N2A - Navigator Nautical Almanac
daily tables

from 01/JAN/2021 to 31/DEC/2021

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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 51.9	201 14.8	S22 26.0	75 47.3	N11 20.7	155 40.7	S20 00.7	156 54.3	S20 10.5
	1	115 54.3	216 13.9	S22 26.4	90 48.8	N11 21.1	170 42.6	S20 00.6	171 56.4	S20 10.4
	2	130 56.8	231 13.0	S22 26.7	105 50.3	N11 21.6	185 44.5	S20 00.5	186 58.6	S20 10.4
	3	145 59.3	246 12.0	S22 27.0	120 51.7	N11 22.0	200 46.3	S20 00.3	202 00.8	S20 10.3
	4	161 01.7	261 11.1	S22 27.3	135 53.2	N11 22.4	215 48.2	S20 00.2	217 02.9	S20 10.2
F	5	176 04.2	276 10.2	S22 27.6	150 54.6	N11 22.9	230 50.1	S20 00.1	232 05.1	S20 10.2
R										
I	6	191 06.7	291 09.3	S22 28.0	165 56.1	N11 23.3	245 51.9	S19 60.0	247 07.3	S20 10.1
D	7	206 09.1	306 08.4	S22 28.3	180 57.5	N11 23.7	260 53.8	S19 59.8	262 09.4	S20 10.1
A	8	221 11.6	321 07.5	S22 28.6	195 59.0	N11 24.2	275 55.7	S19 59.7	277 11.6	S20 10.0
Y	9	236 14.1	336 06.6	S22 28.9	211 00.4	N11 24.6	290 57.6	S19 59.6	292 13.8	S20 09.9
	10	251 16.5	351 05.7	S22 29.2	226 01.9	N11 25.0	305 59.4	S19 59.4	307 15.9	S20 09.9
	11	266 19.0	6 04.8	S22 29.6	241 03.3	N11 25.5	321 01.3	S19 59.3	322 18.1	S20 09.8
	12	281 21.4	21 03.9	S22 29.9	256 04.8	N11 25.9	336 03.2	S19 59.2	337 20.3	S20 09.7
	13	296 23.9	36 03.0	S22 30.2	271 06.2	N11 26.4	351 05.1	S19 59.1	352 22.4	S20 09.7
	14	311 26.4	51 02.1	S22 30.5	286 07.7	N11 26.8	6 06.9	S19 58.9	7 24.6	S20 09.6
	15	326 28.8	66 01.1	S22 30.8	301 09.1	N11 27.2	21 08.8	S19 58.8	22 26.8	S20 09.6
	16	341 31.3	81 00.2	S22 31.1	316 10.6	N11 27.7	36 10.7	S19 58.7	37 28.9	S20 09.5
	17	356 33.8	95 59.3	S22 31.4	331 12.0	N11 28.1	51 12.5	S19 58.5	52 31.1	S20 09.4
	18	11 36.2	110 58.4	S22 31.7	346 13.5	N11 28.5	66 14.4	S19 58.4	67 33.3	S20 09.4
	19	26 38.7	125 57.5	S22 32.0	1 14.9	N11 29.0	81 16.3	S19 58.3	82 35.4	S20 09.3
	20	41 41.2	140 56.6	S22 32.3	16 16.3	N11 29.4	96 18.2	S19 58.2	97 37.6	S20 09.3
	21	56 43.6	155 55.7	S22 32.6	31 17.8	N11 29.8	111 20.0	S19 58.0	112 39.8	S20 09.2
	22	71 46.1	170 54.8	S22 32.9	46 19.2	N11 30.3	126 21.9	S19 57.9	127 41.9	S20 09.1
	23	86 48.6	185 53.9	S22 33.2	61 20.7	N11 30.7	141 23.8	S19 57.8	142 44.1	S20 09.1
2	0	101 51.0	200 52.9	S22 33.5	76 22.1	N11 31.1	156 25.6	S19 57.6	157 46.3	S20 09.0
	1	116 53.5	215 52.0	S22 33.8	91 23.6	N11 31.6	171 27.5	S19 57.5	172 48.4	S20 09.0
	2	131 55.9	230 51.1	S22 34.1	106 25.0	N11 32.0	186 29.4	S19 57.4	187 50.6	S20 08.9
	3	146 58.4	245 50.2	S22 34.4	121 26.4	N11 32.5	201 31.3	S19 57.3	202 52.8	S20 08.8
	4	162 00.9	260 49.3	S22 34.7	136 27.9	N11 32.9	216 33.1	S19 57.1	217 54.9	S20 08.8
S	5	177 03.3	275 48.4	S22 35.0	151 29.3	N11 33.3	231 35.0	S19 57.0	232 57.1	S20 08.7
A										
T	6	192 05.8	290 47.5	S22 35.3	166 30.8	N11 33.8	246 36.9	S19 56.9	247 59.3	S20 08.6
U	7	207 08.3	305 46.5	S22 35.6	181 32.2	N11 34.2	261 38.7	S19 56.7	263 01.4	S20 08.6
R	8	222 10.7	320 45.6	S22 35.9	196 33.6	N11 34.6	276 40.6	S19 56.6	278 03.6	S20 08.5
D	9	237 13.2	335 44.7	S22 36.2	211 35.1	N11 35.1	291 42.5	S19 56.5	293 05.8	S20 08.5
A	10	252 15.7	350 43.8	S22 36.5	226 36.5	N11 35.5	306 44.4	S19 56.3	308 07.9	S20 08.4
Y	11	267 18.1	5 42.9	S22 36.8	241 38.0	N11 36.0	321 46.2	S19 56.2	323 10.1	S20 08.3
	12	282 20.6	20 42.0	S22 37.1	256 39.4	N11 36.4	336 48.1	S19 56.1	338 12.3	S20 08.3
	13	297 23.1	35 41.1	S22 37.3	271 40.8	N11 36.8	351 50.0	S19 56.0	353 14.4	S20 08.2
	14	312 25.5	50 40.1	S22 37.6	286 42.3	N11 37.3	6 51.8	S19 55.8	8 16.6	S20 08.2
	15	327 28.0	65 39.2	S22 37.9	301 43.7	N11 37.7	21 53.7	S19 55.7	23 18.8	S20 08.1
	16	342 30.4	80 38.3	S22 38.2	316 45.1	N11 38.1	36 55.6	S19 55.6	38 20.9	S20 08.0
	17	357 32.9	95 37.4	S22 38.5	331 46.6	N11 38.6	51 57.4	S19 55.4	53 23.1	S20 08.0
	18	12 35.4	110 36.5	S22 38.7	346 48.0	N11 39.0	66 59.3	S19 55.3	68 25.3	S20 07.9
	19	27 37.8	125 35.6	S22 39.0	1 49.4	N11 39.5	82 01.2	S19 55.2	83 27.4	S20 07.8
	20	42 40.3	140 34.6	S22 39.3	16 50.9	N11 39.9	97 03.1	S19 55.0	98 29.6	S20 07.8
	21	57 42.8	155 33.7	S22 39.6	31 52.3	N11 40.3	112 04.9	S19 54.9	113 31.8	S20 07.7
	22	72 45.2	170 32.8	S22 39.8	46 53.7	N11 40.8	127 06.8	S19 54.8	128 33.9	S20 07.7
	23	87 47.7	185 31.9	S22 40.1	61 55.2	N11 41.2	142 08.7	S19 54.7	143 36.1	S20 07.6
3	0	102 50.2	200 31.0	S22 40.4	76 56.6	N11 41.6	157 10.5	S19 54.5	158 38.3	S20 07.5
	1	117 52.6	215 30.0	S22 40.7	91 58.0	N11 42.1	172 12.4	S19 54.4	173 40.4	S20 07.5
	2	132 55.1	230 29.1	S22 40.9	106 59.4	N11 42.5	187 14.3	S19 54.3	188 42.6	S20 07.4
	3	147 57.6	245 28.2	S22 41.2	122 00.9	N11 43.0	202 16.2	S19 54.1	203 44.8	S20 07.4
	4	163 00.0	260 27.3	S22 41.5	137 02.3	N11 43.4	217 18.0	S19 54.0	218 46.9	S20 07.3
S	5	178 02.5	275 26.4	S22 41.7	152 03.7	N11 43.8	232 19.9	S19 53.9	233 49.1	S20 07.2
U										
N	6	193 04.9	290 25.5	S22 42.0	167 05.2	N11 44.3	247 21.8	S19 53.7	248 51.3	S20 07.2
D	7	208 07.4	305 24.5	S22 42.3	182 06.6	N11 44.7	262 23.6	S19 53.6	263 53.4	S20 07.1
A	8	223 09.9	320 23.6	S22 42.5	197 08.0	N11 45.2	277 25.5	S19 53.5	278 55.6	S20 07.0
Y	9	238 12.3	335 22.7	S22 42.8	212 09.4	N11 45.6	292 27.4	S19 53.3	293 57.8	S20 07.0
	10	253 14.8	350 21.8	S22 43.0	227 10.9	N11 46.0	307 29.2	S19 53.2	308 59.9	S20 06.9
	11	268 17.3	5 20.8	S22 43.3	242 12.3	N11 46.5	322 31.1	S19 53.1	324 02.1	S20 06.9
	12	283 19.7	20 19.9	S22 43.6	257 13.7	N11 46.9	337 33.0	S19 53.0	339 04.3	S20 06.8
	13	298 22.2	35 19.0	S22 43.8	272 15.1	N11 47.3	352 34.8	S19 52.8	354 06.4	S20 06.7
	14	313 24.7	50 18.1	S22 44.1	287 16.6	N11 47.8	7 36.7	S19 52.7	9 08.6	S20 06.7
	15	328 27.1	65 17.2	S22 44.3	302 18.0	N11 48.2	22 38.6	S19 52.6	24 10.8	S20 06.6
	16	343 29.6	80 16.2	S22 44.6	317 19.4	N11 48.7	37 40.5	S19 52.4	39 12.9	S20 06.6
	17	358 32.0	95 15.3	S22 44.8	332 20.8	N11 49.1	52 42.3	S19 52.3	54 15.1	S20 06.5
	18	13 34.5	110 14.4	S22 45.1	347 22.2	N11 49.5	67 44.2	S19 52.2	69 17.2	S20 06.4
	19	28 37.0	125 13.5	S22 45.3	2 23.7	N11 50.0	82 46.1	S19 52.0	84 19.4	S20 06.4
	20	43 39.4	140 12.5	S22 45.6	17 25.1	N11 50.4	97 47.9	S19 51.9	99 21.6	S20 06.3
	21	58 41.9	155 11.6	S22 45.8	32 26.5	N11 50.9	112 49.8	S19 51.8	114 23.7	S20 06.2
	22	73 44.4	170 10.7	S22 46.1	47 27.9	N11 51.3	127 51.7	S19 51.6	129 25.9	S20 06.2
	23	88 46.8	185 09.8	S22 46.3	62 29.3	N11 51.7	142 53.5	S19 51.5	144 28.1	S20 06.1
			v -0.9	d 0.3	v 1.4	d 0.4	v 1.9	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
		° '	° '	° '	'	° '	'	'
1	0	179 08.5	S22 60.0	334 57.7	8.4	N23 01.3	5.4	56.7
	1	194 08.2	S22 59.7	349 25.1	8.5	N22 55.8	5.6	56.8
	2	209 07.9	S22 59.5	3 52.6	8.5	N22 50.1	5.7	56.8
	3	224 07.6	S22 59.3	18 20.2	8.5	N22 44.3	5.8	56.8
	4	239 07.3	S22 59.1	32 47.7	8.5	N22 38.3	5.9	56.8
F	5	254 07.0	S22 58.9	47 15.3	8.6	N22 32.2	6.1	56.8
R								
I	6	269 06.7	S22 58.7	61 42.9	8.6	N22 26.0	6.2	56.9
D	7	284 06.4	S22 58.5	76 10.5	8.6	N22 19.7	6.3	56.9
A	8	299 06.1	S22 58.3	90 38.2	8.7	N22 13.2	6.5	56.9
Y	9	314 05.8	S22 58.1	105 05.9	8.7	N22 06.6	6.6	56.9
	10	329 05.5	S22 57.9	119 33.6	8.7	N21 59.9	6.7	56.9
	11	344 05.2	S22 57.6	134 01.4	8.8	N21 53.1	6.8	57.0
	12	359 05.0	S22 57.4	148 29.2	8.8	N21 46.1	7.0	57.0
	13	14 04.7	S22 57.2	162 57.0	8.8	N21 39.0	7.1	57.0
	14	29 04.4	S22 57.0	177 24.9	8.9	N21 31.8	7.2	57.0
	15	44 04.1	S22 56.8	191 52.8	8.9	N21 24.4	7.3	57.0
	16	59 03.8	S22 56.6	206 20.7	8.9	N21 17.0	7.5	57.1
	17	74 03.5	S22 56.3	220 48.7	9.0	N21 09.4	7.6	57.1
	18	89 03.2	S22 56.1	235 16.7	9.0	N21 01.7	7.7	57.1
	19	104 02.9	S22 55.9	249 44.8	9.1	N20 53.8	7.8	57.1
	20	119 02.6	S22 55.7	264 12.9	9.1	N20 45.9	8.0	57.1
	21	134 02.3	S22 55.5	278 41.0	9.1	N20 37.8	8.1	57.2
	22	149 02.0	S22 55.2	293 09.2	9.2	N20 29.6	8.2	57.2
	23	164 01.7	S22 55.0	307 37.4	9.2	N20 21.3	8.3	57.2
2	0	179 01.5	S22 54.8	322 05.7	9.3	N20 12.9	8.4	57.2
	1	194 01.2	S22 54.6	336 34.0	9.3	N20 04.4	8.5	57.2
	2	209 00.9	S22 54.3	351 02.3	9.3	N19 55.7	8.7	57.3
	3	224 00.6	S22 54.1	5 30.7	9.4	N19 47.0	8.8	57.3
	4	239 00.3	S22 53.9	19 59.1	9.4	N19 38.1	8.9	57.3
S	5	254 00.0	S22 53.6	34 27.6	9.5	N19 29.1	9.0	57.3
A								
T	6	268 59.7	S22 53.4	48 56.1	9.5	N19 20.0	9.1	57.3
U	7	283 59.4	S22 53.2	63 24.7	9.6	N19 10.8	9.2	57.4
R	8	298 59.1	S22 53.0	77 53.3	9.6	N19 01.5	9.3	57.4
D	9	313 58.8	S22 52.7	92 21.9	9.6	N18 52.0	9.4	57.4
A	10	328 58.6	S22 52.5	106 50.6	9.7	N18 42.5	9.5	57.4
Y	11	343 58.3	S22 52.3	121 19.3	9.7	N18 32.9	9.6	57.4
	12	358 58.0	S22 52.0	135 48.1	9.8	N18 23.1	9.7	57.4
	13	13 57.7	S22 51.8	150 16.9	9.8	N18 13.3	9.9	57.5
	14	28 57.4	S22 51.6	164 45.8	9.9	N18 03.3	10.0	57.5
	15	43 57.1	S22 51.3	179 14.7	9.9	N17 53.2	10.1	57.5
	16	58 56.8	S22 51.1	193 43.7	10.0	N17 43.1	10.2	57.5
	17	73 56.5	S22 50.8	208 12.6	10.0	N17 32.8	10.3	57.5
	18	88 56.2	S22 50.6	222 41.7	10.0	N17 22.5	10.4	57.6
	19	103 56.0	S22 50.4	237 10.8	10.1	N17 12.0	10.5	57.6
	20	118 55.7	S22 50.1	251 39.9	10.1	N17 01.4	10.6	57.6
	21	133 55.4	S22 49.9	266 09.1	10.2	N16 50.8	10.7	57.6
	22	148 55.1	S22 49.6	280 38.3	10.2	N16 40.0	10.7	57.6
	23	163 54.8	S22 49.4	295 07.5	10.3	N16 29.2	10.8	57.7
3	0	178 54.5	S22 49.2	309 36.9	10.3	N16 18.3	10.9	57.7
	1	193 54.2	S22 48.9	324 06.2	10.3	N16 07.2	11.0	57.7
	2	208 53.9	S22 48.7	338 35.6	10.4	N15 56.1	11.1	57.7
	3	223 53.7	S22 48.4	353 05.0	10.4	N15 44.9	11.2	57.7
	4	238 53.4	S22 48.2	7 34.5	10.5	N15 33.6	11.3	57.7
S	5	253 53.1	S22 47.9	22 04.0	10.5	N15 22.2	11.4	57.8
U								
N	6	268 52.8	S22 47.7	36 33.6	10.6	N15 10.7	11.5	57.8
D	7	283 52.5	S22 47.4	51 03.2	10.6	N14 59.2	11.6	57.8
A	8	298 52.2	S22 47.2	65 32.8	10.6	N14 47.5	11.6	57.8
Y	9	313 51.9	S22 46.9	80 02.5	10.7	N14 35.8	11.7	57.8
	10	328 51.7	S22 46.7	94 32.2	10.7	N14 24.0	11.8	57.9
	11	343 51.4	S22 46.4	109 02.0	10.8	N14 12.1	11.9	57.9
	12	358 51.1	S22 46.2	123 31.8	10.8	N14 00.1	12.0	57.9
	13	13 50.8	S22 45.9	138 01.6	10.8	N13 48.1	12.1	57.9
	14	28 50.5	S22 45.7	152 31.5	10.9	N13 35.9	12.1	57.9
	15	43 50.2	S22 45.4	167 01.4	10.9	N13 23.7	12.2	58.0
	16	58 49.9	S22 45.2	181 31.4	11.0	N13 11.4	12.3	58.0
	17	73 49.7	S22 44.9	196 01.4	11.0	N12 59.1	12.4	58.0
	18	88 49.4	S22 44.6	210 31.4	11.0	N12 46.6	12.4	58.0
	19	103 49.1	S22 44.4	225 01.4	11.1	N12 34.1	12.5	58.0
	20	118 48.8	S22 44.1	239 31.5	11.1	N12 21.5	12.6	58.0
	21	133 48.5	S22 43.9	254 01.7	11.1	N12 08.9	12.7	58.1
	22	148 48.2	S22 43.6	268 31.8	11.2	N11 56.2	12.7	58.1
	23	163 48.0	S22 43.3	283 02.0	11.2	N11 43.4	12.8	58.1
		S.D. 16.3	d 0.2	S.D.	15.5	15.7	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.0	S40 13.5
Achernar	335 22.6	S57 08.2
Acrux	173 03.5	S63 12.5
Adhara	255 08.0	S29 00.1
Albireo	67 07.0	N28 00.2
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.9	N55 50.6
Alkaid	152 54.8	N49 12.3
Al Na-ir	27 37.3	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.6	S 8 44.9
Alphecca	126 06.8	N26 38.6
Alpheratz	357 38.2	N29 12.4
Altair	62 03.4	N 8 55.4
Ankaa	353 10.4	S42 11.9
Antares	112 20.1	S26 28.6
Arcturus	145 51.1	N19 04.4
Atria	107 17.8	S69 03.7
Avior	234 15.3	S59 34.5
Bellatrix	278 26.0	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.2	S52 42.5
Capella	280 26.2	N46 01.1
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.4
Denebola	182 28.2	N14 27.3
Diphda	348 50.6	S17 52.5
Dubhe	193 44.8	N61 38.0
Elnath	278 05.6	N28 37.4
Eltanin	90 44.3	N51 29.1
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.3	S29 30.9
Gacrux	171 55.1	S57 13.5
Gienah	175 46.9	S17 39.3
Hadar	148 40.8	S60 28.1
Hamal	327 54.7	N23 33.7
Kaus Austr.	83 37.3	S34 22.5
Kochab	137 20.7	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.3	N 4 10.2
Menkent	148 01.6	S36 28.2
Miaplacidus	221 37.9	S69 48.0
Mirfak	308 32.6	N49 56.2
Nunki	75 52.2	S26 16.2
Peacock	53 11.4	S56 40.2
Polaris	317 15.0	N89 20.6
Pollux	243 20.9	N27 58.4
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.9	N12 32.7
Regulus	207 37.7	N11 51.9
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 45.2	S60 55.0
Sabik	102 06.9	S15 45.0
Schedar	349 34.6	N56 39.3
Shaula	96 15.2	S37 07.0
Sirius	258 28.8	S16 44.7
Spica	158 25.8	S11 16.1
Suhail	222 48.2	S43 30.9
Vega	80 35.8	N38 48.2
Zuben-ubi	137 00.5	S16 07.6

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 49.3	200 08.9	S22 46.6	77 30.8	N11 52.2	157 55.4	S19 51.4	159 30.2	S20 06.1
	1	118 51.8	215 07.9	S22 46.8	92 32.2	N11 52.6	172 57.3	S19 51.3	174 32.4	S20 06.0
	2	133 54.2	230 07.0	S22 47.0	107 33.6	N11 53.1	187 59.1	S19 51.1	189 34.6	S20 05.9
	3	148 56.7	245 06.1	S22 47.3	122 35.0	N11 53.5	203 01.0	S19 51.0	204 36.7	S20 05.9
	4	163 59.2	260 05.2	S22 47.5	137 36.4	N11 53.9	218 02.9	S19 50.9	219 38.9	S20 05.8
M	5	179 01.6	275 04.2	S22 47.7	152 37.8	N11 54.4	233 04.8	S19 50.7	234 41.1	S20 05.7
O										
N	6	194 04.1	290 03.3	S22 48.0	167 39.3	N11 54.8	248 06.6	S19 50.6	249 43.2	S20 05.7
D	7	209 06.5	305 02.4	S22 48.2	182 40.7	N11 55.3	263 08.5	S19 50.5	264 45.4	S20 05.6
A	8	224 09.0	320 01.5	S22 48.5	197 42.1	N11 55.7	278 10.4	S19 50.3	279 47.6	S20 05.6
Y	9	239 11.5	335 00.5	S22 48.7	212 43.5	N11 56.1	293 12.2	S19 50.2	294 49.7	S20 05.5
	10	254 13.9	349 59.6	S22 48.9	227 44.9	N11 56.6	308 14.1	S19 50.1	309 51.9	S20 05.4
	11	269 16.4	4 58.7	S22 49.1	242 46.3	N11 57.0	323 16.0	S19 49.9	324 54.0	S20 05.4
	12	284 18.9	19 57.7	S22 49.4	257 47.7	N11 57.5	338 17.8	S19 49.8	339 56.2	S20 05.3
	13	299 21.3	34 56.8	S22 49.6	272 49.1	N11 57.9	353 19.7	S19 49.7	354 58.4	S20 05.2
	14	314 23.8	49 55.9	S22 49.8	287 50.6	N11 58.3	8 21.6	S19 49.5	10 00.5	S20 05.2
	15	329 26.3	64 55.0	S22 50.1	302 52.0	N11 58.8	23 23.4	S19 49.4	25 02.7	S20 05.1
	16	344 28.7	79 54.0	S22 50.3	317 53.4	N11 59.2	38 25.3	S19 49.3	40 04.9	S20 05.1
	17	359 31.2	94 53.1	S22 50.5	332 54.8	N11 59.7	53 27.2	S19 49.1	55 07.0	S20 05.0
	18	14 33.7	109 52.2	S22 50.7	347 56.2	N12 00.1	68 29.0	S19 49.0	70 09.2	S20 04.9
	19	29 36.1	124 51.3	S22 50.9	2 57.6	N12 00.5	83 30.9	S19 48.9	85 11.4	S20 04.9
	20	44 38.6	139 50.3	S22 51.2	17 59.0	N12 01.0	98 32.8	S19 48.7	100 13.5	S20 04.8
	21	59 41.0	154 49.4	S22 51.4	33 00.4	N12 01.4	113 34.6	S19 48.6	115 15.7	S20 04.7
	22	74 43.5	169 48.5	S22 51.6	48 01.8	N12 01.9	128 36.5	S19 48.5	130 17.9	S20 04.7
	23	89 46.0	184 47.5	S22 51.8	63 03.2	N12 02.3	143 38.4	S19 48.3	145 20.0	S20 04.6
5	0	104 48.4	199 46.6	S22 52.0	78 04.6	N12 02.7	158 40.3	S19 48.2	160 22.2	S20 04.6
	1	119 50.9	214 45.7	S22 52.2	93 06.0	N12 03.2	173 42.1	S19 48.1	175 24.3	S20 04.5
	2	134 53.4	229 44.8	S22 52.5	108 07.4	N12 03.6	188 44.0	S19 47.9	190 26.5	S20 04.4
	3	149 55.8	244 43.8	S22 52.7	123 08.9	N12 04.1	203 45.9	S19 47.8	205 28.7	S20 04.4
	4	164 58.3	259 42.9	S22 52.9	138 10.3	N12 04.5	218 47.7	S19 47.7	220 30.8	S20 04.3
T	5	180 00.8	274 42.0	S22 53.1	153 11.7	N12 04.9	233 49.6	S19 47.5	235 33.0	S20 04.2
U										
E	6	195 03.2	289 41.0	S22 53.3	168 13.1	N12 05.4	248 51.5	S19 47.4	250 35.2	S20 04.2
S	7	210 05.7	304 40.1	S22 53.5	183 14.5	N12 05.8	263 53.3	S19 47.3	265 37.3	S20 04.1
D	8	225 08.1	319 39.2	S22 53.7	198 15.9	N12 06.3	278 55.2	S19 47.1	280 39.5	S20 04.1
A	9	240 10.6	334 38.2	S22 53.9	213 17.3	N12 06.7	293 57.1	S19 47.0	295 41.7	S20 04.0
Y	10	255 13.1	349 37.3	S22 54.1	228 18.7	N12 07.2	308 58.9	S19 46.9	310 43.8	S20 03.9
	11	270 15.5	4 36.4	S22 54.3	243 20.1	N12 07.6	324 00.8	S19 46.8	325 46.0	S20 03.9
	12	285 18.0	19 35.4	S22 54.5	258 21.5	N12 08.0	339 02.7	S19 46.6	340 48.1	S20 03.8
	13	300 20.5	34 34.5	S22 54.7	273 22.9	N12 08.5	354 04.5	S19 46.5	355 50.3	S20 03.7
	14	315 22.9	49 33.6	S22 54.9	288 24.3	N12 08.9	9 06.4	S19 46.4	10 52.5	S20 03.7
	15	330 25.4	64 32.7	S22 55.1	303 25.7	N12 09.4	24 08.3	S19 46.2	25 54.6	S20 03.6
	16	345 27.9	79 31.7	S22 55.3	318 27.1	N12 09.8	39 10.1	S19 46.1	40 56.8	S20 03.6
	17	0 30.3	94 30.8	S22 55.5	333 28.5	N12 10.2	54 12.0	S19 46.0	55 59.0	S20 03.5
	18	15 32.8	109 29.9	S22 55.7	348 29.9	N12 10.7	69 13.9	S19 45.8	71 01.1	S20 03.4
	19	30 35.3	124 28.9	S22 55.9	3 31.3	N12 11.1	84 15.7	S19 45.7	86 03.3	S20 03.4
	20	45 37.7	139 28.0	S22 56.1	18 32.6	N12 11.6	99 17.6	S19 45.6	101 05.5	S20 03.3
	21	60 40.2	154 27.1	S22 56.2	33 34.0	N12 12.0	114 19.5	S19 45.4	116 07.6	S20 03.2
	22	75 42.6	169 26.1	S22 56.4	48 35.4	N12 12.5	129 21.3	S19 45.3	131 09.8	S20 03.2
	23	90 45.1	184 25.2	S22 56.6	63 36.8	N12 12.9	144 23.2	S19 45.1	146 11.9	S20 03.1
6	0	105 47.6	199 24.3	S22 56.8	78 38.2	N12 13.3	159 25.1	S19 45.0	161 14.1	S20 03.1
	1	120 50.0	214 23.3	S22 57.0	93 39.6	N12 13.8	174 26.9	S19 44.9	176 16.3	S20 03.0
	2	135 52.5	229 22.4	S22 57.2	108 41.0	N12 14.2	189 28.8	S19 44.7	191 18.4	S20 02.9
	3	150 55.0	244 21.5	S22 57.4	123 42.4	N12 14.7	204 30.7	S19 44.6	206 20.6	S20 02.9
	4	165 57.4	259 20.5	S22 57.5	138 43.8	N12 15.1	219 32.5	S19 44.5	221 22.8	S20 02.8
W	5	180 59.9	274 19.6	S22 57.7	153 45.2	N12 15.5	234 34.4	S19 44.3	236 24.9	S20 02.7
E										
D	6	196 02.4	289 18.7	S22 57.9	168 46.6	N12 16.0	249 36.3	S19 44.2	251 27.1	S20 02.7
N	7	211 04.8	304 17.7	S22 58.1	183 48.0	N12 16.4	264 38.1	S19 44.1	266 29.2	S20 02.6
E	8	226 07.3	319 16.8	S22 58.2	198 49.4	N12 16.9	279 40.0	S19 43.9	281 31.4	S20 02.6
S	9	241 09.7	334 15.8	S22 58.4	213 50.7	N12 17.3	294 41.9	S19 43.8	296 33.6	S20 02.5
D	10	256 12.2	349 14.9	S22 58.6	228 52.1	N12 17.8	309 43.7	S19 43.7	311 35.7	S20 02.4
A	11	271 14.7	4 14.0	S22 58.8	243 53.5	N12 18.2	324 45.6	S19 43.5	326 37.9	S20 02.4
Y										
	12	286 17.1	19 13.0	S22 58.9	258 54.9	N12 18.6	339 47.5	S19 43.4	341 40.1	S20 02.3
	13	301 19.6	34 12.1	S22 59.1	273 56.3	N12 19.1	354 49.3	S19 43.3	356 42.2	S20 02.2
	14	316 22.1	49 11.2	S22 59.3	288 57.7	N12 19.5	9 51.2	S19 43.1	11 44.4	S20 02.2
	15	331 24.5	64 10.2	S22 59.4	303 59.1	N12 20.0	24 53.1	S19 43.0	26 46.5	S20 02.1
	16	346 27.0	79 09.3	S22 59.6	319 00.5	N12 20.4	39 54.9	S19 42.9	41 48.7	S20 02.0
	17	1 29.5	94 08.4	S22 59.8	334 01.8	N12 20.9	54 56.8	S19 42.7	56 50.9	S20 02.0
	18	16 31.9	109 07.4	S22 59.9	349 03.2	N12 21.3	69 58.7	S19 42.6	71 53.0	S20 01.9
	19	31 34.4	124 06.5	S23 00.1	4 04.6	N12 21.7	85 00.5	S19 42.5	86 55.2	S20 01.9
	20	46 36.9	139 05.6	S23 00.3	19 06.0	N12 22.2	100 02.4	S19 42.3	101 57.4	S20 01.8
	21	61 39.3	154 04.6	S23 00.4	34 07.4	N12 22.6	115 04.3	S19 42.2	116 59.5	S20 01.7
	22	76 41.8	169 03.7	S23 00.6	49 08.8	N12 23.1	130 06.1	S19 42.1	132 01.7	S20 01.7
	23	91 44.2	184 02.7	S23 00.7	64 10.1	N12 23.5	145 08.0	S19 41.9	147 03.8	S20 01.6
			v -0.9	d 0.2	v 1.4	d 0.4	v 1.9	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	178 47.7	S22 43.1	297 32.3	11.2	N11 30.5	12.9	58.1
	1	193 47.4	S22 42.8	312 02.5	11.3	N11 17.6	12.9	58.1
	2	208 47.1	S22 42.6	326 32.8	11.3	N11 04.6	13.0	58.1
	3	223 46.8	S22 42.3	341 03.2	11.3	N10 51.5	13.1	58.2
	4	238 46.5	S22 42.0	355 33.5	11.4	N10 38.4	13.1	58.2
M	5	253 46.3	S22 41.8	10 03.9	11.4	N10 25.3	13.2	58.2
O								
N	6	268 46.0	S22 41.5	24 34.3	11.4	N10 12.0	13.2	58.2
D	7	283 45.7	S22 41.2	39 04.8	11.4	N 9 58.7	13.3	58.2
A	8	298 45.4	S22 41.0	53 35.2	11.5	N 9 45.4	13.4	58.3
Y	9	313 45.1	S22 40.7	68 05.7	11.5	N 9 32.0	13.4	58.3
	10	328 44.9	S22 40.4	82 36.2	11.5	N 9 18.5	13.5	58.3
	11	343 44.6	S22 40.1	97 06.8	11.5	N 9 05.0	13.5	58.3
	12	358 44.3	S22 39.9	111 37.3	11.6	N 8 51.4	13.6	58.3
	13	13 44.0	S22 39.6	126 07.9	11.6	N 8 37.8	13.6	58.3
	14	28 43.7	S22 39.3	140 38.5	11.6	N 8 24.1	13.7	58.4
	15	43 43.4	S22 39.0	155 09.2	11.6	N 8 10.4	13.7	58.4
	16	58 43.2	S22 38.8	169 39.8	11.7	N 7 56.6	13.8	58.4
	17	73 42.9	S22 38.5	184 10.5	11.7	N 7 42.8	13.8	58.4
	18	88 42.6	S22 38.2	198 41.2	11.7	N 7 28.9	13.9	58.4
	19	103 42.3	S22 37.9	213 11.9	11.7	N 7 15.0	13.9	58.4
	20	118 42.0	S22 37.7	227 42.6	11.7	N 7 01.0	14.0	58.5
	21	133 41.8	S22 37.4	242 13.3	11.7	N 6 47.0	14.0	58.5
	22	148 41.5	S22 37.1	256 44.1	11.7	N 6 33.0	14.0	58.5
	23	163 41.2	S22 36.8	271 14.8	11.8	N 6 18.9	14.1	58.5
5	0	178 40.9	S22 36.5	285 45.6	11.8	N 6 04.8	14.1	58.5
	1	193 40.6	S22 36.3	300 16.4	11.8	N 5 50.6	14.2	58.5
	2	208 40.4	S22 36.0	314 47.2	11.8	N 5 36.4	14.2	58.6
	3	223 40.1	S22 35.7	329 18.0	11.8	N 5 22.2	14.2	58.6
	4	238 39.8	S22 35.4	343 48.8	11.8	N 5 07.9	14.3	58.6
T	5	253 39.5	S22 35.1	358 19.7	11.8	N 4 53.6	14.3	58.6
U								
E	6	268 39.3	S22 34.8	12 50.5	11.8	N 4 39.3	14.3	58.6
S	7	283 39.0	S22 34.6	27 21.3	11.8	N 4 24.9	14.4	58.6
D	8	298 38.7	S22 34.3	41 52.2	11.8	N 4 10.5	14.4	58.7
A	9	313 38.4	S22 34.0	56 23.0	11.8	N 3 56.1	14.4	58.7
Y	10	328 38.1	S22 33.7	70 53.8	11.8	N 3 41.6	14.5	58.7
	11	343 37.9	S22 33.4	85 24.7	11.8	N 3 27.1	14.5	58.7
	12	358 37.6	S22 33.1	99 55.5	11.8	N 3 12.6	14.5	58.7
	13	13 37.3	S22 32.8	114 26.4	11.8	N 2 58.1	14.5	58.7
	14	28 37.0	S22 32.5	128 57.2	11.8	N 2 43.6	14.5	58.7
	15	43 36.8	S22 32.2	143 28.1	11.8	N 2 29.0	14.6	58.8
	16	58 36.5	S22 31.9	157 58.9	11.8	N 2 14.4	14.6	58.8
	17	73 36.2	S22 31.7	172 29.7	11.8	N 1 59.8	14.6	58.8
	18	88 35.9	S22 31.4	187 00.5	11.8	N 1 45.2	14.6	58.8
	19	103 35.7	S22 31.1	201 31.4	11.8	N 1 30.5	14.6	58.8
	20	118 35.4	S22 30.8	216 02.2	11.8	N 1 15.9	14.7	58.8
	21	133 35.1	S22 30.5	230 33.0	11.8	N 1 01.2	14.7	58.9
	22	148 34.8	S22 30.2	245 03.7	11.8	N 0 46.5	14.7	58.9
	23	163 34.6	S22 29.9	259 34.5	11.8	N 0 31.8	14.7	58.9
6	0	178 34.3	S22 29.6	274 05.3	11.8	N 0 17.1	14.7	58.9
	1	193 34.0	S22 29.3	288 36.0	11.7	N 0 02.4	14.7	58.9
	2	208 33.7	S22 29.0	303 06.7	11.7	S 0 12.3	14.7	58.9
	3	223 33.5	S22 28.7	317 37.5	11.7	S 0 27.0	14.7	58.9
	4	238 33.2	S22 28.4	332 08.2	11.7	S 0 41.8	14.7	59.0
W	5	253 32.9	S22 28.1	346 38.8	11.7	S 0 56.5	14.7	59.0
E								
D	6	268 32.6	S22 27.8	1 09.5	11.7	S 1 11.2	14.7	59.0
N	7	283 32.4	S22 27.5	15 40.1	11.6	S 1 26.0	14.7	59.0
E	8	298 32.1	S22 27.1	30 10.7	11.6	S 1 40.7	14.7	59.0
S	9	313 31.8	S22 26.8	44 41.3	11.6	S 1 55.5	14.7	59.0
D	10	328 31.5	S22 26.5	59 11.9	11.6	S 2 10.2	14.7	59.0
A	11	343 31.3	S22 26.2	73 42.4	11.5	S 2 24.9	14.7	59.1
Y								
	12	358 31.0	S22 25.9	88 13.0	11.5	S 2 39.6	14.7	59.1
	13	13 30.7	S22 25.6	102 43.4	11.5	S 2 54.4	14.7	59.1
	14	28 30.5	S22 25.3	117 13.9	11.5	S 3 09.1	14.7	59.1
	15	43 30.2	S22 25.0	131 44.3	11.4	S 3 23.8	14.7	59.1
	16	58 29.9	S22 24.7	146 14.7	11.4	S 3 38.5	14.7	59.1
	17	73 29.6	S22 24.4	160 45.1	11.4	S 3 53.1	14.7	59.1
	18	88 29.4	S22 24.0	175 15.4	11.3	S 4 07.8	14.7	59.2
	19	103 29.1	S22 23.7	189 45.7	11.3	S 4 22.4	14.6	59.2
	20	118 28.8	S22 23.4	204 16.0	11.3	S 4 37.1	14.6	59.2
	21	133 28.6	S22 23.1	218 46.2	11.2	S 4 51.7	14.6	59.2
	22	148 28.3	S22 22.8	233 16.4	11.2	S 5 06.3	14.6	59.2
	23	163 28.0	S22 22.5	247 46.5	11.1	S 5 20.9	14.6	59.2
		S.D. 16.3	d 0.3	S.D. 15.9		16.0	16.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.0	S40 13.6
Achernar	335 22.6	S57 08.2
Acrux	173 03.5	S63 12.5
Adhara	255 08.0	S29 00.1
Albireo	67 07.0	N28 00.2
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.9	N55 50.6
Alkaid	152 54.8	N49 12.3
Al Na-ir	27 37.4	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.6	S 8 44.9
Alphecca	126 06.8	N26 38.6
Alpheratz	357 38.2	N29 12.4
Altair	62 03.4	N 8 55.4
Ankaa	353 10.5	S42 11.9
Antares	112 20.1	S26 28.6
Arcturus	145 51.0	N19 04.3
Atria	107 17.8	S69 03.7
Avior	234 15.3	S59 34.5
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.5
Capella	280 26.2	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.4
Denebola	182 28.2	N14 27.3
Diphda	348 50.6	S17 52.5
Dubhe	193 44.8	N61 38.0
Elnath	278 05.7	N28 37.4
Eltanin	90 44.2	N51 29.1
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.3	S29 30.9
Gacrux	171 55.1	S57 13.5
Gienah	175 46.9	S17 39.3
Hadar	148 40.8	S60 28.1
Hamal	327 54.8	N23 33.7
Kaus Austr.	83 37.3	S34 22.5
Kochab	137 20.6	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.3	N 4 10.2
Menkent	148 01.6	S36 28.2
Miaplacidus	221 37.9	S69 48.0
Mirfak	308 32.6	N49 56.2
Nunki	75 52.2	S26 16.2
Peacock	53 11.4	S56 40.2
Polaris	317 16.2	N89 20.6
Pollux	243 20.9	N27 58.4
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.9	N12 32.7
Regulus	207 37.7	N11 51.9
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 45.1	S60 55.0
Sabik	102 06.8	S15 45.0
Schedar	349 34.7	N56 39.3
Shaula	96 15.2	S37 07.0
Sirius	258 28.8	S16 44.8
Spica	158 25.8	S11 16.1
Suhail	222 48.2	S43 30.9
Vega	80 35.8	N38 48.1
Zuben-ubi	137 00.5	S16 07.6

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 46.7	199 01.8	S23 00.9	79 11.5	N12 24.0	160 09.9	S19 41.8	162 06.0	S20 01.5
	1	121 49.2	214 00.9	S23 01.0	94 12.9	N12 24.4	175 11.7	S19 41.7	177 08.2	S20 01.5
	2	136 51.6	228 59.9	S23 01.2	109 14.3	N12 24.8	190 13.6	S19 41.5	192 10.3	S20 01.4
	3	151 54.1	243 59.0	S23 01.3	124 15.7	N12 25.3	205 15.5	S19 41.4	207 12.5	S20 01.4
	4	166 56.6	258 58.1	S23 01.5	139 17.1	N12 25.7	220 17.3	S19 41.3	222 14.7	S20 01.3
T	5	181 59.0	273 57.1	S23 01.6	154 18.4	N12 26.2	235 19.2	S19 41.1	237 16.8	S20 01.2
H										
U	6	197 01.5	288 56.2	S23 01.8	169 19.8	N12 26.6	250 21.0	S19 41.0	252 19.0	S20 01.2
R	7	212 04.0	303 55.2	S23 01.9	184 21.2	N12 27.1	265 22.9	S19 40.8	267 21.1	S20 01.1
S	8	227 06.4	318 54.3	S23 02.1	199 22.6	N12 27.5	280 24.8	S19 40.7	282 23.3	S20 01.0
D	9	242 08.9	333 53.4	S23 02.2	214 23.9	N12 27.9	295 26.6	S19 40.6	297 25.5	S20 01.0
A	10	257 11.4	348 52.4	S23 02.4	229 25.3	N12 28.4	310 28.5	S19 40.4	312 27.6	S20 00.9
Y	11	272 13.8	3 51.5	S23 02.5	244 26.7	N12 28.8	325 30.4	S19 40.3	327 29.8	S20 00.8
	12	287 16.3	18 50.5	S23 02.7	259 28.1	N12 29.3	340 32.2	S19 40.2	342 32.0	S20 00.8
	13	302 18.7	33 49.6	S23 02.8	274 29.4	N12 29.7	355 34.1	S19 40.0	357 34.1	S20 00.7
	14	317 21.2	48 48.7	S23 02.9	289 30.8	N12 30.2	10 36.0	S19 39.9	12 36.3	S20 00.7
	15	332 23.7	63 47.7	S23 03.1	304 32.2	N12 30.6	25 37.8	S19 39.8	27 38.4	S20 00.6
	16	347 26.1	78 46.8	S23 03.2	319 33.6	N12 31.1	40 39.7	S19 39.6	42 40.6	S20 00.5
	17	2 28.6	93 45.8	S23 03.4	334 34.9	N12 31.5	55 41.6	S19 39.5	57 42.8	S20 00.5
	18	17 31.1	108 44.9	S23 03.5	349 36.3	N12 31.9	70 43.4	S19 39.4	72 44.9	S20 00.4
	19	32 33.5	123 44.0	S23 03.6	4 37.7	N12 32.4	85 45.3	S19 39.2	87 47.1	S20 00.3
	20	47 36.0	138 43.0	S23 03.8	19 39.1	N12 32.8	100 47.2	S19 39.1	102 49.2	S20 00.3
	21	62 38.5	153 42.1	S23 03.9	34 40.4	N12 33.3	115 49.0	S19 39.0	117 51.4	S20 00.2
	22	77 40.9	168 41.1	S23 04.0	49 41.8	N12 33.7	130 50.9	S19 38.8	132 53.6	S20 00.1
	23	92 43.4	183 40.2	S23 04.1	64 43.2	N12 34.2	145 52.8	S19 38.7	147 55.7	S20 00.1
8	0	107 45.8	198 39.3	S23 04.3	79 44.5	N12 34.6	160 54.6	S19 38.5	162 57.9	S20 00.0
	1	122 48.3	213 38.3	S23 04.4	94 45.9	N12 35.0	175 56.5	S19 38.4	178 00.1	S19 60.0
	2	137 50.8	228 37.4	S23 04.5	109 47.3	N12 35.5	190 58.4	S19 38.3	193 02.2	S19 59.9
	3	152 53.2	243 36.4	S23 04.6	124 48.7	N12 35.9	206 00.2	S19 38.1	208 04.4	S19 59.8
	4	167 55.7	258 35.5	S23 04.8	139 50.0	N12 36.4	221 02.1	S19 38.0	223 06.5	S19 59.8
F	5	182 58.2	273 34.6	S23 04.9	154 51.4	N12 36.8	236 03.9	S19 37.9	238 08.7	S19 59.7
R										
I	6	198 00.6	288 33.6	S23 05.0	169 52.8	N12 37.3	251 05.8	S19 37.7	253 10.9	S19 59.6
D	7	213 03.1	303 32.7	S23 05.1	184 54.1	N12 37.7	266 07.7	S19 37.6	268 13.0	S19 59.6
A	8	228 05.6	318 31.7	S23 05.2	199 55.5	N12 38.2	281 09.5	S19 37.5	283 15.2	S19 59.5
Y	9	243 08.0	333 30.8	S23 05.4	214 56.9	N12 38.6	296 11.4	S19 37.3	298 17.3	S19 59.4
	10	258 10.5	348 29.8	S23 05.5	229 58.2	N12 39.0	311 13.3	S19 37.2	313 19.5	S19 59.4
	11	273 13.0	3 28.9	S23 05.6	244 59.6	N12 39.5	326 15.1	S19 37.0	328 21.7	S19 59.3
	12	288 15.4	18 28.0	S23 05.7	260 01.0	N12 39.9	341 17.0	S19 36.9	343 23.8	S19 59.3
	13	303 17.9	33 27.0	S23 05.8	275 02.3	N12 40.4	356 18.9	S19 36.8	358 26.0	S19 59.2
	14	318 20.3	48 26.1	S23 05.9	290 03.7	N12 40.8	11 20.7	S19 36.6	13 28.2	S19 59.1
	15	333 22.8	63 25.1	S23 06.0	305 05.0	N12 41.3	26 22.6	S19 36.5	28 30.3	S19 59.1
	16	348 25.3	78 24.2	S23 06.1	320 06.4	N12 41.7	41 24.5	S19 36.4	43 32.5	S19 59.0
	17	3 27.7	93 23.3	S23 06.2	335 07.8	N12 42.2	56 26.3	S19 36.2	58 34.6	S19 58.9
	18	18 30.2	108 22.3	S23 06.3	350 09.1	N12 42.6	71 28.2	S19 36.1	73 36.8	S19 58.9
	19	33 32.7	123 21.4	S23 06.4	5 10.5	N12 43.0	86 30.0	S19 36.0	88 39.0	S19 58.8
	20	48 35.1	138 20.4	S23 06.5	20 11.9	N12 43.5	101 31.9	S19 35.8	103 41.1	S19 58.7
	21	63 37.6	153 19.5	S23 06.6	35 13.2	N12 43.9	116 33.8	S19 35.7	118 43.3	S19 58.7
	22	78 40.1	168 18.5	S23 06.7	50 14.6	N12 44.4	131 35.6	S19 35.5	133 45.4	S19 58.6
	23	93 42.5	183 17.6	S23 06.8	65 15.9	N12 44.8	146 37.5	S19 35.4	148 47.6	S19 58.6
9	0	108 45.0	198 16.7	S23 06.9	80 17.3	N12 45.3	161 39.4	S19 35.3	163 49.8	S19 58.5
	1	123 47.5	213 15.7	S23 07.0	95 18.7	N12 45.7	176 41.2	S19 35.1	178 51.9	S19 58.4
	2	138 49.9	228 14.8	S23 07.1	110 20.0	N12 46.2	191 43.1	S19 35.0	193 54.1	S19 58.4
	3	153 52.4	243 13.8	S23 07.2	125 21.4	N12 46.6	206 45.0	S19 34.9	208 56.2	S19 58.3
	4	168 54.8	258 12.9	S23 07.3	140 22.7	N12 47.1	221 46.8	S19 34.7	223 58.4	S19 58.2
S	5	183 57.3	273 11.9	S23 07.4	155 24.1	N12 47.5	236 48.7	S19 34.6	239 00.6	S19 58.2
A										
T	6	198 59.8	288 11.0	S23 07.5	170 25.4	N12 47.9	251 50.5	S19 34.5	254 02.7	S19 58.1
U	7	214 02.2	303 10.0	S23 07.6	185 26.8	N12 48.4	266 52.4	S19 34.3	269 04.9	S19 58.0
R	8	229 04.7	318 09.1	S23 07.7	200 28.1	N12 48.8	281 54.3	S19 34.2	284 07.0	S19 58.0
D	9	244 07.2	333 08.2	S23 07.8	215 29.5	N12 49.3	296 56.1	S19 34.0	299 09.2	S19 57.9
A	10	259 09.6	348 07.2	S23 07.8	230 30.9	N12 49.7	311 58.0	S19 33.9	314 11.4	S19 57.8
Y	11	274 12.1	3 06.3	S23 07.9	245 32.2	N12 50.2	326 59.9	S19 33.8	329 13.5	S19 57.8
	12	289 14.6	18 05.3	S23 08.0	260 33.6	N12 50.6	342 01.7	S19 33.6	344 15.7	S19 57.7
	13	304 17.0	33 04.4	S23 08.1	275 34.9	N12 51.1	357 03.6	S19 33.5	359 17.8	S19 57.7
	14	319 19.5	48 03.4	S23 08.2	290 36.3	N12 51.5	12 05.5	S19 33.4	14 20.0	S19 57.6
	15	334 22.0	63 02.5	S23 08.3	305 37.6	N12 52.0	27 07.3	S19 33.2	29 22.2	S19 57.5
	16	349 24.4	78 01.5	S23 08.3	320 39.0	N12 52.4	42 09.2	S19 33.1	44 24.3	S19 57.5
	17	4 26.9	93 00.6	S23 08.4	335 40.3	N12 52.8	57 11.0	S19 32.9	59 26.5	S19 57.4
	18	19 29.3	107 59.7	S23 08.5	350 41.7	N12 53.3	72 12.9	S19 32.8	74 28.6	S19 57.3
	19	34 31.8	122 58.7	S23 08.6	5 43.0	N12 53.7	87 14.8	S19 32.7	89 30.8	S19 57.3
	20	49 34.3	137 57.8	S23 08.6	20 44.4	N12 54.2	102 16.6	S19 32.5	104 33.0	S19 57.2
	21	64 36.7	152 56.8	S23 08.7	35 45.7	N12 54.6	117 18.5	S19 32.4	119 35.1	S19 57.1
	22	79 39.2	167 55.9	S23 08.8	50 47.1	N12 55.1	132 20.4	S19 32.3	134 37.3	S19 57.1
	23	94 41.7	182 54.9	S23 08.8	65 48.4	N12 55.5	147 22.2	S19 32.1	149 39.5	S19 57.0
			v -0.9	d 0.1	v 1.4	d 0.4	v 1.9	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
7	0	178 27.7	S22 22.1	262 16.6	11.1	S 5 35.4	14.6	59.2
	1	193 27.5	S22 21.8	276 46.7	11.1	S 5 49.9	14.5	59.2
	2	208 27.2	S22 21.5	291 16.7	11.0	S 6 04.5	14.5	59.3
	3	223 26.9	S22 21.2	305 46.7	11.0	S 6 18.9	14.5	59.3
	4	238 26.7	S22 20.9	320 16.6	10.9	S 6 33.4	14.5	59.3
T	5	253 26.4	S22 20.5	334 46.5	10.9	S 6 47.8	14.4	59.3
H								
U	6	268 26.1	S22 20.2	349 16.4	10.8	S 7 02.2	14.4	59.3
R	7	283 25.9	S22 19.9	3 46.2	10.8	S 7 16.6	14.4	59.3
S	8	298 25.6	S22 19.6	18 15.9	10.7	S 7 30.9	14.3	59.3
D	9	313 25.3	S22 19.3	32 45.6	10.7	S 7 45.2	14.3	59.3
A	10	328 25.1	S22 18.9	47 15.3	10.6	S 7 59.4	14.3	59.4
Y	11	343 24.8	S22 18.6	61 44.9	10.6	S 8 13.7	14.2	59.4
	12	358 24.5	S22 18.3	76 14.4	10.5	S 8 27.8	14.2	59.4
	13	13 24.3	S22 17.9	90 43.9	10.5	S 8 42.0	14.1	59.4
	14	28 24.0	S22 17.6	105 13.3	10.4	S 8 56.1	14.1	59.4
	15	43 23.7	S22 17.3	119 42.7	10.4	S 9 10.1	14.1	59.4
	16	58 23.5	S22 17.0	134 12.0	10.3	S 9 24.1	14.0	59.4
	17	73 23.2	S22 16.6	148 41.3	10.3	S 9 38.1	14.0	59.4
	18	88 22.9	S22 16.3	163 10.5	10.2	S 9 52.0	13.9	59.4
	19	103 22.7	S22 16.0	177 39.6	10.1	S10 05.9	13.9	59.4
	20	118 22.4	S22 15.6	192 08.7	10.1	S10 19.7	13.8	59.5
	21	133 22.1	S22 15.3	206 37.8	10.0	S10 33.5	13.8	59.5
	22	148 21.9	S22 15.0	221 06.7	10.0	S10 47.2	13.7	59.5
	23	163 21.6	S22 14.6	235 35.6	9.9	S11 00.8	13.7	59.5
8	0	178 21.3	S22 14.3	250 04.5	9.8	S11 14.4	13.6	59.5
	1	193 21.1	S22 13.9	264 33.2	9.8	S11 28.0	13.5	59.5
	2	208 20.8	S22 13.6	279 01.9	9.7	S11 41.5	13.5	59.5
	3	223 20.5	S22 13.3	293 30.6	9.6	S11 54.9	13.4	59.5
	4	238 20.3	S22 12.9	307 59.1	9.6	S12 08.2	13.4	59.5
F	5	253 20.0	S22 12.6	322 27.6	9.5	S12 21.5	13.3	59.5
R								
I	6	268 19.7	S22 12.3	336 56.1	9.4	S12 34.8	13.2	59.5
D	7	283 19.5	S22 11.9	351 24.4	9.4	S12 47.9	13.2	59.6
A	8	298 19.2	S22 11.6	5 52.7	9.3	S13 01.0	13.1	59.6
Y	9	313 19.0	S22 11.2	20 21.0	9.2	S13 14.0	13.0	59.6
	10	328 18.7	S22 10.9	34 49.1	9.2	S13 27.0	12.9	59.6
	11	343 18.4	S22 10.5	49 17.2	9.1	S13 39.8	12.9	59.6
	12	358 18.2	S22 10.2	63 45.2	9.0	S13 52.6	12.8	59.6
	13	13 17.9	S22 09.8	78 13.1	8.9	S14 05.4	12.7	59.6
	14	28 17.6	S22 09.5	92 41.0	8.9	S14 18.0	12.6	59.6
	15	43 17.4	S22 09.1	107 08.8	8.8	S14 30.6	12.6	59.6
	16	58 17.1	S22 08.8	121 36.5	8.7	S14 43.0	12.5	59.6
	17	73 16.9	S22 08.5	136 04.2	8.6	S14 55.4	12.4	59.6
	18	88 16.6	S22 08.1	150 31.7	8.6	S15 07.7	12.3	59.6
	19	103 16.3	S22 07.7	164 59.2	8.5	S15 20.0	12.2	59.6
	20	118 16.1	S22 07.4	179 26.6	8.4	S15 32.1	12.1	59.6
	21	133 15.8	S22 07.0	193 53.9	8.3	S15 44.2	12.0	59.6
	22	148 15.6	S22 06.7	208 21.2	8.3	S15 56.1	12.0	59.6
	23	163 15.3	S22 06.3	222 48.4	8.2	S16 08.0	11.9	59.6
9	0	178 15.0	S22 06.0	237 15.5	8.1	S16 19.7	11.8	59.7
	1	193 14.8	S22 05.6	251 42.5	8.0	S16 31.4	11.7	59.7
	2	208 14.5	S22 05.3	266 09.4	7.9	S16 43.0	11.6	59.7
	3	223 14.3	S22 04.9	280 36.3	7.9	S16 54.5	11.5	59.7
	4	238 14.0	S22 04.6	295 03.1	7.8	S17 05.8	11.4	59.7
S	5	253 13.7	S22 04.2	309 29.8	7.7	S17 17.1	11.3	59.7
A								
T	6	268 13.5	S22 03.8	323 56.4	7.6	S17 28.3	11.2	59.7
U	7	283 13.2	S22 03.5	338 23.0	7.6	S17 39.3	11.1	59.7
R	8	298 13.0	S22 03.1	352 49.5	7.5	S17 50.3	11.0	59.7
D	9	313 12.7	S22 02.8	7 15.9	7.4	S18 01.1	10.8	59.7
A	10	328 12.4	S22 02.4	21 42.2	7.3	S18 11.9	10.7	59.7
Y	11	343 12.2	S22 02.0	36 08.4	7.2	S18 22.5	10.6	59.7
	12	358 11.9	S22 01.7	50 34.6	7.2	S18 33.0	10.5	59.7
	13	13 11.7	S22 01.3	65 00.6	7.1	S18 43.4	10.4	59.7
	14	28 11.4	S22 00.9	79 26.6	7.0	S18 53.7	10.3	59.7
	15	43 11.2	S22 00.6	93 52.6	6.9	S19 03.8	10.2	59.7
	16	58 10.9	S22 00.2	108 18.4	6.8	S19 13.9	10.0	59.7
	17	73 10.7	S21 59.8	122 44.2	6.8	S19 23.8	9.9	59.7
	18	88 10.4	S21 59.5	137 09.9	6.7	S19 33.6	9.8	59.7
	19	103 10.1	S21 59.1	151 35.5	6.6	S19 43.3	9.7	59.7
	20	118 09.9	S21 58.7	166 01.0	6.5	S19 52.8	9.5	59.7
	21	133 09.6	S21 58.4	180 26.5	6.5	S20 02.3	9.4	59.7
	22	148 09.4	S21 58.0	194 51.9	6.4	S20 11.6	9.3	59.7
	23	163 09.1	S21 57.6	209 17.2	6.3	S20 20.7	9.2	59.7
		S.D. 16.3	d 0.3	S.D.	16.2		16.2	16.3

