	8.0	54.5
	20	124 06.5	S15 29.3	45 44.2	12.4	S21 51.0	8.1	54.5
	21	139 06.5	S15 30.1	60 15.7	12.5	S21 42.9	8.2	54.5
	22	154 06.4	S15 30.8	74 47.3	12.6	S21 34.6	8.3	54.5
	23	169 06.4	S15 31.6	89 19.0	12.7	S21 26.3	8.3	54.5
5	0	184 06.4	S15 32.4	103 50.7	12.7	S21 17.8	8.4	54.4
	1	199 06.4	S15 33.1	118 22.5	12.8	S21 09.3	8.5	54.4
	2	214 06.4	S15 33.9	132 54.4	12.9	S21 00.7	8.6	54.4
	3	229 06.4	S15 34.6	147 26.4	13.0	S20 52.0	8.7	54.4
	4	244 06.4	S15 35.4	161 58.4	13.0	S20 43.2	8.8	54.4
F	5	259 06.4	S15 36.2	176 30.5	13.1	S20 34.3	8.9	54.4
R								
I	6	274 06.3	S15 36.9	191 02.7	13.2	S20 25.3	9.0	54.4
D	7	289 06.3	S15 37.7	205 34.9	13.2	S20 16.3	9.0	54.4
A	8	304 06.3	S15 38.5	220 07.3	13.3	S20 07.2	9.1	54.4
Y	9	319 06.3	S15 39.2	234 39.6	13.4	S19 58.0	9.2	54.4
	10	334 06.3	S15 40.0	249 12.1	13.4	S19 48.7	9.3	54.4
	11	349 06.3	S15 40.7	263 44.6	13.5	S19 39.3	9.4	54.3
	12	4 06.2	S15 41.5	278 17.2	13.6	S19 29.9	9.5	54.3
	13	19 06.2	S15 42.3	292 49.8	13.7	S19 20.3	9.5	54.3
	14	34 06.2	S15 43.0	307 22.6	13.7	S19 10.7	9.6	54.3
	15	49 06.2	S15 43.8	321 55.3	13.8	S19 01.0	9.7	54.3
	16	64 06.2	S15 44.5	336 28.2	13.9	S18 51.3	9.8	54.3
	17	79 06.2	S15 45.3	351 01.1	13.9	S18 41.4	9.8	54.3
	18	94 06.1	S15 46.0	5 34.1	14.0	S18 31.5	9.9	54.3
	19	109 06.1	S15 46.8	20 07.1	14.0	S18 21.5	10.0	54.3
	20	124 06.1	S15 47.6	34 40.2	14.1	S18 11.5	10.1	54.3
	21	139 06.1	S15 48.3	49 13.4	14.2	S18 01.4	10.1	54.3
	22	154 06.1	S15 49.1	63 46.6	14.2	S17 51.1	10.2	54.3
	23	169 06.0	S15 49.8	78 19.9	14.3	S17 40.9	10.3	54.3
		S.D. 16.1	d 0.8	S.D. 15.0	14.9	14.8		

STARS	SHA	Dec
Acamar	315 09.6	S40 11.4
Achernar	335 17.9	S57 05.7
Acrux	172 58.1	S63 15.0
Adhara	255 03.9	S29 00.4
Albireo	67 02.3	N28 01.3
Aldebaran	290 36.7	N16 34.0
Alioth	166 11.4	N55 48.4
Alkaid	152 50.7	N49 10.4
Al Na-ir	27 29.9	S46 49.6
Alnilam	275 35.1	S 1 10.9
Alphard	217 45.5	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 15.0
Altair	61 57.8	N 8 56.7
Ankaa	353 04.5	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.2	N19 02.2
Atria	107 06.1	S69 04.8
Avior	234 13.7	S59 35.6
Bellatrix	278 20.1	N 6 22.6
Betelgeuse	270 49.4	N 7 24.8
Canopus	263 51.0	S52 42.4
Capella	280 18.1	N46 01.5
Castor	245 54.0	N31 49.5
Deneb	49 24.2	N45 23.1
Denebola	182 22.8	N14 24.9
Diphda	348 44.7	S17 49.9
Dubhe	193 38.6	N61 35.7
Elnath	277 58.7	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.6	S57 16.0
Gienah	175 41.5	S17 41.7
Hadar	148 33.4	S60 30.4
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.7	S34 22.4
Kochab	137 21.3	N74 02.4
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.7	S69 49.6
Mirfak	308 24.5	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.1	S56 38.9
Polaris	315 13.3	N89 22.4
Pollux	243 14.4	N27 57.4
Procyon	244 48.3	N 5 09.3
Rasalhague	95 56.7	N12 32.6
Regulus	207 32.1	N11 49.8
Rigel	281 01.4	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.5
Sirius	258 24.0	S16 45.1
Spica	158 20.2	S11 18.3
Suhail	222 44.6	S43 32.4
Vega	80 31.9	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	44 59.4	161 10.5	S21 49.4	151 07.3	S23 30.2	232 42.6	N 4 28.1	22 43.7	N 6 21.2
	1	60 01.9	176 09.7	S21 50.1	166 07.8	S23 30.4	247 44.7	N 4 28.0	37 46.4	N 6 21.2
	2	75 04.4	191 08.9	S21 50.7	181 08.2	S23 30.7	262 46.7	N 4 27.8	52 49.0	N 6 21.1
	3	90 06.8	206 08.1	S21 51.4	196 08.7	S23 30.9	277 48.8	N 4 27.7	67 51.6	N 6 21.1
	4	105 09.3	221 07.3	S21 52.0	211 09.2	S23 31.1	292 50.9	N 4 27.5	82 54.3	N 6 21.0
S	5	120 11.7	236 06.4	S21 52.7	226 09.7	S23 31.3	307 52.9	N 4 27.4	97 56.9	N 6 20.9
A										
T	6	135 14.2	251 05.6	S21 53.3	241 10.1	S23 31.5	322 55.0	N 4 27.2	112 59.5	N 6 20.9
U	7	150 16.7	266 04.8	S21 54.0	256 10.6	S23 31.8	337 57.1	N 4 27.0	128 02.2	N 6 20.8
R	8	165 19.1	281 04.0	S21 54.6	271 11.1	S23 32.0	352 59.2	N 4 26.9	143 04.8	N 6 20.8
D	9	180 21.6	296 03.2	S21 55.3	286 11.5	S23 32.2	8 01.2	N 4 26.7	158 07.4	N 6 20.7
A	10	195 24.1	311 02.4	S21 55.9	301 12.0	S23 32.4	23 03.3	N 4 26.6	173 10.1	N 6 20.6
Y	11	210 26.5	326 01.6	S21 56.5	316 12.5	S23 32.6	38 05.4	N 4 26.4	188 12.7	N 6 20.6
	12	225 29.0	341 00.8	S21 57.2	331 12.9	S23 32.8	53 07.5	N 4 26.2	203 15.3	N 6 20.5
	13	240 31.5	355 60.0	S21 57.8	346 13.4	S23 33.1	68 09.5	N 4 26.1	218 18.0	N 6 20.5
	14	255 33.9	10 59.1	S21 58.4	1 13.9	S23 33.3	83 11.6	N 4 25.9	233 20.6	N 6 20.4
	15	270 36.4	25 58.3	S21 59.1	16 14.3	S23 33.5	98 13.7	N 4 25.8	248 23.2	N 6 20.3
	16	285 38.8	40 57.5	S21 59.7	31 14.8	S23 33.7	113 15.8	N 4 25.6	263 25.9	N 6 20.3
	17	300 41.3	55 56.7	S22 00.3	46 15.3	S23 33.9	128 17.8	N 4 25.4	278 28.5	N 6 20.2
	18	315 43.8	70 55.9	S22 01.0	61 15.7	S23 34.1	143 19.9	N 4 25.3	293 31.1	N 6 20.1
	19	330 46.2	85 55.1	S22 01.6	76 16.2	S23 34.3	158 22.0	N 4 25.1	308 33.8	N 6 20.1
	20	345 48.7	100 54.3	S22 02.2	91 16.7	S23 34.5	173 24.1	N 4 25.0	323 36.4	N 6 20.0
	21	0 51.2	115 53.4	S22 02.9	106 17.1	S23 34.8	188 26.1	N 4 24.8	338 39.0	N 6 20.0
	22	15 53.6	130 52.6	S22 03.5	121 17.6	S23 35.0	203 28.2	N 4 24.7	353 41.7	N 6 19.9
	23	30 56.1	145 51.8	S22 04.1	136 18.1	S23 35.2	218 30.3	N 4 24.5	8 44.3	N 6 19.8
7	0	45 58.6	160 51.0	S22 04.7	151 18.5	S23 35.4	233 32.4	N 4 24.3	23 46.9	N 6 19.8
	1	61 01.0	175 50.2	S22 05.4	166 19.0	S23 35.6	248 34.4	N 4 24.2	38 49.6	N 6 19.7
	2	76 03.5	190 49.3	S22 06.0	181 19.5	S23 35.8	263 36.5	N 4 24.0	53 52.2	N 6 19.7
	3	91 06.0	205 48.5	S22 06.6	196 19.9	S23 36.0	278 38.6	N 4 23.9	68 54.8	N 6 19.6
	4	106 08.4	220 47.7	S22 07.2	211 20.4	S23 36.2	293 40.7	N 4 23.7	83 57.5	N 6 19.5
S	5	121 10.9	235 46.9	S22 07.9	226 20.9	S23 36.4	308 42.7	N 4 23.5	99 00.1	N 6 19.5
U										
N	6	136 13.3	250 46.1	S22 08.5	241 21.3	S23 36.6	323 44.8	N 4 23.4	114 02.7	N 6 19.4
D	7	151 15.8	265 45.2	S22 09.1	256 21.8	S23 36.9	338 46.9	N 4 23.2	129 05.4	N 6 19.4
A	8	166 18.3	280 44.4	S22 09.7	271 22.3	S23 37.1	353 49.0	N 4 23.1	144 08.0	N 6 19.3
Y	9	181 20.7	295 43.6	S22 10.3	286 22.7	S23 37.3	8 51.0	N 4 22.9	159 10.6	N 6 19.2
	10	196 23.2	310 42.8	S22 10.9	301 23.2	S23 37.5	23 53.1	N 4 22.8	174 13.2	N 6 19.2
	11	211 25.7	325 42.0	S22 11.6	316 23.6	S23 37.7	38 55.2	N 4 22.6	189 15.9	N 6 19.1
	12	226 28.1	340 41.1	S22 12.2	331 24.1	S23 37.9	53 57.3	N 4 22.4	204 18.5	N 6 19.1
	13	241 30.6	355 40.3	S22 12.8	346 24.6	S23 38.1	68 59.3	N 4 22.3	219 21.1	N 6 19.0
	14	256 33.1	10 39.5	S22 13.4	1 25.0	S23 38.3	84 01.4	N 4 22.1	234 23.8	N 6 18.9
	15	271 35.5	25 38.7	S22 14.0	16 25.5	S23 38.5	99 03.5	N 4 22.0	249 26.4	N 6 18.9
	16	286 38.0	40 37.8	S22 14.6	31 26.0	S23 38.7	114 05.6	N 4 21.8	264 29.0	N 6 18.8
	17	301 40.5	55 37.0	S22 15.2	46 26.4	S23 38.9	129 07.7	N 4 21.7	279 31.7	N 6 18.8
	18	316 42.9	70 36.2	S22 15.8	61 26.9	S23 39.1	144 09.7	N 4 21.5	294 34.3	N 6 18.7
	19	331 45.4	85 35.4	S22 16.4	76 27.3	S23 39.3	159 11.8	N 4 21.3	309 36.9	N 6 18.6
	20	346 47.8	100 34.5	S22 17.0	91 27.8	S23 39.5	174 13.9	N 4 21.2	324 39.6	N 6 18.6
	21	1 50.3	115 33.7	S22 17.6	106 28.3	S23 39.7	189 16.0	N 4 21.0	339 42.2	N 6 18.5
	22	16 52.8	130 32.9	S22 18.2	121 28.7	S23 39.9	204 18.1	N 4 20.9	354 44.8	N 6 18.5
	23	31 55.2	145 32.0	S22 18.8	136 29.2	S23 40.1	219 20.1	N 4 20.7	9 47.4	N 6 18.4
8	0	46 57.7	160 31.2	S22 19.4	151 29.6	S23 40.3	234 22.2	N 4 20.6	24 50.1	N 6 18.3
	1	62 00.2	175 30.4	S22 20.0	166 30.1	S23 40.5	249 24.3	N 4 20.4	39 52.7	N 6 18.3
	2	77 02.6	190 29.6	S22 20.6	181 30.6	S23 40.7	264 26.4	N 4 20.2	54 55.3	N 6 18.2
	3	92 05.1	205 28.7	S22 21.2	196 31.0	S23 40.9	279 28.4	N 4 20.1	69 58.0	N 6 18.2
	4	107 07.6	220 27.9	S22 21.8	211 31.5	S23 41.1	294 30.5	N 4 19.9	85 00.6	N 6 18.1
M	5	122 10.0	235 27.1	S22 22.4	226 31.9	S23 41.3	309 32.6	N 4 19.8	100 03.2	N 6 18.0
O										
N	6	137 12.5	250 26.2	S22 23.0	241 32.4	S23 41.5	324 34.7	N 4 19.6	115 05.8	N 6 18.0
D	7	152 14.9	265 25.4	S22 23.6	256 32.9	S23 41.7	339 36.8	N 4 19.5	130 08.5	N 6 17.9
A	8	167 17.4	280 24.6	S22 24.2	271 33.3	S23 41.9	354 38.8	N 4 19.3	145 11.1	N 6 17.9
Y	9	182 19.9	295 23.7	S22 24.8	286 33.8	S23 42.1	9 40.9	N 4 19.2	160 13.7	N 6 17.8
	10	197 22.3	310 22.9	S22 25.4	301 34.2	S23 42.3	24 43.0	N 4 19.0	175 16.4	N 6 17.8
	11	212 24.8	325 22.1	S22 26.0	316 34.7	S23 42.5	39 45.1	N 4 18.8	190 19.0	N 6 17.7
	12	227 27.3	340 21.2	S22 26.5	331 35.2	S23 42.7	54 47.2	N 4 18.7	205 21.6	N 6 17.6
	13	242 29.7	355 20.4	S22 27.1	346 35.6	S23 42.9	69 49.3	N 4 18.5	220 24.3	N 6 17.6
	14	257 32.2	10 19.6	S22 27.7	1 36.1	S23 43.1	84 51.3	N 4 18.4	235 26.9	N 6 17.5
	15	272 34.7	25 18.7	S22 28.3	16 36.5	S23 43.3	99 53.4	N 4 18.2	250 29.5	N 6 17.5
	16	287 37.1	40 17.9	S22 28.9	31 37.0	S23 43.5	114 55.5	N 4 18.1	265 32.1	N 6 17.4
	17	302 39.6	55 17.1	S22 29.5	46 37.4	S23 43.7	129 57.6	N 4 17.9	280 34.8	N 6 17.3
	18	317 42.1	70 16.2	S22 30.0	61 37.9	S23 43.9	144 59.7	N 4 17.8	295 37.4	N 6 17.3
	19	332 44.5	85 15.4	S22 30.6	76 38.4	S23 44.1	160 01.7	N 4 17.6	310 40.0	N 6 17.2
	20	347 47.0	100 14.5	S22 31.2	91 38.8	S23 44.3	175 03.8	N 4 17.4	325 42.7	N 6 17.2
	21	2 49.4	115 13.7	S22 31.8	106 39.3	S23 44.4	190 05.9	N 4 17.3	340 45.3	N 6 17.1
	22	17 51.9	130 12.9	S22 32.3	121 39.7	S23 44.6	205 08.0	N 4 17.1	355 47.9	N 6 17.0
	23	32 54.4	145 12.0	S22 32.9	136 40.2	S23 44.8	220 10.1	N 4 17.0	10 50.5	N 6 17.0
			v -0.8	d 0.6	v 0.5	d 0.2	v 2.1	d 0.2	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 '
6	0	184 06.0	S15 50.6	92 53.3	14.4	S17 30.5	10.3	54.3
	1	199 06.0	S15 51.3	107 26.7	14.4	S17 20.1	10.4	54.3
	2	214 06.0	S15 52.1	122 00.2	14.5	S17 09.6	10.5	54.3
	3	229 06.0	S15 52.8	136 33.7	14.5	S16 59.1	10.5	54.3
	4	244 05.9	S15 53.6	151 07.3	14.6	S16 48.5	10.6	54.3
S	5	259 05.9	S15 54.3	165 40.9	14.6	S16 37.8	10.7	54.3
A								
T	6	274 05.9	S15 55.1	180 14.6	14.7	S16 27.1	10.7	54.3
U	7	289 05.9	S15 55.8	194 48.4	14.8	S16 16.2	10.8	54.3
R	8	304 05.8	S15 56.6	209 22.2	14.8	S16 05.4	10.9	54.3
D	9	319 05.8	S15 57.3	223 56.0	14.9	S15 54.4	10.9	54.3
A	10	334 05.8	S15 58.1	238 29.9	14.9	S15 43.4	11.0	54.3
Y	11	349 05.8	S15 58.8	253 03.9	15.0	S15 32.4	11.1	54.3
	12	4 05.7	S15 59.6	267 37.9	15.0	S15 21.2	11.1	54.3
	13	19 05.7	S16 00.3	282 12.0	15.1	S15 10.1	11.2	54.3
	14	34 05.7	S16 01.1	296 46.1	15.1	S14 58.8	11.2	54.3
	15	49 05.7	S16 01.8	311 20.3	15.2	S14 47.5	11.3	54.3
	16	64 05.6	S16 02.6	325 54.5	15.2	S14 36.2	11.4	54.3
	17	79 05.6	S16 03.3	340 28.7	15.3	S14 24.8	11.4	54.3
	18	94 05.6	S16 04.1	355 03.1	15.3	S14 13.3	11.5	54.3
	19	109 05.6	S16 04.8	9 37.4	15.4	S14 01.8	11.5	54.3
	20	124 05.5	S16 05.5	24 11.8	15.4	S13 50.2	11.6	54.3
	21	139 05.5	S16 06.3	38 46.2	15.4	S13 38.5	11.6	54.3
	22	154 05.5	S16 07.0	53 20.7	15.5	S13 26.8	11.7	54.3
	23	169 05.5	S16 07.8	67 55.2	15.5	S13 15.1	11.7	54.3
7	0	184 05.4	S16 08.5	82 29.8	15.6	S13 03.3	11.8	54.3
	1	199 05.4	S16 09.3	97 04.4	15.6	S12 51.5	11.8	54.3
	2	214 05.4	S16 10.0	111 39.1	15.6	S12 39.6	11.9	54.3
	3	229 05.3	S16 10.7	126 13.7	15.7	S12 27.6	11.9	54.3
	4	244 05.3	S16 11.5	140 48.5	15.7	S12 15.6	12.0	54.3
S	5	259 05.3	S16 12.2	155 23.2	15.8	S12 03.6	12.0	54.3
U								
N	6	274 05.2	S16 13.0	169 58.0	15.8	S11 51.5	12.1	54.3
D	7	289 05.2	S16 13.7	184 32.8	15.8	S11 39.3	12.1	54.3
A	8	304 05.2	S16 14.4	199 07.7	15.9	S11 27.1	12.2	54.3
Y	9	319 05.1	S16 15.2	213 42.6	15.9	S11 14.9	12.2	54.3
	10	334 05.1	S16 15.9	228 17.5	15.9	S11 02.6	12.3	54.3
	11	349 05.1	S16 16.7	242 52.5	16.0	S10 50.3	12.3	54.3
	12	4 05.0	S16 17.4	257 27.4	16.0	S10 37.9	12.4	54.3
	13	19 05.0	S16 18.1	272 02.4	16.0	S10 25.5	12.4	54.3
	14	34 05.0	S16 18.9	286 37.5	16.0	S10 13.1	12.5	54.4
	15	49 04.9	S16 19.6	301 12.6	16.1	S10 00.6	12.5	54.4
	16	64 04.9	S16 20.3	315 47.6	16.1	S 9 48.0	12.5	54.4
	17	79 04.9	S16 21.1	330 22.8	16.1	S 9 35.4	12.6	54.4
	18	94 04.8	S16 21.8	344 57.9	16.1	S 9 22.8	12.6	54.4
	19	109 04.8	S16 22.5	359 33.1	16.2	S 9 10.2	12.7	54.4
	20	124 04.8	S16 23.3	14 08.2	16.2	S 8 57.5	12.7	54.4
	21	139 04.7	S16 24.0	28 43.5	16.2	S 8 44.7	12.7	54.4
	22	154 04.7	S16 24.7	43 18.7	16.2	S 8 31.9	12.8	54.4
	23	169 04.7	S16 25.5	57 53.9	16.2	S 8 19.1	12.8	54.4
8	0	184 04.6	S16 26.2	72 29.2	16.3	S 8 06.3	12.8	54.5
	1	199 04.6	S16 26.9	87 04.5	16.3	S 7 53.4	12.9	54.5
	2	214 04.5	S16 27.7	101 39.7	16.3	S 7 40.5	12.9	54.5
	3	229 04.5	S16 28.4	116 15.1	16.3	S 7 27.5	13.0	54.5
	4	244 04.5	S16 29.1	130 50.4	16.3	S 7 14.5	13.0	54.5
M	5	259 04.4	S16 29.9	145 25.7	16.3	S 7 01.5	13.0	54.5
O								
N	6	274 04.4	S16 30.6	160 01.1	16.3	S 6 48.5	13.1	54.5
D	7	289 04.3	S16 31.3	174 36.4	16.4	S 6 35.4	13.1	54.5
A	8	304 04.3	S16 32.0	189 11.8	16.4	S 6 22.3	13.1	54.5
Y	9	319 04.3	S16 32.8	203 47.2	16.4	S 6 09.1	13.1	54.6
	10	334 04.2	S16 33.5	218 22.5	16.4	S 5 55.9	13.2	54.6
	11	349 04.2	S16 34.2	232 57.9	16.4	S 5 42.7	13.2	54.6
	12	4 04.1	S16 34.9	247 33.3	16.4	S 5 29.5	13.2	54.6
	13	19 04.1	S16 35.7	262 08.7	16.4	S 5 16.2	13.3	54.6
	14	34 04.1	S16 36.4	276 44.1	16.4	S 5 02.9	13.3	54.6
	15	49 04.0	S16 37.1	291 19.5	16.4	S 4 49.6	13.3	54.6
	16	64 04.0	S16 37.8	305 54.9	16.4	S 4 36.3	13.3	54.7
	17	79 03.9	S16 38.6	320 30.3	16.4	S 4 22.9	13.4	54.7
	18	94 03.9	S16 39.3	335 05.7	16.4	S 4 09.5	13.4	54.7
	19	109 03.8	S16 40.0	349 41.1	16.4	S 3 56.1	13.4	54.7
	20	124 03.8	S16 40.7	4 16.5	16.4	S 3 42.7	13.4	54.7
	21	139 03.7	S16 41.4	18 51.9	16.4	S 3 29.2	13.5	54.7
	22	154 03.7	S16 42.2	33 27.3	16.4	S 3 15.7	13.5	54.8
	23	169 03.7	S16 42.9	48 02.7	16.4	S 3 02.2	13.5	54.8
		S.D. 16.1	d 0.7	S.D. 14.8	14.8		14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.5
Achernar	335 17.9	S57 05.7
Acrux	172 58.0	S63 15.0
Adhara	255 03.8	S29 00.4
Albireo	67 02.3	N28 01.3
Aldebaran	290 36.7	N16 34.0
Alioth	166 11.4	N55 48.4
Alkaid	152 50.7	N49 10.3
Al Na-ir	27 29.9	S46 49.7
Alnilam	275 35.1	S 1 10.9
Alphard	217 45.5	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 15.0
Altair	61 57.8	N 8 56.7
Ankaa	353 04.5	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.1	S69 04.8
Avior	234 13.6	S59 35.6
Bellatrix	278 20.1	N 6 22.6
Betelgeuse	270 49.3	N 7 24.8
Canopus	263 51.0	S52 42.4
Capella	280 18.1	N46 01.5
Castor	245 54.0	N31 49.5
Deneb	49 24.3	N45 23.1
Denebola	182 22.8	N14 24.9
Diphda	348 44.7	S17 49.9
Dubhe	193 38.5	N61 35.7
Elnath	277 58.7	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.5	S57 16.0
Gienah	175 41.5	S17 41.7
Hadar	148 33.4	S60 30.4
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.7	S34 22.3
Kochab	137 21.3	N74 02.4
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.7	S69 49.6
Mirfak	308 24.5	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.2	S56 38.9
Polaris	315 13.3	N89 22.4
Pollux	243 14.3	N27 57.4
Procyon	244 48.3	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 32.1	N11 49.8
Rigel	281 01.4	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.5
Sirius	258 24.0	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 44.6	S43 32.4
Vega	80 31.9	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	47 56.8	160 11.2	S22 33.5	151 40.6	S23 45.0	235 12.2	N 4 16.8	25 53.2	N 6 16.9
1	62 59.3	175 10.3	S22 34.1	166 41.1	S23 45.2	250 14.2	N 4 16.7	40 55.8	N 6 16.9
2	78 01.8	190 09.5	S22 34.6	181 41.5	S23 45.4	265 16.3	N 4 16.5	55 58.4	N 6 16.8
3	93 04.2	205 08.7	S22 35.2	196 42.0	S23 45.6	280 18.4	N 4 16.4	71 01.0	N 6 16.8
4	108 06.7	220 07.8	S22 35.8	211 42.4	S23 45.8	295 20.5	N 4 16.2	86 03.7	N 6 16.7
T 5	123 09.2	235 07.0	S22 36.3	226 42.9	S23 46.0	310 22.6	N 4 16.1	101 06.3	N 6 16.6
U									
E 6	138 11.6	250 06.1	S22 36.9	241 43.4	S23 46.2	325 24.7	N 4 15.9	116 08.9	N 6 16.6
S 7	153 14.1	265 05.3	S22 37.5	256 43.8	S23 46.3	340 26.7	N 4 15.7	131 11.6	N 6 16.5
D 8	168 16.6	280 04.5	S22 38.0	271 44.3	S23 46.5	355 28.8	N 4 15.6	146 14.2	N 6 16.5
A 9	183 19.0	295 03.6	S22 38.6	286 44.7	S23 46.7	10 30.9	N 4 15.4	161 16.8	N 6 16.4
Y 10	198 21.5	310 02.8	S22 39.1	301 45.2	S23 46.9	25 33.0	N 4 15.3	176 19.4	N 6 16.3
11	213 23.9	325 01.9	S22 39.7	316 45.6	S23 47.1	40 35.1	N 4 15.1	191 22.1	N 6 16.3
12	228 26.4	340 01.1	S22 40.3	331 46.1	S23 47.3	55 37.2	N 4 15.0	206 24.7	N 6 16.2
13	243 28.9	355 00.2	S22 40.8	346 46.5	S23 47.5	70 39.2	N 4 14.8	221 27.3	N 6 16.2
14	258 31.3	9 59.4	S22 41.4	1 47.0	S23 47.6	85 41.3	N 4 14.7	236 29.9	N 6 16.1
15	273 33.8	24 58.5	S22 41.9	16 47.4	S23 47.8	100 43.4	N 4 14.5	251 32.6	N 6 16.1
16	288 36.3	39 57.7	S22 42.5	31 47.9	S23 48.0	115 45.5	N 4 14.4	266 35.2	N 6 16.0
17	303 38.7	54 56.8	S22 43.0	46 48.3	S23 48.2	130 47.6	N 4 14.2	281 37.8	N 6 15.9
18	318 41.2	69 56.0	S22 43.6	61 48.8	S23 48.4	145 49.7	N 4 14.1	296 40.4	N 6 15.9
19	333 43.7	84 55.2	S22 44.1	76 49.2	S23 48.6	160 51.8	N 4 13.9	311 43.1	N 6 15.8
20	348 46.1	99 54.3	S22 44.7	91 49.7	S23 48.7	175 53.8	N 4 13.7	326 45.7	N 6 15.8
21	3 48.6	114 53.5	S22 45.2	106 50.1	S23 48.9	190 55.9	N 4 13.6	341 48.3	N 6 15.7
22	18 51.0	129 52.6	S22 45.8	121 50.6	S23 49.1	205 58.0	N 4 13.4	356 51.0	N 6 15.7
23	33 53.5	144 51.8	S22 46.3	136 51.0	S23 49.3	221 00.1	N 4 13.3	11 53.6	N 6 15.6
10 0	48 56.0	159 50.9	S22 46.9	151 51.5	S23 49.5	236 02.2	N 4 13.1	26 56.2	N 6 15.5
1	63 58.4	174 50.1	S22 47.4	166 51.9	S23 49.7	251 04.3	N 4 13.0	41 58.8	N 6 15.5
2	79 00.9	189 49.2	S22 48.0	181 52.4	S23 49.8	266 06.4	N 4 12.8	57 01.5	N 6 15.4
3	94 03.4	204 48.4	S22 48.5	196 52.8	S23 50.0	281 08.5	N 4 12.7	72 04.1	N 6 15.4
4	109 05.8	219 47.5	S22 49.1	211 53.3	S23 50.2	296 10.5	N 4 12.5	87 06.7	N 6 15.3
W 5	124 08.3	234 46.7	S22 49.6	226 53.7	S23 50.4	311 12.6	N 4 12.4	102 09.3	N 6 15.3
E									
D 6	139 10.8	249 45.8	S22 50.1	241 54.2	S23 50.5	326 14.7	N 4 12.2	117 12.0	N 6 15.2
N 7	154 13.2	264 44.9	S22 50.7	256 54.6	S23 50.7	341 16.8	N 4 12.1	132 14.6	N 6 15.1
E 8	169 15.7	279 44.1	S22 51.2	271 55.1	S23 50.9	356 18.9	N 4 11.9	147 17.2	N 6 15.1
S 9	184 18.2	294 43.2	S22 51.7	286 55.5	S23 51.1	11 21.0	N 4 11.8	162 19.8	N 6 15.0
D 10	199 20.6	309 42.4	S22 52.3	301 56.0	S23 51.3	26 23.1	N 4 11.6	177 22.5	N 6 15.0
A 11	214 23.1	324 41.5	S22 52.8	316 56.4	S23 51.4	41 25.2	N 4 11.5	192 25.1	N 6 14.9
Y									
12	229 25.5	339 40.7	S22 53.3	331 56.9	S23 51.6	56 27.2	N 4 11.3	207 27.7	N 6 14.9
13	244 28.0	354 39.8	S22 53.9	346 57.3	S23 51.8	71 29.3	N 4 11.1	222 30.3	N 6 14.8
14	259 30.5	9 39.0	S22 54.4	1 57.8	S23 52.0	86 31.4	N 4 11.0	237 33.0	N 6 14.7
15	274 32.9	24 38.1	S22 54.9	16 58.2	S23 52.1	101 33.5	N 4 10.8	252 35.6	N 6 14.7
16	289 35.4	39 37.3	S22 55.5	31 58.7	S23 52.3	116 35.6	N 4 10.7	267 38.2	N 6 14.6
17	304 37.9	54 36.4	S22 56.0	46 59.1	S23 52.5	131 37.7	N 4 10.5	282 40.8	N 6 14.6
18	319 40.3	69 35.5	S22 56.5	61 59.6	S23 52.7	146 39.8	N 4 10.4	297 43.4	N 6 14.5
19	334 42.8	84 34.7	S22 57.0	77 00.0	S23 52.8	161 41.9	N 4 10.2	312 46.1	N 6 14.5
20	349 45.3	99 33.8	S22 57.5	92 00.5	S23 53.0	176 44.0	N 4 10.1	327 48.7	N 6 14.4
21	4 47.7	114 33.0	S22 58.1	107 00.9	S23 53.2	191 46.1	N 4 09.9	342 51.3	N 6 14.3
22	19 50.2	129 32.1	S22 58.6	122 01.3	S23 53.3	206 48.1	N 4 09.8	357 53.9	N 6 14.3
23	34 52.7	144 31.2	S22 59.1	137 01.8	S23 53.5	221 50.2	N 4 09.6	12 56.6	N 6 14.2
11 0	49 55.1	159 30.4	S22 59.6	152 02.2	S23 53.7	236 52.3	N 4 09.5	27 59.2	N 6 14.2
1	64 57.6	174 29.5	S23 00.1	167 02.7	S23 53.9	251 54.4	N 4 09.3	43 01.8	N 6 14.1
2	80 00.0	189 28.7	S23 00.7	182 03.1	S23 54.0	266 56.5	N 4 09.2	58 04.4	N 6 14.1
3	95 02.5	204 27.8	S23 01.2	197 03.6	S23 54.2	281 58.6	N 4 09.0	73 07.1	N 6 14.0
4	110 05.0	219 26.9	S23 01.7	212 04.0	S23 54.4	297 00.7	N 4 08.9	88 09.7	N 6 14.0
T 5	125 07.4	234 26.1	S23 02.2	227 04.5	S23 54.5	312 02.8	N 4 08.7	103 12.3	N 6 13.9
H									
U 6	140 09.9	249 25.2	S23 02.7	242 04.9	S23 54.7	327 04.9	N 4 08.6	118 14.9	N 6 13.8
R 7	155 12.4	264 24.4	S23 03.2	257 05.3	S23 54.9	342 07.0	N 4 08.4	133 17.6	N 6 13.8
S 8	170 14.8	279 23.5	S23 03.7	272 05.8	S23 55.0	357 09.1	N 4 08.3	148 20.2	N 6 13.7
D 9	185 17.3	294 22.6	S23 04.2	287 06.2	S23 55.2	12 11.1	N 4 08.1	163 22.8	N 6 13.7
A 10	200 19.8	309 21.8	S23 04.7	302 06.7	S23 55.4	27 13.2	N 4 08.0	178 25.4	N 6 13.6
Y 11	215 22.2	324 20.9	S23 05.2	317 07.1	S23 55.5	42 15.3	N 4 07.8	193 28.0	N 6 13.6
12	230 24.7	339 20.0	S23 05.8	332 07.6	S23 55.7	57 17.4	N 4 07.7	208 30.7	N 6 13.5
13	245 27.1	354 19.2	S23 06.3	347 08.0	S23 55.9	72 19.5	N 4 07.5	223 33.3	N 6 13.5
14	260 29.6	9 18.3	S23 06.8	2 08.4	S23 56.0	87 21.6	N 4 07.4	238 35.9	N 6 13.4
15	275 32.1	24 17.4	S23 07.3	17 08.9	S23 56.2	102 23.7	N 4 07.2	253 38.5	N 6 13.3
16	290 34.5	39 16.6	S23 07.8	32 09.3	S23 56.4	117 25.8	N 4 07.1	268 41.2	N 6 13.3
17	305 37.0	54 15.7	S23 08.3	47 09.8	S23 56.5	132 27.9	N 4 06.9	283 43.8	N 6 13.2
18	320 39.5	69 14.8	S23 08.7	62 10.2	S23 56.7	147 30.0	N 4 06.8	298 46.4	N 6 13.2
19	335 41.9	84 14.0	S23 09.2	77 10.7	S23 56.8	162 32.1	N 4 06.6	313 49.0	N 6 13.1
20	350 44.4	99 13.1	S23 09.7	92 11.1	S23 57.0	177 34.2	N 4 06.5	328 51.6	N 6 13.1
21	5 46.9	114 12.2	S23 10.2	107 11.5	S23 57.2	192 36.3	N 4 06.3	343 54.3	N 6 13.0
22	20 49.3	129 11.4	S23 10.7	122 12.0	S23 57.3	207 38.4	N 4 06.2	358 56.9	N 6 13.0
23	35 51.8	144 10.5	S23 11.2	137 12.4	S23 57.5	222 40.5	N 4 06.0	13 59.5	N 6 12.9
		v -0.9	d 0.5	v 0.4	d 0.2	v 2.1	d 0.2	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
		° '	° '	° '	'	° '	'	'
9	0	184 03.6	S16 43.6	62 38.1	16.4	S 2 48.7	13.5	54.8
	1	199 03.6	S16 44.3	77 13.4	16.4	S 2 35.2	13.5	54.8
	2	214 03.5	S16 45.0	91 48.8	16.4	S 2 21.6	13.6	54.8
	3	229 03.5	S16 45.8	106 24.1	16.3	S 2 08.0	13.6	54.8
	4	244 03.4	S16 46.5	120 59.4	16.3	S 1 54.4	13.6	54.9
T	5	259 03.4	S16 47.2	135 34.8	16.3	S 1 40.8	13.6	54.9
U								
E	6	274 03.3	S16 47.9	150 10.1	16.3	S 1 27.2	13.6	54.9
S	7	289 03.3	S16 48.6	164 45.4	16.3	S 1 13.5	13.6	54.9
D	8	304 03.2	S16 49.3	179 20.6	16.3	S 0 59.9	13.7	54.9
A	9	319 03.2	S16 50.1	193 55.9	16.3	S 0 46.2	13.7	55.0
Y	10	334 03.1	S16 50.8	208 31.1	16.2	S 0 32.5	13.7	55.0
	11	349 03.1	S16 51.5	223 06.3	16.2	S 0 18.8	13.7	55.0
	12	4 03.0	S16 52.2	237 41.5	16.2	S 0 05.1	13.7	55.0
	13	19 03.0	S16 52.9	252 16.7	16.2	N 0 08.7	13.7	55.0
	14	34 02.9	S16 53.6	266 51.9	16.2	N 0 22.4	13.7	55.1
	15	49 02.9	S16 54.3	281 27.0	16.1	N 0 36.1	13.7	55.1
	16	64 02.8	S16 55.1	296 02.1	16.1	N 0 49.9	13.8	55.1
	17	79 02.8	S16 55.8	310 37.2	16.1	N 1 03.7	13.8	55.1
	18	94 02.7	S16 56.5	325 12.2	16.0	N 1 17.4	13.8	55.1
	19	109 02.7	S16 57.2	339 47.2	16.0	N 1 31.2	13.8	55.2
	20	124 02.6	S16 57.9	354 22.2	16.0	N 1 45.0	13.8	55.2
	21	139 02.6	S16 58.6	8 57.2	16.0	N 1 58.8	13.8	55.2
	22	154 02.5	S16 59.3	23 32.1	15.9	N 2 12.6	13.8	55.2
	23	169 02.4	S17 00.0	38 07.0	15.9	N 2 26.4	13.8	55.2
10	0	184 02.4	S17 00.7	52 41.9	15.9	N 2 40.2	13.8	55.3
	1	199 02.3	S17 01.4	67 16.7	15.8	N 2 54.0	13.8	55.3
	2	214 02.3	S17 02.1	81 51.5	15.8	N 3 07.8	13.8	55.3
	3	229 02.2	S17 02.8	96 26.2	15.8	N 3 21.6	13.8	55.3
	4	244 02.2	S17 03.6	111 01.0	15.7	N 3 35.4	13.8	55.4
W	5	259 02.1	S17 04.3	125 35.6	15.7	N 3 49.2	13.8	55.4
E								
D	6	274 02.1	S17 05.0	140 10.3	15.6	N 4 03.0	13.8	55.4
N	7	289 02.0	S17 05.7	154 44.9	15.6	N 4 16.8	13.8	55.4
E	8	304 01.9	S17 06.4	169 19.4	15.5	N 4 30.6	13.8	55.5
S	9	319 01.9	S17 07.1	183 53.9	15.5	N 4 44.3	13.8	55.5
D	10	334 01.8	S17 07.8	198 28.4	15.5	N 4 58.1	13.8	55.5
A	11	349 01.8	S17 08.5	213 02.8	15.4	N 5 11.9	13.8	55.5
Y								
	12	4 01.7	S17 09.2	227 37.1	15.4	N 5 25.7	13.8	55.5
	13	19 01.6	S17 09.9	242 11.5	15.3	N 5 39.4	13.8	55.6
	14	34 01.6	S17 10.6	256 45.7	15.3	N 5 53.2	13.7	55.6
	15	49 01.5	S17 11.3	271 19.9	15.2	N 6 06.9	13.7	55.6
	16	64 01.5	S17 12.0	285 54.1	15.2	N 6 20.6	13.7	55.6
	17	79 01.4	S17 12.7	300 28.2	15.1	N 6 34.3	13.7	55.7
	18	94 01.3	S17 13.4	315 02.3	15.1	N 6 48.0	13.7	55.7
	19	109 01.3	S17 14.1	329 36.3	15.0	N 7 01.7	13.7	55.7
	20	124 01.2	S17 14.8	344 10.2	14.9	N 7 15.4	13.7	55.7
	21	139 01.2	S17 15.5	358 44.1	14.9	N 7 29.0	13.7	55.8
	22	154 01.1	S17 16.2	13 17.9	14.8	N 7 42.7	13.6	55.8
	23	169 01.0	S17 16.9	27 51.7	14.8	N 7 56.3	13.6	55.8
11	0	184 01.0	S17 17.6	42 25.4	14.7	N 8 09.9	13.6	55.9
	1	199 00.9	S17 18.3	56 59.0	14.6	N 8 23.4	13.6	55.9
	2	214 00.8	S17 18.9	71 32.6	14.6	N 8 37.0	13.6	55.9
	3	229 00.8	S17 19.6	86 06.1	14.5	N 8 50.5	13.5	55.9
	4	244 00.7	S17 20.3	100 39.6	14.5	N 9 04.0	13.5	56.0
T	5	259 00.6	S17 21.0	115 12.9	14.4	N 9 17.5	13.5	56.0
H								
U	6	274 00.6	S17 21.7	129 46.3	14.3	N 9 31.0	13.5	56.0
R	7	289 00.5	S17 22.4	144 19.5	14.2	N 9 44.4	13.4	56.0
S	8	304 00.4	S17 23.1	158 52.7	14.2	N 9 57.8	13.4	56.1
D	9	319 00.4	S17 23.8	173 25.8	14.1	N10 11.2	13.4	56.1
A	10	334 00.3	S17 24.5	187 58.8	14.0	N10 24.5	13.3	56.1
Y	11	349 00.2	S17 25.2	202 31.8	14.0	N10 37.9	13.3	56.1
	12	4 00.2	S17 25.9	217 04.7	13.9	N10 51.1	13.3	56.2
	13	19 00.1	S17 26.6	231 37.5	13.8	N11 04.4	13.2	56.2
	14	34 00.0	S17 27.2	246 10.2	13.7	N11 17.6	13.2	56.2
	15	48 60.0	S17 27.9	260 42.9	13.7	N11 30.8	13.2	56.3
	16	63 59.9	S17 28.6	275 15.5	13.6	N11 43.9	13.1	56.3
	17	78 59.8	S17 29.3	289 48.0	13.5	N11 57.0	13.1	56.3
	18	93 59.8	S17 30.0	304 20.4	13.4	N12 10.1	13.1	56.3
	19	108 59.7	S17 30.7	318 52.8	13.3	N12 23.1	13.0	56.4
	20	123 59.6	S17 31.4	333 25.0	13.3	N12 36.1	13.0	56.4
	21	138 59.5	S17 32.0	347 57.2	13.2	N12 49.0	12.9	56.4
	22	153 59.5	S17 32.7	2 29.3	13.1	N13 01.9	12.9	56.4
	23	168 59.4	S17 33.4	17 01.3	13.0	N13 14.7	12.8	56.5
		S.D. 16.2	d 0.7	S.D.	15.0	15.1	15.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.5
Achernar	335 17.9	S57 05.7
Acrux	172 58.0	S63 15.0
Adhara	255 03.8	S29 00.4
Albireo	67 02.4	N28 01.3
Aldebaran	290 36.6	N16 34.0
Alioth	166 11.4	N55 48.4
Alkaid	152 50.7	N49 10.3
Al Na-ir	27 29.9	S46 49.7
Alnilam	275 35.1	S 1 10.9
Alphard	217 45.5	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 15.0
Altair	61 57.8	N 8 56.7
Ankaa	353 04.5	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.1	S69 04.8
Avior	234 13.6	S59 35.6
Bellatrix	278 20.1	N 6 22.6
Betelgeuse	270 49.3	N 7 24.8
Canopus	263 51.0	S52 42.4
Capella	280 18.1	N46 01.5
Castor	245 53.9	N31 49.5
Deneb	49 24.3	N45 23.1
Denebola	182 22.8	N14 24.9
Diphda	348 44.7	S17 49.9
Dubhe	193 38.5	N61 35.7
Elnath	277 58.7	N28 37.8
Eltanin	90 41.5	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.5	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.4	S60 30.4
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.3	N74 02.4
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.6	S69 49.6
Mirfak	308 24.4	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.2	S56 38.9
Polaris	315 13.4	N89 22.4
Pollux	243 14.3	N27 57.4
Procyon	244 48.3	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 32.0	N11 49.8
Rigel	281 01.4	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.5	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.5
Sirius	258 24.0	S16 45.1
Spica	158 20.2	S11 18.4
Suhail	222 44.5	S43 32.5
Vega	80 31.9	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
12 0	50 54.3	159 09.6	S23 11.7	152 12.9	S23 57.6	237 42.5	N 4 05.9	29 02.1	N 6 12.8
1	65 56.7	174 08.8	S23 12.2	167 13.3	S23 57.8	252 44.6	N 4 05.7	44 04.7	N 6 12.8
2	80 59.2	189 07.9	S23 12.7	182 13.7	S23 58.0	267 46.7	N 4 05.6	59 07.4	N 6 12.7
3	96 01.6	204 07.0	S23 13.2	197 14.2	S23 58.1	282 48.8	N 4 05.4	74 10.0	N 6 12.7
4	111 04.1	219 06.1	S23 13.7	212 14.6	S23 58.3	297 50.9	N 4 05.3	89 12.6	N 6 12.6
F 5	126 06.6	234 05.3	S23 14.1	227 15.1	S23 58.4	312 53.0	N 4 05.1	104 15.2	N 6 12.6
R									
I 6	141 09.0	249 04.4	S23 14.6	242 15.5	S23 58.6	327 55.1	N 4 05.0	119 17.8	N 6 12.5
D 7	156 11.5	264 03.5	S23 15.1	257 15.9	S23 58.8	342 57.2	N 4 04.8	134 20.5	N 6 12.5
A 8	171 14.0	279 02.7	S23 15.6	272 16.4	S23 58.9	357 59.3	N 4 04.7	149 23.1	N 6 12.4
Y 9	186 16.4	294 01.8	S23 16.1	287 16.8	S23 59.1	13 01.4	N 4 04.5	164 25.7	N 6 12.3
10	201 18.9	309 00.9	S23 16.5	302 17.2	S23 59.2	28 03.5	N 4 04.4	179 28.3	N 6 12.3
11	216 21.4	324 00.0	S23 17.0	317 17.7	S23 59.4	43 05.6	N 4 04.2	194 30.9	N 6 12.2
12	231 23.8	338 59.2	S23 17.5	332 18.1	S23 59.5	58 07.7	N 4 04.1	209 33.6	N 6 12.2
13	246 26.3	353 58.3	S23 18.0	347 18.6	S23 59.7	73 09.8	N 4 03.9	224 36.2	N 6 12.1
14	261 28.7	8 57.4	S23 18.4	2 19.0	S23 59.9	88 11.9	N 4 03.8	239 38.8	N 6 12.1
15	276 31.2	23 56.5	S23 18.9	17 19.4	S24 00.0	103 14.0	N 4 03.6	254 41.4	N 6 12.0
16	291 33.7	38 55.7	S23 19.4	32 19.9	S24 00.2	118 16.1	N 4 03.5	269 44.0	N 6 12.0
17	306 36.1	53 54.8	S23 19.9	47 20.3	S24 00.3	133 18.2	N 4 03.3	284 46.7	N 6 11.9
18	321 38.6	68 53.9	S23 20.3	62 20.7	S24 00.5	148 20.3	N 4 03.2	299 49.3	N 6 11.9
19	336 41.1	83 53.0	S23 20.8	77 21.2	S24 00.6	163 22.4	N 4 03.0	314 51.9	N 6 11.8
20	351 43.5	98 52.2	S23 21.3	92 21.6	S24 00.8	178 24.5	N 4 02.9	329 54.5	N 6 11.7
21	6 46.0	113 51.3	S23 21.7	107 22.1	S24 00.9	193 26.6	N 4 02.7	344 57.1	N 6 11.7
22	21 48.5	128 50.4	S23 22.2	122 22.5	S24 01.1	208 28.7	N 4 02.6	359 59.8	N 6 11.6
23	36 50.9	143 49.5	S23 22.6	137 22.9	S24 01.2	223 30.8	N 4 02.4	15 02.4	N 6 11.6
13 0	51 53.4	158 48.7	S23 23.1	152 23.4	S24 01.4	238 32.9	N 4 02.3	30 05.0	N 6 11.5
1	66 55.9	173 47.8	S23 23.6	167 23.8	S24 01.5	253 35.0	N 4 02.1	45 07.6	N 6 11.5
2	81 58.3	188 46.9	S23 24.0	182 24.2	S24 01.7	268 37.1	N 4 02.0	60 10.2	N 6 11.4
3	97 00.8	203 46.0	S23 24.5	197 24.7	S24 01.8	283 39.2	N 4 01.8	75 12.9	N 6 11.4
4	112 03.2	218 45.1	S23 24.9	212 25.1	S24 02.0	298 41.3	N 4 01.7	90 15.5	N 6 11.3
S 5	127 05.7	233 44.3	S23 25.4	227 25.5	S24 02.1	313 43.4	N 4 01.6	105 18.1	N 6 11.3
A									
T 6	142 08.2	248 43.4	S23 25.9	242 26.0	S24 02.3	328 45.5	N 4 01.4	120 20.7	N 6 11.2
U 7	157 10.6	263 42.5	S23 26.3	257 26.4	S24 02.4	343 47.6	N 4 01.3	135 23.3	N 6 11.2
R 8	172 13.1	278 41.6	S23 26.8	272 26.8	S24 02.6	358 49.7	N 4 01.1	150 25.9	N 6 11.1
D 9	187 15.6	293 40.7	S23 27.2	287 27.3	S24 02.7	13 51.8	N 4 01.0	165 28.6	N 6 11.0
A 10	202 18.0	308 39.8	S23 27.7	302 27.7	S24 02.8	28 53.9	N 4 00.8	180 31.2	N 6 11.0
Y 11	217 20.5	323 39.0	S23 28.1	317 28.1	S24 03.0	43 56.0	N 4 00.7	195 33.8	N 6 10.9
12	232 23.0	338 38.1	S23 28.6	332 28.6	S24 03.1	58 58.1	N 4 00.5	210 36.4	N 6 10.9
13	247 25.4	353 37.2	S23 29.0	347 29.0	S24 03.3	74 00.2	N 4 00.4	225 39.0	N 6 10.8
14	262 27.9	8 36.3	S23 29.4	2 29.4	S24 03.4	89 02.3	N 4 00.2	240 41.6	N 6 10.8
15	277 30.4	23 35.4	S23 29.9	17 29.9	S24 03.6	104 04.4	N 4 00.1	255 44.3	N 6 10.7
16	292 32.8	38 34.5	S23 30.3	32 30.3	S24 03.7	119 06.5	N 3 59.9	270 46.9	N 6 10.7
17	307 35.3	53 33.7	S23 30.8	47 30.7	S24 03.9	134 08.6	N 3 59.8	285 49.5	N 6 10.6
18	322 37.7	68 32.8	S23 31.2	62 31.2	S24 04.0	149 10.7	N 3 59.6	300 52.1	N 6 10.6
19	337 40.2	83 31.9	S23 31.7	77 31.6	S24 04.1	164 12.8	N 3 59.5	315 54.7	N 6 10.5
20	352 42.7	98 31.0	S23 32.1	92 32.0	S24 04.3	179 14.9	N 3 59.3	330 57.3	N 6 10.5
21	7 45.1	113 30.1	S23 32.5	107 32.5	S24 04.4	194 17.0	N 3 59.2	345 60.0	N 6 10.4
22	22 47.6	128 29.2	S23 33.0	122 32.9	S24 04.6	209 19.1	N 3 59.1	1 02.6	N 6 10.4
23	37 50.1	143 28.3	S23 33.4	137 33.3	S24 04.7	224 21.2	N 3 58.9	16 05.2	N 6 10.3
14 0	52 52.5	158 27.5	S23 33.8	152 33.8	S24 04.8	239 23.3	N 3 58.8	31 07.8	N 6 10.2
1	67 55.0	173 26.6	S23 34.3	167 34.2	S24 05.0	254 25.4	N 3 58.6	46 10.4	N 6 10.2
2	82 57.5	188 25.7	S23 34.7	182 34.6	S24 05.1	269 27.5	N 3 58.5	61 13.0	N 6 10.1
3	97 59.9	203 24.8	S23 35.1	197 35.1	S24 05.3	284 29.6	N 3 58.3	76 15.7	N 6 10.1
4	113 02.4	218 23.9	S23 35.5	212 35.5	S24 05.4	299 31.7	N 3 58.2	91 18.3	N 6 10.0
S 5	128 04.8	233 23.0	S23 36.0	227 35.9	S24 05.5	314 33.8	N 3 58.0	106 20.9	N 6 10.0
U									
N 6	143 07.3	248 22.1	S23 36.4	242 36.3	S24 05.7	329 35.9	N 3 57.9	121 23.5	N 6 09.9
D 7	158 09.8	263 21.2	S23 36.8	257 36.8	S24 05.8	344 38.0	N 3 57.7	136 26.1	N 6 09.9
A 8	173 12.2	278 20.3	S23 37.2	272 37.2	S24 05.9	359 40.1	N 3 57.6	151 28.7	N 6 09.8
Y 9	188 14.7	293 19.5	S23 37.7	287 37.6	S24 06.1	14 42.2	N 3 57.4	166 31.4	N 6 09.8
10	203 17.2	308 18.6	S23 38.1	302 38.1	S24 06.2	29 44.3	N 3 57.3	181 34.0	N 6 09.7
11	218 19.6	323 17.7	S23 38.5	317 38.5	S24 06.4	44 46.4	N 3 57.2	196 36.6	N 6 09.7
12	233 22.1	338 16.8	S23 38.9	332 38.9	S24 06.5	59 48.5	N 3 57.0	211 39.2	N 6 09.6
13	248 24.6	353 15.9	S23 39.3	347 39.3	S24 06.6	74 50.6	N 3 56.9	226 41.8	N 6 09.6
14	263 27.0	8 15.0	S23 39.8	2 39.8	S24 06.8	89 52.7	N 3 56.7	241 44.4	N 6 09.5
15	278 29.5	23 14.1	S23 40.2	17 40.2	S24 06.9	104 54.8	N 3 56.6	256 47.0	N 6 09.5
16	293 32.0	38 13.2	S23 40.6	32 40.6	S24 07.0	119 57.0	N 3 56.4	271 49.7	N 6 09.4
17	308 34.4	53 12.3	S23 41.0	47 41.1	S24 07.2	134 59.1	N 3 56.3	286 52.3	N 6 09.4
18	323 36.9	68 11.4	S23 41.4	62 41.5	S24 07.3	150 01.2	N 3 56.1	301 54.9	N 6 09.3
19	338 39.3	83 10.5	S23 41.8	77 41.9	S24 07.4	165 03.3	N 3 56.0	316 57.5	N 6 09.3
20	353 41.8	98 09.6	S23 42.2	92 42.3	S24 07.5	180 05.4	N 3 55.9	332 00.1	N 6 09.2
21	8 44.3	113 08.7	S23 42.6	107 42.8	S24 07.7	195 07.5	N 3 55.7	347 02.7	N 6 09.2
22	23 46.7	128 07.9	S23 43.0	122 43.2	S24 07.8	210 09.6	N 3 55.6	2 05.3	N 6 09.1
23	38 49.2	143 07.0	S23 43.5	137 43.6	S24 07.9	225 11.7	N 3 55.4	17 08.0	N 6 09.0
		v -0.9	d 0.4	v 0.4	d 0.1	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 '
12	0	183 59.3	S17 34.1	31 33.2	12.9	N13 27.5	12.8	56.5
	1	198 59.3	S17 34.8	46 05.1	12.8	N13 40.3	12.7	56.5
	2	213 59.2	S17 35.5	60 36.8	12.7	N13 53.0	12.7	56.6
	3	228 59.1	S17 36.1	75 08.5	12.7	N14 05.6	12.6	56.6
	4	243 59.0	S17 36.8	89 40.0	12.6	N14 18.2	12.6	56.6
F	5	258 59.0	S17 37.5	104 11.5	12.5	N14 30.8	12.5	56.6
R								
I	6	273 58.9	S17 38.2	118 42.9	12.4	N14 43.2	12.5	56.7
D	7	288 58.8	S17 38.9	133 14.2	12.3	N14 55.7	12.4	56.7
A	8	303 58.7	S17 39.5	147 45.4	12.2	N15 08.0	12.4	56.7
Y	9	318 58.7	S17 40.2	162 16.5	12.1	N15 20.4	12.3	56.8
	10	333 58.6	S17 40.9	176 47.5	12.0	N15 32.6	12.3	56.8
	11	348 58.5	S17 41.6	191 18.5	11.9	N15 44.8	12.2	56.8
	12	3 58.4	S17 42.2	205 49.3	11.8	N15 56.9	12.1	56.8
	13	18 58.4	S17 42.9	220 20.0	11.7	N16 09.0	12.1	56.9
	14	33 58.3	S17 43.6	234 50.6	11.6	N16 21.0	12.0	56.9
	15	48 58.2	S17 44.3	249 21.2	11.5	N16 32.9	11.9	56.9
	16	63 58.1	S17 44.9	263 51.6	11.4	N16 44.8	11.9	56.9
	17	78 58.0	S17 45.6	278 21.9	11.3	N16 56.5	11.8	57.0
	18	93 58.0	S17 46.3	292 52.2	11.2	N17 08.2	11.7	57.0
	19	108 57.9	S17 47.0	307 22.3	11.1	N17 19.9	11.6	57.0
	20	123 57.8	S17 47.6	321 52.3	11.0	N17 31.5	11.6	57.1
	21	138 57.7	S17 48.3	336 22.3	10.9	N17 42.9	11.5	57.1
	22	153 57.6	S17 49.0	350 52.1	10.8	N17 54.3	11.4	57.1
	23	168 57.6	S17 49.7	5 21.8	10.7	N18 05.7	11.3	57.1
13	0	183 57.5	S17 50.3	19 51.4	10.6	N18 16.9	11.2	57.2
	1	198 57.4	S17 51.0	34 21.0	10.5	N18 28.1	11.2	57.2
	2	213 57.3	S17 51.7	48 50.4	10.4	N18 39.2	11.1	57.2
	3	228 57.2	S17 52.3	63 19.7	10.3	N18 50.2	11.0	57.3
	4	243 57.2	S17 53.0	77 48.9	10.2	N19 01.1	10.9	57.3
S	5	258 57.1	S17 53.7	92 18.0	10.1	N19 11.9	10.8	57.3
A								
T	6	273 57.0	S17 54.3	106 47.0	10.0	N19 22.6	10.7	57.3
U	7	288 56.9	S17 55.0	121 15.9	9.9	N19 33.2	10.6	57.4
R	8	303 56.8	S17 55.7	135 44.6	9.8	N19 43.8	10.5	57.4
D	9	318 56.7	S17 56.3	150 13.3	9.7	N19 54.2	10.4	57.4
A	10	333 56.6	S17 57.0	164 41.9	9.6	N20 04.6	10.3	57.4
Y	11	348 56.6	S17 57.7	179 10.3	9.5	N20 14.8	10.2	57.5
	12	3 56.5	S17 58.3	193 38.7	9.4	N20 25.0	10.1	57.5
	13	18 56.4	S17 59.0	208 06.9	9.2	N20 35.0	10.0	57.5
	14	33 56.3	S17 59.7	222 35.1	9.1	N20 45.0	9.9	57.5
	15	48 56.2	S18 00.3	237 03.1	9.0	N20 54.8	9.8	57.6
	16	63 56.1	S18 01.0	251 31.0	8.9	N21 04.5	9.7	57.6
	17	78 56.0	S18 01.6	265 58.8	8.8	N21 14.2	9.6	57.6
	18	93 56.0	S18 02.3	280 26.5	8.7	N21 23.7	9.5	57.7
	19	108 55.9	S18 03.0	294 54.1	8.6	N21 33.1	9.4	57.7
	20	123 55.8	S18 03.6	309 21.6	8.5	N21 42.4	9.3	57.7
	21	138 55.7	S18 04.3	323 49.0	8.4	N21 51.5	9.2	57.7
	22	153 55.6	S18 04.9	338 16.3	8.3	N22 00.6	9.1	57.8
	23	168 55.5	S18 05.6	352 43.5	8.2	N22 09.5	8.9	57.8
14	0	183 55.4	S18 06.2	7 10.5	8.1	N22 18.4	8.8	57.8
	1	198 55.3	S18 06.9	21 37.5	8.0	N22 27.1	8.7	57.8
	2	213 55.2	S18 07.6	36 04.4	7.9	N22 35.6	8.6	57.9
	3	228 55.2	S18 08.2	50 31.1	7.8	N22 44.1	8.5	57.9
	4	243 55.1	S18 08.9	64 57.8	7.6	N22 52.4	8.3	57.9
S	5	258 55.0	S18 09.5	79 24.3	7.5	N23 00.6	8.2	57.9
U								
N	6	273 54.9	S18 10.2	93 50.7	7.4	N23 08.7	8.1	58.0
D	7	288 54.8	S18 10.8	108 17.1	7.3	N23 16.6	7.9	58.0
A	8	303 54.7	S18 11.5	122 43.3	7.2	N23 24.4	7.8	58.0
Y	9	318 54.6	S18 12.1	137 09.5	7.1	N23 32.1	7.7	58.0
	10	333 54.5	S18 12.8	151 35.5	7.0	N23 39.6	7.5	58.1
	11	348 54.4	S18 13.4	166 01.4	6.9	N23 47.0	7.4	58.1
	12	3 54.3	S18 14.1	180 27.3	6.8	N23 54.3	7.3	58.1
	13	18 54.2	S18 14.7	194 53.0	6.7	N24 01.4	7.1	58.1
	14	33 54.1	S18 15.4	209 18.7	6.6	N24 08.4	7.0	58.1
	15	48 54.0	S18 16.0	223 44.2	6.6	N24 15.3	6.8	58.2
	16	63 53.9	S18 16.7	238 09.7	6.5	N24 22.0	6.7	58.2
	17	78 53.8	S18 17.3	252 35.1	6.4	N24 28.5	6.6	58.2
	18	93 53.7	S18 18.0	267 00.3	6.3	N24 34.9	6.4	58.2
	19	108 53.6	S18 18.6	281 25.5	6.2	N24 41.2	6.3	58.3
	20	123 53.5	S18 19.3	295 50.6	6.1	N24 47.3	6.1	58.3
	21	138 53.4	S18 19.9	310 15.6	6.0	N24 53.2	6.0	58.3
	22	153 53.4	S18 20.6	324 40.5	5.9	N24 59.0	5.8	58.3
	23	168 53.3	S18 21.2	339 05.4	5.8	N25 04.7	5.6	58.3
		S.D. 16.2	d 0.7	S.D.	15.5	15.7	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.5
Achernar	335 18.0	S57 05.7
Acrux	172 58.0	S63 15.0
Adhara	255 03.8	S29 00.4
Albireo	67 02.4	N28 01.3
Aldebaran	290 36.6	N16 34.0
Alioth	166 11.4	N55 48.3
Alkaid	152 50.7	N49 10.3
Al Na-ir	27 29.9	S46 49.7
Alnilam	275 35.1	S 1 10.9
Alphard	217 45.4	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 15.0
Altair	61 57.8	N 8 56.7
Ankaa	353 04.6	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.1	S69 04.7
Avior	234 13.5	S59 35.7
Bellatrix	278 20.1	N 6 22.6
Betelgeuse	270 49.3	N 7 24.8
Canopus	263 50.9	S52 42.4
Capella	280 18.0	N46 01.5
Castor	245 53.9	N31 49.5
Deneb	49 24.3	N45 23.1
Denebola	182 22.8	N14 24.9
Diphda	348 44.7	S17 49.9
Dubhe	193 38.5	N61 35.7
Elnath	277 58.6	N28 37.8
Eltanin	90 41.6	N51 29.3
Enif	33 36.4	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.5	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.4	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.3	N74 02.3
Markab	13 27.4	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.6	S69 49.6
Mirfak	308 24.4	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.2	S56 38.9
Polaris	315 13.4	N89 22.4
Pollux	243 14.3	N27 57.4
Procyon	244 48.2	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 32.0	N11 49.8
Rigel	281 01.3	S 8 10.0
Rigil Kent	139 37.9	S60 57.0
Sabik	102 00.5	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.5
Sirius	258 24.0	S16 45.1
Spica	158 20.1	S11 18.4
Suhail	222 44.5	S43 32.5
Vega	80 31.9	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
15	0	53 51.7	158 06.1	S23 43.9	152 44.1	S24 08.1	240 13.8	N 3 55.3	32 10.6	N 6 09.0
	1	68 54.1	173 05.2	S23 44.3	167 44.5	S24 08.2	255 15.9	N 3 55.1	47 13.2	N 6 08.9
	2	83 56.6	188 04.3	S23 44.7	182 44.9	S24 08.3	270 18.0	N 3 55.0	62 15.8	N 6 08.9
	3	98 59.1	203 03.4	S23 45.1	197 45.3	S24 08.5	285 20.1	N 3 54.8	77 18.4	N 6 08.8
	4	114 01.5	218 02.5	S23 45.5	212 45.8	S24 08.6	300 22.2	N 3 54.7	92 21.0	N 6 08.8
M	5	129 04.0	233 01.6	S23 45.9	227 46.2	S24 08.7	315 24.3	N 3 54.6	107 23.6	N 6 08.7
O										
N	6	144 06.5	248 00.7	S23 46.3	242 46.6	S24 08.8	330 26.4	N 3 54.4	122 26.2	N 6 08.7
D	7	159 08.9	262 59.8	S23 46.7	257 47.0	S24 09.0	345 28.6	N 3 54.3	137 28.9	N 6 08.6
A	8	174 11.4	277 58.9	S23 47.0	272 47.5	S24 09.1	0 30.7	N 3 54.1	152 31.5	N 6 08.6
Y	9	189 13.8	292 58.0	S23 47.4	287 47.9	S24 09.2	15 32.8	N 3 54.0	167 34.1	N 6 08.5
	10	204 16.3	307 57.1	S23 47.8	302 48.3	S24 09.3	30 34.9	N 3 53.8	182 36.7	N 6 08.5
	11	219 18.8	322 56.2	S23 48.2	317 48.7	S24 09.5	45 37.0	N 3 53.7	197 39.3	N 6 08.4
	12	234 21.2	337 55.3	S23 48.6	332 49.2	S24 09.6	60 39.1	N 3 53.5	212 41.9	N 6 08.4
	13	249 23.7	352 54.4	S23 49.0	347 49.6	S24 09.7	75 41.2	N 3 53.4	227 44.5	N 6 08.3
	14	264 26.2	7 53.5	S23 49.4	2 50.0	S24 09.8	90 43.3	N 3 53.3	242 47.1	N 6 08.3
	15	279 28.6	22 52.6	S23 49.8	17 50.4	S24 10.0	105 45.4	N 3 53.1	257 49.8	N 6 08.2
	16	294 31.1	37 51.7	S23 50.2	32 50.9	S24 10.1	120 47.5	N 3 53.0	272 52.4	N 6 08.2
	17	309 33.6	52 50.8	S23 50.5	47 51.3	S24 10.2	135 49.6	N 3 52.8	287 55.0	N 6 08.1
	18	324 36.0	67 49.9	S23 50.9	62 51.7	S24 10.3	150 51.8	N 3 52.7	302 57.6	N 6 08.1
	19	339 38.5	82 49.0	S23 51.3	77 52.1	S24 10.4	165 53.9	N 3 52.5	318 00.2	N 6 08.0
	20	354 41.0	97 48.1	S23 51.7	92 52.5	S24 10.6	180 56.0	N 3 52.4	333 02.8	N 6 08.0
	21	9 43.4	112 47.2	S23 52.1	107 53.0	S24 10.7	195 58.1	N 3 52.3	348 05.4	N 6 07.9
	22	24 45.9	127 46.3	S23 52.4	122 53.4	S24 10.8	211 00.2	N 3 52.1	3 08.0	N 6 07.9
	23	39 48.3	142 45.4	S23 52.8	137 53.8	S24 10.9	226 02.3	N 3 52.0	18 10.7	N 6 07.8
16	0	54 50.8	157 44.5	S23 53.2	152 54.2	S24 11.0	241 04.4	N 3 51.8	33 13.3	N 6 07.8
	1	69 53.3	172 43.6	S23 53.6	167 54.7	S24 11.2	256 06.5	N 3 51.7	48 15.9	N 6 07.7
	2	84 55.7	187 42.7	S23 53.9	182 55.1	S24 11.3	271 08.6	N 3 51.5	63 18.5	N 6 07.7
	3	99 58.2	202 41.8	S23 54.3	197 55.5	S24 11.4	286 10.7	N 3 51.4	78 21.1	N 6 07.6
	4	115 00.7	217 40.9	S23 54.7	212 55.9	S24 11.5	301 12.9	N 3 51.3	93 23.7	N 6 07.6
T	5	130 03.1	232 40.0	S23 55.0	227 56.3	S24 11.6	316 15.0	N 3 51.1	108 26.3	N 6 07.5
U										
E	6	145 05.6	247 39.1	S23 55.4	242 56.8	S24 11.7	331 17.1	N 3 51.0	123 28.9	N 6 07.5
S	7	160 08.1	262 38.2	S23 55.8	257 57.2	S24 11.9	346 19.2	N 3 50.8	138 31.5	N 6 07.4
D	8	175 10.5	277 37.2	S23 56.1	272 57.6	S24 12.0	1 21.3	N 3 50.7	153 34.1	N 6 07.4
A	9	190 13.0	292 36.3	S23 56.5	287 58.0	S24 12.1	16 23.4	N 3 50.5	168 36.8	N 6 07.3
Y	10	205 15.5	307 35.4	S23 56.9	302 58.5	S24 12.2	31 25.5	N 3 50.4	183 39.4	N 6 07.3
	11	220 17.9	322 34.5	S23 57.2	317 58.9	S24 12.3	46 27.6	N 3 50.3	198 42.0	N 6 07.2
	12	235 20.4	337 33.6	S23 57.6	332 59.3	S24 12.4	61 29.8	N 3 50.1	213 44.6	N 6 07.2
	13	250 22.8	352 32.7	S23 57.9	347 59.7	S24 12.5	76 31.9	N 3 50.0	228 47.2	N 6 07.1
	14	265 25.3	7 31.8	S23 58.3	3 00.1	S24 12.7	91 34.0	N 3 49.8	243 49.8	N 6 07.1
	15	280 27.8	22 30.9	S23 58.7	18 00.6	S24 12.8	106 36.1	N 3 49.7	258 52.4	N 6 07.0
	16	295 30.2	37 30.0	S23 59.0	33 01.0	S24 12.9	121 38.2	N 3 49.6	273 55.0	N 6 07.0
	17	310 32.7	52 29.1	S23 59.4	48 01.4	S24 13.0	136 40.3	N 3 49.4	288 57.6	N 6 06.9
	18	325 35.2	67 28.2	S23 59.7	63 01.8	S24 13.1	151 42.4	N 3 49.3	304 00.2	N 6 06.9
	19	340 37.6	82 27.3	S24 00.1	78 02.2	S24 13.2	166 44.6	N 3 49.1	319 02.8	N 6 06.8
	20	355 40.1	97 26.4	S24 00.4	93 02.6	S24 13.3	181 46.7	N 3 49.0	334 05.5	N 6 06.8
	21	10 42.6	112 25.5	S24 00.8	108 03.1	S24 13.4	196 48.8	N 3 48.9	349 08.1	N 6 06.7
	22	25 45.0	127 24.5	S24 01.1	123 03.5	S24 13.5	211 50.9	N 3 48.7	4 10.7	N 6 06.7
	23	40 47.5	142 23.6	S24 01.5	138 03.9	S24 13.6	226 53.0	N 3 48.6	19 13.3	N 6 06.6
17	0	55 50.0	157 22.7	S24 01.8	153 04.3	S24 13.8	241 55.1	N 3 48.4	34 15.9	N 6 06.6
	1	70 52.4	172 21.8	S24 02.2	168 04.7	S24 13.9	256 57.2	N 3 48.3	49 18.5	N 6 06.5
	2	85 54.9	187 20.9	S24 02.5	183 05.2	S24 14.0	271 59.4	N 3 48.1	64 21.1	N 6 06.5
	3	100 57.3	202 20.0	S24 02.8	198 05.6	S24 14.1	287 01.5	N 3 48.0	79 23.7	N 6 06.4
	4	115 59.8	217 19.1	S24 03.2	213 06.0	S24 14.2	302 03.6	N 3 47.9	94 26.3	N 6 06.4
W	5	131 02.3	232 18.2	S24 03.5	228 06.4	S24 14.3	317 05.7	N 3 47.7	109 28.9	N 6 06.3
E										
D	6	146 04.7	247 17.3	S24 03.9	243 06.8	S24 14.4	332 07.8	N 3 47.6	124 31.5	N 6 06.3
N	7	161 07.2	262 16.3	S24 04.2	258 07.2	S24 14.5	347 09.9	N 3 47.4	139 34.1	N 6 06.2
E	8	176 09.7	277 15.4	S24 04.5	273 07.7	S24 14.6	2 12.1	N 3 47.3	154 36.8	N 6 06.2
S	9	191 12.1	292 14.5	S24 04.9	288 08.1	S24 14.7	17 14.2	N 3 47.2	169 39.4	N 6 06.1
D	10	206 14.6	307 13.6	S24 05.2	303 08.5	S24 14.8	32 16.3	N 3 47.0	184 42.0	N 6 06.1
A	11	221 17.1	322 12.7	S24 05.5	318 08.9	S24 14.9	47 18.4	N 3 46.9	199 44.6	N 6 06.0
Y										
	12	236 19.5	337 11.8	S24 05.9	333 09.3	S24 15.0	62 20.5	N 3 46.7	214 47.2	N 6 06.0
	13	251 22.0	352 10.9	S24 06.2	348 09.7	S24 15.1	77 22.6	N 3 46.6	229 49.8	N 6 05.9
	14	266 24.4	7 10.0	S24 06.5	3 10.2	S24 15.2	92 24.8	N 3 46.5	244 52.4	N 6 05.9
	15	281 26.9	22 09.0	S24 06.8	18 10.6	S24 15.3	107 26.9	N 3 46.3	259 55.0	N 6 05.9
	16	296 29.4	37 08.1	S24 07.2	33 11.0	S24 15.4	122 29.0	N 3 46.2	274 57.6	N 6 05.8
	17	311 31.8	52 07.2	S24 07.5	48 11.4	S24 15.5	137 31.1	N 3 46.0	290 00.2	N 6 05.8
	18	326 34.3	67 06.3	S24 07.8	63 11.8	S24 15.6	152 33.2	N 3 45.9	305 02.8	N 6 05.7
	19	341 36.8	82 05.4	S24 08.1	78 12.2	S24 15.7	167 35.4	N 3 45.8	320 05.4	N 6 05.7
	20	356 39.2	97 04.5	S24 08.5	93 12.7	S24 15.8	182 37.5	N 3 45.6	335 08.0	N 6 05.6
	21	11 41.7	112 03.6	S24 08.8	108 13.1	S24 15.9	197 39.6	N 3 45.5	350 10.6	N 6 05.6
	22	26 44.2	127 02.6	S24 09.1	123 13.5	S24 16.0	212 41.7	N 3 45.4	5 13.2	N 6 05.5
	23	41 46.6	142 01.7	S24 09.4	138 13.9	S24 16.1	227 43.8	N 3 45.2	20 15.8	N 6 05.5
			v -0.9	d 0.4	v 0.4	d 0.1	v 2.1	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
15	0	183 53.2	S18 21.9	353 30.1	5.8	N25 10.2	5.5	58.4
	1	198 53.1	S18 22.5	7 54.8	5.7	N25 15.5	5.3	58.4
	2	213 53.0	S18 23.1	22 19.4	5.6	N25 20.7	5.2	58.4
	3	228 52.9	S18 23.8	36 43.9	5.5	N25 25.7	5.0	58.4
	4	243 52.8	S18 24.4	51 08.3	5.4	N25 30.6	4.9	58.4
M	5	258 52.7	S18 25.1	65 32.7	5.4	N25 35.3	4.7	58.5
O								
N	6	273 52.6	S18 25.7	79 57.0	5.3	N25 39.8	4.5	58.5
D	7	288 52.5	S18 26.3	94 21.2	5.2	N25 44.2	4.4	58.5
A	8	303 52.4	S18 27.0	108 45.3	5.1	N25 48.4	4.2	58.5
Y	9	318 52.2	S18 27.6	123 09.4	5.1	N25 52.4	4.0	58.5
	10	333 52.1	S18 28.3	137 33.4	5.0	N25 56.3	3.9	58.6
	11	348 52.0	S18 28.9	151 57.3	4.9	N26 00.0	3.7	58.6
	12	3 51.9	S18 29.5	166 21.2	4.9	N26 03.6	3.5	58.6
	13	18 51.8	S18 30.2	180 45.0	4.8	N26 06.9	3.4	58.6
	14	33 51.7	S18 30.8	195 08.8	4.8	N26 10.1	3.2	58.6
	15	48 51.6	S18 31.4	209 32.5	4.7	N26 13.2	3.0	58.7
	16	63 51.5	S18 32.1	223 56.1	4.6	N26 16.0	2.9	58.7
	17	78 51.4	S18 32.7	238 19.7	4.6	N26 18.7	2.7	58.7
	18	93 51.3	S18 33.4	252 43.3	4.5	N26 21.2	2.5	58.7
	19	108 51.2	S18 34.0	267 06.7	4.5	N26 23.6	2.3	58.7
	20	123 51.1	S18 34.6	281 30.2	4.4	N26 25.7	2.2	58.7
	21	138 51.0	S18 35.2	295 53.6	4.4	N26 27.7	2.0	58.8
	22	153 50.9	S18 35.9	310 17.0	4.4	N26 29.5	1.8	58.8
	23	168 50.8	S18 36.5	324 40.3	4.3	N26 31.1	1.6	58.8
16	0	183 50.7	S18 37.1	339 03.6	4.3	N26 32.6	1.5	58.8
	1	198 50.6	S18 37.8	353 26.8	4.3	N26 33.9	1.3	58.8
	2	213 50.5	S18 38.4	7 50.0	4.2	N26 35.0	1.1	58.8
	3	228 50.3	S18 39.0	22 13.2	4.2	N26 35.9	0.9	58.9
	4	243 50.2	S18 39.7	36 36.4	4.2	N26 36.6	0.7	58.9
T	5	258 50.1	S18 40.3	50 59.5	4.1	N26 37.2	0.6	58.9
U								
E	6	273 50.0	S18 40.9	65 22.6	4.1	N26 37.5	0.4	58.9
S	7	288 49.9	S18 41.5	79 45.7	4.1	N26 37.7	0.2	58.9
D	8	303 49.8	S18 42.2	94 08.8	4.1	N26 37.8	0.0	58.9
A	9	318 49.7	S18 42.8	108 31.9	4.1	N26 37.6	0.2	58.9
Y	10	333 49.6	S18 43.4	122 54.9	4.0	N26 37.2	0.3	59.0
	11	348 49.5	S18 44.0	137 18.0	4.0	N26 36.7	0.5	59.0
	12	3 49.4	S18 44.7	151 41.0	4.0	N26 36.0	0.7	59.0
	13	18 49.2	S18 45.3	166 04.0	4.0	N26 35.1	0.9	59.0
	14	33 49.1	S18 45.9	180 27.0	4.0	N26 34.0	1.1	59.0
	15	48 49.0	S18 46.5	194 50.0	4.0	N26 32.8	1.3	59.0
	16	63 48.9	S18 47.2	209 13.1	4.0	N26 31.3	1.4	59.0
	17	78 48.8	S18 47.8	223 36.1	4.0	N26 29.7	1.6	59.1
	18	93 48.7	S18 48.4	237 59.1	4.0	N26 27.9	1.8	59.1
	19	108 48.6	S18 49.0	252 22.2	4.0	N26 25.9	2.0	59.1
	20	123 48.4	S18 49.6	266 45.2	4.1	N26 23.7	2.2	59.1
	21	138 48.3	S18 50.2	281 08.3	4.1	N26 21.4	2.3	59.1
	22	153 48.2	S18 50.9	295 31.4	4.1	N26 18.9	2.5	59.1
	23	168 48.1	S18 51.5	309 54.5	4.1	N26 16.2	2.7	59.1
17	0	183 48.0	S18 52.1	324 17.6	4.1	N26 13.3	2.9	59.1
	1	198 47.9	S18 52.7	338 40.7	4.1	N26 10.2	3.1	59.1
	2	213 47.7	S18 53.3	353 03.9	4.2	N26 07.0	3.2	59.1
	3	228 47.6	S18 53.9	7 27.1	4.2	N26 03.5	3.4	59.2
	4	243 47.5	S18 54.6	21 50.3	4.2	N25 59.9	3.6	59.2
W	5	258 47.4	S18 55.2	36 13.6	4.3	N25 56.1	3.8	59.2
E								
D	6	273 47.3	S18 55.8	50 36.9	4.3	N25 52.2	4.0	59.2
N	7	288 47.2	S18 56.4	65 00.2	4.3	N25 48.1	4.1	59.2
E	8	303 47.0	S18 57.0	79 23.5	4.4	N25 43.7	4.3	59.2
S	9	318 46.9	S18 57.6	93 46.9	4.4	N25 39.3	4.5	59.2
D	10	333 46.8	S18 58.2	108 10.4	4.4	N25 34.6	4.7	59.2
A	11	348 46.7	S18 58.8	122 33.9	4.5	N25 29.8	4.8	59.2
Y								
	12	3 46.6	S18 59.5	136 57.4	4.5	N25 24.8	5.0	59.2
	13	18 46.4	S19 00.1	151 21.0	4.6	N25 19.6	5.2	59.2
	14	33 46.3	S19 00.7	165 44.6	4.6	N25 14.2	5.3	59.2
	15	48 46.2	S19 01.3	180 08.3	4.7	N25 08.7	5.5	59.3
	16	63 46.1	S19 01.9	194 32.1	4.7	N25 03.0	5.7	59.3
	17	78 45.9	S19 02.5	208 55.9	4.8	N24 57.2	5.9	59.3
	18	93 45.8	S19 03.1	223 19.7	4.9	N24 51.2	6.0	59.3
	19	108 45.7	S19 03.7	237 43.6	4.9	N24 45.0	6.2	59.3
	20	123 45.6	S19 04.3	252 07.6	5.0	N24 38.6	6.4	59.3
	21	138 45.5	S19 04.9	266 31.6	5.0	N24 32.1	6.5	59.3
	22	153 45.3	S19 05.5	280 55.7	5.1	N24 25.4	6.7	59.3
	23	168 45.2	S19 06.1	295 19.9	5.2	N24 18.6	6.8	59.3
		S.D. 16.2	d 0.6	S.D.	16.0	16.1	16.1	