STARS Name	SHA	Dec
Acamar	315 14.1	S40 13.6
Achernar	335 22.6	S57 08.2
Acrux	173 03.5	S63 12.5
Adhara	255 08.0	S29 00.1
Albireo	67 07.0	N28 00.2
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.9	N55 50.6
Alkaid	152 54.7	N49 12.3
Al Na-ir	27 37.4	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.6	S 8 45.0
Alphecca	126 06.7	N26 38.6
Alpheratz	357 38.2	N29 12.4
Altair	62 03.4	N 8 55.4
Ankaa	353 10.5	S42 11.9
Antares	112 20.1	S26 28.6
Arcturus	145 51.0	N19 04.3
Atria	107 17.8	S69 03.7
Avior	234 15.3	S59 34.5
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.5
Capella	280 26.2	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.3
Denebola	182 28.2	N14 27.3
Diphda	348 50.6	S17 52.5
Dubhe	193 44.7	N61 38.0
Elnath	278 05.7	N28 37.4
Eltanin	90 44.2	N51 29.0
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.3	S29 30.9
Gacrux	171 55.1	S57 13.5
Gienah	175 46.8	S17 39.3
Hadar	148 40.7	S60 28.1
Hamal	327 54.8	N23 33.7
Kaus Austr.	83 37.3	S34 22.5
Kochab	137 20.6	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.5	S36 28.2
Miaplacidus	221 37.9	S69 48.0
Mirfak	308 32.6	N49 56.2
Nunki	75 52.2	S26 16.2
Peacock	53 11.4	S56 40.2
Polaris	317 17.2	N89 20.6
Pollux	243 20.9	N27 58.4
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.9	N12 32.7
Regulus	207 37.7	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 45.1	S60 55.0
Sabik	102 06.8	S15 45.0
Schedar	349 34.7	N56 39.3
Shaula	96 15.2	S37 07.0
Sirius	258 28.7	S16 44.8
Spica	158 25.7	S11 16.1
Suhail	222 48.2	S43 30.9
Vega	80 35.8	N38 48.1
Zuben-ubi	137 00.5	S16 07.6

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 44.1	197 54.0	S23 08.9	80 49.8	N12 56.0	162 24.1	S19 32.0	164 41.6	S19 56.9
	1	124 46.6	212 53.0	S23 09.0	95 51.1	N12 56.4	177 25.9	S19 31.8	179 43.8	S19 56.9
	2	139 49.1	227 52.1	S23 09.0	110 52.5	N12 56.9	192 27.8	S19 31.7	194 45.9	S19 56.8
	3	154 51.5	242 51.2	S23 09.1	125 53.8	N12 57.3	207 29.7	S19 31.6	209 48.1	S19 56.8
	4	169 54.0	257 50.2	S23 09.2	140 55.1	N12 57.7	222 31.5	S19 31.4	224 50.3	S19 56.7
S	5	184 56.4	272 49.3	S23 09.2	155 56.5	N12 58.2	237 33.4	S19 31.3	239 52.4	S19 56.6
U										
N	6	199 58.9	287 48.3	S23 09.3	170 57.8	N12 58.6	252 35.3	S19 31.1	254 54.6	S19 56.6
D	7	215 01.4	302 47.4	S23 09.4	185 59.2	N12 59.1	267 37.1	S19 31.0	269 56.7	S19 56.5
A	8	230 03.8	317 46.4	S23 09.4	201 00.5	N12 59.5	282 39.0	S19 30.9	284 58.9	S19 56.4
Y	9	245 06.3	332 45.5	S23 09.5	216 01.9	N12 60.0	297 40.9	S19 30.7	300 01.1	S19 56.4
	10	260 08.8	347 44.5	S23 09.5	231 03.2	N13 00.4	312 42.7	S19 30.6	315 03.2	S19 56.3
	11	275 11.2	2 43.6	S23 09.6	246 04.6	N13 00.9	327 44.6	S19 30.5	330 05.4	S19 56.2
	12	290 13.7	17 42.6	S23 09.6	261 05.9	N13 01.3	342 46.4	S19 30.3	345 07.5	S19 56.2
	13	305 16.2	32 41.7	S23 09.7	276 07.2	N13 01.8	357 48.3	S19 30.2	0 09.7	S19 56.1
	14	320 18.6	47 40.7	S23 09.7	291 08.6	N13 02.2	12 50.2	S19 30.0	15 11.8	S19 56.0
	15	335 21.1	62 39.8	S23 09.8	306 09.9	N13 02.7	27 52.0	S19 29.9	30 14.0	S19 56.0
	16	350 23.6	77 38.9	S23 09.8	321 11.3	N13 03.1	42 53.9	S19 29.8	45 16.2	S19 55.9
	17	5 26.0	92 37.9	S23 09.9	336 12.6	N13 03.5	57 55.8	S19 29.6	60 18.3	S19 55.9
	18	20 28.5	107 37.0	S23 09.9	351 13.9	N13 04.0	72 57.6	S19 29.5	75 20.5	S19 55.8
	19	35 30.9	122 36.0	S23 10.0	6 15.3	N13 04.4	87 59.5	S19 29.3	90 22.6	S19 55.7
	20	50 33.4	137 35.1	S23 10.0	21 16.6	N13 04.9	103 01.3	S19 29.2	105 24.8	S19 55.7
	21	65 35.9	152 34.1	S23 10.0	36 18.0	N13 05.3	118 03.2	S19 29.1	120 27.0	S19 55.6
	22	80 38.3	167 33.2	S23 10.1	51 19.3	N13 05.8	133 05.1	S19 28.9	135 29.1	S19 55.5
	23	95 40.8	182 32.2	S23 10.1	66 20.6	N13 06.2	148 06.9	S19 28.8	150 31.3	S19 55.5
11	0	110 43.3	197 31.3	S23 10.2	81 22.0	N13 06.7	163 08.8	S19 28.7	165 33.4	S19 55.4
	1	125 45.7	212 30.3	S23 10.2	96 23.3	N13 07.1	178 10.7	S19 28.5	180 35.6	S19 55.3
	2	140 48.2	227 29.4	S23 10.2	111 24.6	N13 07.6	193 12.5	S19 28.4	195 37.8	S19 55.3
	3	155 50.7	242 28.4	S23 10.3	126 26.0	N13 08.0	208 14.4	S19 28.2	210 39.9	S19 55.2
	4	170 53.1	257 27.5	S23 10.3	141 27.3	N13 08.5	223 16.2	S19 28.1	225 42.1	S19 55.1
M	5	185 55.6	272 26.5	S23 10.3	156 28.6	N13 08.9	238 18.1	S19 28.0	240 44.2	S19 55.1
O										
N	6	200 58.1	287 25.6	S23 10.4	171 30.0	N13 09.3	253 20.0	S19 27.8	255 46.4	S19 55.0
D	7	216 00.5	302 24.7	S23 10.4	186 31.3	N13 09.8	268 21.8	S19 27.7	270 48.6	S19 54.9
A	8	231 03.0	317 23.7	S23 10.4	201 32.6	N13 10.2	283 23.7	S19 27.5	285 50.7	S19 54.9
Y	9	246 05.4	332 22.8	S23 10.5	216 34.0	N13 10.7	298 25.5	S19 27.4	300 52.9	S19 54.8
	10	261 07.9	347 21.8	S23 10.5	231 35.3	N13 11.1	313 27.4	S19 27.3	315 55.0	S19 54.8
	11	276 10.4	2 20.9	S23 10.5	246 36.6	N13 11.6	328 29.3	S19 27.1	330 57.2	S19 54.7
	12	291 12.8	17 19.9	S23 10.5	261 38.0	N13 12.0	343 31.1	S19 27.0	345 59.4	S19 54.6
	13	306 15.3	32 19.0	S23 10.6	276 39.3	N13 12.5	358 33.0	S19 26.8	1 01.5	S19 54.6
	14	321 17.8	47 18.0	S23 10.6	291 40.6	N13 12.9	13 34.9	S19 26.7	16 03.7	S19 54.5
	15	336 20.2	62 17.1	S23 10.6	306 42.0	N13 13.4	28 36.7	S19 26.6	31 05.8	S19 54.4
	16	351 22.7	77 16.1	S23 10.6	321 43.3	N13 13.8	43 38.6	S19 26.4	46 08.0	S19 54.4
	17	6 25.2	92 15.2	S23 10.6	336 44.6	N13 14.3	58 40.4	S19 26.3	61 10.2	S19 54.3
	18	21 27.6	107 14.2	S23 10.6	351 45.9	N13 14.7	73 42.3	S19 26.1	76 12.3	S19 54.2
	19	36 30.1	122 13.3	S23 10.7	6 47.3	N13 15.2	88 44.2	S19 26.0	91 14.5	S19 54.2
	20	51 32.6	137 12.3	S23 10.7	21 48.6	N13 15.6	103 46.0	S19 25.9	106 16.6	S19 54.1
	21	66 35.0	152 11.4	S23 10.7	36 49.9	N13 16.0	118 47.9	S19 25.7	121 18.8	S19 54.0
	22	81 37.5	167 10.4	S23 10.7	51 51.2	N13 16.5	133 49.8	S19 25.6	136 20.9	S19 54.0
	23	96 39.9	182 09.5	S23 10.7	66 52.6	N13 16.9	148 51.6	S19 25.4	151 23.1	S19 53.9
12	0	111 42.4	197 08.6	S23 10.7	81 53.9	N13 17.4	163 53.5	S19 25.3	166 25.3	S19 53.8
	1	126 44.9	212 07.6	S23 10.7	96 55.2	N13 17.8	178 55.3	S19 25.2	181 27.4	S19 53.8
	2	141 47.3	227 06.7	S23 10.7	111 56.5	N13 18.3	193 57.2	S19 25.0	196 29.6	S19 53.7
	3	156 49.8	242 05.7	S23 10.7	126 57.9	N13 18.7	208 59.1	S19 24.9	211 31.7	S19 53.6
	4	171 52.3	257 04.8	S23 10.7	141 59.2	N13 19.2	224 00.9	S19 24.7	226 33.9	S19 53.6
T	5	186 54.7	272 03.8	S23 10.7	157 00.5	N13 19.6	239 02.8	S19 24.6	241 36.1	S19 53.5
U										
E	6	201 57.2	287 02.9	S23 10.7	172 01.8	N13 20.1	254 04.6	S19 24.5	256 38.2	S19 53.5
S	7	216 59.7	302 01.9	S23 10.7	187 03.2	N13 20.5	269 06.5	S19 24.3	271 40.4	S19 53.4
D	8	232 02.1	317 01.0	S23 10.7	202 04.5	N13 21.0	284 08.4	S19 24.2	286 42.5	S19 53.3
A	9	247 04.6	332 00.0	S23 10.7	217 05.8	N13 21.4	299 10.2	S19 24.0	301 44.7	S19 53.3
Y	10	262 07.1	346 59.1	S23 10.7	232 07.1	N13 21.9	314 12.1	S19 23.9	316 46.9	S19 53.2
	11	277 09.5	1 58.1	S23 10.7	247 08.4	N13 22.3	329 14.0	S19 23.8	331 49.0	S19 53.1
	12	292 12.0	16 57.2	S23 10.7	262 09.8	N13 22.7	344 15.8	S19 23.6	346 51.2	S19 53.1
	13	307 14.4	31 56.2	S23 10.7	277 11.1	N13 23.2	359 17.7	S19 23.5	1 53.3	S19 53.0
	14	322 16.9	46 55.3	S23 10.7	292 12.4	N13 23.6	14 19.5	S19 23.3	16 55.5	S19 52.9
	15	337 19.4	61 54.3	S23 10.7	307 13.7	N13 24.1	29 21.4	S19 23.2	31 57.6	S19 52.9
	16	352 21.8	76 53.4	S23 10.7	322 15.0	N13 24.5	44 23.3	S19 23.1	46 59.8	S19 52.8
	17	7 24.3	91 52.5	S23 10.7	337 16.4	N13 25.0	59 25.1	S19 22.9	62 02.0	S19 52.7
	18	22 26.8	106 51.5	S23 10.7	352 17.7	N13 25.4	74 27.0	S19 22.8	77 04.1	S19 52.7
	19	37 29.2	121 50.6	S23 10.6	7 19.0	N13 25.9	89 28.8	S19 22.6	92 06.3	S19 52.6
	20	52 31.7	136 49.6	S23 10.6	22 20.3	N13 26.3	104 30.7	S19 22.5	107 08.4	S19 52.5
	21	67 34.2	151 48.7	S23 10.6	37 21.6	N13 26.8	119 32.6	S19 22.4	122 10.6	S19 52.5
	22	82 36.6	166 47.7	S23 10.6	52 22.9	N13 27.2	134 34.4	S19 22.2	137 12.8	S19 52.4
	23	97 39.1	181 46.8	S23 10.6	67 24.3	N13 27.7	149 36.3	S19 22.1	152 14.9	S19 52.3
			v -0.9	d 0.0	v 1.3	d 0.4	v 1.9	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	178 08.9	S21 57.3	223 42.4	6.2	S20 29.7	9.0	59.7
	1	193 08.6	S21 56.9	238 07.6	6.2	S20 38.7	8.9	59.7
	2	208 08.4	S21 56.5	252 32.7	6.1	S20 47.4	8.8	59.7
	3	223 08.1	S21 56.1	266 57.7	6.0	S20 56.0	8.6	59.7
	4	238 07.9	S21 55.8	281 22.7	6.0	S21 04.5	8.5	59.7
S	5	253 07.6	S21 55.4	295 47.6	5.9	S21 12.9	8.4	59.7
U								
N	6	268 07.3	S21 55.0	310 12.4	5.8	S21 21.1	8.2	59.7
D	7	283 07.1	S21 54.6	324 37.2	5.8	S21 29.2	8.1	59.7
A	8	298 06.8	S21 54.2	339 01.8	5.7	S21 37.1	7.9	59.6
Y	9	313 06.6	S21 53.9	353 26.5	5.6	S21 44.9	7.8	59.6
	10	328 06.3	S21 53.5	7 51.0	5.6	S21 52.6	7.6	59.6
	11	343 06.1	S21 53.1	22 15.5	5.5	S22 00.1	7.5	59.6
	12	358 05.8	S21 52.7	36 39.9	5.4	S22 07.4	7.4	59.6
	13	13 05.6	S21 52.3	51 04.3	5.4	S22 14.6	7.2	59.6
	14	28 05.3	S21 52.0	65 28.6	5.3	S22 21.7	7.1	59.6
	15	43 05.1	S21 51.6	79 52.9	5.3	S22 28.6	6.9	59.6
	16	58 04.8	S21 51.2	94 17.1	5.2	S22 35.3	6.8	59.6
	17	73 04.6	S21 50.8	108 41.2	5.1	S22 41.9	6.6	59.6
	18	88 04.3	S21 50.4	123 05.3	5.1	S22 48.4	6.4	59.6
	19	103 04.1	S21 50.0	137 29.3	5.0	S22 54.7	6.3	59.6
	20	118 03.8	S21 49.6	151 53.3	5.0	S23 00.8	6.1	59.6
	21	133 03.6	S21 49.3	166 17.2	4.9	S23 06.8	6.0	59.6
	22	148 03.3	S21 48.9	180 41.1	4.9	S23 12.6	5.8	59.6
	23	163 03.1	S21 48.5	195 05.0	4.8	S23 18.3	5.7	59.5
11	0	178 02.8	S21 48.1	209 28.7	4.8	S23 23.8	5.5	59.5
	1	193 02.6	S21 47.7	223 52.5	4.7	S23 29.1	5.3	59.5
	2	208 02.3	S21 47.3	238 16.2	4.7	S23 34.3	5.2	59.5
	3	223 02.1	S21 46.9	252 39.9	4.7	S23 39.4	5.0	59.5
	4	238 01.8	S21 46.5	267 03.5	4.6	S23 44.2	4.9	59.5
M	5	253 01.6	S21 46.1	281 27.1	4.6	S23 48.9	4.7	59.5
O								
N	6	268 01.4	S21 45.7	295 50.7	4.6	S23 53.4	4.5	59.5
D	7	283 01.1	S21 45.3	310 14.2	4.5	S23 57.8	4.4	59.5
A	8	298 00.9	S21 44.9	324 37.7	4.5	S24 02.0	4.2	59.4
Y	9	313 00.6	S21 44.5	339 01.1	4.5	S24 06.0	4.0	59.4
	10	328 00.4	S21 44.1	353 24.6	4.4	S24 09.9	3.9	59.4
	11	343 00.1	S21 43.7	7 48.0	4.4	S24 13.6	3.7	59.4
	12	357 59.9	S21 43.3	22 11.4	4.4	S24 17.1	3.5	59.4
	13	12 59.6	S21 42.9	36 34.8	4.4	S24 20.5	3.4	59.4
	14	27 59.4	S21 42.5	50 58.1	4.4	S24 23.7	3.2	59.4
	15	42 59.1	S21 42.1	65 21.5	4.3	S24 26.7	3.0	59.4
	16	57 58.9	S21 41.7	79 44.8	4.3	S24 29.6	2.9	59.3
	17	72 58.7	S21 41.3	94 08.1	4.3	S24 32.3	2.7	59.3
	18	87 58.4	S21 40.9	108 31.4	4.3	S24 34.8	2.5	59.3
	19	102 58.2	S21 40.5	122 54.7	4.3	S24 37.2	2.3	59.3
	20	117 57.9	S21 40.1	137 18.0	4.3	S24 39.3	2.2	59.3
	21	132 57.7	S21 39.7	151 41.3	4.3	S24 41.3	2.0	59.3
	22	147 57.4	S21 39.3	166 04.6	4.3	S24 43.2	1.8	59.2
	23	162 57.2	S21 38.9	180 27.9	4.3	S24 44.9	1.7	59.2
12	0	177 57.0	S21 38.5	194 51.2	4.3	S24 46.3	1.5	59.2
	1	192 56.7	S21 38.1	209 14.5	4.3	S24 47.7	1.3	59.2
	2	207 56.5	S21 37.7	223 37.8	4.3	S24 48.8	1.2	59.2
	3	222 56.2	S21 37.3	238 01.1	4.3	S24 49.8	1.0	59.2
	4	237 56.0	S21 36.9	252 24.5	4.3	S24 50.6	0.8	59.1
T	5	252 55.8	S21 36.5	266 47.8	4.3	S24 51.3	0.6	59.1
U								
E	6	267 55.5	S21 36.0	281 11.2	4.4	S24 51.7	0.5	59.1
S	7	282 55.3	S21 35.6	295 34.6	4.4	S24 52.0	0.3	59.1
D	8	297 55.0	S21 35.2	309 58.0	4.4	S24 52.2	0.1	59.1
A	9	312 54.8	S21 34.8	324 21.4	4.4	S24 52.1	0.0	59.1
Y	10	327 54.5	S21 34.4	338 44.9	4.5	S24 51.9	0.2	59.0
	11	342 54.3	S21 34.0	353 08.4	4.5	S24 51.6	0.4	59.0
	12	357 54.1	S21 33.5	7 31.9	4.5	S24 51.0	0.5	59.0
	13	12 53.8	S21 33.1	21 55.4	4.5	S24 50.3	0.7	59.0
	14	27 53.6	S21 32.7	36 19.0	4.6	S24 49.4	0.9	59.0
	15	42 53.4	S21 32.3	50 42.6	4.6	S24 48.4	1.0	58.9
	16	57 53.1	S21 31.9	65 06.3	4.7	S24 47.2	1.2	58.9
	17	72 52.9	S21 31.5	79 30.0	4.7	S24 45.8	1.4	58.9
	18	87 52.6	S21 31.0	93 53.7	4.7	S24 44.3	1.5	58.9
	19	102 52.4	S21 30.6	108 17.5	4.8	S24 42.5	1.7	58.8
	20	117 52.2	S21 30.2	122 41.3	4.8	S24 40.7	1.9	58.8
	21	132 51.9	S21 29.8	137 05.2	4.9	S24 38.6	2.0	58.8
	22	147 51.7	S21 29.3	151 29.1	4.9	S24 36.4	2.2	58.8
	23	162 51.5	S21 28.9	165 53.1	5.0	S24 34.1	2.4	58.8
		S.D. 16.3	d 0.4	S.D.	16.2	16.2	16.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.1	S40 13.6
Achernar	335 22.7	S57 08.2
Acrux	173 03.4	S63 12.5
Adhara	255 08.0	S29 00.1
Albireo	67 07.0	N28 00.2
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.8	N55 50.6
Alkaid	152 54.7	N49 12.3
Al Na-ir	27 37.4	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.6	S 8 45.0
Alphecca	126 06.7	N26 38.6
Alpheratz	357 38.2	N29 12.4
Altair	62 03.4	N 8 55.4
Ankaa	353 10.5	S42 11.9
Antares	112 20.1	S26 28.6
Arcturus	145 51.0	N19 04.3
Atria	107 17.7	S69 03.7
Avior	234 15.3	S59 34.5
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.5
Capella	280 26.2	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.3
Denebola	182 28.1	N14 27.2
Diphda	348 50.6	S17 52.5
Dubhe	193 44.7	N61 38.0
Elnath	278 05.6	N28 37.4
Eltanin	90 44.2	N51 29.0
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.3	S29 30.9
Gacrux	171 55.0	S57 13.5
Gienah	175 46.8	S17 39.3
Hadar	148 40.7	S60 28.1
Hamal	327 54.8	N23 33.7
Kaus Austr.	83 37.2	S34 22.5
Kochab	137 20.5	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.5	S36 28.2
Miaplacidus	221 37.8	S69 48.0
Mirfak	308 32.6	N49 56.2
Nunki	75 52.2	S26 16.2
Peacock	53 11.4	S56 40.2
Polaris	317 18.1	N89 20.6
Pollux	243 20.9	N27 58.4
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.9	N12 32.7
Regulus	207 37.6	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 45.0	S60 55.0
Sabik	102 06.8	S15 45.0
Schedar	349 34.7	N56 39.3
Shaula	96 15.1	S37 07.0
Sirius	258 28.7	S16 44.8
Spica	158 25.7	S11 16.1
Suhail	222 48.2	S43 30.9
Vega	80 35.8	N38 48.1
Zuben-ubi	137 00.5	S16 07.6