STARS Name	SHA	Dec
Acamar	315 09.6	S40 11.5
Achernar	335 18.0	S57 05.7
Acrux	172 57.9	S63 15.0
Adhara	255 03.8	S29 00.4
Albireo	67 02.4	N28 01.3
Aldebaran	290 36.6	N16 34.0
Alioth	166 11.4	N55 48.3
Alkaid	152 50.6	N49 10.3
Al Na-ir	27 29.9	S46 49.7
Alnilam	275 35.0	S 1 11.0
Alphard	217 45.4	S 8 46.7
Alphecca	126 02.2	N26 37.3
Alpheratz	357 32.1	N29 15.0
Altair	61 57.8	N 8 56.7
Ankaa	353 04.6	S42 09.3
Antares	112 13.4	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.1	S69 04.7
Avior	234 13.5	S59 35.7
Bellatrix	278 20.1	N 6 22.6
Betelgeuse	270 49.3	N 7 24.8
Canopus	263 50.9	S52 42.4
Capella	280 18.0	N46 01.5
Castor	245 53.9	N31 49.5
Deneb	49 24.3	N45 23.1
Denebola	182 22.8	N14 24.9
Diphda	348 44.8	S17 49.9
Dubhe	193 38.4	N61 35.7
Elnath	277 58.6	N28 37.8
Eltanin	90 41.6	N51 29.2
Enif	33 36.5	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.4	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.3	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.3	N74 02.3
Markab	13 27.5	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.3	S36 30.4
Miaplacidus	221 37.5	S69 49.6
Mirfak	308 24.4	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.2	S56 38.9
Polaris	315 13.3	N89 22.4
Pollux	243 14.3	N27 57.4
Procyon	244 48.2	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 32.0	N11 49.8
Rigel	281 01.3	S 8 10.1
Rigil Kent	139 37.9	S60 56.9
Sabik	102 00.5	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.5
Sirius	258 23.9	S16 45.1
Spica	158 20.1	S11 18.4
Suhail	222 44.5	S43 32.5
Vega	80 32.0	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

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	56 49.1	157 00.8	S24 09.7	153 14.3	S24 16.2	242 46.0	N 3 45.1	35 18.5	N 6 05.4
	1	71 51.6	171 59.9	S24 10.0	168 14.7	S24 16.3	257 48.1	N 3 44.9	50 21.1	N 6 05.4
	2	86 54.0	186 59.0	S24 10.4	183 15.1	S24 16.4	272 50.2	N 3 44.8	65 23.7	N 6 05.3
	3	101 56.5	201 58.1	S24 10.7	198 15.6	S24 16.5	287 52.3	N 3 44.7	80 26.3	N 6 05.3
	4	116 58.9	216 57.1	S24 11.0	213 16.0	S24 16.6	302 54.4	N 3 44.5	95 28.9	N 6 05.2
T	5	132 01.4	231 56.2	S24 11.3	228 16.4	S24 16.7	317 56.6	N 3 44.4	110 31.5	N 6 05.2
H										
U	6	147 03.9	246 55.3	S24 11.6	243 16.8	S24 16.8	332 58.7	N 3 44.2	125 34.1	N 6 05.1
R	7	162 06.3	261 54.4	S24 11.9	258 17.2	S24 16.9	348 00.8	N 3 44.1	140 36.7	N 6 05.1
S	8	177 08.8	276 53.5	S24 12.2	273 17.6	S24 17.0	3 02.9	N 3 44.0	155 39.3	N 6 05.0
D	9	192 11.3	291 52.5	S24 12.5	288 18.0	S24 17.1	18 05.0	N 3 43.8	170 41.9	N 6 05.0
A	10	207 13.7	306 51.6	S24 12.8	303 18.4	S24 17.2	33 07.2	N 3 43.7	185 44.5	N 6 04.9
Y	11	222 16.2	321 50.7	S24 13.1	318 18.9	S24 17.3	48 09.3	N 3 43.6	200 47.1	N 6 04.9
	12	237 18.7	336 49.8	S24 13.4	333 19.3	S24 17.4	63 11.4	N 3 43.4	215 49.7	N 6 04.8
	13	252 21.1	351 48.9	S24 13.7	348 19.7	S24 17.4	78 13.5	N 3 43.3	230 52.3	N 6 04.8
	14	267 23.6	6 47.9	S24 14.0	3 20.1	S24 17.5	93 15.6	N 3 43.1	245 54.9	N 6 04.8
	15	282 26.1	21 47.0	S24 14.3	18 20.5	S24 17.6	108 17.8	N 3 43.0	260 57.5	N 6 04.7
	16	297 28.5	36 46.1	S24 14.6	33 20.9	S24 17.7	123 19.9	N 3 42.9	276 00.1	N 6 04.7
	17	312 31.0	51 45.2	S24 14.9	48 21.3	S24 17.8	138 22.0	N 3 42.7	291 02.7	N 6 04.6
	18	327 33.4	66 44.3	S24 15.2	63 21.7	S24 17.9	153 24.1	N 3 42.6	306 05.3	N 6 04.6
	19	342 35.9	81 43.3	S24 15.5	78 22.1	S24 18.0	168 26.3	N 3 42.4	321 07.9	N 6 04.5
	20	357 38.4	96 42.4	S24 15.8	93 22.6	S24 18.1	183 28.4	N 3 42.3	336 10.5	N 6 04.5
	21	12 40.8	111 41.5	S24 16.1	108 23.0	S24 18.2	198 30.5	N 3 42.2	351 13.1	N 6 04.4
	22	27 43.3	126 40.6	S24 16.3	123 23.4	S24 18.2	213 32.6	N 3 42.0	6 15.7	N 6 04.4
	23	42 45.8	141 39.7	S24 16.6	138 23.8	S24 18.3	228 34.8	N 3 41.9	21 18.3	N 6 04.3
19	0	57 48.2	156 38.7	S24 16.9	153 24.2	S24 18.4	243 36.9	N 3 41.8	36 21.0	N 6 04.3
	1	72 50.7	171 37.8	S24 17.2	168 24.6	S24 18.5	258 39.0	N 3 41.6	51 23.6	N 6 04.2
	2	87 53.2	186 36.9	S24 17.5	183 25.0	S24 18.6	273 41.1	N 3 41.5	66 26.2	N 6 04.2
	3	102 55.6	201 36.0	S24 17.8	198 25.4	S24 18.7	288 43.2	N 3 41.4	81 28.8	N 6 04.1
	4	117 58.1	216 35.0	S24 18.0	213 25.8	S24 18.8	303 45.4	N 3 41.2	96 31.4	N 6 04.1
F	5	133 00.6	231 34.1	S24 18.3	228 26.2	S24 18.8	318 47.5	N 3 41.1	111 34.0	N 6 04.1
R										
I	6	148 03.0	246 33.2	S24 18.6	243 26.7	S24 18.9	333 49.6	N 3 40.9	126 36.6	N 6 04.0
D	7	163 05.5	261 32.3	S24 18.9	258 27.1	S24 19.0	348 51.7	N 3 40.8	141 39.2	N 6 04.0
A	8	178 07.9	276 31.3	S24 19.2	273 27.5	S24 19.1	3 53.9	N 3 40.7	156 41.8	N 6 03.9
Y	9	193 10.4	291 30.4	S24 19.4	288 27.9	S24 19.2	18 56.0	N 3 40.5	171 44.4	N 6 03.9
	10	208 12.9	306 29.5	S24 19.7	303 28.3	S24 19.3	33 58.1	N 3 40.4	186 47.0	N 6 03.8
	11	223 15.3	321 28.6	S24 20.0	318 28.7	S24 19.3	49 00.3	N 3 40.3	201 49.6	N 6 03.8
	12	238 17.8	336 27.6	S24 20.2	333 29.1	S24 19.4	64 02.4	N 3 40.1	216 52.2	N 6 03.7
	13	253 20.3	351 26.7	S24 20.5	348 29.5	S24 19.5	79 04.5	N 3 40.0	231 54.8	N 6 03.7
	14	268 22.7	6 25.8	S24 20.8	3 29.9	S24 19.6	94 06.6	N 3 39.9	246 57.4	N 6 03.6
	15	283 25.2	21 24.9	S24 21.0	18 30.3	S24 19.7	109 08.8	N 3 39.7	261 60.0	N 6 03.6
	16	298 27.7	36 23.9	S24 21.3	33 30.7	S24 19.7	124 10.9	N 3 39.6	277 02.6	N 6 03.6
	17	313 30.1	51 23.0	S24 21.6	48 31.2	S24 19.8	139 13.0	N 3 39.4	292 05.2	N 6 03.5
	18	328 32.6	66 22.1	S24 21.8	63 31.6	S24 19.9	154 15.1	N 3 39.3	307 07.8	N 6 03.5
	19	343 35.0	81 21.2	S24 22.1	78 32.0	S24 20.0	169 17.3	N 3 39.2	322 10.4	N 6 03.4
	20	358 37.5	96 20.2	S24 22.4	93 32.4	S24 20.1	184 19.4	N 3 39.0	337 13.0	N 6 03.4
	21	13 40.0	111 19.3	S24 22.6	108 32.8	S24 20.1	199 21.5	N 3 38.9	352 15.6	N 6 03.3
	22	28 42.4	126 18.4	S24 22.9	123 33.2	S24 20.2	214 23.6	N 3 38.8	7 18.2	N 6 03.3
	23	43 44.9	141 17.4	S24 23.1	138 33.6	S24 20.3	229 25.8	N 3 38.6	22 20.8	N 6 03.2
20	0	58 47.4	156 16.5	S24 23.4	153 34.0	S24 20.4	244 27.9	N 3 38.5	37 23.4	N 6 03.2
	1	73 49.8	171 15.6	S24 23.6	168 34.4	S24 20.4	259 30.0	N 3 38.4	52 26.0	N 6 03.1
	2	88 52.3	186 14.7	S24 23.9	183 34.8	S24 20.5	274 32.2	N 3 38.2	67 28.6	N 6 03.1
	3	103 54.8	201 13.7	S24 24.1	198 35.2	S24 20.6	289 34.3	N 3 38.1	82 31.2	N 6 03.1
	4	118 57.2	216 12.8	S24 24.4	213 35.6	S24 20.7	304 36.4	N 3 38.0	97 33.8	N 6 03.0
S	5	133 59.7	231 11.9	S24 24.6	228 36.0	S24 20.7	319 38.6	N 3 37.8	112 36.4	N 6 03.0
A										
T	6	149 02.2	246 10.9	S24 24.9	243 36.4	S24 20.8	334 40.7	N 3 37.7	127 39.0	N 6 02.9
U	7	164 04.6	261 10.0	S24 25.1	258 36.8	S24 20.9	349 42.8	N 3 37.6	142 41.6	N 6 02.9
R	8	179 07.1	276 09.1	S24 25.4	273 37.2	S24 21.0	4 44.9	N 3 37.4	157 44.2	N 6 02.8
D	9	194 09.5	291 08.2	S24 25.6	288 37.7	S24 21.0	19 47.1	N 3 37.3	172 46.8	N 6 02.8
A	10	209 12.0	306 07.2	S24 25.9	303 38.1	S24 21.1	34 49.2	N 3 37.2	187 49.4	N 6 02.7
Y	11	224 14.5	321 06.3	S24 26.1	318 38.5	S24 21.2	49 51.3	N 3 37.0	202 52.0	N 6 02.7
	12	239 16.9	336 05.4	S24 26.3	333 38.9	S24 21.2	64 53.5	N 3 36.9	217 54.6	N 6 02.6
	13	254 19.4	351 04.4	S24 26.6	348 39.3	S24 21.3	79 55.6	N 3 36.8	232 57.2	N 6 02.6
	14	269 21.9	6 03.5	S24 26.8	3 39.7	S24 21.4	94 57.7	N 3 36.6	247 59.8	N 6 02.6
	15	284 24.3	21 02.6	S24 27.1	18 40.1	S24 21.5	109 59.9	N 3 36.5	263 02.4	N 6 02.5
	16	299 26.8	36 01.6	S24 27.3	33 40.5	S24 21.5	125 02.0	N 3 36.4	278 05.0	N 6 02.5
	17	314 29.3	51 00.7	S24 27.5	48 40.9	S24 21.6	140 04.1	N 3 36.2	293 07.6	N 6 02.4
	18	329 31.7	65 59.8	S24 27.8	63 41.3	S24 21.7	155 06.2	N 3 36.1	308 10.1	N 6 02.4
	19	344 34.2	80 58.9	S24 28.0	78 41.7	S24 21.7	170 08.4	N 3 36.0	323 12.7	N 6 02.3
	20	359 36.7	95 57.9	S24 28.2	93 42.1	S24 21.8	185 10.5	N 3 35.8	338 15.3	N 6 02.3
	21	14 39.1	110 57.0	S24 28.4	108 42.5	S24 21.9	200 12.6	N 3 35.7	353 17.9	N 6 02.3
	22	29 41.6	125 56.1	S24 28.7	123 42.9	S24 21.9	215 14.8	N 3 35.6	8 20.5	N 6 02.2
	23	44 44.0	140 55.1	S24 28.9	138 43.3	S24 22.0	230 16.9	N 3 35.4	23 23.1	N 6 02.2
			v -0.9	d 0.3	v 0.4	d 0.1	v 2.1	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 45.1	S19 06.7	309 44.1	5.2	N24 11.6	7.0	59.3
	1	198 45.0	S19 07.3	324 08.4	5.3	N24 04.4	7.2	59.3
	2	213 44.8	S19 07.9	338 32.8	5.4	N23 57.1	7.3	59.3
	3	228 44.7	S19 08.5	352 57.2	5.4	N23 49.6	7.5	59.3
	4	243 44.6	S19 09.1	7 21.7	5.5	N23 42.0	7.6	59.3
T	5	258 44.4	S19 09.7	21 46.3	5.6	N23 34.2	7.8	59.3
H								
U	6	273 44.3	S19 10.3	36 10.9	5.6	N23 26.2	7.9	59.3
R	7	288 44.2	S19 10.9	50 35.7	5.7	N23 18.1	8.1	59.3
S	8	303 44.1	S19 11.5	65 00.5	5.8	N23 09.9	8.2	59.3
D	9	318 43.9	S19 12.1	79 25.3	5.9	N23 01.5	8.4	59.3
A	10	333 43.8	S19 12.7	93 50.3	6.0	N22 52.9	8.5	59.3
Y	11	348 43.7	S19 13.3	108 15.3	6.0	N22 44.3	8.7	59.3
	12	3 43.5	S19 13.9	122 40.4	6.1	N22 35.4	8.8	59.4
	13	18 43.4	S19 14.5	137 05.6	6.2	N22 26.4	9.0	59.4
	14	33 43.3	S19 15.1	151 30.9	6.3	N22 17.3	9.1	59.4
	15	48 43.2	S19 15.7	165 56.3	6.4	N22 08.1	9.3	59.4
	16	63 43.0	S19 16.3	180 21.7	6.4	N21 58.7	9.4	59.4
	17	78 42.9	S19 16.9	194 47.2	6.5	N21 49.1	9.5	59.4
	18	93 42.8	S19 17.5	209 12.8	6.6	N21 39.4	9.7	59.4
	19	108 42.6	S19 18.1	223 38.5	6.7	N21 29.6	9.8	59.4
	20	123 42.5	S19 18.7	238 04.3	6.8	N21 19.7	9.9	59.4
	21	138 42.4	S19 19.2	252 30.1	6.9	N21 09.6	10.1	59.4
	22	153 42.2	S19 19.8	266 56.1	6.9	N20 59.4	10.2	59.4
	23	168 42.1	S19 20.4	281 22.1	7.0	N20 49.0	10.3	59.4
19	0	183 42.0	S19 21.0	295 48.2	7.1	N20 38.6	10.5	59.4
	1	198 41.8	S19 21.6	310 14.4	7.2	N20 28.0	10.6	59.4
	2	213 41.7	S19 22.2	324 40.7	7.3	N20 17.3	10.7	59.4
	3	228 41.6	S19 22.8	339 07.1	7.4	N20 06.4	10.8	59.4
	4	243 41.4	S19 23.4	353 33.5	7.5	N19 55.5	11.0	59.4
F	5	258 41.3	S19 23.9	8 00.1	7.5	N19 44.4	11.1	59.4
R								
I	6	273 41.1	S19 24.5	22 26.7	7.6	N19 33.2	11.2	59.4
D	7	288 41.0	S19 25.1	36 53.4	7.7	N19 21.9	11.3	59.4
A	8	303 40.9	S19 25.7	51 20.3	7.8	N19 10.4	11.4	59.4
Y	9	318 40.7	S19 26.3	65 47.1	7.9	N18 58.9	11.5	59.4
	10	333 40.6	S19 26.9	80 14.1	8.0	N18 47.2	11.7	59.4
	11	348 40.5	S19 27.4	94 41.2	8.1	N18 35.5	11.8	59.4
	12	3 40.3	S19 28.0	109 08.3	8.2	N18 23.6	11.9	59.4
	13	18 40.2	S19 28.6	123 35.6	8.2	N18 11.6	12.0	59.4
	14	33 40.0	S19 29.2	138 02.9	8.3	N17 59.5	12.1	59.3
	15	48 39.9	S19 29.8	152 30.3	8.4	N17 47.3	12.2	59.3
	16	63 39.8	S19 30.3	166 57.8	8.5	N17 35.1	12.3	59.3
	17	78 39.6	S19 30.9	181 25.4	8.6	N17 22.7	12.4	59.3
	18	93 39.5	S19 31.5	195 53.0	8.7	N17 10.2	12.5	59.3
	19	108 39.3	S19 32.1	210 20.8	8.7	N16 57.6	12.6	59.3
	20	123 39.2	S19 32.7	224 48.6	8.8	N16 44.9	12.7	59.3
	21	138 39.1	S19 33.2	239 16.5	8.9	N16 32.1	12.8	59.3
	22	153 38.9	S19 33.8	253 44.5	9.0	N16 19.2	12.9	59.3
	23	168 38.8	S19 34.4	268 12.6	9.1	N16 06.3	13.0	59.3
20	0	183 38.6	S19 35.0	282 40.7	9.2	N15 53.2	13.1	59.3
	1	198 38.5	S19 35.5	297 09.0	9.2	N15 40.1	13.1	59.3
	2	213 38.3	S19 36.1	311 37.3	9.3	N15 26.9	13.2	59.3
	3	228 38.2	S19 36.7	326 05.7	9.4	N15 13.5	13.3	59.3
	4	243 38.1	S19 37.2	340 34.1	9.5	N15 00.1	13.4	59.3
S	5	258 37.9	S19 37.8	355 02.7	9.5	N14 46.7	13.5	59.3
A								
T	6	273 37.8	S19 38.4	9 31.3	9.6	N14 33.1	13.6	59.3
U	7	288 37.6	S19 38.9	23 60.0	9.7	N14 19.5	13.6	59.3
R	8	303 37.5	S19 39.5	38 28.8	9.8	N14 05.8	13.7	59.3
D	9	318 37.3	S19 40.1	52 57.6	9.8	N13 52.0	13.8	59.3
A	10	333 37.2	S19 40.7	67 26.5	9.9	N13 38.1	13.9	59.3
Y	11	348 37.0	S19 41.2	81 55.5	10.0	N13 24.2	13.9	59.3
	12	3 36.9	S19 41.8	96 24.6	10.1	N13 10.2	14.0	59.3
	13	18 36.7	S19 42.4	110 53.7	10.1	N12 56.1	14.1	59.3
	14	33 36.6	S19 42.9	125 22.9	10.2	N12 42.0	14.1	59.2
	15	48 36.4	S19 43.5	139 52.2	10.3	N12 27.8	14.2	59.2
	16	63 36.3	S19 44.0	154 21.6	10.3	N12 13.5	14.3	59.2
	17	78 36.1	S19 44.6	168 51.0	10.4	N11 59.2	14.3	59.2
	18	93 36.0	S19 45.2	183 20.4	10.5	N11 44.8	14.4	59.2
	19	108 35.8	S19 45.7	197 50.0	10.5	N11 30.3	14.5	59.2
	20	123 35.7	S19 46.3	212 19.6	10.6	N11 15.8	14.5	59.2
	21	138 35.5	S19 46.9	226 49.2	10.7	N11 01.2	14.6	59.2
	22	153 35.4	S19 47.4	241 19.0	10.7	N10 46.6	14.6	59.2
	23	168 35.2	S19 48.0	255 48.8	10.8	N10 31.9	14.7	59.2
		S.D. 16.2	d 0.6	S.D. 16.2		16.2	16.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.5
Achernar	335 18.0	S57 05.7
Acrux	172 57.9	S63 15.0
Adhara	255 03.7	S29 00.4
Albireo	67 02.4	N28 01.3
Aldebaran	290 36.6	N16 34.0
Alioth	166 11.3	N55 48.3
Alkaid	152 50.6	N49 10.3
Al Na-ir	27 29.9	S46 49.7
Alnilam	275 35.0	S 1 11.0
Alphard	217 45.4	S 8 46.7
Alphecca	126 02.1	N26 37.2
Alpheratz	357 32.1	N29 15.0
Altair	61 57.8	N 8 56.7
Ankaa	353 04.6	S42 09.3
Antares	112 13.3	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.1	S69 04.7
Avior	234 13.5	S59 35.7
Bellatrix	278 20.1	N 6 22.6
Betelgeuse	270 49.3	N 7 24.8
Canopus	263 50.9	S52 42.4
Capella	280 18.0	N46 01.5
Castor	245 53.8	N31 49.5
Deneb	49 24.3	N45 23.1
Denebola	182 22.7	N14 24.9
Diphda	348 44.8	S17 49.9
Dubhe	193 38.4	N61 35.7
Elnath	277 58.6	N28 37.8
Eltanin	90 41.6	N51 29.2
Enif	33 36.5	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.4	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.3	S60 30.3
Hamal	327 48.2	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.3	N74 02.3
Markab	13 27.5	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.2	S36 30.4
Miaplacidus	221 37.4	S69 49.6
Mirfak	308 24.4	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.2	S56 38.9
Polaris	315 13.4	N89 22.5
Pollux	243 14.2	N27 57.4
Procyon	244 48.2	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 32.0	N11 49.8
Rigel	281 01.3	S 8 10.1
Rigil Kent	139 37.8	S60 56.9
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.4
Sirius	258 23.9	S16 45.1
Spica	158 20.1	S11 18.4
Suhail	222 44.5	S43 32.5
Vega	80 32.0	N38 48.8
Zuben-ubi	136 54.7	S16 09.4

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
21	0	59 46.5	155 54.2	S24 29.1	153 43.7	S24 22.1	245 19.0	N 3 35.3	38 25.7	N 6 02.1
	1	74 49.0	170 53.3	S24 29.3	168 44.1	S24 22.1	260 21.2	N 3 35.2	53 28.3	N 6 02.1
	2	89 51.4	185 52.3	S24 29.6	183 44.5	S24 22.2	275 23.3	N 3 35.0	68 30.9	N 6 02.0
	3	104 53.9	200 51.4	S24 29.8	198 44.9	S24 22.2	290 25.4	N 3 34.9	83 33.5	N 6 02.0
	4	119 56.4	215 50.5	S24 30.0	213 45.3	S24 22.3	305 27.6	N 3 34.8	98 36.1	N 6 01.9
S	5	134 58.8	230 49.5	S24 30.2	228 45.7	S24 22.4	320 29.7	N 3 34.6	113 38.7	N 6 01.9
U										
N	6	150 01.3	245 48.6	S24 30.4	243 46.1	S24 22.4	335 31.8	N 3 34.5	128 41.3	N 6 01.9
D	7	165 03.8	260 47.7	S24 30.7	258 46.5	S24 22.5	350 34.0	N 3 34.4	143 43.9	N 6 01.8
A	8	180 06.2	275 46.7	S24 30.9	273 46.9	S24 22.6	5 36.1	N 3 34.2	158 46.5	N 6 01.8
Y	9	195 08.7	290 45.8	S24 31.1	288 47.3	S24 22.6	20 38.2	N 3 34.1	173 49.1	N 6 01.7
	10	210 11.2	305 44.9	S24 31.3	303 47.7	S24 22.7	35 40.4	N 3 34.0	188 51.7	N 6 01.7
	11	225 13.6	320 43.9	S24 31.5	318 48.1	S24 22.7	50 42.5	N 3 33.8	203 54.3	N 6 01.6
	12	240 16.1	335 43.0	S24 31.7	333 48.5	S24 22.8	65 44.7	N 3 33.7	218 56.9	N 6 01.6
	13	255 18.5	350 42.0	S24 31.9	348 48.9	S24 22.9	80 46.8	N 3 33.6	233 59.5	N 6 01.6
	14	270 21.0	5 41.1	S24 32.1	3 49.3	S24 22.9	95 48.9	N 3 33.4	249 02.1	N 6 01.5
	15	285 23.5	20 40.2	S24 32.3	18 49.7	S24 23.0	110 51.1	N 3 33.3	264 04.7	N 6 01.5
	16	300 25.9	35 39.2	S24 32.5	33 50.1	S24 23.0	125 53.2	N 3 33.2	279 07.3	N 6 01.4
	17	315 28.4	50 38.3	S24 32.7	48 50.5	S24 23.1	140 55.3	N 3 33.0	294 09.9	N 6 01.4
	18	330 30.9	65 37.4	S24 32.9	63 50.9	S24 23.1	155 57.5	N 3 32.9	309 12.4	N 6 01.3
	19	345 33.3	80 36.4	S24 33.1	78 51.3	S24 23.2	170 59.6	N 3 32.8	324 15.0	N 6 01.3
	20	0 35.8	95 35.5	S24 33.3	93 51.7	S24 23.3	186 01.7	N 3 32.6	339 17.6	N 6 01.3
	21	15 38.3	110 34.6	S24 33.5	108 52.1	S24 23.3	201 03.9	N 3 32.5	354 20.2	N 6 01.2
	22	30 40.7	125 33.6	S24 33.7	123 52.5	S24 23.4	216 06.0	N 3 32.4	9 22.8	N 6 01.2
	23	45 43.2	140 32.7	S24 33.9	138 52.9	S24 23.4	231 08.2	N 3 32.3	24 25.4	N 6 01.1
22	0	60 45.6	155 31.7	S24 34.1	153 53.3	S24 23.5	246 10.3	N 3 32.1	39 28.0	N 6 01.1
	1	75 48.1	170 30.8	S24 34.3	168 53.7	S24 23.5	261 12.4	N 3 32.0	54 30.6	N 6 01.0
	2	90 50.6	185 29.9	S24 34.5	183 54.1	S24 23.6	276 14.6	N 3 31.9	69 33.2	N 6 01.0
	3	105 53.0	200 28.9	S24 34.7	198 54.5	S24 23.6	291 16.7	N 3 31.7	84 35.8	N 6 01.0
	4	120 55.5	215 28.0	S24 34.9	213 54.9	S24 23.7	306 18.8	N 3 31.6	99 38.4	N 6 00.9
M	5	135 58.0	230 27.1	S24 35.1	228 55.3	S24 23.7	321 21.0	N 3 31.5	114 41.0	N 6 00.9
O										
N	6	151 00.4	245 26.1	S24 35.3	243 55.7	S24 23.8	336 23.1	N 3 31.3	129 43.6	N 6 00.8
D	7	166 02.9	260 25.2	S24 35.4	258 56.1	S24 23.8	351 25.3	N 3 31.2	144 46.2	N 6 00.8
A	8	181 05.4	275 24.2	S24 35.6	273 56.5	S24 23.9	6 27.4	N 3 31.1	159 48.8	N 6 00.7
Y	9	196 07.8	290 23.3	S24 35.8	288 56.9	S24 23.9	21 29.5	N 3 30.9	174 51.3	N 6 00.7
	10	211 10.3	305 22.4	S24 36.0	303 57.3	S24 24.0	36 31.7	N 3 30.8	189 53.9	N 6 00.7
	11	226 12.8	320 21.4	S24 36.2	318 57.7	S24 24.0	51 33.8	N 3 30.7	204 56.5	N 6 00.6
	12	241 15.2	335 20.5	S24 36.3	333 58.1	S24 24.1	66 36.0	N 3 30.6	219 59.1	N 6 00.6
	13	256 17.7	350 19.6	S24 36.5	348 58.5	S24 24.1	81 38.1	N 3 30.4	235 01.7	N 6 00.5
	14	271 20.1	5 18.6	S24 36.7	3 58.9	S24 24.2	96 40.2	N 3 30.3	250 04.3	N 6 00.5
	15	286 22.6	20 17.7	S24 36.9	18 59.3	S24 24.2	111 42.4	N 3 30.2	265 06.9	N 6 00.5
	16	301 25.1	35 16.7	S24 37.0	33 59.7	S24 24.3	126 44.5	N 3 30.0	280 09.5	N 6 00.4
	17	316 27.5	50 15.8	S24 37.2	49 00.1	S24 24.3	141 46.7	N 3 29.9	295 12.1	N 6 00.4
	18	331 30.0	65 14.9	S24 37.4	64 00.5	S24 24.4	156 48.8	N 3 29.8	310 14.7	N 6 00.3
	19	346 32.5	80 13.9	S24 37.6	79 00.9	S24 24.4	171 50.9	N 3 29.7	325 17.3	N 6 00.3
	20	1 34.9	95 13.0	S24 37.7	94 01.3	S24 24.5	186 53.1	N 3 29.5	340 19.9	N 6 00.3
	21	16 37.4	110 12.0	S24 37.9	109 01.7	S24 24.5	201 55.2	N 3 29.4	355 22.4	N 6 00.2
	22	31 39.9	125 11.1	S24 38.1	124 02.1	S24 24.6	216 57.4	N 3 29.3	10 25.0	N 6 00.2
	23	46 42.3	140 10.2	S24 38.2	139 02.5	S24 24.6	231 59.5	N 3 29.1	25 27.6	N 6 00.1
23	0	61 44.8	155 09.2	S24 38.4	154 02.9	S24 24.6	247 01.7	N 3 29.0	40 30.2	N 6 00.1
	1	76 47.3	170 08.3	S24 38.5	169 03.3	S24 24.7	262 03.8	N 3 28.9	55 32.8	N 6 00.0
	2	91 49.7	185 07.3	S24 38.7	184 03.7	S24 24.7	277 05.9	N 3 28.8	70 35.4	N 6 00.0
	3	106 52.2	200 06.4	S24 38.9	199 04.1	S24 24.8	292 08.1	N 3 28.6	85 38.0	N 5 60.0
	4	121 54.6	215 05.5	S24 39.0	214 04.5	S24 24.8	307 10.2	N 3 28.5	100 40.6	N 5 59.9
T	5	136 57.1	230 04.5	S24 39.2	229 04.9	S24 24.8	322 12.4	N 3 28.4	115 43.2	N 5 59.9
U										
E	6	151 59.6	245 03.6	S24 39.3	244 05.2	S24 24.9	337 14.5	N 3 28.2	130 45.8	N 5 59.8
S	7	167 02.0	260 02.6	S24 39.5	259 05.6	S24 24.9	352 16.7	N 3 28.1	145 48.3	N 5 59.8
D	8	182 04.5	275 01.7	S24 39.6	274 06.0	S24 25.0	7 18.8	N 3 28.0	160 50.9	N 5 59.8
A	9	197 07.0	290 00.7	S24 39.8	289 06.4	S24 25.0	22 20.9	N 3 27.9	175 53.5	N 5 59.7
Y	10	212 09.4	304 59.8	S24 39.9	304 06.8	S24 25.0	37 23.1	N 3 27.7	190 56.1	N 5 59.7
	11	227 11.9	319 58.9	S24 40.1	319 07.2	S24 25.1	52 25.2	N 3 27.6	205 58.7	N 5 59.6
	12	242 14.4	334 57.9	S24 40.2	334 07.6	S24 25.1	67 27.4	N 3 27.5	221 01.3	N 5 59.6
	13	257 16.8	349 57.0	S24 40.4	349 08.0	S24 25.2	82 29.5	N 3 27.3	236 03.9	N 5 59.6
	14	272 19.3	4 56.0	S24 40.5	4 08.4	S24 25.2	97 31.7	N 3 27.2	251 06.5	N 5 59.5
	15	287 21.7	19 55.1	S24 40.7	19 08.8	S24 25.2	112 33.8	N 3 27.1	266 09.1	N 5 59.5
	16	302 24.2	34 54.2	S24 40.8	34 09.2	S24 25.3	127 36.0	N 3 27.0	281 11.6	N 5 59.4
	17	317 26.7	49 53.2	S24 40.9	49 09.6	S24 25.3	142 38.1	N 3 26.8	296 14.2	N 5 59.4
	18	332 29.1	64 52.3	S24 41.1	64 10.0	S24 25.3	157 40.2	N 3 26.7	311 16.8	N 5 59.4
	19	347 31.6	79 51.3	S24 41.2	79 10.4	S24 25.4	172 42.4	N 3 26.6	326 19.4	N 5 59.3
	20	2 34.1	94 50.4	S24 41.4	94 10.8	S24 25.4	187 44.5	N 3 26.4	341 22.0	N 5 59.3
	21	17 36.5	109 49.4	S24 41.5	109 11.2	S24 25.4	202 46.7	N 3 26.3	356 24.6	N 5 59.2
	22	32 39.0	124 48.5	S24 41.6	124 11.6	S24 25.5	217 48.8	N 3 26.2	11 27.2	N 5 59.2
	23	47 41.5	139 47.6	S24 41.8	139 11.9	S24 25.5	232 51.0	N 3 26.1	26 29.8	N 5 59.2
			v -0.9	d 0.2	v 0.4	d 0.0	v 2.1	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 '
21	0	183 35.1	S19 48.5	270 18.6	10.8	N10 17.2	14.7	59.2
	1	198 34.9	S19 49.1	284 48.5	10.9	N10 02.4	14.8	59.2
	2	213 34.8	S19 49.7	299 18.5	11.0	N 9 47.6	14.8	59.2
	3	228 34.6	S19 50.2	313 48.5	11.0	N 9 32.7	14.9	59.2
	4	243 34.5	S19 50.8	328 18.6	11.1	N 9 17.8	14.9	59.2
S	5	258 34.3	S19 51.3	342 48.7	11.1	N 9 02.8	15.0	59.1
U								
N	6	273 34.2	S19 51.9	357 18.9	11.2	N 8 47.8	15.0	59.1
D	7	288 34.0	S19 52.4	11 49.1	11.2	N 8 32.7	15.1	59.1
A	8	303 33.9	S19 53.0	26 19.4	11.3	N 8 17.6	15.1	59.1
Y	9	318 33.7	S19 53.5	40 49.8	11.3	N 8 02.5	15.1	59.1
	10	333 33.6	S19 54.1	55 20.1	11.4	N 7 47.3	15.2	59.1
	11	348 33.4	S19 54.6	69 50.6	11.4	N 7 32.1	15.2	59.1
	12	3 33.2	S19 55.2	84 21.0	11.5	N 7 16.9	15.2	59.1
	13	18 33.1	S19 55.7	98 51.6	11.5	N 7 01.6	15.3	59.1
	14	33 32.9	S19 56.3	113 22.1	11.6	N 6 46.3	15.3	59.1
	15	48 32.8	S19 56.8	127 52.7	11.6	N 6 31.0	15.3	59.1
	16	63 32.6	S19 57.4	142 23.4	11.6	N 6 15.6	15.4	59.1
	17	78 32.5	S19 57.9	156 54.1	11.7	N 6 00.2	15.4	59.0
	18	93 32.3	S19 58.5	171 24.8	11.7	N 5 44.8	15.4	59.0
	19	108 32.1	S19 59.0	185 55.6	11.8	N 5 29.3	15.4	59.0
	20	123 32.0	S19 59.6	200 26.4	11.8	N 5 13.9	15.5	59.0
	21	138 31.8	S20 00.1	214 57.2	11.8	N 4 58.4	15.5	59.0
	22	153 31.7	S20 00.7	229 28.1	11.9	N 4 42.9	15.5	59.0
	23	168 31.5	S20 01.2	243 59.0	11.9	N 4 27.3	15.5	59.0
22	0	183 31.4	S20 01.8	258 29.9	11.9	N 4 11.8	15.5	59.0
	1	198 31.2	S20 02.3	273 00.9	12.0	N 3 56.2	15.6	59.0
	2	213 31.0	S20 02.8	287 31.9	12.0	N 3 40.6	15.6	59.0
	3	228 30.9	S20 03.4	302 02.9	12.0	N 3 25.1	15.6	58.9
	4	243 30.7	S20 03.9	316 34.0	12.0	N 3 09.4	15.6	58.9
M	5	258 30.5	S20 04.5	331 05.0	12.1	N 2 53.8	15.6	58.9
O								
N	6	273 30.4	S20 05.0	345 36.1	12.1	N 2 38.2	15.6	58.9
D	7	288 30.2	S20 05.6	0 07.3	12.1	N 2 22.6	15.6	58.9
A	8	303 30.1	S20 06.1	14 38.4	12.1	N 2 06.9	15.6	58.9
Y	9	318 29.9	S20 06.6	29 09.6	12.2	N 1 51.3	15.6	58.9
	10	333 29.7	S20 07.2	43 40.7	12.2	N 1 35.6	15.7	58.9
	11	348 29.6	S20 07.7	58 11.9	12.2	N 1 20.0	15.7	58.9
	12	3 29.4	S20 08.2	72 43.2	12.2	N 1 04.3	15.7	58.9
	13	18 29.2	S20 08.8	87 14.4	12.2	N 0 48.7	15.7	58.8
	14	33 29.1	S20 09.3	101 45.6	12.2	N 0 33.0	15.7	58.8
	15	48 28.9	S20 09.8	116 16.9	12.3	N 0 17.4	15.7	58.8
	16	63 28.7	S20 10.4	130 48.2	12.3	N 0 01.7	15.6	58.8
	17	78 28.6	S20 10.9	145 19.5	12.3	S 0 13.9	15.6	58.8
	18	93 28.4	S20 11.4	159 50.7	12.3	S 0 29.6	15.6	58.8
	19	108 28.2	S20 12.0	174 22.0	12.3	S 0 45.2	15.6	58.8
	20	123 28.1	S20 12.5	188 53.4	12.3	S 1 00.8	15.6	58.8
	21	138 27.9	S20 13.0	203 24.7	12.3	S 1 16.4	15.6	58.8
	22	153 27.7	S20 13.6	217 56.0	12.3	S 1 32.0	15.6	58.7
	23	168 27.6	S20 14.1	232 27.3	12.3	S 1 47.6	15.6	58.7
23	0	183 27.4	S20 14.6	246 58.6	12.3	S 2 03.2	15.6	58.7
	1	198 27.2	S20 15.2	261 29.9	12.3	S 2 18.7	15.6	58.7
	2	213 27.1	S20 15.7	276 01.3	12.3	S 2 34.2	15.5	58.7
	3	228 26.9	S20 16.2	290 32.6	12.3	S 2 49.8	15.5	58.7
	4	243 26.7	S20 16.7	305 03.9	12.3	S 3 05.3	15.5	58.7
T	5	258 26.6	S20 17.3	319 35.2	12.3	S 3 20.7	15.5	58.7
U								
E	6	273 26.4	S20 17.8	334 06.5	12.3	S 3 36.2	15.5	58.6
S	7	288 26.2	S20 18.3	348 37.8	12.3	S 3 51.6	15.4	58.6
D	8	303 26.0	S20 18.8	3 09.1	12.3	S 4 07.0	15.4	58.6
A	9	318 25.9	S20 19.4	17 40.4	12.3	S 4 22.4	15.4	58.6
Y	10	333 25.7	S20 19.9	32 11.7	12.3	S 4 37.8	15.4	58.6
	11	348 25.5	S20 20.4	46 43.0	12.3	S 4 53.1	15.3	58.6
	12	3 25.3	S20 20.9	61 14.2	12.3	S 5 08.4	15.3	58.6
	13	18 25.2	S20 21.4	75 45.5	12.2	S 5 23.6	15.3	58.5
	14	33 25.0	S20 22.0	90 16.7	12.2	S 5 38.9	15.2	58.5
	15	48 24.8	S20 22.5	104 47.9	12.2	S 5 54.1	15.2	58.5
	16	63 24.7	S20 23.0	119 19.1	12.2	S 6 09.2	15.2	58.5
	17	78 24.5	S20 23.5	133 50.3	12.2	S 6 24.3	15.1	58.5
	18	93 24.3	S20 24.0	148 21.5	12.2	S 6 39.4	15.1	58.5
	19	108 24.1	S20 24.5	162 52.6	12.1	S 6 54.5	15.0	58.5
	20	123 24.0	S20 25.1	177 23.7	12.1	S 7 09.5	15.0	58.5
	21	138 23.8	S20 25.6	191 54.8	12.1	S 7 24.4	15.0	58.4
	22	153 23.6	S20 26.1	206 25.9	12.1	S 7 39.4	14.9	58.4
	23	168 23.4	S20 26.6	220 57.0	12.1	S 7 54.2	14.9	58.4
		S.D. 16.2	d 0.5	S.D.	16.1	16.0	16.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.5
Achernar	335 18.0	S57 05.8
Acrux	172 57.9	S63 15.0
Adhara	255 03.7	S29 00.4
Albireo	67 02.4	N28 01.3
Aldebaran	290 36.6	N16 34.0
Alioth	166 11.3	N55 48.3
Alkaid	152 50.6	N49 10.3
Al Na-ir	27 30.0	S46 49.7
Alnilam	275 35.0	S 1 11.0
Alphard	217 45.4	S 8 46.7
Alphecca	126 02.1	N26 37.2
Alpheratz	357 32.2	N29 15.0
Altair	61 57.9	N 8 56.7
Ankaa	353 04.6	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.1	S69 04.7
Avior	234 13.4	S59 35.7
Bellatrix	278 20.0	N 6 22.6
Betelgeuse	270 49.2	N 7 24.8
Canopus	263 50.9	S52 42.4
Capella	280 18.0	N46 01.5
Castor	245 53.8	N31 49.5
Deneb	49 24.4	N45 23.1
Denebola	182 22.7	N14 24.9
Diphda	348 44.8	S17 49.9
Dubhe	193 38.3	N61 35.7
Elnath	277 58.6	N28 37.8
Eltanin	90 41.6	N51 29.2
Enif	33 36.5	N10 00.4
Fomalhaut	15 11.8	S29 28.5
Gacrux	171 49.4	S57 16.0
Gienah	175 41.4	S17 41.7
Hadar	148 33.3	S60 30.3
Hamal	327 48.2	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.3	N74 02.3
Markab	13 27.5	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.2	S36 30.4
Miaplacidus	221 37.4	S69 49.6
Mirfak	308 24.4	N49 57.7
Nunki	75 45.1	S26 15.7
Peacock	53 02.3	S56 38.9
Polaris	315 13.8	N89 22.5
Pollux	243 14.2	N27 57.4
Procyon	244 48.2	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 31.9	N11 49.8
Rigel	281 01.3	S 8 10.1
Rigil Kent	139 37.8	S60 56.9
Sabik	102 00.4	S15 45.5
Schedar	349 27.9	N56 41.7
Shaula	96 07.6	S37 07.4
Sirius	258 23.9	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 44.4	S43 32.5
Vega	80 32.0	N38 48.7
Zuben-ubi	136 54.7	S16 09.4

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	62 43.9	154 46.6	S24 41.9	154 12.3	S24 25.5	247 53.1	N 3 25.9	41 32.3	N 5 59.1
	1	77 46.4	169 45.7	S24 42.0	169 12.7	S24 25.6	262 55.3	N 3 25.8	56 34.9	N 5 59.1
	2	92 48.9	184 44.7	S24 42.2	184 13.1	S24 25.6	277 57.4	N 3 25.7	71 37.5	N 5 59.0
	3	107 51.3	199 43.8	S24 42.3	199 13.5	S24 25.6	292 59.6	N 3 25.6	86 40.1	N 5 59.0
	4	122 53.8	214 42.8	S24 42.4	214 13.9	S24 25.7	308 01.7	N 3 25.4	101 42.7	N 5 59.0
W	5	137 56.2	229 41.9	S24 42.5	229 14.3	S24 25.7	323 03.9	N 3 25.3	116 45.3	N 5 58.9
E										
D	6	152 58.7	244 41.0	S24 42.7	244 14.7	S24 25.7	338 06.0	N 3 25.2	131 47.9	N 5 58.9
N	7	168 01.2	259 40.0	S24 42.8	259 15.1	S24 25.7	353 08.2	N 3 25.1	146 50.5	N 5 58.8
E	8	183 03.6	274 39.1	S24 42.9	274 15.5	S24 25.8	8 10.3	N 3 24.9	161 53.0	N 5 58.8
S	9	198 06.1	289 38.1	S24 43.0	289 15.9	S24 25.8	23 12.5	N 3 24.8	176 55.6	N 5 58.8
D	10	213 08.6	304 37.2	S24 43.1	304 16.3	S24 25.8	38 14.6	N 3 24.7	191 58.2	N 5 58.7
A	11	228 11.0	319 36.2	S24 43.3	319 16.7	S24 25.9	53 16.8	N 3 24.6	207 00.8	N 5 58.7
Y										
	12	243 13.5	334 35.3	S24 43.4	334 17.0	S24 25.9	68 18.9	N 3 24.4	222 03.4	N 5 58.6
	13	258 16.0	349 34.3	S24 43.5	349 17.4	S24 25.9	83 21.1	N 3 24.3	237 06.0	N 5 58.6
	14	273 18.4	4 33.4	S24 43.6	4 17.8	S24 25.9	98 23.2	N 3 24.2	252 08.6	N 5 58.6
	15	288 20.9	19 32.5	S24 43.7	19 18.2	S24 26.0	113 25.4	N 3 24.1	267 11.1	N 5 58.5
	16	303 23.4	34 31.5	S24 43.8	34 18.6	S24 26.0	128 27.5	N 3 23.9	282 13.7	N 5 58.5
	17	318 25.8	49 30.6	S24 43.9	49 19.0	S24 26.0	143 29.7	N 3 23.8	297 16.3	N 5 58.5
	18	333 28.3	64 29.6	S24 44.0	64 19.4	S24 26.0	158 31.8	N 3 23.7	312 18.9	N 5 58.4
	19	348 30.7	79 28.7	S24 44.1	79 19.8	S24 26.1	173 34.0	N 3 23.6	327 21.5	N 5 58.4
	20	3 33.2	94 27.7	S24 44.3	94 20.2	S24 26.1	188 36.1	N 3 23.4	342 24.1	N 5 58.3
	21	18 35.7	109 26.8	S24 44.4	109 20.6	S24 26.1	203 38.3	N 3 23.3	357 26.6	N 5 58.3
	22	33 38.1	124 25.8	S24 44.5	124 20.9	S24 26.1	218 40.4	N 3 23.2	12 29.2	N 5 58.3
	23	48 40.6	139 24.9	S24 44.6	139 21.3	S24 26.1	233 42.6	N 3 23.1	27 31.8	N 5 58.2
25	0	63 43.1	154 23.9	S24 44.7	154 21.7	S24 26.2	248 44.7	N 3 22.9	42 34.4	N 5 58.2
	1	78 45.5	169 23.0	S24 44.8	169 22.1	S24 26.2	263 46.9	N 3 22.8	57 37.0	N 5 58.2
	2	93 48.0	184 22.1	S24 44.9	184 22.5	S24 26.2	278 49.0	N 3 22.7	72 39.6	N 5 58.1
	3	108 50.5	199 21.1	S24 45.0	199 22.9	S24 26.2	293 51.2	N 3 22.6	87 42.2	N 5 58.1
	4	123 52.9	214 20.2	S24 45.1	214 23.3	S24 26.2	308 53.3	N 3 22.4	102 44.7	N 5 58.0
T	5	138 55.4	229 19.2	S24 45.1	229 23.7	S24 26.3	323 55.5	N 3 22.3	117 47.3	N 5 58.0
H										
U	6	153 57.8	244 18.3	S24 45.2	244 24.1	S24 26.3	338 57.6	N 3 22.2	132 49.9	N 5 58.0
R	7	169 00.3	259 17.3	S24 45.3	259 24.5	S24 26.3	353 59.8	N 3 22.1	147 52.5	N 5 57.9
S	8	184 02.8	274 16.4	S24 45.4	274 24.8	S24 26.3	9 01.9	N 3 21.9	162 55.1	N 5 57.9
D	9	199 05.2	289 15.4	S24 45.5	289 25.2	S24 26.3	24 04.1	N 3 21.8	177 57.6	N 5 57.8
A	10	214 07.7	304 14.5	S24 45.6	304 25.6	S24 26.3	39 06.2	N 3 21.7	193 00.2	N 5 57.8
Y	11	229 10.2	319 13.5	S24 45.7	319 26.0	S24 26.4	54 08.4	N 3 21.6	208 02.8	N 5 57.8
	12	244 12.6	334 12.6	S24 45.8	334 26.4	S24 26.4	69 10.6	N 3 21.4	223 05.4	N 5 57.7
	13	259 15.1	349 11.7	S24 45.8	349 26.8	S24 26.4	84 12.7	N 3 21.3	238 08.0	N 5 57.7
	14	274 17.6	4 10.7	S24 45.9	4 27.2	S24 26.4	99 14.9	N 3 21.2	253 10.6	N 5 57.7
	15	289 20.0	19 09.8	S24 46.0	19 27.6	S24 26.4	114 17.0	N 3 21.1	268 13.1	N 5 57.6
	16	304 22.5	34 08.8	S24 46.1	34 27.9	S24 26.4	129 19.2	N 3 20.9	283 15.7	N 5 57.6
	17	319 25.0	49 07.9	S24 46.2	49 28.3	S24 26.4	144 21.3	N 3 20.8	298 18.3	N 5 57.6
	18	334 27.4	64 06.9	S24 46.2	64 28.7	S24 26.5	159 23.5	N 3 20.7	313 20.9	N 5 57.5
	19	349 29.9	79 06.0	S24 46.3	79 29.1	S24 26.5	174 25.6	N 3 20.6	328 23.5	N 5 57.5
	20	4 32.3	94 05.0	S24 46.4	94 29.5	S24 26.5	189 27.8	N 3 20.5	343 26.0	N 5 57.4
	21	19 34.8	109 04.1	S24 46.5	109 29.9	S24 26.5	204 30.0	N 3 20.3	358 28.6	N 5 57.4
	22	34 37.3	124 03.1	S24 46.5	124 30.3	S24 26.5	219 32.1	N 3 20.2	13 31.2	N 5 57.4
	23	49 39.7	139 02.2	S24 46.6	139 30.7	S24 26.5	234 34.3	N 3 20.1	28 33.8	N 5 57.3
26	0	64 42.2	154 01.2	S24 46.7	154 31.0	S24 26.5	249 36.4	N 3 20.0	43 36.4	N 5 57.3
	1	79 44.7	169 00.3	S24 46.7	169 31.4	S24 26.5	264 38.6	N 3 19.8	58 39.0	N 5 57.3
	2	94 47.1	183 59.3	S24 46.8	184 31.8	S24 26.5	279 40.7	N 3 19.7	73 41.5	N 5 57.2
	3	109 49.6	198 58.4	S24 46.9	199 32.2	S24 26.6	294 42.9	N 3 19.6	88 44.1	N 5 57.2
	4	124 52.1	213 57.5	S24 46.9	214 32.6	S24 26.6	309 45.0	N 3 19.5	103 46.7	N 5 57.1
F	5	139 54.5	228 56.5	S24 47.0	229 33.0	S24 26.6	324 47.2	N 3 19.4	118 49.3	N 5 57.1
R										
I	6	154 57.0	243 55.6	S24 47.1	244 33.4	S24 26.6	339 49.4	N 3 19.2	133 51.9	N 5 57.1
D	7	169 59.4	258 54.6	S24 47.1	259 33.8	S24 26.6	354 51.5	N 3 19.1	148 54.4	N 5 57.0
A	8	185 01.9	273 53.7	S24 47.2	274 34.1	S24 26.6	9 53.7	N 3 19.0	163 57.0	N 5 57.0
Y	9	200 04.4	288 52.7	S24 47.2	289 34.5	S24 26.6	24 55.8	N 3 18.9	178 59.6	N 5 57.0
	10	215 06.8	303 51.8	S24 47.3	304 34.9	S24 26.6	39 58.0	N 3 18.7	194 02.2	N 5 56.9
	11	230 09.3	318 50.8	S24 47.4	319 35.3	S24 26.6	55 00.2	N 3 18.6	209 04.7	N 5 56.9
	12	245 11.8	333 49.9	S24 47.4	334 35.7	S24 26.6	70 02.3	N 3 18.5	224 07.3	N 5 56.9
	13	260 14.2	348 48.9	S24 47.5	349 36.1	S24 26.6	85 04.5	N 3 18.4	239 09.9	N 5 56.8
	14	275 16.7	3 48.0	S24 47.5	4 36.5	S24 26.6	100 06.6	N 3 18.3	254 12.5	N 5 56.8
	15	290 19.2	18 47.0	S24 47.6	19 36.8	S24 26.6	115 08.8	N 3 18.1	269 15.1	N 5 56.8
	16	305 21.6	33 46.1	S24 47.6	34 37.2	S24 26.6	130 11.0	N 3 18.0	284 17.6	N 5 56.7
	17	320 24.1	48 45.1	S24 47.7	49 37.6	S24 26.6	145 13.1	N 3 17.9	299 20.2	N 5 56.7
	18	335 26.6	63 44.2	S24 47.7	64 38.0	S24 26.6	160 15.3	N 3 17.8	314 22.8	N 5 56.6
	19	350 29.0	78 43.2	S24 47.7	79 38.4	S24 26.6	175 17.4	N 3 17.7	329 25.4	N 5 56.6
	20	5 31.5	93 42.3	S24 47.8	94 38.8	S24 26.6	190 19.6	N 3 17.5	344 28.0	N 5 56.6
	21	20 33.9	108 41.4	S24 47.8	109 39.1	S24 26.6	205 21.8	N 3 17.4	359 30.5	N 5 56.5
	22	35 36.4	123 40.4	S24 47.9	124 39.5	S24 26.6	220 23.9	N 3 17.3	14 33.1	N 5 56.5
	23	50 38.9	138 39.5	S24 47.9	139 39.9	S24 26.6	235 26.1	N 3 17.2	29 35.7	N 5 56.5
			v -0.9	d 0.1	v 0.4	d 0.0	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
		° '	° '	° '	'	° '	'	'
24	0	183 23.2	S20 27.1	235 28.0	12.0	S 8 09.1	14.8	58.4
	1	198 23.1	S20 27.6	249 59.0	12.0	S 8 23.8	14.8	58.4
	2	213 22.9	S20 28.1	264 30.0	12.0	S 8 38.6	14.7	58.4
	3	228 22.7	S20 28.6	279 00.9	12.0	S 8 53.3	14.7	58.3
	4	243 22.5	S20 29.2	293 31.8	11.9	S 9 07.9	14.6	58.3
W	5	258 22.4	S20 29.7	308 02.7	11.9	S 9 22.5	14.6	58.3
E								
D	6	273 22.2	S20 30.2	322 33.6	11.9	S 9 37.0	14.5	58.3
N	7	288 22.0	S20 30.7	337 04.4	11.8	S 9 51.5	14.5	58.3
E	8	303 21.8	S20 31.2	351 35.2	11.8	S10 05.9	14.4	58.3
S	9	318 21.6	S20 31.7	6 06.0	11.8	S10 20.3	14.4	58.3
D	10	333 21.5	S20 32.2	20 36.7	11.7	S10 34.6	14.3	58.2
A	11	348 21.3	S20 32.7	35 07.4	11.7	S10 48.8	14.2	58.2
Y								
	12	3 21.1	S20 33.2	49 38.1	11.7	S11 03.0	14.2	58.2
	13	18 20.9	S20 33.7	64 08.7	11.6	S11 17.1	14.1	58.2
	14	33 20.7	S20 34.2	78 39.3	11.6	S11 31.2	14.1	58.2
	15	48 20.6	S20 34.7	93 09.9	11.6	S11 45.2	14.0	58.2
	16	63 20.4	S20 35.2	107 40.4	11.5	S11 59.1	13.9	58.1
	17	78 20.2	S20 35.7	122 10.8	11.5	S12 12.9	13.9	58.1
	18	93 20.0	S20 36.2	136 41.3	11.4	S12 26.7	13.8	58.1
	19	108 19.8	S20 36.7	151 11.7	11.4	S12 40.4	13.7	58.1
	20	123 19.6	S20 37.2	165 42.0	11.3	S12 54.1	13.6	58.1
	21	138 19.5	S20 37.7	180 12.3	11.3	S13 07.7	13.6	58.1
	22	153 19.3	S20 38.2	194 42.6	11.3	S13 21.2	13.5	58.0
	23	168 19.1	S20 38.7	209 12.8	11.2	S13 34.6	13.4	58.0
25	0	183 18.9	S20 39.2	223 43.0	11.2	S13 48.0	13.4	58.0
	1	198 18.7	S20 39.7	238 13.1	11.1	S14 01.2	13.3	58.0
	2	213 18.5	S20 40.2	252 43.2	11.1	S14 14.4	13.2	58.0
	3	228 18.3	S20 40.7	267 13.2	11.0	S14 27.5	13.1	58.0
	4	243 18.2	S20 41.2	281 43.2	11.0	S14 40.6	13.0	57.9
T	5	258 18.0	S20 41.7	296 13.2	10.9	S14 53.5	13.0	57.9
H								
U	6	273 17.8	S20 42.2	310 43.1	10.9	S15 06.4	12.9	57.9
R	7	288 17.6	S20 42.7	325 12.9	10.8	S15 19.2	12.8	57.9
S	8	303 17.4	S20 43.2	339 42.7	10.8	S15 31.9	12.7	57.9
D	9	318 17.2	S20 43.7	354 12.5	10.7	S15 44.5	12.6	57.9
A	10	333 17.0	S20 44.2	8 42.2	10.7	S15 57.0	12.5	57.8
Y	11	348 16.8	S20 44.6	23 11.8	10.7	S16 09.4	12.4	57.8
	12	3 16.6	S20 45.1	37 41.4	10.6	S16 21.8	12.3	57.8
	13	18 16.5	S20 45.6	52 11.0	10.5	S16 34.0	12.2	57.8
	14	33 16.3	S20 46.1	66 40.5	10.5	S16 46.2	12.2	57.8
	15	48 16.1	S20 46.6	81 09.9	10.4	S16 58.2	12.1	57.7
	16	63 15.9	S20 47.1	95 39.3	10.4	S17 10.2	12.0	57.7
	17	78 15.7	S20 47.6	110 08.6	10.3	S17 22.0	11.9	57.7
	18	93 15.5	S20 48.1	124 37.9	10.3	S17 33.8	11.8	57.7
	19	108 15.3	S20 48.5	139 07.2	10.2	S17 45.5	11.7	57.7
	20	123 15.1	S20 49.0	153 36.3	10.2	S17 57.0	11.6	57.6
	21	138 14.9	S20 49.5	168 05.5	10.1	S18 08.5	11.5	57.6
	22	153 14.7	S20 50.0	182 34.6	10.1	S18 19.9	11.4	57.6
	23	168 14.5	S20 50.5	197 03.6	10.0	S18 31.1	11.3	57.6
26	0	183 14.4	S20 51.0	211 32.6	10.0	S18 42.3	11.2	57.6
	1	198 14.2	S20 51.4	226 01.5	9.9	S18 53.3	11.0	57.6
	2	213 14.0	S20 51.9	240 30.4	9.9	S19 04.3	10.9	57.5
	3	228 13.8	S20 52.4	254 59.2	9.8	S19 15.1	10.8	57.5
	4	243 13.6	S20 52.9	269 27.9	9.8	S19 25.8	10.7	57.5
F	5	258 13.4	S20 53.3	283 56.6	9.7	S19 36.4	10.6	57.5
R								
I	6	273 13.2	S20 53.8	298 25.3	9.7	S19 46.9	10.5	57.5
D	7	288 13.0	S20 54.3	312 53.9	9.6	S19 57.3	10.4	57.4
A	8	303 12.8	S20 54.8	327 22.5	9.6	S20 07.6	10.3	57.4
Y	9	318 12.6	S20 55.2	341 51.0	9.5	S20 17.7	10.2	57.4
	10	333 12.4	S20 55.7	356 19.4	9.4	S20 27.8	10.0	57.4
	11	348 12.2	S20 56.2	10 47.8	9.4	S20 37.7	9.9	57.4
	12	3 12.0	S20 56.7	25 16.1	9.3	S20 47.5	9.8	57.3
	13	18 11.8	S20 57.1	39 44.4	9.3	S20 57.2	9.7	57.3
	14	33 11.6	S20 57.6	54 12.7	9.2	S21 06.7	9.6	57.3
	15	48 11.4	S20 58.1	68 40.9	9.2	S21 16.2	9.4	57.3
	16	63 11.2	S20 58.6	83 09.0	9.1	S21 25.5	9.3	57.3
	17	78 11.0	S20 59.0	97 37.1	9.1	S21 34.7	9.2	57.2
	18	93 10.8	S20 59.5	112 05.1	9.0	S21 43.8	9.1	57.2
	19	108 10.6	S20 60.0	126 33.1	9.0	S21 52.7	8.9	57.2
	20	123 10.4	S21 00.4	141 01.1	8.9	S22 01.5	8.8	57.2
	21	138 10.2	S21 00.9	155 29.0	8.9	S22 10.2	8.7	57.1
	22	153 10.0	S21 01.4	169 56.8	8.9	S22 18.8	8.6	57.1
	23	168 09.8	S21 01.8	184 24.6	8.8	S22 27.2	8.4	57.1
		S.D. 16.2	d 0.5	S.D.	15.9	15.7	15.6	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.5
Achernar	335 18.0	S57 05.8
Acrux	172 57.8	S63 15.0
Adhara	255 03.7	S29 00.5
Albireo	67 02.4	N28 01.3
Aldebaran	290 36.6	N16 34.0
Alioth	166 11.3	N55 48.3
Alkaid	152 50.6	N49 10.2
Al Na-ir	27 30.0	S46 49.7
Alnilam	275 35.0	S 1 11.0
Alphard	217 45.3	S 8 46.7
Alphecca	126 02.1	N26 37.2
Alpheratz	357 32.2	N29 15.0
Altair	61 57.9	N 8 56.7
Ankaa	353 04.6	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 46.1	N19 02.2
Atria	107 06.1	S69 04.7
Avior	234 13.4	S59 35.7
Bellatrix	278 20.0	N 6 22.5
Betelgeuse	270 49.2	N 7 24.8
Canopus	263 50.9	S52 42.4
Capella	280 18.0	N46 01.5
Castor	245 53.8	N31 49.5
Deneb	49 24.4	N45 23.1
Denebola	182 22.7	N14 24.9
Diphda	348 44.8	S17 49.9
Dubhe	193 38.3	N61 35.6
Elnath	277 58.6	N28 37.8
Eltanin	90 41.6	N51 29.2
Enif	33 36.5	N10 00.4
Fomalhaut	15 11.9	S29 28.5
Gacrux	171 49.3	S57 16.0
Gienah	175 41.3	S17 41.7
Hadar	148 33.3	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.3	N74 02.3
Markab	13 27.5	N15 21.5
Menkar	314 03.4	N 4 12.1
Menkent	147 55.2	S36 30.4
Miaplacidus	221 37.3	S69 49.6
Mirfak	308 24.4	N49 57.8
Nunki	75 45.1	S26 15.7
Peacock	53 02.3	S56 38.9
Polaris	315 14.1	N89 22.5
Pollux	243 14.2	N27 57.4
Procyon	244 48.1	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 31.9	N11 49.8
Rigel	281 01.3	S 8 10.1
Rigil Kent	139 37.8	S60 56.9
Sabik	102 00.4	S15 45.5
Schedar	349 28.0	N56 41.7
Shaula	96 07.6	S37 07.4
Sirius	258 23.9	S16 45.2
Spica	158 20.1	S11 18.4
Suhail	222 44.4	S43 32.5
Vega	80 32.0	N38 48.7
Zuben-ubi	136 54.7	S16 09.4