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 41.6	196 45.8	S23 10.5	82 25.6	N13 28.1	164 38.1	S19 21.9	167 17.1	S19 52.3
	1	127 44.0	211 44.9	S23 10.5	97 26.9	N13 28.6	179 40.0	S19 21.8	182 19.2	S19 52.2
	2	142 46.5	226 43.9	S23 10.5	112 28.2	N13 29.0	194 41.9	S19 21.7	197 21.4	S19 52.1
	3	157 48.9	241 43.0	S23 10.5	127 29.5	N13 29.5	209 43.7	S19 21.5	212 23.5	S19 52.1
	4	172 51.4	256 42.0	S23 10.5	142 30.8	N13 29.9	224 45.6	S19 21.4	227 25.7	S19 52.0
W	5	187 53.9	271 41.1	S23 10.4	157 32.1	N13 30.4	239 47.5	S19 21.2	242 27.9	S19 52.0
E										
D	6	202 56.3	286 40.1	S23 10.4	172 33.4	N13 30.8	254 49.3	S19 21.1	257 30.0	S19 51.9
N	7	217 58.8	301 39.2	S23 10.4	187 34.8	N13 31.2	269 51.2	S19 21.0	272 32.2	S19 51.8
E	8	233 01.3	316 38.2	S23 10.3	202 36.1	N13 31.7	284 53.0	S19 20.8	287 34.3	S19 51.8
S	9	248 03.7	331 37.3	S23 10.3	217 37.4	N13 32.1	299 54.9	S19 20.7	302 36.5	S19 51.7
D	10	263 06.2	346 36.4	S23 10.3	232 38.7	N13 32.6	314 56.8	S19 20.5	317 38.7	S19 51.6
A	11	278 08.7	1 35.4	S23 10.2	247 40.0	N13 33.0	329 58.6	S19 20.4	332 40.8	S19 51.6
Y										
	12	293 11.1	16 34.5	S23 10.2	262 41.3	N13 33.5	345 00.5	S19 20.2	347 43.0	S19 51.5
	13	308 13.6	31 33.5	S23 10.2	277 42.6	N13 33.9	0 02.3	S19 20.1	2 45.1	S19 51.4
	14	323 16.0	46 32.6	S23 10.1	292 43.9	N13 34.4	15 04.2	S19 20.0	17 47.3	S19 51.4
	15	338 18.5	61 31.6	S23 10.1	307 45.2	N13 34.8	30 06.1	S19 19.8	32 49.4	S19 51.3
	16	353 21.0	76 30.7	S23 10.0	322 46.5	N13 35.3	45 07.9	S19 19.7	47 51.6	S19 51.2
	17	8 23.4	91 29.7	S23 10.0	337 47.8	N13 35.7	60 09.8	S19 19.5	62 53.8	S19 51.2
	18	23 25.9	106 28.8	S23 10.0	352 49.2	N13 36.2	75 11.6	S19 19.4	77 55.9	S19 51.1
	19	38 28.4	121 27.8	S23 09.9	7 50.5	N13 36.6	90 13.5	S19 19.3	92 58.1	S19 51.0
	20	53 30.8	136 26.9	S23 09.9	22 51.8	N13 37.1	105 15.4	S19 19.1	108 00.2	S19 51.0
	21	68 33.3	151 25.9	S23 09.8	37 53.1	N13 37.5	120 17.2	S19 19.0	123 02.4	S19 50.9
	22	83 35.8	166 25.0	S23 09.8	52 54.4	N13 38.0	135 19.1	S19 18.8	138 04.6	S19 50.8
	23	98 38.2	181 24.0	S23 09.7	67 55.7	N13 38.4	150 20.9	S19 18.7	153 06.7	S19 50.8
14	0	113 40.7	196 23.1	S23 09.7	82 57.0	N13 38.9	165 22.8	S19 18.5	168 08.9	S19 50.7
	1	128 43.2	211 22.2	S23 09.6	97 58.3	N13 39.3	180 24.7	S19 18.4	183 11.0	S19 50.6
	2	143 45.6	226 21.2	S23 09.6	112 59.6	N13 39.7	195 26.5	S19 18.3	198 13.2	S19 50.6
	3	158 48.1	241 20.3	S23 09.5	128 00.9	N13 40.2	210 28.4	S19 18.1	213 15.3	S19 50.5
	4	173 50.5	256 19.3	S23 09.5	143 02.2	N13 40.6	225 30.2	S19 18.0	228 17.5	S19 50.4
T	5	188 53.0	271 18.4	S23 09.4	158 03.5	N13 41.1	240 32.1	S19 17.8	243 19.7	S19 50.4
H										
U	6	203 55.5	286 17.4	S23 09.3	173 04.8	N13 41.5	255 34.0	S19 17.7	258 21.8	S19 50.3
R	7	218 57.9	301 16.5	S23 09.3	188 06.1	N13 42.0	270 35.8	S19 17.6	273 24.0	S19 50.2
S	8	234 00.4	316 15.5	S23 09.2	203 07.4	N13 42.4	285 37.7	S19 17.4	288 26.1	S19 50.2
D	9	249 02.9	331 14.6	S23 09.2	218 08.7	N13 42.9	300 39.5	S19 17.3	303 28.3	S19 50.1
A	10	264 05.3	346 13.6	S23 09.1	233 10.0	N13 43.3	315 41.4	S19 17.1	318 30.4	S19 50.1
Y	11	279 07.8	1 12.7	S23 09.0	248 11.3	N13 43.8	330 43.3	S19 17.0	333 32.6	S19 50.0
	12	294 10.3	16 11.7	S23 09.0	263 12.6	N13 44.2	345 45.1	S19 16.8	348 34.8	S19 49.9
	13	309 12.7	31 10.8	S23 08.9	278 13.9	N13 44.7	0 47.0	S19 16.7	3 36.9	S19 49.9
	14	324 15.2	46 09.9	S23 08.8	293 15.2	N13 45.1	15 48.8	S19 16.6	18 39.1	S19 49.8
	15	339 17.7	61 08.9	S23 08.8	308 16.5	N13 45.6	30 50.7	S19 16.4	33 41.2	S19 49.7
	16	354 20.1	76 08.0	S23 08.7	323 17.8	N13 46.0	45 52.6	S19 16.3	48 43.4	S19 49.7
	17	9 22.6	91 07.0	S23 08.6	338 19.1	N13 46.5	60 54.4	S19 16.1	63 45.6	S19 49.6
	18	24 25.0	106 06.1	S23 08.5	353 20.4	N13 46.9	75 56.3	S19 16.0	78 47.7	S19 49.5
	19	39 27.5	121 05.1	S23 08.5	8 21.7	N13 47.4	90 58.1	S19 15.8	93 49.9	S19 49.5
	20	54 30.0	136 04.2	S23 08.4	23 23.0	N13 47.8	106 00.0	S19 15.7	108 52.0	S19 49.4
	21	69 32.4	151 03.2	S23 08.3	38 24.3	N13 48.2	121 01.9	S19 15.6	123 54.2	S19 49.3
	22	84 34.9	166 02.3	S23 08.2	53 25.6	N13 48.7	136 03.7	S19 15.4	138 56.3	S19 49.3
	23	99 37.4	181 01.3	S23 08.2	68 26.9	N13 49.1	151 05.6	S19 15.3	153 58.5	S19 49.2
15	0	114 39.8	196 00.4	S23 08.1	83 28.1	N13 49.6	166 07.4	S19 15.1	169 00.7	S19 49.1
	1	129 42.3	210 59.5	S23 08.0	98 29.4	N13 50.0	181 09.3	S19 15.0	184 02.8	S19 49.1
	2	144 44.8	225 58.5	S23 07.9	113 30.7	N13 50.5	196 11.2	S19 14.8	199 05.0	S19 49.0
	3	159 47.2	240 57.6	S23 07.8	128 32.0	N13 50.9	211 13.0	S19 14.7	214 07.1	S19 48.9
	4	174 49.7	255 56.6	S23 07.7	143 33.3	N13 51.4	226 14.9	S19 14.6	229 09.3	S19 48.9
F	5	189 52.2	270 55.7	S23 07.7	158 34.6	N13 51.8	241 16.7	S19 14.4	244 11.4	S19 48.8
R										
I	6	204 54.6	285 54.7	S23 07.6	173 35.9	N13 52.3	256 18.6	S19 14.3	259 13.6	S19 48.7
D	7	219 57.1	300 53.8	S23 07.5	188 37.2	N13 52.7	271 20.5	S19 14.1	274 15.8	S19 48.7
A	8	234 59.5	315 52.8	S23 07.4	203 38.5	N13 53.2	286 22.3	S19 14.0	289 17.9	S19 48.6
Y	9	250 02.0	330 51.9	S23 07.3	218 39.8	N13 53.6	301 24.2	S19 13.8	304 20.1	S19 48.5
	10	265 04.5	345 51.0	S23 07.2	233 41.1	N13 54.1	316 26.0	S19 13.7	319 22.2	S19 48.5
	11	280 06.9	0 50.0	S23 07.1	248 42.3	N13 54.5	331 27.9	S19 13.6	334 24.4	S19 48.4
	12	295 09.4	15 49.1	S23 07.0	263 43.6	N13 55.0	346 29.8	S19 13.4	349 26.5	S19 48.3
	13	310 11.9	30 48.1	S23 06.9	278 44.9	N13 55.4	1 31.6	S19 13.3	4 28.7	S19 48.3
	14	325 14.3	45 47.2	S23 06.8	293 46.2	N13 55.9	16 33.5	S19 13.1	19 30.9	S19 48.2
	15	340 16.8	60 46.2	S23 06.7	308 47.5	N13 56.3	31 35.3	S19 13.0	34 33.0	S19 48.1
	16	355 19.3	75 45.3	S23 06.6	323 48.8	N13 56.8	46 37.2	S19 12.8	49 35.2	S19 48.1
	17	10 21.7	90 44.3	S23 06.5	338 50.1	N13 57.2	61 39.1	S19 12.7	64 37.3	S19 48.0
	18	25 24.2	105 43.4	S23 06.4	353 51.4	N13 57.6	76 40.9	S19 12.6	79 39.5	S19 47.9
	19	40 26.7	120 42.5	S23 06.3	8 52.6	N13 58.1	91 42.8	S19 12.4	94 41.6	S19 47.9
	20	55 29.1	135 41.5	S23 06.2	23 53.9	N13 58.5	106 44.6	S19 12.3	109 43.8	S19 47.8
	21	70 31.6	150 40.6	S23 06.1	38 55.2	N13 59.0	121 46.5	S19 12.1	124 46.0	S19 47.7
	22	85 34.0	165 39.6	S23 06.0	53 56.5	N13 59.4	136 48.4	S19 12.0	139 48.1	S19 47.7
	23	100 36.5	180 38.7	S23 05.9	68 57.8	N13 59.9	151 50.2	S19 11.8	154 50.3	S19 47.6
			v -0.9	d 0.1	v 1.3	d 0.4	v 1.9	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
13 0	177 51.2	S21 28.5	180 17.2	5.0	S24 31.6	2.5	58.7	Acamar	315 14.1 S40 13.6
1	192 51.0	S21 28.1	194 41.3	5.1	S24 28.9	2.7	58.7	Achernar	335 22.7 S57 08.2
2	207 50.8	S21 27.6	209 05.4	5.2	S24 26.0	2.8	58.7	Acrux	173 03.4 S63 12.5
3	222 50.5	S21 27.2	223 29.6	5.2	S24 23.0	3.0	58.7	Adhara	255 08.0 S29 00.1
4	237 50.3	S21 26.8	237 53.9	5.3	S24 19.9	3.2	58.6	Albireo	67 07.0 N28 00.2
W 5	252 50.1	S21 26.4	252 18.3	5.3	S24 16.6	3.3	58.6		
E								Aldebaran	290 43.1 N16 33.0
D 6	267 49.8	S21 25.9	266 42.7	5.4	S24 13.1	3.5	58.6	Alioth	166 15.8 N55 50.6
N 7	282 49.6	S21 25.5	281 07.2	5.5	S24 09.5	3.6	58.6	Alkaid	152 54.7 N49 12.3
E 8	297 49.3	S21 25.1	295 31.7	5.5	S24 05.7	3.8	58.5	Al Na-ir	27 37.4 S46 51.8
S 9	312 49.1	S21 24.6	309 56.3	5.6	S24 01.8	3.9	58.5	Alnilam	275 40.7 S 1 11.4
D 10	327 48.9	S21 24.2	324 21.0	5.7	S23 57.7	4.1	58.5		
A 11	342 48.6	S21 23.8	338 45.8	5.8	S23 53.5	4.2	58.5	Alphard	217 50.6 S 8 45.0
Y								Alphecca	126 06.7 N26 38.5
12	357 48.4	S21 23.3	353 10.6	5.8	S23 49.1	4.4	58.4	Alpheratz	357 38.2 N29 12.4
13	12 48.2	S21 22.9	7 35.5	5.9	S23 44.6	4.5	58.4	Altair	62 03.4 N 8 55.4
14	27 48.0	S21 22.5	22 00.5	6.0	S23 39.9	4.7	58.4	Ankaa	353 10.5 S42 11.9
15	42 47.7	S21 22.0	36 25.6	6.1	S23 35.1	4.8	58.4		
16	57 47.5	S21 21.6	50 50.7	6.2	S23 30.1	5.0	58.3	Antares	112 20.1 S26 28.6
17	72 47.3	S21 21.2	65 16.0	6.2	S23 25.0	5.1	58.3	Arcturus	145 51.0 N19 04.3
								Atria	107 17.7 S69 03.7
18	87 47.0	S21 20.7	79 41.3	6.3	S23 19.7	5.3	58.3	Avior	234 15.3 S59 34.6
19	102 46.8	S21 20.3	94 06.7	6.4	S23 14.4	5.4	58.2	Bellatrix	278 26.0 N 6 22.0
20	117 46.6	S21 19.8	108 32.2	6.5	S23 08.8	5.5	58.2		
21	132 46.3	S21 19.4	122 57.8	6.6	S23 03.2	5.7	58.2	Betelgeuse	270 55.3 N 7 24.6
22	147 46.1	S21 19.0	137 23.4	6.7	S22 57.3	5.8	58.2	Canopus	263 53.3 S52 42.5
23	162 45.9	S21 18.5	151 49.2	6.8	S22 51.4	5.9	58.1	Capella	280 26.2 N46 01.2
14 0	177 45.7	S21 18.1	166 15.1	6.8	S22 45.3	6.1	58.1	Castor	246 00.8 N31 50.5
1	192 45.4	S21 17.6	180 41.0	6.9	S22 39.1	6.2	58.1	Deneb	49 28.4 N45 21.3
2	207 45.2	S21 17.2	195 07.0	7.0	S22 32.8	6.3	58.0		
3	222 45.0	S21 16.7	209 33.2	7.1	S22 26.3	6.5	58.0	Denebola	182 28.1 N14 27.2
4	237 44.7	S21 16.3	223 59.4	7.2	S22 19.7	6.6	58.0	Diphda	348 50.7 S17 52.5
T 5	252 44.5	S21 15.8	238 25.7	7.3	S22 13.0	6.7	58.0	Dubhe	193 44.6 N61 38.0
H								Elnath	278 05.6 N28 37.4
U 6	267 44.3	S21 15.4	252 52.1	7.4	S22 06.1	6.9	57.9	Eltanin	90 44.2 N51 29.0
R 7	282 44.1	S21 15.0	267 18.6	7.5	S21 59.2	7.0	57.9		
S 8	297 43.8	S21 14.5	281 45.2	7.6	S21 52.1	7.1	57.9	Enif	33 42.2 N 9 58.2
D 9	312 43.6	S21 14.1	296 11.9	7.7	S21 44.8	7.2	57.8	Fomalhaut	15 18.3 S29 30.9
A 10	327 43.4	S21 13.6	310 38.7	7.8	S21 37.5	7.3	57.8	Gacrux	171 55.0 S57 13.5
Y 11	342 43.2	S21 13.2	325 05.6	7.9	S21 30.0	7.5	57.8	Gienah	175 46.8 S17 39.4
								Hadar	148 40.6 S60 28.1
12	357 42.9	S21 12.7	339 32.6	8.0	S21 22.5	7.6	57.8		
13	12 42.7	S21 12.3	353 59.7	8.1	S21 14.8	7.7	57.7	Hamal	327 54.8 N23 33.7
14	27 42.5	S21 11.8	8 26.9	8.2	S21 06.9	7.8	57.7	Kaus Austr.	83 37.2 S34 22.5
15	42 42.2	S21 11.4	22 54.2	8.3	S20 59.0	7.9	57.7	Kochab	137 20.5 N74 03.9
16	57 42.0	S21 10.9	37 21.6	8.4	S20 51.0	8.0	57.6	Markab	13 33.3 N15 19.0
17	72 41.8	S21 10.4	51 49.1	8.5	S20 42.8	8.1	57.6	Menkar	314 09.4 N 4 10.2
								Menkent	148 01.5 S36 28.2
18	87 41.6	S21 10.0	66 16.7	8.6	S20 34.6	8.3	57.6	Miaplacidus	221 37.8 S69 48.0
19	102 41.4	S21 09.5	80 44.4	8.7	S20 26.2	8.4	57.5	Mirfak	308 32.6 N49 56.2
20	117 41.1	S21 09.1	95 12.2	8.8	S20 17.8	8.5	57.5	Nunki	75 52.1 S26 16.2
21	132 40.9	S21 08.6	109 40.1	8.9	S20 09.2	8.6	57.5	Peacock	53 11.4 S56 40.2
22	147 40.7	S21 08.2	124 08.1	9.0	S20 00.5	8.7	57.5		
23	162 40.5	S21 07.7	138 36.2	9.1	S19 51.8	8.8	57.4	Polaris	317 19.3 N89 20.6
15 0	177 40.2	S21 07.2	153 04.4	9.2	S19 42.9	8.9	57.4	Pollux	243 20.9 N27 58.4
1	192 40.0	S21 06.8	167 32.7	9.3	S19 33.9	9.0	57.4	Procyon	244 53.9 N 5 10.2
2	207 39.8	S21 06.3	182 01.2	9.4	S19 24.8	9.1	57.3	Rasalhague	96 01.9 N12 32.7
3	222 39.6	S21 05.9	196 29.7	9.5	S19 15.7	9.2	57.3	Regulus	207 37.6 N11 51.8
4	237 39.4	S21 05.4	210 58.3	9.6	S19 06.4	9.3	57.3		
F 5	252 39.1	S21 04.9	225 27.0	9.7	S18 57.1	9.3	57.2	Rigel	281 06.7 S 8 10.8
R								Rigil Kent	139 45.0 S60 55.0
I 6	267 38.9	S21 04.5	239 55.8	9.8	S18 47.6	9.4	57.2	Sabik	102 06.8 S15 45.0
D 7	282 38.7	S21 04.0	254 24.8	9.9	S18 38.1	9.5	57.2	Schedar	349 34.7 N56 39.3
A 8	297 38.5	S21 03.5	268 53.8	10.0	S18 28.5	9.6	57.1	Shaula	96 15.1 S37 07.0
Y 9	312 38.3	S21 03.1	283 22.9	10.1	S18 18.8	9.7	57.1		
10	327 38.0	S21 02.6	297 52.2	10.2	S18 09.0	9.8	57.1	Sirius	258 28.7 S16 44.8
11	342 37.8	S21 02.1	312 21.5	10.3	S17 59.1	9.9	57.1	Spica	158 25.7 S11 16.1
								Suhail	222 48.2 S43 30.9
12	357 37.6	S21 01.7	326 50.9	10.4	S17 49.2	10.0	57.0	Vega	80 35.8 N38 48.1
13	12 37.4	S21 01.2	341 20.5	10.5	S17 39.1	10.0	57.0	Zuben-ubi	137 00.5 S16 07.6
14	27 37.2	S21 00.7	355 50.1	10.6	S17 29.0	10.1	57.0		
15	42 36.9	S21 00.3	10 19.8	10.7	S17 18.8	10.2	56.9		
16	57 36.7	S20 59.8	24 49.7	10.8	S17 08.6	10.3	56.9		
17	72 36.5	S20 59.3	39 19.6	10.9	S16 58.2	10.3	56.9		
18	87 36.3	S20 58.9	53 49.6	11.0	S16 47.8	10.4	56.8		
19	102 36.1	S20 58.4	68 19.7	11.1	S16 37.3	10.5	56.8		
20	117 35.9	S20 57.9	82 49.9	11.2	S16 26.7	10.6	56.8		
21	132 35.6	S20 57.4	97 20.3	11.3	S16 16.1	10.6	56.7		
22	147 35.4	S20 57.0	111 50.7	11.4	S16 05.4	10.7	56.7		
23	162 35.2	S20 56.5	126 21.2	11.5	S15 54.6	10.8	56.7		
	S.D. 16.3	d 0.5	S.D.	15.9	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 ° '
16	0	115 39.0	195 37.7	S23 05.8	83 59.1	N14 00.3	166 52.1	S19 11.7	169 52.4	S19 47.5
	1	130 41.4	210 36.8	S23 05.7	99 00.3	N14 00.8	181 53.9	S19 11.6	184 54.6	S19 47.5
	2	145 43.9	225 35.9	S23 05.6	114 01.6	N14 01.2	196 55.8	S19 11.4	199 56.7	S19 47.4
	3	160 46.4	240 34.9	S23 05.4	129 02.9	N14 01.7	211 57.7	S19 11.3	214 58.9	S19 47.3
	4	175 48.8	255 34.0	S23 05.3	144 04.2	N14 02.1	226 59.5	S19 11.1	230 01.1	S19 47.3
S	5	190 51.3	270 33.0	S23 05.2	159 05.5	N14 02.6	242 01.4	S19 11.0	245 03.2	S19 47.2
A										
T	6	205 53.8	285 32.1	S23 05.1	174 06.8	N14 03.0	257 03.2	S19 10.8	260 05.4	S19 47.1
U	7	220 56.2	300 31.1	S23 05.0	189 08.0	N14 03.5	272 05.1	S19 10.7	275 07.5	S19 47.1
R	8	235 58.7	315 30.2	S23 04.9	204 09.3	N14 03.9	287 07.0	S19 10.5	290 09.7	S19 47.0
D	9	251 01.1	330 29.3	S23 04.7	219 10.6	N14 04.4	302 08.8	S19 10.4	305 11.8	S19 47.0
A	10	266 03.6	345 28.3	S23 04.6	234 11.9	N14 04.8	317 10.7	S19 10.3	320 14.0	S19 46.9
Y	11	281 06.1	0 27.4	S23 04.5	249 13.1	N14 05.3	332 12.5	S19 10.1	335 16.2	S19 46.8
	12	296 08.5	15 26.4	S23 04.4	264 14.4	N14 05.7	347 14.4	S19 10.0	350 18.3	S19 46.8
	13	311 11.0	30 25.5	S23 04.2	279 15.7	N14 06.1	2 16.3	S19 09.8	5 20.5	S19 46.7
	14	326 13.5	45 24.5	S23 04.1	294 17.0	N14 06.6	17 18.1	S19 09.7	20 22.6	S19 46.6
	15	341 15.9	60 23.6	S23 04.0	309 18.3	N14 07.0	32 20.0	S19 09.5	35 24.8	S19 46.6
	16	356 18.4	75 22.7	S23 03.8	324 19.5	N14 07.5	47 21.8	S19 09.4	50 26.9	S19 46.5
	17	11 20.9	90 21.7	S23 03.7	339 20.8	N14 07.9	62 23.7	S19 09.2	65 29.1	S19 46.4
	18	26 23.3	105 20.8	S23 03.6	354 22.1	N14 08.4	77 25.5	S19 09.1	80 31.3	S19 46.4
	19	41 25.8	120 19.8	S23 03.4	9 23.4	N14 08.8	92 27.4	S19 09.0	95 33.4	S19 46.3
	20	56 28.3	135 18.9	S23 03.3	24 24.6	N14 09.3	107 29.3	S19 08.8	110 35.6	S19 46.2
	21	71 30.7	150 18.0	S23 03.2	39 25.9	N14 09.7	122 31.1	S19 08.7	125 37.7	S19 46.2
	22	86 33.2	165 17.0	S23 03.0	54 27.2	N14 10.2	137 33.0	S19 08.5	140 39.9	S19 46.1
	23	101 35.6	180 16.1	S23 02.9	69 28.5	N14 10.6	152 34.8	S19 08.4	155 42.0	S19 46.0
17	0	116 38.1	195 15.1	S23 02.8	84 29.7	N14 11.1	167 36.7	S19 08.2	170 44.2	S19 46.0
	1	131 40.6	210 14.2	S23 02.6	99 31.0	N14 11.5	182 38.6	S19 08.1	185 46.4	S19 45.9
	2	146 43.0	225 13.3	S23 02.5	114 32.3	N14 12.0	197 40.4	S19 07.9	200 48.5	S19 45.8
	3	161 45.5	240 12.3	S23 02.3	129 33.6	N14 12.4	212 42.3	S19 07.8	215 50.7	S19 45.8
	4	176 48.0	255 11.4	S23 02.2	144 34.8	N14 12.9	227 44.1	S19 07.7	230 52.8	S19 45.7
S	5	191 50.4	270 10.4	S23 02.0	159 36.1	N14 13.3	242 46.0	S19 07.5	245 55.0	S19 45.6
U										
N	6	206 52.9	285 09.5	S23 01.9	174 37.4	N14 13.8	257 47.9	S19 07.4	260 57.1	S19 45.6
D	7	221 55.4	300 08.6	S23 01.7	189 38.6	N14 14.2	272 49.7	S19 07.2	275 59.3	S19 45.5
A	8	236 57.8	315 07.6	S23 01.6	204 39.9	N14 14.6	287 51.6	S19 07.1	291 01.5	S19 45.4
Y	9	252 00.3	330 06.7	S23 01.4	219 41.2	N14 15.1	302 53.4	S19 06.9	306 03.6	S19 45.4
	10	267 02.8	345 05.7	S23 01.3	234 42.4	N14 15.5	317 55.3	S19 06.8	321 05.8	S19 45.3
	11	282 05.2	0 04.8	S23 01.1	249 43.7	N14 16.0	332 57.2	S19 06.6	336 07.9	S19 45.2
	12	297 07.7	15 03.9	S23 01.0	264 45.0	N14 16.4	347 59.0	S19 06.5	351 10.1	S19 45.2
	13	312 10.1	30 02.9	S23 00.8	279 46.2	N14 16.9	3 00.9	S19 06.4	6 12.2	S19 45.1
	14	327 12.6	45 02.0	S23 00.7	294 47.5	N14 17.3	18 02.7	S19 06.2	21 14.4	S19 45.0
	15	342 15.1	60 01.0	S23 00.5	309 48.8	N14 17.8	33 04.6	S19 06.1	36 16.6	S19 45.0
	16	357 17.5	75 00.1	S23 00.4	324 50.0	N14 18.2	48 06.5	S19 05.9	51 18.7	S19 44.9
	17	12 20.0	89 59.2	S23 00.2	339 51.3	N14 18.7	63 08.3	S19 05.8	66 20.9	S19 44.8
	18	27 22.5	104 58.2	S23 00.0	354 52.6	N14 19.1	78 10.2	S19 05.6	81 23.0	S19 44.8
	19	42 24.9	119 57.3	S22 59.9	9 53.8	N14 19.6	93 12.0	S19 05.5	96 25.2	S19 44.7
	20	57 27.4	134 56.4	S22 59.7	24 55.1	N14 20.0	108 13.9	S19 05.3	111 27.3	S19 44.6
	21	72 29.9	149 55.4	S22 59.5	39 56.4	N14 20.5	123 15.7	S19 05.2	126 29.5	S19 44.6
	22	87 32.3	164 54.5	S22 59.4	54 57.6	N14 20.9	138 17.6	S19 05.0	141 31.7	S19 44.5
	23	102 34.8	179 53.5	S22 59.2	69 58.9	N14 21.4	153 19.5	S19 04.9	156 33.8	S19 44.4
18	0	117 37.2	194 52.6	S22 59.0	85 00.2	N14 21.8	168 21.3	S19 04.8	171 36.0	S19 44.4
	1	132 39.7	209 51.7	S22 58.9	100 01.4	N14 22.2	183 23.2	S19 04.6	186 38.1	S19 44.3
	2	147 42.2	224 50.7	S22 58.7	115 02.7	N14 22.7	198 25.0	S19 04.5	201 40.3	S19 44.2
	3	162 44.6	239 49.8	S22 58.5	130 04.0	N14 23.1	213 26.9	S19 04.3	216 42.4	S19 44.2
	4	177 47.1	254 48.9	S22 58.3	145 05.2	N14 23.6	228 28.8	S19 04.2	231 44.6	S19 44.1
M	5	192 49.6	269 47.9	S22 58.2	160 06.5	N14 24.0	243 30.6	S19 04.0	246 46.7	S19 44.0
O										
N	6	207 52.0	284 47.0	S22 58.0	175 07.7	N14 24.5	258 32.5	S19 03.9	261 48.9	S19 44.0
D	7	222 54.5	299 46.0	S22 57.8	190 09.0	N14 24.9	273 34.3	S19 03.7	276 51.1	S19 43.9
A	8	237 57.0	314 45.1	S22 57.6	205 10.3	N14 25.4	288 36.2	S19 03.6	291 53.2	S19 43.8
Y	9	252 59.4	329 44.2	S22 57.5	220 11.5	N14 25.8	303 38.1	S19 03.4	306 55.4	S19 43.8
	10	268 01.9	344 43.2	S22 57.3	235 12.8	N14 26.3	318 39.9	S19 03.3	321 57.5	S19 43.7
	11	283 04.4	359 42.3	S22 57.1	250 14.0	N14 26.7	333 41.8	S19 03.2	336 59.7	S19 43.6
	12	298 06.8	14 41.4	S22 56.9	265 15.3	N14 27.2	348 43.6	S19 03.0	352 01.8	S19 43.6
	13	313 09.3	29 40.4	S22 56.7	280 16.6	N14 27.6	3 45.5	S19 02.9	7 04.0	S19 43.5
	14	328 11.7	44 39.5	S22 56.5	295 17.8	N14 28.1	18 47.3	S19 02.7	22 06.2	S19 43.4
	15	343 14.2	59 38.6	S22 56.3	310 19.1	N14 28.5	33 49.2	S19 02.6	37 08.3	S19 43.4
	16	358 16.7	74 37.6	S22 56.2	325 20.3	N14 29.0	48 51.1	S19 02.4	52 10.5	S19 43.3
	17	13 19.1	89 36.7	S22 56.0	340 21.6	N14 29.4	63 52.9	S19 02.3	67 12.6	S19 43.2
	18	28 21.6	104 35.8	S22 55.8	355 22.8	N14 29.8	78 54.8	S19 02.1	82 14.8	S19 43.2
	19	43 24.1	119 34.8	S22 55.6	10 24.1	N14 30.3	93 56.6	S19 02.0	97 16.9	S19 43.1
	20	58 26.5	134 33.9	S22 55.4	25 25.3	N14 30.7	108 58.5	S19 01.8	112 19.1	S19 43.0
	21	73 29.0	149 33.0	S22 55.2	40 26.6	N14 31.2	124 00.4	S19 01.7	127 21.3	S19 43.0
	22	88 31.5	164 32.0	S22 55.0	55 27.9	N14 31.6	139 02.2	S19 01.5	142 23.4	S19 42.9
	23	103 33.9	179 31.1	S22 54.8	70 29.1	N14 32.1	154 04.1	S19 01.4	157 25.6	S19 42.8
			v -0.9	d 0.2	v 1.3	d 0.4	v 1.9	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
	° '	° '	° '	'	° '	'	'		° '	° '
16 0	177 35.0	S20 56.0	140 51.8	11.6	S15 43.8	10.8	56.7	Acamar	315 14.1	S40 13.6
1	192 34.8	S20 55.5	155 22.5	11.7	S15 32.9	10.9	56.6	Achernar	335 22.7	S57 08.2
2	207 34.6	S20 55.0	169 53.3	11.8	S15 22.0	11.0	56.6	Acrux	173 03.3	S63 12.5
3	222 34.4	S20 54.6	184 24.1	11.9	S15 10.9	11.0	56.6	Adhara	255 08.0	S29 00.1
4	237 34.1	S20 54.1	198 55.1	12.0	S14 59.8	11.1	56.5	Albireo	67 07.0	N28 00.2
S 5	252 33.9	S20 53.6	213 26.2	12.1	S14 48.7	11.1	56.5			
A								Aldebaran	290 43.1	N16 33.0
T 6	267 33.7	S20 53.1	227 57.3	12.2	S14 37.5	11.2	56.5	Alioth	166 15.7	N55 50.6
U 7	282 33.5	S20 52.7	242 28.6	12.2	S14 26.2	11.3	56.4	Alkaid	152 54.6	N49 12.3
R 8	297 33.3	S20 52.2	256 59.9	12.3	S14 14.9	11.3	56.4	Al Na-ir	27 37.4	S46 51.8
D 9	312 33.1	S20 51.7	271 31.3	12.4	S14 03.6	11.4	56.4	Alnilam	275 40.7	S 1 11.4
A 10	327 32.9	S20 51.2	286 02.8	12.5	S13 52.1	11.4	56.3			
Y 11	342 32.7	S20 50.7	300 34.4	12.6	S13 40.7	11.5	56.3	Alphard	217 50.6	S 8 45.0
								Alphecca	126 06.7	N26 38.5
12	357 32.4	S20 50.2	315 06.1	12.7	S13 29.2	11.5	56.3	Alpheratz	357 38.2	N29 12.4
13	12 32.2	S20 49.7	329 37.9	12.8	S13 17.6	11.6	56.3	Altair	62 03.4	N 8 55.4
14	27 32.0	S20 49.3	344 09.7	12.8	S13 06.0	11.6	56.2	Ankaa	353 10.5	S42 11.9
15	42 31.8	S20 48.8	358 41.7	12.9	S12 54.3	11.7	56.2			
16	57 31.6	S20 48.3	13 13.7	13.0	S12 42.6	11.7	56.2	Antares	112 20.0	S26 28.6
17	72 31.4	S20 47.8	27 45.8	13.1	S12 30.8	11.8	56.1	Arcturus	145 50.9	N19 04.3
								Atria	107 17.6	S69 03.7
18	87 31.2	S20 47.3	42 17.9	13.2	S12 19.0	11.8	56.1	Avior	234 15.3	S59 34.6
19	102 31.0	S20 46.8	56 50.2	13.3	S12 07.2	11.8	56.1	Bellatrix	278 26.1	N 6 22.0
20	117 30.8	S20 46.3	71 22.5	13.3	S11 55.3	11.9	56.1			
21	132 30.6	S20 45.8	85 54.9	13.4	S11 43.4	11.9	56.0	Betelgeuse	270 55.3	N 7 24.6
22	147 30.4	S20 45.4	100 27.4	13.5	S11 31.4	12.0	56.0	Canopus	263 53.3	S52 42.6
23	162 30.1	S20 44.9	114 60.0	13.6	S11 19.4	12.0	56.0	Capella	280 26.3	N46 01.2
17 0	177 29.9	S20 44.4	129 32.6	13.6	S11 07.4	12.0	55.9	Castor	246 00.8	N31 50.5
1	192 29.7	S20 43.9	144 05.3	13.7	S10 55.3	12.1	55.9	Deneb	49 28.4	N45 21.3
2	207 29.5	S20 43.4	158 38.1	13.8	S10 43.2	12.1	55.9			
3	222 29.3	S20 42.9	173 11.0	13.9	S10 31.1	12.1	55.9	Denebola	182 28.1	N14 27.2
4	237 29.1	S20 42.4	187 43.9	13.9	S10 18.9	12.2	55.8	Diphda	348 50.7	S17 52.5
S 5	252 28.9	S20 41.9	202 16.9	14.0	S10 06.7	12.2	55.8	Dubhe	193 44.6	N61 38.0
U								Elnath	278 05.6	N28 37.4
N 6	267 28.7	S20 41.4	216 50.0	14.1	S 9 54.4	12.2	55.8	Eltanin	90 44.2	N51 29.0
D 7	282 28.5	S20 40.9	231 23.1	14.1	S 9 42.2	12.3	55.7	Enif	33 42.2	N 9 58.2
A 8	297 28.3	S20 40.4	245 56.3	14.2	S 9 29.9	12.3	55.7	Fomalhaut	15 18.3	S29 30.9
Y 9	312 28.1	S20 39.9	260 29.6	14.3	S 9 17.6	12.3	55.7	Gacrux	171 55.0	S57 13.5
10	327 27.9	S20 39.4	275 02.9	14.3	S 9 05.2	12.3	55.7	Gienah	175 46.7	S17 39.4
11	342 27.7	S20 38.9	289 36.3	14.4	S 8 52.8	12.4	55.6	Hadar	148 40.6	S60 28.1
12	357 27.5	S20 38.4	304 09.8	14.5	S 8 40.4	12.4	55.6	Hamal	327 54.8	N23 33.7
13	12 27.3	S20 37.9	318 43.3	14.5	S 8 28.0	12.4	55.6	Kaus Austr.	83 37.2	S34 22.5
14	27 27.1	S20 37.4	333 16.9	14.6	S 8 15.6	12.4	55.6	Kochab	137 20.4	N74 03.9
15	42 26.9	S20 36.9	347 50.6	14.6	S 8 03.1	12.5	55.5	Markab	13 33.3	N15 19.0
16	57 26.7	S20 36.4	2 24.3	14.7	S 7 50.6	12.5	55.5	Menkar	314 09.4	N 4 10.2
17	72 26.5	S20 35.9	16 58.0	14.8	S 7 38.1	12.5	55.5			
								Menkent	148 01.4	S36 28.2
18	87 26.3	S20 35.4	31 31.8	14.8	S 7 25.6	12.5	55.5	Miaplacidus	221 37.8	S69 48.0
19	102 26.1	S20 34.9	46 05.7	14.9	S 7 13.0	12.5	55.4	Mirfak	308 32.6	N49 56.2
20	117 25.9	S20 34.4	60 39.6	14.9	S 7 00.5	12.6	55.4	Nunki	75 52.1	S26 16.2
21	132 25.7	S20 33.9	75 13.6	15.0	S 6 47.9	12.6	55.4	Peacock	53 11.4	S56 40.2
22	147 25.5	S20 33.4	89 47.7	15.0	S 6 35.3	12.6	55.4			
23	162 25.3	S20 32.8	104 21.8	15.1	S 6 22.7	12.6	55.3	Polaris	317 20.6	N89 20.6
18 0	177 25.1	S20 32.3	118 55.9	15.1	S 6 10.1	12.6	55.3	Pollux	243 20.9	N27 58.5
1	192 24.9	S20 31.8	133 30.1	15.2	S 5 57.4	12.6	55.3	Procyon	244 53.9	N 5 10.2
2	207 24.7	S20 31.3	148 04.3	15.2	S 5 44.8	12.6	55.3	Rasalhague	96 01.9	N12 32.7
3	222 24.5	S20 30.8	162 38.6	15.3	S 5 32.1	12.7	55.2	Regulus	207 37.6	N11 51.8
4	237 24.3	S20 30.3	177 12.9	15.3	S 5 19.4	12.7	55.2			
M 5	252 24.1	S20 29.8	191 47.3	15.4	S 5 06.8	12.7	55.2	Rigel	281 06.7	S 8 10.8
O								Rigil Kent	139 45.0	S60 55.0
N 6	267 23.9	S20 29.3	206 21.7	15.4	S 4 54.1	12.7	55.2	Sabik	102 06.8	S15 45.0
D 7	282 23.7	S20 28.8	220 56.2	15.5	S 4 41.4	12.7	55.1	Schedar	349 34.7	N56 39.3
A 8	297 23.5	S20 28.2	235 30.7	15.5	S 4 28.7	12.7	55.1	Shaula	96 15.1	S37 07.0
Y 9	312 23.3	S20 27.7	250 05.2	15.5	S 4 16.0	12.7	55.1			
10	327 23.1	S20 27.2	264 39.8	15.6	S 4 03.2	12.7	55.1	Sirius	258 28.7	S16 44.8
11	342 22.9	S20 26.7	279 14.4	15.6	S 3 50.5	12.7	55.1	Spica	158 25.7	S11 16.2
								Suhail	222 48.2	S43 31.0
12	357 22.7	S20 26.2	293 49.1	15.7	S 3 37.8	12.7	55.0	Vega	80 35.8	N38 48.1
13	12 22.5	S20 25.7	308 23.8	15.7	S 3 25.1	12.7	55.0	Zuben-ubi	137 00.4	S16 07.6
14	27 22.3	S20 25.1	322 58.5	15.7	S 3 12.3	12.7	55.0			
15	42 22.1	S20 24.6	337 33.3	15.8	S 2 59.6	12.7	55.0			
16	57 21.9	S20 24.1	352 08.1	15.8	S 2 46.9	12.7	55.0			
17	72 21.7	S20 23.6	6 42.9	15.8	S 2 34.1	12.7	54.9			
18	87 21.5	S20 23.1	21 17.8	15.9	S 2 21.4	12.7	54.9			
19	102 21.3	S20 22.5	35 52.7	15.9	S 2 08.6	12.7	54.9			
20	117 21.1	S20 22.0	50 27.6	15.9	S 1 55.9	12.7	54.9			
21	132 20.9	S20 21.5	65 02.6	16.0	S 1 43.2	12.7	54.9			
22	147 20.7	S20 21.0	79 37.5	16.0	S 1 30.5	12.7	54.8			
23	162 20.5	S20 20.4	94 12.6	16.0	S 1 17.7	12.7	54.8			
	S.D. 16.3	d 0.5	S.D.	15.3	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
		° '	° '	° '	° '	° '	° '	° '	° '	° '
19	0	118 36.4	194 30.2	S22 54.6	85 30.4	N14 32.5	169 05.9	S19 01.3	172 27.7	S19 42.8
	1	133 38.8	209 29.2	S22 54.4	100 31.6	N14 33.0	184 07.8	S19 01.1	187 29.9	S19 42.7
	2	148 41.3	224 28.3	S22 54.2	115 32.9	N14 33.4	199 09.7	S19 01.0	202 32.0	S19 42.6
	3	163 43.8	239 27.4	S22 54.0	130 34.1	N14 33.9	214 11.5	S19 00.8	217 34.2	S19 42.6
	4	178 46.2	254 26.4	S22 53.8	145 35.4	N14 34.3	229 13.4	S19 00.7	232 36.4	S19 42.5
T	5	193 48.7	269 25.5	S22 53.6	160 36.6	N14 34.8	244 15.2	S19 00.5	247 38.5	S19 42.4
U										
E	6	208 51.2	284 24.6	S22 53.4	175 37.9	N14 35.2	259 17.1	S19 00.4	262 40.7	S19 42.4
S	7	223 53.6	299 23.6	S22 53.2	190 39.1	N14 35.7	274 18.9	S19 00.2	277 42.8	S19 42.3
D	8	238 56.1	314 22.7	S22 53.0	205 40.4	N14 36.1	289 20.8	S19 00.1	292 45.0	S19 42.2
A	9	253 58.6	329 21.8	S22 52.8	220 41.6	N14 36.5	304 22.7	S18 59.9	307 47.1	S19 42.2
Y	10	269 01.0	344 20.8	S22 52.6	235 42.9	N14 37.0	319 24.5	S18 59.8	322 49.3	S19 42.1
	11	284 03.5	359 19.9	S22 52.3	250 44.1	N14 37.4	334 26.4	S18 59.6	337 51.4	S19 42.0
	12	299 06.0	14 19.0	S22 52.1	265 45.4	N14 37.9	349 28.2	S18 59.5	352 53.6	S19 42.0
	13	314 08.4	29 18.0	S22 51.9	280 46.6	N14 38.3	4 30.1	S18 59.3	7 55.8	S19 41.9
	14	329 10.9	44 17.1	S22 51.7	295 47.9	N14 38.8	19 32.0	S18 59.2	22 57.9	S19 41.8
	15	344 13.3	59 16.2	S22 51.5	310 49.1	N14 39.2	34 33.8	S18 59.1	38 00.1	S19 41.7
	16	359 15.8	74 15.2	S22 51.3	325 50.4	N14 39.7	49 35.7	S18 58.9	53 02.2	S19 41.7
	17	14 18.3	89 14.3	S22 51.0	340 51.6	N14 40.1	64 37.5	S18 58.8	68 04.4	S19 41.6
	18	29 20.7	104 13.4	S22 50.8	355 52.9	N14 40.6	79 39.4	S18 58.6	83 06.5	S19 41.5
	19	44 23.2	119 12.5	S22 50.6	10 54.1	N14 41.0	94 41.2	S18 58.5	98 08.7	S19 41.5
	20	59 25.7	134 11.5	S22 50.4	25 55.4	N14 41.5	109 43.1	S18 58.3	113 10.9	S19 41.4
	21	74 28.1	149 10.6	S22 50.1	40 56.6	N14 41.9	124 45.0	S18 58.2	128 13.0	S19 41.3
	22	89 30.6	164 09.7	S22 49.9	55 57.8	N14 42.3	139 46.8	S18 58.0	143 15.2	S19 41.3
	23	104 33.1	179 08.7	S22 49.7	70 59.1	N14 42.8	154 48.7	S18 57.9	158 17.3	S19 41.2
20	0	119 35.5	194 07.8	S22 49.5	86 00.3	N14 43.2	169 50.5	S18 57.7	173 19.5	S19 41.1
	1	134 38.0	209 06.9	S22 49.2	101 01.6	N14 43.7	184 52.4	S18 57.6	188 21.6	S19 41.1
	2	149 40.5	224 05.9	S22 49.0	116 02.8	N14 44.1	199 54.3	S18 57.4	203 23.8	S19 41.0
	3	164 42.9	239 05.0	S22 48.8	131 04.1	N14 44.6	214 56.1	S18 57.3	218 25.9	S19 40.9
	4	179 45.4	254 04.1	S22 48.5	146 05.3	N14 45.0	229 58.0	S18 57.1	233 28.1	S19 40.9
W	5	194 47.8	269 03.2	S22 48.3	161 06.5	N14 45.5	244 59.8	S18 57.0	248 30.3	S19 40.8
E										
D	6	209 50.3	284 02.2	S22 48.1	176 07.8	N14 45.9	260 01.7	S18 56.8	263 32.4	S19 40.7
N	7	224 52.8	299 01.3	S22 47.8	191 09.0	N14 46.4	275 03.6	S18 56.7	278 34.6	S19 40.7
E	8	239 55.2	314 00.4	S22 47.6	206 10.3	N14 46.8	290 05.4	S18 56.5	293 36.7	S19 40.6
S	9	254 57.7	328 59.5	S22 47.4	221 11.5	N14 47.2	305 07.3	S18 56.4	308 38.9	S19 40.5
D	10	270 00.2	343 58.5	S22 47.1	236 12.8	N14 47.7	320 09.1	S18 56.3	323 41.0	S19 40.5
A	11	285 02.6	358 57.6	S22 46.9	251 14.0	N14 48.1	335 11.0	S18 56.1	338 43.2	S19 40.4
Y										
	12	300 05.1	13 56.7	S22 46.6	266 15.2	N14 48.6	350 12.8	S18 56.0	353 45.4	S19 40.3
	13	315 07.6	28 55.7	S22 46.4	281 16.5	N14 49.0	5 14.7	S18 55.8	8 47.5	S19 40.3
	14	330 10.0	43 54.8	S22 46.1	296 17.7	N14 49.5	20 16.6	S18 55.7	23 49.7	S19 40.2
	15	345 12.5	58 53.9	S22 45.9	311 18.9	N14 49.9	35 18.4	S18 55.5	38 51.8	S19 40.1
	16	0 14.9	73 53.0	S22 45.7	326 20.2	N14 50.4	50 20.3	S18 55.4	53 54.0	S19 40.1
	17	15 17.4	88 52.0	S22 45.4	341 21.4	N14 50.8	65 22.1	S18 55.2	68 56.1	S19 40.0
	18	30 19.9	103 51.1	S22 45.2	356 22.7	N14 51.3	80 24.0	S18 55.1	83 58.3	S19 39.9
	19	45 22.3	118 50.2	S22 44.9	11 23.9	N14 51.7	95 25.9	S18 54.9	99 00.5	S19 39.9
	20	60 24.8	133 49.3	S22 44.7	26 25.1	N14 52.1	110 27.7	S18 54.8	114 02.6	S19 39.8
	21	75 27.3	148 48.3	S22 44.4	41 26.4	N14 52.6	125 29.6	S18 54.6	129 04.8	S19 39.7
	22	90 29.7	163 47.4	S22 44.1	56 27.6	N14 53.0	140 31.4	S18 54.5	144 06.9	S19 39.7
	23	105 32.2	178 46.5	S22 43.9	71 28.8	N14 53.5	155 33.3	S18 54.3	159 09.1	S19 39.6
21	0	120 34.7	193 45.6	S22 43.6	86 30.1	N14 53.9	170 35.1	S18 54.2	174 11.2	S19 39.5
	1	135 37.1	208 44.6	S22 43.4	101 31.3	N14 54.4	185 37.0	S18 54.0	189 13.4	S19 39.5
	2	150 39.6	223 43.7	S22 43.1	116 32.5	N14 54.8	200 38.9	S18 53.9	204 15.5	S19 39.4
	3	165 42.1	238 42.8	S22 42.9	131 33.8	N14 55.3	215 40.7	S18 53.7	219 17.7	S19 39.3
	4	180 44.5	253 41.9	S22 42.6	146 35.0	N14 55.7	230 42.6	S18 53.6	234 19.9	S19 39.3
T	5	195 47.0	268 41.0	S22 42.3	161 36.2	N14 56.2	245 44.4	S18 53.4	249 22.0	S19 39.2
H										
U	6	210 49.4	283 40.0	S22 42.1	176 37.5	N14 56.6	260 46.3	S18 53.3	264 24.2	S19 39.1
R	7	225 51.9	298 39.1	S22 41.8	191 38.7	N14 57.0	275 48.2	S18 53.1	279 26.3	S19 39.1
S	8	240 54.4	313 38.2	S22 41.5	206 39.9	N14 57.5	290 50.0	S18 53.0	294 28.5	S19 39.0
D	9	255 56.8	328 37.3	S22 41.3	221 41.2	N14 57.9	305 51.9	S18 52.8	309 30.6	S19 38.9
A	10	270 59.3	343 36.3	S22 41.0	236 42.4	N14 58.4	320 53.7	S18 52.7	324 32.8	S19 38.9
Y	11	286 01.8	358 35.4	S22 40.7	251 43.6	N14 58.8	335 55.6	S18 52.5	339 35.0	S19 38.8
	12	301 04.2	13 34.5	S22 40.5	266 44.9	N14 59.3	350 57.4	S18 52.4	354 37.1	S19 38.7
	13	316 06.7	28 33.6	S22 40.2	281 46.1	N14 59.7	5 59.3	S18 52.3	9 39.3	S19 38.7
	14	331 09.2	43 32.7	S22 39.9	296 47.3	N15 00.2	21 01.2	S18 52.1	24 41.4	S19 38.6
	15	346 11.6	58 31.7	S22 39.6	311 48.6	N15 00.6	36 03.0	S18 52.0	39 43.6	S19 38.5
	16	1 14.1	73 30.8	S22 39.4	326 49.8	N15 01.0	51 04.9	S18 51.8	54 45.7	S19 38.4
	17	16 16.6	88 29.9	S22 39.1	341 51.0	N15 01.5	66 06.7	S18 51.7	69 47.9	S19 38.4
	18	31 19.0	103 29.0	S22 38.8	356 52.2	N15 01.9	81 08.6	S18 51.5	84 50.0	S19 38.3
	19	46 21.5	118 28.1	S22 38.5	11 53.5	N15 02.4	96 10.5	S18 51.4	99 52.2	S19 38.2
	20	61 23.9	133 27.1	S22 38.2	26 54.7	N15 02.8	111 12.3	S18 51.2	114 54.4	S19 38.2
	21	76 26.4	148 26.2	S22 38.0	41 55.9	N15 03.3	126 14.2	S18 51.1	129 56.5	S19 38.1
	22	91 28.9	163 25.3	S22 37.7	56 57.1	N15 03.7	141 16.0	S18 50.9	144 58.7	S19 38.0
	23	106 31.3	178 24.4	S22 37.4	71 58.4	N15 04.2	156 17.9	S18 50.8	160 00.8	S19 38.0
			v -0.9	d 0.2	v 1.2	d 0.4	v 1.9	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	177 20.3	S20 19.9	108 47.6	16.0	S 1 05.0	12.7	54.8
	1	192 20.2	S20 19.4	123 22.6	16.1	S 0 52.3	12.7	54.8
	2	207 20.0	S20 18.9	137 57.7	16.1	S 0 39.6	12.7	54.8
	3	222 19.8	S20 18.3	152 32.8	16.1	S 0 26.9	12.7	54.7
	4	237 19.6	S20 17.8	167 07.9	16.1	S 0 14.2	12.7	54.7
T	5	252 19.4	S20 17.3	181 43.1	16.1	S 0 01.5	12.7	54.7
U								
E	6	267 19.2	S20 16.8	196 18.2	16.2	N 0 11.2	12.7	54.7
S	7	282 19.0	S20 16.2	210 53.4	16.2	N 0 23.9	12.7	54.7
D	8	297 18.8	S20 15.7	225 28.6	16.2	N 0 36.5	12.7	54.7
A	9	312 18.6	S20 15.2	240 03.8	16.2	N 0 49.2	12.7	54.6
Y	10	327 18.4	S20 14.6	254 39.0	16.2	N 1 01.8	12.6	54.6
	11	342 18.3	S20 14.1	269 14.2	16.2	N 1 14.5	12.6	54.6
	12	357 18.1	S20 13.6	283 49.5	16.2	N 1 27.1	12.6	54.6
	13	12 17.9	S20 13.0	298 24.7	16.3	N 1 39.7	12.6	54.6
	14	27 17.7	S20 12.5	313 00.0	16.3	N 1 52.3	12.6	54.6
	15	42 17.5	S20 12.0	327 35.3	16.3	N 2 04.8	12.6	54.6
	16	57 17.3	S20 11.4	342 10.6	16.3	N 2 17.4	12.6	54.5
	17	72 17.1	S20 10.9	356 45.9	16.3	N 2 30.0	12.5	54.5
	18	87 16.9	S20 10.4	11 21.2	16.3	N 2 42.5	12.5	54.5
	19	102 16.8	S20 09.8	25 56.5	16.3	N 2 55.0	12.5	54.5
	20	117 16.6	S20 09.3	40 31.8	16.3	N 3 07.5	12.5	54.5
	21	132 16.4	S20 08.7	55 07.1	16.3	N 3 20.0	12.5	54.5
	22	147 16.2	S20 08.2	69 42.4	16.3	N 3 32.4	12.5	54.5
	23	162 16.0	S20 07.7	84 17.7	16.3	N 3 44.9	12.4	54.5
20	0	177 15.8	S20 07.1	98 53.0	16.3	N 3 57.3	12.4	54.4
	1	192 15.7	S20 06.6	113 28.3	16.3	N 4 09.7	12.4	54.4
	2	207 15.5	S20 06.0	128 03.6	16.3	N 4 22.1	12.4	54.4
	3	222 15.3	S20 05.5	142 38.9	16.3	N 4 34.4	12.4	54.4
	4	237 15.1	S20 04.9	157 14.2	16.3	N 4 46.8	12.3	54.4
W	5	252 14.9	S20 04.4	171 49.5	16.3	N 4 59.1	12.3	54.4
E								
D	6	267 14.7	S20 03.9	186 24.8	16.3	N 5 11.4	12.3	54.4
N	7	282 14.6	S20 03.3	201 00.1	16.3	N 5 23.7	12.3	54.4
E	8	297 14.4	S20 02.8	215 35.3	16.3	N 5 35.9	12.2	54.4
S	9	312 14.2	S20 02.2	230 10.6	16.3	N 5 48.1	12.2	54.4
D	10	327 14.0	S20 01.7	244 45.8	16.3	N 6 00.3	12.2	54.3
A	11	342 13.8	S20 01.1	259 21.1	16.2	N 6 12.5	12.2	54.3
Y								
	12	357 13.7	S20 00.6	273 56.3	16.2	N 6 24.6	12.1	54.3
	13	12 13.5	S20 00.0	288 31.5	16.2	N 6 36.7	12.1	54.3
	14	27 13.3	S19 59.5	303 06.7	16.2	N 6 48.8	12.1	54.3
	15	42 13.1	S19 58.9	317 41.9	16.2	N 7 00.9	12.1	54.3
	16	57 12.9	S19 58.4	332 17.1	16.2	N 7 12.9	12.0	54.3
	17	72 12.8	S19 57.8	346 52.2	16.1	N 7 24.9	12.0	54.3
	18	87 12.6	S19 57.3	1 27.4	16.1	N 7 36.9	12.0	54.3
	19	102 12.4	S19 56.7	16 02.5	16.1	N 7 48.8	11.9	54.3
	20	117 12.2	S19 56.2	30 37.6	16.1	N 8 00.7	11.9	54.3
	21	132 12.0	S19 55.6	45 12.6	16.1	N 8 12.6	11.9	54.3
	22	147 11.9	S19 55.0	59 47.7	16.0	N 8 24.4	11.8	54.3
	23	162 11.7	S19 54.5	74 22.7	16.0	N 8 36.2	11.8	54.3
21	0	177 11.5	S19 53.9	88 57.7	16.0	N 8 48.0	11.8	54.3
	1	192 11.3	S19 53.4	103 32.7	16.0	N 8 59.7	11.7	54.3
	2	207 11.2	S19 52.8	118 07.6	15.9	N 9 11.4	11.7	54.2
	3	222 11.0	S19 52.3	132 42.5	15.9	N 9 23.1	11.7	54.2
	4	237 10.8	S19 51.7	147 17.4	15.9	N 9 34.7	11.6	54.2
T	5	252 10.6	S19 51.1	161 52.3	15.9	N 9 46.3	11.6	54.2
H								
U	6	267 10.5	S19 50.6	176 27.1	15.8	N 9 57.8	11.5	54.2
R	7	282 10.3	S19 50.0	191 01.9	15.8	N10 09.3	11.5	54.2
S	8	297 10.1	S19 49.5	205 36.7	15.8	N10 20.8	11.5	54.2
D	9	312 09.9	S19 48.9	220 11.5	15.7	N10 32.2	11.4	54.2
A	10	327 09.8	S19 48.3	234 46.2	15.7	N10 43.6	11.4	54.2
Y	11	342 09.6	S19 47.8	249 20.8	15.7	N10 55.0	11.3	54.2
	12	357 09.4	S19 47.2	263 55.5	15.6	N11 06.3	11.3	54.2
	13	12 09.3	S19 46.6	278 30.1	15.6	N11 17.5	11.3	54.2
	14	27 09.1	S19 46.1	293 04.6	15.6	N11 28.8	11.2	54.2
	15	42 08.9	S19 45.5	307 39.2	15.5	N11 39.9	11.2	54.2
	16	57 08.7	S19 44.9	322 13.7	15.5	N11 51.1	11.1	54.2
	17	72 08.6	S19 44.4	336 48.1	15.4	N12 02.2	11.1	54.2
	18	87 08.4	S19 43.8	351 22.5	15.4	N12 13.2	11.0	54.2
	19	102 08.2	S19 43.2	5 56.9	15.4	N12 24.2	11.0	54.2
	20	117 08.1	S19 42.7	20 31.2	15.3	N12 35.2	10.9	54.2
	21	132 07.9	S19 42.1	35 05.5	15.3	N12 46.1	10.9	54.2
	22	147 07.7	S19 41.5	49 39.7	15.2	N12 56.9	10.9	54.2
	23	162 07.6	S19 41.0	64 13.9	15.2	N13 07.7	10.8	54.2
		S.D. 16.3	d 0.5	S.D. 14.9		14.8	14.8	

Name	SHA ° '	Dec ° '
Acamar	315 14.1	S40 13.6
Achernar	335 22.7	S57 08.2
Acrux	173 03.3	S63 12.6
Adhara	255 08.0	S29 00.1
Albireo	67 07.0	N28 00.1
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.7	N55 50.6
Alkaid	152 54.6	N49 12.3
Al Na-ir	27 37.4	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.6	S 8 45.0
Alphecca	126 06.6	N26 38.5
Alpheratz	357 38.2	N29 12.4
Altair	62 03.4	N 8 55.3
Ankaa	353 10.5	S42 11.9
Antares	112 20.0	S26 28.6
Arcturus	145 50.9	N19 04.3
Atria	107 17.6	S69 03.6
Avior	234 15.3	S59 34.6
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.6
Capella	280 26.3	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.3
Denebola	182 28.1	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.6	N61 38.0
Elnath	278 05.7	N28 37.4
Eltanin	90 44.2	N51 29.0
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.3	S29 30.9
Gacrux	171 54.9	S57 13.5
Gienah	175 46.7	S17 39.4
Hadar	148 40.6	S60 28.1
Hamal	327 54.8	N23 33.7
Kaus Austr.	83 37.2	S34 22.5
Kochab	137 20.3	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.4	S36 28.2
Miaplacidus	221 37.8	S69 48.1
Mirfak	308 32.6	N49 56.2
Nunki	75 52.1	S26 16.2
Peacock	53 11.4	S56 40.1
Polaris	317 21.8	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.9	N12 32.7
Regulus	207 37.6	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 44.9	S60 55.0
Sabik	102 06.7	S15 45.0
Schedar	349 34.8	N56 39.3
Shaula	96 15.1	S37 07.0
Sirius	258 28.7	S16 44.8
Spica	158 25.6	S11 16.2
Suhail	222 48.2	S43 31.0
Vega	80 35.8	N38 48.1
Zuben-ubi	137 00.4	S16 07.6

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
22	0	121 33.8	193 23.5	S22 37.1	86 59.6	N15 04.6	171 19.7	S18 50.6	175 03.0	S19 37.9
	1	136 36.3	208 22.5	S22 36.8	102 00.8	N15 05.1	186 21.6	S18 50.5	190 05.1	S19 37.8
	2	151 38.7	223 21.6	S22 36.5	117 02.0	N15 05.5	201 23.5	S18 50.3	205 07.3	S19 37.8
	3	166 41.2	238 20.7	S22 36.2	132 03.3	N15 05.9	216 25.3	S18 50.2	220 09.5	S19 37.7
	4	181 43.7	253 19.8	S22 35.9	147 04.5	N15 06.4	231 27.2	S18 50.0	235 11.6	S19 37.6
F	5	196 46.1	268 18.9	S22 35.6	162 05.7	N15 06.8	246 29.0	S18 49.9	250 13.8	S19 37.6
R										
I	6	211 48.6	283 18.0	S22 35.4	177 06.9	N15 07.3	261 30.9	S18 49.7	265 15.9	S19 37.5
D	7	226 51.0	298 17.0	S22 35.1	192 08.2	N15 07.7	276 32.8	S18 49.6	280 18.1	S19 37.4
A	8	241 53.5	313 16.1	S22 34.8	207 09.4	N15 08.2	291 34.6	S18 49.4	295 20.2	S19 37.4
Y	9	256 56.0	328 15.2	S22 34.5	222 10.6	N15 08.6	306 36.5	S18 49.3	310 22.4	S19 37.3
	10	271 58.4	343 14.3	S22 34.2	237 11.8	N15 09.0	321 38.3	S18 49.1	325 24.5	S19 37.2
	11	287 00.9	358 13.4	S22 33.9	252 13.1	N15 09.5	336 40.2	S18 49.0	340 26.7	S19 37.2
	12	302 03.4	13 12.5	S22 33.6	267 14.3	N15 09.9	351 42.0	S18 48.8	355 28.9	S19 37.1
	13	317 05.8	28 11.5	S22 33.3	282 15.5	N15 10.4	6 43.9	S18 48.7	10 31.0	S19 37.0
	14	332 08.3	43 10.6	S22 33.0	297 16.7	N15 10.8	21 45.8	S18 48.5	25 33.2	S19 37.0
	15	347 10.8	58 09.7	S22 32.7	312 17.9	N15 11.3	36 47.6	S18 48.4	40 35.3	S19 36.9
	16	2 13.2	73 08.8	S22 32.4	327 19.2	N15 11.7	51 49.5	S18 48.2	55 37.5	S19 36.8
	17	17 15.7	88 07.9	S22 32.1	342 20.4	N15 12.2	66 51.3	S18 48.1	70 39.6	S19 36.8
	18	32 18.2	103 07.0	S22 31.7	357 21.6	N15 12.6	81 53.2	S18 47.9	85 41.8	S19 36.7
	19	47 20.6	118 06.1	S22 31.4	12 22.8	N15 13.0	96 55.1	S18 47.8	100 44.0	S19 36.6
	20	62 23.1	133 05.1	S22 31.1	27 24.0	N15 13.5	111 56.9	S18 47.6	115 46.1	S19 36.6
	21	77 25.5	148 04.2	S22 30.8	42 25.3	N15 13.9	126 58.8	S18 47.5	130 48.3	S19 36.5
	22	92 28.0	163 03.3	S22 30.5	57 26.5	N15 14.4	142 00.6	S18 47.3	145 50.4	S19 36.4
	23	107 30.5	178 02.4	S22 30.2	72 27.7	N15 14.8	157 02.5	S18 47.2	160 52.6	S19 36.4
23	0	122 32.9	193 01.5	S22 29.9	87 28.9	N15 15.3	172 04.4	S18 47.0	175 54.7	S19 36.3
	1	137 35.4	208 00.6	S22 29.6	102 30.1	N15 15.7	187 06.2	S18 46.9	190 56.9	S19 36.2
	2	152 37.9	222 59.7	S22 29.2	117 31.3	N15 16.1	202 08.1	S18 46.7	205 59.1	S19 36.1
	3	167 40.3	237 58.8	S22 28.9	132 32.6	N15 16.6	217 09.9	S18 46.6	221 01.2	S19 36.1
	4	182 42.8	252 57.9	S22 28.6	147 33.8	N15 17.0	232 11.8	S18 46.4	236 03.4	S19 36.0
S	5	197 45.3	267 56.9	S22 28.3	162 35.0	N15 17.5	247 13.6	S18 46.3	251 05.5	S19 35.9
A										
T	6	212 47.7	282 56.0	S22 28.0	177 36.2	N15 17.9	262 15.5	S18 46.1	266 07.7	S19 35.9
U	7	227 50.2	297 55.1	S22 27.6	192 37.4	N15 18.4	277 17.4	S18 46.0	281 09.8	S19 35.8
R	8	242 52.7	312 54.2	S22 27.3	207 38.6	N15 18.8	292 19.2	S18 45.8	296 12.0	S19 35.7
D	9	257 55.1	327 53.3	S22 27.0	222 39.8	N15 19.2	307 21.1	S18 45.7	311 14.1	S19 35.7
A	10	272 57.6	342 52.4	S22 26.7	237 41.0	N15 19.7	322 22.9	S18 45.5	326 16.3	S19 35.6
Y	11	288 00.0	357 51.5	S22 26.3	252 42.3	N15 20.1	337 24.8	S18 45.4	341 18.5	S19 35.5
	12	303 02.5	12 50.6	S22 26.0	267 43.5	N15 20.6	352 26.7	S18 45.2	356 20.6	S19 35.5
	13	318 05.0	27 49.7	S22 25.7	282 44.7	N15 21.0	7 28.5	S18 45.1	11 22.8	S19 35.4
	14	333 07.4	42 48.8	S22 25.3	297 45.9	N15 21.5	22 30.4	S18 44.9	26 24.9	S19 35.3
	15	348 09.9	57 47.8	S22 25.0	312 47.1	N15 21.9	37 32.2	S18 44.8	41 27.1	S19 35.3
	16	3 12.4	72 46.9	S22 24.7	327 48.3	N15 22.3	52 34.1	S18 44.6	56 29.2	S19 35.2
	17	18 14.8	87 46.0	S22 24.3	342 49.5	N15 22.8	67 35.9	S18 44.5	71 31.4	S19 35.1
	18	33 17.3	102 45.1	S22 24.0	357 50.7	N15 23.2	82 37.8	S18 44.3	86 33.6	S19 35.1
	19	48 19.8	117 44.2	S22 23.7	12 52.0	N15 23.7	97 39.7	S18 44.2	101 35.7	S19 35.0
	20	63 22.2	132 43.3	S22 23.3	27 53.2	N15 24.1	112 41.5	S18 44.0	116 37.9	S19 34.9
	21	78 24.7	147 42.4	S22 23.0	42 54.4	N15 24.6	127 43.4	S18 43.9	131 40.0	S19 34.9
	22	93 27.2	162 41.5	S22 22.6	57 55.6	N15 25.0	142 45.2	S18 43.7	146 42.2	S19 34.8
	23	108 29.6	177 40.6	S22 22.3	72 56.8	N15 25.4	157 47.1	S18 43.6	161 44.3	S19 34.7
24	0	123 32.1	192 39.7	S22 22.0	87 58.0	N15 25.9	172 49.0	S18 43.4	176 46.5	S19 34.7
	1	138 34.5	207 38.8	S22 21.6	102 59.2	N15 26.3	187 50.8	S18 43.3	191 48.6	S19 34.6
	2	153 37.0	222 37.9	S22 21.3	118 00.4	N15 26.8	202 52.7	S18 43.1	206 50.8	S19 34.5
	3	168 39.5	237 37.0	S22 20.9	133 01.6	N15 27.2	217 54.5	S18 43.0	221 53.0	S19 34.4
	4	183 41.9	252 36.1	S22 20.6	148 02.8	N15 27.7	232 56.4	S18 42.8	236 55.1	S19 34.4
S	5	198 44.4	267 35.2	S22 20.2	163 04.0	N15 28.1	247 58.2	S18 42.7	251 57.3	S19 34.3
U										
N	6	213 46.9	282 34.3	S22 19.9	178 05.2	N15 28.5	263 00.1	S18 42.5	266 59.4	S19 34.2
D	7	228 49.3	297 33.4	S22 19.5	193 06.4	N15 29.0	278 02.0	S18 42.4	282 01.6	S19 34.2
A	8	243 51.8	312 32.4	S22 19.2	208 07.6	N15 29.4	293 03.8	S18 42.2	297 03.7	S19 34.1
Y	9	258 54.3	327 31.5	S22 18.8	223 08.9	N15 29.9	308 05.7	S18 42.1	312 05.9	S19 34.0
	10	273 56.7	342 30.6	S22 18.5	238 10.1	N15 30.3	323 07.5	S18 41.9	327 08.1	S19 34.0
	11	288 59.2	357 29.7	S22 18.1	253 11.3	N15 30.8	338 09.4	S18 41.8	342 10.2	S19 33.9
	12	304 01.6	12 28.8	S22 17.7	268 12.5	N15 31.2	353 11.3	S18 41.6	357 12.4	S19 33.8
	13	319 04.1	27 27.9	S22 17.4	283 13.7	N15 31.6	8 13.1	S18 41.5	12 14.5	S19 33.8
	14	334 06.6	42 27.0	S22 17.0	298 14.9	N15 32.1	23 15.0	S18 41.3	27 16.7	S19 33.7
	15	349 09.0	57 26.1	S22 16.7	313 16.1	N15 32.5	38 16.8	S18 41.2	42 18.8	S19 33.6
	16	4 11.5	72 25.2	S22 16.3	328 17.3	N15 33.0	53 18.7	S18 41.0	57 21.0	S19 33.6
	17	19 14.0	87 24.3	S22 15.9	343 18.5	N15 33.4	68 20.6	S18 40.9	72 23.1	S19 33.5
	18	34 16.4	102 23.4	S22 15.6	358 19.7	N15 33.8	83 22.4	S18 40.7	87 25.3	S19 33.4
	19	49 18.9	117 22.5	S22 15.2	13 20.9	N15 34.3	98 24.3	S18 40.6	102 27.5	S19 33.4
	20	64 21.4	132 21.6	S22 14.8	28 22.1	N15 34.7	113 26.1	S18 40.4	117 29.6	S19 33.3
	21	79 23.8	147 20.7	S22 14.5	43 23.3	N15 35.2	128 28.0	S18 40.3	132 31.8	S19 33.2
	22	94 26.3	162 19.8	S22 14.1	58 24.5	N15 35.6	143 29.8	S18 40.1	147 33.9	S19 33.2
	23	109 28.8	177 18.9	S22 13.7	73 25.7	N15 36.0	158 31.7	S18 40.0	162 36.1	S19 33.1
			v -0.9	d 0.3	v 1.2	d 0.4	v 1.9	d 0.2	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	177 07.4	S19 40.4	78 48.1	15.1	N13 18.5	10.8	54.2
	1	192 07.2	S19 39.8	93 22.2	15.1	N13 29.2	10.7	54.2
	2	207 07.1	S19 39.2	107 56.2	15.1	N13 39.8	10.7	54.3
	3	222 06.9	S19 38.7	122 30.2	15.0	N13 50.4	10.6	54.3
	4	237 06.7	S19 38.1	137 04.2	15.0	N14 01.0	10.5	54.3
F	5	252 06.6	S19 37.5	151 38.1	14.9	N14 11.5	10.5	54.3
R								
I	6	267 06.4	S19 36.9	166 11.9	14.9	N14 21.9	10.4	54.3
D	7	282 06.2	S19 36.4	180 45.7	14.8	N14 32.3	10.4	54.3
A	8	297 06.1	S19 35.8	195 19.5	14.8	N14 42.6	10.3	54.3
Y	9	312 05.9	S19 35.2	209 53.2	14.7	N14 52.9	10.3	54.3
	10	327 05.7	S19 34.6	224 26.8	14.6	N15 03.1	10.2	54.3
	11	342 05.6	S19 34.1	239 00.4	14.6	N15 13.2	10.2	54.3
	12	357 05.4	S19 33.5	253 34.0	14.5	N15 23.3	10.1	54.3
	13	12 05.2	S19 32.9	268 07.4	14.5	N15 33.4	10.0	54.3
	14	27 05.1	S19 32.3	282 40.9	14.4	N15 43.4	10.0	54.3
	15	42 04.9	S19 31.7	297 14.2	14.4	N15 53.3	9.9	54.3
	16	57 04.7	S19 31.1	311 47.6	14.3	N16 03.1	9.9	54.3
	17	72 04.6	S19 30.6	326 20.8	14.3	N16 12.9	9.8	54.3
	18	87 04.4	S19 30.0	340 54.0	14.2	N16 22.6	9.7	54.4
	19	102 04.3	S19 29.4	355 27.1	14.1	N16 32.3	9.7	54.4
	20	117 04.1	S19 28.8	10 00.2	14.1	N16 41.9	9.6	54.4
	21	132 03.9	S19 28.2	24 33.2	14.0	N16 51.4	9.5	54.4
	22	147 03.8	S19 27.6	39 06.2	14.0	N17 00.9	9.5	54.4
	23	162 03.6	S19 27.1	53 39.1	13.9	N17 10.3	9.4	54.4
23	0	177 03.5	S19 26.5	68 11.9	13.8	N17 19.7	9.3	54.4
	1	192 03.3	S19 25.9	82 44.7	13.8	N17 28.9	9.3	54.4
	2	207 03.1	S19 25.3	97 17.4	13.7	N17 38.1	9.2	54.4
	3	222 03.0	S19 24.7	111 50.0	13.6	N17 47.2	9.1	54.4
	4	237 02.8	S19 24.1	126 22.6	13.6	N17 56.3	9.1	54.5
S	5	252 02.7	S19 23.5	140 55.1	13.5	N18 05.3	9.0	54.5
A								
T	6	267 02.5	S19 22.9	155 27.5	13.4	N18 14.2	8.9	54.5
U	7	282 02.3	S19 22.3	169 59.9	13.4	N18 23.0	8.8	54.5
R	8	297 02.2	S19 21.8	184 32.2	13.3	N18 31.8	8.8	54.5
D	9	312 02.0	S19 21.2	199 04.4	13.2	N18 40.5	8.7	54.5
A	10	327 01.9	S19 20.6	213 36.6	13.2	N18 49.1	8.6	54.5
Y	11	342 01.7	S19 20.0	228 08.7	13.1	N18 57.6	8.5	54.5
	12	357 01.6	S19 19.4	242 40.7	13.0	N19 06.0	8.5	54.6
	13	12 01.4	S19 18.8	257 12.7	13.0	N19 14.4	8.4	54.6
	14	27 01.3	S19 18.2	271 44.6	12.9	N19 22.7	8.3	54.6
	15	42 01.1	S19 17.6	286 16.4	12.8	N19 30.9	8.2	54.6
	16	57 00.9	S19 17.0	300 48.2	12.8	N19 39.1	8.1	54.6
	17	72 00.8	S19 16.4	315 19.9	12.7	N19 47.1	8.0	54.6
	18	87 00.6	S19 15.8	329 51.5	12.6	N19 55.1	8.0	54.6
	19	102 00.5	S19 15.2	344 23.0	12.5	N20 03.0	7.9	54.7
	20	117 00.3	S19 14.6	358 54.5	12.5	N20 10.8	7.8	54.7
	21	132 00.2	S19 14.0	13 25.9	12.4	N20 18.5	7.7	54.7
	22	147 00.0	S19 13.4	27 57.2	12.3	N20 26.1	7.6	54.7
	23	161 59.9	S19 12.8	42 28.5	12.3	N20 33.6	7.5	54.7
24	0	176 59.7	S19 12.2	56 59.7	12.2	N20 41.1	7.4	54.7
	1	191 59.6	S19 11.6	71 30.8	12.1	N20 48.4	7.4	54.7
	2	206 59.4	S19 11.0	86 01.8	12.0	N20 55.7	7.3	54.8
	3	221 59.3	S19 10.4	100 32.8	12.0	N21 02.9	7.2	54.8
	4	236 59.1	S19 09.8	115 03.7	11.9	N21 10.0	7.1	54.8
S	5	251 59.0	S19 09.2	129 34.5	11.8	N21 17.0	7.0	54.8
U								
N	6	266 58.8	S19 08.6	144 05.3	11.7	N21 23.9	6.9	54.8
D	7	281 58.7	S19 08.0	158 35.9	11.7	N21 30.7	6.8	54.9
A	8	296 58.5	S19 07.4	173 06.5	11.6	N21 37.4	6.7	54.9
Y	9	311 58.4	S19 06.8	187 37.1	11.5	N21 44.0	6.6	54.9
	10	326 58.2	S19 06.1	202 07.5	11.5	N21 50.5	6.5	54.9
	11	341 58.1	S19 05.5	216 37.9	11.4	N21 56.9	6.4	54.9
	12	356 57.9	S19 04.9	231 08.2	11.3	N22 03.2	6.3	54.9
	13	11 57.8	S19 04.3	245 38.5	11.2	N22 09.5	6.2	55.0
	14	26 57.6	S19 03.7	260 08.6	11.2	N22 15.6	6.1	55.0
	15	41 57.5	S19 03.1	274 38.7	11.1	N22 21.6	6.0	55.0
	16	56 57.3	S19 02.5	289 08.7	11.0	N22 27.5	5.9	55.0
	17	71 57.2	S19 01.9	303 38.7	10.9	N22 33.3	5.8	55.0
	18	86 57.1	S19 01.3	318 08.6	10.9	N22 39.0	5.7	55.1
	19	101 56.9	S19 00.6	332 38.4	10.8	N22 44.6	5.6	55.1
	20	116 56.8	S19 00.0	347 08.1	10.7	N22 50.1	5.5	55.1
	21	131 56.6	S18 59.4	1 37.8	10.7	N22 55.5	5.4	55.1
	22	146 56.5	S18 58.8	16 07.4	10.6	N23 00.7	5.3	55.1
	23	161 56.3	S18 58.2	30 36.9	10.5	N23 05.9	5.2	55.2
		S.D. 16.3	d 0.6	S.D.	14.8	14.9	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.1	S40 13.6
Achernar	335 22.8	S57 08.2
Acrux	173 03.3	S63 12.6
Adhara	255 08.0	S29 00.2
Albireo	67 07.0	N28 00.1
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.7	N55 50.6
Alkaid	152 54.6	N49 12.3
Al Na-ir	27 37.4	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.5	S 8 45.0
Alphecca	126 06.6	N26 38.5
Alpheratz	357 38.2	N29 12.4
Altair	62 03.4	N 8 55.3
Ankaa	353 10.5	S42 11.9
Antares	112 20.0	S26 28.6
Arcturus	145 50.9	N19 04.3
Atria	107 17.5	S69 03.6
Avior	234 15.3	S59 34.6
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.6
Capella	280 26.3	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.3
Denebola	182 28.0	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.5	N61 38.1
Elnath	278 05.7	N28 37.4
Eltanin	90 44.2	N51 29.0
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.3	S29 30.9
Gacrux	171 54.9	S57 13.5
Gienah	175 46.7	S17 39.4
Hadar	148 40.5	S60 28.1
Hamal	327 54.8	N23 33.7
Kaus Austr.	83 37.2	S34 22.4
Kochab	137 20.3	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.4	S36 28.2
Miaplacidus	221 37.8	S69 48.1
Mirfak	308 32.7	N49 56.2
Nunki	75 52.1	S26 16.2
Peacock	53 11.4	S56 40.1
Polaris	317 22.9	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.8	N12 32.6
Regulus	207 37.6	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 44.9	S60 55.0
Sabik	102 06.7	S15 45.0
Schedar	349 34.8	N56 39.3
Shaula	96 15.0	S37 07.0
Sirius	258 28.7	S16 44.8
Spica	158 25.6	S11 16.2
Suhail	222 48.2	S43 31.0
Vega	80 35.8	N38 48.1
Zuben-ubi	137 00.4	S16 07.6

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
25	0	124 31.2	192 18.0	S22 13.4	88 26.9	N15 36.5	173 33.6	S18 39.8	177 38.2	S19 33.0
	1	139 33.7	207 17.1	S22 13.0	103 28.1	N15 36.9	188 35.4	S18 39.6	192 40.4	S19 32.9
	2	154 36.1	222 16.2	S22 12.6	118 29.3	N15 37.4	203 37.3	S18 39.5	207 42.6	S19 32.9
	3	169 38.6	237 15.3	S22 12.2	133 30.5	N15 37.8	218 39.1	S18 39.3	222 44.7	S19 32.8
	4	184 41.1	252 14.4	S22 11.9	148 31.7	N15 38.3	233 41.0	S18 39.2	237 46.9	S19 32.7
M	5	199 43.5	267 13.5	S22 11.5	163 32.9	N15 38.7	248 42.9	S18 39.0	252 49.0	S19 32.7
O										
N	6	214 46.0	282 12.7	S22 11.1	178 34.1	N15 39.1	263 44.7	S18 38.9	267 51.2	S19 32.6
D	7	229 48.5	297 11.8	S22 10.7	193 35.3	N15 39.6	278 46.6	S18 38.7	282 53.3	S19 32.5
A	8	244 50.9	312 10.9	S22 10.3	208 36.5	N15 40.0	293 48.4	S18 38.6	297 55.5	S19 32.5
Y	9	259 53.4	327 10.0	S22 10.0	223 37.7	N15 40.5	308 50.3	S18 38.4	312 57.7	S19 32.4
	10	274 55.9	342 09.1	S22 09.6	238 38.9	N15 40.9	323 52.1	S18 38.3	327 59.8	S19 32.3
	11	289 58.3	357 08.2	S22 09.2	253 40.0	N15 41.3	338 54.0	S18 38.1	343 02.0	S19 32.3
	12	305 00.8	12 07.3	S22 08.8	268 41.2	N15 41.8	353 55.9	S18 38.0	358 04.1	S19 32.2
	13	320 03.3	27 06.4	S22 08.4	283 42.4	N15 42.2	8 57.7	S18 37.8	13 06.3	S19 32.1
	14	335 05.7	42 05.5	S22 08.0	298 43.6	N15 42.7	23 59.6	S18 37.7	28 08.4	S19 32.1
	15	350 08.2	57 04.6	S22 07.6	313 44.8	N15 43.1	39 01.4	S18 37.5	43 10.6	S19 32.0
	16	5 10.6	72 03.7	S22 07.3	328 46.0	N15 43.5	54 03.3	S18 37.4	58 12.8	S19 31.9
	17	20 13.1	87 02.8	S22 06.9	343 47.2	N15 44.0	69 05.2	S18 37.2	73 14.9	S19 31.9
	18	35 15.6	102 01.9	S22 06.5	358 48.4	N15 44.4	84 07.0	S18 37.1	88 17.1	S19 31.8
	19	50 18.0	117 01.0	S22 06.1	13 49.6	N15 44.9	99 08.9	S18 36.9	103 19.2	S19 31.7
	20	65 20.5	132 00.1	S22 05.7	28 50.8	N15 45.3	114 10.7	S18 36.8	118 21.4	S19 31.7
	21	80 23.0	146 59.2	S22 05.3	43 52.0	N15 45.7	129 12.6	S18 36.6	133 23.5	S19 31.6
	22	95 25.4	161 58.3	S22 04.9	58 53.2	N15 46.2	144 14.5	S18 36.5	148 25.7	S19 31.5
	23	110 27.9	176 57.5	S22 04.5	73 54.4	N15 46.6	159 16.3	S18 36.3	163 27.8	S19 31.4
26	0	125 30.4	191 56.6	S22 04.1	88 55.6	N15 47.1	174 18.2	S18 36.2	178 30.0	S19 31.4
	1	140 32.8	206 55.7	S22 03.7	103 56.7	N15 47.5	189 20.0	S18 36.0	193 32.2	S19 31.3
	2	155 35.3	221 54.8	S22 03.3	118 57.9	N15 47.9	204 21.9	S18 35.9	208 34.3	S19 31.2
	3	170 37.8	236 53.9	S22 02.9	133 59.1	N15 48.4	219 23.7	S18 35.7	223 36.5	S19 31.2
	4	185 40.2	251 53.0	S22 02.5	149 00.3	N15 48.8	234 25.6	S18 35.5	238 38.6	S19 31.1
T	5	200 42.7	266 52.1	S22 02.1	164 01.5	N15 49.3	249 27.5	S18 35.4	253 40.8	S19 31.0
U										
E	6	215 45.1	281 51.2	S22 01.7	179 02.7	N15 49.7	264 29.3	S18 35.2	268 42.9	S19 31.0
S	7	230 47.6	296 50.3	S22 01.3	194 03.9	N15 50.1	279 31.2	S18 35.1	283 45.1	S19 30.9
D	8	245 50.1	311 49.4	S22 00.9	209 05.1	N15 50.6	294 33.0	S18 34.9	298 47.3	S19 30.8
A	9	260 52.5	326 48.6	S22 00.4	224 06.3	N15 51.0	309 34.9	S18 34.8	313 49.4	S19 30.8
Y	10	275 55.0	341 47.7	S22 00.0	239 07.4	N15 51.5	324 36.8	S18 34.6	328 51.6	S19 30.7
	11	290 57.5	356 46.8	S21 59.6	254 08.6	N15 51.9	339 38.6	S18 34.5	343 53.7	S19 30.6
	12	305 59.9	11 45.9	S21 59.2	269 09.8	N15 52.3	354 40.5	S18 34.3	358 55.9	S19 30.6
	13	321 02.4	26 45.0	S21 58.8	284 11.0	N15 52.8	9 42.3	S18 34.2	13 58.0	S19 30.5
	14	336 04.9	41 44.1	S21 58.4	299 12.2	N15 53.2	24 44.2	S18 34.0	29 00.2	S19 30.4
	15	351 07.3	56 43.2	S21 58.0	314 13.4	N15 53.6	39 46.1	S18 33.9	44 02.4	S19 30.4
	16	6 09.8	71 42.4	S21 57.5	329 14.6	N15 54.1	54 47.9	S18 33.7	59 04.5	S19 30.3
	17	21 12.3	86 41.5	S21 57.1	344 15.8	N15 54.5	69 49.8	S18 33.6	74 06.7	S19 30.2
	18	36 14.7	101 40.6	S21 56.7	359 16.9	N15 55.0	84 51.6	S18 33.4	89 08.8	S19 30.1
	19	51 17.2	116 39.7	S21 56.3	14 18.1	N15 55.4	99 53.5	S18 33.3	104 11.0	S19 30.1
	20	66 19.6	131 38.8	S21 55.9	29 19.3	N15 55.8	114 55.4	S18 33.1	119 13.1	S19 30.0
	21	81 22.1	146 37.9	S21 55.4	44 20.5	N15 56.3	129 57.2	S18 33.0	134 15.3	S19 29.9
	22	96 24.6	161 37.0	S21 55.0	59 21.7	N15 56.7	144 59.1	S18 32.8	149 17.5	S19 29.9
	23	111 27.0	176 36.2	S21 54.6	74 22.9	N15 57.2	160 00.9	S18 32.6	164 19.6	S19 29.8
27	0	126 29.5	191 35.3	S21 54.2	89 24.0	N15 57.6	175 02.8	S18 32.5	179 21.8	S19 29.7
	1	141 32.0	206 34.4	S21 53.7	104 25.2	N15 58.0	190 04.6	S18 32.3	194 23.9	S19 29.7
	2	156 34.4	221 33.5	S21 53.3	119 26.4	N15 58.5	205 06.5	S18 32.2	209 26.1	S19 29.6
	3	171 36.9	236 32.6	S21 52.9	134 27.6	N15 58.9	220 08.4	S18 32.0	224 28.2	S19 29.5
	4	186 39.4	251 31.8	S21 52.4	149 28.8	N15 59.3	235 10.2	S18 31.9	239 30.4	S19 29.5
W	5	201 41.8	266 30.9	S21 52.0	164 29.9	N15 59.8	250 12.1	S18 31.7	254 32.6	S19 29.4
E										
D	6	216 44.3	281 30.0	S21 51.6	179 31.1	N16 00.2	265 13.9	S18 31.6	269 34.7	S19 29.3
N	7	231 46.8	296 29.1	S21 51.1	194 32.3	N16 00.7	280 15.8	S18 31.4	284 36.9	S19 29.3
E	8	246 49.2	311 28.2	S21 50.7	209 33.5	N16 01.1	295 17.7	S18 31.3	299 39.0	S19 29.2
S	9	261 51.7	326 27.4	S21 50.3	224 34.7	N16 01.5	310 19.5	S18 31.1	314 41.2	S19 29.1
D	10	276 54.1	341 26.5	S21 49.8	239 35.8	N16 02.0	325 21.4	S18 31.0	329 43.3	S19 29.1
A	11	291 56.6	356 25.6	S21 49.4	254 37.0	N16 02.4	340 23.2	S18 30.8	344 45.5	S19 29.0
Y										
	12	306 59.1	11 24.7	S21 48.9	269 38.2	N16 02.8	355 25.1	S18 30.7	359 47.7	S19 28.9
	13	322 01.5	26 23.8	S21 48.5	284 39.4	N16 03.3	10 27.0	S18 30.5	14 49.8	S19 28.8
	14	337 04.0	41 23.0	S21 48.0	299 40.6	N16 03.7	25 28.8	S18 30.4	29 52.0	S19 28.8
	15	352 06.5	56 22.1	S21 47.6	314 41.7	N16 04.2	40 30.7	S18 30.2	44 54.1	S19 28.7
	16	7 08.9	71 21.2	S21 47.2	329 42.9	N16 04.6	55 32.5	S18 30.0	59 56.3	S19 28.6
	17	22 11.4	86 20.3	S21 46.7	344 44.1	N16 05.0	70 34.4	S18 29.9	74 58.4	S19 28.6
	18	37 13.9	101 19.5	S21 46.3	359 45.3	N16 05.5	85 36.3	S18 29.7	90 00.6	S19 28.5
	19	52 16.3	116 18.6	S21 45.8	14 46.4	N16 05.9	100 38.1	S18 29.6	105 02.8	S19 28.4
	20	67 18.8	131 17.7	S21 45.4	29 47.6	N16 06.3	115 40.0	S18 29.4	120 04.9	S19 28.4
	21	82 21.2	146 16.8	S21 44.9	44 48.8	N16 06.8	130 41.8	S18 29.3	135 07.1	S19 28.3
	22	97 23.7	161 15.9	S21 44.5	59 50.0	N16 07.2	145 43.7	S18 29.1	150 09.2	S19 28.2
	23	112 26.2	176 15.1	S21 44.0	74 51.1	N16 07.7	160 45.6	S18 29.0	165 11.4	S19 28.2
			v -0.9	d 0.4	v 1.2	d 0.4	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '	STARS Name	STARS SHA ° '	STARS Dec ° '
25	0	176 56.2	S18 57.6	45 06.3	10.5	N23 11.0	5.1	55.2	Acamar	315 14.1	S40 13.6
	1	191 56.0	S18 57.0	59 35.7	10.4	N23 15.9	4.9	55.2	Achernar	335 22.8	S57 08.2
	2	206 55.9	S18 56.3	74 05.0	10.3	N23 20.7	4.8	55.2	Acrux	173 03.2	S63 12.6
	3	221 55.8	S18 55.7	88 34.3	10.2	N23 25.5	4.7	55.2	Adhara	255 08.0	S29 00.2
	4	236 55.6	S18 55.1	103 03.4	10.2	N23 30.1	4.6	55.3	Albireo	67 07.0	N28 00.1
M	5	251 55.5	S18 54.5	117 32.6	10.1	N23 34.6	4.5	55.3			
O									Aldebaran	290 43.1	N16 33.0
N	6	266 55.3	S18 53.9	132 01.6	10.0	N23 38.9	4.4	55.3	Alioth	166 15.6	N55 50.6
D	7	281 55.2	S18 53.2	146 30.6	10.0	N23 43.2	4.3	55.3	Alkaid	152 54.5	N49 12.3
A	8	296 55.1	S18 52.6	160 59.5	9.9	N23 47.3	4.1	55.4	Al Na-ir	27 37.4	S46 51.8
Y	9	311 54.9	S18 52.0	175 28.3	9.8	N23 51.4	4.0	55.4	Alnilam	275 40.7	S 1 11.4
	10	326 54.8	S18 51.4	189 57.1	9.8	N23 55.3	3.9	55.4			
	11	341 54.6	S18 50.7	204 25.8	9.7	N23 59.1	3.8	55.4	Alphard	217 50.5	S 8 45.0
									Alphecca	126 06.6	N26 38.5
	12	356 54.5	S18 50.1	218 54.4	9.6	N24 02.7	3.7	55.5	Alpheratz	357 38.3	N29 12.4
	13	11 54.4	S18 49.5	233 23.0	9.6	N24 06.3	3.5	55.5	Altair	62 03.4	N 8 55.3
	14	26 54.2	S18 48.9	247 51.6	9.5	N24 09.7	3.4	55.5	Ankaa	353 10.6	S42 11.9
	15	41 54.1	S18 48.3	262 20.0	9.5	N24 13.0	3.3	55.5			
	16	56 53.9	S18 47.6	276 48.4	9.4	N24 16.2	3.2	55.5	Antares	112 20.0	S26 28.6
	17	71 53.8	S18 47.0	291 16.8	9.3	N24 19.2	3.1	55.6	Arcturus	145 50.9	N19 04.3
									Atria	107 17.5	S69 03.6
	18	86 53.7	S18 46.4	305 45.0	9.3	N24 22.2	2.9	55.6	Avior	234 15.3	S59 34.6
	19	101 53.5	S18 45.7	320 13.3	9.2	N24 25.0	2.8	55.6	Bellatrix	278 26.1	N 6 22.0
	20	116 53.4	S18 45.1	334 41.4	9.2	N24 27.7	2.7	55.6			
	21	131 53.3	S18 44.5	349 09.5	9.1	N24 30.2	2.6	55.7	Betelgeuse	270 55.3	N 7 24.6
	22	146 53.1	S18 43.9	3 37.6	9.1	N24 32.6	2.4	55.7	Canopus	263 53.3	S52 42.6
	23	161 53.0	S18 43.2	18 05.6	9.0	N24 34.9	2.3	55.7	Capella	280 26.3	N46 01.2
26	0	176 52.9	S18 42.6	32 33.5	8.9	N24 37.1	2.2	55.7	Castor	246 00.8	N31 50.5
	1	191 52.7	S18 42.0	47 01.4	8.9	N24 39.1	2.0	55.8	Deneb	49 28.4	N45 21.3
	2	206 52.6	S18 41.3	61 29.3	8.8	N24 41.0	1.9	55.8			
	3	221 52.5	S18 40.7	75 57.1	8.8	N24 42.8	1.8	55.8	Denebola	182 28.0	N14 27.2
	4	236 52.3	S18 40.1	90 24.8	8.7	N24 44.5	1.6	55.8	Diphda	348 50.7	S17 52.5
T	5	251 52.2	S18 39.4	104 52.5	8.7	N24 46.0	1.5	55.9	Dubhe	193 44.5	N61 38.1
U									Elnath	278 05.7	N28 37.4
E	6	266 52.1	S18 38.8	119 20.1	8.6	N24 47.3	1.4	55.9	Eltanin	90 44.1	N51 28.9
S	7	281 51.9	S18 38.2	133 47.7	8.6	N24 48.6	1.2	55.9			
D	8	296 51.8	S18 37.5	148 15.3	8.6	N24 49.7	1.1	55.9	Enif	33 42.2	N 9 58.2
A	9	311 51.7	S18 36.9	162 42.8	8.5	N24 50.7	1.0	56.0	Fomalhaut	15 18.3	S29 30.9
Y	10	326 51.5	S18 36.3	177 10.3	8.5	N24 51.5	0.8	56.0	Gacrux	171 54.8	S57 13.6
	11	341 51.4	S18 35.6	191 37.7	8.4	N24 52.2	0.7	56.0	Gienah	175 46.7	S17 39.4
									Hadar	148 40.5	S60 28.1
	12	356 51.3	S18 35.0	206 05.1	8.4	N24 52.8	0.6	56.0			
	13	11 51.1	S18 34.3	220 32.4	8.3	N24 53.2	0.4	56.1	Hamal	327 54.8	N23 33.7
	14	26 51.0	S18 33.7	234 59.7	8.3	N24 53.5	0.3	56.1	Kaus Austr.	83 37.1	S34 22.4
	15	41 50.9	S18 33.1	249 27.0	8.3	N24 53.7	0.2	56.1	Kochab	137 20.2	N74 03.9
	16	56 50.8	S18 32.4	263 54.2	8.2	N24 53.7	0.0	56.1	Markab	13 33.3	N15 19.0
	17	71 50.6	S18 31.8	278 21.4	8.2	N24 53.6	0.1	56.2	Menkar	314 09.4	N 4 10.2
									Menkent	148 01.4	S36 28.2
	18	86 50.5	S18 31.1	292 48.6	8.2	N24 53.3	0.3	56.2	Miaplacidus	221 37.8	S69 48.1
	19	101 50.4	S18 30.5	307 15.7	8.1	N24 52.9	0.4	56.2	Mirfak	308 32.7	N49 56.3
	20	116 50.2	S18 29.9	321 42.8	8.1	N24 52.4	0.5	56.3	Nunki	75 52.1	S26 16.2
	21	131 50.1	S18 29.2	336 09.9	8.1	N24 51.7	0.7	56.3	Peacock	53 11.4	S56 40.1
	22	146 50.0	S18 28.6	350 36.9	8.0	N24 50.9	0.8	56.3			
	23	161 49.9	S18 27.9	5 03.9	8.0	N24 50.0	1.0	56.3	Polaris	317 24.0	N89 20.6
27	0	176 49.7	S18 27.3	19 30.9	8.0	N24 48.9	1.1	56.4	Pollux	243 20.8	N27 58.5
	1	191 49.6	S18 26.6	33 57.9	8.0	N24 47.6	1.2	56.4	Procyon	244 53.8	N 5 10.2
	2	206 49.5	S18 26.0	48 24.8	7.9	N24 46.2	1.4	56.4	Rasalhague	96 01.8	N12 32.6
	3	221 49.4	S18 25.3	62 51.8	7.9	N24 44.7	1.5	56.4	Regulus	207 37.5	N11 51.8
	4	236 49.2	S18 24.7	77 18.7	7.9	N24 43.1	1.7	56.5			
W	5	251 49.1	S18 24.1	91 45.5	7.9	N24 41.2	1.8	56.5	Rigel	281 06.7	S 8 10.8
E									Rigil Kent	139 44.8	S60 55.0
D	6	266 49.0	S18 23.4	106 12.4	7.9	N24 39.3	1.9	56.5	Sabik	102 06.7	S15 45.0
N	7	281 48.9	S18 22.8	120 39.3	7.9	N24 37.2	2.1	56.5	Schedar	349 34.8	N56 39.3
E	8	296 48.7	S18 22.1	135 06.1	7.8	N24 35.0	2.2	56.6	Shaula	96 15.0	S37 07.0
S	9	311 48.6	S18 21.5	149 32.9	7.8	N24 32.6	2.4	56.6	Sirius	258 28.7	S16 44.8
D	10	326 48.5	S18 20.8	163 59.7	7.8	N24 30.1	2.5	56.6	Spica	158 25.6	S11 16.2
A	11	341 48.4	S18 20.2	178 26.5	7.8	N24 27.4	2.7	56.6	Suhail	222 48.1	S43 31.0
Y									Vega	80 35.8	N38 48.0
	12	356 48.2	S18 19.5	192 53.3	7.8	N24 24.6	2.8	56.7	Zuben-ubi	137 00.4	S16 07.7
	13	11 48.1	S18 18.9	207 20.1	7.8	N24 21.7	2.9	56.7			
	14	26 48.0	S18 18.2	221 46.9	7.8	N24 18.6	3.1	56.7			
	15	41 47.9	S18 17.5	236 13.7	7.8	N24 15.4	3.2	56.8			
	16	56 47.8	S18 16.9	250 40.4	7.8	N24 12.0	3.4	56.8			
	17	71 47.6	S18 16.2	265 07.2	7.8	N24 08.5	3.5	56.8			
	18	86 47.5	S18 15.6	279 34.0	7.8	N24 04.8	3.7	56.8			
	19	101 47.4	S18 14.9	294 00.7	7.8	N24 01.0	3.8	56.9			
	20	116 47.3	S18 14.3	308 27.5	7.8	N23 57.1	3.9	56.9			
	21	131 47.2	S18 13.6	322 54.3	7.8	N23 53.0	4.1	56.9			
	22	146 47.0	S18 13.0	337 21.0	7.8	N23 48.8	4.2	56.9			
	23	161 46.9	S18 12.3	351 47.8	7.8	N23 44.4	4.4	57.0			
		S.D. 16.2	d 0.6	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 ° '
28	0	127 28.6	191 14.2	S21 43.5	89 52.3	N16 08.1	175 47.4	S18 28.8	180 13.5	S19 28.1
	1	142 31.1	206 13.3	S21 43.1	104 53.5	N16 08.5	190 49.3	S18 28.7	195 15.7	S19 28.0
	2	157 33.6	221 12.5	S21 42.6	119 54.7	N16 09.0	205 51.1	S18 28.5	210 17.9	S19 28.0
	3	172 36.0	236 11.6	S21 42.2	134 55.8	N16 09.4	220 53.0	S18 28.4	225 20.0	S19 27.9
	4	187 38.5	251 10.7	S21 41.7	149 57.0	N16 09.8	235 54.8	S18 28.2	240 22.2	S19 27.8
T	5	202 41.0	266 09.8	S21 41.3	164 58.2	N16 10.3	250 56.7	S18 28.0	255 24.3	S19 27.7
H										
U	6	217 43.4	281 09.0	S21 40.8	179 59.4	N16 10.7	265 58.6	S18 27.9	270 26.5	S19 27.7
R	7	232 45.9	296 08.1	S21 40.3	195 00.5	N16 11.1	281 00.4	S18 27.7	285 28.6	S19 27.6
S	8	247 48.4	311 07.2	S21 39.9	210 01.7	N16 11.6	296 02.3	S18 27.6	300 30.8	S19 27.5
D	9	262 50.8	326 06.3	S21 39.4	225 02.9	N16 12.0	311 04.1	S18 27.4	315 33.0	S19 27.5
A	10	277 53.3	341 05.5	S21 38.9	240 04.0	N16 12.5	326 06.0	S18 27.3	330 35.1	S19 27.4
Y	11	292 55.7	356 04.6	S21 38.5	255 05.2	N16 12.9	341 07.9	S18 27.1	345 37.3	S19 27.3
	12	307 58.2	11 03.7	S21 38.0	270 06.4	N16 13.3	356 09.7	S18 27.0	0 39.4	S19 27.3
	13	323 00.7	26 02.9	S21 37.5	285 07.6	N16 13.8	11 11.6	S18 26.8	15 41.6	S19 27.2
	14	338 03.1	41 02.0	S21 37.1	300 08.7	N16 14.2	26 13.4	S18 26.7	30 43.7	S19 27.1
	15	353 05.6	56 01.1	S21 36.6	315 09.9	N16 14.6	41 15.3	S18 26.5	45 45.9	S19 27.1
	16	8 08.1	71 00.3	S21 36.1	330 11.1	N16 15.1	56 17.2	S18 26.4	60 48.1	S19 27.0
	17	23 10.5	85 59.4	S21 35.6	345 12.2	N16 15.5	71 19.0	S18 26.2	75 50.2	S19 26.9
	18	38 13.0	100 58.5	S21 35.2	0 13.4	N16 15.9	86 20.9	S18 26.0	90 52.4	S19 26.9
	19	53 15.5	115 57.7	S21 34.7	15 14.6	N16 16.4	101 22.7	S18 25.9	105 54.5	S19 26.8
	20	68 17.9	130 56.8	S21 34.2	30 15.7	N16 16.8	116 24.6	S18 25.7	120 56.7	S19 26.7
	21	83 20.4	145 55.9	S21 33.7	45 16.9	N16 17.2	131 26.5	S18 25.6	135 58.8	S19 26.6
	22	98 22.9	160 55.1	S21 33.3	60 18.1	N16 17.7	146 28.3	S18 25.4	151 01.0	S19 26.6
	23	113 25.3	175 54.2	S21 32.8	75 19.2	N16 18.1	161 30.2	S18 25.3	166 03.2	S19 26.5
29	0	128 27.8	190 53.3	S21 32.3	90 20.4	N16 18.5	176 32.0	S18 25.1	181 05.3	S19 26.4
	1	143 30.2	205 52.5	S21 31.8	105 21.6	N16 19.0	191 33.9	S18 25.0	196 07.5	S19 26.4
	2	158 32.7	220 51.6	S21 31.3	120 22.7	N16 19.4	206 35.8	S18 24.8	211 09.6	S19 26.3
	3	173 35.2	235 50.7	S21 30.8	135 23.9	N16 19.8	221 37.6	S18 24.7	226 11.8	S19 26.2
	4	188 37.6	250 49.9	S21 30.3	150 25.1	N16 20.3	236 39.5	S18 24.5	241 13.9	S19 26.2
F	5	203 40.1	265 49.0	S21 29.9	165 26.2	N16 20.7	251 41.3	S18 24.3	256 16.1	S19 26.1
R										
I	6	218 42.6	280 48.1	S21 29.4	180 27.4	N16 21.2	266 43.2	S18 24.2	271 18.3	S19 26.0
D	7	233 45.0	295 47.3	S21 28.9	195 28.6	N16 21.6	281 45.1	S18 24.0	286 20.4	S19 26.0
A	8	248 47.5	310 46.4	S21 28.4	210 29.7	N16 22.0	296 46.9	S18 23.9	301 22.6	S19 25.9
Y	9	263 50.0	325 45.6	S21 27.9	225 30.9	N16 22.5	311 48.8	S18 23.7	316 24.7	S19 25.8
	10	278 52.4	340 44.7	S21 27.4	240 32.0	N16 22.9	326 50.6	S18 23.6	331 26.9	S19 25.8
	11	293 54.9	355 43.8	S21 26.9	255 33.2	N16 23.3	341 52.5	S18 23.4	346 29.0	S19 25.7
	12	308 57.4	10 43.0	S21 26.4	270 34.4	N16 23.8	356 54.4	S18 23.3	1 31.2	S19 25.6
	13	323 59.8	25 42.1	S21 25.9	285 35.5	N16 24.2	11 56.2	S18 23.1	16 33.4	S19 25.5
	14	339 02.3	40 41.3	S21 25.4	300 36.7	N16 24.6	26 58.1	S18 23.0	31 35.5	S19 25.5
	15	354 04.7	55 40.4	S21 24.9	315 37.9	N16 25.1	41 59.9	S18 22.8	46 37.7	S19 25.4
	16	9 07.2	70 39.5	S21 24.4	330 39.0	N16 25.5	57 01.8	S18 22.6	61 39.8	S19 25.3
	17	24 09.7	85 38.7	S21 23.9	345 40.2	N16 25.9	72 03.7	S18 22.5	76 42.0	S19 25.3
	18	39 12.1	100 37.8	S21 23.4	0 41.3	N16 26.4	87 05.5	S18 22.3	91 44.2	S19 25.2
	19	54 14.6	115 37.0	S21 22.9	15 42.5	N16 26.8	102 07.4	S18 22.2	106 46.3	S19 25.1
	20	69 17.1	130 36.1	S21 22.4	30 43.7	N16 27.2	117 09.2	S18 22.0	121 48.5	S19 25.1
	21	84 19.5	145 35.2	S21 21.9	45 44.8	N16 27.7	132 11.1	S18 21.9	136 50.6	S19 25.0
	22	99 22.0	160 34.4	S21 21.4	60 46.0	N16 28.1	147 13.0	S18 21.7	151 52.8	S19 24.9
	23	114 24.5	175 33.5	S21 20.9	75 47.1	N16 28.5	162 14.8	S18 21.6	166 54.9	S19 24.9
30	0	129 26.9	190 32.7	S21 20.4	90 48.3	N16 29.0	177 16.7	S18 21.4	181 57.1	S19 24.8
	1	144 29.4	205 31.8	S21 19.9	105 49.5	N16 29.4	192 18.5	S18 21.3	196 59.3	S19 24.7
	2	159 31.8	220 31.0	S21 19.4	120 50.6	N16 29.8	207 20.4	S18 21.1	212 01.4	S19 24.7
	3	174 34.3	235 30.1	S21 18.8	135 51.8	N16 30.3	222 22.3	S18 20.9	227 03.6	S19 24.6
	4	189 36.8	250 29.3	S21 18.3	150 52.9	N16 30.7	237 24.1	S18 20.8	242 05.7	S19 24.5
S	5	204 39.2	265 28.4	S21 17.8	165 54.1	N16 31.1	252 26.0	S18 20.6	257 07.9	S19 24.4
A										
T	6	219 41.7	280 27.5	S21 17.3	180 55.2	N16 31.6	267 27.8	S18 20.5	272 10.0	S19 24.4
U	7	234 44.2	295 26.7	S21 16.8	195 56.4	N16 32.0	282 29.7	S18 20.3	287 12.2	S19 24.3
R	8	249 46.6	310 25.8	S21 16.3	210 57.6	N16 32.4	297 31.6	S18 20.2	302 14.4	S19 24.2
D	9	264 49.1	325 25.0	S21 15.8	225 58.7	N16 32.8	312 33.4	S18 20.0	317 16.5	S19 24.2
A	10	279 51.6	340 24.1	S21 15.2	240 59.9	N16 33.3	327 35.3	S18 19.9	332 18.7	S19 24.1
Y	11	294 54.0	355 23.3	S21 14.7	256 01.0	N16 33.7	342 37.1	S18 19.7	347 20.8	S19 24.0
	12	309 56.5	10 22.4	S21 14.2	271 02.2	N16 34.1	357 39.0	S18 19.5	2 23.0	S19 24.0
	13	324 59.0	25 21.6	S21 13.7	286 03.3	N16 34.6	12 40.9	S18 19.4	17 25.2	S19 23.9
	14	340 01.4	40 20.7	S21 13.1	301 04.5	N16 35.0	27 42.7	S18 19.2	32 27.3	S19 23.8
	15	355 03.9	55 19.9	S21 12.6	316 05.6	N16 35.4	42 44.6	S18 19.1	47 29.5	S19 23.8
	16	10 06.3	70 19.0	S21 12.1	331 06.8	N16 35.9	57 46.4	S18 18.9	62 31.6	S19 23.7
	17	25 08.8	85 18.2	S21 11.6	346 07.9	N16 36.3	72 48.3	S18 18.8	77 33.8	S19 23.6
	18	40 11.3	100 17.3	S21 11.0	1 09.1	N16 36.7	87 50.2	S18 18.6	92 35.9	S19 23.6
	19	55 13.7	115 16.5	S21 10.5	16 10.2	N16 37.2	102 52.0	S18 18.5	107 38.1	S19 23.5
	20	70 16.2	130 15.6	S21 10.0	31 11.4	N16 37.6	117 53.9	S18 18.3	122 40.3	S19 23.4
	21	85 18.7	145 14.8	S21 09.4	46 12.6	N16 38.0	132 55.7	S18 18.1	137 42.4	S19 23.3
	22	100 21.1	160 13.9	S21 08.9	61 13.7	N16 38.5	147 57.6	S18 18.0	152 44.6	S19 23.3
	23	115 23.6	175 13.1	S21 08.4	76 14.9	N16 38.9	162 59.5	S18 17.8	167 46.7	S19 23.2
			v -0.9	d 0.5	v 1.2	d 0.4	v 1.9	d 0.2	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	176 46.8	S18 11.6	6 14.6	7.8	N23 39.9	4.5	57.0
	1	191 46.7	S18 11.0	20 41.4	7.8	N23 35.3	4.6	57.0
	2	206 46.6	S18 10.3	35 08.2	7.8	N23 30.5	4.8	57.0
	3	221 46.5	S18 09.7	49 35.0	7.8	N23 25.6	4.9	57.1
	4	236 46.3	S18 09.0	64 01.9	7.8	N23 20.5	5.1	57.1
T	5	251 46.2	S18 08.3	78 28.7	7.8	N23 15.3	5.2	57.1
H								
U	6	266 46.1	S18 07.7	92 55.6	7.9	N23 10.0	5.3	57.1
R	7	281 46.0	S18 07.0	107 22.4	7.9	N23 04.5	5.5	57.2
S	8	296 45.9	S18 06.4	121 49.3	7.9	N22 58.9	5.6	57.2
D	9	311 45.8	S18 05.7	136 16.2	7.9	N22 53.1	5.8	57.2
A	10	326 45.7	S18 05.0	150 43.1	7.9	N22 47.2	5.9	57.2
Y	11	341 45.5	S18 04.4	165 10.1	7.9	N22 41.2	6.0	57.3
	12	356 45.4	S18 03.7	179 37.1	8.0	N22 35.0	6.2	57.3
	13	11 45.3	S18 03.0	194 04.0	8.0	N22 28.7	6.3	57.3
	14	26 45.2	S18 02.4	208 31.1	8.0	N22 22.3	6.4	57.3
	15	41 45.1	S18 01.7	222 58.1	8.0	N22 15.7	6.6	57.4
	16	56 45.0	S18 01.0	237 25.2	8.1	N22 09.0	6.7	57.4
	17	71 44.9	S18 00.4	251 52.2	8.1	N22 02.2	6.8	57.4
	18	86 44.8	S17 59.7	266 19.4	8.1	N21 55.2	7.0	57.4
	19	101 44.6	S17 59.0	280 46.5	8.1	N21 48.1	7.1	57.5
	20	116 44.5	S17 58.4	295 13.7	8.2	N21 40.8	7.2	57.5
	21	131 44.4	S17 57.7	309 40.9	8.2	N21 33.5	7.4	57.5
	22	146 44.3	S17 57.0	324 08.1	8.2	N21 26.0	7.5	57.5
	23	161 44.2	S17 56.3	338 35.4	8.3	N21 18.3	7.6	57.6
29	0	176 44.1	S17 55.7	353 02.7	8.3	N21 10.6	7.8	57.6
	1	191 44.0	S17 55.0	7 30.0	8.3	N21 02.7	7.9	57.6
	2	206 43.9	S17 54.3	21 57.3	8.4	N20 54.7	8.0	57.6
	3	221 43.8	S17 53.7	36 24.7	8.4	N20 46.6	8.1	57.7
	4	236 43.7	S17 53.0	50 52.2	8.4	N20 38.3	8.3	57.7
F	5	251 43.6	S17 52.3	65 19.6	8.5	N20 29.9	8.4	57.7
R								
I	6	266 43.4	S17 51.6	79 47.2	8.5	N20 21.4	8.5	57.7
D	7	281 43.3	S17 51.0	94 14.7	8.5	N20 12.8	8.6	57.8
A	8	296 43.2	S17 50.3	108 42.3	8.6	N20 04.0	8.8	57.8
Y	9	311 43.1	S17 49.6	123 09.9	8.6	N19 55.1	8.9	57.8
	10	326 43.0	S17 48.9	137 37.6	8.7	N19 46.1	9.0	57.8
	11	341 42.9	S17 48.2	152 05.3	8.7	N19 37.0	9.1	57.8
	12	356 42.8	S17 47.6	166 33.0	8.7	N19 27.8	9.2	57.9
	13	11 42.7	S17 46.9	181 00.8	8.8	N19 18.4	9.4	57.9
	14	26 42.6	S17 46.2	195 28.6	8.8	N19 09.0	9.5	57.9
	15	41 42.5	S17 45.5	209 56.5	8.9	N18 59.4	9.6	57.9
	16	56 42.4	S17 44.8	224 24.4	8.9	N18 49.7	9.7	58.0
	17	71 42.3	S17 44.2	238 52.3	8.9	N18 39.9	9.8	58.0
	18	86 42.2	S17 43.5	253 20.3	9.0	N18 29.9	9.9	58.0
	19	101 42.1	S17 42.8	267 48.3	9.0	N18 19.9	10.0	58.0
	20	116 42.0	S17 42.1	282 16.4	9.1	N18 09.8	10.1	58.0
	21	131 41.9	S17 41.4	296 44.5	9.1	N17 59.5	10.3	58.1
	22	146 41.8	S17 40.8	311 12.7	9.2	N17 49.1	10.4	58.1
	23	161 41.7	S17 40.1	325 40.9	9.2	N17 38.7	10.5	58.1
30	0	176 41.6	S17 39.4	340 09.1	9.2	N17 28.1	10.6	58.1
	1	191 41.5	S17 38.7	354 37.4	9.3	N17 17.4	10.7	58.1
	2	206 41.4	S17 38.0	9 05.8	9.3	N17 06.6	10.8	58.2
	3	221 41.3	S17 37.3	23 34.1	9.4	N16 55.7	10.9	58.2
	4	236 41.2	S17 36.6	38 02.6	9.4	N16 44.7	11.0	58.2
S	5	251 41.1	S17 35.9	52 31.0	9.5	N16 33.7	11.1	58.2
A								
T	6	266 41.0	S17 35.3	66 59.5	9.5	N16 22.5	11.2	58.2
U	7	281 40.9	S17 34.6	81 28.1	9.6	N16 11.2	11.3	58.3
R	8	296 40.8	S17 33.9	95 56.7	9.6	N15 59.8	11.4	58.3
D	9	311 40.7	S17 33.2	110 25.4	9.6	N15 48.3	11.5	58.3
A	10	326 40.6	S17 32.5	124 54.0	9.7	N15 36.8	11.6	58.3
Y	11	341 40.5	S17 31.8	139 22.8	9.7	N15 25.1	11.7	58.3
	12	356 40.4	S17 31.1	153 51.6	9.8	N15 13.3	11.8	58.4
	13	11 40.3	S17 30.4	168 20.4	9.8	N15 01.5	11.8	58.4
	14	26 40.2	S17 29.7	182 49.3	9.9	N14 49.6	11.9	58.4
	15	41 40.1	S17 29.0	197 18.2	9.9	N14 37.5	12.0	58.4
	16	56 40.0	S17 28.3	211 47.1	10.0	N14 25.4	12.1	58.4
	17	71 39.9	S17 27.7	226 16.1	10.0	N14 13.2	12.2	58.4
	18	86 39.8	S17 27.0	240 45.2	10.0	N14 00.9	12.3	58.5
	19	101 39.7	S17 26.3	255 14.2	10.1	N13 48.6	12.4	58.5
	20	116 39.6	S17 25.6	269 43.4	10.1	N13 36.1	12.4	58.5
	21	131 39.5	S17 24.9	284 12.5	10.2	N13 23.6	12.5	58.5
	22	146 39.4	S17 24.2	298 41.7	10.2	N13 11.0	12.6	58.5
	23	161 39.4	S17 23.5	313 11.0	10.2	N12 58.3	12.7	58.5
		S.D. 16.2	d 0.7	S.D.	15.6	15.8	15.9	

STARS Name	SHA	Dec
Acamar	315 14.2	S40 13.6
Achernar	335 22.8	S57 08.2
Acrux	173 03.2	S63 12.6
Adhara	255 08.0	S29 00.2
Albireo	67 07.0	N28 00.1
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.6	N55 50.6
Alkaid	152 54.5	N49 12.3
Al Na-ir	27 37.4	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.5	S 8 45.0
Alphecca	126 06.6	N26 38.5
Alpheratz	357 38.3	N29 12.4
Altair	62 03.4	N 8 55.3
Ankaa	353 10.6	S42 11.9
Antares	112 19.9	S26 28.6
Arcturus	145 50.8	N19 04.3
Atria	107 17.4	S69 03.6
Avior	234 15.3	S59 34.6
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.6
Capella	280 26.3	N46 01.2
Castor	246 00.7	N31 50.5
Deneb	49 28.4	N45 21.2
Denebola	182 28.0	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.5	N61 38.1
Elnath	278 05.7	N28 37.4
Eltanin	90 44.1	N51 28.9
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.3	S29 30.9
Gacrux	171 54.8	S57 13.6
Gienah	175 46.7	S17 39.4
Hadar	148 40.4	S60 28.1
Hamal	327 54.8	N23 33.7
Kaus Austr.	83 37.1	S34 22.4
Kochab	137 20.1	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.3	S36 28.2
Miaplacidus	221 37.8	S69 48.1
Mirfak	308 32.7	N49 56.3
Nunki	75 52.1	S26 16.2
Peacock	53 11.3	S56 40.1
Polaris	317 25.2	N89 20.6
Pollux	243 20.8	N27 58.5
Procyon	244 53.8	N 5 10.2
Rasalhague	96 01.8	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 44.8	S60 55.0
Sabik	102 06.7	S15 45.0
Schedar	349 34.8	N56 39.2
Shaula	96 15.0	S37 07.0
Sirius	258 28.7	S16 44.8
Spica	158 25.6	S11 16.2
Suhail	222 48.1	S43 31.0
Vega	80 35.7	N38 48.0
Zuben-ubi	137 00.3	S16 07.7