	ARIES	VENUS	MARS	JUPITER	SATURN
G.M.T d h	GHA ° '	GHA ° ' Dec ° '	GHA ° ' Dec ° '	GHA ° ' Dec ° '	GHA ° ' Dec ° '
27 0	65 41.3	153 38.5 S24 47.9	154 40.3 S24 26.6	250 28.2 N 3 17.1	44 38.3 N 5 56.4
1	80 43.8	168 37.6 S24 48.0	169 40.7 S24 26.6	265 30.4 N 3 16.9	59 40.8 N 5 56.4
2	95 46.3	183 36.6 S24 48.0	184 41.1 S24 26.6	280 32.6 N 3 16.8	74 43.4 N 5 56.4
3	110 48.7	198 35.7 S24 48.1	199 41.5 S24 26.6	295 34.7 N 3 16.7	89 46.0 N 5 56.3
4	125 51.2	213 34.7 S24 48.1	214 41.8 S24 26.6	310 36.9 N 3 16.6	104 48.6 N 5 56.3
S 5	140 53.7	228 33.8 S24 48.1	229 42.2 S24 26.6	325 39.1 N 3 16.5	119 51.1 N 5 56.3
A					
T 6	155 56.1	243 32.8 S24 48.1	244 42.6 S24 26.6	340 41.2 N 3 16.3	134 53.7 N 5 56.2
U 7	170 58.6	258 31.9 S24 48.2	259 43.0 S24 26.6	355 43.4 N 3 16.2	149 56.3 N 5 56.2
R 8	186 01.1	273 30.9 S24 48.2	274 43.4 S24 26.6	10 45.5 N 3 16.1	164 58.9 N 5 56.2
D 9	201 03.5	288 30.0 S24 48.2	289 43.8 S24 26.6	25 47.7 N 3 16.0	180 01.4 N 5 56.1
A 10	216 06.0	303 29.0 S24 48.3	304 44.1 S24 26.6	40 49.9 N 3 15.9	195 04.0 N 5 56.1
Y 11	231 08.4	318 28.1 S24 48.3	319 44.5 S24 26.6	55 52.0 N 3 15.7	210 06.6 N 5 56.1
12	246 10.9	333 27.1 S24 48.3	334 44.9 S24 26.6	70 54.2 N 3 15.6	225 09.2 N 5 56.0
13	261 13.4	348 26.2 S24 48.3	349 45.3 S24 26.6	85 56.4 N 3 15.5	240 11.8 N 5 56.0
14	276 15.8	3 25.2 S24 48.3	4 45.7 S24 26.5	100 58.5 N 3 15.4	255 14.3 N 5 56.0
15	291 18.3	18 24.3 S24 48.4	19 46.1 S24 26.5	116 00.7 N 3 15.3	270 16.9 N 5 55.9
16	306 20.8	33 23.3 S24 48.4	34 46.4 S24 26.5	131 02.9 N 3 15.1	285 19.5 N 5 55.9
17	321 23.2	48 22.4 S24 48.4	49 46.8 S24 26.5	146 05.0 N 3 15.0	300 22.0 N 5 55.8
18	336 25.7	63 21.5 S24 48.4	64 47.2 S24 26.5	161 07.2 N 3 14.9	315 24.6 N 5 55.8
19	351 28.2	78 20.5 S24 48.4	79 47.6 S24 26.5	176 09.4 N 3 14.8	330 27.2 N 5 55.8
20	6 30.6	93 19.6 S24 48.4	94 48.0 S24 26.5	191 11.5 N 3 14.7	345 29.8 N 5 55.7
21	21 33.1	108 18.6 S24 48.4	109 48.3 S24 26.5	206 13.7 N 3 14.6	0 32.3 N 5 55.7
22	36 35.6	123 17.7 S24 48.4	124 48.7 S24 26.5	221 15.9 N 3 14.4	15 34.9 N 5 55.7
23	51 38.0	138 16.7 S24 48.5	139 49.1 S24 26.5	236 18.0 N 3 14.3	30 37.5 N 5 55.6
28 0	66 40.5	153 15.8 S24 48.5	154 49.5 S24 26.4	251 20.2 N 3 14.2	45 40.1 N 5 55.6
1	81 42.9	168 14.8 S24 48.5	169 49.9 S24 26.4	266 22.4 N 3 14.1	60 42.6 N 5 55.6
2	96 45.4	183 13.9 S24 48.5	184 50.3 S24 26.4	281 24.5 N 3 14.0	75 45.2 N 5 55.5
3	111 47.9	198 12.9 S24 48.5	199 50.6 S24 26.4	296 26.7 N 3 13.8	90 47.8 N 5 55.5
4	126 50.3	213 12.0 S24 48.5	214 51.0 S24 26.4	311 28.9 N 3 13.7	105 50.4 N 5 55.5
S 5	141 52.8	228 11.0 S24 48.5	229 51.4 S24 26.4	326 31.0 N 3 13.6	120 52.9 N 5 55.4
U					
N 6	156 55.3	243 10.1 S24 48.5	244 51.8 S24 26.4	341 33.2 N 3 13.5	135 55.5 N 5 55.4
D 7	171 57.7	258 09.1 S24 48.5	259 52.2 S24 26.3	356 35.4 N 3 13.4	150 58.1 N 5 55.4
A 8	187 00.2	273 08.2 S24 48.5	274 52.5 S24 26.3	11 37.5 N 3 13.3	166 00.7 N 5 55.3
Y 9	202 02.7	288 07.2 S24 48.5	289 52.9 S24 26.3	26 39.7 N 3 13.1	181 03.2 N 5 55.3
10	217 05.1	303 06.3 S24 48.5	304 53.3 S24 26.3	41 41.9 N 3 13.0	196 05.8 N 5 55.3
11	232 07.6	318 05.4 S24 48.4	319 53.7 S24 26.3	56 44.0 N 3 12.9	211 08.4 N 5 55.2
12	247 10.0	333 04.4 S24 48.4	334 54.1 S24 26.3	71 46.2 N 3 12.8	226 10.9 N 5 55.2
13	262 12.5	348 03.5 S24 48.4	349 54.5 S24 26.2	86 48.4 N 3 12.7	241 13.5 N 5 55.2
14	277 15.0	3 02.5 S24 48.4	4 54.8 S24 26.2	101 50.5 N 3 12.6	256 16.1 N 5 55.2
15	292 17.4	18 01.6 S24 48.4	19 55.2 S24 26.2	116 52.7 N 3 12.4	271 18.7 N 5 55.1
16	307 19.9	33 00.6 S24 48.4	34 55.6 S24 26.2	131 54.9 N 3 12.3	286 21.2 N 5 55.1
17	322 22.4	47 59.7 S24 48.4	49 56.0 S24 26.2	146 57.1 N 3 12.2	301 23.8 N 5 55.1
18	337 24.8	62 58.7 S24 48.4	64 56.4 S24 26.1	161 59.2 N 3 12.1	316 26.4 N 5 55.0
19	352 27.3	77 57.8 S24 48.3	79 56.7 S24 26.1	177 01.4 N 3 12.0	331 28.9 N 5 55.0
20	7 29.8	92 56.8 S24 48.3	94 57.1 S24 26.1	192 03.6 N 3 11.9	346 31.5 N 5 55.0
21	22 32.2	107 55.9 S24 48.3	109 57.5 S24 26.1	207 05.7 N 3 11.7	1 34.1 N 5 54.9
22	37 34.7	122 54.9 S24 48.3	124 57.9 S24 26.0	222 07.9 N 3 11.6	16 36.6 N 5 54.9
23	52 37.2	137 54.0 S24 48.2	139 58.3 S24 26.0	237 10.1 N 3 11.5	31 39.2 N 5 54.9
29 0	67 39.6	152 53.0 S24 48.2	154 58.6 S24 26.0	252 12.3 N 3 11.4	46 41.8 N 5 54.8
1	82 42.1	167 52.1 S24 48.2	169 59.0 S24 26.0	267 14.4 N 3 11.3	61 44.4 N 5 54.8
2	97 44.5	182 51.2 S24 48.2	184 59.4 S24 25.9	282 16.6 N 3 11.2	76 46.9 N 5 54.8
3	112 47.0	197 50.2 S24 48.1	199 59.8 S24 25.9	297 18.8 N 3 11.0	91 49.5 N 5 54.7
4	127 49.5	212 49.3 S24 48.1	215 00.2 S24 25.9	312 20.9 N 3 10.9	106 52.1 N 5 54.7
M 5	142 51.9	227 48.3 S24 48.1	230 00.5 S24 25.9	327 23.1 N 3 10.8	121 54.6 N 5 54.7
O					
N 6	157 54.4	242 47.4 S24 48.0	245 00.9 S24 25.8	342 25.3 N 3 10.7	136 57.2 N 5 54.6
D 7	172 56.9	257 46.4 S24 48.0	260 01.3 S24 25.8	357 27.5 N 3 10.6	151 59.8 N 5 54.6
A 8	187 59.3	272 45.5 S24 48.0	275 01.7 S24 25.8	12 29.6 N 3 10.5	167 02.3 N 5 54.6
Y 9	203 01.8	287 44.5 S24 47.9	290 02.0 S24 25.8	27 31.8 N 3 10.4	182 04.9 N 5 54.5
10	218 04.3	302 43.6 S24 47.9	305 02.4 S24 25.7	42 34.0 N 3 10.2	197 07.5 N 5 54.5
11	233 06.7	317 42.6 S24 47.9	320 02.8 S24 25.7	57 36.2 N 3 10.1	212 10.1 N 5 54.5
12	248 09.2	332 41.7 S24 47.8	335 03.2 S24 25.7	72 38.3 N 3 10.0	227 12.6 N 5 54.5
13	263 11.7	347 40.7 S24 47.8	350 03.6 S24 25.6	87 40.5 N 3 09.9	242 15.2 N 5 54.4
14	278 14.1	2 39.8 S24 47.7	5 03.9 S24 25.6	102 42.7 N 3 09.8	257 17.8 N 5 54.4
15	293 16.6	17 38.9 S24 47.7	20 04.3 S24 25.6	117 44.9 N 3 09.7	272 20.3 N 5 54.4
16	308 19.0	32 37.9 S24 47.6	35 04.7 S24 25.5	132 47.0 N 3 09.6	287 22.9 N 5 54.3
17	323 21.5	47 37.0 S24 47.6	50 05.1 S24 25.5	147 49.2 N 3 09.4	302 25.5 N 5 54.3
18	338 24.0	62 36.0 S24 47.5	65 05.5 S24 25.5	162 51.4 N 3 09.3	317 28.0 N 5 54.3
19	353 26.4	77 35.1 S24 47.5	80 05.8 S24 25.5	177 53.6 N 3 09.2	332 30.6 N 5 54.2
20	8 28.9	92 34.1 S24 47.4	95 06.2 S24 25.4	192 55.7 N 3 09.1	347 33.2 N 5 54.2
21	23 31.4	107 33.2 S24 47.4	110 06.6 S24 25.4	207 57.9 N 3 09.0	2 35.7 N 5 54.2
22	38 33.8	122 32.2 S24 47.3	125 07.0 S24 25.3	223 00.1 N 3 08.9	17 38.3 N 5 54.1
23	53 36.3	137 31.3 S24 47.3	140 07.3 S24 25.3	238 02.3 N 3 08.8	32 40.9 N 5 54.1
		v -0.9 d 0.0	v 0.4 d 0.0	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
27 0	183 09.6	S21 02.3	198 52.4	8.8	S22 35.5	8.3	57.1	Acamar	315 09.6 S40 11.6
1	198 09.4	S21 02.8	213 20.1	8.7	S22 43.7	8.2	57.1	Achernar	335 18.0 S57 05.8
2	213 09.2	S21 03.2	227 47.8	8.7	S22 51.8	8.0	57.0	Acrux	172 57.8 S63 15.0
3	228 09.0	S21 03.7	242 15.4	8.6	S22 59.7	7.9	57.0	Adhara	255 03.7 S29 00.5
4	243 08.8	S21 04.1	256 43.0	8.6	S23 07.5	7.8	57.0	Albireo	67 02.4 N28 01.3
S 5	258 08.6	S21 04.6	271 10.5	8.5	S23 15.1	7.6	57.0		
A								Aldebaran	290 36.6 N16 34.0
T 6	273 08.4	S21 05.1	285 38.1	8.5	S23 22.6	7.5	57.0	Alioth	166 11.3 N55 48.3
U 7	288 08.2	S21 05.5	300 05.5	8.5	S23 30.0	7.4	56.9	Alkaid	152 50.6 N49 10.2
R 8	303 08.0	S21 06.0	314 32.9	8.4	S23 37.2	7.2	56.9	Al Na-ir	27 30.0 S46 49.7
D 9	318 07.8	S21 06.4	329 00.3	8.4	S23 44.3	7.1	56.9	Alnilam	275 35.0 S 1 11.0
A 10	333 07.6	S21 06.9	343 27.7	8.3	S23 51.3	7.0	56.9		
Y 11	348 07.4	S21 07.4	357 55.0	8.3	S23 58.1	6.8	56.8	Alphard	217 45.3 S 8 46.8
								Alphecca	126 02.1 N26 37.2
12	3 07.2	S21 07.8	12 22.3	8.3	S24 04.8	6.7	56.8	Alpheratz	357 32.2 N29 15.0
13	18 07.0	S21 08.3	26 49.5	8.2	S24 11.4	6.5	56.8	Altair	61 57.9 N 8 56.7
14	33 06.8	S21 08.7	41 16.7	8.2	S24 17.8	6.4	56.8	Ankaa	353 04.6 S42 09.4
15	48 06.6	S21 09.2	55 43.9	8.2	S24 24.0	6.3	56.8		
16	63 06.4	S21 09.6	70 11.0	8.1	S24 30.2	6.1	56.7	Antares	112 13.3 S26 29.6
17	78 06.2	S21 10.1	84 38.2	8.1	S24 36.1	6.0	56.7	Arcturus	145 46.1 N19 02.1
								Atria	107 06.1 S69 04.7
18	93 05.9	S21 10.5	99 05.2	8.1	S24 42.0	5.8	56.7	Avior	234 13.4 S59 35.7
19	108 05.7	S21 11.0	113 32.3	8.1	S24 47.7	5.7	56.7	Bellatrix	278 20.0 N 6 22.5
20	123 05.5	S21 11.4	127 59.3	8.0	S24 53.2	5.6	56.6		
21	138 05.3	S21 11.9	142 26.3	8.0	S24 58.6	5.4	56.6	Betelgeuse	270 49.2 N 7 24.8
22	153 05.1	S21 12.3	156 53.3	8.0	S25 03.9	5.3	56.6	Canopus	263 50.8 S52 42.5
23	168 04.9	S21 12.8	171 20.3	8.0	S25 09.0	5.1	56.6	Capella	280 17.9 N46 01.5
28 0	183 04.7	S21 13.2	185 47.2	7.9	S25 14.0	5.0	56.6	Castor	245 53.8 N31 49.5
1	198 04.5	S21 13.7	200 14.2	7.9	S25 18.8	4.8	56.5	Deneb	49 24.4 N45 23.1
2	213 04.3	S21 14.1	214 41.1	7.9	S25 23.5	4.7	56.5		
3	228 04.1	S21 14.6	229 07.9	7.9	S25 28.1	4.5	56.5	Denebola	182 22.7 N14 24.9
4	243 03.9	S21 15.0	243 34.8	7.9	S25 32.4	4.4	56.5	Diphda	348 44.8 S17 49.9
S 5	258 03.7	S21 15.5	258 01.7	7.9	S25 36.7	4.2	56.4	Dubhe	193 38.3 N61 35.6
U								Elnath	277 58.5 N28 37.8
N 6	273 03.4	S21 15.9	272 28.5	7.8	S25 40.8	4.1	56.4	Eltanin	90 41.6 N51 29.2
D 7	288 03.2	S21 16.4	286 55.3	7.8	S25 44.7	3.9	56.4	Enif	33 36.5 N10 00.4
A 8	303 03.0	S21 16.8	301 22.2	7.8	S25 48.5	3.8	56.4	Fomalhaut	15 11.9 S29 28.5
Y 9	318 02.8	S21 17.2	315 49.0	7.8	S25 52.2	3.6	56.4	Gacrux	171 49.3 S57 16.0
10	333 02.6	S21 17.7	330 15.8	7.8	S25 55.7	3.5	56.3	Gienah	175 41.3 S17 41.7
11	348 02.4	S21 18.1	344 42.6	7.8	S25 59.0	3.4	56.3	Hadar	148 33.2 S60 30.3
12	3 02.2	S21 18.6	359 09.4	7.8	S26 02.2	3.2	56.3	Hamal	327 48.3 N23 35.9
13	18 02.0	S21 19.0	13 36.2	7.8	S26 05.3	3.1	56.3	Kaus Austr.	83 29.8 S34 22.3
14	33 01.7	S21 19.4	28 03.0	7.8	S26 08.2	2.9	56.2	Kochab	137 21.3 N74 02.2
15	48 01.5	S21 19.9	42 29.8	7.8	S26 10.9	2.8	56.2	Markab	13 27.5 N15 21.5
16	63 01.3	S21 20.3	56 56.5	7.8	S26 13.6	2.6	56.2	Menkar	314 03.3 N 4 12.1
17	78 01.1	S21 20.7	71 23.3	7.8	S26 16.0	2.5	56.2		
								Menkent	147 55.2 S36 30.4
18	93 00.9	S21 21.2	85 50.1	7.8	S26 18.3	2.3	56.1	Miaplacidus	221 37.3 S69 49.6
19	108 00.7	S21 21.6	100 17.0	7.8	S26 20.5	2.2	56.1	Mirfak	308 24.4 N49 57.8
20	123 00.5	S21 22.0	114 43.8	7.8	S26 22.5	2.0	56.1	Nunki	75 45.2 S26 15.7
21	138 00.2	S21 22.5	129 10.6	7.8	S26 24.4	1.9	56.1	Peacock	53 02.3 S56 38.9
22	153 00.0	S21 22.9	143 37.4	7.8	S26 26.1	1.7	56.1		
23	167 59.8	S21 23.3	158 04.3	7.9	S26 27.6	1.6	56.0	Polaris	315 14.3 N89 22.5
29 0	182 59.6	S21 23.8	172 31.2	7.9	S26 29.0	1.4	56.0	Pollux	243 14.2 N27 57.4
1	197 59.4	S21 24.2	186 58.0	7.9	S26 30.3	1.3	56.0	Procyon	244 48.1 N 5 09.2
2	212 59.2	S21 24.6	201 24.9	7.9	S26 31.4	1.1	56.0	Rasalhague	95 56.7 N12 32.5
3	227 59.0	S21 25.1	215 51.8	7.9	S26 32.4	1.0	55.9	Regulus	207 31.9 N11 49.8
4	242 58.7	S21 25.5	230 18.8	7.9	S26 33.2	0.8	55.9		
M 5	257 58.5	S21 25.9	244 45.7	8.0	S26 33.9	0.7	55.9	Rigel	281 01.3 S 8 10.1
O								Rigil Kent	139 37.8 S60 56.9
N 6	272 58.3	S21 26.3	259 12.7	8.0	S26 34.4	0.5	55.9	Sabik	102 00.4 S15 45.5
D 7	287 58.1	S21 26.8	273 39.7	8.0	S26 34.8	0.4	55.9	Schedar	349 28.0 N56 41.7
A 8	302 57.9	S21 27.2	288 06.8	8.0	S26 35.0	0.2	55.8	Shaula	96 07.6 S37 07.4
Y 9	317 57.6	S21 27.6	302 33.8	8.1	S26 35.1	0.1	55.8	Sirius	258 23.9 S16 45.2
10	332 57.4	S21 28.1	317 00.9	8.1	S26 35.1	0.1	55.8	Spica	158 20.1 S11 18.4
11	347 57.2	S21 28.5	331 28.0	8.1	S26 34.9	0.2	55.8	Suhail	222 44.4 S43 32.5
								Vega	80 32.0 N38 48.7
12	2 57.0	S21 28.9	345 55.2	8.2	S26 34.5	0.4	55.7	Zuben-ubi	136 54.6 S16 09.4
13	17 56.8	S21 29.3	0 22.4	8.2	S26 34.0	0.5	55.7		
14	32 56.5	S21 29.7	14 49.6	8.2	S26 33.4	0.6	55.7		
15	47 56.3	S21 30.2	29 16.9	8.3	S26 32.6	0.8	55.7		
16	62 56.1	S21 30.6	43 44.2	8.3	S26 31.7	0.9	55.7		
17	77 55.9	S21 31.0	58 11.5	8.3	S26 30.6	1.1	55.6		
18	92 55.7	S21 31.4	72 38.9	8.4	S26 29.4	1.2	55.6		
19	107 55.4	S21 31.8	87 06.3	8.4	S26 28.0	1.4	55.6		
20	122 55.2	S21 32.3	101 33.8	8.5	S26 26.5	1.5	55.6		
21	137 55.0	S21 32.7	116 01.3	8.5	S26 24.9	1.6	55.6		
22	152 54.8	S21 33.1	130 28.8	8.6	S26 23.1	1.8	55.5		
23	167 54.6	S21 33.5	144 56.4	8.6	S26 21.2	1.9	55.5		
	S.D. 16.2	d 0.4	S.D.	15.5	15.3	15.2			

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 38.8	152 30.3	S24 47.2	155 07.7	S24 25.3	253 04.5	N 3 08.6	47 43.4	N 5 54.1
	1	83 41.2	167 29.4	S24 47.2	170 08.1	S24 25.2	268 06.6	N 3 08.5	62 46.0	N 5 54.1
	2	98 43.7	182 28.5	S24 47.1	185 08.5	S24 25.2	283 08.8	N 3 08.4	77 48.6	N 5 54.0
	3	113 46.2	197 27.5	S24 47.1	200 08.9	S24 25.2	298 11.0	N 3 08.3	92 51.1	N 5 54.0
	4	128 48.6	212 26.6	S24 47.0	215 09.2	S24 25.1	313 13.2	N 3 08.2	107 53.7	N 5 54.0
T	5	143 51.1	227 25.6	S24 46.9	230 09.6	S24 25.1	328 15.3	N 3 08.1	122 56.3	N 5 53.9
U										
E	6	158 53.5	242 24.7	S24 46.9	245 10.0	S24 25.1	343 17.5	N 3 08.0	137 58.8	N 5 53.9
S	7	173 56.0	257 23.7	S24 46.8	260 10.4	S24 25.0	358 19.7	N 3 07.9	153 01.4	N 5 53.9
D	8	188 58.5	272 22.8	S24 46.7	275 10.7	S24 25.0	13 21.9	N 3 07.7	168 04.0	N 5 53.8
A	9	204 00.9	287 21.8	S24 46.7	290 11.1	S24 24.9	28 24.1	N 3 07.6	183 06.5	N 5 53.8
Y	10	219 03.4	302 20.9	S24 46.6	305 11.5	S24 24.9	43 26.2	N 3 07.5	198 09.1	N 5 53.8
	11	234 05.9	317 20.0	S24 46.5	320 11.9	S24 24.9	58 28.4	N 3 07.4	213 11.6	N 5 53.8
	12	249 08.3	332 19.0	S24 46.5	335 12.2	S24 24.8	73 30.6	N 3 07.3	228 14.2	N 5 53.7
	13	264 10.8	347 18.1	S24 46.4	350 12.6	S24 24.8	88 32.8	N 3 07.2	243 16.8	N 5 53.7
	14	279 13.3	2 17.1	S24 46.3	5 13.0	S24 24.7	103 35.0	N 3 07.1	258 19.3	N 5 53.7
	15	294 15.7	17 16.2	S24 46.2	20 13.4	S24 24.7	118 37.1	N 3 07.0	273 21.9	N 5 53.6
	16	309 18.2	32 15.2	S24 46.2	35 13.8	S24 24.7	133 39.3	N 3 06.8	288 24.5	N 5 53.6
	17	324 20.7	47 14.3	S24 46.1	50 14.1	S24 24.6	148 41.5	N 3 06.7	303 27.0	N 5 53.6
	18	339 23.1	62 13.4	S24 46.0	65 14.5	S24 24.6	163 43.7	N 3 06.6	318 29.6	N 5 53.5
	19	354 25.6	77 12.4	S24 45.9	80 14.9	S24 24.5	178 45.9	N 3 06.5	333 32.2	N 5 53.5
	20	9 28.0	92 11.5	S24 45.8	95 15.3	S24 24.5	193 48.0	N 3 06.4	348 34.7	N 5 53.5
	21	24 30.5	107 10.5	S24 45.7	110 15.6	S24 24.4	208 50.2	N 3 06.3	3 37.3	N 5 53.5
	22	39 33.0	122 09.6	S24 45.7	125 16.0	S24 24.4	223 52.4	N 3 06.2	18 39.8	N 5 53.4
	23	54 35.4	137 08.6	S24 45.6	140 16.4	S24 24.3	238 54.6	N 3 06.1	33 42.4	N 5 53.4
1	0	69 37.9	152 07.7	S24 45.5	155 16.8	S24 24.3	253 56.8	N 3 06.0	48 45.0	N 5 53.4
	1	84 40.4	167 06.8	S24 45.4	170 17.1	S24 24.2	268 59.0	N 3 05.8	63 47.5	N 5 53.3
	2	99 42.8	182 05.8	S24 45.3	185 17.5	S24 24.2	284 01.1	N 3 05.7	78 50.1	N 5 53.3
	3	114 45.3	197 04.9	S24 45.2	200 17.9	S24 24.1	299 03.3	N 3 05.6	93 52.7	N 5 53.3
	4	129 47.8	212 03.9	S24 45.1	215 18.3	S24 24.1	314 05.5	N 3 05.5	108 55.2	N 5 53.3
W	5	144 50.2	227 03.0	S24 45.0	230 18.6	S24 24.1	329 07.7	N 3 05.4	123 57.8	N 5 53.2
E										
D	6	159 52.7	242 02.0	S24 44.9	245 19.0	S24 24.0	344 09.9	N 3 05.3	139 00.3	N 5 53.2
N	7	174 55.2	257 01.1	S24 44.8	260 19.4	S24 24.0	359 12.1	N 3 05.2	154 02.9	N 5 53.2
E	8	189 57.6	272 00.2	S24 44.7	275 19.8	S24 23.9	14 14.2	N 3 05.1	169 05.5	N 5 53.1
S	9	205 00.1	286 59.2	S24 44.6	290 20.1	S24 23.9	29 16.4	N 3 05.0	184 08.0	N 5 53.1
D	10	220 02.5	301 58.3	S24 44.5	305 20.5	S24 23.8	44 18.6	N 3 04.9	199 10.6	N 5 53.1
A	11	235 05.0	316 57.3	S24 44.4	320 20.9	S24 23.7	59 20.8	N 3 04.7	214 13.2	N 5 53.1
Y										
	12	250 07.5	331 56.4	S24 44.3	335 21.3	S24 23.7	74 23.0	N 3 04.6	229 15.7	N 5 53.0
	13	265 09.9	346 55.5	S24 44.2	350 21.6	S24 23.6	89 25.2	N 3 04.5	244 18.3	N 5 53.0
	14	280 12.4	1 54.5	S24 44.1	5 22.0	S24 23.6	104 27.3	N 3 04.4	259 20.8	N 5 53.0
	15	295 14.9	16 53.6	S24 44.0	20 22.4	S24 23.5	119 29.5	N 3 04.3	274 23.4	N 5 53.0
	16	310 17.3	31 52.6	S24 43.9	35 22.8	S24 23.5	134 31.7	N 3 04.2	289 26.0	N 5 52.9
	17	325 19.8	46 51.7	S24 43.8	50 23.1	S24 23.4	149 33.9	N 3 04.1	304 28.5	N 5 52.9
	18	340 22.3	61 50.7	S24 43.7	65 23.5	S24 23.4	164 36.1	N 3 04.0	319 31.1	N 5 52.9
	19	355 24.7	76 49.8	S24 43.6	80 23.9	S24 23.3	179 38.3	N 3 03.9	334 33.6	N 5 52.8
	20	10 27.2	91 48.9	S24 43.5	95 24.3	S24 23.3	194 40.5	N 3 03.8	349 36.2	N 5 52.8
	21	25 29.6	106 47.9	S24 43.3	110 24.6	S24 23.2	209 42.7	N 3 03.6	4 38.8	N 5 52.8
	22	40 32.1	121 47.0	S24 43.2	125 25.0	S24 23.1	224 44.8	N 3 03.5	19 41.3	N 5 52.8
	23	55 34.6	136 46.0	S24 43.1	140 25.4	S24 23.1	239 47.0	N 3 03.4	34 43.9	N 5 52.7
2	0	70 37.0	151 45.1	S24 43.0	155 25.8	S24 23.0	254 49.2	N 3 03.3	49 46.4	N 5 52.7
	1	85 39.5	166 44.2	S24 42.9	170 26.1	S24 23.0	269 51.4	N 3 03.2	64 49.0	N 5 52.7
	2	100 42.0	181 43.2	S24 42.7	185 26.5	S24 22.9	284 53.6	N 3 03.1	79 51.6	N 5 52.7
	3	115 44.4	196 42.3	S24 42.6	200 26.9	S24 22.9	299 55.8	N 3 03.0	94 54.1	N 5 52.6
	4	130 46.9	211 41.4	S24 42.5	215 27.3	S24 22.8	314 58.0	N 3 02.9	109 56.7	N 5 52.6
T	5	145 49.4	226 40.4	S24 42.4	230 27.6	S24 22.7	330 00.2	N 3 02.8	124 59.2	N 5 52.6
H										
U	6	160 51.8	241 39.5	S24 42.2	245 28.0	S24 22.7	345 02.3	N 3 02.7	140 01.8	N 5 52.5
R	7	175 54.3	256 38.5	S24 42.1	260 28.4	S24 22.6	0 04.5	N 3 02.6	155 04.3	N 5 52.5
S	8	190 56.8	271 37.6	S24 42.0	275 28.8	S24 22.6	15 06.7	N 3 02.5	170 06.9	N 5 52.5
D	9	205 59.2	286 36.7	S24 41.9	290 29.1	S24 22.5	30 08.9	N 3 02.3	185 09.5	N 5 52.5
A	10	221 01.7	301 35.7	S24 41.7	305 29.5	S24 22.4	45 11.1	N 3 02.2	200 12.0	N 5 52.4
Y	11	236 04.1	316 34.8	S24 41.6	320 29.9	S24 22.4	60 13.3	N 3 02.1	215 14.6	N 5 52.4
	12	251 06.6	331 33.8	S24 41.5	335 30.2	S24 22.3	75 15.5	N 3 02.0	230 17.1	N 5 52.4
	13	266 09.1	346 32.9	S24 41.3	350 30.6	S24 22.2	90 17.7	N 3 01.9	245 19.7	N 5 52.4
	14	281 11.5	1 32.0	S24 41.2	5 31.0	S24 22.2	105 19.9	N 3 01.8	260 22.2	N 5 52.3
	15	296 14.0	16 31.0	S24 41.0	20 31.4	S24 22.1	120 22.1	N 3 01.7	275 24.8	N 5 52.3
	16	311 16.5	31 30.1	S24 40.9	35 31.7	S24 22.0	135 24.3	N 3 01.6	290 27.4	N 5 52.3
	17	326 18.9	46 29.2	S24 40.8	50 32.1	S24 22.0	150 26.4	N 3 01.5	305 29.9	N 5 52.3
	18	341 21.4	61 28.2	S24 40.6	65 32.5	S24 21.9	165 28.6	N 3 01.4	320 32.5	N 5 52.2
	19	356 23.9	76 27.3	S24 40.5	80 32.9	S24 21.8	180 30.8	N 3 01.3	335 35.0	N 5 52.2
	20	11 26.3	91 26.4	S24 40.3	95 33.2	S24 21.8	195 33.0	N 3 01.2	350 37.6	N 5 52.2
	21	26 28.8	106 25.4	S24 40.2	110 33.6	S24 21.7	210 35.2	N 3 01.1	5 40.1	N 5 52.2
	22	41 31.3	121 24.5	S24 40.0	125 34.0	S24 21.6	225 37.4	N 3 01.0	20 42.7	N 5 52.1
	23	56 33.7	136 23.5	S24 39.9	140 34.4	S24 21.6	240 39.6	N 3 00.9	35 45.2	N 5 52.1
			v -0.9	d 0.1	v 0.4	d 0.1	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
30 0	182 54.3	S21 33.9	159 24.1	8.7	S26 19.1	2.1	55.5	Acamar	315 09.6 S40 11.6
1	197 54.1	S21 34.3	173 51.8	8.7	S26 16.9	2.2	55.5	Achernar	335 18.0 S57 05.8
2	212 53.9	S21 34.7	188 19.5	8.8	S26 14.6	2.3	55.4	Acrux	172 57.7 S63 15.0
3	227 53.7	S21 35.2	202 47.3	8.8	S26 12.1	2.5	55.4	Adhara	255 03.7 S29 00.5
4	242 53.4	S21 35.6	217 15.2	8.9	S26 09.5	2.6	55.4	Albireo	67 02.4 N28 01.3
T 5	257 53.2	S21 36.0	231 43.1	8.9	S26 06.8	2.7	55.4		
U								Aldebaran	290 36.5 N16 34.0
E 6	272 53.0	S21 36.4	246 11.1	9.0	S26 03.9	2.9	55.4	Alioth	166 11.2 N55 48.2
S 7	287 52.8	S21 36.8	260 39.1	9.0	S26 00.9	3.0	55.3	Alkaid	152 50.6 N49 10.2
D 8	302 52.5	S21 37.2	275 07.2	9.1	S25 57.7	3.1	55.3	Al Na-ir	27 30.0 S46 49.7
A 9	317 52.3	S21 37.6	289 35.3	9.1	S25 54.4	3.3	55.3	Alnilam	275 35.0 S 1 11.0
Y 10	332 52.1	S21 38.0	304 03.5	9.2	S25 51.0	3.4	55.3		
11	347 51.9	S21 38.4	318 31.8	9.3	S25 47.5	3.5	55.3	Alphard	217 45.3 S 8 46.8
								Alphecca	126 02.1 N26 37.2
12	2 51.6	S21 38.8	333 00.1	9.3	S25 43.8	3.7	55.2	Alpheratz	357 32.2 N29 15.0
13	17 51.4	S21 39.2	347 28.5	9.4	S25 40.0	3.8	55.2	Altair	61 57.9 N 8 56.7
14	32 51.2	S21 39.6	1 57.0	9.5	S25 36.1	3.9	55.2	Ankaa	353 04.6 S42 09.4
15	47 51.0	S21 40.0	16 25.5	9.5	S25 32.0	4.1	55.2		
16	62 50.7	S21 40.4	30 54.1	9.6	S25 27.8	4.2	55.2	Antares	112 13.3 S26 29.6
17	77 50.5	S21 40.8	45 22.7	9.7	S25 23.5	4.3	55.1	Arcturus	145 46.0 N19 02.1
								Atria	107 06.0 S69 04.7
18	92 50.3	S21 41.2	59 51.5	9.7	S25 19.1	4.4	55.1	Avior	234 13.3 S59 35.7
19	107 50.0	S21 41.6	74 20.2	9.8	S25 14.5	4.6	55.1	Bellatrix	278 20.0 N 6 22.5
20	122 49.8	S21 42.0	88 49.1	9.9	S25 09.8	4.7	55.1		
21	137 49.6	S21 42.4	103 18.0	9.9	S25 05.0	4.8	55.1	Betelgeuse	270 49.2 N 7 24.8
22	152 49.4	S21 42.8	117 47.0	10.0	S25 00.1	4.9	55.0	Canopus	263 50.8 S52 42.5
23	167 49.1	S21 43.2	132 16.1	10.1	S24 55.0	5.1	55.0	Capella	280 17.9 N46 01.6
1 0	182 48.9	S21 43.6	146 45.2	10.1	S24 49.8	5.2	55.0	Castor	245 53.7 N31 49.5
1	197 48.7	S21 44.0	161 14.4	10.2	S24 44.5	5.3	55.0	Deneb	49 24.4 N45 23.1
2	212 48.4	S21 44.4	175 43.7	10.3	S24 39.1	5.4	55.0		
3	227 48.2	S21 44.8	190 13.1	10.4	S24 33.6	5.5	55.0	Denebola	182 22.6 N14 24.8
4	242 48.0	S21 45.2	204 42.5	10.4	S24 28.0	5.6	54.9	Diphda	348 44.8 S17 49.9
W 5	257 47.7	S21 45.6	219 12.0	10.5	S24 22.2	5.8	54.9	Dubhe	193 38.2 N61 35.6
E								Elnath	277 58.5 N28 37.8
D 6	272 47.5	S21 46.0	233 41.6	10.6	S24 16.3	5.9	54.9	Eltanin	90 41.6 N51 29.2
N 7	287 47.3	S21 46.4	248 11.2	10.7	S24 10.3	6.0	54.9	Enif	33 36.5 N10 00.4
E 8	302 47.0	S21 46.8	262 40.9	10.7	S24 04.2	6.1	54.9	Fomalhaut	15 11.9 S29 28.5
S 9	317 46.8	S21 47.2	277 10.1	10.8	S23 58.0	6.2	54.8	Gacrux	171 49.3 S57 16.0
D 10	332 46.6	S21 47.6	291 40.6	10.9	S23 51.7	6.3	54.8	Gienah	175 41.3 S17 41.7
A 11	347 46.3	S21 48.0	306 10.6	11.0	S23 45.2	6.4	54.8	Hadar	148 33.2 S60 30.3
Y									
12	2 46.1	S21 48.4	320 40.6	11.0	S23 38.7	6.5	54.8	Hamal	327 48.2 N23 35.9
13	17 45.9	S21 48.7	335 10.7	11.1	S23 32.1	6.7	54.8	Kaus Austr.	83 29.8 S34 22.3
14	32 45.6	S21 49.1	349 40.9	11.2	S23 25.3	6.8	54.8	Kochab	137 21.2 N74 02.2
15	47 45.4	S21 49.5	4 11.2	11.3	S23 18.4	6.9	54.8	Markab	13 27.5 N15 21.5
16	62 45.2	S21 49.9	18 41.5	11.3	S23 11.5	7.0	54.7	Menkar	314 03.3 N 4 12.1
17	77 44.9	S21 50.3	33 11.9	11.4	S23 04.4	7.1	54.7		
								Menkent	147 55.2 S36 30.4
18	92 44.7	S21 50.7	47 42.4	11.5	S22 57.2	7.2	54.7	Miaplacidus	221 37.2 S69 49.6
19	107 44.5	S21 51.0	62 13.0	11.6	S22 49.9	7.3	54.7	Mirfak	308 24.4 N49 57.8
20	122 44.2	S21 51.4	76 43.6	11.7	S22 42.5	7.4	54.7	Nunki	75 45.1 S26 15.7
21	137 44.0	S21 51.8	91 14.4	11.7	S22 35.1	7.5	54.7	Peacock	53 02.3 S56 38.9
22	152 43.8	S21 52.2	105 45.2	11.8	S22 27.5	7.6	54.6		
23	167 43.5	S21 52.6	120 16.1	11.9	S22 19.8	7.7	54.6	Polaris	315 14.6 N89 22.5
2 0	182 43.3	S21 53.0	134 47.0	12.0	S22 12.0	7.8	54.6	Pollux	243 14.1 N27 57.4
1	197 43.1	S21 53.3	149 18.1	12.0	S22 04.2	7.9	54.6	Procyon	244 48.1 N 5 09.2
2	212 42.8	S21 53.7	163 49.2	12.1	S21 56.2	8.0	54.6	Rasalhague	95 56.7 N12 32.5
3	227 42.6	S21 54.1	178 20.4	12.2	S21 48.1	8.1	54.6	Regulus	207 31.9 N11 49.7
4	242 42.3	S21 54.5	192 51.7	12.3	S21 40.0	8.2	54.6		
T 5	257 42.1	S21 54.8	207 23.0	12.4	S21 31.7	8.2	54.5	Rigel	281 01.3 S 8 10.1
H								Rigil Kent	139 37.7 S60 56.9
U 6	272 41.9	S21 55.2	221 54.4	12.4	S21 23.4	8.3	54.5	Sabik	102 00.4 S15 45.5
R 7	287 41.6	S21 55.6	236 25.9	12.5	S21 15.0	8.4	54.5	Schedar	349 28.0 N56 41.8
S 8	302 41.4	S21 56.0	250 57.5	12.6	S21 06.5	8.5	54.5	Shaula	96 07.6 S37 07.4
D 9	317 41.2	S21 56.3	265 29.2	12.7	S20 57.9	8.6	54.5	Sirius	258 23.8 S16 45.2
A 10	332 40.9	S21 56.7	280 00.9	12.7	S20 49.2	8.7	54.5	Spica	158 20.0 S11 18.4
Y 11	347 40.7	S21 57.1	294 32.7	12.8	S20 40.4	8.8	54.5	Suhail	222 44.3 S43 32.5
								Vega	80 32.0 N38 48.7
12	2 40.4	S21 57.5	309 04.6	12.9	S20 31.5	8.9	54.5	Zuben-ubi	136 54.6 S16 09.4
13	17 40.2	S21 57.8	323 36.6	13.0	S20 22.6	9.0	54.4		
14	32 40.0	S21 58.2	338 08.6	13.0	S20 13.5	9.0	54.4		
15	47 39.7	S21 58.6	352 40.7	13.1	S20 04.4	9.1	54.4		
16	62 39.5	S21 58.9	7 12.9	13.2	S19 55.2	9.2	54.4		
17	77 39.2	S21 59.3	21 45.2	13.3	S19 45.9	9.3	54.4		
18	92 39.0	S21 59.7	36 17.5	13.3	S19 36.6	9.4	54.4		
19	107 38.8	S22 00.0	50 49.9	13.4	S19 27.1	9.4	54.4		
20	122 38.5	S22 00.4	65 22.4	13.5	S19 17.6	9.5	54.4		
21	137 38.3	S22 00.8	79 54.9	13.5	S19 08.0	9.6	54.4		
22	152 38.0	S22 01.1	94 27.5	13.6	S18 58.4	9.7	54.4		
23	167 37.8	S22 01.5	109 00.2	13.7	S18 48.6	9.7	54.3		
	S.D. 16.2	d 0.4	S.D.	15.1	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 ° '
3	0	71 36.2	151 22.6	S24 39.7	155 34.7	S24 21.5	255 41.8	N 3 00.7	50 47.8	N 5 52.1
	1	86 38.6	166 21.7	S24 39.6	170 35.1	S24 21.4	270 44.0	N 3 00.6	65 50.4	N 5 52.1
	2	101 41.1	181 20.7	S24 39.4	185 35.5	S24 21.4	285 46.2	N 3 00.5	80 52.9	N 5 52.0
	3	116 43.6	196 19.8	S24 39.3	200 35.8	S24 21.3	300 48.4	N 3 00.4	95 55.5	N 5 52.0
	4	131 46.0	211 18.9	S24 39.1	215 36.2	S24 21.2	315 50.6	N 3 00.3	110 58.0	N 5 52.0
F	5	146 48.5	226 17.9	S24 39.0	230 36.6	S24 21.1	330 52.8	N 3 00.2	126 00.6	N 5 52.0
R										
I	6	161 51.0	241 17.0	S24 38.8	245 37.0	S24 21.1	345 55.0	N 3 00.1	141 03.1	N 5 51.9
D	7	176 53.4	256 16.1	S24 38.7	260 37.3	S24 21.0	0 57.2	N 3 00.0	156 05.7	N 5 51.9
A	8	191 55.9	271 15.1	S24 38.5	275 37.7	S24 20.9	15 59.3	N 2 59.9	171 08.2	N 5 51.9
Y	9	206 58.4	286 14.2	S24 38.3	290 38.1	S24 20.9	31 01.5	N 2 59.8	186 10.8	N 5 51.9
	10	222 00.8	301 13.3	S24 38.2	305 38.4	S24 20.8	46 03.7	N 2 59.7	201 13.3	N 5 51.8
	11	237 03.3	316 12.3	S24 38.0	320 38.8	S24 20.7	61 05.9	N 2 59.6	216 15.9	N 5 51.8
	12	252 05.8	331 11.4	S24 37.8	335 39.2	S24 20.6	76 08.1	N 2 59.5	231 18.5	N 5 51.8
	13	267 08.2	346 10.5	S24 37.7	350 39.6	S24 20.6	91 10.3	N 2 59.4	246 21.0	N 5 51.8
	14	282 10.7	1 09.5	S24 37.5	5 39.9	S24 20.5	106 12.5	N 2 59.3	261 23.6	N 5 51.7
	15	297 13.1	16 08.6	S24 37.3	20 40.3	S24 20.4	121 14.7	N 2 59.2	276 26.1	N 5 51.7
	16	312 15.6	31 07.7	S24 37.2	35 40.7	S24 20.3	136 16.9	N 2 59.1	291 28.7	N 5 51.7
	17	327 18.1	46 06.7	S24 37.0	50 41.1	S24 20.3	151 19.1	N 2 59.0	306 31.2	N 5 51.7
	18	342 20.5	61 05.8	S24 36.8	65 41.4	S24 20.2	166 21.3	N 2 58.9	321 33.8	N 5 51.6
	19	357 23.0	76 04.9	S24 36.6	80 41.8	S24 20.1	181 23.5	N 2 58.7	336 36.3	N 5 51.6
	20	12 25.5	91 03.9	S24 36.5	95 42.2	S24 20.0	196 25.7	N 2 58.6	351 38.9	N 5 51.6
	21	27 27.9	106 03.0	S24 36.3	110 42.5	S24 19.9	211 27.9	N 2 58.5	6 41.4	N 5 51.6
	22	42 30.4	121 02.1	S24 36.1	125 42.9	S24 19.9	226 30.1	N 2 58.4	21 44.0	N 5 51.5
	23	57 32.9	136 01.1	S24 35.9	140 43.3	S24 19.8	241 32.3	N 2 58.3	36 46.5	N 5 51.5
4	0	72 35.3	151 00.2	S24 35.7	155 43.7	S24 19.7	256 34.5	N 2 58.2	51 49.1	N 5 51.5
	1	87 37.8	165 59.3	S24 35.6	170 44.0	S24 19.6	271 36.7	N 2 58.1	66 51.6	N 5 51.5
	2	102 40.3	180 58.3	S24 35.4	185 44.4	S24 19.5	286 38.9	N 2 58.0	81 54.2	N 5 51.4
	3	117 42.7	195 57.4	S24 35.2	200 44.8	S24 19.5	301 41.1	N 2 57.9	96 56.7	N 5 51.4
	4	132 45.2	210 56.5	S24 35.0	215 45.1	S24 19.4	316 43.3	N 2 57.8	111 59.3	N 5 51.4
S	5	147 47.6	225 55.6	S24 34.8	230 45.5	S24 19.3	331 45.5	N 2 57.7	127 01.8	N 5 51.4
A										
T	6	162 50.1	240 54.6	S24 34.6	245 45.9	S24 19.2	346 47.7	N 2 57.6	142 04.4	N 5 51.3
U	7	177 52.6	255 53.7	S24 34.4	260 46.3	S24 19.1	1 49.9	N 2 57.5	157 06.9	N 5 51.3
R	8	192 55.0	270 52.8	S24 34.2	275 46.6	S24 19.0	16 52.1	N 2 57.4	172 09.5	N 5 51.3
D	9	207 57.5	285 51.8	S24 34.1	290 47.0	S24 19.0	31 54.3	N 2 57.3	187 12.0	N 5 51.3
A	10	222 60.0	300 50.9	S24 33.9	305 47.4	S24 18.9	46 56.5	N 2 57.2	202 14.6	N 5 51.3
Y	11	238 02.4	315 50.0	S24 33.7	320 47.7	S24 18.8	61 58.7	N 2 57.1	217 17.1	N 5 51.2
	12	253 04.9	330 49.0	S24 33.5	335 48.1	S24 18.7	77 00.9	N 2 57.0	232 19.7	N 5 51.2
	13	268 07.4	345 48.1	S24 33.3	350 48.5	S24 18.6	92 03.1	N 2 56.9	247 22.2	N 5 51.2
	14	283 09.8	0 47.2	S24 33.1	5 48.9	S24 18.5	107 05.3	N 2 56.8	262 24.8	N 5 51.2
	15	298 12.3	15 46.3	S24 32.9	20 49.2	S24 18.4	122 07.5	N 2 56.7	277 27.3	N 5 51.1
	16	313 14.7	30 45.3	S24 32.7	35 49.6	S24 18.3	137 09.7	N 2 56.6	292 29.9	N 5 51.1
	17	328 17.2	45 44.4	S24 32.5	50 50.0	S24 18.3	152 11.9	N 2 56.5	307 32.4	N 5 51.1
	18	343 19.7	60 43.5	S24 32.3	65 50.3	S24 18.2	167 14.1	N 2 56.4	322 35.0	N 5 51.1
	19	358 22.1	75 42.6	S24 32.1	80 50.7	S24 18.1	182 16.3	N 2 56.3	337 37.5	N 5 51.0
	20	13 24.6	90 41.6	S24 31.8	95 51.1	S24 18.0	197 18.5	N 2 56.2	352 40.1	N 5 51.0
	21	28 27.1	105 40.7	S24 31.6	110 51.4	S24 17.9	212 20.7	N 2 56.1	7 42.6	N 5 51.0
	22	43 29.5	120 39.8	S24 31.4	125 51.8	S24 17.8	227 22.9	N 2 56.0	22 45.2	N 5 51.0
	23	58 32.0	135 38.8	S24 31.2	140 52.2	S24 17.7	242 25.1	N 2 55.9	37 47.7	N 5 51.0
5	0	73 34.5	150 37.9	S24 31.0	155 52.6	S24 17.6	257 27.3	N 2 55.8	52 50.3	N 5 50.9
	1	88 36.9	165 37.0	S24 30.8	170 52.9	S24 17.5	272 29.5	N 2 55.7	67 52.8	N 5 50.9
	2	103 39.4	180 36.1	S24 30.6	185 53.3	S24 17.4	287 31.7	N 2 55.6	82 55.4	N 5 50.9
	3	118 41.9	195 35.1	S24 30.4	200 53.7	S24 17.3	302 34.0	N 2 55.5	97 57.9	N 5 50.9
	4	133 44.3	210 34.2	S24 30.1	215 54.0	S24 17.2	317 36.2	N 2 55.4	113 00.5	N 5 50.8
S	5	148 46.8	225 33.3	S24 29.9	230 54.4	S24 17.2	332 38.4	N 2 55.3	128 03.0	N 5 50.8
U										
N	6	163 49.2	240 32.4	S24 29.7	245 54.8	S24 17.1	347 40.6	N 2 55.2	143 05.6	N 5 50.8
D	7	178 51.7	255 31.4	S24 29.5	260 55.1	S24 17.0	2 42.8	N 2 55.1	158 08.1	N 5 50.8
A	8	193 54.2	270 30.5	S24 29.3	275 55.5	S24 16.9	17 45.0	N 2 55.0	173 10.6	N 5 50.8
Y	9	208 56.6	285 29.6	S24 29.0	290 55.9	S24 16.8	32 47.2	N 2 54.9	188 13.2	N 5 50.7
	10	223 59.1	300 28.7	S24 28.8	305 56.3	S24 16.7	47 49.4	N 2 54.8	203 15.7	N 5 50.7
	11	239 01.6	315 27.8	S24 28.6	320 56.6	S24 16.6	62 51.6	N 2 54.7	218 18.3	N 5 50.7
	12	254 04.0	330 26.8	S24 28.4	335 57.0	S24 16.5	77 53.8	N 2 54.6	233 20.8	N 5 50.7
	13	269 06.5	345 25.9	S24 28.1	350 57.4	S24 16.4	92 56.0	N 2 54.5	248 23.4	N 5 50.7
	14	284 09.0	0 25.0	S24 27.9	5 57.7	S24 16.3	107 58.2	N 2 54.4	263 25.9	N 5 50.6
	15	299 11.4	15 24.1	S24 27.7	20 58.1	S24 16.2	123 00.4	N 2 54.3	278 28.5	N 5 50.6
	16	314 13.9	30 23.1	S24 27.4	35 58.5	S24 16.1	138 02.6	N 2 54.2	293 31.0	N 5 50.6
	17	329 16.4	45 22.2	S24 27.2	50 58.8	S24 16.0	153 04.8	N 2 54.1	308 33.6	N 5 50.6
	18	344 18.8	60 21.3	S24 27.0	65 59.2	S24 15.9	168 07.1	N 2 54.0	323 36.1	N 5 50.5
	19	359 21.3	75 20.4	S24 26.7	80 59.6	S24 15.8	183 09.3	N 2 53.9	338 38.6	N 5 50.5
	20	14 23.7	90 19.5	S24 26.5	95 60.0	S24 15.7	198 11.5	N 2 53.8	353 41.2	N 5 50.5
	21	29 26.2	105 18.5	S24 26.3	111 00.3	S24 15.6	213 13.7	N 2 53.7	8 43.7	N 5 50.5
	22	44 28.7	120 17.6	S24 26.0	126 00.7	S24 15.5	228 15.9	N 2 53.6	23 46.3	N 5 50.5
	23	59 31.1	135 16.7	S24 25.8	141 01.1	S24 15.4	243 18.1	N 2 53.5	38 48.8	N 5 50.4
			v -0.9	d 0.2	v 0.4	d 0.1	v 2.2	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
		° '	° '	° '	'	° '	'	'
3	0	182 37.5	S22 01.8	123 33.0	13.8	S18 38.8	9.8	54.3
	1	197 37.3	S22 02.2	138 05.8	13.8	S18 28.9	9.9	54.3
	2	212 37.1	S22 02.6	152 38.7	13.9	S18 18.9	10.0	54.3
	3	227 36.8	S22 02.9	167 11.7	14.0	S18 08.9	10.0	54.3
	4	242 36.6	S22 03.3	181 44.7	14.0	S17 58.8	10.1	54.3
F	5	257 36.3	S22 03.6	196 17.8	14.1	S17 48.6	10.2	54.3
R								
I	6	272 36.1	S22 04.0	210 51.0	14.2	S17 38.3	10.2	54.3
D	7	287 35.8	S22 04.4	225 24.2	14.2	S17 28.0	10.3	54.3
A	8	302 35.6	S22 04.7	239 57.5	14.3	S17 17.6	10.4	54.3
Y	9	317 35.3	S22 05.1	254 30.9	14.4	S17 07.2	10.5	54.3
	10	332 35.1	S22 05.4	269 04.3	14.4	S16 56.7	10.5	54.3
	11	347 34.9	S22 05.8	283 37.8	14.5	S16 46.1	10.6	54.3
	12	2 34.6	S22 06.1	298 11.4	14.6	S16 35.4	10.6	54.2
	13	17 34.4	S22 06.5	312 45.0	14.6	S16 24.7	10.7	54.2
	14	32 34.1	S22 06.8	327 18.7	14.7	S16 14.0	10.8	54.2
	15	47 33.9	S22 07.2	341 52.4	14.7	S16 03.1	10.8	54.2
	16	62 33.6	S22 07.5	356 26.2	14.8	S15 52.2	10.9	54.2
	17	77 33.4	S22 07.9	11 00.1	14.9	S15 41.3	11.0	54.2
	18	92 33.1	S22 08.2	25 34.0	14.9	S15 30.2	11.0	54.2
	19	107 32.9	S22 08.6	40 08.0	15.0	S15 19.2	11.1	54.2
	20	122 32.6	S22 08.9	54 42.0	15.0	S15 08.0	11.1	54.2
	21	137 32.4	S22 09.3	69 16.1	15.1	S14 56.8	11.2	54.2
	22	152 32.1	S22 09.6	83 50.2	15.1	S14 45.6	11.2	54.2
	23	167 31.9	S22 10.0	98 24.4	15.2	S14 34.3	11.3	54.2
4	0	182 31.6	S22 10.3	112 58.7	15.2	S14 22.9	11.4	54.2
	1	197 31.4	S22 10.7	127 33.0	15.3	S14 11.5	11.4	54.2
	2	212 31.1	S22 11.0	142 07.3	15.4	S14 00.1	11.5	54.2
	3	227 30.9	S22 11.3	156 41.7	15.4	S13 48.6	11.5	54.2
	4	242 30.6	S22 11.7	171 16.2	15.5	S13 37.0	11.6	54.2
S	5	257 30.4	S22 12.0	185 50.7	15.5	S13 25.4	11.6	54.2
A								
T	6	272 30.1	S22 12.4	200 25.2	15.6	S13 13.7	11.7	54.2
U	7	287 29.9	S22 12.7	214 59.8	15.6	S13 02.0	11.7	54.2
R	8	302 29.6	S22 13.0	229 34.5	15.6	S12 50.2	11.8	54.2
D	9	317 29.4	S22 13.4	244 09.2	15.7	S12 38.4	11.8	54.2
A	10	332 29.1	S22 13.7	258 43.9	15.7	S12 26.5	11.9	54.2
Y	11	347 28.9	S22 14.1	273 18.7	15.8	S12 14.6	11.9	54.2
	12	2 28.6	S22 14.4	287 53.5	15.8	S12 02.7	12.0	54.2
	13	17 28.4	S22 14.7	302 28.4	15.9	S11 50.7	12.0	54.2
	14	32 28.1	S22 15.1	317 03.3	15.9	S11 38.6	12.0	54.2
	15	47 27.9	S22 15.4	331 38.2	15.9	S11 26.5	12.1	54.2
	16	62 27.6	S22 15.7	346 13.2	16.0	S11 14.4	12.1	54.2
	17	77 27.4	S22 16.1	0 48.2	16.0	S11 02.2	12.2	54.2
	18	92 27.1	S22 16.4	15 23.3	16.1	S10 50.0	12.2	54.2
	19	107 26.9	S22 16.7	29 58.4	16.1	S10 37.8	12.3	54.2
	20	122 26.6	S22 17.0	44 33.5	16.1	S10 25.5	12.3	54.2
	21	137 26.4	S22 17.4	59 08.6	16.2	S10 13.1	12.3	54.2
	22	152 26.1	S22 17.7	73 43.8	16.2	S10 00.8	12.4	54.2
	23	167 25.8	S22 18.0	88 19.1	16.2	S 9 48.3	12.4	54.2
5	0	182 25.6	S22 18.4	102 54.3	16.3	S 9 35.9	12.5	54.2
	1	197 25.3	S22 18.7	117 29.6	16.3	S 9 23.4	12.5	54.2
	2	212 25.1	S22 19.0	132 04.9	16.3	S 9 10.9	12.5	54.2
	3	227 24.8	S22 19.3	146 40.3	16.3	S 8 58.3	12.6	54.2
	4	242 24.6	S22 19.6	161 15.6	16.4	S 8 45.7	12.6	54.2
S	5	257 24.3	S22 20.0	175 51.0	16.4	S 8 33.1	12.6	54.2
U								
N	6	272 24.1	S22 20.3	190 26.5	16.4	S 8 20.4	12.7	54.3
D	7	287 23.8	S22 20.6	205 01.9	16.4	S 8 07.7	12.7	54.3
A	8	302 23.5	S22 20.9	219 37.4	16.5	S 7 55.0	12.7	54.3
Y	9	317 23.3	S22 21.3	234 12.9	16.5	S 7 42.2	12.8	54.3
	10	332 23.0	S22 21.6	248 48.4	16.5	S 7 29.5	12.8	54.3
	11	347 22.8	S22 21.9	263 23.9	16.5	S 7 16.6	12.8	54.3
	12	2 22.5	S22 22.2	277 59.5	16.5	S 7 03.8	12.9	54.3
	13	17 22.3	S22 22.5	292 35.0	16.6	S 6 50.9	12.9	54.3
	14	32 22.0	S22 22.8	307 10.6	16.6	S 6 38.0	12.9	54.3
	15	47 21.7	S22 23.2	321 46.2	16.6	S 6 25.1	12.9	54.3
	16	62 21.5	S22 23.5	336 21.8	16.6	S 6 12.1	13.0	54.3
	17	77 21.2	S22 23.8	350 57.5	16.6	S 5 59.1	13.0	54.3
	18	92 21.0	S22 24.1	5 33.1	16.6	S 5 46.1	13.0	54.4
	19	107 20.7	S22 24.4	20 08.7	16.7	S 5 33.0	13.0	54.4
	20	122 20.4	S22 24.7	34 44.4	16.7	S 5 20.0	13.1	54.4
	21	137 20.2	S22 25.0	49 20.1	16.7	S 5 06.9	13.1	54.4
	22	152 19.9	S22 25.3	63 55.7	16.7	S 4 53.7	13.1	54.4
	23	167 19.7	S22 25.6	78 31.4	16.7	S 4 40.6	13.1	54.4
		S.D. 16.2	d 0.3	S.D.	14.8		14.8	14.8