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	130 26.1	190 12.2	S21 07.8	91 16.0	N16 39.3	178 01.3	S18 17.7	182 48.9	S19 23.1
	1	145 28.5	205 11.4	S21 07.3	106 17.2	N16 39.8	193 03.2	S18 17.5	197 51.1	S19 23.1
	2	160 31.0	220 10.6	S21 06.8	121 18.3	N16 40.2	208 05.1	S18 17.4	212 53.2	S19 23.0
	3	175 33.4	235 09.7	S21 06.2	136 19.5	N16 40.6	223 06.9	S18 17.2	227 55.4	S19 22.9
	4	190 35.9	250 08.9	S21 05.7	151 20.6	N16 41.0	238 08.8	S18 17.1	242 57.5	S19 22.9
S	5	205 38.4	265 08.0	S21 05.1	166 21.8	N16 41.5	253 10.6	S18 16.9	257 59.7	S19 22.8
U										
N	6	220 40.8	280 07.2	S21 04.6	181 22.9	N16 41.9	268 12.5	S18 16.7	273 01.8	S19 22.7
D	7	235 43.3	295 06.3	S21 04.1	196 24.0	N16 42.3	283 14.4	S18 16.6	288 04.0	S19 22.7
A	8	250 45.8	310 05.5	S21 03.5	211 25.2	N16 42.8	298 16.2	S18 16.4	303 06.2	S19 22.6
Y	9	265 48.2	325 04.6	S21 03.0	226 26.3	N16 43.2	313 18.1	S18 16.3	318 08.3	S19 22.5
	10	280 50.7	340 03.8	S21 02.4	241 27.5	N16 43.6	328 19.9	S18 16.1	333 10.5	S19 22.4
	11	295 53.2	355 03.0	S21 01.9	256 28.6	N16 44.1	343 21.8	S18 16.0	348 12.6	S19 22.4
	12	310 55.6	10 02.1	S21 01.3	271 29.8	N16 44.5	358 23.7	S18 15.8	3 14.8	S19 22.3
	13	325 58.1	25 01.3	S21 00.8	286 30.9	N16 44.9	13 25.5	S18 15.7	18 17.0	S19 22.2
	14	341 00.6	40 00.4	S21 00.2	301 32.1	N16 45.3	28 27.4	S18 15.5	33 19.1	S19 22.2
	15	356 03.0	54 59.6	S20 59.7	316 33.2	N16 45.8	43 29.2	S18 15.3	48 21.3	S19 22.1
	16	11 05.5	69 58.8	S20 59.1	331 34.4	N16 46.2	58 31.1	S18 15.2	63 23.4	S19 22.0
	17	26 07.9	84 57.9	S20 58.6	346 35.5	N16 46.6	73 33.0	S18 15.0	78 25.6	S19 22.0
	18	41 10.4	99 57.1	S20 58.0	1 36.7	N16 47.1	88 34.8	S18 14.9	93 27.7	S19 21.9
	19	56 12.9	114 56.2	S20 57.5	16 37.8	N16 47.5	103 36.7	S18 14.7	108 29.9	S19 21.8
	20	71 15.3	129 55.4	S20 56.9	31 38.9	N16 47.9	118 38.5	S18 14.6	123 32.1	S19 21.8
	21	86 17.8	144 54.6	S20 56.3	46 40.1	N16 48.4	133 40.4	S18 14.4	138 34.2	S19 21.7
	22	101 20.3	159 53.7	S20 55.8	61 41.2	N16 48.8	148 42.3	S18 14.2	153 36.4	S19 21.6
	23	116 22.7	174 52.9	S20 55.2	76 42.4	N16 49.2	163 44.1	S18 14.1	168 38.5	S19 21.6
1	0	131 25.2	189 52.1	S20 54.7	91 43.5	N16 49.6	178 46.0	S18 13.9	183 40.7	S19 21.5
	1	146 27.7	204 51.2	S20 54.1	106 44.7	N16 50.1	193 47.9	S18 13.8	198 42.9	S19 21.4
	2	161 30.1	219 50.4	S20 53.5	121 45.8	N16 50.5	208 49.7	S18 13.6	213 45.0	S19 21.3
	3	176 32.6	234 49.6	S20 53.0	136 46.9	N16 50.9	223 51.6	S18 13.5	228 47.2	S19 21.3
	4	191 35.1	249 48.7	S20 52.4	151 48.1	N16 51.4	238 53.4	S18 13.3	243 49.3	S19 21.2
M	5	206 37.5	264 47.9	S20 51.8	166 49.2	N16 51.8	253 55.3	S18 13.2	258 51.5	S19 21.1
O										
N	6	221 40.0	279 47.0	S20 51.3	181 50.4	N16 52.2	268 57.2	S18 13.0	273 53.6	S19 21.1
D	7	236 42.4	294 46.2	S20 50.7	196 51.5	N16 52.6	283 59.0	S18 12.8	288 55.8	S19 21.0
A	8	251 44.9	309 45.4	S20 50.1	211 52.7	N16 53.1	299 00.9	S18 12.7	303 58.0	S19 20.9
Y	9	266 47.4	324 44.5	S20 49.6	226 53.8	N16 53.5	314 02.7	S18 12.5	319 00.1	S19 20.9
	10	281 49.8	339 43.7	S20 49.0	241 54.9	N16 53.9	329 04.6	S18 12.4	334 02.3	S19 20.8
	11	296 52.3	354 42.9	S20 48.4	256 56.1	N16 54.3	344 06.5	S18 12.2	349 04.4	S19 20.7
	12	311 54.8	9 42.1	S20 47.8	271 57.2	N16 54.8	359 08.3	S18 12.1	4 06.6	S19 20.7
	13	326 57.2	24 41.2	S20 47.3	286 58.4	N16 55.2	14 10.2	S18 11.9	19 08.8	S19 20.6
	14	341 59.7	39 40.4	S20 46.7	301 59.5	N16 55.6	29 12.0	S18 11.7	34 10.9	S19 20.5
	15	357 02.2	54 39.6	S20 46.1	317 00.6	N16 56.1	44 13.9	S18 11.6	49 13.1	S19 20.4
	16	12 04.6	69 38.7	S20 45.5	332 01.8	N16 56.5	59 15.8	S18 11.4	64 15.2	S19 20.4
	17	27 07.1	84 37.9	S20 44.9	347 02.9	N16 56.9	74 17.6	S18 11.3	79 17.4	S19 20.3
	18	42 09.5	99 37.1	S20 44.4	2 04.0	N16 57.3	89 19.5	S18 11.1	94 19.6	S19 20.2
	19	57 12.0	114 36.2	S20 43.8	17 05.2	N16 57.8	104 21.4	S18 11.0	109 21.7	S19 20.2
	20	72 14.5	129 35.4	S20 43.2	32 06.3	N16 58.2	119 23.2	S18 10.8	124 23.9	S19 20.1
	21	87 16.9	144 34.6	S20 42.6	47 07.5	N16 58.6	134 25.1	S18 10.6	139 26.0	S19 20.0
	22	102 19.4	159 33.8	S20 42.0	62 08.6	N16 59.0	149 26.9	S18 10.5	154 28.2	S19 20.0
	23	117 21.9	174 32.9	S20 41.4	77 09.7	N16 59.5	164 28.8	S18 10.3	169 30.4	S19 19.9
2	0	132 24.3	189 32.1	S20 40.9	92 10.9	N16 59.9	179 30.7	S18 10.2	184 32.5	S19 19.8
	1	147 26.8	204 31.3	S20 40.3	107 12.0	N17 00.3	194 32.5	S18 10.0	199 34.7	S19 19.8
	2	162 29.3	219 30.5	S20 39.7	122 13.1	N17 00.8	209 34.4	S18 09.9	214 36.8	S19 19.7
	3	177 31.7	234 29.6	S20 39.1	137 14.3	N17 01.2	224 36.2	S18 09.7	229 39.0	S19 19.6
	4	192 34.2	249 28.8	S20 38.5	152 15.4	N17 01.6	239 38.1	S18 09.5	244 41.1	S19 19.5
T	5	207 36.7	264 28.0	S20 37.9	167 16.5	N17 02.0	254 40.0	S18 09.4	259 43.3	S19 19.5
U										
E	6	222 39.1	279 27.2	S20 37.3	182 17.7	N17 02.5	269 41.8	S18 09.2	274 45.5	S19 19.4
S	7	237 41.6	294 26.3	S20 36.7	197 18.8	N17 02.9	284 43.7	S18 09.1	289 47.6	S19 19.3
D	8	252 44.0	309 25.5	S20 36.1	212 19.9	N17 03.3	299 45.6	S18 08.9	304 49.8	S19 19.3
A	9	267 46.5	324 24.7	S20 35.5	227 21.1	N17 03.7	314 47.4	S18 08.8	319 51.9	S19 19.2
Y	10	282 49.0	339 23.9	S20 34.9	242 22.2	N17 04.2	329 49.3	S18 08.6	334 54.1	S19 19.1
	11	297 51.4	354 23.1	S20 34.3	257 23.3	N17 04.6	344 51.1	S18 08.4	349 56.3	S19 19.1
	12	312 53.9	9 22.2	S20 33.7	272 24.5	N17 05.0	359 53.0	S18 08.3	4 58.4	S19 19.0
	13	327 56.4	24 21.4	S20 33.1	287 25.6	N17 05.4	14 54.9	S18 08.1	20 00.6	S19 18.9
	14	342 58.8	39 20.6	S20 32.5	302 26.7	N17 05.9	29 56.7	S18 08.0	35 02.7	S19 18.9
	15	358 01.3	54 19.8	S20 31.9	317 27.8	N17 06.3	44 58.6	S18 07.8	50 04.9	S19 18.8
	16	13 03.8	69 19.0	S20 31.3	332 29.0	N17 06.7	60 00.5	S18 07.7	65 07.1	S19 18.7
	17	28 06.2	84 18.1	S20 30.7	347 30.1	N17 07.1	75 02.3	S18 07.5	80 09.2	S19 18.6
	18	43 08.7	99 17.3	S20 30.1	2 31.2	N17 07.6	90 04.2	S18 07.3	95 11.4	S19 18.6
	19	58 11.2	114 16.5	S20 29.5	17 32.4	N17 08.0	105 06.0	S18 07.2	110 13.5	S19 18.5
	20	73 13.6	129 15.7	S20 28.9	32 33.5	N17 08.4	120 07.9	S18 07.0	125 15.7	S19 18.4
	21	88 16.1	144 14.9	S20 28.3	47 34.6	N17 08.8	135 09.8	S18 06.9	140 17.9	S19 18.4
	22	103 18.5	159 14.0	S20 27.7	62 35.8	N17 09.3	150 11.6	S18 06.7	155 20.0	S19 18.3
	23	118 21.0	174 13.2	S20 27.0	77 36.9	N17 09.7	165 13.5	S18 06.6	170 22.2	S19 18.2
			v -0.8	d 0.6	v 1.1	d 0.4	v 1.9	d 0.2	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	176 39.3	S17 22.8	327 40.3	10.3	N12 45.6	12.8	58.6
	1	191 39.2	S17 22.1	342 09.6	10.3	N12 32.7	12.8	58.6
	2	206 39.1	S17 21.4	356 39.0	10.4	N12 19.8	12.9	58.6
	3	221 39.0	S17 20.7	11 08.4	10.4	N12 06.8	13.0	58.6
	4	236 38.9	S17 20.0	25 37.8	10.4	N11 53.8	13.1	58.6
S	5	251 38.8	S17 19.3	40 07.3	10.5	N11 40.6	13.1	58.6
U								
N	6	266 38.7	S17 18.6	54 36.8	10.5	N11 27.5	13.2	58.7
D	7	281 38.6	S17 17.9	69 06.4	10.6	N11 14.2	13.3	58.7
A	8	296 38.5	S17 17.2	83 36.0	10.6	N11 00.9	13.3	58.7
Y	9	311 38.4	S17 16.5	98 05.6	10.6	N10 47.5	13.4	58.7
	10	326 38.4	S17 15.8	112 35.3	10.7	N10 34.0	13.5	58.7
	11	341 38.3	S17 15.1	127 05.0	10.7	N10 20.5	13.5	58.7
	12	356 38.2	S17 14.4	141 34.7	10.7	N10 06.9	13.6	58.7
	13	11 38.1	S17 13.7	156 04.5	10.8	N 9 53.3	13.6	58.8
	14	26 38.0	S17 13.0	170 34.3	10.8	N 9 39.6	13.7	58.8
	15	41 37.9	S17 12.2	185 04.1	10.8	N 9 25.8	13.8	58.8
	16	56 37.8	S17 11.5	199 34.0	10.9	N 9 12.0	13.8	58.8
	17	71 37.7	S17 10.8	214 03.9	10.9	N 8 58.2	13.9	58.8
	18	86 37.7	S17 10.1	228 33.8	10.9	N 8 44.3	13.9	58.8
	19	101 37.6	S17 09.4	243 03.8	11.0	N 8 30.3	14.0	58.8
	20	116 37.5	S17 08.7	257 33.8	11.0	N 8 16.3	14.0	58.8
	21	131 37.4	S17 08.0	272 03.8	11.0	N 8 02.2	14.1	58.9
	22	146 37.3	S17 07.3	286 33.8	11.0	N 7 48.1	14.1	58.9
	23	161 37.2	S17 06.6	301 03.9	11.1	N 7 33.9	14.2	58.9
1	0	176 37.2	S17 05.9	315 34.0	11.1	N 7 19.7	14.2	58.9
	1	191 37.1	S17 05.2	330 04.1	11.1	N 7 05.5	14.2	58.9
	2	206 37.0	S17 04.4	344 34.2	11.1	N 6 51.2	14.3	58.9
	3	221 36.9	S17 03.7	359 04.4	11.2	N 6 36.9	14.3	58.9
	4	236 36.8	S17 03.0	13 34.6	11.2	N 6 22.5	14.4	58.9
M	5	251 36.7	S17 02.3	28 04.8	11.2	N 6 08.1	14.4	58.9
O								
N	6	266 36.7	S17 01.6	42 35.0	11.2	N 5 53.7	14.4	59.0
D	7	281 36.6	S17 00.9	57 05.3	11.2	N 5 39.2	14.5	59.0
A	8	296 36.5	S17 00.2	71 35.5	11.3	N 5 24.7	14.5	59.0
Y	9	311 36.4	S16 59.4	86 05.8	11.3	N 5 10.1	14.5	59.0
	10	326 36.3	S16 58.7	100 36.1	11.3	N 4 55.6	14.6	59.0
	11	341 36.3	S16 58.0	115 06.4	11.3	N 4 41.0	14.6	59.0
	12	356 36.2	S16 57.3	129 36.7	11.3	N 4 26.3	14.6	59.0
	13	11 36.1	S16 56.6	144 07.1	11.3	N 4 11.7	14.7	59.0
	14	26 36.0	S16 55.9	158 37.4	11.4	N 3 57.0	14.7	59.0
	15	41 35.9	S16 55.1	173 07.8	11.4	N 3 42.3	14.7	59.0
	16	56 35.9	S16 54.4	187 38.2	11.4	N 3 27.6	14.7	59.0
	17	71 35.8	S16 53.7	202 08.6	11.4	N 3 12.8	14.8	59.1
	18	86 35.7	S16 53.0	216 39.0	11.4	N 2 58.0	14.8	59.1
	19	101 35.6	S16 52.3	231 09.4	11.4	N 2 43.2	14.8	59.1
	20	116 35.5	S16 51.5	245 39.8	11.4	N 2 28.4	14.8	59.1
	21	131 35.5	S16 50.8	260 10.2	11.4	N 2 13.6	14.8	59.1
	22	146 35.4	S16 50.1	274 40.7	11.4	N 1 58.8	14.8	59.1
	23	161 35.3	S16 49.4	289 11.1	11.4	N 1 43.9	14.8	59.1
2	0	176 35.2	S16 48.7	303 41.5	11.4	N 1 29.1	14.9	59.1
	1	191 35.2	S16 47.9	318 12.0	11.4	N 1 14.2	14.9	59.1
	2	206 35.1	S16 47.2	332 42.4	11.4	N 0 59.3	14.9	59.1
	3	221 35.0	S16 46.5	347 12.8	11.4	N 0 44.4	14.9	59.1
	4	236 34.9	S16 45.8	1 43.3	11.4	N 0 29.5	14.9	59.1
T	5	251 34.9	S16 45.0	16 13.7	11.4	N 0 14.6	14.9	59.1
U								
E	6	266 34.8	S16 44.3	30 44.1	11.4	S 0 00.3	14.9	59.1
S	7	281 34.7	S16 43.6	45 14.6	11.4	S 0 15.2	14.9	59.1
D	8	296 34.6	S16 42.8	59 45.0	11.4	S 0 30.1	14.9	59.2
A	9	311 34.6	S16 42.1	74 15.4	11.4	S 0 45.0	14.9	59.2
Y	10	326 34.5	S16 41.4	88 45.8	11.4	S 0 59.9	14.9	59.2
	11	341 34.4	S16 40.7	103 16.2	11.4	S 1 14.8	14.9	59.2
	12	356 34.4	S16 39.9	117 46.6	11.4	S 1 29.7	14.9	59.2
	13	11 34.3	S16 39.2	132 17.0	11.4	S 1 44.6	14.9	59.2
	14	26 34.2	S16 38.5	146 47.4	11.4	S 1 59.4	14.9	59.2
	15	41 34.1	S16 37.7	161 17.7	11.4	S 2 14.3	14.9	59.2
	16	56 34.1	S16 37.0	175 48.1	11.3	S 2 29.2	14.9	59.2
	17	71 34.0	S16 36.3	190 18.4	11.3	S 2 44.0	14.8	59.2
	18	86 33.9	S16 35.5	204 48.7	11.3	S 2 58.9	14.8	59.2
	19	101 33.9	S16 34.8	219 19.0	11.3	S 3 13.7	14.8	59.2
	20	116 33.8	S16 34.1	233 49.3	11.3	S 3 28.5	14.8	59.2
	21	131 33.7	S16 33.3	248 19.6	11.3	S 3 43.3	14.8	59.2
	22	146 33.7	S16 32.6	262 49.8	11.2	S 3 58.0	14.8	59.2
	23	161 33.6	S16 31.9	277 20.0	11.2	S 4 12.8	14.7	59.2
		S.D. 16.2	d 0.7	S.D.	16.0	16.1	16.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.6
Achernar	335 22.8	S57 08.2
Acrux	173 03.2	S63 12.6
Adhara	255 08.0	S29 00.2
Albireo	67 07.0	N28 00.1
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.6	N55 50.6
Alkaid	152 54.5	N49 12.3
Al Na-ir	27 37.4	S46 51.8
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.5	S 8 45.0
Alphecca	126 06.5	N26 38.5
Alpheratz	357 38.3	N29 12.4
Altair	62 03.4	N 8 55.3
Ankaa	353 10.6	S42 11.9
Antares	112 19.9	S26 28.6
Arcturus	145 50.8	N19 04.3
Atria	107 17.4	S69 03.6
Avior	234 15.3	S59 34.7
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.6
Capella	280 26.3	N46 01.2
Castor	246 00.7	N31 50.5
Deneb	49 28.4	N45 21.2
Denebola	182 28.0	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.4	N61 38.1
Elnath	278 05.7	N28 37.5
Eltanin	90 44.1	N51 28.9
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.4	S29 30.9
Gacrux	171 54.8	S57 13.6
Gienah	175 46.6	S17 39.4
Hadar	148 40.4	S60 28.1
Hamal	327 54.8	N23 33.7
Kaus Austr.	83 37.1	S34 22.4
Kochab	137 20.1	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.3	S36 28.2
Miaplacidus	221 37.8	S69 48.1
Mirfak	308 32.7	N49 56.3
Nunki	75 52.0	S26 16.2
Peacock	53 11.3	S56 40.1
Polaris	317 26.6	N89 20.6
Pollux	243 20.8	N27 58.5
Procyon	244 53.8	N 5 10.2
Rasalhague	96 01.8	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 44.8	S60 55.0
Sabik	102 06.7	S15 45.0
Schedar	349 34.9	N56 39.2
Shaula	96 15.0	S37 07.0
Sirius	258 28.7	S16 44.8
Spica	158 25.5	S11 16.2
Suhail	222 48.1	S43 31.0
Vega	80 35.7	N38 48.0
Zuben-ubi	137 00.3	S16 07.7

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	133 23.5	189 12.4	S20 26.4	92 38.0	N17 10.1	180 15.3	S18 06.4	185 24.3	S19 18.2
	1	148 25.9	204 11.6	S20 25.8	107 39.1	N17 10.5	195 17.2	S18 06.2	200 26.5	S19 18.1
	2	163 28.4	219 10.8	S20 25.2	122 40.3	N17 11.0	210 19.1	S18 06.1	215 28.7	S19 18.0
	3	178 30.9	234 10.0	S20 24.6	137 41.4	N17 11.4	225 20.9	S18 05.9	230 30.8	S19 18.0
	4	193 33.3	249 09.2	S20 24.0	152 42.5	N17 11.8	240 22.8	S18 05.8	245 33.0	S19 17.9
W	5	208 35.8	264 08.3	S20 23.4	167 43.6	N17 12.2	255 24.7	S18 05.6	260 35.1	S19 17.8
E										
D	6	223 38.3	279 07.5	S20 22.7	182 44.8	N17 12.7	270 26.5	S18 05.4	275 37.3	S19 17.7
N	7	238 40.7	294 06.7	S20 22.1	197 45.9	N17 13.1	285 28.4	S18 05.3	290 39.5	S19 17.7
E	8	253 43.2	309 05.9	S20 21.5	212 47.0	N17 13.5	300 30.2	S18 05.1	305 41.6	S19 17.6
S	9	268 45.6	324 05.1	S20 20.9	227 48.1	N17 13.9	315 32.1	S18 05.0	320 43.8	S19 17.5
D	10	283 48.1	339 04.3	S20 20.2	242 49.3	N17 14.4	330 34.0	S18 04.8	335 45.9	S19 17.5
A	11	298 50.6	354 03.5	S20 19.6	257 50.4	N17 14.8	345 35.8	S18 04.7	350 48.1	S19 17.4
Y										
	12	313 53.0	9 02.7	S20 19.0	272 51.5	N17 15.2	0 37.7	S18 04.5	5 50.3	S19 17.3
	13	328 55.5	24 01.9	S20 18.4	287 52.6	N17 15.6	15 39.6	S18 04.3	20 52.4	S19 17.3
	14	343 58.0	39 01.0	S20 17.7	302 53.8	N17 16.0	30 41.4	S18 04.2	35 54.6	S19 17.2
	15	359 00.4	54 00.2	S20 17.1	317 54.9	N17 16.5	45 43.3	S18 04.0	50 56.7	S19 17.1
	16	14 02.9	68 59.4	S20 16.5	332 56.0	N17 16.9	60 45.1	S18 03.9	65 58.9	S19 17.1
	17	29 05.4	83 58.6	S20 15.9	347 57.1	N17 17.3	75 47.0	S18 03.7	81 01.1	S19 17.0
	18	44 07.8	98 57.8	S20 15.2	2 58.3	N17 17.7	90 48.9	S18 03.6	96 03.2	S19 16.9
	19	59 10.3	113 57.0	S20 14.6	17 59.4	N17 18.2	105 50.7	S18 03.4	111 05.4	S19 16.8
	20	74 12.8	128 56.2	S20 14.0	33 00.5	N17 18.6	120 52.6	S18 03.2	126 07.5	S19 16.8
	21	89 15.2	143 55.4	S20 13.3	48 01.6	N17 19.0	135 54.5	S18 03.1	141 09.7	S19 16.7
	22	104 17.7	158 54.6	S20 12.7	63 02.7	N17 19.4	150 56.3	S18 02.9	156 11.9	S19 16.6
	23	119 20.1	173 53.8	S20 12.0	78 03.9	N17 19.8	165 58.2	S18 02.8	171 14.0	S19 16.6
4	0	134 22.6	188 53.0	S20 11.4	93 05.0	N17 20.3	181 00.0	S18 02.6	186 16.2	S19 16.5
	1	149 25.1	203 52.2	S20 10.8	108 06.1	N17 20.7	196 01.9	S18 02.4	201 18.3	S19 16.4
	2	164 27.5	218 51.4	S20 10.1	123 07.2	N17 21.1	211 03.8	S18 02.3	216 20.5	S19 16.4
	3	179 30.0	233 50.6	S20 09.5	138 08.3	N17 21.5	226 05.6	S18 02.1	231 22.7	S19 16.3
	4	194 32.5	248 49.8	S20 08.8	153 09.5	N17 22.0	241 07.5	S18 02.0	246 24.8	S19 16.2
T	5	209 34.9	263 49.0	S20 08.2	168 10.6	N17 22.4	256 09.4	S18 01.8	261 27.0	S19 16.2
H										
U	6	224 37.4	278 48.2	S20 07.6	183 11.7	N17 22.8	271 11.2	S18 01.7	276 29.1	S19 16.1
R	7	239 39.9	293 47.4	S20 06.9	198 12.8	N17 23.2	286 13.1	S18 01.5	291 31.3	S19 16.0
S	8	254 42.3	308 46.6	S20 06.3	213 13.9	N17 23.6	301 15.0	S18 01.3	306 33.5	S19 15.9
D	9	269 44.8	323 45.8	S20 05.6	228 15.0	N17 24.1	316 16.8	S18 01.2	321 35.6	S19 15.9
A	10	284 47.2	338 45.0	S20 05.0	243 16.2	N17 24.5	331 18.7	S18 01.0	336 37.8	S19 15.8
Y	11	299 49.7	353 44.2	S20 04.3	258 17.3	N17 24.9	346 20.5	S18 00.9	351 39.9	S19 15.7
	12	314 52.2	8 43.4	S20 03.7	273 18.4	N17 25.3	1 22.4	S18 00.7	6 42.1	S19 15.7
	13	329 54.6	23 42.6	S20 03.0	288 19.5	N17 25.7	16 24.3	S18 00.5	21 44.3	S19 15.6
	14	344 57.1	38 41.8	S20 02.4	303 20.6	N17 26.2	31 26.1	S18 00.4	36 46.4	S19 15.5
	15	359 59.6	53 41.0	S20 01.7	318 21.7	N17 26.6	46 28.0	S18 00.2	51 48.6	S19 15.5
	16	15 02.0	68 40.2	S20 01.1	333 22.9	N17 27.0	61 29.9	S18 00.1	66 50.7	S19 15.4
	17	30 04.5	83 39.4	S20 00.4	348 24.0	N17 27.4	76 31.7	S17 59.9	81 52.9	S19 15.3
	18	45 07.0	98 38.6	S19 59.7	3 25.1	N17 27.8	91 33.6	S17 59.7	96 55.1	S19 15.3
	19	60 09.4	113 37.8	S19 59.1	18 26.2	N17 28.3	106 35.4	S17 59.6	111 57.2	S19 15.2
	20	75 11.9	128 37.0	S19 58.4	33 27.3	N17 28.7	121 37.3	S17 59.4	126 59.4	S19 15.1
	21	90 14.4	143 36.2	S19 57.8	48 28.4	N17 29.1	136 39.2	S17 59.3	142 01.5	S19 15.0
	22	105 16.8	158 35.4	S19 57.1	63 29.5	N17 29.5	151 41.0	S17 59.1	157 03.7	S19 15.0
	23	120 19.3	173 34.6	S19 56.5	78 30.7	N17 29.9	166 42.9	S17 59.0	172 05.9	S19 14.9
5	0	135 21.7	188 33.8	S19 55.8	93 31.8	N17 30.4	181 44.8	S17 58.8	187 08.0	S19 14.8
	1	150 24.2	203 33.0	S19 55.1	108 32.9	N17 30.8	196 46.6	S17 58.6	202 10.2	S19 14.8
	2	165 26.7	218 32.2	S19 54.5	123 34.0	N17 31.2	211 48.5	S17 58.5	217 12.4	S19 14.7
	3	180 29.1	233 31.4	S19 53.8	138 35.1	N17 31.6	226 50.4	S17 58.3	232 14.5	S19 14.6
	4	195 31.6	248 30.6	S19 53.1	153 36.2	N17 32.0	241 52.2	S17 58.2	247 16.7	S19 14.6
F	5	210 34.1	263 29.8	S19 52.5	168 37.3	N17 32.5	256 54.1	S17 58.0	262 18.8	S19 14.5
R										
I	6	225 36.5	278 29.1	S19 51.8	183 38.4	N17 32.9	271 55.9	S17 57.8	277 21.0	S19 14.4
D	7	240 39.0	293 28.3	S19 51.1	198 39.5	N17 33.3	286 57.8	S17 57.7	292 23.2	S19 14.4
A	8	255 41.5	308 27.5	S19 50.5	213 40.7	N17 33.7	301 59.7	S17 57.5	307 25.3	S19 14.3
Y	9	270 43.9	323 26.7	S19 49.8	228 41.8	N17 34.1	317 01.5	S17 57.4	322 27.5	S19 14.2
	10	285 46.4	338 25.9	S19 49.1	243 42.9	N17 34.6	332 03.4	S17 57.2	337 29.6	S19 14.1
	11	300 48.9	353 25.1	S19 48.4	258 44.0	N17 35.0	347 05.3	S17 57.0	352 31.8	S19 14.1
	12	315 51.3	8 24.3	S19 47.8	273 45.1	N17 35.4	2 07.1	S17 56.9	7 34.0	S19 14.0
	13	330 53.8	23 23.5	S19 47.1	288 46.2	N17 35.8	17 09.0	S17 56.7	22 36.1	S19 13.9
	14	345 56.2	38 22.7	S19 46.4	303 47.3	N17 36.2	32 10.9	S17 56.6	37 38.3	S19 13.9
	15	0 58.7	53 22.0	S19 45.7	318 48.4	N17 36.6	47 12.7	S17 56.4	52 40.4	S19 13.8
	16	16 01.2	68 21.2	S19 45.0	333 49.5	N17 37.1	62 14.6	S17 56.2	67 42.6	S19 13.7
	17	31 03.6	83 20.4	S19 44.4	348 50.6	N17 37.5	77 16.4	S17 56.1	82 44.8	S19 13.7
	18	46 06.1	98 19.6	S19 43.7	3 51.7	N17 37.9	92 18.3	S17 55.9	97 46.9	S19 13.6
	19	61 08.6	113 18.8	S19 43.0	18 52.9	N17 38.3	107 20.2	S17 55.8	112 49.1	S19 13.5
	20	76 11.0	128 18.0	S19 42.3	33 54.0	N17 38.7	122 22.0	S17 55.6	127 51.3	S19 13.4
	21	91 13.5	143 17.2	S19 41.6	48 55.1	N17 39.2	137 23.9	S17 55.5	142 53.4	S19 13.4
	22	106 16.0	158 16.5	S19 41.0	63 56.2	N17 39.6	152 25.8	S17 55.3	157 55.6	S19 13.3
	23	121 18.4	173 15.7	S19 40.3	78 57.3	N17 40.0	167 27.6	S17 55.1	172 57.7	S19 13.2
			v -0.8	d 0.7	v 1.1	d 0.4	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
3	0	176 33.5	S16 31.1	291 50.2	11.2	S 4 27.5	14.7	59.2
	1	191 33.5	S16 30.4	306 20.4	11.2	S 4 42.2	14.7	59.2
	2	206 33.4	S16 29.7	320 50.6	11.2	S 4 56.9	14.7	59.2
	3	221 33.3	S16 28.9	335 20.7	11.1	S 5 11.6	14.7	59.2
	4	236 33.3	S16 28.2	349 50.8	11.1	S 5 26.2	14.6	59.2
W	5	251 33.2	S16 27.5	4 20.9	11.1	S 5 40.8	14.6	59.2
E								
D	6	266 33.1	S16 26.7	18 50.9	11.0	S 5 55.4	14.6	59.2
N	7	281 33.1	S16 26.0	33 21.0	11.0	S 6 09.9	14.5	59.2
E	8	296 33.0	S16 25.2	47 51.0	11.0	S 6 24.4	14.5	59.2
S	9	311 32.9	S16 24.5	62 20.9	11.0	S 6 38.9	14.5	59.2
D	10	326 32.9	S16 23.8	76 50.8	10.9	S 6 53.3	14.4	59.2
A	11	341 32.8	S16 23.0	91 20.7	10.9	S 7 07.7	14.4	59.2
Y								
	12	356 32.7	S16 22.3	105 50.6	10.9	S 7 22.1	14.4	59.2
	13	11 32.7	S16 21.5	120 20.4	10.8	S 7 36.4	14.3	59.2
	14	26 32.6	S16 20.8	134 50.2	10.8	S 7 50.7	14.3	59.2
	15	41 32.6	S16 20.1	149 20.0	10.8	S 8 04.9	14.2	59.2
	16	56 32.5	S16 19.3	163 49.7	10.7	S 8 19.1	14.2	59.2
	17	71 32.4	S16 18.6	178 19.4	10.7	S 8 33.3	14.2	59.2
	18	86 32.4	S16 17.8	192 49.0	10.6	S 8 47.4	14.1	59.2
	19	101 32.3	S16 17.1	207 18.6	10.6	S 9 01.5	14.1	59.2
	20	116 32.3	S16 16.3	221 48.1	10.6	S 9 15.5	14.0	59.2
	21	131 32.2	S16 15.6	236 17.7	10.5	S 9 29.4	14.0	59.2
	22	146 32.1	S16 14.8	250 47.1	10.5	S 9 43.3	13.9	59.2
	23	161 32.1	S16 14.1	265 16.5	10.4	S 9 57.2	13.9	59.2
4	0	176 32.0	S16 13.3	279 45.9	10.4	S10 11.0	13.8	59.2
	1	191 32.0	S16 12.6	294 15.3	10.3	S10 24.7	13.7	59.2
	2	206 31.9	S16 11.9	308 44.5	10.3	S10 38.4	13.7	59.2
	3	221 31.8	S16 11.1	323 13.8	10.2	S10 52.1	13.6	59.2
	4	236 31.8	S16 10.4	337 43.0	10.2	S11 05.6	13.6	59.2
T	5	251 31.7	S16 09.6	352 12.1	10.1	S11 19.1	13.5	59.2
H								
U	6	266 31.7	S16 08.9	6 41.2	10.1	S11 32.6	13.4	59.2
R	7	281 31.6	S16 08.1	21 10.2	10.0	S11 45.9	13.4	59.2
S	8	296 31.6	S16 07.4	35 39.2	10.0	S11 59.3	13.3	59.2
D	9	311 31.5	S16 06.6	50 08.2	9.9	S12 12.5	13.2	59.2
A	10	326 31.4	S16 05.8	64 37.1	9.9	S12 25.7	13.2	59.2
Y	11	341 31.4	S16 05.1	79 05.9	9.8	S12 38.8	13.1	59.2
	12	356 31.3	S16 04.3	93 34.7	9.8	S12 51.8	13.0	59.2
	13	11 31.3	S16 03.6	108 03.4	9.7	S13 04.8	13.0	59.2
	14	26 31.2	S16 02.8	122 32.0	9.7	S13 17.7	12.9	59.2
	15	41 31.2	S16 02.1	137 00.6	9.6	S13 30.5	12.8	59.2
	16	56 31.1	S16 01.3	151 29.2	9.5	S13 43.2	12.7	59.2
	17	71 31.1	S16 00.6	165 57.7	9.5	S13 55.9	12.7	59.2
	18	86 31.0	S15 59.8	180 26.1	9.4	S14 08.4	12.6	59.2
	19	101 31.0	S15 59.1	194 54.5	9.4	S14 20.9	12.5	59.2
	20	116 30.9	S15 58.3	209 22.8	9.3	S14 33.3	12.4	59.2
	21	131 30.9	S15 57.5	223 51.0	9.3	S14 45.7	12.3	59.2
	22	146 30.8	S15 56.8	238 19.2	9.2	S14 57.9	12.2	59.2
	23	161 30.7	S15 56.0	252 47.4	9.1	S15 10.1	12.2	59.2
5	0	176 30.7	S15 55.3	267 15.4	9.1	S15 22.1	12.1	59.2
	1	191 30.6	S15 54.5	281 43.4	9.0	S15 34.1	12.0	59.2
	2	206 30.6	S15 53.7	296 11.4	8.9	S15 46.0	11.9	59.2
	3	221 30.5	S15 53.0	310 39.3	8.9	S15 57.8	11.8	59.2
	4	236 30.5	S15 52.2	325 07.1	8.8	S16 09.5	11.7	59.2
F	5	251 30.4	S15 51.5	339 34.8	8.8	S16 21.1	11.6	59.2
R								
I	6	266 30.4	S15 50.7	354 02.5	8.7	S16 32.6	11.5	59.2
D	7	281 30.4	S15 49.9	8 30.2	8.6	S16 44.0	11.4	59.2
A	8	296 30.3	S15 49.2	22 57.7	8.6	S16 55.3	11.3	59.2
Y	9	311 30.3	S15 48.4	37 25.2	8.5	S17 06.5	11.2	59.2
	10	326 30.2	S15 47.7	51 52.7	8.4	S17 17.6	11.1	59.1
	11	341 30.2	S15 46.9	66 20.0	8.4	S17 28.7	11.0	59.1
	12	356 30.1	S15 46.1	80 47.3	8.3	S17 39.6	10.9	59.1
	13	11 30.1	S15 45.4	95 14.6	8.2	S17 50.4	10.8	59.1
	14	26 30.0	S15 44.6	109 41.7	8.2	S18 01.0	10.7	59.1
	15	41 30.0	S15 43.8	124 08.8	8.1	S18 11.6	10.6	59.1
	16	56 29.9	S15 43.1	138 35.9	8.0	S18 22.1	10.5	59.1
	17	71 29.9	S15 42.3	153 02.8	8.0	S18 32.5	10.4	59.1
	18	86 29.8	S15 41.5	167 29.7	7.9	S18 42.7	10.2	59.1
	19	101 29.8	S15 40.8	181 56.6	7.8	S18 52.8	10.1	59.1
	20	116 29.7	S15 40.0	196 23.4	7.8	S19 02.9	10.0	59.1
	21	131 29.7	S15 39.2	210 50.1	7.7	S19 12.8	9.9	59.1
	22	146 29.7	S15 38.5	225 16.7	7.6	S19 22.5	9.8	59.1
	23	161 29.6	S15 37.7	239 43.3	7.6	S19 32.2	9.7	59.1
		S.D. 16.2	d 0.8	S.D.	16.1		16.1	16.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.6
Achernar	335 22.8	S57 08.2
Acrux	173 03.1	S63 12.6
Adhara	255 08.0	S29 00.2
Albireo	67 07.0	N28 00.1
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.5	N55 50.6
Alkaid	152 54.4	N49 12.3
Al Na-ir	27 37.4	S46 51.7
Alnilam	275 40.7	S 1 11.4
Alphard	217 50.5	S 8 45.0
Alphecca	126 06.5	N26 38.5
Alpheratz	357 38.3	N29 12.4
Altair	62 03.4	N 8 55.3
Ankaa	353 10.6	S42 11.9
Antares	112 19.9	S26 28.6
Arcturus	145 50.8	N19 04.3
Atria	107 17.3	S69 03.6
Avior	234 15.3	S59 34.7
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.6
Canopus	263 53.3	S52 42.6
Capella	280 26.3	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.2
Denebola	182 28.0	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.4	N61 38.1
Elnath	278 05.7	N28 37.5
Eltanin	90 44.1	N51 28.9
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.4	S29 30.9
Gacrux	171 54.8	S57 13.6
Gienah	175 46.6	S17 39.4
Hadar	148 40.4	S60 28.1
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 37.1	S34 22.4
Kochab	137 20.0	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.3	S36 28.2
Miaplacidus	221 37.8	S69 48.2
Mirfak	308 32.7	N49 56.3
Nunki	75 52.0	S26 16.2
Peacock	53 11.3	S56 40.1
Polaris	317 27.8	N89 20.6
Pollux	243 20.8	N27 58.5
Procyon	244 53.8	N 5 10.2
Rasalhague	96 01.8	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 44.7	S60 55.0
Sabik	102 06.6	S15 45.0
Schedar	349 34.9	N56 39.2
Shaula	96 14.9	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.5	S11 16.2
Suhail	222 48.1	S43 31.1
Vega	80 35.7	N38 48.0
Zuben-ubi	137 00.3	S16 07.7

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
6	0	136 20.9	188 14.9	S19 39.6	93 58.4	N17 40.4	182 29.5	S17 55.0	187 59.9	S19 13.2
	1	151 23.4	203 14.1	S19 38.9	108 59.5	N17 40.8	197 31.4	S17 54.8	203 02.1	S19 13.1
	2	166 25.8	218 13.3	S19 38.2	124 00.6	N17 41.2	212 33.2	S17 54.7	218 04.2	S19 13.0
	3	181 28.3	233 12.6	S19 37.5	139 01.7	N17 41.7	227 35.1	S17 54.5	233 06.4	S19 13.0
	4	196 30.7	248 11.8	S19 36.8	154 02.8	N17 42.1	242 37.0	S17 54.3	248 08.5	S19 12.9
S	5	211 33.2	263 11.0	S19 36.1	169 03.9	N17 42.5	257 38.8	S17 54.2	263 10.7	S19 12.8
A										
T	6	226 35.7	278 10.2	S19 35.4	184 05.0	N17 42.9	272 40.7	S17 54.0	278 12.9	S19 12.8
U	7	241 38.1	293 09.4	S19 34.7	199 06.1	N17 43.3	287 42.5	S17 53.9	293 15.0	S19 12.7
R	8	256 40.6	308 08.7	S19 34.1	214 07.2	N17 43.7	302 44.4	S17 53.7	308 17.2	S19 12.6
D	9	271 43.1	323 07.9	S19 33.4	229 08.3	N17 44.2	317 46.3	S17 53.5	323 19.4	S19 12.5
A	10	286 45.5	338 07.1	S19 32.7	244 09.4	N17 44.6	332 48.1	S17 53.4	338 21.5	S19 12.5
Y	11	301 48.0	353 06.3	S19 32.0	259 10.5	N17 45.0	347 50.0	S17 53.2	353 23.7	S19 12.4
	12	316 50.5	8 05.6	S19 31.3	274 11.6	N17 45.4	2 51.9	S17 53.1	8 25.8	S19 12.3
	13	331 52.9	23 04.8	S19 30.6	289 12.7	N17 45.8	17 53.7	S17 52.9	23 28.0	S19 12.3
	14	346 55.4	38 04.0	S19 29.9	304 13.8	N17 46.2	32 55.6	S17 52.7	38 30.2	S19 12.2
	15	1 57.8	53 03.2	S19 29.2	319 14.9	N17 46.6	47 57.5	S17 52.6	53 32.3	S19 12.1
	16	17 00.3	68 02.4	S19 28.5	334 16.0	N17 47.1	62 59.3	S17 52.4	68 34.5	S19 12.1
	17	32 02.8	83 01.7	S19 27.8	349 17.1	N17 47.5	78 01.2	S17 52.3	83 36.7	S19 12.0
	18	47 05.2	98 00.9	S19 27.0	4 18.2	N17 47.9	93 03.1	S17 52.1	98 38.8	S19 11.9
	19	62 07.7	113 00.1	S19 26.3	19 19.3	N17 48.3	108 04.9	S17 51.9	113 41.0	S19 11.9
	20	77 10.2	127 59.4	S19 25.6	34 20.4	N17 48.7	123 06.8	S17 51.8	128 43.1	S19 11.8
	21	92 12.6	142 58.6	S19 24.9	49 21.5	N17 49.1	138 08.7	S17 51.6	143 45.3	S19 11.7
	22	107 15.1	157 57.8	S19 24.2	64 22.6	N17 49.6	153 10.5	S17 51.5	158 47.5	S19 11.6
	23	122 17.6	172 57.0	S19 23.5	79 23.7	N17 50.0	168 12.4	S17 51.3	173 49.6	S19 11.6
7	0	137 20.0	187 56.3	S19 22.8	94 24.8	N17 50.4	183 14.2	S17 51.1	188 51.8	S19 11.5
	1	152 22.5	202 55.5	S19 22.1	109 25.9	N17 50.8	198 16.1	S17 51.0	203 53.9	S19 11.4
	2	167 25.0	217 54.7	S19 21.4	124 27.0	N17 51.2	213 18.0	S17 50.8	218 56.1	S19 11.4
	3	182 27.4	232 54.0	S19 20.7	139 28.1	N17 51.6	228 19.8	S17 50.7	233 58.3	S19 11.3
	4	197 29.9	247 53.2	S19 19.9	154 29.2	N17 52.0	243 21.7	S17 50.5	249 00.4	S19 11.2
S	5	212 32.3	262 52.4	S19 19.2	169 30.3	N17 52.5	258 23.6	S17 50.3	264 02.6	S19 11.2
U										
N	6	227 34.8	277 51.7	S19 18.5	184 31.4	N17 52.9	273 25.4	S17 50.2	279 04.8	S19 11.1
D	7	242 37.3	292 50.9	S19 17.8	199 32.5	N17 53.3	288 27.3	S17 50.0	294 06.9	S19 11.0
A	8	257 39.7	307 50.1	S19 17.1	214 33.6	N17 53.7	303 29.2	S17 49.9	309 09.1	S19 11.0
Y	9	272 42.2	322 49.4	S19 16.4	229 34.7	N17 54.1	318 31.0	S17 49.7	324 11.2	S19 10.9
	10	287 44.7	337 48.6	S19 15.6	244 35.8	N17 54.5	333 32.9	S17 49.5	339 13.4	S19 10.8
	11	302 47.1	352 47.8	S19 14.9	259 36.9	N17 54.9	348 34.8	S17 49.4	354 15.6	S19 10.7
	12	317 49.6	7 47.1	S19 14.2	274 38.0	N17 55.3	3 36.6	S17 49.2	9 17.7	S19 10.7
	13	332 52.1	22 46.3	S19 13.5	289 39.1	N17 55.8	18 38.5	S17 49.1	24 19.9	S19 10.6
	14	347 54.5	37 45.5	S19 12.7	304 40.2	N17 56.2	33 40.4	S17 48.9	39 22.1	S19 10.5
	15	2 57.0	52 44.8	S19 12.0	319 41.2	N17 56.6	48 42.2	S17 48.7	54 24.2	S19 10.5
	16	17 59.5	67 44.0	S19 11.3	334 42.3	N17 57.0	63 44.1	S17 48.6	69 26.4	S19 10.4
	17	33 01.9	82 43.2	S19 10.6	349 43.4	N17 57.4	78 46.0	S17 48.4	84 28.5	S19 10.3
	18	48 04.4	97 42.5	S19 09.8	4 44.5	N17 57.8	93 47.8	S17 48.3	99 30.7	S19 10.3
	19	63 06.8	112 41.7	S19 09.1	19 45.6	N17 58.2	108 49.7	S17 48.1	114 32.9	S19 10.2
	20	78 09.3	127 41.0	S19 08.4	34 46.7	N17 58.6	123 51.6	S17 47.9	129 35.0	S19 10.1
	21	93 11.8	142 40.2	S19 07.7	49 47.8	N17 59.1	138 53.4	S17 47.8	144 37.2	S19 10.1
	22	108 14.2	157 39.4	S19 06.9	64 48.9	N17 59.5	153 55.3	S17 47.6	159 39.4	S19 10.0
	23	123 16.7	172 38.7	S19 06.2	79 50.0	N17 59.9	168 57.2	S17 47.4	174 41.5	S19 09.9
8	0	138 19.2	187 37.9	S19 05.5	94 51.1	N18 00.3	183 59.0	S17 47.3	189 43.7	S19 09.8
	1	153 21.6	202 37.2	S19 04.7	109 52.2	N18 00.7	199 00.9	S17 47.1	204 45.9	S19 09.8
	2	168 24.1	217 36.4	S19 04.0	124 53.3	N18 01.1	214 02.8	S17 47.0	219 48.0	S19 09.7
	3	183 26.6	232 35.7	S19 03.2	139 54.3	N18 01.5	229 04.6	S17 46.8	234 50.2	S19 09.6
	4	198 29.0	247 34.9	S19 02.5	154 55.4	N18 01.9	244 06.5	S17 46.6	249 52.3	S19 09.6
M	5	213 31.5	262 34.1	S19 01.8	169 56.5	N18 02.4	259 08.4	S17 46.5	264 54.5	S19 09.5
O										
N	6	228 34.0	277 33.4	S19 01.0	184 57.6	N18 02.8	274 10.2	S17 46.3	279 56.7	S19 09.4
D	7	243 36.4	292 32.6	S19 00.3	199 58.7	N18 03.2	289 12.1	S17 46.2	294 58.8	S19 09.4
A	8	258 38.9	307 31.9	S18 59.5	214 59.8	N18 03.6	304 13.9	S17 46.0	310 01.0	S19 09.3
Y	9	273 41.3	322 31.1	S18 58.8	230 00.9	N18 04.0	319 15.8	S17 45.8	325 03.2	S19 09.2
	10	288 43.8	337 30.4	S18 58.1	245 02.0	N18 04.4	334 17.7	S17 45.7	340 05.3	S19 09.1
	11	303 46.3	352 29.6	S18 57.3	260 03.1	N18 04.8	349 19.5	S17 45.5	355 07.5	S19 09.1
	12	318 48.7	7 28.9	S18 56.6	275 04.1	N18 05.2	4 21.4	S17 45.4	10 09.6	S19 09.0
	13	333 51.2	22 28.1	S18 55.8	290 05.2	N18 05.6	19 23.3	S17 45.2	25 11.8	S19 08.9
	14	348 53.7	37 27.4	S18 55.1	305 06.3	N18 06.0	34 25.1	S17 45.0	40 14.0	S19 08.9
	15	3 56.1	52 26.6	S18 54.3	320 07.4	N18 06.5	49 27.0	S17 44.9	55 16.1	S19 08.8
	16	18 58.6	67 25.9	S18 53.6	335 08.5	N18 06.9	64 28.9	S17 44.7	70 18.3	S19 08.7
	17	34 01.1	82 25.1	S18 52.8	350 09.6	N18 07.3	79 30.7	S17 44.6	85 20.5	S19 08.7
	18	49 03.5	97 24.4	S18 52.1	5 10.7	N18 07.7	94 32.6	S17 44.4	100 22.6	S19 08.6
	19	64 06.0	112 23.6	S18 51.3	20 11.7	N18 08.1	109 34.5	S17 44.2	115 24.8	S19 08.5
	20	79 08.4	127 22.9	S18 50.6	35 12.8	N18 08.5	124 36.3	S17 44.1	130 27.0	S19 08.5
	21	94 10.9	142 22.1	S18 49.8	50 13.9	N18 08.9	139 38.2	S17 43.9	145 29.1	S19 08.4
	22	109 13.4	157 21.4	S18 49.1	65 15.0	N18 09.3	154 40.1	S17 43.7	160 31.3	S19 08.3
	23	124 15.8	172 20.6	S18 48.3	80 16.1	N18 09.7	169 41.9	S17 43.6	175 33.4	S19 08.2
			v -0.8	d 0.7	v 1.1	d 0.4	v 1.9	d 0.2	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	176 29.6	S15 36.9	254 09.8	7.5	S19 41.8	9.5	59.1
	1	191 29.5	S15 36.1	268 36.3	7.5	S19 51.2	9.4	59.1
	2	206 29.5	S15 35.4	283 02.7	7.4	S20 00.5	9.3	59.1
	3	221 29.5	S15 34.6	297 29.0	7.3	S20 09.7	9.2	59.0
	4	236 29.4	S15 33.8	311 55.2	7.3	S20 18.7	9.1	59.0
S	5	251 29.4	S15 33.1	326 21.4	7.2	S20 27.6	8.9	59.0
A								
T	6	266 29.3	S15 32.3	340 47.6	7.1	S20 36.4	8.8	59.0
U	7	281 29.3	S15 31.5	355 13.6	7.1	S20 45.1	8.7	59.0
R	8	296 29.2	S15 30.7	9 39.7	7.0	S20 53.6	8.5	59.0
D	9	311 29.2	S15 30.0	24 05.6	6.9	S21 02.1	8.4	59.0
A	10	326 29.2	S15 29.2	38 31.5	6.9	S21 10.3	8.3	59.0
Y	11	341 29.1	S15 28.4	52 57.3	6.8	S21 18.5	8.1	59.0
	12	356 29.1	S15 27.6	67 23.1	6.8	S21 26.5	8.0	59.0
	13	11 29.1	S15 26.9	81 48.8	6.7	S21 34.4	7.9	59.0
	14	26 29.0	S15 26.1	96 14.5	6.7	S21 42.1	7.7	59.0
	15	41 29.0	S15 25.3	110 40.0	6.6	S21 49.7	7.6	59.0
	16	56 28.9	S15 24.5	125 05.6	6.5	S21 57.2	7.5	58.9
	17	71 28.9	S15 23.7	139 31.1	6.5	S22 04.5	7.3	58.9
	18	86 28.9	S15 23.0	153 56.5	6.4	S22 11.7	7.2	58.9
	19	101 28.8	S15 22.2	168 21.9	6.4	S22 18.7	7.0	58.9
	20	116 28.8	S15 21.4	182 47.2	6.3	S22 25.6	6.9	58.9
	21	131 28.8	S15 20.6	197 12.5	6.3	S22 32.4	6.8	58.9
	22	146 28.7	S15 19.9	211 37.7	6.2	S22 39.0	6.6	58.9
	23	161 28.7	S15 19.1	226 02.9	6.2	S22 45.4	6.5	58.9
7	0	176 28.7	S15 18.3	240 28.0	6.1	S22 51.8	6.3	58.9
	1	191 28.6	S15 17.5	254 53.1	6.1	S22 57.9	6.2	58.9
	2	206 28.6	S15 16.7	269 18.1	6.0	S23 03.9	6.0	58.8
	3	221 28.5	S15 15.9	283 43.1	6.0	S23 09.8	5.9	58.8
	4	236 28.5	S15 15.2	298 08.0	5.9	S23 15.5	5.7	58.8
S	5	251 28.5	S15 14.4	312 32.9	5.9	S23 21.1	5.6	58.8
U								
N	6	266 28.5	S15 13.6	326 57.8	5.9	S23 26.5	5.4	58.8
D	7	281 28.4	S15 12.8	341 22.6	5.8	S23 31.8	5.3	58.8
A	8	296 28.4	S15 12.0	355 47.4	5.8	S23 36.9	5.1	58.8
Y	9	311 28.4	S15 11.2	10 12.1	5.7	S23 41.9	5.0	58.8
	10	326 28.3	S15 10.5	24 36.8	5.7	S23 46.7	4.8	58.8
	11	341 28.3	S15 09.7	39 01.5	5.7	S23 51.4	4.7	58.8
	12	356 28.3	S15 08.9	53 26.1	5.6	S23 55.9	4.5	58.7
	13	11 28.2	S15 08.1	67 50.7	5.6	S24 00.2	4.3	58.7
	14	26 28.2	S15 07.3	82 15.3	5.6	S24 04.4	4.2	58.7
	15	41 28.2	S15 06.5	96 39.8	5.5	S24 08.4	4.0	58.7
	16	56 28.1	S15 05.7	111 04.3	5.5	S24 12.3	3.9	58.7
	17	71 28.1	S15 04.9	125 28.8	5.5	S24 16.0	3.7	58.7
	18	86 28.1	S15 04.2	139 53.3	5.5	S24 19.6	3.6	58.7
	19	101 28.1	S15 03.4	154 17.8	5.4	S24 23.0	3.4	58.7
	20	116 28.0	S15 02.6	168 42.2	5.4	S24 26.2	3.2	58.6
	21	131 28.0	S15 01.8	183 06.6	5.4	S24 29.3	3.1	58.6
	22	146 28.0	S15 01.0	197 31.0	5.4	S24 32.2	2.9	58.6
	23	161 27.9	S15 00.2	211 55.4	5.4	S24 34.9	2.8	58.6
8	0	176 27.9	S14 59.4	226 19.7	5.4	S24 37.5	2.6	58.6
	1	191 27.9	S14 58.6	240 44.1	5.4	S24 40.0	2.4	58.6
	2	206 27.9	S14 57.8	255 08.4	5.3	S24 42.2	2.3	58.6
	3	221 27.8	S14 57.0	269 32.7	5.3	S24 44.3	2.1	58.6
	4	236 27.8	S14 56.2	283 57.1	5.3	S24 46.3	1.9	58.5
M	5	251 27.8	S14 55.4	298 21.4	5.3	S24 48.1	1.8	58.5
O								
N	6	266 27.8	S14 54.6	312 45.7	5.3	S24 49.7	1.6	58.5
D	7	281 27.7	S14 53.8	327 10.0	5.3	S24 51.2	1.5	58.5
A	8	296 27.7	S14 53.1	341 34.3	5.3	S24 52.5	1.3	58.5
Y	9	311 27.7	S14 52.3	355 58.7	5.3	S24 53.6	1.1	58.5
	10	326 27.7	S14 51.5	10 23.0	5.3	S24 54.6	1.0	58.5
	11	341 27.7	S14 50.7	24 47.3	5.3	S24 55.4	0.8	58.4
	12	356 27.6	S14 49.9	39 11.7	5.3	S24 56.0	0.7	58.4
	13	11 27.6	S14 49.1	53 36.0	5.4	S24 56.5	0.5	58.4
	14	26 27.6	S14 48.3	68 00.4	5.4	S24 56.9	0.3	58.4
	15	41 27.6	S14 47.5	82 24.8	5.4	S24 57.0	0.2	58.4
	16	56 27.5	S14 46.7	96 49.1	5.4	S24 57.0	0.0	58.4
	17	71 27.5	S14 45.9	111 13.6	5.4	S24 56.9	0.2	58.4
	18	86 27.5	S14 45.1	125 38.0	5.4	S24 56.5	0.3	58.3
	19	101 27.5	S14 44.3	140 02.4	5.5	S24 56.1	0.5	58.3
	20	116 27.5	S14 43.5	154 26.9	5.5	S24 55.4	0.6	58.3
	21	131 27.4	S14 42.7	168 51.4	5.5	S24 54.6	0.8	58.3
	22	146 27.4	S14 41.9	183 15.9	5.5	S24 53.7	1.0	58.3
	23	161 27.4	S14 41.1	197 40.5	5.6	S24 52.5	1.1	58.3
		S.D. 16.2	d 0.8	S.D.	16.1	16.0	15.9	

Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.6
Achernar	335 22.9	S57 08.2
Acrux	173 03.1	S63 12.6
Adhara	255 08.0	S29 00.2
Albireo	67 06.9	N28 00.1
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.5	N55 50.6
Alkaid	152 54.4	N49 12.3
Al Na-ir	27 37.4	S46 51.7
Alnilam	275 40.7	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.5	N26 38.5
Alpheratz	357 38.3	N29 12.4
Altair	62 03.3	N 8 55.3
Ankaa	353 10.6	S42 11.9
Antares	112 19.9	S26 28.6
Arcturus	145 50.8	N19 04.2
Atria	107 17.2	S69 03.6
Avior	234 15.3	S59 34.7
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.5
Canopus	263 53.4	S52 42.7
Capella	280 26.3	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.4	N45 21.2
Denebola	182 27.9	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.4	N61 38.1
Elnath	278 05.7	N28 37.5
Eltanin	90 44.0	N51 28.9
Enif	33 42.2	N 9 58.2
Fomalhaut	15 18.4	S29 30.9
Gacrux	171 54.7	S57 13.6
Gienah	175 46.6	S17 39.4
Hadar	148 40.3	S60 28.1
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 37.1	S34 22.4
Kochab	137 19.9	N74 03.9
Markab	13 33.3	N15 19.0
Menkar	314 09.4	N 4 10.2
Menkent	148 01.2	S36 28.3
Miaplacidus	221 37.8	S69 48.2
Mirfak	308 32.7	N49 56.3
Nunki	75 52.0	S26 16.2
Peacock	53 11.3	S56 40.1
Polaris	317 28.8	N89 20.6
Pollux	243 20.8	N27 58.5
Procyon	244 53.8	N 5 10.2
Rasalhague	96 01.7	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 44.7	S60 55.0
Sabik	102 06.6	S15 45.0
Schedar	349 34.9	N56 39.2
Shaula	96 14.9	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.5	S11 16.2
Suhail	222 48.1	S43 31.1
Vega	80 35.7	N38 48.0
Zuben-ubi	137 00.3	S16 07.7

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
9	0	139 18.3	187 19.9	S18 47.5	95 17.2	N18 10.1	184 43.8	S17 43.4	190 35.6	S19 08.2
	1	154 20.8	202 19.1	S18 46.8	110 18.2	N18 10.5	199 45.7	S17 43.3	205 37.8	S19 08.1
	2	169 23.2	217 18.4	S18 46.0	125 19.3	N18 11.0	214 47.5	S17 43.1	220 39.9	S19 08.0
	3	184 25.7	232 17.6	S18 45.3	140 20.4	N18 11.4	229 49.4	S17 42.9	235 42.1	S19 08.0
	4	199 28.2	247 16.9	S18 44.5	155 21.5	N18 11.8	244 51.3	S17 42.8	250 44.3	S19 07.9
T	5	214 30.6	262 16.1	S18 43.8	170 22.6	N18 12.2	259 53.1	S17 42.6	265 46.4	S19 07.8
U										
E	6	229 33.1	277 15.4	S18 43.0	185 23.7	N18 12.6	274 55.0	S17 42.5	280 48.6	S19 07.8
S	7	244 35.6	292 14.6	S18 42.2	200 24.7	N18 13.0	289 56.9	S17 42.3	295 50.8	S19 07.7
D	8	259 38.0	307 13.9	S18 41.5	215 25.8	N18 13.4	304 58.7	S17 42.1	310 52.9	S19 07.6
A	9	274 40.5	322 13.2	S18 40.7	230 26.9	N18 13.8	320 00.6	S17 42.0	325 55.1	S19 07.6
Y	10	289 42.9	337 12.4	S18 39.9	245 28.0	N18 14.2	335 02.5	S17 41.8	340 57.3	S19 07.5
	11	304 45.4	352 11.7	S18 39.2	260 29.1	N18 14.6	350 04.4	S17 41.7	355 59.4	S19 07.4
	12	319 47.9	7 10.9	S18 38.4	275 30.1	N18 15.0	5 06.2	S17 41.5	11 01.6	S19 07.3
	13	334 50.3	22 10.2	S18 37.6	290 31.2	N18 15.4	20 08.1	S17 41.3	26 03.7	S19 07.3
	14	349 52.8	37 09.5	S18 36.9	305 32.3	N18 15.9	35 10.0	S17 41.2	41 05.9	S19 07.2
	15	4 55.3	52 08.7	S18 36.1	320 33.4	N18 16.3	50 11.8	S17 41.0	56 08.1	S19 07.1
	16	19 57.7	67 08.0	S18 35.3	335 34.5	N18 16.7	65 13.7	S17 40.8	71 10.2	S19 07.1
	17	35 00.2	82 07.2	S18 34.5	350 35.5	N18 17.1	80 15.6	S17 40.7	86 12.4	S19 07.0
	18	50 02.7	97 06.5	S18 33.8	5 36.6	N18 17.5	95 17.4	S17 40.5	101 14.6	S19 06.9
	19	65 05.1	112 05.8	S18 33.0	20 37.7	N18 17.9	110 19.3	S17 40.4	116 16.7	S19 06.9
	20	80 07.6	127 05.0	S18 32.2	35 38.8	N18 18.3	125 21.2	S17 40.2	131 18.9	S19 06.8
	21	95 10.1	142 04.3	S18 31.4	50 39.8	N18 18.7	140 23.0	S17 40.0	146 21.1	S19 06.7
	22	110 12.5	157 03.6	S18 30.7	65 40.9	N18 19.1	155 24.9	S17 39.9	161 23.2	S19 06.7
	23	125 15.0	172 02.8	S18 29.9	80 42.0	N18 19.5	170 26.8	S17 39.7	176 25.4	S19 06.6
10	0	140 17.4	187 02.1	S18 29.1	95 43.1	N18 19.9	185 28.6	S17 39.6	191 27.6	S19 06.5
	1	155 19.9	202 01.4	S18 28.3	110 44.1	N18 20.3	200 30.5	S17 39.4	206 29.7	S19 06.4
	2	170 22.4	217 00.6	S18 27.5	125 45.2	N18 20.7	215 32.4	S17 39.2	221 31.9	S19 06.4
	3	185 24.8	231 59.9	S18 26.8	140 46.3	N18 21.1	230 34.2	S17 39.1	236 34.1	S19 06.3
	4	200 27.3	246 59.2	S18 26.0	155 47.4	N18 21.5	245 36.1	S17 38.9	251 36.2	S19 06.2
W	5	215 29.8	261 58.4	S18 25.2	170 48.4	N18 21.9	260 38.0	S17 38.7	266 38.4	S19 06.2
E										
D	6	230 32.2	276 57.7	S18 24.4	185 49.5	N18 22.4	275 39.8	S17 38.6	281 40.5	S19 06.1
N	7	245 34.7	291 57.0	S18 23.6	200 50.6	N18 22.8	290 41.7	S17 38.4	296 42.7	S19 06.0
E	8	260 37.2	306 56.2	S18 22.8	215 51.7	N18 23.2	305 43.6	S17 38.3	311 44.9	S19 06.0
S	9	275 39.6	321 55.5	S18 22.0	230 52.7	N18 23.6	320 45.4	S17 38.1	326 47.0	S19 05.9
D	10	290 42.1	336 54.8	S18 21.3	245 53.8	N18 24.0	335 47.3	S17 37.9	341 49.2	S19 05.8
A	11	305 44.6	351 54.0	S18 20.5	260 54.9	N18 24.4	350 49.2	S17 37.8	356 51.4	S19 05.8
Y										
	12	320 47.0	6 53.3	S18 19.7	275 56.0	N18 24.8	5 51.0	S17 37.6	11 53.5	S19 05.7
	13	335 49.5	21 52.6	S18 18.9	290 57.0	N18 25.2	20 52.9	S17 37.5	26 55.7	S19 05.6
	14	350 51.9	36 51.9	S18 18.1	305 58.1	N18 25.6	35 54.8	S17 37.3	41 57.9	S19 05.5
	15	5 54.4	51 51.1	S18 17.3	320 59.2	N18 26.0	50 56.7	S17 37.1	57 00.0	S19 05.5
	16	20 56.9	66 50.4	S18 16.5	336 00.3	N18 26.4	65 58.5	S17 37.0	72 02.2	S19 05.4
	17	35 59.3	81 49.7	S18 15.7	351 01.3	N18 26.8	81 00.4	S17 36.8	87 04.4	S19 05.3
	18	51 01.8	96 49.0	S18 14.9	6 02.4	N18 27.2	96 02.3	S17 36.6	102 06.5	S19 05.3
	19	66 04.3	111 48.2	S18 14.1	21 03.5	N18 27.6	111 04.1	S17 36.5	117 08.7	S19 05.2
	20	81 06.7	126 47.5	S18 13.3	36 04.5	N18 28.0	126 06.0	S17 36.3	132 10.9	S19 05.1
	21	96 09.2	141 46.8	S18 12.5	51 05.6	N18 28.4	141 07.9	S17 36.2	147 13.0	S19 05.1
	22	111 11.7	156 46.1	S18 11.7	66 06.7	N18 28.8	156 09.7	S17 36.0	162 15.2	S19 05.0
	23	126 14.1	171 45.3	S18 10.9	81 07.7	N18 29.2	171 11.6	S17 35.8	177 17.4	S19 04.9
11	0	141 16.6	186 44.6	S18 10.1	96 08.8	N18 29.6	186 13.5	S17 35.7	192 19.5	S19 04.9
	1	156 19.1	201 43.9	S18 09.3	111 09.9	N18 30.0	201 15.3	S17 35.5	207 21.7	S19 04.8
	2	171 21.5	216 43.2	S18 08.5	126 11.0	N18 30.4	216 17.2	S17 35.3	222 23.9	S19 04.7
	3	186 24.0	231 42.4	S18 07.7	141 12.0	N18 30.8	231 19.1	S17 35.2	237 26.0	S19 04.6
	4	201 26.4	246 41.7	S18 06.9	156 13.1	N18 31.2	246 20.9	S17 35.0	252 28.2	S19 04.6
T	5	216 28.9	261 41.0	S18 06.1	171 14.2	N18 31.6	261 22.8	S17 34.9	267 30.4	S19 04.5
H										
U	6	231 31.4	276 40.3	S18 05.3	186 15.2	N18 32.0	276 24.7	S17 34.7	282 32.5	S19 04.4
R	7	246 33.8	291 39.6	S18 04.5	201 16.3	N18 32.4	291 26.6	S17 34.5	297 34.7	S19 04.4
S	8	261 36.3	306 38.8	S18 03.7	216 17.4	N18 32.8	306 28.4	S17 34.4	312 36.9	S19 04.3
D	9	276 38.8	321 38.1	S18 02.9	231 18.4	N18 33.2	321 30.3	S17 34.2	327 39.0	S19 04.2
A	10	291 41.2	336 37.4	S18 02.1	246 19.5	N18 33.6	336 32.2	S17 34.0	342 41.2	S19 04.2
Y	11	306 43.7	351 36.7	S18 01.3	261 20.6	N18 34.0	351 34.0	S17 33.9	357 43.4	S19 04.1
	12	321 46.2	6 36.0	S18 00.4	276 21.6	N18 34.5	6 35.9	S17 33.7	12 45.5	S19 04.0
	13	336 48.6	21 35.3	S17 59.6	291 22.7	N18 34.9	21 37.8	S17 33.6	27 47.7	S19 04.0
	14	351 51.1	36 34.5	S17 58.8	306 23.8	N18 35.3	36 39.6	S17 33.4	42 49.8	S19 03.9
	15	6 53.5	51 33.8	S17 58.0	321 24.8	N18 35.7	51 41.5	S17 33.2	57 52.0	S19 03.8
	16	21 56.0	66 33.1	S17 57.2	336 25.9	N18 36.1	66 43.4	S17 33.1	72 54.2	S19 03.7
	17	36 58.5	81 32.4	S17 56.4	351 26.9	N18 36.5	81 45.2	S17 32.9	87 56.3	S19 03.7
	18	52 00.9	96 31.7	S17 55.6	6 28.0	N18 36.9	96 47.1	S17 32.7	102 58.5	S19 03.6
	19	67 03.4	111 31.0	S17 54.7	21 29.1	N18 37.3	111 49.0	S17 32.6	118 00.7	S19 03.5
	20	82 05.9	126 30.3	S17 53.9	36 30.1	N18 37.7	126 50.9	S17 32.4	133 02.8	S19 03.5
	21	97 08.3	141 29.6	S17 53.1	51 31.2	N18 38.1	141 52.7	S17 32.3	148 05.0	S19 03.4
	22	112 10.8	156 28.8	S17 52.3	66 32.3	N18 38.5	156 54.6	S17 32.1	163 07.2	S19 03.3
	23	127 13.3	171 28.1	S17 51.5	81 33.3	N18 38.9	171 56.5	S17 31.9	178 09.3	S19 03.3
			v -0.7	d 0.8	v 1.1	d 0.4	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
9	0	176 27.4	S14 40.3	212 05.1	5.6	S24 51.3	1.3	58.2
	1	191 27.4	S14 39.5	226 29.7	5.6	S24 49.8	1.4	58.2
	2	206 27.3	S14 38.7	240 54.3	5.7	S24 48.2	1.6	58.2
	3	221 27.3	S14 37.9	255 19.0	5.7	S24 46.5	1.8	58.2
	4	236 27.3	S14 37.1	269 43.8	5.7	S24 44.6	1.9	58.2
T	5	251 27.3	S14 36.2	284 08.5	5.8	S24 42.5	2.1	58.2
U								
E	6	266 27.3	S14 35.4	298 33.3	5.8	S24 40.3	2.2	58.1
S	7	281 27.3	S14 34.6	312 58.2	5.8	S24 37.9	2.4	58.1
D	8	296 27.2	S14 33.8	327 23.1	5.9	S24 35.3	2.5	58.1
A	9	311 27.2	S14 33.0	341 48.0	5.9	S24 32.7	2.7	58.1
Y	10	326 27.2	S14 32.2	356 13.0	6.0	S24 29.8	2.8	58.1
	11	341 27.2	S14 31.4	10 38.0	6.0	S24 26.8	3.0	58.1
	12	356 27.2	S14 30.6	25 03.1	6.1	S24 23.7	3.1	58.0
	13	11 27.2	S14 29.8	39 28.2	6.1	S24 20.4	3.3	58.0
	14	26 27.2	S14 29.0	53 53.4	6.2	S24 16.9	3.4	58.0
	15	41 27.1	S14 28.2	68 18.7	6.2	S24 13.3	3.6	58.0
	16	56 27.1	S14 27.4	82 44.0	6.3	S24 09.6	3.7	58.0
	17	71 27.1	S14 26.6	97 09.4	6.4	S24 05.7	3.9	58.0
	18	86 27.1	S14 25.7	111 34.8	6.4	S24 01.6	4.0	57.9
	19	101 27.1	S14 24.9	126 00.3	6.5	S23 57.4	4.2	57.9
	20	116 27.1	S14 24.1	140 25.8	6.5	S23 53.1	4.3	57.9
	21	131 27.1	S14 23.3	154 51.4	6.6	S23 48.6	4.5	57.9
	22	146 27.1	S14 22.5	169 17.1	6.7	S23 44.0	4.6	57.9
	23	161 27.0	S14 21.7	183 42.8	6.7	S23 39.2	4.8	57.8
10	0	176 27.0	S14 20.9	198 08.6	6.8	S23 34.3	4.9	57.8
	1	191 27.0	S14 20.1	212 34.5	6.9	S23 29.3	5.0	57.8
	2	206 27.0	S14 19.3	227 00.5	6.9	S23 24.1	5.2	57.8
	3	221 27.0	S14 18.4	241 26.5	7.0	S23 18.8	5.3	57.8
	4	236 27.0	S14 17.6	255 52.6	7.1	S23 13.3	5.5	57.7
W	5	251 27.0	S14 16.8	270 18.7	7.2	S23 07.7	5.6	57.7
E								
D	6	266 27.0	S14 16.0	284 45.0	7.2	S23 02.0	5.7	57.7
N	7	281 27.0	S14 15.2	299 11.3	7.3	S22 56.1	5.9	57.7
E	8	296 27.0	S14 14.4	313 37.7	7.4	S22 50.1	6.0	57.7
S	9	311 27.0	S14 13.5	328 04.2	7.5	S22 44.0	6.1	57.6
D	10	326 27.0	S14 12.7	342 30.7	7.5	S22 37.7	6.3	57.6
A	11	341 26.9	S14 11.9	356 57.3	7.6	S22 31.3	6.4	57.6
Y								
	12	356 26.9	S14 11.1	11 24.0	7.7	S22 24.8	6.5	57.6
	13	11 26.9	S14 10.3	25 50.8	7.8	S22 18.2	6.6	57.6
	14	26 26.9	S14 09.5	40 17.7	7.9	S22 11.4	6.8	57.5
	15	41 26.9	S14 08.6	54 44.7	8.0	S22 04.5	6.9	57.5
	16	56 26.9	S14 07.8	69 11.7	8.0	S21 57.5	7.0	57.5
	17	71 26.9	S14 07.0	83 38.8	8.1	S21 50.4	7.1	57.5
	18	86 26.9	S14 06.2	98 06.0	8.2	S21 43.1	7.3	57.4
	19	101 26.9	S14 05.4	112 33.3	8.3	S21 35.7	7.4	57.4
	20	116 26.9	S14 04.5	127 00.7	8.4	S21 28.2	7.5	57.4
	21	131 26.9	S14 03.7	141 28.1	8.5	S21 20.6	7.6	57.4
	22	146 26.9	S14 02.9	155 55.7	8.5	S21 12.9	7.7	57.4
	23	161 26.9	S14 02.1	170 23.3	8.6	S21 05.1	7.8	57.3
11	0	176 26.9	S14 01.3	184 51.0	8.7	S20 57.1	8.0	57.3
	1	191 26.9	S14 00.4	199 18.9	8.8	S20 49.0	8.1	57.3
	2	206 26.9	S13 59.6	213 46.8	8.9	S20 40.9	8.2	57.3
	3	221 26.9	S13 58.8	228 14.7	9.0	S20 32.6	8.3	57.2
	4	236 26.9	S13 58.0	242 42.8	9.1	S20 24.2	8.4	57.2
T	5	251 26.9	S13 57.1	257 11.0	9.2	S20 15.7	8.5	57.2
H								
U	6	266 26.9	S13 56.3	271 39.2	9.3	S20 07.1	8.6	57.2
R	7	281 26.9	S13 55.5	286 07.6	9.3	S19 58.4	8.7	57.2
S	8	296 26.9	S13 54.7	300 36.0	9.4	S19 49.6	8.8	57.1
D	9	311 26.9	S13 53.8	315 04.5	9.5	S19 40.7	8.9	57.1
A	10	326 26.9	S13 53.0	329 33.2	9.6	S19 31.7	9.0	57.1
Y	11	341 26.9	S13 52.2	344 01.9	9.7	S19 22.5	9.1	57.1
	12	356 26.9	S13 51.4	358 30.7	9.8	S19 13.3	9.2	57.0
	13	11 26.9	S13 50.5	12 59.5	9.9	S19 04.0	9.3	57.0
	14	26 26.9	S13 49.7	27 28.5	10.0	S18 54.7	9.4	57.0
	15	41 26.9	S13 48.9	41 57.6	10.1	S18 45.2	9.5	57.0
	16	56 26.9	S13 48.0	56 26.7	10.2	S18 35.6	9.6	57.0
	17	71 26.9	S13 47.2	70 56.0	10.2	S18 25.9	9.7	56.9
	18	86 26.9	S13 46.4	85 25.3	10.3	S18 16.2	9.8	56.9
	19	101 26.9	S13 45.6	99 54.7	10.4	S18 06.3	9.8	56.9
	20	116 26.9	S13 44.7	114 24.2	10.5	S17 56.4	9.9	56.9
	21	131 26.9	S13 43.9	128 53.8	10.6	S17 46.4	10.0	56.8
	22	146 26.9	S13 43.1	143 23.5	10.7	S17 36.3	10.1	56.8
	23	161 26.9	S13 42.2	157 53.3	10.8	S17 26.1	10.2	56.8
		S.D. 16.2	d 0.8	S.D. 15.8		15.7		15.5

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.6
Achernar	335 22.9	S57 08.2
Acrux	173 03.0	S63 12.7
Adhara	255 08.0	S29 00.2
Albireo	67 06.9	N28 00.1
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.5	N55 50.6
Alkaid	152 54.4	N49 12.3
Al Na-ir	27 37.4	S46 51.7
Alnilam	275 40.7	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.5	N26 38.5
Alpheratz	357 38.3	N29 12.4
Altair	62 03.3	N 8 55.3
Ankaa	353 10.6	S42 11.9
Antares	112 19.8	S26 28.6
Arcturus	145 50.7	N19 04.2
Atria	107 17.2	S69 03.6
Avior	234 15.3	S59 34.7
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.5
Canopus	263 53.4	S52 42.7
Capella	280 26.3	N46 01.2
Castor	246 00.7	N31 50.5
Deneb	49 28.4	N45 21.2
Denebola	182 27.9	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.4	N61 38.1
Elnath	278 05.7	N28 37.5
Eltanin	90 44.0	N51 28.9
Enif	33 42.2	N 9 58.1
Fomalhaut	15 18.4	S29 30.9
Gacrux	171 54.7	S57 13.6
Gienah	175 46.6	S17 39.5
Hadar	148 40.3	S60 28.2
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 37.0	S34 22.4
Kochab	137 19.9	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.2	S36 28.3
Miaplacidus	221 37.8	S69 48.2
Mirfak	308 32.8	N49 56.3
Nunki	75 52.0	S26 16.2
Peacock	53 11.3	S56 40.1
Polaris	317 30.0	N89 20.6
Pollux	243 20.8	N27 58.5
Procyon	244 53.8	N 5 10.2
Rasalhague	96 01.7	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.7	S 8 10.8
Rigil Kent	139 44.6	S60 55.0
Sabik	102 06.6	S15 45.0
Schedar	349 34.9	N56 39.2
Shaula	96 14.9	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.5	S11 16.2
Suhail	222 48.1	S43 31.1
Vega	80 35.7	N38 48.0
Zuben-ubi	137 00.2	S16 07.7

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
12	0	142 15.7	186 27.4	S17 50.6	96 34.4	N18 39.3	186 58.3	S17 31.8	193 11.5	S19 03.2
	1	157 18.2	201 26.7	S17 49.8	111 35.5	N18 39.7	202 00.2	S17 31.6	208 13.7	S19 03.1
	2	172 20.7	216 26.0	S17 49.0	126 36.5	N18 40.1	217 02.1	S17 31.4	223 15.8	S19 03.1
	3	187 23.1	231 25.3	S17 48.2	141 37.6	N18 40.5	232 03.9	S17 31.3	238 18.0	S19 03.0
	4	202 25.6	246 24.6	S17 47.3	156 38.6	N18 40.9	247 05.8	S17 31.1	253 20.2	S19 02.9
F	5	217 28.0	261 23.9	S17 46.5	171 39.7	N18 41.3	262 07.7	S17 31.0	268 22.3	S19 02.8
R										
I	6	232 30.5	276 23.2	S17 45.7	186 40.8	N18 41.7	277 09.6	S17 30.8	283 24.5	S19 02.8
D	7	247 33.0	291 22.5	S17 44.8	201 41.8	N18 42.1	292 11.4	S17 30.6	298 26.7	S19 02.7
A	8	262 35.4	306 21.8	S17 44.0	216 42.9	N18 42.5	307 13.3	S17 30.5	313 28.8	S19 02.6
Y	9	277 37.9	321 21.1	S17 43.2	231 43.9	N18 42.9	322 15.2	S17 30.3	328 31.0	S19 02.6
	10	292 40.4	336 20.4	S17 42.4	246 45.0	N18 43.2	337 17.0	S17 30.1	343 33.2	S19 02.5
	11	307 42.8	351 19.6	S17 41.5	261 46.1	N18 43.6	352 18.9	S17 30.0	358 35.4	S19 02.4
	12	322 45.3	6 18.9	S17 40.7	276 47.1	N18 44.0	7 20.8	S17 29.8	13 37.5	S19 02.4
	13	337 47.8	21 18.2	S17 39.9	291 48.2	N18 44.4	22 22.7	S17 29.7	28 39.7	S19 02.3
	14	352 50.2	36 17.5	S17 39.0	306 49.2	N18 44.8	37 24.5	S17 29.5	43 41.9	S19 02.2
	15	7 52.7	51 16.8	S17 38.2	321 50.3	N18 45.2	52 26.4	S17 29.3	58 44.0	S19 02.2
	16	22 55.2	66 16.1	S17 37.3	336 51.3	N18 45.6	67 28.3	S17 29.2	73 46.2	S19 02.1
	17	37 57.6	81 15.4	S17 36.5	351 52.4	N18 46.0	82 30.1	S17 29.0	88 48.4	S19 02.0
	18	53 00.1	96 14.7	S17 35.7	6 53.5	N18 46.4	97 32.0	S17 28.8	103 50.5	S19 01.9
	19	68 02.5	111 14.0	S17 34.8	21 54.5	N18 46.8	112 33.9	S17 28.7	118 52.7	S19 01.9
	20	83 05.0	126 13.3	S17 34.0	36 55.6	N18 47.2	127 35.7	S17 28.5	133 54.9	S19 01.8
	21	98 07.5	141 12.6	S17 33.2	51 56.6	N18 47.6	142 37.6	S17 28.4	148 57.0	S19 01.7
	22	113 09.9	156 11.9	S17 32.3	66 57.7	N18 48.0	157 39.5	S17 28.2	163 59.2	S19 01.7
	23	128 12.4	171 11.2	S17 31.5	81 58.7	N18 48.4	172 41.4	S17 28.0	179 01.4	S19 01.6
13	0	143 14.9	186 10.5	S17 30.6	96 59.8	N18 48.8	187 43.2	S17 27.9	194 03.5	S19 01.5
	1	158 17.3	201 09.8	S17 29.8	112 00.9	N18 49.2	202 45.1	S17 27.7	209 05.7	S19 01.5
	2	173 19.8	216 09.1	S17 28.9	127 01.9	N18 49.6	217 47.0	S17 27.5	224 07.9	S19 01.4
	3	188 22.3	231 08.4	S17 28.1	142 03.0	N18 50.0	232 48.8	S17 27.4	239 10.0	S19 01.3
	4	203 24.7	246 07.7	S17 27.2	157 04.0	N18 50.4	247 50.7	S17 27.2	254 12.2	S19 01.3
S	5	218 27.2	261 07.1	S17 26.4	172 05.1	N18 50.8	262 52.6	S17 27.1	269 14.4	S19 01.2
A										
T	6	233 29.6	276 06.4	S17 25.5	187 06.1	N18 51.2	277 54.5	S17 26.9	284 16.5	S19 01.1
U	7	248 32.1	291 05.7	S17 24.7	202 07.2	N18 51.6	292 56.3	S17 26.7	299 18.7	S19 01.0
R	8	263 34.6	306 05.0	S17 23.8	217 08.2	N18 52.0	307 58.2	S17 26.6	314 20.9	S19 01.0
D	9	278 37.0	321 04.3	S17 23.0	232 09.3	N18 52.4	323 00.1	S17 26.4	329 23.0	S19 00.9
A	10	293 39.5	336 03.6	S17 22.1	247 10.3	N18 52.8	338 01.9	S17 26.2	344 25.2	S19 00.8
Y	11	308 42.0	351 02.9	S17 21.3	262 11.4	N18 53.2	353 03.8	S17 26.1	359 27.4	S19 00.8
	12	323 44.4	6 02.2	S17 20.4	277 12.4	N18 53.6	8 05.7	S17 25.9	14 29.5	S19 00.7
	13	338 46.9	21 01.5	S17 19.6	292 13.5	N18 54.0	23 07.6	S17 25.7	29 31.7	S19 00.6
	14	353 49.4	36 00.8	S17 18.7	307 14.5	N18 54.4	38 09.4	S17 25.6	44 33.9	S19 00.6
	15	8 51.8	51 00.1	S17 17.9	322 15.6	N18 54.7	53 11.3	S17 25.4	59 36.0	S19 00.5
	16	23 54.3	65 59.4	S17 17.0	337 16.6	N18 55.1	68 13.2	S17 25.3	74 38.2	S19 00.4
	17	38 56.8	80 58.8	S17 16.2	352 17.7	N18 55.5	83 15.1	S17 25.1	89 40.4	S19 00.4
	18	53 59.2	95 58.1	S17 15.3	7 18.7	N18 55.9	98 16.9	S17 24.9	104 42.6	S19 00.3
	19	69 01.7	110 57.4	S17 14.4	22 19.8	N18 56.3	113 18.8	S17 24.8	119 44.7	S19 00.2
	20	84 04.1	125 56.7	S17 13.6	37 20.8	N18 56.7	128 20.7	S17 24.6	134 46.9	S19 00.1
	21	99 06.6	140 56.0	S17 12.7	52 21.9	N18 57.1	143 22.5	S17 24.4	149 49.1	S19 00.1
	22	114 09.1	155 55.3	S17 11.8	67 22.9	N18 57.5	158 24.4	S17 24.3	164 51.2	S19 00.0
	23	129 11.5	170 54.6	S17 11.0	82 24.0	N18 57.9	173 26.3	S17 24.1	179 53.4	S18 59.9
14	0	144 14.0	185 53.9	S17 10.1	97 25.0	N18 58.3	188 28.2	S17 24.0	194 55.6	S18 59.9
	1	159 16.5	200 53.3	S17 09.3	112 26.1	N18 58.7	203 30.0	S17 23.8	209 57.7	S18 59.8
	2	174 18.9	215 52.6	S17 08.4	127 27.1	N18 59.1	218 31.9	S17 23.6	224 59.9	S18 59.7
	3	189 21.4	230 51.9	S17 07.5	142 28.2	N18 59.5	233 33.8	S17 23.5	240 02.1	S18 59.7
	4	204 23.9	245 51.2	S17 06.7	157 29.2	N18 59.9	248 35.6	S17 23.3	255 04.2	S18 59.6
S	5	219 26.3	260 50.5	S17 05.8	172 30.3	N19 00.3	263 37.5	S17 23.1	270 06.4	S18 59.5
U										
N	6	234 28.8	275 49.8	S17 04.9	187 31.3	N19 00.7	278 39.4	S17 23.0	285 08.6	S18 59.5
D	7	249 31.2	290 49.2	S17 04.0	202 32.4	N19 01.0	293 41.3	S17 22.8	300 10.8	S18 59.4
A	8	264 33.7	305 48.5	S17 03.2	217 33.4	N19 01.4	308 43.1	S17 22.6	315 12.9	S18 59.3
Y	9	279 36.2	320 47.8	S17 02.3	232 34.5	N19 01.8	323 45.0	S17 22.5	330 15.1	S18 59.3
	10	294 38.6	335 47.1	S17 01.4	247 35.5	N19 02.2	338 46.9	S17 22.3	345 17.3	S18 59.2
	11	309 41.1	350 46.4	S17 00.6	262 36.6	N19 02.6	353 48.8	S17 22.2	0 19.4	S18 59.1
	12	324 43.6	5 45.8	S16 59.7	277 37.6	N19 03.0	8 50.6	S17 22.0	15 21.6	S18 59.0
	13	339 46.0	20 45.1	S16 58.8	292 38.7	N19 03.4	23 52.5	S17 21.8	30 23.8	S18 59.0
	14	354 48.5	35 44.4	S16 57.9	307 39.7	N19 03.8	38 54.4	S17 21.7	45 25.9	S18 58.9
	15	9 51.0	50 43.7	S16 57.1	322 40.7	N19 04.2	53 56.2	S17 21.5	60 28.1	S18 58.8
	16	24 53.4	65 43.1	S16 56.2	337 41.8	N19 04.6	68 58.1	S17 21.3	75 30.3	S18 58.8
	17	39 55.9	80 42.4	S16 55.3	352 42.8	N19 05.0	83 60.0	S17 21.2	90 32.4	S18 58.7
	18	54 58.4	95 41.7	S16 54.4	7 43.9	N19 05.3	99 01.9	S17 21.0	105 34.6	S18 58.6
	19	70 00.8	110 41.0	S16 53.5	22 44.9	N19 05.7	114 03.7	S17 20.8	120 36.8	S18 58.6
	20	85 03.3	125 40.3	S16 52.7	37 46.0	N19 06.1	129 05.6	S17 20.7	135 39.0	S18 58.5
	21	100 05.7	140 39.7	S16 51.8	52 47.0	N19 06.5	144 07.5	S17 20.5	150 41.1	S18 58.4
	22	115 08.2	155 39.0	S16 50.9	67 48.0	N19 06.9	159 09.4	S17 20.4	165 43.3	S18 58.4
	23	130 10.7	170 38.3	S16 50.0	82 49.1	N19 07.3	174 11.2	S17 20.2	180 45.5	S18 58.3
			v -0.7	d 0.9	v 1.1	d 0.4	v 1.9	d 0.2	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 26.9	S13 41.4	172 23.2	10.9	S17 15.9	10.3	56.8
	1	191 26.9	S13 40.6	186 53.1	11.0	S17 05.5	10.3	56.7
	2	206 26.9	S13 39.7	201 23.2	11.0	S16 55.1	10.4	56.7
	3	221 26.9	S13 38.9	215 53.3	11.1	S16 44.6	10.5	56.7
	4	236 27.0	S13 38.1	230 23.5	11.2	S16 34.1	10.6	56.7
F	5	251 27.0	S13 37.2	244 53.8	11.3	S16 23.4	10.6	56.6
R								
I	6	266 27.0	S13 36.4	259 24.2	11.4	S16 12.7	10.7	56.6
D	7	281 27.0	S13 35.6	273 54.7	11.5	S16 01.9	10.8	56.6
A	8	296 27.0	S13 34.7	288 25.3	11.6	S15 51.1	10.9	56.6
Y	9	311 27.0	S13 33.9	302 55.9	11.7	S15 40.2	10.9	56.5
	10	326 27.0	S13 33.1	317 26.7	11.7	S15 29.2	11.0	56.5
	11	341 27.0	S13 32.2	331 57.5	11.8	S15 18.1	11.1	56.5
	12	356 27.0	S13 31.4	346 28.4	11.9	S15 07.0	11.1	56.5
	13	11 27.0	S13 30.5	0 59.4	12.0	S14 55.8	11.2	56.5
	14	26 27.0	S13 29.7	15 30.4	12.1	S14 44.6	11.2	56.4
	15	41 27.0	S13 28.9	30 01.6	12.2	S14 33.3	11.3	56.4
	16	56 27.1	S13 28.0	44 32.8	12.2	S14 21.9	11.4	56.4
	17	71 27.1	S13 27.2	59 04.1	12.3	S14 10.5	11.4	56.4
	18	86 27.1	S13 26.4	73 35.5	12.4	S13 59.0	11.5	56.3
	19	101 27.1	S13 25.5	88 07.0	12.5	S13 47.5	11.5	56.3
	20	116 27.1	S13 24.7	102 38.6	12.6	S13 35.9	11.6	56.3
	21	131 27.1	S13 23.8	117 10.2	12.6	S13 24.2	11.6	56.3
	22	146 27.1	S13 23.0	131 41.9	12.7	S13 12.5	11.7	56.2
	23	161 27.1	S13 22.2	146 13.7	12.8	S13 00.8	11.7	56.2
13	0	176 27.2	S13 21.3	160 45.5	12.9	S12 49.0	11.8	56.2
	1	191 27.2	S13 20.5	175 17.5	12.9	S12 37.1	11.8	56.2
	2	206 27.2	S13 19.6	189 49.5	13.0	S12 25.3	11.9	56.1
	3	221 27.2	S13 18.8	204 21.6	13.1	S12 13.3	11.9	56.1
	4	236 27.2	S13 17.9	218 53.7	13.2	S12 01.3	12.0	56.1
S	5	251 27.2	S13 17.1	233 26.0	13.2	S11 49.3	12.0	56.1
A								
T	6	266 27.2	S13 16.3	247 58.3	13.3	S11 37.2	12.1	56.0
U	7	281 27.3	S13 15.4	262 30.6	13.4	S11 25.1	12.1	56.0
R	8	296 27.3	S13 14.6	277 03.1	13.4	S11 13.0	12.2	56.0
D	9	311 27.3	S13 13.7	291 35.6	13.5	S11 00.8	12.2	56.0
A	10	326 27.3	S13 12.9	306 08.2	13.6	S10 48.5	12.2	55.9
Y	11	341 27.3	S13 12.0	320 40.8	13.6	S10 36.3	12.3	55.9
	12	356 27.3	S13 11.2	335 13.5	13.7	S10 24.0	12.3	55.9
	13	11 27.4	S13 10.3	349 46.3	13.8	S10 11.6	12.3	55.9
	14	26 27.4	S13 09.5	4 19.1	13.8	S 9 59.3	12.4	55.9
	15	41 27.4	S13 08.6	18 52.1	13.9	S 9 46.9	12.4	55.8
	16	56 27.4	S13 07.8	33 25.0	14.0	S 9 34.4	12.4	55.8
	17	71 27.4	S13 07.0	47 58.1	14.0	S 9 22.0	12.5	55.8
	18	86 27.5	S13 06.1	62 31.2	14.1	S 9 09.5	12.5	55.8
	19	101 27.5	S13 05.3	77 04.3	14.2	S 8 56.9	12.5	55.7
	20	116 27.5	S13 04.4	91 37.5	14.2	S 8 44.4	12.6	55.7
	21	131 27.5	S13 03.6	106 10.8	14.3	S 8 31.8	12.6	55.7
	22	146 27.5	S13 02.7	120 44.2	14.3	S 8 19.2	12.6	55.7
	23	161 27.6	S13 01.9	135 17.5	14.4	S 8 06.6	12.6	55.6
14	0	176 27.6	S13 01.0	149 51.0	14.4	S 7 53.9	12.7	55.6
	1	191 27.6	S13 00.2	164 24.5	14.5	S 7 41.2	12.7	55.6
	2	206 27.6	S12 59.3	178 58.1	14.6	S 7 28.5	12.7	55.6
	3	221 27.6	S12 58.5	193 31.7	14.6	S 7 15.8	12.7	55.6
	4	236 27.7	S12 57.6	208 05.3	14.7	S 7 03.1	12.7	55.5
S	5	251 27.7	S12 56.8	222 39.1	14.7	S 6 50.3	12.8	55.5
U								
N	6	266 27.7	S12 55.9	237 12.8	14.8	S 6 37.6	12.8	55.5
D	7	281 27.7	S12 55.0	251 46.6	14.8	S 6 24.8	12.8	55.5
A	8	296 27.8	S12 54.2	266 20.5	14.9	S 6 12.0	12.8	55.4
Y	9	311 27.8	S12 53.3	280 54.4	14.9	S 5 59.2	12.8	55.4
	10	326 27.8	S12 52.5	295 28.4	15.0	S 5 46.3	12.8	55.4
	11	341 27.8	S12 51.6	310 02.4	15.0	S 5 33.5	12.8	55.4
	12	356 27.9	S12 50.8	324 36.4	15.1	S 5 20.6	12.9	55.4
	13	11 27.9	S12 49.9	339 10.5	15.1	S 5 07.7	12.9	55.3
	14	26 27.9	S12 49.1	353 44.7	15.1	S 4 54.9	12.9	55.3
	15	41 27.9	S12 48.2	8 18.9	15.2	S 4 42.0	12.9	55.3
	16	56 28.0	S12 47.4	22 53.1	15.2	S 4 29.1	12.9	55.3
	17	71 28.0	S12 46.5	37 27.4	15.3	S 4 16.2	12.9	55.3
	18	86 28.0	S12 45.6	52 01.7	15.3	S 4 03.3	12.9	55.2
	19	101 28.0	S12 44.8	66 36.0	15.3	S 3 50.3	12.9	55.2
	20	116 28.1	S12 43.9	81 10.4	15.4	S 3 37.4	12.9	55.2
	21	131 28.1	S12 43.1	95 44.8	15.4	S 3 24.5	12.9	55.2
	22	146 28.1	S12 42.2	110 19.3	15.5	S 3 11.6	12.9	55.1
	23	161 28.2	S12 41.4	124 53.8	15.5	S 2 58.6	12.9	55.1
		S.D. 16.2	d 0.8	S.D.	15.4	15.2	15.1	

Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.6
Achernar	335 22.9	S57 08.2
Acrux	173 03.0	S63 12.7
Adhara	255 08.0	S29 00.2
Albireo	67 06.9	N28 00.0
Aldebaran	290 43.1	N16 33.0
Alioth	166 15.4	N55 50.6
Alkaid	152 54.3	N49 12.3
Al Na-ir	27 37.4	S46 51.7
Alnilam	275 40.7	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.4	N26 38.4
Alpheratz	357 38.3	N29 12.4
Altair	62 03.3	N 8 55.3
Ankaa	353 10.6	S42 11.8
Antares	112 19.8	S26 28.6
Arcturus	145 50.7	N19 04.2
Atria	107 17.1	S69 03.6
Avior	234 15.3	S59 34.7
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.5
Canopus	263 53.4	S52 42.7
Capella	280 26.3	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.3	N45 21.2
Denebola	182 27.9	N14 27.2
Diphda	348 50.7	S17 52.5
Dubhe	193 44.3	N61 38.1
Elnath	278 05.7	N28 37.5
Eltanin	90 44.0	N51 28.9
Enif	33 42.2	N 9 58.1
Fomalhaut	15 18.4	S29 30.9
Gacrux	171 54.7	S57 13.7
Gienah	175 46.6	S17 39.5
Hadar	148 40.2	S60 28.2
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 37.0	S34 22.4
Kochab	137 19.8	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.2	S36 28.3
Miaplacidus	221 37.8	S69 48.2
Mirfak	308 32.8	N49 56.3
Nunki	75 52.0	S26 16.2
Peacock	53 11.3	S56 40.0
Polaris	317 31.3	N89 20.6
Pollux	243 20.8	N27 58.5
Procyon	244 53.8	N 5 10.2
Rasalhague	96 01.7	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.8	S 8 10.8
Rigil Kent	139 44.6	S60 55.0
Sabik	102 06.6	S15 45.1
Schedar	349 34.9	N56 39.2
Shaula	96 14.9	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.5	S11 16.2
Suhail	222 48.1	S43 31.1
Vega	80 35.6	N38 48.0
Zuben-ubi	137 00.2	S16 07.7