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.6
Achernar	335 18.0	S57 05.8
Acrux	172 57.7	S63 15.0
Adhara	255 03.7	S29 00.5
Albireo	67 02.4	N28 01.3
Aldebaran	290 36.5	N16 34.0
Alioth	166 11.2	N55 48.2
Alkaid	152 50.5	N49 10.2
Al Na-ir	27 30.0	S46 49.7
Alnilam	275 35.0	S 1 11.0
Alphard	217 45.3	S 8 46.8
Alphecca	126 02.1	N26 37.2
Alpheratz	357 32.2	N29 15.0
Altair	61 57.9	N 8 56.6
Ankaa	353 04.6	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 46.0	N19 02.1
Atria	107 06.0	S69 04.6
Avior	234 13.3	S59 35.7
Bellatrix	278 20.0	N 6 22.5
Betelgeuse	270 49.2	N 7 24.8
Canopus	263 50.8	S52 42.5
Capella	280 17.9	N46 01.6
Castor	245 53.7	N31 49.5
Deneb	49 24.4	N45 23.1
Denebola	182 22.6	N14 24.8
Diphda	348 44.8	S17 50.0
Dubhe	193 38.2	N61 35.6
Elnath	277 58.5	N28 37.8
Eltanin	90 41.6	N51 29.2
Enif	33 36.5	N10 00.4
Fomalhaut	15 11.9	S29 28.5
Gacrux	171 49.2	S57 16.0
Gienah	175 41.3	S17 41.7
Hadar	148 33.2	S60 30.3
Hamal	327 48.2	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.2	N74 02.2
Markab	13 27.5	N15 21.5
Menkar	314 03.3	N 4 12.1
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.2	S69 49.7
Mirfak	308 24.4	N49 57.8
Nunki	75 45.1	S26 15.7
Peacock	53 02.3	S56 38.9
Polaris	315 15.2	N89 22.6
Pollux	243 14.1	N27 57.4
Procyon	244 48.1	N 5 09.2
Rasalhague	95 56.7	N12 32.5
Regulus	207 31.8	N11 49.7
Rigel	281 01.2	S 8 10.1
Rigil Kent	139 37.7	S60 56.9
Sabik	102 00.4	S15 45.6
Schedar	349 28.0	N56 41.8
Shaula	96 07.6	S37 07.4
Sirius	258 23.8	S16 45.2
Spica	158 20.0	S11 18.4
Suhail	222 44.3	S43 32.5
Vega	80 32.0	N38 48.7
Zuben-ubi	136 54.6	S16 09.4

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	74 33.6	150 15.8	S24 25.5	156 01.4	S24 15.3	258 20.3	N 2 53.4	53 51.4	N 5 50.4
1	89 36.1	165 14.9	S24 25.3	171 01.8	S24 15.2	273 22.5	N 2 53.3	68 53.9	N 5 50.4
2	104 38.5	180 13.9	S24 25.0	186 02.2	S24 15.1	288 24.7	N 2 53.2	83 56.5	N 5 50.4
3	119 41.0	195 13.0	S24 24.8	201 02.5	S24 15.0	303 26.9	N 2 53.1	98 59.0	N 5 50.4
4	134 43.5	210 12.1	S24 24.5	216 02.9	S24 14.9	318 29.2	N 2 53.0	114 01.5	N 5 50.3
M 5	149 45.9	225 11.2	S24 24.3	231 03.3	S24 14.7	333 31.4	N 2 52.9	129 04.1	N 5 50.3
O									
N 6	164 48.4	240 10.3	S24 24.0	246 03.7	S24 14.6	348 33.6	N 2 52.8	144 06.6	N 5 50.3
D 7	179 50.8	255 09.3	S24 23.8	261 04.0	S24 14.5	3 35.8	N 2 52.7	159 09.2	N 5 50.3
A 8	194 53.3	270 08.4	S24 23.5	276 04.4	S24 14.4	18 38.0	N 2 52.6	174 11.7	N 5 50.3
Y 9	209 55.8	285 07.5	S24 23.3	291 04.8	S24 14.3	33 40.2	N 2 52.5	189 14.3	N 5 50.2
10	224 58.2	300 06.6	S24 23.0	306 05.1	S24 14.2	48 42.4	N 2 52.4	204 16.8	N 5 50.2
11	240 00.7	315 05.7	S24 22.8	321 05.5	S24 14.1	63 44.6	N 2 52.3	219 19.3	N 5 50.2
12	255 03.2	330 04.8	S24 22.5	336 05.9	S24 14.0	78 46.8	N 2 52.2	234 21.9	N 5 50.2
13	270 05.6	345 03.8	S24 22.2	351 06.2	S24 13.9	93 49.1	N 2 52.1	249 24.4	N 5 50.2
14	285 08.1	0 02.9	S24 22.0	6 06.6	S24 13.8	108 51.3	N 2 52.0	264 27.0	N 5 50.1
15	300 10.6	15 02.0	S24 21.7	21 07.0	S24 13.7	123 53.5	N 2 51.9	279 29.5	N 5 50.1
16	315 13.0	30 01.1	S24 21.5	36 07.3	S24 13.6	138 55.7	N 2 51.8	294 32.0	N 5 50.1
17	330 15.5	45 00.2	S24 21.2	51 07.7	S24 13.4	153 57.9	N 2 51.7	309 34.6	N 5 50.1
18	345 18.0	59 59.3	S24 20.9	66 08.1	S24 13.3	169 00.1	N 2 51.6	324 37.1	N 5 50.1
19	0 20.4	74 58.3	S24 20.7	81 08.5	S24 13.2	184 02.3	N 2 51.5	339 39.7	N 5 50.0
20	15 22.9	89 57.4	S24 20.4	96 08.8	S24 13.1	199 04.6	N 2 51.4	354 42.2	N 5 50.0
21	30 25.3	104 56.5	S24 20.1	111 09.2	S24 13.0	214 06.8	N 2 51.3	9 44.7	N 5 50.0
22	45 27.8	119 55.6	S24 19.9	126 09.6	S24 12.9	229 09.0	N 2 51.2	24 47.3	N 5 50.0
23	60 30.3	134 54.7	S24 19.6	141 09.9	S24 12.8	244 11.2	N 2 51.1	39 49.8	N 5 50.0
7 0	75 32.7	149 53.8	S24 19.3	156 10.3	S24 12.6	259 13.4	N 2 51.0	54 52.4	N 5 50.0
1	90 35.2	164 52.9	S24 19.0	171 10.7	S24 12.5	274 15.6	N 2 50.9	69 54.9	N 5 49.9
2	105 37.7	179 51.9	S24 18.8	186 11.0	S24 12.4	289 17.8	N 2 50.8	84 57.4	N 5 49.9
3	120 40.1	194 51.0	S24 18.5	201 11.4	S24 12.3	304 20.1	N 2 50.7	99 60.0	N 5 49.9
4	135 42.6	209 50.1	S24 18.2	216 11.8	S24 12.2	319 22.3	N 2 50.6	115 02.5	N 5 49.9
T 5	150 45.1	224 49.2	S24 17.9	231 12.1	S24 12.1	334 24.5	N 2 50.5	130 05.1	N 5 49.9
U									
E 6	165 47.5	239 48.3	S24 17.6	246 12.5	S24 11.9	349 26.7	N 2 50.4	145 07.6	N 5 49.8
S 7	180 50.0	254 47.4	S24 17.4	261 12.9	S24 11.8	4 28.9	N 2 50.4	160 10.1	N 5 49.8
D 8	195 52.5	269 46.5	S24 17.1	276 13.2	S24 11.7	19 31.1	N 2 50.3	175 12.7	N 5 49.8
A 9	210 54.9	284 45.6	S24 16.8	291 13.6	S24 11.6	34 33.4	N 2 50.2	190 15.2	N 5 49.8
Y 10	225 57.4	299 44.7	S24 16.5	306 14.0	S24 11.5	49 35.6	N 2 50.1	205 17.8	N 5 49.8
11	240 59.8	314 43.7	S24 16.2	321 14.4	S24 11.4	64 37.8	N 2 50.0	220 20.3	N 5 49.7
12	256 02.3	329 42.8	S24 15.9	336 14.7	S24 11.2	79 40.0	N 2 49.9	235 22.8	N 5 49.7
13	271 04.8	344 41.9	S24 15.6	351 15.1	S24 11.1	94 42.2	N 2 49.8	250 25.4	N 5 49.7
14	286 07.2	359 41.0	S24 15.3	6 15.5	S24 11.0	109 44.5	N 2 49.7	265 27.9	N 5 49.7
15	301 09.7	14 40.1	S24 15.0	21 15.8	S24 10.9	124 46.7	N 2 49.6	280 30.4	N 5 49.7
16	316 12.2	29 39.2	S24 14.8	36 16.2	S24 10.7	139 48.9	N 2 49.5	295 33.0	N 5 49.7
17	331 14.6	44 38.3	S24 14.5	51 16.6	S24 10.6	154 51.1	N 2 49.4	310 35.5	N 5 49.6
18	346 17.1	59 37.4	S24 14.2	66 16.9	S24 10.5	169 53.3	N 2 49.3	325 38.1	N 5 49.6
19	1 19.6	74 36.5	S24 13.9	81 17.3	S24 10.4	184 55.6	N 2 49.2	340 40.6	N 5 49.6
20	16 22.0	89 35.6	S24 13.6	96 17.7	S24 10.3	199 57.8	N 2 49.1	355 43.1	N 5 49.6
21	31 24.5	104 34.7	S24 13.3	111 18.0	S24 10.1	214 60.0	N 2 49.0	10 45.7	N 5 49.6
22	46 26.9	119 33.8	S24 13.0	126 18.4	S24 10.0	230 02.2	N 2 48.9	25 48.2	N 5 49.6
23	61 29.4	134 32.9	S24 12.7	141 18.8	S24 09.9	245 04.4	N 2 48.8	40 50.7	N 5 49.5
8 0	76 31.9	149 31.9	S24 12.4	156 19.1	S24 09.7	260 06.7	N 2 48.7	55 53.3	N 5 49.5
1	91 34.3	164 31.0	S24 12.1	171 19.5	S24 09.6	275 08.9	N 2 48.7	70 55.8	N 5 49.5
2	106 36.8	179 30.1	S24 11.7	186 19.9	S24 09.5	290 11.1	N 2 48.6	85 58.3	N 5 49.5
3	121 39.3	194 29.2	S24 11.4	201 20.2	S24 09.4	305 13.3	N 2 48.5	101 00.9	N 5 49.5
4	136 41.7	209 28.3	S24 11.1	216 20.6	S24 09.2	320 15.5	N 2 48.4	116 03.4	N 5 49.5
W 5	151 44.2	224 27.4	S24 10.8	231 21.0	S24 09.1	335 17.8	N 2 48.3	131 05.9	N 5 49.4
E									
D 6	166 46.7	239 26.5	S24 10.5	246 21.4	S24 09.0	350 20.0	N 2 48.2	146 08.5	N 5 49.4
N 7	181 49.1	254 25.6	S24 10.2	261 21.7	S24 08.9	5 22.2	N 2 48.1	161 11.0	N 5 49.4
E 8	196 51.6	269 24.7	S24 09.9	276 22.1	S24 08.7	20 24.4	N 2 48.0	176 13.6	N 5 49.4
S 9	211 54.1	284 23.8	S24 09.6	291 22.5	S24 08.6	35 26.7	N 2 47.9	191 16.1	N 5 49.4
D 10	226 56.5	299 22.9	S24 09.2	306 22.8	S24 08.5	50 28.9	N 2 47.8	206 18.6	N 5 49.4
A 11	241 59.0	314 22.0	S24 08.9	321 23.2	S24 08.3	65 31.1	N 2 47.7	221 21.2	N 5 49.3
Y									
12	257 01.4	329 21.1	S24 08.6	336 23.6	S24 08.2	80 33.3	N 2 47.6	236 23.7	N 5 49.3
13	272 03.9	344 20.2	S24 08.3	351 23.9	S24 08.1	95 35.6	N 2 47.5	251 26.2	N 5 49.3
14	287 06.4	359 19.3	S24 08.0	6 24.3	S24 07.9	110 37.8	N 2 47.4	266 28.8	N 5 49.3
15	302 08.8	14 18.4	S24 07.6	21 24.7	S24 07.8	125 40.0	N 2 47.4	281 31.3	N 5 49.3
16	317 11.3	29 17.5	S24 07.3	36 25.0	S24 07.7	140 42.2	N 2 47.3	296 33.8	N 5 49.3
17	332 13.8	44 16.6	S24 07.0	51 25.4	S24 07.5	155 44.5	N 2 47.2	311 36.4	N 5 49.2
18	347 16.2	59 15.7	S24 06.7	66 25.8	S24 07.4	170 46.7	N 2 47.1	326 38.9	N 5 49.2
19	2 18.7	74 14.8	S24 06.3	81 26.1	S24 07.3	185 48.9	N 2 47.0	341 41.4	N 5 49.2
20	17 21.2	89 13.9	S24 06.0	96 26.5	S24 07.1	200 51.1	N 2 46.9	356 44.0	N 5 49.2
21	32 23.6	104 13.0	S24 05.7	111 26.9	S24 07.0	215 53.4	N 2 46.8	11 46.5	N 5 49.2
22	47 26.1	119 12.1	S24 05.3	126 27.2	S24 06.9	230 55.6	N 2 46.7	26 49.0	N 5 49.2
23	62 28.6	134 11.2	S24 05.0	141 27.6	S24 06.7	245 57.8	N 2 46.6	41 51.5	N 5 49.1
		v -0.9	d 0.3	v 0.4	d 0.1	v 2.2	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
6 0	182 19.4	S22 26.0	93 07.1	16.7	S 4 27.4	13.2	54.4	Acamar	315 09.6 S40 11.6
1	197 19.1	S22 26.3	107 42.8	16.7	S 4 14.3	13.2	54.4	Achernar	335 18.1 S57 05.8
2	212 18.9	S22 26.6	122 18.5	16.7	S 4 01.1	13.2	54.4	Acrux	172 57.7 S63 15.0
3	227 18.6	S22 26.9	136 54.2	16.7	S 3 47.8	13.2	54.5	Adhara	255 03.6 S29 00.5
4	242 18.4	S22 27.2	151 29.9	16.7	S 3 34.6	13.2	54.5	Albireo	67 02.4 N28 01.2
M 5	257 18.1	S22 27.5	166 05.6	16.7	S 3 21.3	13.3	54.5		
O								Aldebaran	290 36.5 N16 34.0
N 6	272 17.8	S22 27.8	180 41.3	16.7	S 3 08.0	13.3	54.5	Alioth	166 11.2 N55 48.2
D 7	287 17.6	S22 28.1	195 17.0	16.7	S 2 54.7	13.3	54.5	Alkaid	152 50.5 N49 10.2
A 8	302 17.3	S22 28.4	209 52.7	16.7	S 2 41.4	13.3	54.5	Al Na-ir	27 30.0 S46 49.7
Y 9	317 17.1	S22 28.7	224 28.4	16.7	S 2 28.1	13.3	54.5	Alnilam	275 34.9 S 1 11.0
10	332 16.8	S22 29.0	239 04.1	16.7	S 2 14.7	13.4	54.6		
11	347 16.5	S22 29.3	253 39.8	16.7	S 2 01.4	13.4	54.6	Alphard	217 45.2 S 8 46.8
								Alphecca	126 02.1 N26 37.2
12	2 16.3	S22 29.6	268 15.4	16.7	S 1 48.0	13.4	54.6	Alpheratz	357 32.2 N29 15.0
13	17 16.0	S22 29.9	282 51.1	16.7	S 1 34.6	13.4	54.6	Altair	61 57.9 N 8 56.6
14	32 15.7	S22 30.2	297 26.7	16.7	S 1 21.2	13.4	54.6	Ankaa	353 04.6 S42 09.4
15	47 15.5	S22 30.5	312 02.4	16.6	S 1 07.7	13.4	54.6		
16	62 15.2	S22 30.8	326 38.0	16.6	S 0 54.3	13.4	54.6	Antares	112 13.3 S26 29.6
17	77 14.9	S22 31.1	341 13.6	16.6	S 0 40.9	13.4	54.7	Arcturus	145 46.0 N19 02.1
								Atria	107 06.0 S69 04.6
18	92 14.7	S22 31.4	355 49.2	16.6	S 0 27.4	13.5	54.7	Avior	234 13.3 S59 35.8
19	107 14.4	S22 31.7	10 24.8	16.6	S 0 13.9	13.5	54.7	Bellatrix	278 20.0 N 6 22.5
20	122 14.2	S22 32.0	25 00.4	16.6	S 0 00.5	13.5	54.7		
21	137 13.9	S22 32.3	39 35.9	16.5	N 0 13.0	13.5	54.7	Betelgeuse	270 49.2 N 7 24.7
22	152 13.6	S22 32.5	54 11.5	16.5	N 0 26.5	13.5	54.8	Canopus	263 50.8 S52 42.5
23	167 13.4	S22 32.8	68 47.0	16.5	N 0 40.0	13.5	54.8	Capella	280 17.9 N46 01.6
7 0	182 13.1	S22 33.1	83 22.5	16.5	N 0 53.5	13.5	54.8	Castor	245 53.7 N31 49.5
1	197 12.8	S22 33.4	97 57.9	16.5	N 1 07.1	13.5	54.8	Deneb	49 24.4 N45 23.1
2	212 12.6	S22 33.7	112 33.4	16.4	N 1 20.6	13.5	54.8		
3	227 12.3	S22 34.0	127 08.8	16.4	N 1 34.1	13.5	54.8	Denebola	182 22.6 N14 24.8
4	242 12.0	S22 34.3	141 44.2	16.4	N 1 47.6	13.5	54.9	Diphda	348 44.8 S17 50.0
T 5	257 11.8	S22 34.6	156 19.5	16.4	N 2 01.2	13.5	54.9	Dubhe	193 38.1 N61 35.6
U								Elnath	277 58.5 N28 37.8
E 6	272 11.5	S22 34.8	170 54.9	16.3	N 2 14.7	13.5	54.9	Eltanin	90 41.6 N51 29.1
S 7	287 11.2	S22 35.1	185 30.2	16.3	N 2 28.3	13.5	54.9		
D 8	302 11.0	S22 35.4	200 05.4	16.3	N 2 41.8	13.5	54.9	Enif	33 36.5 N10 00.4
A 9	317 10.7	S22 35.7	214 40.7	16.2	N 2 55.3	13.5	55.0	Fomalhaut	15 11.9 S29 28.5
Y 10	332 10.4	S22 36.0	229 15.9	16.2	N 3 08.9	13.5	55.0	Gacrux	171 49.2 S57 16.0
11	347 10.2	S22 36.3	243 51.1	16.2	N 3 22.4	13.5	55.0	Gienah	175 41.2 S17 41.8
								Hadar	148 33.1 S60 30.3
12	2 09.9	S22 36.5	258 26.2	16.1	N 3 36.0	13.5	55.0		
13	17 09.6	S22 36.8	273 01.3	16.1	N 3 49.5	13.5	55.1	Hamal	327 48.3 N23 35.9
14	32 09.4	S22 37.1	287 36.4	16.1	N 4 03.0	13.5	55.1	Kaus Austr.	83 29.8 S34 22.3
15	47 09.1	S22 37.4	302 11.4	16.0	N 4 16.6	13.5	55.1	Kochab	137 21.2 N74 02.2
16	62 08.8	S22 37.7	316 46.4	16.0	N 4 30.1	13.5	55.1	Markab	13 27.5 N15 21.5
17	77 08.5	S22 37.9	331 21.3	15.9	N 4 43.6	13.5	55.2	Menkar	314 03.3 N 4 12.0
								Menkent	147 55.1 S36 30.4
18	92 08.3	S22 38.2	345 56.2	15.9	N 4 57.1	13.5	55.2	Miaplacidus	221 37.1 S69 49.7
19	107 08.0	S22 38.5	0 31.1	15.9	N 5 10.7	13.5	55.2	Mirfak	308 24.4 N49 57.8
20	122 07.7	S22 38.8	15 05.9	15.8	N 5 24.2	13.5	55.2	Nunki	75 45.2 S26 15.7
21	137 07.5	S22 39.0	29 40.6	15.8	N 5 37.7	13.5	55.2	Peacock	53 02.3 S56 38.8
22	152 07.2	S22 39.3	44 15.3	15.7	N 5 51.1	13.5	55.3		
23	167 06.9	S22 39.6	58 50.0	15.7	N 6 04.6	13.5	55.3	Polaris	315 15.8 N89 22.6
8 0	182 06.7	S22 39.9	73 24.6	15.6	N 6 18.1	13.5	55.3	Pollux	243 14.1 N27 57.4
1	197 06.4	S22 40.1	87 59.2	15.6	N 6 31.5	13.5	55.3	Procyon	244 48.1 N 5 09.2
2	212 06.1	S22 40.4	102 33.7	15.5	N 6 45.0	13.4	55.4	Rasalhague	95 56.7 N12 32.5
3	227 05.8	S22 40.7	117 08.2	15.5	N 6 58.4	13.4	55.4	Regulus	207 31.8 N11 49.7
4	242 05.6	S22 40.9	131 42.6	15.4	N 7 11.8	13.4	55.4		
W 5	257 05.3	S22 41.2	146 16.9	15.3	N 7 25.2	13.4	55.5	Rigel	281 01.2 S 8 10.1
E								Rigil Kent	139 37.7 S60 56.9
D 6	272 05.0	S22 41.5	160 51.2	15.3	N 7 38.6	13.4	55.5	Sabik	102 00.4 S15 45.6
N 7	287 04.8	S22 41.7	175 25.4	15.2	N 7 52.0	13.4	55.5	Schedar	349 28.0 N56 41.8
E 8	302 04.5	S22 42.0	189 59.6	15.2	N 8 05.3	13.3	55.5	Shaula	96 07.6 S37 07.4
S 9	317 04.2	S22 42.3	204 33.7	15.1	N 8 18.6	13.3	55.6	Sirius	258 23.8 S16 45.2
D 10	332 03.9	S22 42.5	219 07.7	15.0	N 8 31.9	13.3	55.6	Spica	158 20.0 S11 18.4
A 11	347 03.7	S22 42.8	233 41.7	15.0	N 8 45.2	13.3	55.6	Suhail	222 44.3 S43 32.5
Y								Vega	80 32.0 N38 48.7
12	2 03.4	S22 43.0	248 15.6	14.9	N 8 58.5	13.3	55.6	Zuben-ubi	136 54.6 S16 09.4
13	17 03.1	S22 43.3	262 49.5	14.9	N 9 11.7	13.2	55.7		
14	32 02.8	S22 43.6	277 23.3	14.8	N 9 25.0	13.2	55.7		
15	47 02.6	S22 43.8	291 57.0	14.7	N 9 38.2	13.2	55.7		
16	62 02.3	S22 44.1	306 30.6	14.6	N 9 51.3	13.2	55.8		
17	77 02.0	S22 44.3	321 04.2	14.6	N10 04.5	13.1	55.8		
18	92 01.8	S22 44.6	335 37.7	14.5	N10 17.6	13.1	55.8		
19	107 01.5	S22 44.9	350 11.1	14.4	N10 30.7	13.1	55.8		
20	122 01.2	S22 45.1	4 44.5	14.4	N10 43.8	13.1	55.9		
21	137 00.9	S22 45.4	19 17.8	14.3	N10 56.8	13.0	55.9		
22	152 00.7	S22 45.6	33 51.0	14.2	N11 09.8	13.0	55.9		
23	167 00.4	S22 45.9	48 24.1	14.1	N11 22.7	13.0	56.0		
	S.D. 16.2	d 0.3	S.D.	14.9	15.0	15.2			

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 31.0	149 10.3	S24 04.7	156 28.0	S24 06.6	261 00.0	N 2 46.5	56 54.1	N 5 49.1
1	92 33.5	164 09.4	S24 04.3	171 28.3	S24 06.4	276 02.3	N 2 46.4	71 56.6	N 5 49.1
2	107 35.9	179 08.5	S24 04.0	186 28.7	S24 06.3	291 04.5	N 2 46.3	86 59.1	N 5 49.1
3	122 38.4	194 07.6	S24 03.7	201 29.1	S24 06.2	306 06.7	N 2 46.3	102 01.7	N 5 49.1
4	137 40.9	209 06.7	S24 03.3	216 29.5	S24 06.0	321 09.0	N 2 46.2	117 04.2	N 5 49.1
T 5	152 43.3	224 05.8	S24 03.0	231 29.8	S24 05.9	336 11.2	N 2 46.1	132 06.7	N 5 49.1
H									
U 6	167 45.8	239 04.9	S24 02.6	246 30.2	S24 05.7	351 13.4	N 2 46.0	147 09.3	N 5 49.0
R 7	182 48.3	254 04.0	S24 02.3	261 30.6	S24 05.6	6 15.6	N 2 45.9	162 11.8	N 5 49.0
S 8	197 50.7	269 03.1	S24 02.0	276 30.9	S24 05.5	21 17.9	N 2 45.8	177 14.3	N 5 49.0
D 9	212 53.2	284 02.2	S24 01.6	291 31.3	S24 05.3	36 20.1	N 2 45.7	192 16.9	N 5 49.0
A 10	227 55.7	299 01.3	S24 01.3	306 31.7	S24 05.2	51 22.3	N 2 45.6	207 19.4	N 5 49.0
Y 11	242 58.1	314 00.4	S24 00.9	321 32.0	S24 05.0	66 24.6	N 2 45.5	222 21.9	N 5 49.0
12	258 00.6	328 59.5	S24 00.6	336 32.4	S24 04.9	81 26.8	N 2 45.4	237 24.5	N 5 49.0
13	273 03.0	343 58.6	S24 00.2	351 32.8	S24 04.7	96 29.0	N 2 45.3	252 27.0	N 5 48.9
14	288 05.5	358 57.8	S23 59.9	6 33.1	S24 04.6	111 31.2	N 2 45.3	267 29.5	N 5 48.9
15	303 08.0	13 56.9	S23 59.5	21 33.5	S24 04.5	126 33.5	N 2 45.2	282 32.0	N 5 48.9
16	318 10.4	28 56.0	S23 59.2	36 33.9	S24 04.3	141 35.7	N 2 45.1	297 34.6	N 5 48.9
17	333 12.9	43 55.1	S23 58.8	51 34.2	S24 04.2	156 37.9	N 2 45.0	312 37.1	N 5 48.9
18	348 15.4	58 54.2	S23 58.4	66 34.6	S24 04.0	171 40.2	N 2 44.9	327 39.6	N 5 48.9
19	3 17.8	73 53.3	S23 58.1	81 35.0	S24 03.9	186 42.4	N 2 44.8	342 42.2	N 5 48.9
20	18 20.3	88 52.4	S23 57.7	96 35.3	S24 03.7	201 44.6	N 2 44.7	357 44.7	N 5 48.8
21	33 22.8	103 51.5	S23 57.4	111 35.7	S24 03.6	216 46.9	N 2 44.6	12 47.2	N 5 48.8
22	48 25.2	118 50.6	S23 57.0	126 36.1	S24 03.4	231 49.1	N 2 44.5	27 49.7	N 5 48.8
23	63 27.7	133 49.7	S23 56.6	141 36.4	S24 03.3	246 51.3	N 2 44.5	42 52.3	N 5 48.8
10 0	78 30.2	148 48.8	S23 56.3	156 36.8	S24 03.1	261 53.6	N 2 44.4	57 54.8	N 5 48.8
1	93 32.6	163 48.0	S23 55.9	171 37.2	S24 03.0	276 55.8	N 2 44.3	72 57.3	N 5 48.8
2	108 35.1	178 47.1	S23 55.5	186 37.5	S24 02.8	291 58.0	N 2 44.2	87 59.8	N 5 48.8
3	123 37.5	193 46.2	S23 55.2	201 37.9	S24 02.7	307 00.3	N 2 44.1	103 02.4	N 5 48.7
4	138 40.0	208 45.3	S23 54.8	216 38.3	S24 02.5	322 02.5	N 2 44.0	118 04.9	N 5 48.7
F 5	153 42.5	223 44.4	S23 54.4	231 38.6	S24 02.4	337 04.7	N 2 43.9	133 07.4	N 5 48.7
R									
I 6	168 44.9	238 43.5	S23 54.1	246 39.0	S24 02.2	352 07.0	N 2 43.8	148 10.0	N 5 48.7
D 7	183 47.4	253 42.6	S23 53.7	261 39.4	S24 02.1	7 09.2	N 2 43.7	163 12.5	N 5 48.7
A 8	198 49.9	268 41.7	S23 53.3	276 39.8	S24 01.9	22 11.4	N 2 43.7	178 15.0	N 5 48.7
Y 9	213 52.3	283 40.9	S23 52.9	291 40.1	S24 01.8	37 13.7	N 2 43.6	193 17.5	N 5 48.7
10	228 54.8	298 40.0	S23 52.6	306 40.5	S24 01.6	52 15.9	N 2 43.5	208 20.1	N 5 48.6
11	243 57.3	313 39.1	S23 52.2	321 40.9	S24 01.5	67 18.1	N 2 43.4	223 22.6	N 5 48.6
12	258 59.7	328 38.2	S23 51.8	336 41.2	S24 01.3	82 20.4	N 2 43.3	238 25.1	N 5 48.6
13	274 02.2	343 37.3	S23 51.4	351 41.6	S24 01.2	97 22.6	N 2 43.2	253 27.6	N 5 48.6
14	289 04.7	358 36.4	S23 51.0	6 42.0	S24 01.0	112 24.8	N 2 43.1	268 30.2	N 5 48.6
15	304 07.1	13 35.5	S23 50.7	21 42.3	S24 00.8	127 27.1	N 2 43.1	283 32.7	N 5 48.6
16	319 09.6	28 34.7	S23 50.3	36 42.7	S24 00.7	142 29.3	N 2 43.0	298 35.2	N 5 48.6
17	334 12.0	43 33.8	S23 49.9	51 43.1	S24 00.5	157 31.6	N 2 42.9	313 37.7	N 5 48.6
18	349 14.5	58 32.9	S23 49.5	66 43.4	S24 00.4	172 33.8	N 2 42.8	328 40.3	N 5 48.5
19	4 17.0	73 32.0	S23 49.1	81 43.8	S24 00.2	187 36.0	N 2 42.7	343 42.8	N 5 48.5
20	19 19.4	88 31.1	S23 48.7	96 44.2	S24 00.1	202 38.3	N 2 42.6	358 45.3	N 5 48.5
21	34 21.9	103 30.2	S23 48.3	111 44.5	S23 59.9	217 40.5	N 2 42.5	13 47.8	N 5 48.5
22	49 24.4	118 29.4	S23 47.9	126 44.9	S23 59.7	232 42.7	N 2 42.4	28 50.4	N 5 48.5
23	64 26.8	133 28.5	S23 47.6	141 45.3	S23 59.6	247 45.0	N 2 42.4	43 52.9	N 5 48.5
11 0	79 29.3	148 27.6	S23 47.2	156 45.6	S23 59.4	262 47.2	N 2 42.3	58 55.4	N 5 48.5
1	94 31.8	163 26.7	S23 46.8	171 46.0	S23 59.3	277 49.5	N 2 42.2	73 57.9	N 5 48.5
2	109 34.2	178 25.8	S23 46.4	186 46.4	S23 59.1	292 51.7	N 2 42.1	89 00.5	N 5 48.4
3	124 36.7	193 25.0	S23 46.0	201 46.7	S23 58.9	307 53.9	N 2 42.0	104 03.0	N 5 48.4
4	139 39.1	208 24.1	S23 45.6	216 47.1	S23 58.8	322 56.2	N 2 41.9	119 05.5	N 5 48.4
S 5	154 41.6	223 23.2	S23 45.2	231 47.5	S23 58.6	337 58.4	N 2 41.8	134 08.0	N 5 48.4
A									
T 6	169 44.1	238 22.3	S23 44.8	246 47.8	S23 58.4	353 00.7	N 2 41.8	149 10.5	N 5 48.4
U 7	184 46.5	253 21.4	S23 44.4	261 48.2	S23 58.3	8 02.9	N 2 41.7	164 13.1	N 5 48.4
R 8	199 49.0	268 20.6	S23 44.0	276 48.6	S23 58.1	23 05.1	N 2 41.6	179 15.6	N 5 48.4
D 9	214 51.5	283 19.7	S23 43.6	291 49.0	S23 58.0	38 07.4	N 2 41.5	194 18.1	N 5 48.4
A 10	229 53.9	298 18.8	S23 43.2	306 49.3	S23 57.8	53 09.6	N 2 41.4	209 20.6	N 5 48.4
Y 11	244 56.4	313 17.9	S23 42.7	321 49.7	S23 57.6	68 11.9	N 2 41.3	224 23.2	N 5 48.3
12	259 58.9	328 17.1	S23 42.3	336 50.1	S23 57.5	83 14.1	N 2 41.2	239 25.7	N 5 48.3
13	275 01.3	343 16.2	S23 41.9	351 50.4	S23 57.3	98 16.3	N 2 41.2	254 28.2	N 5 48.3
14	290 03.8	358 15.3	S23 41.5	6 50.8	S23 57.1	113 18.6	N 2 41.1	269 30.7	N 5 48.3
15	305 06.3	13 14.4	S23 41.1	21 51.2	S23 57.0	128 20.8	N 2 41.0	284 33.2	N 5 48.3
16	320 08.7	28 13.6	S23 40.7	36 51.5	S23 56.8	143 23.1	N 2 40.9	299 35.8	N 5 48.3
17	335 11.2	43 12.7	S23 40.3	51 51.9	S23 56.6	158 25.3	N 2 40.8	314 38.3	N 5 48.3
18	350 13.6	58 11.8	S23 39.9	66 52.3	S23 56.5	173 27.6	N 2 40.7	329 40.8	N 5 48.3
19	5 16.1	73 10.9	S23 39.4	81 52.6	S23 56.3	188 29.8	N 2 40.7	344 43.3	N 5 48.3
20	20 18.6	88 10.1	S23 39.0	96 53.0	S23 56.1	203 32.0	N 2 40.6	359 45.8	N 5 48.2
21	35 21.0	103 09.2	S23 38.6	111 53.4	S23 55.9	218 34.3	N 2 40.5	14 48.4	N 5 48.2
22	50 23.5	118 08.3	S23 38.2	126 53.7	S23 55.8	233 36.5	N 2 40.4	29 50.9	N 5 48.2
23	65 26.0	133 07.5	S23 37.8	141 54.1	S23 55.6	248 38.8	N 2 40.3	44 53.4	N 5 48.2
		v -0.9	d 0.4	v 0.4	d 0.2	v 2.2	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
9	0	182 00.1	S22 46.1	62 57.2	14.0	N11 35.7	12.9	56.0
	1	196 59.8	S22 46.4	77 30.1	14.0	N11 48.6	12.9	56.0
	2	211 59.6	S22 46.6	92 03.0	13.9	N12 01.4	12.9	56.1
	3	226 59.3	S22 46.9	106 35.8	13.8	N12 14.3	12.8	56.1
	4	241 59.0	S22 47.1	121 08.5	13.7	N12 27.1	12.8	56.1
T	5	256 58.7	S22 47.4	135 41.2	13.6	N12 39.8	12.7	56.2
H								
U	6	271 58.4	S22 47.6	150 13.7	13.6	N12 52.5	12.7	56.2
R	7	286 58.2	S22 47.9	164 46.2	13.5	N13 05.2	12.7	56.2
S	8	301 57.9	S22 48.1	179 18.6	13.4	N13 17.8	12.6	56.3
D	9	316 57.6	S22 48.4	193 50.9	13.3	N13 30.4	12.6	56.3
A	10	331 57.3	S22 48.6	208 23.1	13.2	N13 42.9	12.5	56.3
Y	11	346 57.1	S22 48.9	222 55.2	13.1	N13 55.4	12.5	56.3
	12	1 56.8	S22 49.1	237 27.2	13.0	N14 07.8	12.4	56.4
	13	16 56.5	S22 49.4	251 59.1	12.9	N14 20.2	12.4	56.4
	14	31 56.2	S22 49.6	266 30.9	12.8	N14 32.6	12.3	56.4
	15	46 56.0	S22 49.8	281 02.7	12.7	N14 44.9	12.3	56.5
	16	61 55.7	S22 50.1	295 34.3	12.6	N14 57.1	12.2	56.5
	17	76 55.4	S22 50.3	310 05.8	12.5	N15 09.3	12.2	56.5
	18	91 55.1	S22 50.6	324 37.3	12.4	N15 21.4	12.1	56.6
	19	106 54.8	S22 50.8	339 08.6	12.3	N15 33.5	12.1	56.6
	20	121 54.6	S22 51.0	353 39.8	12.2	N15 45.5	12.0	56.6
	21	136 54.3	S22 51.3	8 11.0	12.1	N15 57.5	12.0	56.7
	22	151 54.0	S22 51.5	22 42.0	12.0	N16 09.3	11.9	56.7
	23	166 53.7	S22 51.7	37 12.9	11.9	N16 21.2	11.8	56.7
10	0	181 53.4	S22 52.0	51 43.8	11.8	N16 32.9	11.8	56.8
	1	196 53.2	S22 52.2	66 14.5	11.7	N16 44.6	11.7	56.8
	2	211 52.9	S22 52.4	80 45.1	11.6	N16 56.3	11.6	56.8
	3	226 52.6	S22 52.7	95 15.6	11.5	N17 07.9	11.6	56.9
	4	241 52.3	S22 52.9	109 46.0	11.4	N17 19.4	11.5	56.9
F	5	256 52.0	S22 53.1	124 16.3	11.3	N17 30.8	11.4	57.0
R								
I	6	271 51.8	S22 53.4	138 46.5	11.2	N17 42.1	11.4	57.0
D	7	286 51.5	S22 53.6	153 16.6	11.1	N17 53.4	11.3	57.0
A	8	301 51.2	S22 53.8	167 46.5	11.0	N18 04.6	11.2	57.1
Y	9	316 50.9	S22 54.0	182 16.4	10.9	N18 15.8	11.1	57.1
	10	331 50.6	S22 54.3	196 46.1	10.7	N18 26.8	11.1	57.1
	11	346 50.3	S22 54.5	211 15.7	10.6	N18 37.8	11.0	57.2
	12	1 50.1	S22 54.7	225 45.3	10.5	N18 48.7	10.9	57.2
	13	16 49.8	S22 54.9	240 14.7	10.4	N18 59.5	10.8	57.2
	14	31 49.5	S22 55.2	254 44.0	10.3	N19 10.2	10.7	57.3
	15	46 49.2	S22 55.4	269 13.1	10.2	N19 20.9	10.6	57.3
	16	61 48.9	S22 55.6	283 42.2	10.1	N19 31.4	10.6	57.3
	17	76 48.7	S22 55.8	298 11.1	9.9	N19 41.9	10.5	57.4
	18	91 48.4	S22 56.1	312 39.9	9.8	N19 52.2	10.4	57.4
	19	106 48.1	S22 56.3	327 08.6	9.7	N20 02.5	10.3	57.4
	20	121 47.8	S22 56.5	341 37.2	9.6	N20 12.7	10.2	57.5
	21	136 47.5	S22 56.7	356 05.7	9.5	N20 22.8	10.1	57.5
	22	151 47.2	S22 56.9	10 34.1	9.4	N20 32.8	10.0	57.5
	23	166 47.0	S22 57.1	25 02.3	9.2	N20 42.7	9.9	57.6
11	0	181 46.7	S22 57.4	39 30.4	9.1	N20 52.5	9.8	57.6
	1	196 46.4	S22 57.6	53 58.4	9.0	N21 02.1	9.7	57.6
	2	211 46.1	S22 57.8	68 26.3	8.9	N21 11.7	9.6	57.7
	3	226 45.8	S22 58.0	82 54.1	8.8	N21 21.2	9.5	57.7
	4	241 45.5	S22 58.2	97 21.7	8.6	N21 30.6	9.4	57.8
S	5	256 45.2	S22 58.4	111 49.2	8.5	N21 39.8	9.3	57.8
A								
T	6	271 45.0	S22 58.6	126 16.6	8.4	N21 49.0	9.2	57.8
U	7	286 44.7	S22 58.8	140 43.9	8.3	N21 58.0	9.0	57.9
R	8	301 44.4	S22 59.1	155 11.1	8.2	N22 07.0	8.9	57.9
D	9	316 44.1	S22 59.3	169 38.1	8.0	N22 15.8	8.8	57.9
A	10	331 43.8	S22 59.5	184 05.0	7.9	N22 24.5	8.7	58.0
Y	11	346 43.5	S22 59.7	198 31.9	7.8	N22 33.0	8.6	58.0
	12	1 43.2	S22 59.9	212 58.6	7.7	N22 41.5	8.5	58.0
	13	16 43.0	S23 00.1	227 25.1	7.6	N22 49.8	8.3	58.1
	14	31 42.7	S23 00.3	241 51.6	7.5	N22 58.0	8.2	58.1
	15	46 42.4	S23 00.5	256 17.9	7.3	N23 06.1	8.1	58.1
	16	61 42.1	S23 00.7	270 44.1	7.2	N23 14.0	7.9	58.2
	17	76 41.8	S23 00.9	285 10.3	7.1	N23 21.9	7.8	58.2
	18	91 41.5	S23 01.1	299 36.2	7.0	N23 29.6	7.7	58.2
	19	106 41.2	S23 01.3	314 02.1	6.9	N23 37.1	7.6	58.3
	20	121 41.0	S23 01.5	328 27.9	6.8	N23 44.5	7.4	58.3
	21	136 40.7	S23 01.7	342 53.5	6.6	N23 51.8	7.3	58.3
	22	151 40.4	S23 01.9	357 19.1	6.5	N23 59.0	7.1	58.4
	23	166 40.1	S23 02.1	11 44.5	6.4	N24 06.0	7.0	58.4
		S.D. 16.2	d 0.2	S.D. 15.4		15.6		15.8

STARS Name	SHA	Dec
Acamar	315 09.6	S40 11.6
Achernar	335 18.1	S57 05.8
Acrux	172 57.6	S63 15.0
Adhara	255 03.6	S29 00.5
Albireo	67 02.4	N28 01.2
Aldebaran	290 36.5	N16 34.0
Alioth	166 11.1	N55 48.2
Alkaid	152 50.5	N49 10.2
Al Na-ir	27 30.1	S46 49.7
Alnilam	275 34.9	S 1 11.0
Alphard	217 45.2	S 8 46.8
Alphecca	126 02.1	N26 37.1
Alpheratz	357 32.2	N29 15.0
Altair	61 57.9	N 8 56.6
Ankaa	353 04.7	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 46.0	N19 02.1
Atria	107 06.0	S69 04.6
Avior	234 13.2	S59 35.8
Bellatrix	278 20.0	N 6 22.5
Betelgeuse	270 49.2	N 7 24.7
Canopus	263 50.8	S52 42.5
Capella	280 17.9	N46 01.6
Castor	245 53.7	N31 49.5
Deneb	49 24.4	N45 23.1
Denebola	182 22.6	N14 24.8
Diphda	348 44.8	S17 50.0
Dubhe	193 38.1	N61 35.6
Elnath	277 58.5	N28 37.8
Eltanin	90 41.6	N51 29.1
Enif	33 36.5	N10 00.3
Fomalhaut	15 11.9	S29 28.5
Gacrux	171 49.2	S57 16.0
Gienah	175 41.2	S17 41.8
Hadar	148 33.1	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.2	N74 02.2
Markab	13 27.5	N15 21.5
Menkar	314 03.3	N 4 12.0
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.1	S69 49.7
Mirfak	308 24.4	N49 57.8
Nunki	75 45.2	S26 15.7
Peacock	53 02.4	S56 38.8
Polaris	315 16.3	N89 22.6
Pollux	243 14.1	N27 57.4
Procyon	244 48.0	N 5 09.2
Rasalhague	95 56.7	N12 32.4
Regulus	207 31.8	N11 49.7
Rigel	281 01.2	S 8 10.1
Rigil Kent	139 37.7	S60 56.9
Sabik	102 00.4	S15 45.6
Schedar	349 28.0	N56 41.8
Shaula	96 07.5	S37 07.4
Sirius	258 23.8	S16 45.2
Spica	158 20.0	S11 18.4
Suhail	222 44.3	S43 32.6
Vega	80 32.0	N38 48.7
Zuben-ubi	136 54.6	S16 09.5

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
12 0	80 28.4	148 06.6	S23 37.3	156 54.5	S23 55.4	263 41.0	N 2 40.2	59 55.9	N 5 48.2
1	95 30.9	163 05.7	S23 36.9	171 54.8	S23 55.3	278 43.3	N 2 40.2	74 58.4	N 5 48.2
2	110 33.4	178 04.8	S23 36.5	186 55.2	S23 55.1	293 45.5	N 2 40.1	90 01.0	N 5 48.2
3	125 35.8	193 04.0	S23 36.1	201 55.6	S23 54.9	308 47.8	N 2 40.0	105 03.5	N 5 48.2
4	140 38.3	208 03.1	S23 35.6	216 55.9	S23 54.7	323 50.0	N 2 39.9	120 06.0	N 5 48.2
S 5	155 40.8	223 02.2	S23 35.2	231 56.3	S23 54.6	338 52.3	N 2 39.8	135 08.5	N 5 48.2
U									
N 6	170 43.2	238 01.4	S23 34.8	246 56.7	S23 54.4	353 54.5	N 2 39.7	150 11.0	N 5 48.1
D 7	185 45.7	253 00.5	S23 34.3	261 57.0	S23 54.2	8 56.7	N 2 39.7	165 13.6	N 5 48.1
A 8	200 48.1	267 59.6	S23 33.9	276 57.4	S23 54.0	23 59.0	N 2 39.6	180 16.1	N 5 48.1
Y 9	215 50.6	282 58.8	S23 33.5	291 57.8	S23 53.9	39 01.2	N 2 39.5	195 18.6	N 5 48.1
10	230 53.1	297 57.9	S23 33.0	306 58.2	S23 53.7	54 03.5	N 2 39.4	210 21.1	N 5 48.1
11	245 55.5	312 57.0	S23 32.6	321 58.5	S23 53.5	69 05.7	N 2 39.3	225 23.6	N 5 48.1
12	260 58.0	327 56.2	S23 32.2	336 58.9	S23 53.3	84 08.0	N 2 39.2	240 26.2	N 5 48.1
13	276 00.5	342 55.3	S23 31.7	351 59.3	S23 53.2	99 10.2	N 2 39.2	255 28.7	N 5 48.1
14	291 02.9	357 54.4	S23 31.3	6 59.6	S23 53.0	114 12.5	N 2 39.1	270 31.2	N 5 48.1
15	306 05.4	12 53.6	S23 30.8	21 60.0	S23 52.8	129 14.7	N 2 39.0	285 33.7	N 5 48.1
16	321 07.9	27 52.7	S23 30.4	37 00.4	S23 52.6	144 17.0	N 2 38.9	300 36.2	N 5 48.0
17	336 10.3	42 51.8	S23 30.0	52 00.7	S23 52.4	159 19.2	N 2 38.8	315 38.7	N 5 48.0
18	351 12.8	57 51.0	S23 29.5	67 01.1	S23 52.3	174 21.5	N 2 38.8	330 41.3	N 5 48.0
19	6 15.3	72 50.1	S23 29.1	82 01.5	S23 52.1	189 23.7	N 2 38.7	345 43.8	N 5 48.0
20	21 17.7	87 49.3	S23 28.6	97 01.8	S23 51.9	204 26.0	N 2 38.6	0 46.3	N 5 48.0
21	36 20.2	102 48.4	S23 28.2	112 02.2	S23 51.7	219 28.2	N 2 38.5	15 48.8	N 5 48.0
22	51 22.6	117 47.5	S23 27.7	127 02.6	S23 51.5	234 30.5	N 2 38.4	30 51.3	N 5 48.0
23	66 25.1	132 46.7	S23 27.3	142 02.9	S23 51.4	249 32.7	N 2 38.4	45 53.8	N 5 48.0
13 0	81 27.6	147 45.8	S23 26.8	157 03.3	S23 51.2	264 35.0	N 2 38.3	60 56.4	N 5 48.0
1	96 30.0	162 45.0	S23 26.4	172 03.7	S23 51.0	279 37.2	N 2 38.2	75 58.9	N 5 48.0
2	111 32.5	177 44.1	S23 25.9	187 04.0	S23 50.8	294 39.5	N 2 38.1	91 01.4	N 5 48.0
3	126 35.0	192 43.2	S23 25.4	202 04.4	S23 50.6	309 41.7	N 2 38.0	106 03.9	N 5 48.0
4	141 37.4	207 42.4	S23 25.0	217 04.8	S23 50.4	324 44.0	N 2 37.9	121 06.4	N 5 47.9
M 5	156 39.9	222 41.5	S23 24.5	232 05.1	S23 50.2	339 46.2	N 2 37.9	136 08.9	N 5 47.9
O									
N 6	171 42.4	237 40.7	S23 24.1	247 05.5	S23 50.1	354 48.5	N 2 37.8	151 11.4	N 5 47.9
D 7	186 44.8	252 39.8	S23 23.6	262 05.9	S23 49.9	9 50.7	N 2 37.7	166 14.0	N 5 47.9
A 8	201 47.3	267 38.9	S23 23.1	277 06.3	S23 49.7	24 53.0	N 2 37.6	181 16.5	N 5 47.9
Y 9	216 49.8	282 38.1	S23 22.7	292 06.6	S23 49.5	39 55.2	N 2 37.5	196 19.0	N 5 47.9
10	231 52.2	297 37.2	S23 22.2	307 07.0	S23 49.3	54 57.5	N 2 37.5	211 21.5	N 5 47.9
11	246 54.7	312 36.4	S23 21.8	322 07.4	S23 49.1	69 59.8	N 2 37.4	226 24.0	N 5 47.9
12	261 57.1	327 35.5	S23 21.3	337 07.7	S23 48.9	85 02.0	N 2 37.3	241 26.5	N 5 47.9
13	276 59.6	342 34.7	S23 20.8	352 08.1	S23 48.8	100 04.3	N 2 37.2	256 29.0	N 5 47.9
14	292 02.1	357 33.8	S23 20.4	7 08.5	S23 48.6	115 06.5	N 2 37.2	271 31.6	N 5 47.9
15	307 04.5	12 33.0	S23 19.9	22 08.8	S23 48.4	130 08.8	N 2 37.1	286 34.1	N 5 47.9
16	322 07.0	27 32.1	S23 19.4	37 09.2	S23 48.2	145 11.0	N 2 37.0	301 36.6	N 5 47.9
17	337 09.5	42 31.2	S23 18.9	52 09.6	S23 48.0	160 13.3	N 2 36.9	316 39.1	N 5 47.8
18	352 11.9	57 30.4	S23 18.5	67 09.9	S23 47.8	175 15.5	N 2 36.8	331 41.6	N 5 47.8
19	7 14.4	72 29.5	S23 18.0	82 10.3	S23 47.6	190 17.8	N 2 36.8	346 44.1	N 5 47.8
20	22 16.9	87 28.7	S23 17.5	97 10.7	S23 47.4	205 20.0	N 2 36.7	1 46.6	N 5 47.8
21	37 19.3	102 27.8	S23 17.0	112 11.0	S23 47.2	220 22.3	N 2 36.6	16 49.1	N 5 47.8
22	52 21.8	117 27.0	S23 16.6	127 11.4	S23 47.0	235 24.6	N 2 36.5	31 51.6	N 5 47.8
23	67 24.2	132 26.1	S23 16.1	142 11.8	S23 46.8	250 26.8	N 2 36.4	46 54.2	N 5 47.8
14 0	82 26.7	147 25.3	S23 15.6	157 12.2	S23 46.6	265 29.1	N 2 36.4	61 56.7	N 5 47.8
1	97 29.2	162 24.4	S23 15.1	172 12.5	S23 46.4	280 31.3	N 2 36.3	76 59.2	N 5 47.8
2	112 31.6	177 23.6	S23 14.6	187 12.9	S23 46.2	295 33.6	N 2 36.2	92 01.7	N 5 47.8
3	127 34.1	192 22.7	S23 14.1	202 13.3	S23 46.1	310 35.8	N 2 36.1	107 04.2	N 5 47.8
4	142 36.6	207 21.9	S23 13.7	217 13.6	S23 45.9	325 38.1	N 2 36.1	122 06.7	N 5 47.8
T 5	157 39.0	222 21.0	S23 13.2	232 14.0	S23 45.7	340 40.4	N 2 36.0	137 09.2	N 5 47.8
U									
E 6	172 41.5	237 20.2	S23 12.7	247 14.4	S23 45.5	355 42.6	N 2 35.9	152 11.7	N 5 47.8
S 7	187 44.0	252 19.4	S23 12.2	262 14.7	S23 45.3	10 44.9	N 2 35.8	167 14.2	N 5 47.7
D 8	202 46.4	267 18.5	S23 11.7	277 15.1	S23 45.1	25 47.1	N 2 35.7	182 16.8	N 5 47.7
A 9	217 48.9	282 17.7	S23 11.2	292 15.5	S23 44.9	40 49.4	N 2 35.7	197 19.3	N 5 47.7
Y 10	232 51.4	297 16.8	S23 10.7	307 15.8	S23 44.7	55 51.7	N 2 35.6	212 21.8	N 5 47.7
11	247 53.8	312 16.0	S23 10.2	322 16.2	S23 44.5	70 53.9	N 2 35.5	227 24.3	N 5 47.7
12	262 56.3	327 15.1	S23 09.7	337 16.6	S23 44.3	85 56.2	N 2 35.4	242 26.8	N 5 47.7
13	277 58.7	342 14.3	S23 09.2	352 16.9	S23 44.1	100 58.4	N 2 35.4	257 29.3	N 5 47.7
14	293 01.2	357 13.4	S23 08.7	7 17.3	S23 43.9	116 00.7	N 2 35.3	272 31.8	N 5 47.7
15	308 03.7	12 12.6	S23 08.2	22 17.7	S23 43.7	131 03.0	N 2 35.2	287 34.3	N 5 47.7
16	323 06.1	27 11.8	S23 07.7	37 18.1	S23 43.5	146 05.2	N 2 35.1	302 36.8	N 5 47.7
17	338 08.6	42 10.9	S23 07.2	52 18.4	S23 43.3	161 07.5	N 2 35.1	317 39.3	N 5 47.7
18	353 11.1	57 10.1	S23 06.7	67 18.8	S23 43.1	176 09.7	N 2 35.0	332 41.8	N 5 47.7
19	8 13.5	72 09.2	S23 06.2	82 19.2	S23 42.9	191 12.0	N 2 34.9	347 44.4	N 5 47.7
20	23 16.0	87 08.4	S23 05.7	97 19.5	S23 42.7	206 14.3	N 2 34.8	2 46.9	N 5 47.7
21	38 18.5	102 07.5	S23 05.2	112 19.9	S23 42.5	221 16.5	N 2 34.8	17 49.4	N 5 47.7
22	53 20.9	117 06.7	S23 04.7	127 20.3	S23 42.2	236 18.8	N 2 34.7	32 51.9	N 5 47.7
23	68 23.4	132 05.9	S23 04.2	142 20.6	S23 42.0	251 21.0	N 2 34.6	47 54.4	N 5 47.7
		v -0.9	d 0.5	v 0.4	d 0.2	v 2.3	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 '
12	0	181 39.8	S23 02.3	26 09.8	6.3	N24 12.8	6.9	58.4
	1	196 39.5	S23 02.5	40 35.0	6.2	N24 19.6	6.7	58.5
	2	211 39.2	S23 02.7	55 00.1	6.1	N24 26.1	6.6	58.5
	3	226 38.9	S23 02.9	69 25.1	6.0	N24 32.6	6.4	58.5
	4	241 38.7	S23 03.1	83 50.0	5.9	N24 38.9	6.3	58.6
S	5	256 38.4	S23 03.3	98 14.8	5.8	N24 45.0	6.1	58.6
U								
N	6	271 38.1	S23 03.5	112 39.4	5.7	N24 51.0	6.0	58.6
D	7	286 37.8	S23 03.6	127 04.0	5.6	N24 56.8	5.8	58.7
A	8	301 37.5	S23 03.8	141 28.5	5.5	N25 02.5	5.7	58.7
Y	9	316 37.2	S23 04.0	155 52.8	5.4	N25 08.0	5.5	58.7
	10	331 36.9	S23 04.2	170 17.1	5.3	N25 13.4	5.4	58.7
	11	346 36.6	S23 04.4	184 41.3	5.2	N25 18.6	5.2	58.8
	12	1 36.3	S23 04.6	199 05.4	5.1	N25 23.6	5.0	58.8
	13	16 36.0	S23 04.8	213 29.3	5.0	N25 28.5	4.9	58.8
	14	31 35.8	S23 05.0	227 53.2	4.9	N25 33.2	4.7	58.9
	15	46 35.5	S23 05.1	242 17.0	4.8	N25 37.8	4.6	58.9
	16	61 35.2	S23 05.3	256 40.7	4.7	N25 42.2	4.4	58.9
	17	76 34.9	S23 05.5	271 04.3	4.6	N25 46.4	4.2	59.0
	18	91 34.6	S23 05.7	285 27.9	4.5	N25 50.5	4.1	59.0
	19	106 34.3	S23 05.9	299 51.3	4.5	N25 54.3	3.9	59.0
	20	121 34.0	S23 06.1	314 14.7	4.4	N25 58.1	3.7	59.0
	21	136 33.7	S23 06.2	328 38.0	4.3	N26 01.6	3.5	59.1
	22	151 33.4	S23 06.4	343 01.2	4.2	N26 05.0	3.4	59.1
	23	166 33.1	S23 06.6	357 24.4	4.1	N26 08.2	3.2	59.1
13	0	181 32.9	S23 06.8	11 47.4	4.1	N26 11.2	3.0	59.2
	1	196 32.6	S23 06.9	26 10.4	4.0	N26 14.0	2.8	59.2
	2	211 32.3	S23 07.1	40 33.3	3.9	N26 16.7	2.7	59.2
	3	226 32.0	S23 07.3	54 56.2	3.9	N26 19.2	2.5	59.2
	4	241 31.7	S23 07.5	69 19.0	3.8	N26 21.5	2.3	59.3
M	5	256 31.4	S23 07.6	83 41.7	3.7	N26 23.6	2.1	59.3
O								
N	6	271 31.1	S23 07.8	98 04.4	3.7	N26 25.6	1.9	59.3
D	7	286 30.8	S23 08.0	112 27.0	3.6	N26 27.3	1.8	59.3
A	8	301 30.5	S23 08.2	126 49.6	3.6	N26 28.9	1.6	59.4
Y	9	316 30.2	S23 08.3	141 12.1	3.5	N26 30.3	1.4	59.4
	10	331 29.9	S23 08.5	155 34.6	3.5	N26 31.5	1.2	59.4
	11	346 29.6	S23 08.7	169 57.0	3.4	N26 32.5	1.0	59.4
	12	1 29.3	S23 08.8	184 19.4	3.4	N26 33.4	0.8	59.5
	13	16 29.0	S23 09.0	198 41.7	3.3	N26 34.0	0.7	59.5
	14	31 28.8	S23 09.2	213 04.0	3.3	N26 34.5	0.5	59.5
	15	46 28.5	S23 09.3	227 26.2	3.3	N26 34.8	0.3	59.5
	16	61 28.2	S23 09.5	241 48.5	3.2	N26 34.9	0.1	59.6
	17	76 27.9	S23 09.7	256 10.7	3.2	N26 34.8	0.1	59.6
	18	91 27.6	S23 09.8	270 32.8	3.2	N26 34.5	0.3	59.6
	19	106 27.3	S23 10.0	284 55.0	3.1	N26 34.0	0.5	59.6
	20	121 27.0	S23 10.1	299 17.1	3.1	N26 33.3	0.7	59.6
	21	136 26.7	S23 10.3	313 39.2	3.1	N26 32.5	0.9	59.7
	22	151 26.4	S23 10.5	328 01.3	3.1	N26 31.4	1.1	59.7
	23	166 26.1	S23 10.6	342 23.3	3.1	N26 30.2	1.2	59.7
14	0	181 25.8	S23 10.8	356 45.4	3.1	N26 28.7	1.4	59.7
	1	196 25.5	S23 10.9	11 07.4	3.0	N26 27.1	1.6	59.7
	2	211 25.2	S23 11.1	25 29.5	3.0	N26 25.3	1.8	59.8
	3	226 24.9	S23 11.3	39 51.5	3.0	N26 23.3	2.0	59.8
	4	241 24.6	S23 11.4	54 13.5	3.0	N26 21.1	2.2	59.8
T	5	256 24.3	S23 11.6	68 35.6	3.0	N26 18.7	2.4	59.8
U								
E	6	271 24.0	S23 11.7	82 57.6	3.0	N26 16.1	2.6	59.8
S	7	286 23.7	S23 11.9	97 19.7	3.1	N26 13.4	2.8	59.9
D	8	301 23.4	S23 12.0	111 41.8	3.1	N26 10.4	3.0	59.9
A	9	316 23.2	S23 12.2	126 03.8	3.1	N26 07.3	3.1	59.9
Y	10	331 22.9	S23 12.3	140 25.9	3.1	N26 03.9	3.3	59.9
	11	346 22.6	S23 12.5	154 48.0	3.1	N26 00.4	3.5	59.9
	12	1 22.3	S23 12.6	169 10.2	3.1	N25 56.7	3.7	59.9
	13	16 22.0	S23 12.8	183 32.3	3.2	N25 52.8	3.9	60.0
	14	31 21.7	S23 12.9	197 54.5	3.2	N25 48.7	4.1	60.0
	15	46 21.4	S23 13.1	212 16.7	3.2	N25 44.4	4.3	60.0
	16	61 21.1	S23 13.2	226 39.0	3.2	N25 39.9	4.5	60.0
	17	76 20.8	S23 13.4	241 01.3	3.3	N25 35.3	4.7	60.0
	18	91 20.5	S23 13.5	255 23.6	3.3	N25 30.5	4.8	60.0
	19	106 20.2	S23 13.6	269 45.9	3.4	N25 25.4	5.0	60.0
	20	121 19.9	S23 13.8	284 08.3	3.4	N25 20.2	5.2	60.1
	21	136 19.6	S23 13.9	298 30.8	3.4	N25 14.8	5.4	60.1
	22	151 19.3	S23 14.1	312 53.2	3.5	N25 09.3	5.6	60.1
	23	166 19.0	S23 14.2	327 15.8	3.5	N25 03.5	5.7	60.1
		S.D. 16.2	d 0.2	S.D.	16.0	16.2	16.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.6
Achernar	335 18.1	S57 05.8
Acrux	172 57.6	S63 15.0
Adhara	255 03.6	S29 00.5
Albireo	67 02.4	N28 01.2
Aldebaran	290 36.5	N16 34.0
Alioth	166 11.1	N55 48.2
Alkaid	152 50.5	N49 10.1
Al Na-ir	27 30.1	S46 49.7
Alnilam	275 34.9	S 1 11.0
Alphard	217 45.2	S 8 46.8
Alphecca	126 02.1	N26 37.1
Alpheratz	357 32.2	N29 15.0
Altair	61 57.9	N 8 56.6
Ankaa	353 04.7	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 46.0	N19 02.1
Atria	107 06.0	S69 04.6
Avior	234 13.2	S59 35.8
Bellatrix	278 20.0	N 6 22.5
Betelgeuse	270 49.1	N 7 24.7
Canopus	263 50.8	S52 42.6
Capella	280 17.9	N46 01.6
Castor	245 53.7	N31 49.5
Deneb	49 24.5	N45 23.1
Denebola	182 22.5	N14 24.8
Diphda	348 44.8	S17 50.0
Dubhe	193 38.0	N61 35.6
Elnath	277 58.5	N28 37.8
Eltanin	90 41.6	N51 29.1
Enif	33 36.5	N10 00.3
Fomalhaut	15 11.9	S29 28.5
Gacrux	171 49.1	S57 16.0
Gienah	175 41.2	S17 41.8
Hadar	148 33.1	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.1	N74 02.1
Markab	13 27.5	N15 21.5
Menkar	314 03.3	N 4 12.0
Menkent	147 55.1	S36 30.4
Miaplacidus	221 37.1	S69 49.7
Mirfak	308 24.4	N49 57.8
Nunki	75 45.1	S26 15.7
Peacock	53 02.4	S56 38.8
Polaris	315 16.8	N89 22.6
Pollux	243 14.1	N27 57.4
Procyon	244 48.0	N 5 09.2
Rasalhague	95 56.7	N12 32.4
Regulus	207 31.8	N11 49.7
Rigel	281 01.2	S 8 10.1
Rigil Kent	139 37.6	S60 56.9
Sabik	102 00.4	S15 45.6
Schedar	349 28.0	N56 41.8
Shaula	96 07.5	S37 07.4
Sirius	258 23.8	S16 45.2
Spica	158 19.9	S11 18.4
Suhail	222 44.2	S43 32.6
Vega	80 32.0	N38 48.7
Zuben-ubi	136 54.6	S16 09.5

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	83 25.9	147 05.0	S23 03.7	157 21.0	S23 41.8	266 23.3	N 2 34.5	62 56.9	N 5 47.7
	1	98 28.3	162 04.2	S23 03.2	172 21.4	S23 41.6	281 25.6	N 2 34.4	77 59.4	N 5 47.6
	2	113 30.8	177 03.4	S23 02.7	187 21.8	S23 41.4	296 27.8	N 2 34.4	93 01.9	N 5 47.6
	3	128 33.2	192 02.5	S23 02.2	202 22.1	S23 41.2	311 30.1	N 2 34.3	108 04.4	N 5 47.6
	4	143 35.7	207 01.7	S23 01.6	217 22.5	S23 41.0	326 32.4	N 2 34.2	123 06.9	N 5 47.6
W	5	158 38.2	222 00.8	S23 01.1	232 22.9	S23 40.8	341 34.6	N 2 34.1	138 09.4	N 5 47.6
E										
D	6	173 40.6	237 00.0	S23 00.6	247 23.2	S23 40.6	356 36.9	N 2 34.1	153 11.9	N 5 47.6
N	7	188 43.1	251 59.2	S23 00.1	262 23.6	S23 40.4	11 39.2	N 2 34.0	168 14.4	N 5 47.6
E	8	203 45.6	266 58.3	S22 59.6	277 24.0	S23 40.2	26 41.4	N 2 33.9	183 16.9	N 5 47.6
S	9	218 48.0	281 57.5	S22 59.0	292 24.3	S23 40.0	41 43.7	N 2 33.9	198 19.5	N 5 47.6
D	10	233 50.5	296 56.7	S22 58.5	307 24.7	S23 39.8	56 46.0	N 2 33.8	213 22.0	N 5 47.6
A	11	248 53.0	311 55.8	S22 58.0	322 25.1	S23 39.5	71 48.2	N 2 33.7	228 24.5	N 5 47.6
Y										
	12	263 55.4	326 55.0	S22 57.5	337 25.4	S23 39.3	86 50.5	N 2 33.6	243 27.0	N 5 47.6
	13	278 57.9	341 54.2	S22 57.0	352 25.8	S23 39.1	101 52.7	N 2 33.6	258 29.5	N 5 47.6
	14	294 00.4	356 53.3	S22 56.4	7 26.2	S23 38.9	116 55.0	N 2 33.5	273 32.0	N 5 47.6
	15	309 02.8	11 52.5	S22 55.9	22 26.6	S23 38.7	131 57.3	N 2 33.4	288 34.5	N 5 47.6
	16	324 05.3	26 51.7	S22 55.4	37 26.9	S23 38.5	146 59.6	N 2 33.3	303 37.0	N 5 47.6
	17	339 07.7	41 50.8	S22 54.8	52 27.3	S23 38.3	162 01.8	N 2 33.3	318 39.5	N 5 47.6
	18	354 10.2	56 50.0	S22 54.3	67 27.7	S23 38.1	177 04.1	N 2 33.2	333 42.0	N 5 47.6
	19	9 12.7	71 49.2	S22 53.8	82 28.0	S23 37.8	192 06.4	N 2 33.1	348 44.5	N 5 47.6
	20	24 15.1	86 48.4	S22 53.2	97 28.4	S23 37.6	207 08.6	N 2 33.0	3 47.0	N 5 47.6
	21	39 17.6	101 47.5	S22 52.7	112 28.8	S23 37.4	222 10.9	N 2 33.0	18 49.5	N 5 47.6
	22	54 20.1	116 46.7	S22 52.2	127 29.1	S23 37.2	237 13.2	N 2 32.9	33 52.0	N 5 47.6
	23	69 22.5	131 45.9	S22 51.6	142 29.5	S23 37.0	252 15.4	N 2 32.8	48 54.5	N 5 47.6
16	0	84 25.0	146 45.0	S22 51.1	157 29.9	S23 36.8	267 17.7	N 2 32.7	63 57.0	N 5 47.6
	1	99 27.5	161 44.2	S22 50.6	172 30.3	S23 36.5	282 20.0	N 2 32.7	78 59.5	N 5 47.5
	2	114 29.9	176 43.4	S22 50.0	187 30.6	S23 36.3	297 22.2	N 2 32.6	94 02.0	N 5 47.5
	3	129 32.4	191 42.6	S22 49.5	202 31.0	S23 36.1	312 24.5	N 2 32.5	109 04.5	N 5 47.5
	4	144 34.9	206 41.7	S22 48.9	217 31.4	S23 35.9	327 26.8	N 2 32.5	124 07.0	N 5 47.5
T	5	159 37.3	221 40.9	S22 48.4	232 31.7	S23 35.7	342 29.0	N 2 32.4	139 09.5	N 5 47.5
H										
U	6	174 39.8	236 40.1	S22 47.9	247 32.1	S23 35.5	357 31.3	N 2 32.3	154 12.0	N 5 47.5
R	7	189 42.2	251 39.3	S22 47.3	262 32.5	S23 35.2	12 33.6	N 2 32.2	169 14.5	N 5 47.5
S	8	204 44.7	266 38.4	S22 46.8	277 32.9	S23 35.0	27 35.9	N 2 32.2	184 17.0	N 5 47.5
D	9	219 47.2	281 37.6	S22 46.2	292 33.2	S23 34.8	42 38.1	N 2 32.1	199 19.5	N 5 47.5
A	10	234 49.6	296 36.8	S22 45.7	307 33.6	S23 34.6	57 40.4	N 2 32.0	214 22.0	N 5 47.5
Y	11	249 52.1	311 36.0	S22 45.1	322 34.0	S23 34.4	72 42.7	N 2 32.0	229 24.5	N 5 47.5
	12	264 54.6	326 35.2	S22 44.6	337 34.3	S23 34.1	87 44.9	N 2 31.9	244 27.0	N 5 47.5
	13	279 57.0	341 34.3	S22 44.0	352 34.7	S23 33.9	102 47.2	N 2 31.8	259 29.5	N 5 47.5
	14	294 59.5	356 33.5	S22 43.5	7 35.1	S23 33.7	117 49.5	N 2 31.7	274 32.0	N 5 47.5
	15	310 02.0	11 32.7	S22 42.9	22 35.4	S23 33.5	132 51.8	N 2 31.7	289 34.5	N 5 47.5
	16	325 04.4	26 31.9	S22 42.3	37 35.8	S23 33.2	147 54.0	N 2 31.6	304 37.0	N 5 47.5
	17	340 06.9	41 31.1	S22 41.8	52 36.2	S23 33.0	162 56.3	N 2 31.5	319 39.5	N 5 47.5
	18	355 09.4	56 30.2	S22 41.2	67 36.6	S23 32.8	177 58.6	N 2 31.5	334 42.0	N 5 47.5
	19	10 11.8	71 29.4	S22 40.7	82 36.9	S23 32.6	193 00.9	N 2 31.4	349 44.5	N 5 47.5
	20	25 14.3	86 28.6	S22 40.1	97 37.3	S23 32.3	208 03.1	N 2 31.3	4 47.0	N 5 47.5
	21	40 16.7	101 27.8	S22 39.5	112 37.7	S23 32.1	223 05.4	N 2 31.3	19 49.5	N 5 47.5
	22	55 19.2	116 27.0	S22 39.0	127 38.0	S23 31.9	238 07.7	N 2 31.2	34 52.0	N 5 47.5
	23	70 21.7	131 26.2	S22 38.4	142 38.4	S23 31.7	253 10.0	N 2 31.1	49 54.5	N 5 47.5
17	0	85 24.1	146 25.3	S22 37.9	157 38.8	S23 31.4	268 12.2	N 2 31.0	64 57.0	N 5 47.5
	1	100 26.6	161 24.5	S22 37.3	172 39.2	S23 31.2	283 14.5	N 2 31.0	79 59.5	N 5 47.5
	2	115 29.1	176 23.7	S22 36.7	187 39.5	S23 31.0	298 16.8	N 2 30.9	95 02.0	N 5 47.5
	3	130 31.5	191 22.9	S22 36.1	202 39.9	S23 30.7	313 19.1	N 2 30.8	110 04.5	N 5 47.5
	4	145 34.0	206 22.1	S22 35.6	217 40.3	S23 30.5	328 21.3	N 2 30.8	125 07.0	N 5 47.5
F	5	160 36.5	221 21.3	S22 35.0	232 40.6	S23 30.3	343 23.6	N 2 30.7	140 09.5	N 5 47.5
R										
I	6	175 38.9	236 20.5	S22 34.4	247 41.0	S23 30.0	358 25.9	N 2 30.6	155 12.0	N 5 47.5
D	7	190 41.4	251 19.6	S22 33.9	262 41.4	S23 29.8	13 28.2	N 2 30.6	170 14.5	N 5 47.5
A	8	205 43.9	266 18.8	S22 33.3	277 41.8	S23 29.6	28 30.4	N 2 30.5	185 17.0	N 5 47.5
Y	9	220 46.3	281 18.0	S22 32.7	292 42.1	S23 29.4	43 32.7	N 2 30.4	200 19.5	N 5 47.5
	10	235 48.8	296 17.2	S22 32.1	307 42.5	S23 29.1	58 35.0	N 2 30.3	215 22.0	N 5 47.5
	11	250 51.2	311 16.4	S22 31.6	322 42.9	S23 28.9	73 37.3	N 2 30.3	230 24.5	N 5 47.5
	12	265 53.7	326 15.6	S22 31.0	337 43.2	S23 28.7	88 39.6	N 2 30.2	245 27.0	N 5 47.5
	13	280 56.2	341 14.8	S22 30.4	352 43.6	S23 28.4	103 41.8	N 2 30.1	260 29.5	N 5 47.5
	14	295 58.6	356 14.0	S22 29.8	7 44.0	S23 28.2	118 44.1	N 2 30.1	275 32.0	N 5 47.5
	15	311 01.1	11 13.2	S22 29.2	22 44.4	S23 28.0	133 46.4	N 2 30.0	290 34.5	N 5 47.5
	16	326 03.6	26 12.4	S22 28.6	37 44.7	S23 27.7	148 48.7	N 2 29.9	305 37.0	N 5 47.5
	17	341 06.0	41 11.6	S22 28.1	52 45.1	S23 27.5	163 51.0	N 2 29.9	320 39.5	N 5 47.5
	18	356 08.5	56 10.8	S22 27.5	67 45.5	S23 27.2	178 53.2	N 2 29.8	335 42.0	N 5 47.5
	19	11 11.0	71 09.9	S22 26.9	82 45.8	S23 27.0	193 55.5	N 2 29.7	350 44.5	N 5 47.5
	20	26 13.4	86 09.1	S22 26.3	97 46.2	S23 26.8	208 57.8	N 2 29.7	5 47.0	N 5 47.5
	21	41 15.9	101 08.3	S22 25.7	112 46.6	S23 26.5	224 00.1	N 2 29.6	20 49.5	N 5 47.5
	22	56 18.3	116 07.5	S22 25.1	127 47.0	S23 26.3	239 02.4	N 2 29.5	35 52.0	N 5 47.5
	23	71 20.8	131 06.7	S22 24.5	142 47.3	S23 26.1	254 04.6	N 2 29.5	50 54.5	N 5 47.5
			v -0.8	d 0.6	v 0.4	d 0.2	v 2.3	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
15	0	181 18.7	S23 14.3	341 38.4	3.6	N24 57.6	5.9	60.1
	1	196 18.4	S23 14.5	356 01.0	3.6	N24 51.5	6.1	60.1
	2	211 18.1	S23 14.6	10 23.7	3.7	N24 45.2	6.3	60.1
	3	226 17.8	S23 14.8	24 46.5	3.7	N24 38.7	6.5	60.1
	4	241 17.5	S23 14.9	39 09.3	3.8	N24 32.1	6.6	60.1
W	5	256 17.2	S23 15.0	53 32.1	3.9	N24 25.3	6.8	60.1
E								
D	6	271 16.9	S23 15.2	67 55.1	3.9	N24 18.3	7.0	60.2
N	7	286 16.6	S23 15.3	82 18.1	4.0	N24 11.1	7.2	60.2
E	8	301 16.3	S23 15.4	96 41.1	4.1	N24 03.8	7.3	60.2
S	9	316 16.0	S23 15.6	111 04.3	4.1	N23 56.3	7.5	60.2
D	10	331 15.7	S23 15.7	125 27.5	4.2	N23 48.7	7.7	60.2
A	11	346 15.4	S23 15.8	139 50.7	4.3	N23 40.8	7.8	60.2
Y								
	12	1 15.1	S23 16.0	154 14.1	4.3	N23 32.8	8.0	60.2
	13	16 14.8	S23 16.1	168 37.5	4.4	N23 24.7	8.2	60.2
	14	31 14.5	S23 16.2	183 01.0	4.5	N23 16.3	8.3	60.2
	15	46 14.2	S23 16.3	197 24.6	4.6	N23 07.8	8.5	60.2
	16	61 13.9	S23 16.5	211 48.2	4.7	N22 59.2	8.6	60.2
	17	76 13.6	S23 16.6	226 12.0	4.7	N22 50.4	8.8	60.2
	18	91 13.3	S23 16.7	240 35.8	4.8	N22 41.4	9.0	60.2
	19	106 13.0	S23 16.8	254 59.7	4.9	N22 32.3	9.1	60.2
	20	121 12.7	S23 17.0	269 23.7	5.0	N22 23.0	9.3	60.2
	21	136 12.4	S23 17.1	283 47.8	5.1	N22 13.6	9.4	60.2
	22	151 12.1	S23 17.2	298 11.9	5.2	N22 04.1	9.6	60.2
	23	166 11.8	S23 17.3	312 36.2	5.2	N21 54.3	9.7	60.2
16	0	181 11.5	S23 17.4	327 00.5	5.3	N21 44.5	9.9	60.2
	1	196 11.2	S23 17.6	341 24.9	5.4	N21 34.5	10.0	60.2
	2	211 10.9	S23 17.7	355 49.4	5.5	N21 24.3	10.2	60.2
	3	226 10.6	S23 17.8	10 14.0	5.6	N21 14.0	10.3	60.2
	4	241 10.3	S23 17.9	24 38.7	5.7	N21 03.6	10.4	60.2
T	5	256 10.0	S23 18.0	39 03.5	5.8	N20 53.0	10.6	60.2
H								
U	6	271 09.7	S23 18.1	53 28.4	5.9	N20 42.3	10.7	60.2
R	7	286 09.4	S23 18.3	67 53.4	6.0	N20 31.4	10.8	60.2
S	8	301 09.1	S23 18.4	82 18.4	6.1	N20 20.5	11.0	60.2
D	9	316 08.8	S23 18.5	96 43.6	6.2	N20 09.3	11.1	60.2
A	10	331 08.5	S23 18.6	111 08.9	6.3	N19 58.1	11.2	60.2
Y	11	346 08.2	S23 18.7	125 34.2	6.4	N19 46.7	11.4	60.2
	12	1 07.9	S23 18.8	139 59.7	6.4	N19 35.3	11.5	60.2
	13	16 07.6	S23 18.9	154 25.2	6.5	N19 23.6	11.6	60.2
	14	31 07.3	S23 19.0	168 50.9	6.6	N19 11.9	11.7	60.2
	15	46 07.0	S23 19.1	183 16.6	6.7	N19 00.0	11.9	60.2
	16	61 06.7	S23 19.3	197 42.4	6.8	N18 48.1	12.0	60.2
	17	76 06.4	S23 19.4	212 08.4	6.9	N18 36.0	12.1	60.2
	18	91 06.1	S23 19.5	226 34.4	7.0	N18 23.8	12.2	60.2
	19	106 05.8	S23 19.6	241 00.5	7.1	N18 11.5	12.3	60.2
	20	121 05.5	S23 19.7	255 26.7	7.2	N17 59.0	12.4	60.2
	21	136 05.2	S23 19.8	269 53.0	7.3	N17 46.5	12.5	60.2
	22	151 04.9	S23 19.9	284 19.4	7.4	N17 33.9	12.6	60.2
	23	166 04.6	S23 20.0	298 45.9	7.5	N17 21.1	12.7	60.2
17	0	181 04.3	S23 20.1	313 12.5	7.6	N17 08.3	12.8	60.1
	1	196 04.0	S23 20.2	327 39.2	7.7	N16 55.3	13.0	60.1
	2	211 03.7	S23 20.3	342 06.0	7.8	N16 42.3	13.0	60.1
	3	226 03.4	S23 20.4	356 32.9	7.9	N16 29.1	13.1	60.1
	4	241 03.0	S23 20.5	10 59.9	8.0	N16 15.9	13.2	60.1
F	5	256 02.7	S23 20.6	25 27.0	8.1	N16 02.5	13.3	60.1
R								
I	6	271 02.4	S23 20.7	39 54.1	8.2	N15 49.1	13.4	60.1
D	7	286 02.1	S23 20.8	54 21.4	8.3	N15 35.6	13.5	60.1
A	8	301 01.8	S23 20.9	68 48.7	8.3	N15 22.0	13.6	60.1
Y	9	316 01.5	S23 20.9	83 16.2	8.4	N15 08.3	13.7	60.1
	10	331 01.2	S23 21.0	97 43.7	8.5	N14 54.5	13.8	60.1
	11	346 00.9	S23 21.1	112 11.3	8.6	N14 40.7	13.9	60.0
	12	1 00.6	S23 21.2	126 39.0	8.7	N14 26.7	13.9	60.0
	13	16 00.3	S23 21.3	141 06.8	8.8	N14 12.7	14.0	60.0
	14	31 00.0	S23 21.4	155 34.7	8.9	N13 58.6	14.1	60.0
	15	45 59.7	S23 21.5	170 02.7	9.0	N13 44.5	14.2	60.0
	16	60 59.4	S23 21.6	184 30.8	9.1	N13 30.2	14.2	60.0
	17	75 59.1	S23 21.7	198 58.9	9.1	N13 15.9	14.3	60.0
	18	90 58.8	S23 21.7	213 27.1	9.2	N13 01.5	14.4	60.0
	19	105 58.5	S23 21.8	227 55.5	9.3	N12 47.1	14.4	59.9
	20	120 58.2	S23 21.9	242 23.9	9.4	N12 32.6	14.5	59.9
	21	135 57.9	S23 22.0	256 52.3	9.5	N12 18.0	14.6	59.9
	22	150 57.6	S23 22.1	271 20.9	9.6	N12 03.4	14.6	59.9
	23	165 57.3	S23 22.2	285 49.5	9.6	N11 48.7	14.7	59.9
		S.D. 16.3	d 0.1	S.D. 16.4		16.4	16.4	

STARS Name	SHA	Dec
Acamar	315 09.6	S40 11.6
Achernar	335 18.1	S57 05.8
Acrux	172 57.5	S63 15.0
Adhara	255 03.6	S29 00.6
Albireo	67 02.4	N28 01.2
Aldebaran	290 36.5	N16 34.0
Alioth	166 11.1	N55 48.2
Alkaid	152 50.4	N49 10.1
Al Na-ir	27 30.1	S46 49.7
Alnilam	275 34.9	S 1 11.0
Alphard	217 45.2	S 8 46.8
Alphecca	126 02.0	N26 37.1
Alpheratz	357 32.2	N29 15.0
Altair	61 57.9	N 8 56.6
Ankaa	353 04.7	S42 09.4
Antares	112 13.3	S26 29.6
Arcturus	145 45.9	N19 02.1
Atria	107 05.9	S69 04.6
Avior	234 13.2	S59 35.8
Bellatrix	278 19.9	N 6 22.5
Betelgeuse	270 49.1	N 7 24.7
Canopus	263 50.7	S52 42.6
Capella	280 17.8	N46 01.6
Castor	245 53.6	N31 49.5
Deneb	49 24.5	N45 23.0
Denebola	182 22.5	N14 24.8
Diphda	348 44.8	S17 50.0
Dubhe	193 38.0	N61 35.6
Elnath	277 58.5	N28 37.8
Eltanin	90 41.6	N51 29.1
Enif	33 36.5	N10 00.3
Fomalhaut	15 11.9	S29 28.5
Gacrux	171 49.1	S57 16.0
Gienah	175 41.2	S17 41.8
Hadar	148 33.0	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.8	S34 22.3
Kochab	137 21.1	N74 02.1
Markab	13 27.5	N15 21.5
Menkar	314 03.3	N 4 12.0
Menkent	147 55.0	S36 30.4
Miaplacidus	221 37.0	S69 49.7
Mirfak	308 24.4	N49 57.8
Nunki	75 45.1	S26 15.7
Peacock	53 02.4	S56 38.8
Polaris	315 17.5	N89 22.6
Pollux	243 14.0	N27 57.4
Procyon	244 48.0	N 5 09.1
Rasalhague	95 56.7	N12 32.4
Regulus	207 31.7	N11 49.7
Rigel	281 01.2	S 8 10.1
Rigil Kent	139 37.6	S60 56.9
Sabik	102 00.4	S15 45.6
Schedar	349 28.1	N56 41.8
Shaula	96 07.5	S37 07.4
Sirius	258 23.8	S16 45.3
Spica	158 19.9	S11 18.4
Suhail	222 44.2	S43 32.6
Vega	80 32.0	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