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
15	0	145 13.1	185 37.7	S16 49.1	97 50.1	N19 07.7	189 13.1	S17 20.0	195 47.6	S18 58.2
	1	160 15.6	200 37.0	S16 48.2	112 51.2	N19 08.1	204 15.0	S17 19.9	210 49.8	S18 58.1
	2	175 18.1	215 36.3	S16 47.4	127 52.2	N19 08.5	219 16.9	S17 19.7	225 52.0	S18 58.1
	3	190 20.5	230 35.6	S16 46.5	142 53.3	N19 08.9	234 18.7	S17 19.5	240 54.1	S18 58.0
	4	205 23.0	245 35.0	S16 45.6	157 54.3	N19 09.2	249 20.6	S17 19.4	255 56.3	S18 57.9
M	5	220 25.5	260 34.3	S16 44.7	172 55.3	N19 09.6	264 22.5	S17 19.2	270 58.5	S18 57.9
O										
N	6	235 27.9	275 33.6	S16 43.8	187 56.4	N19 10.0	279 24.4	S17 19.0	286 00.7	S18 57.8
D	7	250 30.4	290 33.0	S16 42.9	202 57.4	N19 10.4	294 26.2	S17 18.9	301 02.8	S18 57.7
A	8	265 32.9	305 32.3	S16 42.0	217 58.5	N19 10.8	309 28.1	S17 18.7	316 05.0	S18 57.7
Y	9	280 35.3	320 31.6	S16 41.1	232 59.5	N19 11.2	324 30.0	S17 18.6	331 07.2	S18 57.6
	10	295 37.8	335 31.0	S16 40.2	248 00.5	N19 11.6	339 31.8	S17 18.4	346 09.3	S18 57.5
	11	310 40.2	350 30.3	S16 39.4	263 01.6	N19 12.0	354 33.7	S17 18.2	1 11.5	S18 57.5
	12	325 42.7	5 29.6	S16 38.5	278 02.6	N19 12.4	9 35.6	S17 18.1	16 13.7	S18 57.4
	13	340 45.2	20 29.0	S16 37.6	293 03.7	N19 12.7	24 37.5	S17 17.9	31 15.8	S18 57.3
	14	355 47.6	35 28.3	S16 36.7	308 04.7	N19 13.1	39 39.3	S17 17.7	46 18.0	S18 57.3
	15	10 50.1	50 27.6	S16 35.8	323 05.7	N19 13.5	54 41.2	S17 17.6	61 20.2	S18 57.2
	16	25 52.6	65 27.0	S16 34.9	338 06.8	N19 13.9	69 43.1	S17 17.4	76 22.4	S18 57.1
	17	40 55.0	80 26.3	S16 34.0	353 07.8	N19 14.3	84 45.0	S17 17.2	91 24.5	S18 57.0
	18	55 57.5	95 25.6	S16 33.1	8 08.8	N19 14.7	99 46.8	S17 17.1	106 26.7	S18 57.0
	19	70 60.0	110 25.0	S16 32.2	23 09.9	N19 15.1	114 48.7	S17 16.9	121 28.9	S18 56.9
	20	86 02.4	125 24.3	S16 31.3	38 10.9	N19 15.5	129 50.6	S17 16.8	136 31.0	S18 56.8
	21	101 04.9	140 23.6	S16 30.4	53 12.0	N19 15.8	144 52.5	S17 16.6	151 33.2	S18 56.8
	22	116 07.3	155 23.0	S16 29.5	68 13.0	N19 16.2	159 54.3	S17 16.4	166 35.4	S18 56.7
	23	131 09.8	170 22.3	S16 28.6	83 14.0	N19 16.6	174 56.2	S17 16.3	181 37.6	S18 56.6
16	0	146 12.3	185 21.7	S16 27.7	98 15.1	N19 17.0	189 58.1	S17 16.1	196 39.7	S18 56.6
	1	161 14.7	200 21.0	S16 26.8	113 16.1	N19 17.4	204 60.0	S17 15.9	211 41.9	S18 56.5
	2	176 17.2	215 20.3	S16 25.9	128 17.1	N19 17.8	220 01.8	S17 15.8	226 44.1	S18 56.4
	3	191 19.7	230 19.7	S16 25.0	143 18.2	N19 18.2	235 03.7	S17 15.6	241 46.2	S18 56.4
	4	206 22.1	245 19.0	S16 24.0	158 19.2	N19 18.5	250 05.6	S17 15.4	256 48.4	S18 56.3
T	5	221 24.6	260 18.4	S16 23.1	173 20.2	N19 18.9	265 07.5	S17 15.3	271 50.6	S18 56.2
U										
E	6	236 27.1	275 17.7	S16 22.2	188 21.3	N19 19.3	280 09.3	S17 15.1	286 52.8	S18 56.1
S	7	251 29.5	290 17.1	S16 21.3	203 22.3	N19 19.7	295 11.2	S17 14.9	301 54.9	S18 56.1
D	8	266 32.0	305 16.4	S16 20.4	218 23.3	N19 20.1	310 13.1	S17 14.8	316 57.1	S18 56.0
A	9	281 34.5	320 15.7	S16 19.5	233 24.4	N19 20.5	325 15.0	S17 14.6	331 59.3	S18 55.9
Y	10	296 36.9	335 15.1	S16 18.6	248 25.4	N19 20.9	340 16.8	S17 14.5	347 01.4	S18 55.9
	11	311 39.4	350 14.4	S16 17.7	263 26.4	N19 21.2	355 18.7	S17 14.3	2 03.6	S18 55.8
	12	326 41.8	5 13.8	S16 16.8	278 27.5	N19 21.6	10 20.6	S17 14.1	17 05.8	S18 55.7
	13	341 44.3	20 13.1	S16 15.9	293 28.5	N19 22.0	25 22.5	S17 14.0	32 08.0	S18 55.7
	14	356 46.8	35 12.5	S16 14.9	308 29.5	N19 22.4	40 24.4	S17 13.8	47 10.1	S18 55.6
	15	11 49.2	50 11.8	S16 14.0	323 30.6	N19 22.8	55 26.2	S17 13.6	62 12.3	S18 55.5
	16	26 51.7	65 11.2	S16 13.1	338 31.6	N19 23.2	70 28.1	S17 13.5	77 14.5	S18 55.5
	17	41 54.2	80 10.5	S16 12.2	353 32.6	N19 23.6	85 30.0	S17 13.3	92 16.6	S18 55.4
	18	56 56.6	95 09.9	S16 11.3	8 33.7	N19 23.9	100 31.9	S17 13.1	107 18.8	S18 55.3
	19	71 59.1	110 09.2	S16 10.4	23 34.7	N19 24.3	115 33.7	S17 13.0	122 21.0	S18 55.3
	20	87 01.6	125 08.6	S16 09.4	38 35.7	N19 24.7	130 35.6	S17 12.8	137 23.2	S18 55.2
	21	102 04.0	140 07.9	S16 08.5	53 36.7	N19 25.1	145 37.5	S17 12.6	152 25.3	S18 55.1
	22	117 06.5	155 07.3	S16 07.6	68 37.8	N19 25.5	160 39.4	S17 12.5	167 27.5	S18 55.0
	23	132 08.9	170 06.6	S16 06.7	83 38.8	N19 25.9	175 41.2	S17 12.3	182 29.7	S18 55.0
17	0	147 11.4	185 06.0	S16 05.7	98 39.8	N19 26.2	190 43.1	S17 12.2	197 31.9	S18 54.9
	1	162 13.9	200 05.3	S16 04.8	113 40.9	N19 26.6	205 45.0	S17 12.0	212 34.0	S18 54.8
	2	177 16.3	215 04.7	S16 03.9	128 41.9	N19 27.0	220 46.9	S17 11.8	227 36.2	S18 54.8
	3	192 18.8	230 04.0	S16 03.0	143 42.9	N19 27.4	235 48.7	S17 11.7	242 38.4	S18 54.7
	4	207 21.3	245 03.4	S16 02.0	158 43.9	N19 27.8	250 50.6	S17 11.5	257 40.5	S18 54.6
W	5	222 23.7	260 02.7	S16 01.1	173 45.0	N19 28.1	265 52.5	S17 11.3	272 42.7	S18 54.6
E										
D	6	237 26.2	275 02.1	S16 00.2	188 46.0	N19 28.5	280 54.4	S17 11.2	287 44.9	S18 54.5
N	7	252 28.7	290 01.4	S15 59.3	203 47.0	N19 28.9	295 56.3	S17 11.0	302 47.1	S18 54.4
E	8	267 31.1	305 00.8	S15 58.3	218 48.1	N19 29.3	310 58.1	S17 10.8	317 49.2	S18 54.4
S	9	282 33.6	320 00.2	S15 57.4	233 49.1	N19 29.7	326 00.0	S17 10.7	332 51.4	S18 54.3
D	10	297 36.1	334 59.5	S15 56.5	248 50.1	N19 30.1	341 01.9	S17 10.5	347 53.6	S18 54.2
A	11	312 38.5	349 58.9	S15 55.5	263 51.1	N19 30.4	356 03.8	S17 10.3	2 55.8	S18 54.2
Y										
	12	327 41.0	4 58.2	S15 54.6	278 52.2	N19 30.8	11 05.6	S17 10.2	17 57.9	S18 54.1
	13	342 43.4	19 57.6	S15 53.7	293 53.2	N19 31.2	26 07.5	S17 10.0	33 00.1	S18 54.0
	14	357 45.9	34 56.9	S15 52.8	308 54.2	N19 31.6	41 09.4	S17 09.9	48 02.3	S18 54.0
	15	12 48.4	49 56.3	S15 51.8	323 55.2	N19 32.0	56 11.3	S17 09.7	63 04.4	S18 53.9
	16	27 50.8	64 55.7	S15 50.9	338 56.3	N19 32.3	71 13.1	S17 09.5	78 06.6	S18 53.8
	17	42 53.3	79 55.0	S15 49.9	353 57.3	N19 32.7	86 15.0	S17 09.4	93 08.8	S18 53.7
	18	57 55.8	94 54.4	S15 49.0	8 58.3	N19 33.1	101 16.9	S17 09.2	108 11.0	S18 53.7
	19	72 58.2	109 53.8	S15 48.1	23 59.3	N19 33.5	116 18.8	S17 09.0	123 13.1	S18 53.6
	20	88 00.7	124 53.1	S15 47.1	39 00.4	N19 33.9	131 20.7	S17 08.9	138 15.3	S18 53.5
	21	103 03.2	139 52.5	S15 46.2	54 01.4	N19 34.2	146 22.5	S17 08.7	153 17.5	S18 53.5
	22	118 05.6	154 51.8	S15 45.3	69 02.4	N19 34.6	161 24.4	S17 08.5	168 19.7	S18 53.4
	23	133 08.1	169 51.2	S15 44.3	84 03.4	N19 35.0	176 26.3	S17 08.4	183 21.8	S18 53.3
			v -0.7	d 0.9	v 1.0	d 0.4	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
15 0	176 28.2	S12 40.5	139 28.3	15.5 S	2 45.7	12.9	55.1	Acamar	315 14.3 S40 13.6
1	191 28.2	S12 39.6	154 02.8	15.6 S	2 32.8	12.9	55.1	Achernar	335 22.9 S57 08.2
2	206 28.2	S12 38.8	168 37.4	15.6 S	2 19.8	12.9	55.1	Acrux	173 03.0 S63 12.7
3	221 28.3	S12 37.9	183 12.0	15.6 S	2 06.9	12.9	55.0	Adhara	255 08.1 S29 00.2
4	236 28.3	S12 37.1	197 46.7	15.6 S	1 54.0	12.9	55.0	Albireo	67 06.9 N28 00.0
M 5	251 28.3	S12 36.2	212 21.4	15.7 S	1 41.0	12.9	55.0		
O								Aldebaran	290 43.2 N16 33.0
N 6	266 28.4	S12 35.3	226 56.1	15.7 S	1 28.1	12.9	55.0	Alioth	166 15.4 N55 50.6
D 7	281 28.4	S12 34.5	241 30.8	15.7 S	1 15.2	12.9	55.0	Alkaid	152 54.3 N49 12.3
A 8	296 28.4	S12 33.6	256 05.5	15.8 S	1 02.3	12.9	55.0	Al Na-ir	27 37.4 S46 51.7
Y 9	311 28.5	S12 32.8	270 40.3	15.8 S	0 49.4	12.9	54.9	Alnilam	275 40.8 S 1 11.5
10	326 28.5	S12 31.9	285 15.1	15.8 S	0 36.4	12.9	54.9		
11	341 28.5	S12 31.0	299 50.0	15.8 S	0 23.5	12.9	54.9	Alphard	217 50.5 S 8 45.1
								Alphecca	126 06.4 N26 38.4
12	356 28.5	S12 30.2	314 24.8	15.9 S	0 10.7	12.9	54.9	Alpheratz	357 38.3 N29 12.3
13	11 28.6	S12 29.3	328 59.7	15.9 N	0 02.2	12.9	54.9	Altair	62 03.3 N 8 55.3
14	26 28.6	S12 28.4	343 34.6	15.9 N	0 15.1	12.9	54.8	Ankaa	353 10.6 S42 11.8
15	41 28.6	S12 27.6	358 09.5	15.9 N	0 28.0	12.9	54.8		
16	56 28.7	S12 26.7	12 44.4	15.9 N	0 40.8	12.9	54.8	Antares	112 19.8 S26 28.6
17	71 28.7	S12 25.8	27 19.4	15.9 N	0 53.7	12.8	54.8	Arcturus	145 50.7 N19 04.2
								Atria	107 17.1 S69 03.6
18	86 28.8	S12 25.0	41 54.3	16.0 N	1 06.5	12.8	54.8	Avior	234 15.3 S59 34.7
19	101 28.8	S12 24.1	56 29.3	16.0 N	1 19.3	12.8	54.8	Bellatrix	278 26.1 N 6 22.0
20	116 28.8	S12 23.2	71 04.3	16.0 N	1 32.1	12.8	54.7		
21	131 28.9	S12 22.4	85 39.3	16.0 N	1 44.9	12.8	54.7	Betelgeuse	270 55.3 N 7 24.5
22	146 28.9	S12 21.5	100 14.3	16.0 N	1 57.7	12.8	54.7	Canopus	263 53.4 S52 42.7
23	161 28.9	S12 20.6	114 49.3	16.0 N	2 10.4	12.8	54.7	Capella	280 26.4 N46 01.2
16 0	176 29.0	S12 19.8	129 24.4	16.0 N	2 23.2	12.7	54.7	Castor	246 00.8 N31 50.5
1	191 29.0	S12 18.9	143 59.4	16.0 N	2 35.9	12.7	54.7	Deneb	49 28.3 N45 21.1
2	206 29.0	S12 18.0	158 34.5	16.1 N	2 48.6	12.7	54.7		
3	221 29.1	S12 17.2	173 09.5	16.1 N	3 01.3	12.7	54.6	Denebola	182 27.9 N14 27.2
4	236 29.1	S12 16.3	187 44.6	16.1 N	3 14.0	12.7	54.6	Diphda	348 50.7 S17 52.5
T 5	251 29.2	S12 15.4	202 19.7	16.1 N	3 26.6	12.6	54.6	Dubhe	193 44.3 N61 38.1
U								Elnath	278 05.7 N28 37.5
E 6	266 29.2	S12 14.6	216 54.8	16.1 N	3 39.2	12.6	54.6	Eltanin	90 44.0 N51 28.9
S 7	281 29.2	S12 13.7	231 29.9	16.1 N	3 51.9	12.6	54.6		
D 8	296 29.3	S12 12.8	246 05.0	16.1 N	4 04.4	12.6	54.6	Enif	33 42.2 N 9 58.1
A 9	311 29.3	S12 12.0	260 40.0	16.1 N	4 17.0	12.6	54.6	Fomalhaut	15 18.4 S29 30.9
Y 10	326 29.3	S12 11.1	275 15.1	16.1 N	4 29.5	12.5	54.5	Gacrux	171 54.7 S57 13.7
11	341 29.4	S12 10.2	289 50.2	16.1 N	4 42.1	12.5	54.5	Gienah	175 46.6 S17 39.5
								Hadar	148 40.2 S60 28.2
12	356 29.4	S12 09.3	304 25.3	16.1 N	4 54.6	12.5	54.5		
13	11 29.5	S12 08.5	319 00.4	16.1 N	5 07.0	12.5	54.5	Hamal	327 54.9 N23 33.7
14	26 29.5	S12 07.6	333 35.5	16.1 N	5 19.5	12.4	54.5	Kaus Austr.	83 37.0 S34 22.4
15	41 29.5	S12 06.7	348 10.6	16.1 N	5 31.9	12.4	54.5	Kochab	137 19.7 N74 03.9
16	56 29.6	S12 05.9	2 45.6	16.1 N	5 44.3	12.4	54.5	Markab	13 33.3 N15 18.9
17	71 29.6	S12 05.0	17 20.7	16.1 N	5 56.6	12.4	54.5	Menkar	314 09.5 N 4 10.2
								Menkent	148 01.2 S36 28.3
18	86 29.7	S12 04.1	31 55.8	16.1 N	6 09.0	12.3	54.4	Miaplacidus	221 37.8 S69 48.2
19	101 29.7	S12 03.2	46 30.8	16.1 N	6 21.3	12.3	54.4	Mirfak	308 32.8 N49 56.3
20	116 29.8	S12 02.4	61 05.9	16.0 N	6 33.5	12.3	54.4	Nunki	75 51.9 S26 16.2
21	131 29.8	S12 01.5	75 40.9	16.0 N	6 45.8	12.2	54.4	Peacock	53 11.2 S56 40.0
22	146 29.8	S12 00.6	90 16.0	16.0 N	6 58.0	12.2	54.4		
23	161 29.9	S11 59.7	104 51.0	16.0 N	7 10.2	12.2	54.4	Polaris	317 32.5 N89 20.6
17 0	176 29.9	S11 58.9	119 26.0	16.0 N	7 22.3	12.1	54.4	Pollux	243 20.9 N27 58.5
1	191 30.0	S11 58.0	134 01.0	16.0 N	7 34.4	12.1	54.4	Procyon	244 53.9 N 5 10.2
2	206 30.0	S11 57.1	148 36.0	16.0 N	7 46.5	12.1	54.4	Rasalhague	96 01.7 N12 32.6
3	221 30.1	S11 56.2	163 10.9	16.0 N	7 58.5	12.0	54.4	Regulus	207 37.5 N11 51.8
4	236 30.1	S11 55.4	177 45.9	15.9 N	8 10.6	12.0	54.3		
W 5	251 30.2	S11 54.5	192 20.8	15.9 N	8 22.5	12.0	54.3	Rigel	281 06.8 S 8 10.8
E								Rigil Kent	139 44.5 S60 55.0
D 6	266 30.2	S11 53.6	206 55.7	15.9 N	8 34.5	11.9	54.3	Sabik	102 06.5 S15 45.1
N 7	281 30.2	S11 52.7	221 30.6	15.9 N	8 46.4	11.9	54.3	Schedar	349 34.9 N56 39.2
E 8	296 30.3	S11 51.9	236 05.5	15.9 N	8 58.2	11.9	54.3	Shaula	96 14.8 S37 07.0
S 9	311 30.3	S11 51.0	250 40.3	15.9 N	9 10.1	11.8	54.3	Sirius	258 28.8 S16 44.9
D 10	326 30.4	S11 50.1	265 15.2	15.8 N	9 21.8	11.8	54.3	Spica	158 25.4 S11 16.2
A 11	341 30.4	S11 49.2	279 50.0	15.8 N	9 33.6	11.7	54.3	Suhail	222 48.1 S43 31.1
Y								Vega	80 35.6 N38 47.9
12	356 30.5	S11 48.3	294 24.8	15.8 N	9 45.3	11.7	54.3	Zuben-ubi	137 00.2 S16 07.7
13	11 30.5	S11 47.5	308 59.5	15.8 N	9 57.0	11.7	54.3		
14	26 30.6	S11 46.6	323 34.3	15.7 N10	08.6	11.6	54.3		
15	41 30.6	S11 45.7	338 09.0	15.7 N10	20.2	11.6	54.3		
16	56 30.7	S11 44.8	352 43.7	15.7 N10	31.7	11.5	54.3		
17	71 30.7	S11 43.9	7 18.3	15.7 N10	43.2	11.5	54.3		
18	86 30.8	S11 43.1	21 53.0	15.6 N10	54.7	11.5	54.3		
19	101 30.8	S11 42.2	36 27.6	15.6 N11	06.1	11.4	54.2		
20	116 30.9	S11 41.3	51 02.2	15.6 N11	17.5	11.4	54.2		
21	131 30.9	S11 40.4	65 36.7	15.5 N11	28.8	11.3	54.2		
22	146 31.0	S11 39.5	80 11.2	15.5 N11	40.0	11.3	54.2		
23	161 31.0	S11 38.6	94 45.7	15.5 N11	51.3	11.2	54.2		
	S.D. 16.2	d 0.9	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 ° '
18	0	148 10.6	184 50.6	S15 43.4	99 04.4	N19 35.4	191 28.2	S17 08.2	198 24.0	S18 53.3
	1	163 13.0	199 49.9	S15 42.4	114 05.5	N19 35.8	206 30.0	S17 08.0	213 26.2	S18 53.2
	2	178 15.5	214 49.3	S15 41.5	129 06.5	N19 36.1	221 31.9	S17 07.9	228 28.4	S18 53.1
	3	193 17.9	229 48.7	S15 40.5	144 07.5	N19 36.5	236 33.8	S17 07.7	243 30.5	S18 53.1
	4	208 20.4	244 48.0	S15 39.6	159 08.5	N19 36.9	251 35.7	S17 07.5	258 32.7	S18 53.0
T	5	223 22.9	259 47.4	S15 38.7	174 09.6	N19 37.3	266 37.6	S17 07.4	273 34.9	S18 52.9
H										
U	6	238 25.3	274 46.8	S15 37.7	189 10.6	N19 37.6	281 39.4	S17 07.2	288 37.0	S18 52.9
R	7	253 27.8	289 46.1	S15 36.8	204 11.6	N19 38.0	296 41.3	S17 07.1	303 39.2	S18 52.8
S	8	268 30.3	304 45.5	S15 35.8	219 12.6	N19 38.4	311 43.2	S17 06.9	318 41.4	S18 52.7
D	9	283 32.7	319 44.9	S15 34.9	234 13.6	N19 38.8	326 45.1	S17 06.7	333 43.6	S18 52.6
A	10	298 35.2	334 44.2	S15 33.9	249 14.7	N19 39.2	341 46.9	S17 06.6	348 45.7	S18 52.6
Y	11	313 37.7	349 43.6	S15 33.0	264 15.7	N19 39.5	356 48.8	S17 06.4	3 47.9	S18 52.5
	12	328 40.1	4 43.0	S15 32.0	279 16.7	N19 39.9	11 50.7	S17 06.2	18 50.1	S18 52.4
	13	343 42.6	19 42.3	S15 31.1	294 17.7	N19 40.3	26 52.6	S17 06.1	33 52.3	S18 52.4
	14	358 45.0	34 41.7	S15 30.1	309 18.7	N19 40.7	41 54.5	S17 05.9	48 54.4	S18 52.3
	15	13 47.5	49 41.1	S15 29.2	324 19.8	N19 41.0	56 56.3	S17 05.7	63 56.6	S18 52.2
	16	28 50.0	64 40.5	S15 28.2	339 20.8	N19 41.4	71 58.2	S17 05.6	78 58.8	S18 52.2
	17	43 52.4	79 39.8	S15 27.3	354 21.8	N19 41.8	87 00.1	S17 05.4	94 01.0	S18 52.1
	18	58 54.9	94 39.2	S15 26.3	9 22.8	N19 42.2	102 02.0	S17 05.2	109 03.1	S18 52.0
	19	73 57.4	109 38.6	S15 25.4	24 23.8	N19 42.5	117 03.9	S17 05.1	124 05.3	S18 52.0
	20	88 59.8	124 38.0	S15 24.4	39 24.8	N19 42.9	132 05.7	S17 04.9	139 07.5	S18 51.9
	21	104 02.3	139 37.3	S15 23.4	54 25.9	N19 43.3	147 07.6	S17 04.7	154 09.7	S18 51.8
	22	119 04.8	154 36.7	S15 22.5	69 26.9	N19 43.7	162 09.5	S17 04.6	169 11.8	S18 51.8
	23	134 07.2	169 36.1	S15 21.5	84 27.9	N19 44.1	177 11.4	S17 04.4	184 14.0	S18 51.7
19	0	149 09.7	184 35.5	S15 20.6	99 28.9	N19 44.4	192 13.3	S17 04.2	199 16.2	S18 51.6
	1	164 12.2	199 34.8	S15 19.6	114 29.9	N19 44.8	207 15.1	S17 04.1	214 18.4	S18 51.6
	2	179 14.6	214 34.2	S15 18.6	129 30.9	N19 45.2	222 17.0	S17 03.9	229 20.5	S18 51.5
	3	194 17.1	229 33.6	S15 17.7	144 32.0	N19 45.6	237 18.9	S17 03.8	244 22.7	S18 51.4
	4	209 19.5	244 33.0	S15 16.7	159 33.0	N19 45.9	252 20.8	S17 03.6	259 24.9	S18 51.3
F	5	224 22.0	259 32.4	S15 15.8	174 34.0	N19 46.3	267 22.7	S17 03.4	274 27.1	S18 51.3
R										
I	6	239 24.5	274 31.7	S15 14.8	189 35.0	N19 46.7	282 24.5	S17 03.3	289 29.2	S18 51.2
D	7	254 26.9	289 31.1	S15 13.8	204 36.0	N19 47.0	297 26.4	S17 03.1	304 31.4	S18 51.1
A	8	269 29.4	304 30.5	S15 12.9	219 37.0	N19 47.4	312 28.3	S17 02.9	319 33.6	S18 51.1
Y	9	284 31.9	319 29.9	S15 11.9	234 38.1	N19 47.8	327 30.2	S17 02.8	334 35.8	S18 51.0
	10	299 34.3	334 29.3	S15 10.9	249 39.1	N19 48.2	342 32.1	S17 02.6	349 37.9	S18 50.9
	11	314 36.8	349 28.6	S15 10.0	264 40.1	N19 48.5	357 33.9	S17 02.4	4 40.1	S18 50.9
	12	329 39.3	4 28.0	S15 09.0	279 41.1	N19 48.9	12 35.8	S17 02.3	19 42.3	S18 50.8
	13	344 41.7	19 27.4	S15 08.0	294 42.1	N19 49.3	27 37.7	S17 02.1	34 44.5	S18 50.7
	14	359 44.2	34 26.8	S15 07.1	309 43.1	N19 49.7	42 39.6	S17 01.9	49 46.6	S18 50.7
	15	14 46.7	49 26.2	S15 06.1	324 44.1	N19 50.0	57 41.5	S17 01.8	64 48.8	S18 50.6
	16	29 49.1	64 25.6	S15 05.1	339 45.1	N19 50.4	72 43.3	S17 01.6	79 51.0	S18 50.5
	17	44 51.6	79 24.9	S15 04.2	354 46.2	N19 50.8	87 45.2	S17 01.4	94 53.2	S18 50.5
	18	59 54.0	94 24.3	S15 03.2	9 47.2	N19 51.2	102 47.1	S17 01.3	109 55.3	S18 50.4
	19	74 56.5	109 23.7	S15 02.2	24 48.2	N19 51.5	117 49.0	S17 01.1	124 57.5	S18 50.3
	20	89 59.0	124 23.1	S15 01.2	39 49.2	N19 51.9	132 50.9	S17 00.9	139 59.7	S18 50.3
	21	105 01.4	139 22.5	S15 00.3	54 50.2	N19 52.3	147 52.7	S17 00.8	155 01.9	S18 50.2
	22	120 03.9	154 21.9	S14 59.3	69 51.2	N19 52.6	162 54.6	S17 00.6	170 04.1	S18 50.1
	23	135 06.4	169 21.3	S14 58.3	84 52.2	N19 53.0	177 56.5	S17 00.5	185 06.2	S18 50.0
20	0	150 08.8	184 20.6	S14 57.3	99 53.2	N19 53.4	192 58.4	S17 00.3	200 08.4	S18 50.0
	1	165 11.3	199 20.0	S14 56.4	114 54.2	N19 53.8	208 00.3	S17 00.1	215 10.6	S18 49.9
	2	180 13.8	214 19.4	S14 55.4	129 55.3	N19 54.1	223 02.1	S16 60.0	230 12.8	S18 49.8
	3	195 16.2	229 18.8	S14 54.4	144 56.3	N19 54.5	238 04.0	S16 59.8	245 14.9	S18 49.8
	4	210 18.7	244 18.2	S14 53.4	159 57.3	N19 54.9	253 05.9	S16 59.6	260 17.1	S18 49.7
S	5	225 21.1	259 17.6	S14 52.4	174 58.3	N19 55.2	268 07.8	S16 59.5	275 19.3	S18 49.6
A										
T	6	240 23.6	274 17.0	S14 51.5	189 59.3	N19 55.6	283 09.7	S16 59.3	290 21.5	S18 49.6
U	7	255 26.1	289 16.4	S14 50.5	205 00.3	N19 56.0	298 11.5	S16 59.1	305 23.6	S18 49.5
R	8	270 28.5	304 15.8	S14 49.5	220 01.3	N19 56.3	313 13.4	S16 59.0	320 25.8	S18 49.4
D	9	285 31.0	319 15.2	S14 48.5	235 02.3	N19 56.7	328 15.3	S16 58.8	335 28.0	S18 49.4
A	10	300 33.5	334 14.6	S14 47.5	250 03.3	N19 57.1	343 17.2	S16 58.6	350 30.2	S18 49.3
Y	11	315 35.9	349 14.0	S14 46.5	265 04.3	N19 57.5	358 19.1	S16 58.5	5 32.4	S18 49.2
	12	330 38.4	4 13.4	S14 45.6	280 05.3	N19 57.8	13 21.0	S16 58.3	20 34.5	S18 49.2
	13	345 40.9	19 12.7	S14 44.6	295 06.4	N19 58.2	28 22.8	S16 58.1	35 36.7	S18 49.1
	14	0 43.3	34 12.1	S14 43.6	310 07.4	N19 58.6	43 24.7	S16 58.0	50 38.9	S18 49.0
	15	15 45.8	49 11.5	S14 42.6	325 08.4	N19 58.9	58 26.6	S16 57.8	65 41.1	S18 49.0
	16	30 48.3	64 10.9	S14 41.6	340 09.4	N19 59.3	73 28.5	S16 57.6	80 43.2	S18 48.9
	17	45 50.7	79 10.3	S14 40.6	355 10.4	N19 59.7	88 30.4	S16 57.5	95 45.4	S18 48.8
	18	60 53.2	94 09.7	S14 39.6	10 11.4	N20 00.0	103 32.2	S16 57.3	110 47.6	S18 48.8
	19	75 55.6	109 09.1	S14 38.7	25 12.4	N20 00.4	118 34.1	S16 57.1	125 49.8	S18 48.7
	20	90 58.1	124 08.5	S14 37.7	40 13.4	N20 00.8	133 36.0	S16 57.0	140 51.9	S18 48.6
	21	106 00.6	139 07.9	S14 36.7	55 14.4	N20 01.1	148 37.9	S16 56.8	155 54.1	S18 48.5
	22	121 03.0	154 07.3	S14 35.7	70 15.4	N20 01.5	163 39.8	S16 56.6	170 56.3	S18 48.5
	23	136 05.5	169 06.7	S14 34.7	85 16.4	N20 01.9	178 41.7	S16 56.5	185 58.5	S18 48.4
			v -0.6	d 1.0	v 1.0	d 0.4	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
18	0	176 31.1	S11 37.8	109 20.1	15.4	N12 02.5	11.2	54.2
	1	191 31.1	S11 36.9	123 54.6	15.4	N12 13.6	11.1	54.2
	2	206 31.2	S11 36.0	138 28.9	15.4	N12 24.7	11.1	54.2
	3	221 31.2	S11 35.1	153 03.3	15.3	N12 35.7	11.0	54.2
	4	236 31.3	S11 34.2	167 37.6	15.3	N12 46.7	11.0	54.2
T	5	251 31.3	S11 33.3	182 11.9	15.3	N12 57.6	10.9	54.2
H								
U	6	266 31.4	S11 32.5	196 46.1	15.2	N13 08.5	10.9	54.2
R	7	281 31.4	S11 31.6	211 20.3	15.2	N13 19.3	10.8	54.2
S	8	296 31.5	S11 30.7	225 54.4	15.2	N13 30.1	10.8	54.2
D	9	311 31.6	S11 29.8	240 28.5	15.1	N13 40.8	10.7	54.2
A	10	326 31.6	S11 28.9	255 02.6	15.1	N13 51.5	10.7	54.2
Y	11	341 31.7	S11 28.0	269 36.6	15.0	N14 02.1	10.6	54.2
	12	356 31.7	S11 27.1	284 10.6	15.0	N14 12.6	10.6	54.2
	13	11 31.8	S11 26.3	298 44.6	14.9	N14 23.1	10.5	54.2
	14	26 31.8	S11 25.4	313 18.5	14.9	N14 33.6	10.4	54.2
	15	41 31.9	S11 24.5	327 52.3	14.9	N14 44.0	10.4	54.2
	16	56 31.9	S11 23.6	342 26.1	14.8	N14 54.3	10.3	54.2
	17	71 32.0	S11 22.7	356 59.9	14.8	N15 04.5	10.3	54.2
	18	86 32.1	S11 21.8	11 33.6	14.7	N15 14.7	10.2	54.2
	19	101 32.1	S11 20.9	26 07.3	14.7	N15 24.9	10.1	54.2
	20	116 32.2	S11 20.0	40 40.9	14.6	N15 35.0	10.1	54.2
	21	131 32.2	S11 19.1	55 14.5	14.6	N15 45.0	10.0	54.2
	22	146 32.3	S11 18.3	69 48.0	14.5	N15 55.0	10.0	54.2
	23	161 32.3	S11 17.4	84 21.5	14.5	N16 04.9	9.9	54.2
19	0	176 32.4	S11 16.5	98 54.9	14.4	N16 14.7	9.8	54.2
	1	191 32.5	S11 15.6	113 28.2	14.4	N16 24.5	9.8	54.2
	2	206 32.5	S11 14.7	128 01.5	14.3	N16 34.2	9.7	54.2
	3	221 32.6	S11 13.8	142 34.8	14.3	N16 43.8	9.6	54.3
	4	236 32.6	S11 12.9	157 08.0	14.2	N16 53.4	9.6	54.3
F	5	251 32.7	S11 12.0	171 41.2	14.2	N17 02.9	9.5	54.3
R								
I	6	266 32.8	S11 11.1	186 14.3	14.1	N17 12.3	9.4	54.3
D	7	281 32.8	S11 10.2	200 47.3	14.0	N17 21.7	9.4	54.3
A	8	296 32.9	S11 09.3	215 20.3	14.0	N17 31.0	9.3	54.3
Y	9	311 32.9	S11 08.4	229 53.2	13.9	N17 40.2	9.2	54.3
	10	326 33.0	S11 07.6	244 26.1	13.9	N17 49.3	9.2	54.3
	11	341 33.1	S11 06.7	258 58.9	13.8	N17 58.4	9.1	54.3
	12	356 33.1	S11 05.8	273 31.6	13.8	N18 07.4	9.0	54.3
	13	11 33.2	S11 04.9	288 04.3	13.7	N18 16.3	8.9	54.3
	14	26 33.3	S11 04.0	302 37.0	13.6	N18 25.2	8.9	54.3
	15	41 33.3	S11 03.1	317 09.6	13.6	N18 34.0	8.8	54.3
	16	56 33.4	S11 02.2	331 42.1	13.5	N18 42.7	8.7	54.3
	17	71 33.4	S11 01.3	346 14.5	13.5	N18 51.3	8.6	54.4
	18	86 33.5	S11 00.4	0 46.9	13.4	N18 59.9	8.6	54.4
	19	101 33.6	S10 59.5	15 19.2	13.3	N19 08.4	8.5	54.4
	20	116 33.6	S10 58.6	29 51.5	13.3	N19 16.8	8.4	54.4
	21	131 33.7	S10 57.7	44 23.7	13.2	N19 25.1	8.3	54.4
	22	146 33.8	S10 56.8	58 55.9	13.1	N19 33.3	8.2	54.4
	23	161 33.8	S10 55.9	73 27.9	13.1	N19 41.5	8.2	54.4
20	0	176 33.9	S10 55.0	87 59.9	13.0	N19 49.5	8.1	54.4
	1	191 34.0	S10 54.1	102 31.9	12.9	N19 57.5	8.0	54.4
	2	206 34.0	S10 53.2	117 03.8	12.9	N20 05.4	7.9	54.5
	3	221 34.1	S10 52.3	131 35.6	12.8	N20 13.3	7.8	54.5
	4	236 34.2	S10 51.4	146 07.4	12.8	N20 21.0	7.7	54.5
S	5	251 34.2	S10 50.5	160 39.0	12.7	N20 28.7	7.7	54.5
A								
T	6	266 34.3	S10 49.6	175 10.7	12.6	N20 36.2	7.6	54.5
U	7	281 34.4	S10 48.7	189 42.2	12.6	N20 43.7	7.5	54.5
R	8	296 34.4	S10 47.8	204 13.7	12.5	N20 51.1	7.4	54.5
D	9	311 34.5	S10 46.9	218 45.1	12.4	N20 58.4	7.3	54.5
A	10	326 34.6	S10 46.0	233 16.5	12.4	N21 05.6	7.2	54.6
Y	11	341 34.6	S10 45.1	247 47.8	12.3	N21 12.7	7.1	54.6
	12	356 34.7	S10 44.2	262 19.0	12.2	N21 19.8	7.0	54.6
	13	11 34.8	S10 43.3	276 50.2	12.2	N21 26.7	6.9	54.6
	14	26 34.8	S10 42.4	291 21.2	12.1	N21 33.5	6.8	54.6
	15	41 34.9	S10 41.5	305 52.3	12.0	N21 40.3	6.7	54.6
	16	56 35.0	S10 40.6	320 23.2	11.9	N21 46.9	6.7	54.6
	17	71 35.1	S10 39.7	334 54.1	11.9	N21 53.5	6.6	54.7
	18	86 35.1	S10 38.8	349 24.9	11.8	N21 60.0	6.5	54.7
	19	101 35.2	S10 37.9	3 55.6	11.7	N22 06.3	6.4	54.7
	20	116 35.3	S10 37.0	18 26.3	11.7	N22 12.6	6.3	54.7
	21	131 35.3	S10 36.1	32 56.9	11.6	N22 18.7	6.2	54.7
	22	146 35.4	S10 35.2	47 27.5	11.5	N22 24.8	6.1	54.8
	23	161 35.5	S10 34.3	61 57.9	11.5	N22 30.8	6.0	54.8
		S.D. 16.2	d 0.9	S.D. 14.8	14.8	14.9		

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.3	S40 13.6
Achernar	335 23.0	S57 08.2
Acrux	173 03.0	S63 12.7
Adhara	255 08.1	S29 00.2
Albireo	67 06.9	N28 00.0
Aldebaran	290 43.2	N16 33.0
Alioth	166 15.4	N55 50.6
Alkaid	152 54.3	N49 12.3
Al Na-ir	27 37.3	S46 51.7
Alnilam	275 40.8	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.4	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.3	N 8 55.3
Ankaa	353 10.6	S42 11.8
Antares	112 19.8	S26 28.6
Arcturus	145 50.7	N19 04.2
Atria	107 17.0	S69 03.6
Avior	234 15.4	S59 34.8
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.5
Canopus	263 53.4	S52 42.7
Capella	280 26.4	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.3	N45 21.1
Denebola	182 27.9	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.3	N61 38.1
Elnath	278 05.7	N28 37.5
Eltanin	90 43.9	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.4	S29 30.9
Gacrux	171 54.6	S57 13.7
Gienah	175 46.5	S17 39.5
Hadar	148 40.2	S60 28.2
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 37.0	S34 22.4
Kochab	137 19.7	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.1	S36 28.3
Miaplacidus	221 37.8	S69 48.3
Mirfak	308 32.8	N49 56.2
Nunki	75 51.9	S26 16.2
Peacock	53 11.2	S56 40.0
Polaris	317 33.6	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.6	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.8	S 8 10.8
Rigil Kent	139 44.5	S60 55.0
Sabik	102 06.5	S15 45.1
Schedar	349 35.0	N56 39.2
Shaula	96 14.8	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.4	S11 16.3
Suhail	222 48.1	S43 31.1
Vega	80 35.6	N38 47.9
Zuben-ubi	137 00.2	S16 07.7

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
21	0	151 08.0	184 06.1	S14 33.7	100 17.4	N20 02.2	193 43.5	S16 56.3	201 00.7	S18 48.3
	1	166 10.4	199 05.5	S14 32.7	115 18.4	N20 02.6	208 45.4	S16 56.2	216 02.8	S18 48.3
	2	181 12.9	214 04.9	S14 31.7	130 19.4	N20 03.0	223 47.3	S16 56.0	231 05.0	S18 48.2
	3	196 15.4	229 04.3	S14 30.7	145 20.4	N20 03.3	238 49.2	S16 55.8	246 07.2	S18 48.1
	4	211 17.8	244 03.7	S14 29.7	160 21.4	N20 03.7	253 51.1	S16 55.7	261 09.4	S18 48.1
S	5	226 20.3	259 03.1	S14 28.7	175 22.4	N20 04.1	268 53.0	S16 55.5	276 11.5	S18 48.0
U										
N	6	241 22.8	274 02.5	S14 27.7	190 23.4	N20 04.4	283 54.8	S16 55.3	291 13.7	S18 47.9
D	7	256 25.2	289 01.9	S14 26.7	205 24.4	N20 04.8	298 56.7	S16 55.2	306 15.9	S18 47.9
A	8	271 27.7	304 01.3	S14 25.7	220 25.4	N20 05.2	313 58.6	S16 55.0	321 18.1	S18 47.8
Y	9	286 30.1	319 00.8	S14 24.7	235 26.4	N20 05.5	329 00.5	S16 54.8	336 20.3	S18 47.7
	10	301 32.6	334 00.2	S14 23.7	250 27.4	N20 05.9	344 02.4	S16 54.7	351 22.4	S18 47.7
	11	316 35.1	348 59.6	S14 22.7	265 28.4	N20 06.3	359 04.3	S16 54.5	6 24.6	S18 47.6
	12	331 37.5	3 59.0	S14 21.7	280 29.4	N20 06.6	14 06.1	S16 54.3	21 26.8	S18 47.5
	13	346 40.0	18 58.4	S14 20.7	295 30.4	N20 07.0	29 08.0	S16 54.2	36 29.0	S18 47.5
	14	1 42.5	33 57.8	S14 19.7	310 31.4	N20 07.4	44 09.9	S16 54.0	51 31.2	S18 47.4
	15	16 44.9	48 57.2	S14 18.7	325 32.5	N20 07.7	59 11.8	S16 53.8	66 33.3	S18 47.3
	16	31 47.4	63 56.6	S14 17.7	340 33.5	N20 08.1	74 13.7	S16 53.7	81 35.5	S18 47.3
	17	46 49.9	78 56.0	S14 16.7	355 34.5	N20 08.5	89 15.6	S16 53.5	96 37.7	S18 47.2
	18	61 52.3	93 55.4	S14 15.7	10 35.5	N20 08.8	104 17.4	S16 53.3	111 39.9	S18 47.1
	19	76 54.8	108 54.8	S14 14.7	25 36.5	N20 09.2	119 19.3	S16 53.2	126 42.0	S18 47.1
	20	91 57.3	123 54.2	S14 13.7	40 37.5	N20 09.6	134 21.2	S16 53.0	141 44.2	S18 47.0
	21	106 59.7	138 53.7	S14 12.7	55 38.5	N20 09.9	149 23.1	S16 52.8	156 46.4	S18 46.9
	22	122 02.2	153 53.1	S14 11.7	70 39.4	N20 10.3	164 25.0	S16 52.7	171 48.6	S18 46.8
	23	137 04.6	168 52.5	S14 10.7	85 40.4	N20 10.6	179 26.9	S16 52.5	186 50.8	S18 46.8
22	0	152 07.1	183 51.9	S14 09.6	100 41.4	N20 11.0	194 28.7	S16 52.3	201 52.9	S18 46.7
	1	167 09.6	198 51.3	S14 08.6	115 42.4	N20 11.4	209 30.6	S16 52.2	216 55.1	S18 46.6
	2	182 12.0	213 50.7	S14 07.6	130 43.4	N20 11.7	224 32.5	S16 52.0	231 57.3	S18 46.6
	3	197 14.5	228 50.1	S14 06.6	145 44.4	N20 12.1	239 34.4	S16 51.8	246 59.5	S18 46.5
	4	212 17.0	243 49.5	S14 05.6	160 45.4	N20 12.5	254 36.3	S16 51.7	262 01.7	S18 46.4
M	5	227 19.4	258 49.0	S14 04.6	175 46.4	N20 12.8	269 38.2	S16 51.5	277 03.8	S18 46.4
O										
N	6	242 21.9	273 48.4	S14 03.6	190 47.4	N20 13.2	284 40.1	S16 51.3	292 06.0	S18 46.3
D	7	257 24.4	288 47.8	S14 02.6	205 48.4	N20 13.5	299 41.9	S16 51.2	307 08.2	S18 46.2
A	8	272 26.8	303 47.2	S14 01.5	220 49.4	N20 13.9	314 43.8	S16 51.0	322 10.4	S18 46.2
Y	9	287 29.3	318 46.6	S14 00.5	235 50.4	N20 14.3	329 45.7	S16 50.8	337 12.6	S18 46.1
	10	302 31.7	333 46.0	S13 59.5	250 51.4	N20 14.6	344 47.6	S16 50.7	352 14.7	S18 46.0
	11	317 34.2	348 45.5	S13 58.5	265 52.4	N20 15.0	359 49.5	S16 50.5	7 16.9	S18 46.0
	12	332 36.7	3 44.9	S13 57.5	280 53.4	N20 15.4	14 51.4	S16 50.4	22 19.1	S18 45.9
	13	347 39.1	18 44.3	S13 56.5	295 54.4	N20 15.7	29 53.2	S16 50.2	37 21.3	S18 45.8
	14	2 41.6	33 43.7	S13 55.4	310 55.4	N20 16.1	44 55.1	S16 50.0	52 23.5	S18 45.8
	15	17 44.1	48 43.1	S13 54.4	325 56.4	N20 16.4	59 57.0	S16 49.9	67 25.6	S18 45.7
	16	32 46.5	63 42.6	S13 53.4	340 57.4	N20 16.8	74 58.9	S16 49.7	82 27.8	S18 45.6
	17	47 49.0	78 42.0	S13 52.4	355 58.4	N20 17.2	90 00.8	S16 49.5	97 30.0	S18 45.6
	18	62 51.5	93 41.4	S13 51.4	10 59.4	N20 17.5	105 02.7	S16 49.4	112 32.2	S18 45.5
	19	77 53.9	108 40.8	S13 50.3	26 00.4	N20 17.9	120 04.6	S16 49.2	127 34.4	S18 45.4
	20	92 56.4	123 40.2	S13 49.3	41 01.4	N20 18.2	135 06.4	S16 49.0	142 36.5	S18 45.4
	21	107 58.9	138 39.7	S13 48.3	56 02.4	N20 18.6	150 08.3	S16 48.9	157 38.7	S18 45.3
	22	123 01.3	153 39.1	S13 47.3	71 03.4	N20 19.0	165 10.2	S16 48.7	172 40.9	S18 45.2
	23	138 03.8	168 38.5	S13 46.2	86 04.3	N20 19.3	180 12.1	S16 48.5	187 43.1	S18 45.2
23	0	153 06.2	183 37.9	S13 45.2	101 05.3	N20 19.7	195 14.0	S16 48.4	202 45.3	S18 45.1
	1	168 08.7	198 37.4	S13 44.2	116 06.3	N20 20.0	210 15.9	S16 48.2	217 47.4	S18 45.0
	2	183 11.2	213 36.8	S13 43.2	131 07.3	N20 20.4	225 17.8	S16 48.0	232 49.6	S18 45.0
	3	198 13.6	228 36.2	S13 42.1	146 08.3	N20 20.8	240 19.6	S16 47.9	247 51.8	S18 44.9
	4	213 16.1	243 35.6	S13 41.1	161 09.3	N20 21.1	255 21.5	S16 47.7	262 54.0	S18 44.8
T	5	228 18.6	258 35.1	S13 40.1	176 10.3	N20 21.5	270 23.4	S16 47.5	277 56.2	S18 44.8
U										
E	6	243 21.0	273 34.5	S13 39.1	191 11.3	N20 21.8	285 25.3	S16 47.4	292 58.4	S18 44.7
S	7	258 23.5	288 33.9	S13 38.0	206 12.3	N20 22.2	300 27.2	S16 47.2	308 00.5	S18 44.6
D	8	273 26.0	303 33.3	S13 37.0	221 13.3	N20 22.5	315 29.1	S16 47.0	323 02.7	S18 44.5
A	9	288 28.4	318 32.8	S13 36.0	236 14.3	N20 22.9	330 31.0	S16 46.9	338 04.9	S18 44.5
Y	10	303 30.9	333 32.2	S13 34.9	251 15.3	N20 23.3	345 32.9	S16 46.7	353 07.1	S18 44.4
	11	318 33.4	348 31.6	S13 33.9	266 16.2	N20 23.6	0 34.7	S16 46.5	8 09.3	S18 44.3
	12	333 35.8	3 31.1	S13 32.9	281 17.2	N20 24.0	15 36.6	S16 46.4	23 11.4	S18 44.3
	13	348 38.3	18 30.5	S13 31.8	296 18.2	N20 24.3	30 38.5	S16 46.2	38 13.6	S18 44.2
	14	3 40.7	33 29.9	S13 30.8	311 19.2	N20 24.7	45 40.4	S16 46.0	53 15.8	S18 44.1
	15	18 43.2	48 29.3	S13 29.8	326 20.2	N20 25.0	60 42.3	S16 45.9	68 18.0	S18 44.1
	16	33 45.7	63 28.8	S13 28.7	341 21.2	N20 25.4	75 44.2	S16 45.7	83 20.2	S18 44.0
	17	48 48.1	78 28.2	S13 27.7	356 22.2	N20 25.8	90 46.1	S16 45.5	98 22.3	S18 43.9
	18	63 50.6	93 27.6	S13 26.7	11 23.2	N20 26.1	105 47.9	S16 45.4	113 24.5	S18 43.9
	19	78 53.1	108 27.1	S13 25.6	26 24.2	N20 26.5	120 49.8	S16 45.2	128 26.7	S18 43.8
	20	93 55.5	123 26.5	S13 24.6	41 25.1	N20 26.8	135 51.7	S16 45.0	143 28.9	S18 43.7
	21	108 58.0	138 25.9	S13 23.5	56 26.1	N20 27.2	150 53.6	S16 44.9	158 31.1	S18 43.7
	22	124 00.5	153 25.4	S13 22.5	71 27.1	N20 27.5	165 55.5	S16 44.7	173 33.3	S18 43.6
	23	139 02.9	168 24.8	S13 21.5	86 28.1	N20 27.9	180 57.4	S16 44.5	188 35.4	S18 43.5
			v -0.6	d 1.0	v 1.0	d 0.4	v 1.9	d 0.2	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 35.6	S10 33.4	76 28.3	11.4	N22 36.6	5.9	54.8
	1	191 35.6	S10 32.5	90 58.7	11.3	N22 42.4	5.8	54.8
	2	206 35.7	S10 31.6	105 29.0	11.3	N22 48.1	5.7	54.8
	3	221 35.8	S10 30.7	119 59.2	11.2	N22 53.6	5.6	54.8
	4	236 35.9	S10 29.8	134 29.3	11.1	N22 59.1	5.5	54.9
S	5	251 35.9	S10 28.9	148 59.3	11.1	N23 04.4	5.3	54.9
U								
N	6	266 36.0	S10 27.9	163 29.3	11.0	N23 09.7	5.2	54.9
D	7	281 36.1	S10 27.0	177 59.3	10.9	N23 14.8	5.1	54.9
A	8	296 36.2	S10 26.1	192 29.1	10.9	N23 19.8	5.0	54.9
Y	9	311 36.2	S10 25.2	206 58.9	10.8	N23 24.7	4.9	55.0
	10	326 36.3	S10 24.3	221 28.7	10.7	N23 29.5	4.8	55.0
	11	341 36.4	S10 23.4	235 58.3	10.7	N23 34.2	4.7	55.0
	12	356 36.5	S10 22.5	250 27.9	10.6	N23 38.8	4.6	55.0
	13	11 36.5	S10 21.6	264 57.5	10.5	N23 43.3	4.5	55.1
	14	26 36.6	S10 20.7	279 26.9	10.5	N23 47.6	4.4	55.1
	15	41 36.7	S10 19.8	293 56.3	10.4	N23 51.9	4.2	55.1
	16	56 36.8	S10 18.9	308 25.7	10.3	N23 56.0	4.1	55.1
	17	71 36.8	S10 18.0	322 54.9	10.3	N24 00.0	4.0	55.1
	18	86 36.9	S10 17.0	337 24.1	10.2	N24 03.9	3.9	55.2
	19	101 37.0	S10 16.1	351 53.3	10.1	N24 07.7	3.8	55.2
	20	116 37.1	S10 15.2	6 22.4	10.1	N24 11.4	3.7	55.2
	21	131 37.1	S10 14.3	20 51.4	10.0	N24 14.9	3.5	55.2
	22	146 37.2	S10 13.4	35 20.3	10.0	N24 18.3	3.4	55.3
	23	161 37.3	S10 12.5	49 49.2	9.9	N24 21.6	3.3	55.3
22	0	176 37.4	S10 11.6	64 18.1	9.8	N24 24.8	3.2	55.3
	1	191 37.5	S10 10.7	78 46.8	9.8	N24 27.9	3.1	55.3
	2	206 37.5	S10 09.8	93 15.6	9.7	N24 30.8	2.9	55.4
	3	221 37.6	S10 08.9	107 44.2	9.7	N24 33.7	2.8	55.4
	4	236 37.7	S10 07.9	122 12.8	9.6	N24 36.4	2.7	55.4
M	5	251 37.8	S10 07.0	136 41.4	9.5	N24 38.9	2.6	55.4
O								
N	6	266 37.9	S10 06.1	151 09.8	9.5	N24 41.4	2.4	55.5
D	7	281 38.0	S10 05.2	165 38.3	9.4	N24 43.7	2.3	55.5
A	8	296 38.0	S10 04.3	180 06.6	9.4	N24 45.9	2.2	55.5
Y	9	311 38.1	S10 03.4	194 35.0	9.3	N24 48.0	2.1	55.5
	10	326 38.2	S10 02.5	209 03.2	9.3	N24 49.9	1.9	55.6
	11	341 38.3	S10 01.5	223 31.4	9.2	N24 51.7	1.8	55.6
	12	356 38.4	S10 00.6	237 59.6	9.2	N24 53.4	1.7	55.6
	13	11 38.4	S 9 59.7	252 27.7	9.1	N24 55.0	1.6	55.6
	14	26 38.5	S 9 58.8	266 55.8	9.1	N24 56.4	1.4	55.7
	15	41 38.6	S 9 57.9	281 23.8	9.0	N24 57.7	1.3	55.7
	16	56 38.7	S 9 57.0	295 51.7	9.0	N24 58.9	1.2	55.7
	17	71 38.8	S 9 56.1	310 19.6	8.9	N24 59.9	1.0	55.8
	18	86 38.9	S 9 55.1	324 47.5	8.9	N25 00.8	0.9	55.8
	19	101 38.9	S 9 54.2	339 15.3	8.8	N25 01.6	0.8	55.8
	20	116 39.0	S 9 53.3	353 43.1	8.8	N25 02.2	0.6	55.8
	21	131 39.1	S 9 52.4	8 10.8	8.7	N25 02.7	0.5	55.9
	22	146 39.2	S 9 51.5	22 38.5	8.7	N25 03.1	0.4	55.9
	23	161 39.3	S 9 50.6	37 06.2	8.6	N25 03.3	0.2	55.9
23	0	176 39.4	S 9 49.6	51 33.8	8.6	N25 03.4	0.1	56.0
	1	191 39.5	S 9 48.7	66 01.3	8.6	N25 03.3	0.0	56.0
	2	206 39.5	S 9 47.8	80 28.8	8.5	N25 03.2	0.2	56.0
	3	221 39.6	S 9 46.9	94 56.3	8.5	N25 02.9	0.3	56.1
	4	236 39.7	S 9 46.0	109 23.8	8.4	N25 02.4	0.5	56.1
T	5	251 39.8	S 9 45.0	123 51.2	8.4	N25 01.8	0.6	56.1
U								
E	6	266 39.9	S 9 44.1	138 18.6	8.4	N25 01.1	0.7	56.1
S	7	281 40.0	S 9 43.2	152 45.9	8.3	N25 00.2	0.9	56.2
D	8	296 40.1	S 9 42.3	167 13.2	8.3	N24 59.2	1.0	56.2
A	9	311 40.2	S 9 41.4	181 40.5	8.3	N24 58.1	1.1	56.2
Y	10	326 40.2	S 9 40.5	196 07.8	8.3	N24 56.8	1.3	56.3
	11	341 40.3	S 9 39.5	210 35.0	8.2	N24 55.4	1.4	56.3
	12	356 40.4	S 9 38.6	225 02.2	8.2	N24 53.8	1.6	56.3
	13	11 40.5	S 9 37.7	239 29.4	8.2	N24 52.1	1.7	56.4
	14	26 40.6	S 9 36.8	253 56.5	8.1	N24 50.2	1.8	56.4
	15	41 40.7	S 9 35.8	268 23.6	8.1	N24 48.3	2.0	56.4
	16	56 40.8	S 9 34.9	282 50.7	8.1	N24 46.1	2.1	56.5
	17	71 40.9	S 9 34.0	297 17.8	8.1	N24 43.9	2.3	56.5
	18	86 41.0	S 9 33.1	311 44.8	8.1	N24 41.4	2.4	56.5
	19	101 41.1	S 9 32.2	326 11.9	8.0	N24 38.9	2.6	56.5
	20	116 41.2	S 9 31.2	340 38.9	8.0	N24 36.2	2.7	56.6
	21	131 41.2	S 9 30.3	355 05.9	8.0	N24 33.4	2.8	56.6
	22	146 41.3	S 9 29.4	9 32.9	8.0	N24 30.4	3.0	56.6
	23	161 41.4	S 9 28.5	23 59.8	8.0	N24 27.2	3.1	56.7
		S.D. 16.2	d 0.9	S.D. 15.0	15.2	15.3		