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	86 23.3	146 05.9	S22 23.9	157 47.7	S23 25.8	269 06.9	N 2 29.4	65 57.0	N 5 47.5
	1	101 25.7	161 05.1	S22 23.3	172 48.1	S23 25.6	284 09.2	N 2 29.3	80 59.5	N 5 47.5
	2	116 28.2	176 04.3	S22 22.8	187 48.5	S23 25.3	299 11.5	N 2 29.3	96 02.0	N 5 47.5
	3	131 30.7	191 03.5	S22 22.2	202 48.8	S23 25.1	314 13.8	N 2 29.2	111 04.5	N 5 47.5
	4	146 33.1	206 02.7	S22 21.6	217 49.2	S23 24.9	329 16.1	N 2 29.1	126 06.9	N 5 47.5
S	5	161 35.6	221 01.9	S22 21.0	232 49.6	S23 24.6	344 18.3	N 2 29.1	141 09.4	N 5 47.5
A										
T	6	176 38.1	236 01.1	S22 20.4	247 49.9	S23 24.4	359 20.6	N 2 29.0	156 11.9	N 5 47.5
U	7	191 40.5	251 00.3	S22 19.8	262 50.3	S23 24.1	14 22.9	N 2 28.9	171 14.4	N 5 47.5
R	8	206 43.0	265 59.5	S22 19.2	277 50.7	S23 23.9	29 25.2	N 2 28.9	186 16.9	N 5 47.5
D	9	221 45.5	280 58.7	S22 18.6	292 51.1	S23 23.6	44 27.5	N 2 28.8	201 19.4	N 5 47.5
A	10	236 47.9	295 57.9	S22 18.0	307 51.4	S23 23.4	59 29.8	N 2 28.7	216 21.9	N 5 47.5
Y	11	251 50.4	310 57.1	S22 17.3	322 51.8	S23 23.2	74 32.0	N 2 28.7	231 24.4	N 5 47.5
	12	266 52.8	325 56.3	S22 16.7	337 52.2	S23 22.9	89 34.3	N 2 28.6	246 26.9	N 5 47.5
	13	281 55.3	340 55.5	S22 16.1	352 52.6	S23 22.7	104 36.6	N 2 28.5	261 29.4	N 5 47.5
	14	296 57.8	355 54.7	S22 15.5	7 52.9	S23 22.4	119 38.9	N 2 28.5	276 31.9	N 5 47.5
	15	312 00.2	10 53.9	S22 14.9	22 53.3	S23 22.2	134 41.2	N 2 28.4	291 34.4	N 5 47.5
	16	327 02.7	25 53.2	S22 14.3	37 53.7	S23 21.9	149 43.5	N 2 28.3	306 36.9	N 5 47.5
	17	342 05.2	40 52.4	S22 13.7	52 54.0	S23 21.7	164 45.8	N 2 28.3	321 39.4	N 5 47.5
	18	357 07.6	55 51.6	S22 13.1	67 54.4	S23 21.4	179 48.0	N 2 28.2	336 41.8	N 5 47.5
	19	12 10.1	70 50.8	S22 12.5	82 54.8	S23 21.2	194 50.3	N 2 28.1	351 44.3	N 5 47.5
	20	27 12.6	85 50.0	S22 11.8	97 55.2	S23 20.9	209 52.6	N 2 28.1	6 46.8	N 5 47.5
	21	42 15.0	100 49.2	S22 11.2	112 55.5	S23 20.7	224 54.9	N 2 28.0	21 49.3	N 5 47.5
	22	57 17.5	115 48.4	S22 10.6	127 55.9	S23 20.4	239 57.2	N 2 28.0	36 51.8	N 5 47.5
	23	72 20.0	130 47.6	S22 10.0	142 56.3	S23 20.2	254 59.5	N 2 27.9	51 54.3	N 5 47.5
19	0	87 22.4	145 46.8	S22 09.4	157 56.7	S23 19.9	270 01.8	N 2 27.8	66 56.8	N 5 47.5
	1	102 24.9	160 46.0	S22 08.8	172 57.0	S23 19.7	285 04.1	N 2 27.8	81 59.3	N 5 47.5
	2	117 27.3	175 45.2	S22 08.1	187 57.4	S23 19.4	300 06.3	N 2 27.7	97 01.8	N 5 47.5
	3	132 29.8	190 44.5	S22 07.5	202 57.8	S23 19.2	315 08.6	N 2 27.6	112 04.3	N 5 47.5
	4	147 32.3	205 43.7	S22 06.9	217 58.1	S23 18.9	330 10.9	N 2 27.6	127 06.7	N 5 47.5
S	5	162 34.7	220 42.9	S22 06.3	232 58.5	S23 18.7	345 13.2	N 2 27.5	142 09.2	N 5 47.5
U										
N	6	177 37.2	235 42.1	S22 05.6	247 58.9	S23 18.4	0 15.5	N 2 27.4	157 11.7	N 5 47.5
D	7	192 39.7	250 41.3	S22 05.0	262 59.3	S23 18.2	15 17.8	N 2 27.4	172 14.2	N 5 47.5
A	8	207 42.1	265 40.5	S22 04.4	277 59.6	S23 17.9	30 20.1	N 2 27.3	187 16.7	N 5 47.5
Y	9	222 44.6	280 39.7	S22 03.7	293 00.0	S23 17.7	45 22.4	N 2 27.3	202 19.2	N 5 47.5
	10	237 47.1	295 38.9	S22 03.1	308 00.4	S23 17.4	60 24.7	N 2 27.2	217 21.7	N 5 47.5
	11	252 49.5	310 38.2	S22 02.5	323 00.8	S23 17.2	75 27.0	N 2 27.1	232 24.2	N 5 47.5
	12	267 52.0	325 37.4	S22 01.9	338 01.1	S23 16.9	90 29.2	N 2 27.1	247 26.7	N 5 47.5
	13	282 54.5	340 36.6	S22 01.2	353 01.5	S23 16.6	105 31.5	N 2 27.0	262 29.2	N 5 47.5
	14	297 56.9	355 35.8	S22 00.6	8 01.9	S23 16.4	120 33.8	N 2 26.9	277 31.6	N 5 47.5
	15	312 59.4	10 35.0	S21 59.9	23 02.3	S23 16.1	135 36.1	N 2 26.9	292 34.1	N 5 47.5
	16	328 01.8	25 34.3	S21 59.3	38 02.6	S23 15.9	150 38.4	N 2 26.8	307 36.6	N 5 47.5
	17	343 04.3	40 33.5	S21 58.7	53 03.0	S23 15.6	165 40.7	N 2 26.8	322 39.1	N 5 47.5
	18	358 06.8	55 32.7	S21 58.0	68 03.4	S23 15.4	180 43.0	N 2 26.7	337 41.6	N 5 47.5
	19	13 09.2	70 31.9	S21 57.4	83 03.8	S23 15.1	195 45.3	N 2 26.6	352 44.1	N 5 47.5
	20	28 11.7	85 31.1	S21 56.8	98 04.1	S23 14.8	210 47.6	N 2 26.6	7 46.6	N 5 47.6
	21	43 14.2	100 30.4	S21 56.1	113 04.5	S23 14.6	225 49.9	N 2 26.5	22 49.1	N 5 47.6
	22	58 16.6	115 29.6	S21 55.5	128 04.9	S23 14.3	240 52.2	N 2 26.4	37 51.5	N 5 47.6
	23	73 19.1	130 28.8	S21 54.8	143 05.3	S23 14.1	255 54.5	N 2 26.4	52 54.0	N 5 47.6
20	0	88 21.6	145 28.0	S21 54.2	158 05.6	S23 13.8	270 56.8	N 2 26.3	67 56.5	N 5 47.6
	1	103 24.0	160 27.2	S21 53.5	173 06.0	S23 13.5	285 59.1	N 2 26.3	82 59.0	N 5 47.6
	2	118 26.5	175 26.5	S21 52.9	188 06.4	S23 13.3	301 01.4	N 2 26.2	98 01.5	N 5 47.6
	3	133 28.9	190 25.7	S21 52.2	203 06.8	S23 13.0	316 03.6	N 2 26.1	113 04.0	N 5 47.6
	4	148 31.4	205 24.9	S21 51.6	218 07.1	S23 12.7	331 05.9	N 2 26.1	128 06.5	N 5 47.6
M	5	163 33.9	220 24.1	S21 50.9	233 07.5	S23 12.5	346 08.2	N 2 26.0	143 08.9	N 5 47.6
O										
N	6	178 36.3	235 23.4	S21 50.3	248 07.9	S23 12.2	1 10.5	N 2 26.0	158 11.4	N 5 47.6
D	7	193 38.8	250 22.6	S21 49.6	263 08.3	S23 12.0	16 12.8	N 2 25.9	173 13.9	N 5 47.6
A	8	208 41.3	265 21.8	S21 49.0	278 08.6	S23 11.7	31 15.1	N 2 25.8	188 16.4	N 5 47.6
Y	9	223 43.7	280 21.1	S21 48.3	293 09.0	S23 11.4	46 17.4	N 2 25.8	203 18.9	N 5 47.6
	10	238 46.2	295 20.3	S21 47.7	308 09.4	S23 11.2	61 19.7	N 2 25.7	218 21.4	N 5 47.6
	11	253 48.7	310 19.5	S21 47.0	323 09.8	S23 10.9	76 22.0	N 2 25.7	233 23.8	N 5 47.6
	12	268 51.1	325 18.7	S21 46.3	338 10.1	S23 10.6	91 24.3	N 2 25.6	248 26.3	N 5 47.6
	13	283 53.6	340 18.0	S21 45.7	353 10.5	S23 10.4	106 26.6	N 2 25.5	263 28.8	N 5 47.6
	14	298 56.1	355 17.2	S21 45.0	8 10.9	S23 10.1	121 28.9	N 2 25.5	278 31.3	N 5 47.6
	15	313 58.5	10 16.4	S21 44.3	23 11.3	S23 09.8	136 31.2	N 2 25.4	293 33.8	N 5 47.6
	16	329 01.0	25 15.7	S21 43.7	38 11.6	S23 09.6	151 33.5	N 2 25.4	308 36.3	N 5 47.6
	17	344 03.4	40 14.9	S21 43.0	53 12.0	S23 09.3	166 35.8	N 2 25.3	323 38.8	N 5 47.6
	18	359 05.9	55 14.1	S21 42.4	68 12.4	S23 09.0	181 38.1	N 2 25.2	338 41.2	N 5 47.6
	19	14 08.4	70 13.4	S21 41.7	83 12.8	S23 08.7	196 40.4	N 2 25.2	353 43.7	N 5 47.6
	20	29 10.8	85 12.6	S21 41.0	98 13.1	S23 08.5	211 42.7	N 2 25.1	8 46.2	N 5 47.7
	21	44 13.3	100 11.8	S21 40.4	113 13.5	S23 08.2	226 45.0	N 2 25.1	23 48.7	N 5 47.7
	22	59 15.8	115 11.1	S21 39.7	128 13.9	S23 07.9	241 47.3	N 2 25.0	38 51.2	N 5 47.7
	23	74 18.2	130 10.3	S21 39.0	143 14.3	S23 07.7	256 49.6	N 2 24.9	53 53.6	N 5 47.7
			v -0.8	d 0.6	v 0.4	d 0.3	v 2.3	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
18 0	180 57.0	S23 22.2	300 18.3	9.7	N11 33.9	14.8	59.9	Acamar	315 09.6 S40 11.6
1	195 56.7	S23 22.3	314 47.1	9.8	N11 19.1	14.8	59.9	Achernar	335 18.1 S57 05.9
2	210 56.3	S23 22.4	329 15.9	9.9	N11 04.2	14.9	59.8	Acrux	172 57.5 S63 15.0
3	225 56.0	S23 22.5	343 44.9	10.0	N10 49.3	14.9	59.8	Adhara	255 03.6 S29 00.6
4	240 55.7	S23 22.6	358 13.9	10.0	N10 34.3	15.0	59.8	Albireo	67 02.5 N28 01.2
S 5	255 55.4	S23 22.6	12 43.0	10.1	N10 19.3	15.0	59.8		
A								Aldebaran	290 36.5 N16 34.0
T 6	270 55.1	S23 22.7	27 12.2	10.2	N10 04.2	15.1	59.8	Alioth	166 11.0 N55 48.2
U 7	285 54.8	S23 22.8	41 41.4	10.2	N 9 49.1	15.1	59.8	Alkaid	152 50.4 N49 10.1
R 8	300 54.5	S23 22.9	56 10.8	10.3	N 9 34.0	15.2	59.8	Al Na-ir	27 30.1 S46 49.7
D 9	315 54.2	S23 22.9	70 40.1	10.4	N 9 18.8	15.2	59.7	Alnilam	275 34.9 S 1 11.0
A 10	330 53.9	S23 23.0	85 09.6	10.5	N 9 03.5	15.2	59.7		
Y 11	345 53.6	S23 23.1	99 39.1	10.5	N 8 48.2	15.3	59.7	Alphard	217 45.1 S 8 46.8
								Alphecca	126 02.0 N26 37.1
12	0 53.3	S23 23.2	114 08.7	10.6	N 8 32.9	15.3	59.7	Alpheratz	357 32.2 N29 15.0
13	15 53.0	S23 23.2	128 38.4	10.7	N 8 17.5	15.4	59.7	Altair	61 57.9 N 8 56.6
14	30 52.7	S23 23.3	143 08.1	10.7	N 8 02.1	15.4	59.6	Ankaa	353 04.7 S42 09.4
15	45 52.4	S23 23.4	157 37.9	10.8	N 7 46.7	15.4	59.6		
16	60 52.1	S23 23.4	172 07.7	10.8	N 7 31.3	15.5	59.6	Antares	112 13.2 S26 29.6
17	75 51.8	S23 23.5	186 37.6	10.9	N 7 15.8	15.5	59.6	Arcturus	145 45.9 N19 02.0
								Atria	107 05.9 S69 04.6
18	90 51.4	S23 23.6	201 07.6	11.0	N 7 00.3	15.5	59.6	Avior	234 13.2 S59 35.8
19	105 51.1	S23 23.6	215 37.6	11.0	N 6 44.7	15.5	59.6	Bellatrix	278 19.9 N 6 22.5
20	120 50.8	S23 23.7	230 07.7	11.1	N 6 29.1	15.6	59.5		
21	135 50.5	S23 23.8	244 37.8	11.1	N 6 13.5	15.6	59.5	Betelgeuse	270 49.1 N 7 24.7
22	150 50.2	S23 23.8	259 08.0	11.2	N 5 57.9	15.6	59.5	Canopus	263 50.7 S52 42.6
23	165 49.9	S23 23.9	273 38.2	11.2	N 5 42.3	15.6	59.5	Capella	280 17.8 N46 01.6
19 0	180 49.6	S23 23.9	288 08.5	11.3	N 5 26.6	15.7	59.5	Castor	245 53.6 N31 49.5
1	195 49.3	S23 24.0	302 38.9	11.3	N 5 11.0	15.7	59.4	Deneb	49 24.5 N45 23.0
2	210 49.0	S23 24.1	317 09.3	11.4	N 4 55.3	15.7	59.4		
3	225 48.7	S23 24.1	331 39.7	11.4	N 4 39.6	15.7	59.4	Denebola	182 22.5 N14 24.8
4	240 48.4	S23 24.2	346 10.2	11.5	N 4 23.9	15.7	59.4	Diphda	348 44.8 S17 50.0
S 5	255 48.1	S23 24.2	0 40.7	11.5	N 4 08.1	15.7	59.4	Dubhe	193 37.9 N61 35.6
U								Elnath	277 58.5 N28 37.8
N 6	270 47.8	S23 24.3	15 11.3	11.6	N 3 52.4	15.7	59.3	Eltanin	90 41.6 N51 29.1
D 7	285 47.4	S23 24.4	29 41.9	11.6	N 3 36.6	15.7	59.3		
A 8	300 47.1	S23 24.4	44 12.6	11.7	N 3 20.9	15.8	59.3	Enif	33 36.5 N10 00.3
Y 9	315 46.8	S23 24.5	58 43.3	11.7	N 3 05.1	15.8	59.3	Fomalhaut	15 11.9 S29 28.5
10	330 46.5	S23 24.5	73 14.0	11.7	N 2 49.4	15.8	59.3	Gacrux	171 49.0 S57 16.0
11	345 46.2	S23 24.6	87 44.8	11.8	N 2 33.6	15.8	59.2	Gienah	175 41.1 S17 41.8
								Hadar	148 33.0 S60 30.3
12	0 45.9	S23 24.6	102 15.6	11.8	N 2 17.8	15.8	59.2		
13	15 45.6	S23 24.7	116 46.5	11.8	N 2 02.1	15.8	59.2	Hamal	327 48.3 N23 35.9
14	30 45.3	S23 24.7	131 17.3	11.9	N 1 46.3	15.8	59.2	Kaus Austr.	83 29.7 S34 22.3
15	45 45.0	S23 24.8	145 48.3	11.9	N 1 30.5	15.8	59.2	Kochab	137 21.0 N74 02.1
16	60 44.7	S23 24.8	160 19.2	11.9	N 1 14.8	15.8	59.1	Markab	13 27.5 N15 21.5
17	75 44.4	S23 24.9	174 50.2	12.0	N 0 59.0	15.8	59.1	Menkar	314 03.3 N 4 12.0
								Menkent	147 55.0 S36 30.4
18	90 44.1	S23 24.9	189 21.2	12.0	N 0 43.3	15.7	59.1	Miaplacidus	221 37.0 S69 49.7
19	105 43.7	S23 25.0	203 52.2	12.0	N 0 27.5	15.7	59.1	Mirfak	308 24.4 N49 57.8
20	120 43.4	S23 25.0	218 23.3	12.1	N 0 11.8	15.7	59.0	Nunki	75 45.1 S26 15.7
21	135 43.1	S23 25.0	232 54.4	12.1	S 0 03.9	15.7	59.0	Peacock	53 02.4 S56 38.8
22	150 42.8	S23 25.1	247 25.5	12.1	S 0 19.6	15.7	59.0		
23	165 42.5	S23 25.1	261 56.6	12.1	S 0 35.3	15.7	59.0	Polaris	315 18.3 N89 22.6
20 0	180 42.2	S23 25.2	276 27.7	12.1	S 0 51.0	15.7	59.0	Pollux	243 14.0 N27 57.4
1	195 41.9	S23 25.2	290 58.9	12.2	S 1 06.7	15.7	58.9	Procyon	244 48.0 N 5 09.1
2	210 41.6	S23 25.3	305 30.1	12.2	S 1 22.3	15.6	58.9	Rasalhague	95 56.7 N12 32.4
3	225 41.3	S23 25.3	320 01.3	12.2	S 1 37.9	15.6	58.9	Regulus	207 31.7 N11 49.7
4	240 41.0	S23 25.3	334 32.5	12.2	S 1 53.5	15.6	58.9		
M 5	255 40.7	S23 25.4	349 03.7	12.2	S 2 09.1	15.6	58.8	Rigel	281 01.2 S 8 10.2
O								Rigil Kent	139 37.5 S60 56.9
N 6	270 40.4	S23 25.4	3 35.0	12.2	S 2 24.7	15.6	58.8	Sabik	102 00.4 S15 45.6
D 7	285 40.0	S23 25.4	18 06.3	12.3	S 2 40.2	15.5	58.8	Schedar	349 28.1 N56 41.8
A 8	300 39.7	S23 25.5	32 37.5	12.3	S 2 55.7	15.5	58.8	Shaula	96 07.5 S37 07.4
Y 9	315 39.4	S23 25.5	47 08.8	12.3	S 3 11.2	15.5	58.8	Sirius	258 23.8 S16 45.3
10	330 39.1	S23 25.5	61 40.1	12.3	S 3 26.7	15.5	58.7	Spica	158 19.9 S11 18.4
11	345 38.8	S23 25.6	76 11.4	12.3	S 3 42.1	15.4	58.7	Suhail	222 44.2 S43 32.6
								Vega	80 32.0 N38 48.6
12	0 38.5	S23 25.6	90 42.7	12.3	S 3 57.5	15.4	58.7	Zuben-ubi	136 54.5 S16 09.5
13	15 38.2	S23 25.6	105 14.0	12.3	S 4 12.9	15.4	58.7		
14	30 37.9	S23 25.7	119 45.3	12.3	S 4 28.2	15.3	58.6		
15	45 37.6	S23 25.7	134 16.6	12.3	S 4 43.5	15.3	58.6		
16	60 37.3	S23 25.7	148 47.9	12.3	S 4 58.8	15.3	58.6		
17	75 36.9	S23 25.8	163 19.2	12.3	S 5 14.0	15.2	58.6		
18	90 36.6	S23 25.8	177 50.6	12.3	S 5 29.2	15.2	58.6		
19	105 36.3	S23 25.8	192 21.9	12.3	S 5 44.4	15.2	58.5		
20	120 36.0	S23 25.8	206 53.2	12.3	S 5 59.5	15.1	58.5		
21	135 35.7	S23 25.9	221 24.5	12.3	S 6 14.6	15.1	58.5		
22	150 35.4	S23 25.9	235 55.8	12.3	S 6 29.6	15.0	58.5		
23	165 35.1	S23 25.9	250 27.0	12.3	S 6 44.6	15.0	58.4		
	S.D. 16.3	d 0.1	S.D.	16.3	16.1	16.0			

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	89 20.7	145 09.5	S21 38.3	158 14.6	S23 07.4	271 51.9	N 2 24.9	68 56.1	N 5 47.7
	1	104 23.2	160 08.8	S21 37.7	173 15.0	S23 07.1	286 54.2	N 2 24.8	83 58.6	N 5 47.7
	2	119 25.6	175 08.0	S21 37.0	188 15.4	S23 06.8	301 56.5	N 2 24.8	99 01.1	N 5 47.7
	3	134 28.1	190 07.3	S21 36.3	203 15.8	S23 06.6	316 58.8	N 2 24.7	114 03.6	N 5 47.7
	4	149 30.5	205 06.5	S21 35.6	218 16.1	S23 06.3	332 01.1	N 2 24.7	129 06.1	N 5 47.7
T	5	164 33.0	220 05.7	S21 35.0	233 16.5	S23 06.0	347 03.4	N 2 24.6	144 08.5	N 5 47.7
U										
E	6	179 35.5	235 05.0	S21 34.3	248 16.9	S23 05.7	2 05.7	N 2 24.5	159 11.0	N 5 47.7
S	7	194 37.9	250 04.2	S21 33.6	263 17.3	S23 05.5	17 08.0	N 2 24.5	174 13.5	N 5 47.7
D	8	209 40.4	265 03.5	S21 32.9	278 17.7	S23 05.2	32 10.3	N 2 24.4	189 16.0	N 5 47.7
A	9	224 42.9	280 02.7	S21 32.2	293 18.0	S23 04.9	47 12.6	N 2 24.4	204 18.5	N 5 47.7
Y	10	239 45.3	295 01.9	S21 31.6	308 18.4	S23 04.6	62 14.9	N 2 24.3	219 20.9	N 5 47.7
	11	254 47.8	310 01.2	S21 30.9	323 18.8	S23 04.4	77 17.2	N 2 24.3	234 23.4	N 5 47.7
	12	269 50.3	325 00.4	S21 30.2	338 19.2	S23 04.1	92 19.6	N 2 24.2	249 25.9	N 5 47.7
	13	284 52.7	339 59.7	S21 29.5	353 19.5	S23 03.8	107 21.9	N 2 24.1	264 28.4	N 5 47.7
	14	299 55.2	354 58.9	S21 28.8	8 19.9	S23 03.5	122 24.2	N 2 24.1	279 30.9	N 5 47.8
	15	314 57.7	9 58.2	S21 28.1	23 20.3	S23 03.2	137 26.5	N 2 24.0	294 33.3	N 5 47.8
	16	330 00.1	24 57.4	S21 27.4	38 20.7	S23 03.0	152 28.8	N 2 24.0	309 35.8	N 5 47.8
	17	345 02.6	39 56.6	S21 26.7	53 21.0	S23 02.7	167 31.1	N 2 23.9	324 38.3	N 5 47.8
	18	0 05.0	54 55.9	S21 26.1	68 21.4	S23 02.4	182 33.4	N 2 23.9	339 40.8	N 5 47.8
	19	15 07.5	69 55.1	S21 25.4	83 21.8	S23 02.1	197 35.7	N 2 23.8	354 43.3	N 5 47.8
	20	30 10.0	84 54.4	S21 24.7	98 22.2	S23 01.8	212 38.0	N 2 23.7	9 45.7	N 5 47.8
	21	45 12.4	99 53.6	S21 24.0	113 22.6	S23 01.6	227 40.3	N 2 23.7	24 48.2	N 5 47.8
	22	60 14.9	114 52.9	S21 23.3	128 22.9	S23 01.3	242 42.6	N 2 23.6	39 50.7	N 5 47.8
	23	75 17.4	129 52.1	S21 22.6	143 23.3	S23 01.0	257 44.9	N 2 23.6	54 53.2	N 5 47.8
22	0	90 19.8	144 51.4	S21 21.9	158 23.7	S23 00.7	272 47.2	N 2 23.5	69 55.6	N 5 47.8
	1	105 22.3	159 50.6	S21 21.2	173 24.1	S23 00.4	287 49.5	N 2 23.5	84 58.1	N 5 47.8
	2	120 24.8	174 49.9	S21 20.5	188 24.4	S23 00.1	302 51.8	N 2 23.4	100 00.6	N 5 47.8
	3	135 27.2	189 49.1	S21 19.8	203 24.8	S22 59.9	317 54.1	N 2 23.4	115 03.1	N 5 47.8
	4	150 29.7	204 48.4	S21 19.1	218 25.2	S22 59.6	332 56.5	N 2 23.3	130 05.6	N 5 47.9
W	5	165 32.2	219 47.6	S21 18.4	233 25.6	S22 59.3	347 58.8	N 2 23.2	145 08.0	N 5 47.9
E										
D	6	180 34.6	234 46.9	S21 17.7	248 26.0	S22 59.0	3 01.1	N 2 23.2	160 10.5	N 5 47.9
N	7	195 37.1	249 46.2	S21 17.0	263 26.3	S22 58.7	18 03.4	N 2 23.1	175 13.0	N 5 47.9
E	8	210 39.5	264 45.4	S21 16.3	278 26.7	S22 58.4	33 05.7	N 2 23.1	190 15.5	N 5 47.9
S	9	225 42.0	279 44.7	S21 15.6	293 27.1	S22 58.1	48 08.0	N 2 23.0	205 17.9	N 5 47.9
D	10	240 44.5	294 43.9	S21 14.8	308 27.5	S22 57.9	63 10.3	N 2 23.0	220 20.4	N 5 47.9
A	11	255 46.9	309 43.2	S21 14.1	323 27.9	S22 57.6	78 12.6	N 2 22.9	235 22.9	N 5 47.9
Y										
	12	270 49.4	324 42.4	S21 13.4	338 28.2	S22 57.3	93 14.9	N 2 22.9	250 25.4	N 5 47.9
	13	285 51.9	339 41.7	S21 12.7	353 28.6	S22 57.0	108 17.3	N 2 22.8	265 27.8	N 5 47.9
	14	300 54.3	354 40.9	S21 12.0	8 29.0	S22 56.7	123 19.6	N 2 22.8	280 30.3	N 5 47.9
	15	315 56.8	9 40.2	S21 11.3	23 29.4	S22 56.4	138 21.9	N 2 22.7	295 32.8	N 5 47.9
	16	330 59.3	24 39.5	S21 10.6	38 29.7	S22 56.1	153 24.2	N 2 22.7	310 35.3	N 5 47.9
	17	346 01.7	39 38.7	S21 09.9	53 30.1	S22 55.8	168 26.5	N 2 22.6	325 37.7	N 5 48.0
	18	1 04.2	54 38.0	S21 09.1	68 30.5	S22 55.5	183 28.8	N 2 22.5	340 40.2	N 5 48.0
	19	16 06.6	69 37.2	S21 08.4	83 30.9	S22 55.2	198 31.1	N 2 22.5	355 42.7	N 5 48.0
	20	31 09.1	84 36.5	S21 07.7	98 31.3	S22 54.9	213 33.4	N 2 22.4	10 45.2	N 5 48.0
	21	46 11.6	99 35.8	S21 07.0	113 31.6	S22 54.7	228 35.8	N 2 22.4	25 47.6	N 5 48.0
	22	61 14.0	114 35.0	S21 06.3	128 32.0	S22 54.4	243 38.1	N 2 22.3	40 50.1	N 5 48.0
	23	76 16.5	129 34.3	S21 05.5	143 32.4	S22 54.1	258 40.4	N 2 22.3	55 52.6	N 5 48.0
23	0	91 19.0	144 33.6	S21 04.8	158 32.8	S22 53.8	273 42.7	N 2 22.2	70 55.1	N 5 48.0
	1	106 21.4	159 32.8	S21 04.1	173 33.2	S22 53.5	288 45.0	N 2 22.2	85 57.5	N 5 48.0
	2	121 23.9	174 32.1	S21 03.4	188 33.5	S22 53.2	303 47.3	N 2 22.1	101 00.0	N 5 48.0
	3	136 26.4	189 31.4	S21 02.6	203 33.9	S22 52.9	318 49.6	N 2 22.1	116 02.5	N 5 48.0
	4	151 28.8	204 30.6	S21 01.9	218 34.3	S22 52.6	333 52.0	N 2 22.0	131 04.9	N 5 48.1
T	5	166 31.3	219 29.9	S21 01.2	233 34.7	S22 52.3	348 54.3	N 2 22.0	146 07.4	N 5 48.1
H										
U	6	181 33.8	234 29.2	S21 00.5	248 35.1	S22 52.0	3 56.6	N 2 21.9	161 09.9	N 5 48.1
R	7	196 36.2	249 28.4	S20 59.7	263 35.4	S22 51.7	18 58.9	N 2 21.9	176 12.4	N 5 48.1
S	8	211 38.7	264 27.7	S20 59.0	278 35.8	S22 51.4	34 01.2	N 2 21.8	191 14.8	N 5 48.1
D	9	226 41.1	279 27.0	S20 58.3	293 36.2	S22 51.1	49 03.5	N 2 21.8	206 17.3	N 5 48.1
A	10	241 43.6	294 26.2	S20 57.5	308 36.6	S22 50.8	64 05.9	N 2 21.7	221 19.8	N 5 48.1
Y	11	256 46.1	309 25.5	S20 56.8	323 37.0	S22 50.5	79 08.2	N 2 21.7	236 22.3	N 5 48.1
	12	271 48.5	324 24.8	S20 56.1	338 37.3	S22 50.2	94 10.5	N 2 21.6	251 24.7	N 5 48.1
	13	286 51.0	339 24.0	S20 55.3	353 37.7	S22 49.9	109 12.8	N 2 21.6	266 27.2	N 5 48.1
	14	301 53.5	354 23.3	S20 54.6	8 38.1	S22 49.6	124 15.1	N 2 21.5	281 29.7	N 5 48.1
	15	316 55.9	9 22.6	S20 53.8	23 38.5	S22 49.3	139 17.4	N 2 21.5	296 32.1	N 5 48.2
	16	331 58.4	24 21.9	S20 53.1	38 38.9	S22 49.0	154 19.8	N 2 21.4	311 34.6	N 5 48.2
	17	347 00.9	39 21.1	S20 52.4	53 39.2	S22 48.7	169 22.1	N 2 21.4	326 37.1	N 5 48.2
	18	2 03.3	54 20.4	S20 51.6	68 39.6	S22 48.4	184 24.4	N 2 21.3	341 39.5	N 5 48.2
	19	17 05.8	69 19.7	S20 50.9	83 40.0	S22 48.1	199 26.7	N 2 21.3	356 42.0	N 5 48.2
	20	32 08.3	84 19.0	S20 50.1	98 40.4	S22 47.8	214 29.0	N 2 21.2	11 44.5	N 5 48.2
	21	47 10.7	99 18.2	S20 49.4	113 40.8	S22 47.5	229 31.4	N 2 21.2	26 47.0	N 5 48.2
	22	62 13.2	114 17.5	S20 48.6	128 41.1	S22 47.2	244 33.7	N 2 21.1	41 49.4	N 5 48.2
	23	77 15.6	129 16.8	S20 47.9	143 41.5	S22 46.9	259 36.0	N 2 21.1	56 51.9	N 5 48.2
			v -0.7	d 0.7	v 0.4	d 0.3	v 2.3	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
	° '	° '	° '	'	° '	'	'		° '	° '
21 0	180 34.8	S23 25.9	264 58.3	12.3	S 6 59.5	14.9	58.4	Acamar	315 09.6	S40 11.7
1	195 34.5	S23 26.0	279 29.6	12.3	S 7 14.4	14.9	58.4	Achernar	335 18.2	S57 05.9
2	210 34.2	S23 26.0	294 00.9	12.3	S 7 29.3	14.9	58.4	Acrux	172 57.4	S63 15.0
3	225 33.8	S23 26.0	308 32.1	12.2	S 7 44.1	14.8	58.3	Adhara	255 03.6	S29 00.6
4	240 33.5	S23 26.0	323 03.3	12.2	S 7 58.9	14.8	58.3	Albireo	67 02.5	N28 01.2
T 5	255 33.2	S23 26.0	337 34.6	12.2	S 8 13.6	14.7	58.3			
U								Aldebaran	290 36.5	N16 34.0
E 6	270 32.9	S23 26.1	352 05.8	12.2	S 8 28.2	14.7	58.3	Alioth	166 11.0	N55 48.2
S 7	285 32.6	S23 26.1	6 37.0	12.2	S 8 42.8	14.6	58.3	Alkaid	152 50.4	N49 10.1
D 8	300 32.3	S23 26.1	21 08.1	12.2	S 8 57.4	14.5	58.2	Al Na-ir	27 30.1	S46 49.7
A 9	315 32.0	S23 26.1	35 39.3	12.2	S 9 11.9	14.5	58.2	Alnilam	275 34.9	S 1 11.0
Y 10	330 31.7	S23 26.1	50 10.4	12.1	S 9 26.3	14.4	58.2			
11	345 31.4	S23 26.1	64 41.6	12.1	S 9 40.7	14.4	58.2	Alphard	217 45.1	S 8 46.8
								Alphecca	126 02.0	N26 37.1
12	0 31.1	S23 26.1	79 12.7	12.1	S 9 55.0	14.3	58.1	Alpheratz	357 32.2	N29 15.0
13	15 30.7	S23 26.1	93 43.7	12.1	S10 09.3	14.3	58.1	Altair	61 57.9	N 8 56.6
14	30 30.4	S23 26.2	108 14.8	12.1	S10 23.5	14.2	58.1	Ankaa	353 04.7	S42 09.4
15	45 30.1	S23 26.2	122 45.8	12.0	S10 37.6	14.1	58.1			
16	60 29.8	S23 26.2	137 16.8	12.0	S10 51.7	14.1	58.0	Antares	112 13.2	S26 29.6
17	75 29.5	S23 26.2	151 47.8	12.0	S11 05.7	14.0	58.0	Arcturus	145 45.9	N19 02.0
								Atria	107 05.9	S69 04.6
18	90 29.2	S23 26.2	166 18.7	12.0	S11 19.6	13.9	58.0	Avior	234 13.1	S59 35.8
19	105 28.9	S23 26.2	180 49.7	11.9	S11 33.5	13.9	58.0	Bellatrix	278 19.9	N 6 22.5
20	120 28.6	S23 26.2	195 20.6	11.9	S11 47.3	13.8	57.9			
21	135 28.3	S23 26.2	209 51.4	11.9	S12 01.1	13.7	57.9	Betelgeuse	270 49.1	N 7 24.7
22	150 27.9	S23 26.2	224 22.3	11.8	S12 14.8	13.7	57.9	Canopus	263 50.7	S52 42.6
23	165 27.6	S23 26.2	238 53.1	11.8	S12 28.4	13.6	57.9	Capella	280 17.8	N46 01.6
22 0	180 27.3	S23 26.2	253 23.9	11.8	S12 41.9	13.5	57.9	Castor	245 53.6	N31 49.5
1	195 27.0	S23 26.2	267 54.6	11.7	S12 55.4	13.5	57.8	Deneb	49 24.5	N45 23.0
2	210 26.7	S23 26.2	282 25.3	11.7	S13 08.7	13.4	57.8			
3	225 26.4	S23 26.2	296 56.0	11.7	S13 22.1	13.3	57.8	Denebola	182 22.5	N14 24.8
4	240 26.1	S23 26.2	311 26.6	11.6	S13 35.3	13.2	57.8	Diphda	348 44.8	S17 50.0
W 5	255 25.8	S23 26.2	325 57.2	11.6	S13 48.4	13.2	57.7	Dubhe	193 37.9	N61 35.6
E								Elnath	277 58.5	N28 37.8
D 6	270 25.5	S23 26.2	340 27.8	11.6	S14 01.5	13.1	57.7	Eltanin	90 41.6	N51 29.1
N 7	285 25.1	S23 26.2	354 58.3	11.5	S14 14.5	13.0	57.7			
E 8	300 24.8	S23 26.2	9 28.8	11.5	S14 27.5	12.9	57.7	Enif	33 36.5	N10 00.3
S 9	315 24.5	S23 26.2	23 59.3	11.5	S14 40.3	12.8	57.7	Fomalhaut	15 12.0	S29 28.5
D 10	330 24.2	S23 26.2	38 29.7	11.4	S14 53.0	12.8	57.6	Gacrux	171 49.0	S57 16.0
A 11	345 23.9	S23 26.2	53 00.1	11.4	S15 05.7	12.7	57.6	Gienah	175 41.1	S17 41.8
Y								Hadar	148 32.9	S60 30.3
12	0 23.6	S23 26.2	67 30.4	11.3	S15 18.3	12.6	57.6			
13	15 23.3	S23 26.2	82 00.7	11.3	S15 30.8	12.5	57.6	Hamal	327 48.3	N23 35.9
14	30 23.0	S23 26.2	96 30.9	11.3	S15 43.2	12.4	57.5	Kaus Austr.	83 29.7	S34 22.3
15	45 22.7	S23 26.2	111 01.1	11.2	S15 55.6	12.3	57.5	Kochab	137 21.0	N74 02.1
16	60 22.3	S23 26.2	125 31.3	11.2	S16 07.8	12.2	57.5	Markab	13 27.6	N15 21.5
17	75 22.0	S23 26.1	140 01.4	11.1	S16 19.9	12.1	57.5	Menkar	314 03.3	N 4 12.0
								Menkent	147 55.0	S36 30.4
18	90 21.7	S23 26.1	154 31.5	11.1	S16 32.0	12.1	57.4	Miaplacidus	221 36.9	S69 49.7
19	105 21.4	S23 26.1	169 01.6	11.0	S16 44.0	12.0	57.4	Mirfak	308 24.4	N49 57.8
20	120 21.1	S23 26.1	183 31.5	11.0	S16 55.8	11.9	57.4	Nunki	75 45.1	S26 15.7
21	135 20.8	S23 26.1	198 01.5	10.9	S17 07.6	11.8	57.4	Peacock	53 02.4	S56 38.8
22	150 20.5	S23 26.1	212 31.4	10.9	S17 19.3	11.7	57.4			
23	165 20.2	S23 26.1	227 01.2	10.9	S17 30.9	11.6	57.3	Polaris	315 19.2	N89 22.6
23 0	180 19.9	S23 26.0	241 31.1	10.8	S17 42.4	11.5	57.3	Pollux	243 14.0	N27 57.4
1	195 19.5	S23 26.0	256 00.8	10.8	S17 53.8	11.4	57.3	Procyon	244 48.0	N 5 09.1
2	210 19.2	S23 26.0	270 30.5	10.7	S18 05.1	11.3	57.3	Rasalhague	95 56.7	N12 32.4
3	225 18.9	S23 26.0	285 00.2	10.7	S18 16.3	11.2	57.2	Regulus	207 31.7	N11 49.7
4	240 18.6	S23 26.0	299 29.8	10.6	S18 27.4	11.1	57.2	Rigel	281 01.2	S 8 10.2
T 5	255 18.3	S23 25.9	313 59.4	10.6	S18 38.3	11.0	57.2	Rigil Kent	139 37.5	S60 56.9
H								Sabik	102 00.4	S15 45.6
U 6	270 18.0	S23 25.9	328 28.9	10.5	S18 49.2	10.9	57.2	Schedar	349 28.1	N56 41.8
R 7	285 17.7	S23 25.9	342 58.4	10.5	S19 00.0	10.8	57.2	Shaula	96 07.5	S37 07.4
S 8	300 17.4	S23 25.9	357 27.8	10.4	S19 10.7	10.7	57.1			
D 9	315 17.1	S23 25.9	11 57.2	10.4	S19 21.3	10.6	57.1	Sirius	258 23.8	S16 45.3
A 10	330 16.7	S23 25.8	26 26.5	10.3	S19 31.7	10.5	57.1	Spica	158 19.9	S11 18.5
Y 11	345 16.4	S23 25.8	40 55.8	10.3	S19 42.1	10.4	57.1	Suhail	222 44.2	S43 32.6
								Vega	80 32.0	N38 48.6
12	0 16.1	S23 25.8	55 25.1	10.2	S19 52.3	10.2	57.0	Zuben-ubi	136 54.5	S16 09.5
13	15 15.8	S23 25.7	69 54.2	10.2	S20 02.5	10.1	57.0			
14	30 15.5	S23 25.7	84 23.4	10.1	S20 12.5	10.0	57.0			
15	45 15.2	S23 25.7	98 52.5	10.1	S20 22.4	9.9	57.0			
16	60 14.9	S23 25.7	113 21.5	10.0	S20 32.2	9.8	57.0			
17	75 14.6	S23 25.6	127 50.5	10.0	S20 41.9	9.7	56.9			
18	90 14.2	S23 25.6	142 19.4	9.9	S20 51.5	9.6	56.9			
19	105 13.9	S23 25.6	156 48.3	9.9	S21 00.9	9.5	56.9			
20	120 13.6	S23 25.5	171 17.2	9.8	S21 10.3	9.3	56.9			
21	135 13.3	S23 25.5	185 46.0	9.8	S21 19.5	9.2	56.9			
22	150 13.0	S23 25.5	200 14.7	9.8	S21 28.6	9.1	56.8			
23	165 12.7	S23 25.4	214 43.4	9.7	S21 37.6	9.0	56.8			
	S.D. 16.3	d 0.0	S.D.	15.8	15.7		15.5			

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 18.1	144 16.1	S20 47.1	158 41.9	S22 46.6	274 38.3	N 2 21.0	71 54.4	N 5 48.3
	1	107 20.6	159 15.4	S20 46.4	173 42.3	S22 46.3	289 40.6	N 2 21.0	86 56.8	N 5 48.3
	2	122 23.0	174 14.6	S20 45.6	188 42.7	S22 46.0	304 43.0	N 2 20.9	101 59.3	N 5 48.3
	3	137 25.5	189 13.9	S20 44.9	203 43.1	S22 45.7	319 45.3	N 2 20.9	117 01.8	N 5 48.3
	4	152 28.0	204 13.2	S20 44.1	218 43.4	S22 45.3	334 47.6	N 2 20.8	132 04.2	N 5 48.3
F	5	167 30.4	219 12.5	S20 43.4	233 43.8	S22 45.0	349 49.9	N 2 20.8	147 06.7	N 5 48.3
R										
I	6	182 32.9	234 11.8	S20 42.6	248 44.2	S22 44.7	4 52.3	N 2 20.7	162 09.2	N 5 48.3
D	7	197 35.4	249 11.0	S20 41.9	263 44.6	S22 44.4	19 54.6	N 2 20.7	177 11.6	N 5 48.3
A	8	212 37.8	264 10.3	S20 41.1	278 45.0	S22 44.1	34 56.9	N 2 20.6	192 14.1	N 5 48.3
Y	9	227 40.3	279 09.6	S20 40.4	293 45.3	S22 43.8	49 59.2	N 2 20.6	207 16.6	N 5 48.3
	10	242 42.8	294 08.9	S20 39.6	308 45.7	S22 43.5	65 01.6	N 2 20.5	222 19.0	N 5 48.4
	11	257 45.2	309 08.2	S20 38.9	323 46.1	S22 43.2	80 03.9	N 2 20.5	237 21.5	N 5 48.4
	12	272 47.7	324 07.5	S20 38.1	338 46.5	S22 42.9	95 06.2	N 2 20.4	252 24.0	N 5 48.4
	13	287 50.1	339 06.7	S20 37.3	353 46.9	S22 42.6	110 08.5	N 2 20.4	267 26.4	N 5 48.4
	14	302 52.6	354 06.0	S20 36.6	8 47.3	S22 42.2	125 10.9	N 2 20.3	282 28.9	N 5 48.4
	15	317 55.1	9 05.3	S20 35.8	23 47.6	S22 41.9	140 13.2	N 2 20.3	297 31.4	N 5 48.4
	16	332 57.5	24 04.6	S20 35.0	38 48.0	S22 41.6	155 15.5	N 2 20.2	312 33.8	N 5 48.4
	17	347 60.0	39 03.9	S20 34.3	53 48.4	S22 41.3	170 17.8	N 2 20.2	327 36.3	N 5 48.4
	18	3 02.5	54 03.2	S20 33.5	68 48.8	S22 41.0	185 20.2	N 2 20.1	342 38.8	N 5 48.5
	19	18 04.9	69 02.5	S20 32.7	83 49.2	S22 40.7	200 22.5	N 2 20.1	357 41.2	N 5 48.5
	20	33 07.4	84 01.8	S20 32.0	98 49.6	S22 40.4	215 24.8	N 2 20.0	12 43.7	N 5 48.5
	21	48 09.9	99 01.1	S20 31.2	113 49.9	S22 40.1	230 27.1	N 2 20.0	27 46.2	N 5 48.5
	22	63 12.3	114 00.3	S20 30.4	128 50.3	S22 39.7	245 29.5	N 2 19.9	42 48.6	N 5 48.5
	23	78 14.8	128 59.6	S20 29.7	143 50.7	S22 39.4	260 31.8	N 2 19.9	57 51.1	N 5 48.5
25	0	93 17.2	143 58.9	S20 28.9	158 51.1	S22 39.1	275 34.1	N 2 19.8	72 53.6	N 5 48.5
	1	108 19.7	158 58.2	S20 28.1	173 51.5	S22 38.8	290 36.4	N 2 19.8	87 56.0	N 5 48.5
	2	123 22.2	173 57.5	S20 27.3	188 51.9	S22 38.5	305 38.8	N 2 19.8	102 58.5	N 5 48.6
	3	138 24.6	188 56.8	S20 26.6	203 52.2	S22 38.2	320 41.1	N 2 19.7	118 01.0	N 5 48.6
	4	153 27.1	203 56.1	S20 25.8	218 52.6	S22 37.8	335 43.4	N 2 19.7	133 03.4	N 5 48.6
S	5	168 29.6	218 55.4	S20 25.0	233 53.0	S22 37.5	350 45.8	N 2 19.6	148 05.9	N 5 48.6
A										
T	6	183 32.0	233 54.7	S20 24.2	248 53.4	S22 37.2	5 48.1	N 2 19.6	163 08.4	N 5 48.6
U	7	198 34.5	248 54.0	S20 23.5	263 53.8	S22 36.9	20 50.4	N 2 19.5	178 10.8	N 5 48.6
R	8	213 37.0	263 53.3	S20 22.7	278 54.2	S22 36.6	35 52.8	N 2 19.5	193 13.3	N 5 48.6
D	9	228 39.4	278 52.6	S20 21.9	293 54.5	S22 36.2	50 55.1	N 2 19.4	208 15.7	N 5 48.6
A	10	243 41.9	293 51.9	S20 21.1	308 54.9	S22 35.9	65 57.4	N 2 19.4	223 18.2	N 5 48.7
Y	11	258 44.4	308 51.2	S20 20.3	323 55.3	S22 35.6	80 59.7	N 2 19.3	238 20.7	N 5 48.7
	12	273 46.8	323 50.5	S20 19.6	338 55.7	S22 35.3	96 02.1	N 2 19.3	253 23.1	N 5 48.7
	13	288 49.3	338 49.8	S20 18.8	353 56.1	S22 35.0	111 04.4	N 2 19.3	268 25.6	N 5 48.7
	14	303 51.7	353 49.1	S20 18.0	8 56.5	S22 34.6	126 06.7	N 2 19.2	283 28.1	N 5 48.7
	15	318 54.2	8 48.4	S20 17.2	23 56.9	S22 34.3	141 09.1	N 2 19.2	298 30.5	N 5 48.7
	16	333 56.7	23 47.7	S20 16.4	38 57.2	S22 34.0	156 11.4	N 2 19.1	313 33.0	N 5 48.7
	17	348 59.1	38 47.0	S20 15.6	53 57.6	S22 33.7	171 13.7	N 2 19.1	328 35.4	N 5 48.7
	18	4 01.6	53 46.3	S20 14.8	68 58.0	S22 33.3	186 16.1	N 2 19.0	343 37.9	N 5 48.8
	19	19 04.1	68 45.6	S20 14.0	83 58.4	S22 33.0	201 18.4	N 2 19.0	358 40.4	N 5 48.8
	20	34 06.5	83 44.9	S20 13.2	98 58.8	S22 32.7	216 20.7	N 2 18.9	13 42.8	N 5 48.8
	21	49 09.0	98 44.2	S20 12.4	113 59.2	S22 32.4	231 23.1	N 2 18.9	28 45.3	N 5 48.8
	22	64 11.5	113 43.5	S20 11.7	128 59.6	S22 32.0	246 25.4	N 2 18.9	43 47.8	N 5 48.8
	23	79 13.9	128 42.8	S20 10.9	143 59.9	S22 31.7	261 27.7	N 2 18.8	58 50.2	N 5 48.8
26	0	94 16.4	143 42.1	S20 10.1	159 00.3	S22 31.4	276 30.1	N 2 18.8	73 52.7	N 5 48.8
	1	109 18.9	158 41.4	S20 09.3	174 00.7	S22 31.1	291 32.4	N 2 18.7	88 55.1	N 5 48.9
	2	124 21.3	173 40.8	S20 08.5	189 01.1	S22 30.7	306 34.7	N 2 18.7	103 57.6	N 5 48.9
	3	139 23.8	188 40.1	S20 07.7	204 01.5	S22 30.4	321 37.1	N 2 18.6	119 00.1	N 5 48.9
	4	154 26.2	203 39.4	S20 06.9	219 01.9	S22 30.1	336 39.4	N 2 18.6	134 02.5	N 5 48.9
S	5	169 28.7	218 38.7	S20 06.1	234 02.3	S22 29.7	351 41.8	N 2 18.6	149 05.0	N 5 48.9
U										
N	6	184 31.2	233 38.0	S20 05.3	249 02.6	S22 29.4	6 44.1	N 2 18.5	164 07.4	N 5 48.9
D	7	199 33.6	248 37.3	S20 04.5	264 03.0	S22 29.1	21 46.4	N 2 18.5	179 09.9	N 5 48.9
A	8	214 36.1	263 36.6	S20 03.7	279 03.4	S22 28.8	36 48.8	N 2 18.4	194 12.4	N 5 49.0
Y	9	229 38.6	278 35.9	S20 02.9	294 03.8	S22 28.4	51 51.1	N 2 18.4	209 14.8	N 5 49.0
	10	244 41.0	293 35.2	S20 02.1	309 04.2	S22 28.1	66 53.4	N 2 18.3	224 17.3	N 5 49.0
	11	259 43.5	308 34.6	S20 01.2	324 04.6	S22 27.8	81 55.8	N 2 18.3	239 19.7	N 5 49.0
	12	274 46.0	323 33.9	S20 00.4	339 05.0	S22 27.4	96 58.1	N 2 18.3	254 22.2	N 5 49.0
	13	289 48.4	338 33.2	S19 59.6	354 05.3	S22 27.1	112 00.5	N 2 18.2	269 24.6	N 5 49.0
	14	304 50.9	353 32.5	S19 58.8	9 05.7	S22 26.8	127 02.8	N 2 18.2	284 27.1	N 5 49.1
	15	319 53.4	8 31.8	S19 58.0	24 06.1	S22 26.4	142 05.1	N 2 18.1	299 29.6	N 5 49.1
	16	334 55.8	23 31.1	S19 57.2	39 06.5	S22 26.1	157 07.5	N 2 18.1	314 32.0	N 5 49.1
	17	349 58.3	38 30.5	S19 56.4	54 06.9	S22 25.8	172 09.8	N 2 18.0	329 34.5	N 5 49.1
	18	5 00.7	53 29.8	S19 55.6	69 07.3	S22 25.4	187 12.2	N 2 18.0	344 36.9	N 5 49.1
	19	20 03.2	68 29.1	S19 54.8	84 07.7	S22 25.1	202 14.5	N 2 18.0	359 39.4	N 5 49.1
	20	35 05.7	83 28.4	S19 53.9	99 08.1	S22 24.8	217 16.8	N 2 17.9	14 41.8	N 5 49.1
	21	50 08.1	98 27.7	S19 53.1	114 08.4	S22 24.4	232 19.2	N 2 17.9	29 44.3	N 5 49.2
	22	65 10.6	113 27.1	S19 52.3	129 08.8	S22 24.1	247 21.5	N 2 17.8	44 46.8	N 5 49.2
	23	80 13.1	128 26.4	S19 51.5	144 09.2	S22 23.7	262 23.9	N 2 17.8	59 49.2	N 5 49.2
			v -0.7	d 0.8	v 0.4	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 '
24	0	180 12.4	S23 25.4	229 12.1	9.7	S21 46.4	8.9	56.8
	1	195 12.1	S23 25.3	243 40.7	9.6	S21 55.2	8.7	56.8
	2	210 11.8	S23 25.3	258 09.3	9.6	S22 03.8	8.6	56.7
	3	225 11.4	S23 25.3	272 37.8	9.5	S22 12.3	8.5	56.7
	4	240 11.1	S23 25.2	287 06.3	9.5	S22 20.7	8.4	56.7
F	5	255 10.8	S23 25.2	301 34.7	9.4	S22 28.9	8.3	56.7
R								
I	6	270 10.5	S23 25.1	316 03.1	9.4	S22 37.1	8.1	56.7
D	7	285 10.2	S23 25.1	330 31.4	9.3	S22 45.1	8.0	56.6
A	8	300 09.9	S23 25.1	344 59.7	9.3	S22 53.0	7.9	56.6
Y	9	315 09.6	S23 25.0	359 28.0	9.3	S23 00.7	7.8	56.6
	10	330 09.3	S23 25.0	13 56.2	9.2	S23 08.3	7.6	56.6
	11	345 09.0	S23 24.9	28 24.3	9.2	S23 15.8	7.5	56.6
	12	0 08.6	S23 24.9	42 52.5	9.1	S23 23.2	7.4	56.5
	13	15 08.3	S23 24.8	57 20.5	9.1	S23 30.4	7.2	56.5
	14	30 08.0	S23 24.8	71 48.6	9.0	S23 37.5	7.1	56.5
	15	45 07.7	S23 24.7	86 16.6	9.0	S23 44.5	7.0	56.5
	16	60 07.4	S23 24.7	100 44.6	9.0	S23 51.3	6.8	56.5
	17	75 07.1	S23 24.6	115 12.5	8.9	S23 58.0	6.7	56.4
	18	90 06.8	S23 24.6	129 40.4	8.9	S24 04.6	6.6	56.4
	19	105 06.5	S23 24.5	144 08.2	8.9	S24 11.1	6.4	56.4
	20	120 06.2	S23 24.5	158 36.1	8.8	S24 17.4	6.3	56.4
	21	135 05.8	S23 24.4	173 03.8	8.8	S24 23.5	6.2	56.4
	22	150 05.5	S23 24.4	187 31.6	8.8	S24 29.6	6.0	56.3
	23	165 05.2	S23 24.3	201 59.3	8.7	S24 35.5	5.9	56.3
25	0	180 04.9	S23 24.3	216 27.0	8.7	S24 41.2	5.8	56.3
	1	195 04.6	S23 24.2	230 54.6	8.7	S24 46.9	5.6	56.3
	2	210 04.3	S23 24.1	245 22.3	8.6	S24 52.3	5.5	56.3
	3	225 04.0	S23 24.1	259 49.9	8.6	S24 57.7	5.3	56.2
	4	240 03.7	S23 24.0	274 17.4	8.6	S25 02.9	5.2	56.2
S	5	255 03.4	S23 24.0	288 45.0	8.5	S25 08.0	5.1	56.2
A								
T	6	270 03.0	S23 23.9	303 12.5	8.5	S25 12.9	4.9	56.2
U	7	285 02.7	S23 23.8	317 40.0	8.5	S25 17.7	4.8	56.2
R	8	300 02.4	S23 23.8	332 07.5	8.5	S25 22.3	4.6	56.1
D	9	315 02.1	S23 23.7	346 34.9	8.4	S25 26.8	4.5	56.1
A	10	330 01.8	S23 23.7	1 02.3	8.4	S25 31.2	4.4	56.1
Y	11	345 01.5	S23 23.6	15 29.7	8.4	S25 35.4	4.2	56.1
	12	0 01.2	S23 23.5	29 57.1	8.4	S25 39.5	4.1	56.1
	13	15 00.9	S23 23.5	44 24.5	8.4	S25 43.4	3.9	56.0
	14	30 00.6	S23 23.4	58 51.8	8.4	S25 47.2	3.8	56.0
	15	45 00.2	S23 23.3	73 19.2	8.3	S25 50.9	3.7	56.0
	16	59 59.9	S23 23.2	87 46.5	8.3	S25 54.4	3.5	56.0
	17	74 59.6	S23 23.2	102 13.8	8.3	S25 57.8	3.4	56.0
	18	89 59.3	S23 23.1	116 41.1	8.3	S26 01.0	3.2	55.9
	19	104 59.0	S23 23.0	131 08.4	8.3	S26 04.1	3.1	55.9
	20	119 58.7	S23 23.0	145 35.7	8.3	S26 07.0	2.9	55.9
	21	134 58.4	S23 22.9	160 03.0	8.3	S26 09.8	2.8	55.9
	22	149 58.1	S23 22.8	174 30.3	8.3	S26 12.4	2.6	55.9
	23	164 57.8	S23 22.7	188 57.5	8.3	S26 14.9	2.5	55.8
26	0	179 57.5	S23 22.7	203 24.8	8.3	S26 17.3	2.4	55.8
	1	194 57.1	S23 22.6	217 52.1	8.3	S26 19.5	2.2	55.8
	2	209 56.8	S23 22.5	232 19.3	8.3	S26 21.6	2.1	55.8
	3	224 56.5	S23 22.4	246 46.6	8.3	S26 23.5	1.9	55.8
	4	239 56.2	S23 22.4	261 13.9	8.3	S26 25.3	1.8	55.7
S	5	254 55.9	S23 22.3	275 41.1	8.3	S26 26.9	1.6	55.7
U								
N	6	269 55.6	S23 22.2	290 08.4	8.3	S26 28.4	1.5	55.7
D	7	284 55.3	S23 22.1	304 35.7	8.3	S26 29.7	1.3	55.7
A	8	299 55.0	S23 22.0	319 03.0	8.3	S26 30.9	1.2	55.7
Y	9	314 54.7	S23 21.9	333 30.3	8.3	S26 32.0	1.1	55.7
	10	329 54.3	S23 21.9	347 57.6	8.3	S26 32.9	0.9	55.6
	11	344 54.0	S23 21.8	2 24.9	8.3	S26 33.7	0.8	55.6
	12	359 53.7	S23 21.7	16 52.3	8.3	S26 34.3	0.6	55.6
	13	14 53.4	S23 21.6	31 19.6	8.4	S26 34.8	0.5	55.6
	14	29 53.1	S23 21.5	45 47.0	8.4	S26 35.1	0.3	55.6
	15	44 52.8	S23 21.4	60 14.4	8.4	S26 35.3	0.2	55.5
	16	59 52.5	S23 21.3	74 41.8	8.4	S26 35.3	0.0	55.5
	17	74 52.2	S23 21.2	89 09.3	8.4	S26 35.2	0.1	55.5
	18	89 51.9	S23 21.2	103 36.7	8.5	S26 35.0	0.2	55.5
	19	104 51.6	S23 21.1	118 04.2	8.5	S26 34.6	0.4	55.5
	20	119 51.2	S23 21.0	132 31.7	8.5	S26 34.1	0.5	55.5
	21	134 50.9	S23 20.9	146 59.3	8.5	S26 33.4	0.7	55.4
	22	149 50.6	S23 20.8	161 26.8	8.6	S26 32.6	0.8	55.4
	23	164 50.3	S23 20.7	175 54.4	8.6	S26 31.7	0.9	55.4
		S.D. 16.3	d 0.1	S.D.	15.4	15.3	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.7
Achernar	335 18.2	S57 05.9
Acrux	172 57.4	S63 15.0
Adhara	255 03.6	S29 00.6
Albireo	67 02.5	N28 01.2
Aldebaran	290 36.5	N16 34.0
Alioth	166 11.0	N55 48.1
Alkaid	152 50.3	N49 10.1
Al Na-ir	27 30.1	S46 49.7
Alnilam	275 34.9	S 1 11.1
Alphard	217 45.1	S 8 46.9
Alphecca	126 02.0	N26 37.1
Alpheratz	357 32.3	N29 15.0
Altair	61 57.9	N 8 56.6
Ankaa	353 04.7	S42 09.4
Antares	112 13.2	S26 29.6
Arcturus	145 45.9	N19 02.0
Atria	107 05.9	S69 04.6
Avior	234 13.1	S59 35.9
Bellatrix	278 19.9	N 6 22.5
Betelgeuse	270 49.1	N 7 24.7
Canopus	263 50.7	S52 42.6
Capella	280 17.8	N46 01.6
Castor	245 53.6	N31 49.5
Deneb	49 24.5	N45 23.0
Denebola	182 22.4	N14 24.8
Diphda	348 44.8	S17 50.0
Dubhe	193 37.9	N61 35.6
Elnath	277 58.4	N28 37.8
Eltanin	90 41.6	N51 29.0
Enif	33 36.6	N10 00.3
Fomalhaut	15 12.0	S29 28.5
Gacrux	171 49.0	S57 16.0
Gienah	175 41.1	S17 41.8
Hadar	148 32.9	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.7	S34 22.3
Kochab	137 21.0	N74 02.1
Markab	13 27.6	N15 21.5
Menkar	314 03.3	N 4 12.0
Menkent	147 54.9	S36 30.4
Miaplacidus	221 36.9	S69 49.8
Mirfak	308 24.4	N49 57.8
Nunki	75 45.1	S26 15.7
Peacock	53 02.4	S56 38.8
Polaris	315 19.9	N89 22.6
Pollux	243 14.0	N27 57.4
Procyon	244 48.0	N 5 09.1
Rasalhague	95 56.7	N12 32.4
Regulus	207 31.7	N11 49.7
Rigel	281 01.2	S 8 10.2
Rigil Kent	139 37.5	S60 56.9
Sabik	102 00.4	S15 45.6
Schedar	349 28.1	N56 41.8
Shaula	96 07.5	S37 07.4
Sirius	258 23.7	S16 45.3
Spica	158 19.8	S11 18.5
Suhail	222 44.1	S43 32.6
Vega	80 32.0	N38 48.6
Zuben-ubi	136 54.5	S16 09.5

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
27	0	95 15.5	143 25.7	S19 50.7	159 09.6	S22 23.4	277 26.2	N 2 17.8	74 51.7	N 5 49.2
	1	110 18.0	158 25.0	S19 49.9	174 10.0	S22 23.1	292 28.5	N 2 17.7	89 54.1	N 5 49.2
	2	125 20.5	173 24.3	S19 49.0	189 10.4	S22 22.7	307 30.9	N 2 17.7	104 56.6	N 5 49.2
	3	140 22.9	188 23.7	S19 48.2	204 10.8	S22 22.4	322 33.2	N 2 17.6	119 59.0	N 5 49.3
	4	155 25.4	203 23.0	S19 47.4	219 11.2	S22 22.1	337 35.6	N 2 17.6	135 01.5	N 5 49.3
M	5	170 27.9	218 22.3	S19 46.6	234 11.6	S22 21.7	352 37.9	N 2 17.6	150 03.9	N 5 49.3
O										
N	6	185 30.3	233 21.6	S19 45.7	249 11.9	S22 21.4	7 40.3	N 2 17.5	165 06.4	N 5 49.3
D	7	200 32.8	248 21.0	S19 44.9	264 12.3	S22 21.0	22 42.6	N 2 17.5	180 08.9	N 5 49.3
A	8	215 35.2	263 20.3	S19 44.1	279 12.7	S22 20.7	37 44.9	N 2 17.4	195 11.3	N 5 49.3
Y	9	230 37.7	278 19.6	S19 43.3	294 13.1	S22 20.4	52 47.3	N 2 17.4	210 13.8	N 5 49.4
	10	245 40.2	293 19.0	S19 42.4	309 13.5	S22 20.0	67 49.6	N 2 17.4	225 16.2	N 5 49.4
	11	260 42.6	308 18.3	S19 41.6	324 13.9	S22 19.7	82 52.0	N 2 17.3	240 18.7	N 5 49.4
	12	275 45.1	323 17.6	S19 40.8	339 14.3	S22 19.3	97 54.3	N 2 17.3	255 21.1	N 5 49.4
	13	290 47.6	338 16.9	S19 39.9	354 14.7	S22 19.0	112 56.7	N 2 17.2	270 23.6	N 5 49.4
	14	305 50.0	353 16.3	S19 39.1	9 15.1	S22 18.6	127 59.0	N 2 17.2	285 26.0	N 5 49.4
	15	320 52.5	8 15.6	S19 38.3	24 15.4	S22 18.3	143 01.4	N 2 17.2	300 28.5	N 5 49.5
	16	335 55.0	23 14.9	S19 37.4	39 15.8	S22 18.0	158 03.7	N 2 17.1	315 30.9	N 5 49.5
	17	350 57.4	38 14.3	S19 36.6	54 16.2	S22 17.6	173 06.1	N 2 17.1	330 33.4	N 5 49.5
	18	5 59.9	53 13.6	S19 35.8	69 16.6	S22 17.3	188 08.4	N 2 17.0	345 35.9	N 5 49.5
	19	21 02.3	68 12.9	S19 34.9	84 17.0	S22 16.9	203 10.7	N 2 17.0	0 38.3	N 5 49.5
	20	36 04.8	83 12.3	S19 34.1	99 17.4	S22 16.6	218 13.1	N 2 17.0	15 40.8	N 5 49.5
	21	51 07.3	98 11.6	S19 33.2	114 17.8	S22 16.2	233 15.4	N 2 16.9	30 43.2	N 5 49.6
	22	66 09.7	113 10.9	S19 32.4	129 18.2	S22 15.9	248 17.8	N 2 16.9	45 45.7	N 5 49.6
	23	81 12.2	128 10.3	S19 31.6	144 18.6	S22 15.5	263 20.1	N 2 16.9	60 48.1	N 5 49.6
28	0	96 14.7	143 09.6	S19 30.7	159 19.0	S22 15.2	278 22.5	N 2 16.8	75 50.6	N 5 49.6
	1	111 17.1	158 09.0	S19 29.9	174 19.3	S22 14.8	293 24.8	N 2 16.8	90 53.0	N 5 49.6
	2	126 19.6	173 08.3	S19 29.0	189 19.7	S22 14.5	308 27.2	N 2 16.7	105 55.5	N 5 49.7
	3	141 22.1	188 07.6	S19 28.2	204 20.1	S22 14.1	323 29.5	N 2 16.7	120 57.9	N 5 49.7
	4	156 24.5	203 07.0	S19 27.4	219 20.5	S22 13.8	338 31.9	N 2 16.7	136 00.4	N 5 49.7
T	5	171 27.0	218 06.3	S19 26.5	234 20.9	S22 13.4	353 34.2	N 2 16.6	151 02.8	N 5 49.7
U										
E	6	186 29.5	233 05.6	S19 25.7	249 21.3	S22 13.1	8 36.6	N 2 16.6	166 05.3	N 5 49.7
S	7	201 31.9	248 05.0	S19 24.8	264 21.7	S22 12.7	23 38.9	N 2 16.6	181 07.7	N 5 49.7
D	8	216 34.4	263 04.3	S19 24.0	279 22.1	S22 12.4	38 41.3	N 2 16.5	196 10.2	N 5 49.8
A	9	231 36.8	278 03.7	S19 23.1	294 22.5	S22 12.0	53 43.6	N 2 16.5	211 12.6	N 5 49.8
Y	10	246 39.3	293 03.0	S19 22.3	309 22.9	S22 11.7	68 46.0	N 2 16.5	226 15.1	N 5 49.8
	11	261 41.8	308 02.4	S19 21.4	324 23.3	S22 11.3	83 48.3	N 2 16.4	241 17.5	N 5 49.8
	12	276 44.2	323 01.7	S19 20.6	339 23.7	S22 11.0	98 50.7	N 2 16.4	256 20.0	N 5 49.8
	13	291 46.7	338 01.1	S19 19.7	354 24.0	S22 10.6	113 53.0	N 2 16.3	271 22.4	N 5 49.9
	14	306 49.2	353 00.4	S19 18.8	9 24.4	S22 10.3	128 55.4	N 2 16.3	286 24.9	N 5 49.9
	15	321 51.6	7 59.7	S19 18.0	24 24.8	S22 09.9	143 57.8	N 2 16.3	301 27.3	N 5 49.9
	16	336 54.1	22 59.1	S19 17.1	39 25.2	S22 09.5	159 00.1	N 2 16.2	316 29.8	N 5 49.9
	17	351 56.6	37 58.4	S19 16.3	54 25.6	S22 09.2	174 02.5	N 2 16.2	331 32.2	N 5 49.9
	18	6 59.0	52 57.8	S19 15.4	69 26.0	S22 08.8	189 04.8	N 2 16.2	346 34.7	N 5 49.9
	19	22 01.5	67 57.1	S19 14.6	84 26.4	S22 08.5	204 07.2	N 2 16.1	1 37.1	N 5 50.0
	20	37 04.0	82 56.5	S19 13.7	99 26.8	S22 08.1	219 09.5	N 2 16.1	16 39.6	N 5 50.0
	21	52 06.4	97 55.8	S19 12.8	114 27.2	S22 07.8	234 11.9	N 2 16.1	31 42.0	N 5 50.0
	22	67 08.9	112 55.2	S19 12.0	129 27.6	S22 07.4	249 14.2	N 2 16.0	46 44.5	N 5 50.0
	23	82 11.3	127 54.5	S19 11.1	144 28.0	S22 07.1	264 16.6	N 2 16.0	61 46.9	N 5 50.0
29	0	97 13.8	142 53.9	S19 10.2	159 28.4	S22 06.7	279 18.9	N 2 16.0	76 49.4	N 5 50.1
	1	112 16.3	157 53.2	S19 09.4	174 28.8	S22 06.3	294 21.3	N 2 15.9	91 51.8	N 5 50.1
	2	127 18.7	172 52.6	S19 08.5	189 29.2	S22 06.0	309 23.7	N 2 15.9	106 54.3	N 5 50.1
	3	142 21.2	187 52.0	S19 07.6	204 29.5	S22 05.6	324 26.0	N 2 15.9	121 56.7	N 5 50.1
	4	157 23.7	202 51.3	S19 06.8	219 29.9	S22 05.3	339 28.4	N 2 15.8	136 59.1	N 5 50.1
W	5	172 26.1	217 50.7	S19 05.9	234 30.3	S22 04.9	354 30.7	N 2 15.8	152 01.6	N 5 50.2
E										
D	6	187 28.6	232 50.0	S19 05.0	249 30.7	S22 04.5	9 33.1	N 2 15.8	167 04.0	N 5 50.2
N	7	202 31.1	247 49.4	S19 04.2	264 31.1	S22 04.2	24 35.4	N 2 15.7	182 06.5	N 5 50.2
E	8	217 33.5	262 48.7	S19 03.3	279 31.5	S22 03.8	39 37.8	N 2 15.7	197 08.9	N 5 50.2
S	9	232 36.0	277 48.1	S19 02.4	294 31.9	S22 03.4	54 40.2	N 2 15.7	212 11.4	N 5 50.2
D	10	247 38.5	292 47.4	S19 01.6	309 32.3	S22 03.1	69 42.5	N 2 15.6	227 13.8	N 5 50.3
A	11	262 40.9	307 46.8	S19 00.7	324 32.7	S22 02.7	84 44.9	N 2 15.6	242 16.3	N 5 50.3
Y										
	12	277 43.4	322 46.2	S18 59.8	339 33.1	S22 02.4	99 47.2	N 2 15.6	257 18.7	N 5 50.3
	13	292 45.8	337 45.5	S18 58.9	354 33.5	S22 02.0	114 49.6	N 2 15.5	272 21.2	N 5 50.3
	14	307 48.3	352 44.9	S18 58.1	9 33.9	S22 01.6	129 52.0	N 2 15.5	287 23.6	N 5 50.3
	15	322 50.8	7 44.2	S18 57.2	24 34.3	S22 01.3	144 54.3	N 2 15.5	302 26.0	N 5 50.4
	16	337 53.2	22 43.6	S18 56.3	39 34.7	S22 00.9	159 56.7	N 2 15.4	317 28.5	N 5 50.4
	17	352 55.7	37 43.0	S18 55.4	54 35.1	S22 00.5	174 59.0	N 2 15.4	332 30.9	N 5 50.4
	18	7 58.2	52 42.3	S18 54.5	69 35.5	S22 00.2	190 01.4	N 2 15.4	347 33.4	N 5 50.4
	19	23 00.6	67 41.7	S18 53.7	84 35.9	S21 59.8	205 03.8	N 2 15.3	2 35.8	N 5 50.4
	20	38 03.1	82 41.1	S18 52.8	99 36.3	S21 59.4	220 06.1	N 2 15.3	17 38.3	N 5 50.5
	21	53 05.6	97 40.4	S18 51.9	114 36.6	S21 59.1	235 08.5	N 2 15.3	32 40.7	N 5 50.5
	22	68 08.0	112 39.8	S18 51.0	129 37.0	S21 58.7	250 10.8	N 2 15.2	47 43.2	N 5 50.5
	23	83 10.5	127 39.2	S18 50.1	144 37.4	S21 58.3	265 13.2	N 2 15.2	62 45.6	N 5 50.5
			v -0.7	d 0.9	v 0.4	d 0.4	v 2.4	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
	° '	° '	° '	'	° '	'	'		° '	° '
27 0	179 50.0	S23 20.6	190 22.1	8.6	S26 30.6	1.1	55.4	Acamar	315 09.6	S40 11.7
1	194 49.7	S23 20.5	204 49.7	8.7	S26 29.3	1.2	55.4	Achernar	335 18.2	S57 05.9
2	209 49.4	S23 20.4	219 17.4	8.7	S26 28.0	1.4	55.3	Acrux	172 57.3	S63 15.0
3	224 49.1	S23 20.3	233 45.2	8.7	S26 26.5	1.5	55.3	Adhara	255 03.5	S29 00.6
4	239 48.8	S23 20.2	248 12.9	8.8	S26 24.8	1.6	55.3	Albireo	67 02.4	N28 01.2
M 5	254 48.5	S23 20.1	262 40.7	8.8	S26 23.0	1.8	55.3			
O								Aldebaran	290 36.5	N16 34.0
N 6	269 48.2	S23 20.0	277 08.6	8.8	S26 21.1	1.9	55.3	Alioth	166 10.9	N55 48.1
D 7	284 47.9	S23 19.9	291 36.5	8.9	S26 19.0	2.1	55.3	Alkaid	152 50.3	N49 10.1
A 8	299 47.5	S23 19.8	306 04.4	8.9	S26 16.8	2.2	55.2	Al Na-ir	27 30.1	S46 49.6
Y 9	314 47.2	S23 19.7	320 32.4	9.0	S26 14.5	2.3	55.2	Alnilam	275 34.9	S 1 11.1
10	329 46.9	S23 19.6	335 00.4	9.0	S26 12.0	2.5	55.2			
11	344 46.6	S23 19.5	349 28.5	9.1	S26 09.4	2.6	55.2	Alphard	217 45.1	S 8 46.9
								Alphecca	126 02.0	N26 37.1
12	359 46.3	S23 19.4	3 56.6	9.1	S26 06.7	2.7	55.2	Alpheratz	357 32.3	N29 15.0
13	14 46.0	S23 19.3	18 24.7	9.2	S26 03.8	2.9	55.2	Altair	61 57.9	N 8 56.6
14	29 45.7	S23 19.2	32 52.9	9.2	S26 00.8	3.0	55.1	Ankaa	353 04.7	S42 09.4
15	44 45.4	S23 19.1	47 21.2	9.3	S25 57.6	3.1	55.1			
16	59 45.1	S23 19.0	61 49.5	9.3	S25 54.4	3.3	55.1	Antares	112 13.2	S26 29.6
17	74 44.8	S23 18.8	76 17.9	9.4	S25 50.9	3.4	55.1	Arcturus	145 45.9	N19 02.0
								Atria	107 05.8	S69 04.5
18	89 44.5	S23 18.7	90 46.3	9.4	S25 47.4	3.5	55.1	Avior	234 13.1	S59 35.9
19	104 44.1	S23 18.6	105 14.7	9.5	S25 43.7	3.7	55.1	Bellatrix	278 19.9	N 6 22.5
20	119 43.8	S23 18.5	119 43.3	9.5	S25 39.9	3.8	55.0			
21	134 43.5	S23 18.4	134 11.9	9.6	S25 36.0	3.9	55.0	Betelgeuse	270 49.1	N 7 24.7
22	149 43.2	S23 18.3	148 40.5	9.6	S25 32.0	4.1	55.0	Canopus	263 50.7	S52 42.6
23	164 42.9	S23 18.2	163 09.2	9.7	S25 27.8	4.2	55.0	Capella	280 17.8	N46 01.6
								Castor	245 53.6	N31 49.5
28 0	179 42.6	S23 18.1	177 37.9	9.8	S25 23.5	4.3	55.0	Deneb	49 24.5	N45 23.0
1	194 42.3	S23 17.9	192 06.8	9.8	S25 19.1	4.4	55.0			
2	209 42.0	S23 17.8	206 35.6	9.9	S25 14.5	4.6	54.9	Denebola	182 22.4	N14 24.7
3	224 41.7	S23 17.7	221 04.6	9.9	S25 09.8	4.7	54.9	Diphda	348 44.9	S17 50.0
4	239 41.4	S23 17.6	235 33.6	10.0	S25 05.0	4.8	54.9	Dubhe	193 37.8	N61 35.6
T 5	254 41.1	S23 17.5	250 02.7	10.1	S25 00.1	4.9	54.9	Elnath	277 58.4	N28 37.8
U								Eltanin	90 41.6	N51 29.0
E 6	269 40.8	S23 17.4	264 31.8	10.1	S24 55.0	5.0	54.9			
S 7	284 40.5	S23 17.2	279 01.0	10.2	S24 49.9	5.2	54.9	Enif	33 36.6	N10 00.3
D 8	299 40.1	S23 17.1	293 30.2	10.3	S24 44.6	5.3	54.9	Fomalhaut	15 12.0	S29 28.5
A 9	314 39.8	S23 17.0	307 59.6	10.3	S24 39.2	5.4	54.8	Gacrux	171 48.9	S57 16.0
Y 10	329 39.5	S23 16.9	322 29.0	10.4	S24 33.7	5.5	54.8	Gienah	175 41.0	S17 41.8
11	344 39.2	S23 16.7	336 58.4	10.5	S24 28.0	5.6	54.8	Hadar	148 32.8	S60 30.3
12	359 38.9	S23 16.6	351 28.0	10.5	S24 22.3	5.8	54.8	Hamal	327 48.3	N23 35.9
13	14 38.6	S23 16.5	5 57.6	10.6	S24 16.4	5.9	54.8	Kaus Austr.	83 29.7	S34 22.3
14	29 38.3	S23 16.4	20 27.2	10.7	S24 10.4	6.0	54.8	Kochab	137 20.9	N74 02.1
15	44 38.0	S23 16.2	34 57.0	10.7	S24 04.3	6.1	54.7	Markab	13 27.6	N15 21.5
16	59 37.7	S23 16.1	49 26.8	10.8	S23 58.1	6.2	54.7	Menkar	314 03.3	N 4 12.0
17	74 37.4	S23 16.0	63 56.7	10.9	S23 51.8	6.3	54.7			
								Menkent	147 54.9	S36 30.4
18	89 37.1	S23 15.9	78 26.6	11.0	S23 45.3	6.4	54.7	Miaplacidus	221 36.9	S69 49.8
19	104 36.8	S23 15.7	92 56.6	11.0	S23 38.8	6.5	54.7	Mirfak	308 24.4	N49 57.8
20	119 36.5	S23 15.6	107 26.7	11.1	S23 32.1	6.7	54.7	Nunki	75 45.1	S26 15.7
21	134 36.2	S23 15.5	121 56.9	11.2	S23 25.4	6.8	54.7	Peacock	53 02.4	S56 38.8
22	149 35.9	S23 15.3	136 27.2	11.2	S23 18.5	6.9	54.7			
23	164 35.6	S23 15.2	150 57.5	11.3	S23 11.5	7.0	54.6	Polaris	315 20.7	N89 22.7
								Pollux	243 14.0	N27 57.4
29 0	179 35.2	S23 15.1	165 27.9	11.4	S23 04.4	7.1	54.6	Procyon	244 47.9	N 5 09.1
1	194 34.9	S23 14.9	179 58.3	11.5	S22 57.3	7.2	54.6	Rasalhague	95 56.7	N12 32.4
2	209 34.6	S23 14.8	194 28.9	11.5	S22 50.0	7.3	54.6	Regulus	207 31.6	N11 49.7
3	224 34.3	S23 14.6	208 59.5	11.6	S22 42.6	7.4	54.6			
4	239 34.0	S23 14.5	223 30.2	11.7	S22 35.1	7.5	54.6	Rigel	281 01.2	S 8 10.2
W 5	254 33.7	S23 14.4	238 00.9	11.8	S22 27.5	7.6	54.6	Rigil Kent	139 37.4	S60 56.9
E								Sabik	102 00.3	S15 45.6
D 6	269 33.4	S23 14.2	252 31.8	11.8	S22 19.8	7.7	54.5	Schedar	349 28.1	N56 41.8
N 7	284 33.1	S23 14.1	267 02.7	11.9	S22 12.0	7.8	54.5	Shaula	96 07.5	S37 07.4
E 8	299 32.8	S23 14.0	281 33.6	12.0	S22 04.1	7.9	54.5			
S 9	314 32.5	S23 13.8	296 04.7	12.1	S21 56.2	8.0	54.5	Sirius	258 23.7	S16 45.3
D 10	329 32.2	S23 13.7	310 35.8	12.1	S21 48.1	8.1	54.5	Spica	158 19.8	S11 18.5
A 11	344 31.9	S23 13.5	325 07.0	12.2	S21 39.9	8.2	54.5	Suhail	222 44.1	S43 32.7
Y								Vega	80 32.0	N38 48.6
12	359 31.6	S23 13.4	339 38.3	12.3	S21 31.6	8.3	54.5	Zuben-ubi	136 54.4	S16 09.5
13	14 31.3	S23 13.2	354 09.7	12.4	S21 23.3	8.4	54.5			
14	29 31.0	S23 13.1	8 41.1	12.4	S21 14.8	8.4	54.4			
15	44 30.7	S23 12.9	23 12.6	12.5	S21 06.3	8.5	54.4			
16	59 30.4	S23 12.8	37 44.2	12.6	S20 57.7	8.6	54.4			
17	74 30.1	S23 12.6	52 15.9	12.7	S20 49.0	8.7	54.4			
18	89 29.8	S23 12.5	66 47.6	12.7	S20 40.1	8.8	54.4			
19	104 29.5	S23 12.3	81 19.4	12.8	S20 31.3	8.9	54.4			
20	119 29.1	S23 12.2	95 51.3	12.9	S20 22.3	9.0	54.4			
21	134 28.8	S23 12.0	110 23.2	13.0	S20 13.2	9.1	54.4			
22	149 28.5	S23 11.9	124 55.3	13.0	S20 04.1	9.1	54.4			
23	164 28.2	S23 11.7	139 27.4	13.1	S19 54.8	9.2	54.3			
	S.D. 16.3	d 0.1	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 ° '
30	0	98 13.0	142 38.5	S18 49.2	159 37.8	S21 58.0	280 15.6	N 2 15.2	77 48.0	N 5 50.6
	1	113 15.4	157 37.9	S18 48.3	174 38.2	S21 57.6	295 17.9	N 2 15.1	92 50.5	N 5 50.6
	2	128 17.9	172 37.3	S18 47.5	189 38.6	S21 57.2	310 20.3	N 2 15.1	107 52.9	N 5 50.6
	3	143 20.3	187 36.6	S18 46.6	204 39.0	S21 56.8	325 22.7	N 2 15.1	122 55.4	N 5 50.6
	4	158 22.8	202 36.0	S18 45.7	219 39.4	S21 56.5	340 25.0	N 2 15.0	137 57.8	N 5 50.6
T	5	173 25.3	217 35.4	S18 44.8	234 39.8	S21 56.1	355 27.4	N 2 15.0	153 00.3	N 5 50.7
H										
U	6	188 27.7	232 34.7	S18 43.9	249 40.2	S21 55.7	10 29.7	N 2 15.0	168 02.7	N 5 50.7
R	7	203 30.2	247 34.1	S18 43.0	264 40.6	S21 55.4	25 32.1	N 2 15.0	183 05.1	N 5 50.7
S	8	218 32.7	262 33.5	S18 42.1	279 41.0	S21 55.0	40 34.5	N 2 14.9	198 07.6	N 5 50.7
D	9	233 35.1	277 32.9	S18 41.2	294 41.4	S21 54.6	55 36.8	N 2 14.9	213 10.0	N 5 50.7
A	10	248 37.6	292 32.2	S18 40.3	309 41.8	S21 54.2	70 39.2	N 2 14.9	228 12.5	N 5 50.8
Y	11	263 40.1	307 31.6	S18 39.4	324 42.2	S21 53.9	85 41.6	N 2 14.8	243 14.9	N 5 50.8
	12	278 42.5	322 31.0	S18 38.5	339 42.6	S21 53.5	100 43.9	N 2 14.8	258 17.3	N 5 50.8
	13	293 45.0	337 30.4	S18 37.6	354 43.0	S21 53.1	115 46.3	N 2 14.8	273 19.8	N 5 50.8
	14	308 47.5	352 29.7	S18 36.7	9 43.4	S21 52.7	130 48.7	N 2 14.7	288 22.2	N 5 50.9
	15	323 49.9	7 29.1	S18 35.8	24 43.8	S21 52.4	145 51.0	N 2 14.7	303 24.7	N 5 50.9
	16	338 52.4	22 28.5	S18 34.9	39 44.2	S21 52.0	160 53.4	N 2 14.7	318 27.1	N 5 50.9
	17	353 54.8	37 27.9	S18 34.0	54 44.6	S21 51.6	175 55.8	N 2 14.7	333 29.5	N 5 50.9
	18	8 57.3	52 27.3	S18 33.1	69 45.0	S21 51.2	190 58.1	N 2 14.6	348 32.0	N 5 50.9
	19	23 59.8	67 26.6	S18 32.2	84 45.4	S21 50.9	206 00.5	N 2 14.6	3 34.4	N 5 51.0
	20	39 02.2	82 26.0	S18 31.3	99 45.8	S21 50.5	221 02.9	N 2 14.6	18 36.9	N 5 51.0
	21	54 04.7	97 25.4	S18 30.4	114 46.2	S21 50.1	236 05.3	N 2 14.5	33 39.3	N 5 51.0
	22	69 07.2	112 24.8	S18 29.5	129 46.6	S21 49.7	251 07.6	N 2 14.5	48 41.7	N 5 51.0
	23	84 09.6	127 24.2	S18 28.6	144 47.0	S21 49.4	266 10.0	N 2 14.5	63 44.2	N 5 51.1
31	0	99 12.1	142 23.5	S18 27.7	159 47.4	S21 49.0	281 12.4	N 2 14.5	78 46.6	N 5 51.1
	1	114 14.6	157 22.9	S18 26.8	174 47.8	S21 48.6	296 14.7	N 2 14.4	93 49.1	N 5 51.1
	2	129 17.0	172 22.3	S18 25.9	189 48.2	S21 48.2	311 17.1	N 2 14.4	108 51.5	N 5 51.1
	3	144 19.5	187 21.7	S18 25.0	204 48.6	S21 47.8	326 19.5	N 2 14.4	123 53.9	N 5 51.2
	4	159 22.0	202 21.1	S18 24.1	219 49.0	S21 47.4	341 21.8	N 2 14.3	138 56.4	N 5 51.2
F	5	174 24.4	217 20.5	S18 23.2	234 49.4	S21 47.1	356 24.2	N 2 14.3	153 58.8	N 5 51.2
R										
I	6	189 26.9	232 19.8	S18 22.3	249 49.8	S21 46.7	11 26.6	N 2 14.3	169 01.3	N 5 51.2
D	7	204 29.3	247 19.2	S18 21.3	264 50.2	S21 46.3	26 29.0	N 2 14.3	184 03.7	N 5 51.2
A	8	219 31.8	262 18.6	S18 20.4	279 50.6	S21 45.9	41 31.3	N 2 14.2	199 06.1	N 5 51.3
Y	9	234 34.3	277 18.0	S18 19.5	294 51.0	S21 45.5	56 33.7	N 2 14.2	214 08.6	N 5 51.3
	10	249 36.7	292 17.4	S18 18.6	309 51.4	S21 45.2	71 36.1	N 2 14.2	229 11.0	N 5 51.3
	11	264 39.2	307 16.8	S18 17.7	324 51.8	S21 44.8	86 38.4	N 2 14.2	244 13.4	N 5 51.3
	12	279 41.7	322 16.2	S18 16.8	339 52.2	S21 44.4	101 40.8	N 2 14.1	259 15.9	N 5 51.4
	13	294 44.1	337 15.6	S18 15.8	354 52.6	S21 44.0	116 43.2	N 2 14.1	274 18.3	N 5 51.4
	14	309 46.6	352 15.0	S18 14.9	9 53.0	S21 43.6	131 45.6	N 2 14.1	289 20.7	N 5 51.4
	15	324 49.1	7 14.4	S18 14.0	24 53.4	S21 43.2	146 47.9	N 2 14.1	304 23.2	N 5 51.4
	16	339 51.5	22 13.7	S18 13.1	39 53.8	S21 42.8	161 50.3	N 2 14.0	319 25.6	N 5 51.5
	17	354 54.0	37 13.1	S18 12.2	54 54.2	S21 42.5	176 52.7	N 2 14.0	334 28.1	N 5 51.5
	18	9 56.4	52 12.5	S18 11.2	69 54.6	S21 42.1	191 55.1	N 2 14.0	349 30.5	N 5 51.5
	19	24 58.9	67 11.9	S18 10.3	84 55.0	S21 41.7	206 57.4	N 2 13.9	4 32.9	N 5 51.5
	20	40 01.4	82 11.3	S18 09.4	99 55.4	S21 41.3	221 59.8	N 2 13.9	19 35.4	N 5 51.6
	21	55 03.8	97 10.7	S18 08.5	114 55.8	S21 40.9	237 02.2	N 2 13.9	34 37.8	N 5 51.6
	22	70 06.3	112 10.1	S18 07.5	129 56.2	S21 40.5	252 04.6	N 2 13.9	49 40.2	N 5 51.6
	23	85 08.8	127 09.5	S18 06.6	144 56.6	S21 40.1	267 06.9	N 2 13.8	64 42.7	N 5 51.6
1	0	100 11.2	142 08.9	S18 05.7	159 57.0	S21 39.7	282 09.3	N 2 13.8	79 45.1	N 5 51.7
	1	115 13.7	157 08.3	S18 04.8	174 57.4	S21 39.3	297 11.7	N 2 13.8	94 47.5	N 5 51.7
	2	130 16.2	172 07.7	S18 03.8	189 57.8	S21 39.0	312 14.1	N 2 13.8	109 50.0	N 5 51.7
	3	145 18.6	187 07.1	S18 02.9	204 58.2	S21 38.6	327 16.5	N 2 13.7	124 52.4	N 5 51.7
	4	160 21.1	202 06.5	S18 02.0	219 58.6	S21 38.2	342 18.8	N 2 13.7	139 54.8	N 5 51.8
S	5	175 23.6	217 05.9	S18 01.0	234 59.0	S21 37.8	357 21.2	N 2 13.7	154 57.3	N 5 51.8
A										
T	6	190 26.0	232 05.3	S18 00.1	249 59.4	S21 37.4	12 23.6	N 2 13.7	169 59.7	N 5 51.8
U	7	205 28.5	247 04.7	S17 59.2	264 59.8	S21 37.0	27 26.0	N 2 13.6	185 02.1	N 5 51.8
R	8	220 30.9	262 04.1	S17 58.2	280 00.2	S21 36.6	42 28.4	N 2 13.6	200 04.6	N 5 51.9
D	9	235 33.4	277 03.5	S17 57.3	295 00.6	S21 36.2	57 30.7	N 2 13.6	215 07.0	N 5 51.9
A	10	250 35.9	292 02.9	S17 56.4	310 01.0	S21 35.8	72 33.1	N 2 13.6	230 09.4	N 5 51.9
Y	11	265 38.3	307 02.3	S17 55.4	325 01.4	S21 35.4	87 35.5	N 2 13.6	245 11.9	N 5 51.9
	12	280 40.8	322 01.7	S17 54.5	340 01.8	S21 35.0	102 37.9	N 2 13.5	260 14.3	N 5 52.0
	13	295 43.3	337 01.1	S17 53.6	355 02.2	S21 34.6	117 40.3	N 2 13.5	275 16.7	N 5 52.0
	14	310 45.7	352 00.5	S17 52.6	10 02.6	S21 34.2	132 42.6	N 2 13.5	290 19.2	N 5 52.0
	15	325 48.2	6 60.0	S17 51.7	25 03.0	S21 33.8	147 45.0	N 2 13.5	305 21.6	N 5 52.0
	16	340 50.7	21 59.4	S17 50.7	40 03.4	S21 33.4	162 47.4	N 2 13.4	320 24.0	N 5 52.1
	17	355 53.1	36 58.8	S17 49.8	55 03.9	S21 33.1	177 49.8	N 2 13.4	335 26.5	N 5 52.1
	18	10 55.6	51 58.2	S17 48.9	70 04.3	S21 32.7	192 52.2	N 2 13.4	350 28.9	N 5 52.1
	19	25 58.1	66 57.6	S17 47.9	85 04.7	S21 32.3	207 54.5	N 2 13.4	5 31.3	N 5 52.1
	20	41 00.5	81 57.0	S17 47.0	100 05.1	S21 31.9	222 56.9	N 2 13.3	20 33.8	N 5 52.2
	21	56 03.0	96 56.4	S17 46.0	115 05.5	S21 31.5	237 59.3	N 2 13.3	35 36.2	N 5 52.2
	22	71 05.4	111 55.8	S17 45.1	130 05.9	S21 31.1	253 01.7	N 2 13.3	50 38.6	N 5 52.2
	23	86 07.9	126 55.2	S17 44.1	145 06.3	S21 30.7	268 04.1	N 2 13.3	65 41.0	N 5 52.2
			v -0.6	d 0.9	v 0.4	d 0.4	v 2.4	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
		° '	° '	° '	'	° '	'	'
30	0	179 27.9	S23 11.6	153 59.5	13.2	S19 45.5	9.3	54.3
	1	194 27.6	S23 11.4	168 31.8	13.2	S19 36.1	9.4	54.3
	2	209 27.3	S23 11.3	183 04.1	13.3	S19 26.7	9.5	54.3
	3	224 27.0	S23 11.1	197 36.5	13.4	S19 17.1	9.5	54.3
	4	239 26.7	S23 11.0	212 08.9	13.5	S19 07.5	9.6	54.3
T	5	254 26.4	S23 10.8	226 41.5	13.5	S18 57.8	9.7	54.3
H								
U	6	269 26.1	S23 10.6	241 14.1	13.6	S18 48.0	9.8	54.3
R	7	284 25.8	S23 10.5	255 46.8	13.7	S18 38.2	9.9	54.3
S	8	299 25.5	S23 10.3	270 19.5	13.7	S18 28.2	9.9	54.3
D	9	314 25.2	S23 10.2	284 52.3	13.8	S18 18.2	10.0	54.3
A	10	329 24.9	S23 10.0	299 25.2	13.9	S18 08.2	10.1	54.2
Y	11	344 24.6	S23 09.8	313 58.1	13.9	S17 58.0	10.1	54.2
	12	359 24.3	S23 09.7	328 31.2	14.0	S17 47.8	10.2	54.2
	13	14 24.0	S23 09.5	343 04.2	14.1	S17 37.5	10.3	54.2
	14	29 23.7	S23 09.3	357 37.4	14.2	S17 27.2	10.4	54.2
	15	44 23.4	S23 09.2	12 10.6	14.2	S17 16.7	10.4	54.2
	16	59 23.1	S23 09.0	26 43.9	14.3	S17 06.2	10.5	54.2
	17	74 22.8	S23 08.8	41 17.2	14.4	S16 55.7	10.6	54.2
	18	89 22.5	S23 08.7	55 50.7	14.4	S16 45.1	10.6	54.2
	19	104 22.2	S23 08.5	70 24.1	14.5	S16 34.4	10.7	54.2
	20	119 21.9	S23 08.3	84 57.7	14.5	S16 23.6	10.7	54.2
	21	134 21.6	S23 08.2	99 31.3	14.6	S16 12.8	10.8	54.2
	22	149 21.3	S23 08.0	114 05.0	14.7	S16 02.0	10.9	54.2
	23	164 21.0	S23 07.8	128 38.7	14.7	S15 51.0	10.9	54.1
31	0	179 20.7	S23 07.7	143 12.5	14.8	S15 40.0	11.0	54.1
	1	194 20.4	S23 07.5	157 46.3	14.9	S15 29.0	11.0	54.1
	2	209 20.1	S23 07.3	172 20.3	14.9	S15 17.9	11.1	54.1
	3	224 19.8	S23 07.1	186 54.2	15.0	S15 06.7	11.2	54.1
	4	239 19.5	S23 07.0	201 28.3	15.0	S14 55.5	11.2	54.1
F	5	254 19.2	S23 06.8	216 02.3	15.1	S14 44.2	11.3	54.1
R								
I	6	269 18.9	S23 06.6	230 36.5	15.1	S14 32.9	11.3	54.1
D	7	284 18.6	S23 06.4	245 10.7	15.2	S14 21.5	11.4	54.1
A	8	299 18.3	S23 06.2	259 44.9	15.3	S14 10.1	11.4	54.1
Y	9	314 18.0	S23 06.1	274 19.2	15.3	S13 58.6	11.5	54.1
	10	329 17.7	S23 05.9	288 53.6	15.4	S13 47.1	11.5	54.1
	11	344 17.4	S23 05.7	303 28.0	15.4	S13 35.5	11.6	54.1
	12	359 17.1	S23 05.5	318 02.5	15.5	S13 23.8	11.6	54.1
	13	14 16.8	S23 05.3	332 37.0	15.5	S13 12.1	11.7	54.1
	14	29 16.5	S23 05.1	347 11.6	15.6	S13 00.4	11.7	54.1
	15	44 16.2	S23 05.0	1 46.2	15.6	S12 48.6	11.8	54.1
	16	59 15.9	S23 04.8	16 20.9	15.7	S12 36.8	11.8	54.1
	17	74 15.6	S23 04.6	30 55.6	15.7	S12 24.9	11.9	54.1
	18	89 15.3	S23 04.4	45 30.4	15.8	S12 13.0	11.9	54.1
	19	104 15.0	S23 04.2	60 05.2	15.8	S12 01.0	12.0	54.1
	20	119 14.7	S23 04.0	74 40.0	15.9	S11 49.0	12.0	54.1
	21	134 14.4	S23 03.8	89 14.9	15.9	S11 37.0	12.1	54.1
	22	149 14.1	S23 03.6	103 49.9	15.9	S11 24.9	12.1	54.1
	23	164 13.8	S23 03.4	118 24.9	16.0	S11 12.7	12.1	54.1
1	0	179 13.5	S23 03.3	132 59.9	16.0	S11 00.6	12.2	54.1
	1	194 13.2	S23 03.1	147 35.0	16.1	S10 48.4	12.2	54.1
	2	209 12.9	S23 02.9	162 10.1	16.1	S10 36.1	12.3	54.1
	3	224 12.6	S23 02.7	176 45.3	16.2	S10 23.8	12.3	54.1
	4	239 12.3	S23 02.5	191 20.4	16.2	S10 11.5	12.3	54.1
S	5	254 12.0	S23 02.3	205 55.7	16.2	S 9 59.1	12.4	54.1
A								
T	6	269 11.7	S23 02.1	220 30.9	16.3	S 9 46.7	12.4	54.1
U	7	284 11.4	S23 01.9	235 06.2	16.3	S 9 34.3	12.4	54.1
R	8	299 11.1	S23 01.7	249 41.6	16.3	S 9 21.8	12.5	54.1
D	9	314 10.8	S23 01.5	264 17.0	16.4	S 9 09.3	12.5	54.1
A	10	329 10.5	S23 01.3	278 52.4	16.4	S 8 56.8	12.5	54.1
Y	11	344 10.2	S23 01.1	293 27.8	16.4	S 8 44.2	12.6	54.1
	12	359 09.9	S23 00.9	308 03.3	16.5	S 8 31.6	12.6	54.1
	13	14 09.6	S23 00.7	322 38.8	16.5	S 8 19.0	12.6	54.1
	14	29 09.3	S23 00.5	337 14.3	16.5	S 8 06.3	12.7	54.1
	15	44 09.0	S23 00.3	351 49.9	16.6	S 7 53.6	12.7	54.1
	16	59 08.8	S23 00.1	6 25.4	16.6	S 7 40.9	12.7	54.1
	17	74 08.5	S22 59.9	21 01.0	16.6	S 7 28.2	12.7	54.1
	18	89 08.2	S22 59.7	35 36.7	16.6	S 7 15.4	12.8	54.1
	19	104 07.9	S22 59.4	50 12.3	16.7	S 7 02.6	12.8	54.1
	20	119 07.6	S22 59.2	64 48.0	16.7	S 6 49.7	12.8	54.1
	21	134 07.3	S22 59.0	79 23.7	16.7	S 6 36.9	12.9	54.1
	22	149 07.0	S22 58.8	93 59.5	16.7	S 6 24.0	12.9	54.1
	23	164 06.7	S22 58.6	108 35.2	16.7	S 6 11.1	12.9	54.1
		S.D. 16.3	d 0.2	S.D.	14.8	14.7	14.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 09.6	S40 11.7
Achernar	335 18.2	S57 05.9
Acrux	172 57.3	S63 15.0
Adhara	255 03.5	S29 00.6
Albireo	67 02.4	N28 01.2
Aldebaran	290 36.5	N16 34.0
Alioth	166 10.9	N55 48.1
Alkaid	152 50.3	N49 10.1
Al Na-ir	27 30.1	S46 49.6
Alnilam	275 34.9	S 1 11.1
Alphard	217 45.0	S 8 46.9
Alphecca	126 01.9	N26 37.0
Alpheratz	357 32.3	N29 15.0
Altair	61 57.9	N 8 56.6
Ankaa	353 04.8	S42 09.4
Antares	112 13.2	S26 29.6
Arcturus	145 45.8	N19 02.0
Atria	107 05.8	S69 04.5
Avior	234 13.1	S59 35.9
Bellatrix	278 19.9	N 6 22.5
Betelgeuse	270 49.1	N 7 24.7
Canopus	263 50.7	S52 42.7
Capella	280 17.8	N46 01.6
Castor	245 53.5	N31 49.5
Deneb	49 24.5	N45 23.0
Denebola	182 22.4	N14 24.7
Diphda	348 44.9	S17 50.0
Dubhe	193 37.8	N61 35.6
Elnath	277 58.4	N28 37.8
Eltanin	90 41.6	N51 29.0
Enif	33 36.6	N10 00.3
Fomalhaut	15 12.0	S29 28.5
Gacrux	171 48.9	S57 16.0
Gienah	175 41.0	S17 41.8
Hadar	148 32.8	S60 30.3
Hamal	327 48.3	N23 35.9
Kaus Austr.	83 29.7	S34 22.3
Kochab	137 20.9	N74 02.1
Markab	13 27.6	N15 21.5
Menkar	314 03.4	N 4 12.0
Menkent	147 54.9	S36 30.4
Miaplacidus	221 36.8	S69 49.8
Mirfak	308 24.4	N49 57.9
Nunki	75 45.1	S26 15.7
Peacock	53 02.4	S56 38.8
Polaris	315 21.7	N89 22.7
Pollux	243 13.9	N27 57.4
Procyon	244 47.9	N 5 09.1
Rasalhague	95 56.6	N12 32.4
Regulus	207 31.6	N11 49.6
Rigel	281 01.2	S 8 10.2
Rigil Kent	139 37.4	S60 56.9
Sabik	102 00.3	S15 45.6
Schedar	349 28.2	N56 41.8
Shaula	96 07.4	S37 07.4
Sirius	258 23.7	S16 45.3
Spica	158 19.8	S11 18.5
Suhail	222 44.1	S43 32.7
Vega	80 32.0	N38 48.6
Zuben-ubi	136 54.4	S16 09.5