STARS Name	SHA	Dec
Acamar	315 14.3	S40 13.6
Achernar	335 23.0	S57 08.1
Acrux	173 02.9	S63 12.7
Adhara	255 08.1	S29 00.3
Albireo	67 06.9	N28 00.0
Aldebaran	290 43.2	N16 33.0
Alioth	166 15.4	N55 50.6
Alkaid	152 54.3	N49 12.3
Al Na-ir	27 37.3	S46 51.7
Alnilam	275 40.8	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.4	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.3	N 8 55.3
Ankaa	353 10.6	S42 11.8
Antares	112 19.7	S26 28.6
Arcturus	145 50.6	N19 04.2
Atria	107 16.9	S69 03.6
Avior	234 15.4	S59 34.8
Bellatrix	278 26.1	N 6 22.0
Betelgeuse	270 55.3	N 7 24.5
Canopus	263 53.5	S52 42.7
Capella	280 26.4	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.3	N45 21.1
Denebola	182 27.9	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.3	N61 38.1
Elnath	278 05.8	N28 37.5
Eltanin	90 43.9	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.6	S57 13.7
Gienah	175 46.5	S17 39.5
Hadar	148 40.1	S60 28.2
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 36.9	S34 22.4
Kochab	137 19.6	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.1	S36 28.3
Miaplacidus	221 37.8	S69 48.3
Mirfak	308 32.8	N49 56.2
Nunki	75 51.9	S26 16.2
Peacock	53 11.2	S56 40.0
Polaris	317 34.5	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.6	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.8	S 8 10.8
Rigil Kent	139 44.5	S60 55.1
Sabik	102 06.5	S15 45.1
Schedar	349 35.0	N56 39.2
Shaula	96 14.8	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.4	S11 16.3
Suhail	222 48.1	S43 31.2
Vega	80 35.6	N38 47.9
Zuben-ubi	137 00.1	S16 07.7

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
24	0	154 05.4	183 24.2	S13 20.4	101 29.1	N20 28.2	195 59.3	S16 44.4	203 37.6	S18 43.5
	1	169 07.9	198 23.7	S13 19.4	116 30.1	N20 28.6	211 01.2	S16 44.2	218 39.8	S18 43.4
	2	184 10.3	213 23.1	S13 18.3	131 31.1	N20 28.9	226 03.1	S16 44.0	233 42.0	S18 43.3
	3	199 12.8	228 22.6	S13 17.3	146 32.1	N20 29.3	241 04.9	S16 43.9	248 44.2	S18 43.3
	4	214 15.2	243 22.0	S13 16.2	161 33.0	N20 29.7	256 06.8	S16 43.7	263 46.4	S18 43.2
W	5	229 17.7	258 21.4	S13 15.2	176 34.0	N20 30.0	271 08.7	S16 43.5	278 48.5	S18 43.1
E										
D	6	244 20.2	273 20.9	S13 14.2	191 35.0	N20 30.4	286 10.6	S16 43.4	293 50.7	S18 43.1
N	7	259 22.6	288 20.3	S13 13.1	206 36.0	N20 30.7	301 12.5	S16 43.2	308 52.9	S18 43.0
E	8	274 25.1	303 19.7	S13 12.1	221 37.0	N20 31.1	316 14.4	S16 43.1	323 55.1	S18 42.9
S	9	289 27.6	318 19.2	S13 11.0	236 38.0	N20 31.4	331 16.3	S16 42.9	338 57.3	S18 42.9
D	10	304 30.0	333 18.6	S13 10.0	251 39.0	N20 31.8	346 18.2	S16 42.7	353 59.4	S18 42.8
A	11	319 32.5	348 18.1	S13 08.9	266 39.9	N20 32.1	1 20.0	S16 42.6	9 01.6	S18 42.7
Y										
	12	334 35.0	3 17.5	S13 07.9	281 40.9	N20 32.5	16 21.9	S16 42.4	24 03.8	S18 42.7
	13	349 37.4	18 17.0	S13 06.8	296 41.9	N20 32.8	31 23.8	S16 42.2	39 06.0	S18 42.6
	14	4 39.9	33 16.4	S13 05.8	311 42.9	N20 33.2	46 25.7	S16 42.1	54 08.2	S18 42.5
	15	19 42.3	48 15.8	S13 04.7	326 43.9	N20 33.5	61 27.6	S16 41.9	69 10.4	S18 42.5
	16	34 44.8	63 15.3	S13 03.7	341 44.9	N20 33.9	76 29.5	S16 41.7	84 12.5	S18 42.4
	17	49 47.3	78 14.7	S13 02.6	356 45.8	N20 34.2	91 31.4	S16 41.6	99 14.7	S18 42.3
	18	64 49.7	93 14.2	S13 01.6	11 46.8	N20 34.6	106 33.3	S16 41.4	114 16.9	S18 42.3
	19	79 52.2	108 13.6	S13 00.5	26 47.8	N20 34.9	121 35.2	S16 41.2	129 19.1	S18 42.2
	20	94 54.7	123 13.1	S12 59.5	41 48.8	N20 35.3	136 37.0	S16 41.1	144 21.3	S18 42.1
	21	109 57.1	138 12.5	S12 58.4	56 49.8	N20 35.6	151 38.9	S16 40.9	159 23.5	S18 42.1
	22	124 59.6	153 11.9	S12 57.4	71 50.8	N20 36.0	166 40.8	S16 40.7	174 25.6	S18 42.0
	23	140 02.1	168 11.4	S12 56.3	86 51.7	N20 36.3	181 42.7	S16 40.6	189 27.8	S18 41.9
25	0	155 04.5	183 10.8	S12 55.3	101 52.7	N20 36.7	196 44.6	S16 40.4	204 30.0	S18 41.9
	1	170 07.0	198 10.3	S12 54.2	116 53.7	N20 37.0	211 46.5	S16 40.2	219 32.2	S18 41.8
	2	185 09.5	213 09.7	S12 53.1	131 54.7	N20 37.4	226 48.4	S16 40.1	234 34.4	S18 41.7
	3	200 11.9	228 09.2	S12 52.1	146 55.7	N20 37.7	241 50.3	S16 39.9	249 36.6	S18 41.7
	4	215 14.4	243 08.6	S12 51.0	161 56.6	N20 38.1	256 52.2	S16 39.7	264 38.8	S18 41.6
T	5	230 16.8	258 08.1	S12 50.0	176 57.6	N20 38.4	271 54.1	S16 39.6	279 40.9	S18 41.5
H										
U	6	245 19.3	273 07.5	S12 48.9	191 58.6	N20 38.8	286 55.9	S16 39.4	294 43.1	S18 41.5
R	7	260 21.8	288 07.0	S12 47.9	206 59.6	N20 39.1	301 57.8	S16 39.2	309 45.3	S18 41.4
S	8	275 24.2	303 06.4	S12 46.8	222 00.6	N20 39.5	316 59.7	S16 39.1	324 47.5	S18 41.3
D	9	290 26.7	318 05.9	S12 45.7	237 01.5	N20 39.8	332 01.6	S16 38.9	339 49.7	S18 41.3
A	10	305 29.2	333 05.3	S12 44.7	252 02.5	N20 40.2	347 03.5	S16 38.7	354 51.9	S18 41.2
Y	11	320 31.6	348 04.8	S12 43.6	267 03.5	N20 40.5	2 05.4	S16 38.6	9 54.0	S18 41.1
	12	335 34.1	3 04.2	S12 42.5	282 04.5	N20 40.9	17 07.3	S16 38.4	24 56.2	S18 41.1
	13	350 36.6	18 03.7	S12 41.5	297 05.5	N20 41.2	32 09.2	S16 38.2	39 58.4	S18 41.0
	14	5 39.0	33 03.1	S12 40.4	312 06.4	N20 41.6	47 11.1	S16 38.1	55 00.6	S18 40.9
	15	20 41.5	48 02.6	S12 39.4	327 07.4	N20 41.9	62 13.0	S16 37.9	70 02.8	S18 40.9
	16	35 44.0	63 02.0	S12 38.3	342 08.4	N20 42.3	77 14.8	S16 37.7	85 05.0	S18 40.8
	17	50 46.4	78 01.5	S12 37.2	357 09.4	N20 42.6	92 16.7	S16 37.6	100 07.2	S18 40.7
	18	65 48.9	93 01.0	S12 36.2	12 10.4	N20 43.0	107 18.6	S16 37.4	115 09.3	S18 40.7
	19	80 51.3	108 00.4	S12 35.1	27 11.3	N20 43.3	122 20.5	S16 37.2	130 11.5	S18 40.6
	20	95 53.8	122 59.9	S12 34.0	42 12.3	N20 43.7	137 22.4	S16 37.1	145 13.7	S18 40.5
	21	110 56.3	137 59.3	S12 33.0	57 13.3	N20 44.0	152 24.3	S16 36.9	160 15.9	S18 40.4
	22	125 58.7	152 58.8	S12 31.9	72 14.3	N20 44.4	167 26.2	S16 36.7	175 18.1	S18 40.4
	23	141 01.2	167 58.2	S12 30.8	87 15.2	N20 44.7	182 28.1	S16 36.6	190 20.3	S18 40.3
26	0	156 03.7	182 57.7	S12 29.7	102 16.2	N20 45.1	197 30.0	S16 36.4	205 22.5	S18 40.2
	1	171 06.1	197 57.1	S12 28.7	117 17.2	N20 45.4	212 31.9	S16 36.2	220 24.6	S18 40.2
	2	186 08.6	212 56.6	S12 27.6	132 18.2	N20 45.7	227 33.8	S16 36.1	235 26.8	S18 40.1
	3	201 11.1	227 56.1	S12 26.5	147 19.1	N20 46.1	242 35.6	S16 35.9	250 29.0	S18 40.0
	4	216 13.5	242 55.5	S12 25.5	162 20.1	N20 46.4	257 37.5	S16 35.7	265 31.2	S18 40.0
F	5	231 16.0	257 55.0	S12 24.4	177 21.1	N20 46.8	272 39.4	S16 35.6	280 33.4	S18 39.9
R										
I	6	246 18.5	272 54.4	S12 23.3	192 22.1	N20 47.1	287 41.3	S16 35.4	295 35.6	S18 39.8
D	7	261 20.9	287 53.9	S12 22.2	207 23.0	N20 47.5	302 43.2	S16 35.2	310 37.8	S18 39.8
A	8	276 23.4	302 53.4	S12 21.2	222 24.0	N20 47.8	317 45.1	S16 35.1	325 39.9	S18 39.7
Y	9	291 25.8	317 52.8	S12 20.1	237 25.0	N20 48.2	332 47.0	S16 34.9	340 42.1	S18 39.6
	10	306 28.3	332 52.3	S12 19.0	252 26.0	N20 48.5	347 48.9	S16 34.7	355 44.3	S18 39.6
	11	321 30.8	347 51.8	S12 17.9	267 26.9	N20 48.8	2 50.8	S16 34.6	10 46.5	S18 39.5
	12	336 33.2	2 51.2	S12 16.9	282 27.9	N20 49.2	17 52.7	S16 34.4	25 48.7	S18 39.4
	13	351 35.7	17 50.7	S12 15.8	297 28.9	N20 49.5	32 54.6	S16 34.2	40 50.9	S18 39.4
	14	6 38.2	32 50.1	S12 14.7	312 29.9	N20 49.9	47 56.5	S16 34.1	55 53.1	S18 39.3
	15	21 40.6	47 49.6	S12 13.6	327 30.8	N20 50.2	62 58.4	S16 33.9	70 55.2	S18 39.2
	16	36 43.1	62 49.1	S12 12.5	342 31.8	N20 50.6	78 00.2	S16 33.7	85 57.4	S18 39.2
	17	51 45.6	77 48.5	S12 11.5	357 32.8	N20 50.9	93 02.1	S16 33.6	100 59.6	S18 39.1
	18	66 48.0	92 48.0	S12 10.4	12 33.7	N20 51.2	108 04.0	S16 33.4	116 01.8	S18 39.0
	19	81 50.5	107 47.5	S12 09.3	27 34.7	N20 51.6	123 05.9	S16 33.2	131 04.0	S18 39.0
	20	96 52.9	122 46.9	S12 08.2	42 35.7	N20 51.9	138 07.8	S16 33.1	146 06.2	S18 38.9
	21	111 55.4	137 46.4	S12 07.1	57 36.7	N20 52.3	153 09.7	S16 32.9	161 08.4	S18 38.8
	22	126 57.9	152 45.9	S12 06.1	72 37.6	N20 52.6	168 11.6	S16 32.7	176 10.6	S18 38.8
	23	142 00.3	167 45.3	S12 05.0	87 38.6	N20 53.0	183 13.5	S16 32.6	191 12.7	S18 38.7
			v -0.5	d 1.1	v 1.0	d 0.3	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
24	0	176 41.5	S 9 27.5	38 26.8	8.0	N24 24.0	3.3	56.7
	1	191 41.6	S 9 26.6	52 53.7	7.9	N24 20.6	3.4	56.7
	2	206 41.7	S 9 25.7	67 20.7	7.9	N24 17.0	3.6	56.8
	3	221 41.8	S 9 24.8	81 47.6	7.9	N24 13.3	3.7	56.8
	4	236 41.9	S 9 23.8	96 14.5	7.9	N24 09.5	3.8	56.8
W	5	251 42.0	S 9 22.9	110 41.4	7.9	N24 05.5	4.0	56.9
E								
D	6	266 42.1	S 9 22.0	125 08.3	7.9	N24 01.4	4.1	56.9
N	7	281 42.2	S 9 21.1	139 35.2	7.9	N23 57.1	4.3	56.9
E	8	296 42.3	S 9 20.1	154 02.1	7.9	N23 52.7	4.4	57.0
S	9	311 42.4	S 9 19.2	168 29.0	7.9	N23 48.2	4.5	57.0
D	10	326 42.5	S 9 18.3	182 55.8	7.9	N23 43.5	4.7	57.0
A	11	341 42.6	S 9 17.4	197 22.7	7.9	N23 38.7	4.8	57.1
Y								
	12	356 42.6	S 9 16.4	211 49.6	7.9	N23 33.7	5.0	57.1
	13	11 42.7	S 9 15.5	226 16.5	7.9	N23 28.6	5.1	57.1
	14	26 42.8	S 9 14.6	240 43.4	7.9	N23 23.3	5.3	57.2
	15	41 42.9	S 9 13.7	255 10.3	7.9	N23 17.9	5.4	57.2
	16	56 43.0	S 9 12.7	269 37.2	7.9	N23 12.4	5.5	57.2
	17	71 43.1	S 9 11.8	284 04.1	7.9	N23 06.7	5.7	57.3
	18	86 43.2	S 9 10.9	298 31.0	7.9	N23 00.9	5.8	57.3
	19	101 43.3	S 9 10.0	312 57.9	7.9	N22 54.9	6.0	57.3
	20	116 43.4	S 9 09.0	327 24.8	7.9	N22 48.8	6.1	57.4
	21	131 43.5	S 9 08.1	341 51.7	7.9	N22 42.6	6.2	57.4
	22	146 43.6	S 9 07.2	356 18.7	7.9	N22 36.2	6.4	57.4
	23	161 43.7	S 9 06.2	10 45.6	8.0	N22 29.7	6.5	57.5
25	0	176 43.8	S 9 05.3	25 12.6	8.0	N22 23.1	6.7	57.5
	1	191 43.9	S 9 04.4	39 39.6	8.0	N22 16.3	6.8	57.5
	2	206 44.0	S 9 03.5	54 06.6	8.0	N22 09.3	6.9	57.6
	3	221 44.1	S 9 02.5	68 33.6	8.0	N22 02.3	7.1	57.6
	4	236 44.2	S 9 01.6	83 00.7	8.0	N21 55.1	7.2	57.6
T	5	251 44.3	S 9 00.7	97 27.7	8.0	N21 47.7	7.3	57.7
H								
U	6	266 44.4	S 8 59.7	111 54.8	8.1	N21 40.3	7.5	57.7
R	7	281 44.5	S 8 58.8	126 21.9	8.1	N21 32.7	7.6	57.7
S	8	296 44.6	S 8 57.9	140 49.0	8.1	N21 24.9	7.7	57.8
D	9	311 44.7	S 8 56.9	155 16.1	8.1	N21 17.1	7.9	57.8
A	10	326 44.8	S 8 56.0	169 43.2	8.2	N21 09.1	8.0	57.8
Y	11	341 44.9	S 8 55.1	184 10.4	8.2	N21 00.9	8.1	57.9
	12	356 45.0	S 8 54.1	198 37.6	8.2	N20 52.6	8.3	57.9
	13	11 45.1	S 8 53.2	213 04.8	8.2	N20 44.2	8.4	57.9
	14	26 45.2	S 8 52.3	227 32.1	8.2	N20 35.7	8.5	58.0
	15	41 45.3	S 8 51.3	241 59.3	8.3	N20 27.1	8.7	58.0
	16	56 45.4	S 8 50.4	256 26.6	8.3	N20 18.3	8.8	58.0
	17	71 45.5	S 8 49.5	270 54.0	8.3	N20 09.4	8.9	58.1
	18	86 45.6	S 8 48.5	285 21.3	8.3	N20 00.3	9.0	58.1
	19	101 45.7	S 8 47.6	299 48.7	8.4	N19 51.2	9.2	58.1
	20	116 45.8	S 8 46.7	314 16.1	8.4	N19 41.9	9.3	58.2
	21	131 45.9	S 8 45.7	328 43.5	8.4	N19 32.4	9.4	58.2
	22	146 46.0	S 8 44.8	343 11.0	8.5	N19 22.9	9.5	58.2
	23	161 46.2	S 8 43.9	357 38.5	8.5	N19 13.2	9.7	58.2
26	0	176 46.3	S 8 42.9	12 06.0	8.5	N19 03.5	9.8	58.3
	1	191 46.4	S 8 42.0	26 33.6	8.6	N18 53.6	9.9	58.3
	2	206 46.5	S 8 41.1	41 01.1	8.6	N18 43.5	10.0	58.3
	3	221 46.6	S 8 40.1	55 28.8	8.6	N18 33.4	10.1	58.4
	4	236 46.7	S 8 39.2	69 56.4	8.6	N18 23.1	10.3	58.4
F	5	251 46.8	S 8 38.3	84 24.1	8.7	N18 12.8	10.4	58.4
R								
I	6	266 46.9	S 8 37.3	98 51.8	8.7	N18 02.3	10.5	58.5
D	7	281 47.0	S 8 36.4	113 19.5	8.7	N17 51.7	10.6	58.5
A	8	296 47.1	S 8 35.5	127 47.3	8.8	N17 40.9	10.7	58.5
Y	9	311 47.2	S 8 34.5	142 15.1	8.8	N17 30.1	10.8	58.5
	10	326 47.3	S 8 33.6	156 43.0	8.8	N17 19.1	10.9	58.6
	11	341 47.4	S 8 32.6	171 10.9	8.9	N17 08.1	11.1	58.6
	12	356 47.5	S 8 31.7	185 38.8	8.9	N16 56.9	11.2	58.6
	13	11 47.6	S 8 30.8	200 06.7	8.9	N16 45.6	11.3	58.7
	14	26 47.7	S 8 29.8	214 34.7	9.0	N16 34.3	11.4	58.7
	15	41 47.9	S 8 28.9	229 02.7	9.0	N16 22.8	11.5	58.7
	16	56 48.0	S 8 28.0	243 30.8	9.1	N16 11.2	11.6	58.7
	17	71 48.1	S 8 27.0	257 58.9	9.1	N15 59.5	11.7	58.8
	18	86 48.2	S 8 26.1	272 27.0	9.1	N15 47.7	11.8	58.8
	19	101 48.3	S 8 25.1	286 55.1	9.2	N15 35.8	11.9	58.8
	20	116 48.4	S 8 24.2	301 23.3	9.2	N15 23.8	12.0	58.9
	21	131 48.5	S 8 23.3	315 51.6	9.2	N15 11.7	12.1	58.9
	22	146 48.6	S 8 22.3	330 19.8	9.3	N14 59.5	12.2	58.9
	23	161 48.7	S 8 21.4	344 48.1	9.3	N14 47.2	12.3	58.9
		S.D. 16.2	d 0.9	S.D. 15.6		15.8		16.0

Name	SHA	Dec
Acamar	315 14.3	S40 13.6
Achernar	335 23.0	S57 08.1
Acrux	173 02.9	S63 12.7
Adhara	255 08.1	S29 00.3
Albireo	67 06.8	N28 00.0
Aldebaran	290 43.2	N16 33.0
Alioth	166 15.3	N55 50.6
Alkaid	152 54.2	N49 12.3
Al Na-ir	27 37.3	S46 51.7
Alnilam	275 40.8	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.3	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.3	N 8 55.3
Ankaa	353 10.6	S42 11.8
Antares	112 19.7	S26 28.6
Arcturus	145 50.6	N19 04.2
Atria	107 16.9	S69 03.6
Avior	234 15.4	S59 34.8
Bellatrix	278 26.2	N 6 22.0
Betelgeuse	270 55.3	N 7 24.5
Canopus	263 53.5	S52 42.7
Capella	280 26.4	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.3	N45 21.1
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.3	N61 38.2
Elnath	278 05.8	N28 37.5
Eltanin	90 43.9	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.6	S57 13.7
Gienah	175 46.5	S17 39.5
Hadar	148 40.1	S60 28.2
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 36.9	S34 22.4
Kochab	137 19.6	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.1	S36 28.3
Miaplacidus	221 37.9	S69 48.3
Mirfak	308 32.9	N49 56.2
Nunki	75 51.9	S26 16.2
Peacock	53 11.2	S56 40.0
Polaris	317 35.7	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.6	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.8	S 8 10.8
Rigil Kent	139 44.4	S60 55.1
Sabik	102 06.5	S15 45.1
Schedar	349 35.0	N56 39.2
Shaula	96 14.7	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.4	S11 16.3
Suhail	222 48.1	S43 31.2
Vega	80 35.6	N38 47.9
Zuben-ubi	137 00.1	S16 07.7

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	157 02.8	182 44.8	S12 03.9	102 39.6	N20 53.3	198 15.4	S16 32.4	206 14.9	S18 38.6
	1	172 05.3	197 44.3	S12 02.8	117 40.5	N20 53.6	213 17.3	S16 32.2	221 17.1	S18 38.6
	2	187 07.7	212 43.7	S12 01.7	132 41.5	N20 54.0	228 19.2	S16 32.1	236 19.3	S18 38.5
	3	202 10.2	227 43.2	S12 00.6	147 42.5	N20 54.3	243 21.1	S16 31.9	251 21.5	S18 38.4
	4	217 12.7	242 42.7	S11 59.6	162 43.5	N20 54.7	258 23.0	S16 31.7	266 23.7	S18 38.4
S	5	232 15.1	257 42.2	S11 58.5	177 44.4	N20 55.0	273 24.9	S16 31.6	281 25.9	S18 38.3
A										
T	6	247 17.6	272 41.6	S11 57.4	192 45.4	N20 55.3	288 26.8	S16 31.4	296 28.1	S18 38.2
U	7	262 20.1	287 41.1	S11 56.3	207 46.4	N20 55.7	303 28.6	S16 31.2	311 30.2	S18 38.2
R	8	277 22.5	302 40.6	S11 55.2	222 47.3	N20 56.0	318 30.5	S16 31.1	326 32.4	S18 38.1
D	9	292 25.0	317 40.0	S11 54.1	237 48.3	N20 56.4	333 32.4	S16 30.9	341 34.6	S18 38.0
A	10	307 27.4	332 39.5	S11 53.0	252 49.3	N20 56.7	348 34.3	S16 30.8	356 36.8	S18 38.0
Y	11	322 29.9	347 39.0	S11 51.9	267 50.2	N20 57.0	3 36.2	S16 30.6	11 39.0	S18 37.9
	12	337 32.4	2 38.5	S11 50.9	282 51.2	N20 57.4	18 38.1	S16 30.4	26 41.2	S18 37.9
	13	352 34.8	17 37.9	S11 49.8	297 52.2	N20 57.7	33 40.0	S16 30.3	41 43.4	S18 37.8
	14	7 37.3	32 37.4	S11 48.7	312 53.1	N20 58.0	48 41.9	S16 30.1	56 45.6	S18 37.7
	15	22 39.8	47 36.9	S11 47.6	327 54.1	N20 58.4	63 43.8	S16 29.9	71 47.7	S18 37.7
	16	37 42.2	62 36.4	S11 46.5	342 55.1	N20 58.7	78 45.7	S16 29.8	86 49.9	S18 37.6
	17	52 44.7	77 35.8	S11 45.4	357 56.0	N20 59.1	93 47.6	S16 29.6	101 52.1	S18 37.5
	18	67 47.2	92 35.3	S11 44.3	12 57.0	N20 59.4	108 49.5	S16 29.4	116 54.3	S18 37.5
	19	82 49.6	107 34.8	S11 43.2	27 58.0	N20 59.7	123 51.4	S16 29.3	131 56.5	S18 37.4
	20	97 52.1	122 34.3	S11 42.1	42 58.9	N21 00.1	138 53.3	S16 29.1	146 58.7	S18 37.3
	21	112 54.5	137 33.7	S11 41.0	57 59.9	N21 00.4	153 55.2	S16 28.9	162 00.9	S18 37.3
	22	127 57.0	152 33.2	S11 39.9	73 00.9	N21 00.8	168 57.1	S16 28.8	177 03.1	S18 37.2
	23	142 59.5	167 32.7	S11 38.8	88 01.8	N21 01.1	183 59.0	S16 28.6	192 05.3	S18 37.1
28	0	158 01.9	182 32.2	S11 37.7	103 02.8	N21 01.4	199 00.9	S16 28.4	207 07.4	S18 37.1
	1	173 04.4	197 31.6	S11 36.6	118 03.8	N21 01.8	214 02.7	S16 28.3	222 09.6	S18 37.0
	2	188 06.9	212 31.1	S11 35.5	133 04.7	N21 02.1	229 04.6	S16 28.1	237 11.8	S18 36.9
	3	203 09.3	227 30.6	S11 34.4	148 05.7	N21 02.4	244 06.5	S16 27.9	252 14.0	S18 36.9
	4	218 11.8	242 30.1	S11 33.3	163 06.7	N21 02.8	259 08.4	S16 27.8	267 16.2	S18 36.8
S	5	233 14.3	257 29.6	S11 32.2	178 07.6	N21 03.1	274 10.3	S16 27.6	282 18.4	S18 36.7
U										
N	6	248 16.7	272 29.1	S11 31.1	193 08.6	N21 03.4	289 12.2	S16 27.4	297 20.6	S18 36.7
D	7	263 19.2	287 28.5	S11 30.0	208 09.6	N21 03.8	304 14.1	S16 27.3	312 22.8	S18 36.6
A	8	278 21.7	302 28.0	S11 28.9	223 10.5	N21 04.1	319 16.0	S16 27.1	327 25.0	S18 36.5
Y	9	293 24.1	317 27.5	S11 27.8	238 11.5	N21 04.4	334 17.9	S16 26.9	342 27.1	S18 36.5
	10	308 26.6	332 27.0	S11 26.7	253 12.4	N21 04.8	349 19.8	S16 26.8	357 29.3	S18 36.4
	11	323 29.0	347 26.5	S11 25.6	268 13.4	N21 05.1	4 21.7	S16 26.6	12 31.5	S18 36.3
	12	338 31.5	2 25.9	S11 24.5	283 14.4	N21 05.4	19 23.6	S16 26.4	27 33.7	S18 36.3
	13	353 34.0	17 25.4	S11 23.4	298 15.3	N21 05.8	34 25.5	S16 26.3	42 35.9	S18 36.2
	14	8 36.4	32 24.9	S11 22.3	313 16.3	N21 06.1	49 27.4	S16 26.1	57 38.1	S18 36.1
	15	23 38.9	47 24.4	S11 21.2	328 17.3	N21 06.4	64 29.3	S16 25.9	72 40.3	S18 36.1
	16	38 41.4	62 23.9	S11 20.1	343 18.2	N21 06.8	79 31.2	S16 25.8	87 42.5	S18 36.0
	17	53 43.8	77 23.4	S11 19.0	358 19.2	N21 07.1	94 33.1	S16 25.6	102 44.7	S18 35.9
	18	68 46.3	92 22.9	S11 17.9	13 20.1	N21 07.4	109 35.0	S16 25.4	117 46.9	S18 35.9
	19	83 48.8	107 22.3	S11 16.8	28 21.1	N21 07.8	124 36.9	S16 25.3	132 49.0	S18 35.8
	20	98 51.2	122 21.8	S11 15.7	43 22.1	N21 08.1	139 38.8	S16 25.1	147 51.2	S18 35.7
	21	113 53.7	137 21.3	S11 14.6	58 23.0	N21 08.4	154 40.7	S16 24.9	162 53.4	S18 35.7
	22	128 56.2	152 20.8	S11 13.5	73 24.0	N21 08.8	169 42.6	S16 24.8	177 55.6	S18 35.6
	23	143 58.6	167 20.3	S11 12.4	88 24.9	N21 09.1	184 44.5	S16 24.6	192 57.8	S18 35.5
1	0	159 01.1	182 19.8	S11 11.2	103 25.9	N21 09.4	199 46.4	S16 24.4	207 60.0	S18 35.5
	1	174 03.5	197 19.3	S11 10.1	118 26.9	N21 09.8	214 48.3	S16 24.3	223 02.2	S18 35.4
	2	189 06.0	212 18.8	S11 09.0	133 27.8	N21 10.1	229 50.2	S16 24.1	238 04.4	S18 35.3
	3	204 08.5	227 18.3	S11 07.9	148 28.8	N21 10.4	244 52.1	S16 23.9	253 06.6	S18 35.3
	4	219 10.9	242 17.7	S11 06.8	163 29.7	N21 10.8	259 54.0	S16 23.8	268 08.8	S18 35.2
M	5	234 13.4	257 17.2	S11 05.7	178 30.7	N21 11.1	274 55.9	S16 23.6	283 11.0	S18 35.1
O										
N	6	249 15.9	272 16.7	S11 04.6	193 31.7	N21 11.4	289 57.7	S16 23.4	298 13.1	S18 35.1
D	7	264 18.3	287 16.2	S11 03.5	208 32.6	N21 11.8	304 59.6	S16 23.3	313 15.3	S18 35.0
A	8	279 20.8	302 15.7	S11 02.3	223 33.6	N21 12.1	320 01.5	S16 23.1	328 17.5	S18 34.9
Y	9	294 23.3	317 15.2	S11 01.2	238 34.5	N21 12.4	335 03.4	S16 22.9	343 19.7	S18 34.9
	10	309 25.7	332 14.7	S11 00.1	253 35.5	N21 12.8	350 05.3	S16 22.8	358 21.9	S18 34.8
	11	324 28.2	347 14.2	S10 59.0	268 36.5	N21 13.1	5 07.2	S16 22.6	13 24.1	S18 34.7
	12	339 30.6	2 13.7	S10 57.9	283 37.4	N21 13.4	20 09.1	S16 22.4	28 26.3	S18 34.7
	13	354 33.1	17 13.2	S10 56.8	298 38.4	N21 13.7	35 11.0	S16 22.3	43 28.5	S18 34.6
	14	9 35.6	32 12.7	S10 55.7	313 39.3	N21 14.1	50 12.9	S16 22.1	58 30.7	S18 34.5
	15	24 38.0	47 12.2	S10 54.5	328 40.3	N21 14.4	65 14.8	S16 21.9	73 32.9	S18 34.5
	16	39 40.5	62 11.7	S10 53.4	343 41.2	N21 14.7	80 16.7	S16 21.8	88 35.1	S18 34.4
	17	54 43.0	77 11.2	S10 52.3	358 42.2	N21 15.1	95 18.6	S16 21.6	103 37.2	S18 34.3
	18	69 45.4	92 10.6	S10 51.2	13 43.2	N21 15.4	110 20.5	S16 21.4	118 39.4	S18 34.3
	19	84 47.9	107 10.1	S10 50.1	28 44.1	N21 15.7	125 22.4	S16 21.3	133 41.6	S18 34.2
	20	99 50.4	122 09.6	S10 48.9	43 45.1	N21 16.0	140 24.3	S16 21.1	148 43.8	S18 34.2
	21	114 52.8	137 09.1	S10 47.8	58 46.0	N21 16.4	155 26.2	S16 20.9	163 46.0	S18 34.1
	22	129 55.3	152 08.6	S10 46.7	73 47.0	N21 16.7	170 28.1	S16 20.8	178 48.2	S18 34.0
	23	144 57.8	167 08.1	S10 45.6	88 47.9	N21 17.0	185 30.0	S16 20.6	193 50.4	S18 34.0
			v -0.5	d 1.1	v 1.0	d 0.3	v 1.9	d 0.2	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 48.8	S 8 20.4	359 16.4	9.3	N14 34.8	12.4	59.0
	1	191 48.9	S 8 19.5	13 44.8	9.4	N14 22.3	12.5	59.0
	2	206 49.1	S 8 18.6	28 13.2	9.4	N14 09.7	12.6	59.0
	3	221 49.2	S 8 17.6	42 41.6	9.4	N13 57.1	12.7	59.0
	4	236 49.3	S 8 16.7	57 10.1	9.5	N13 44.3	12.8	59.1
S	5	251 49.4	S 8 15.7	71 38.6	9.5	N13 31.4	12.8	59.1
A								
T	6	266 49.5	S 8 14.8	86 07.1	9.5	N13 18.5	12.9	59.1
U	7	281 49.6	S 8 13.9	100 35.7	9.6	N13 05.5	13.0	59.1
R	8	296 49.7	S 8 12.9	115 04.2	9.6	N12 52.4	13.1	59.2
D	9	311 49.8	S 8 12.0	129 32.9	9.6	N12 39.2	13.2	59.2
A	10	326 50.0	S 8 11.0	144 01.5	9.7	N12 25.9	13.3	59.2
Y	11	341 50.1	S 8 10.1	158 30.2	9.7	N12 12.6	13.4	59.2
	12	356 50.2	S 8 09.1	172 58.9	9.7	N11 59.1	13.4	59.3
	13	11 50.3	S 8 08.2	187 27.7	9.8	N11 45.6	13.5	59.3
	14	26 50.4	S 8 07.3	201 56.5	9.8	N11 32.0	13.6	59.3
	15	41 50.5	S 8 06.3	216 25.3	9.8	N11 18.4	13.7	59.3
	16	56 50.6	S 8 05.4	230 54.1	9.8	N11 04.6	13.7	59.3
	17	71 50.8	S 8 04.4	245 23.0	9.9	N10 50.8	13.8	59.4
	18	86 50.9	S 8 03.5	259 51.9	9.9	N10 37.0	13.9	59.4
	19	101 51.0	S 8 02.5	274 20.8	9.9	N10 23.0	13.9	59.4
	20	116 51.1	S 8 01.6	288 49.8	10.0	N10 09.0	14.0	59.4
	21	131 51.2	S 8 00.7	303 18.7	10.0	N 9 54.9	14.1	59.4
	22	146 51.3	S 7 59.7	317 47.8	10.0	N 9 40.8	14.1	59.5
	23	161 51.4	S 7 58.8	332 16.8	10.0	N 9 26.6	14.2	59.5
28	0	176 51.6	S 7 57.8	346 45.8	10.1	N 9 12.3	14.3	59.5
	1	191 51.7	S 7 56.9	1 14.9	10.1	N 8 58.0	14.3	59.5
	2	206 51.8	S 7 55.9	15 44.0	10.1	N 8 43.6	14.4	59.5
	3	221 51.9	S 7 55.0	30 13.2	10.1	N 8 29.1	14.4	59.6
	4	236 52.0	S 7 54.0	44 42.3	10.2	N 8 14.6	14.5	59.6
S	5	251 52.1	S 7 53.1	59 11.5	10.2	N 8 00.1	14.6	59.6
U								
N	6	266 52.3	S 7 52.2	73 40.7	10.2	N 7 45.4	14.6	59.6
D	7	281 52.4	S 7 51.2	88 09.9	10.2	N 7 30.8	14.7	59.6
A	8	296 52.5	S 7 50.3	102 39.2	10.2	N 7 16.1	14.7	59.6
Y	9	311 52.6	S 7 49.3	117 08.4	10.3	N 7 01.3	14.8	59.7
	10	326 52.7	S 7 48.4	131 37.7	10.3	N 6 46.5	14.8	59.7
	11	341 52.8	S 7 47.4	146 07.0	10.3	N 6 31.7	14.9	59.7
	12	356 53.0	S 7 46.5	160 36.3	10.3	N 6 16.8	14.9	59.7
	13	11 53.1	S 7 45.5	175 05.6	10.3	N 6 01.8	14.9	59.7
	14	26 53.2	S 7 44.6	189 35.0	10.3	N 5 46.9	15.0	59.7
	15	41 53.3	S 7 43.6	204 04.4	10.4	N 5 31.8	15.0	59.7
	16	56 53.4	S 7 42.7	218 33.7	10.4	N 5 16.8	15.1	59.8
	17	71 53.6	S 7 41.7	233 03.1	10.4	N 5 01.7	15.1	59.8
	18	86 53.7	S 7 40.8	247 32.5	10.4	N 4 46.6	15.1	59.8
	19	101 53.8	S 7 39.8	262 01.9	10.4	N 4 31.4	15.2	59.8
	20	116 53.9	S 7 38.9	276 31.4	10.4	N 4 16.2	15.2	59.8
	21	131 54.0	S 7 37.9	291 00.8	10.4	N 4 01.0	15.2	59.8
	22	146 54.2	S 7 37.0	305 30.3	10.4	N 3 45.8	15.2	59.8
	23	161 54.3	S 7 36.0	319 59.7	10.5	N 3 30.5	15.3	59.8
1	0	176 54.4	S 7 35.1	334 29.2	10.5	N 3 15.2	15.3	59.9
	1	191 54.5	S 7 34.1	348 58.6	10.5	N 2 59.9	15.3	59.9
	2	206 54.7	S 7 33.2	3 28.1	10.5	N 2 44.6	15.3	59.9
	3	221 54.8	S 7 32.2	17 57.6	10.5	N 2 29.2	15.4	59.9
	4	236 54.9	S 7 31.3	32 27.1	10.5	N 2 13.8	15.4	59.9
M	5	251 55.0	S 7 30.3	46 56.6	10.5	N 1 58.4	15.4	59.9
O								
N	6	266 55.1	S 7 29.4	61 26.1	10.5	N 1 43.0	15.4	59.9
D	7	281 55.3	S 7 28.4	75 55.6	10.5	N 1 27.6	15.4	59.9
A	8	296 55.4	S 7 27.5	90 25.1	10.5	N 1 12.2	15.4	59.9
Y	9	311 55.5	S 7 26.5	104 54.6	10.5	N 0 56.7	15.4	59.9
	10	326 55.6	S 7 25.6	119 24.1	10.5	N 0 41.3	15.4	59.9
	11	341 55.8	S 7 24.6	133 53.6	10.5	N 0 25.8	15.5	59.9
	12	356 55.9	S 7 23.7	148 23.1	10.5	N 0 10.4	15.5	60.0
	13	11 56.0	S 7 22.7	162 52.5	10.5	S 0 05.1	15.5	60.0
	14	26 56.1	S 7 21.8	177 22.0	10.5	S 0 20.6	15.5	60.0
	15	41 56.3	S 7 20.8	191 51.5	10.5	S 0 36.0	15.5	60.0
	16	56 56.4	S 7 19.9	206 21.0	10.5	S 0 51.5	15.5	60.0
	17	71 56.5	S 7 18.9	220 50.4	10.5	S 1 07.0	15.5	60.0
	18	86 56.6	S 7 18.0	235 19.9	10.5	S 1 22.4	15.5	60.0
	19	101 56.8	S 7 17.0	249 49.4	10.4	S 1 37.9	15.5	60.0
	20	116 56.9	S 7 16.1	264 18.8	10.4	S 1 53.3	15.4	60.0
	21	131 57.0	S 7 15.1	278 48.2	10.4	S 2 08.7	15.4	60.0
	22	146 57.1	S 7 14.2	293 17.6	10.4	S 2 24.2	15.4	60.0
	23	161 57.3	S 7 13.2	307 47.0	10.4	S 2 39.6	15.4	60.0
		S.D. 16.1	d 0.9	S.D.	16.1	16.3	16.3	

STARS Name	SHA	Dec
Acamar	315 14.3	S40 13.6
Achernar	335 23.0	S57 08.1
Acrux	173 02.9	S63 12.8
Adhara	255 08.1	S29 00.3
Albireo	67 06.8	N27 60.0
Aldebaran	290 43.2	N16 33.0
Alioth	166 15.3	N55 50.6
Alkaid	152 54.2	N49 12.3
Al Na-ir	27 37.3	S46 51.6
Alnilam	275 40.8	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.3	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.2	N 8 55.3
Ankaa	353 10.6	S42 11.8
Antares	112 19.7	S26 28.6
Arcturus	145 50.6	N19 04.2
Atria	107 16.8	S69 03.6
Avior	234 15.4	S59 34.8
Bellatrix	278 26.2	N 6 22.0
Betelgeuse	270 55.4	N 7 24.5
Canopus	263 53.5	S52 42.7
Capella	280 26.4	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.3	N45 21.1
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.3	N61 38.2
Elnath	278 05.8	N28 37.5
Eltanin	90 43.8	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.6	S57 13.7
Gienah	175 46.5	S17 39.5
Hadar	148 40.1	S60 28.2
Hamal	327 54.9	N23 33.7
Kaus Austr.	83 36.9	S34 22.4
Kochab	137 19.5	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.1	S36 28.3
Miaplacidus	221 37.9	S69 48.3
Mirfak	308 32.9	N49 56.2
Nunki	75 51.9	S26 16.2
Peacock	53 11.1	S56 40.0
Polaris	317 36.9	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.6	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 06.8	S 8 10.8
Rigil Kent	139 44.4	S60 55.1
Sabik	102 06.4	S15 45.1
Schedar	349 35.0	N56 39.1
Shaula	96 14.7	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.4	S11 16.3
Suhail	222 48.2	S43 31.2
Vega	80 35.5	N38 47.9
Zuben-ubi	137 00.1	S16 07.7

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
2 0	160 00.2	182 07.6	S10 44.5	103 48.9	N21 17.3	200 31.9	S16 20.4	208 52.6	S18 33.9
1	175 02.7	197 07.1	S10 43.3	118 49.8	N21 17.7	215 33.8	S16 20.3	223 54.8	S18 33.8
2	190 05.1	212 06.6	S10 42.2	133 50.8	N21 18.0	230 35.7	S16 20.1	238 57.0	S18 33.8
3	205 07.6	227 06.1	S10 41.1	148 51.7	N21 18.3	245 37.6	S16 19.9	253 59.2	S18 33.7
4	220 10.1	242 05.6	S10 40.0	163 52.7	N21 18.7	260 39.5	S16 19.8	269 01.4	S18 33.6
T 5	235 12.5	257 05.1	S10 38.8	178 53.7	N21 19.0	275 41.4	S16 19.6	284 03.6	S18 33.6
U									
E 6	250 15.0	272 04.6	S10 37.7	193 54.6	N21 19.3	290 43.3	S16 19.4	299 05.8	S18 33.5
S 7	265 17.5	287 04.1	S10 36.6	208 55.6	N21 19.6	305 45.2	S16 19.3	314 07.9	S18 33.4
D 8	280 19.9	302 03.6	S10 35.5	223 56.5	N21 20.0	320 47.1	S16 19.1	329 10.1	S18 33.4
A 9	295 22.4	317 03.1	S10 34.3	238 57.5	N21 20.3	335 49.0	S16 18.9	344 12.3	S18 33.3
Y 10	310 24.9	332 02.6	S10 33.2	253 58.4	N21 20.6	350 50.9	S16 18.8	359 14.5	S18 33.2
11	325 27.3	347 02.1	S10 32.1	268 59.4	N21 20.9	5 52.8	S16 18.6	14 16.7	S18 33.2
12	340 29.8	2 01.6	S10 31.0	284 00.3	N21 21.3	20 54.7	S16 18.4	29 18.9	S18 33.1
13	355 32.2	17 01.1	S10 29.8	299 01.3	N21 21.6	35 56.6	S16 18.3	44 21.1	S18 33.0
14	10 34.7	32 00.6	S10 28.7	314 02.2	N21 21.9	50 58.5	S16 18.1	59 23.3	S18 33.0
15	25 37.2	47 00.2	S10 27.6	329 03.2	N21 22.2	66 00.4	S16 17.9	74 25.5	S18 32.9
16	40 39.6	61 59.7	S10 26.4	344 04.1	N21 22.6	81 02.3	S16 17.8	89 27.7	S18 32.8
17	55 42.1	76 59.2	S10 25.3	359 05.1	N21 22.9	96 04.2	S16 17.6	104 29.9	S18 32.8
18	70 44.6	91 58.7	S10 24.2	14 06.0	N21 23.2	111 06.1	S16 17.4	119 32.1	S18 32.7
19	85 47.0	106 58.2	S10 23.1	29 07.0	N21 23.5	126 08.0	S16 17.3	134 34.3	S18 32.6
20	100 49.5	121 57.7	S10 21.9	44 07.9	N21 23.8	141 09.9	S16 17.1	149 36.5	S18 32.6
21	115 52.0	136 57.2	S10 20.8	59 08.9	N21 24.2	156 11.8	S16 16.9	164 38.7	S18 32.5
22	130 54.4	151 56.7	S10 19.7	74 09.8	N21 24.5	171 13.7	S16 16.8	179 40.8	S18 32.4
23	145 56.9	166 56.2	S10 18.5	89 10.8	N21 24.8	186 15.6	S16 16.6	194 43.0	S18 32.4
3 0	160 59.4	181 55.7	S10 17.4	104 11.7	N21 25.1	201 17.5	S16 16.4	209 45.2	S18 32.3
1	176 01.8	196 55.2	S10 16.3	119 12.7	N21 25.5	216 19.4	S16 16.3	224 47.4	S18 32.3
2	191 04.3	211 54.7	S10 15.1	134 13.6	N21 25.8	231 21.3	S16 16.1	239 49.6	S18 32.2
3	206 06.7	226 54.2	S10 14.0	149 14.6	N21 26.1	246 23.2	S16 15.9	254 51.8	S18 32.1
4	221 09.2	241 53.7	S10 12.8	164 15.5	N21 26.4	261 25.1	S16 15.8	269 54.0	S18 32.1
W 5	236 11.7	256 53.3	S10 11.7	179 16.5	N21 26.7	276 27.0	S16 15.6	284 56.2	S18 32.0
E									
D 6	251 14.1	271 52.8	S10 10.6	194 17.4	N21 27.1	291 28.9	S16 15.4	299 58.4	S18 31.9
N 7	266 16.6	286 52.3	S10 09.4	209 18.4	N21 27.4	306 30.8	S16 15.3	315 00.6	S18 31.9
E 8	281 19.1	301 51.8	S10 08.3	224 19.3	N21 27.7	321 32.7	S16 15.1	330 02.8	S18 31.8
S 9	296 21.5	316 51.3	S10 07.2	239 20.3	N21 28.0	336 34.6	S16 14.9	345 05.0	S18 31.7
D 10	311 24.0	331 50.8	S10 06.0	254 21.2	N21 28.3	351 36.5	S16 14.8	0 07.2	S18 31.7
A 11	326 26.5	346 50.3	S10 04.9	269 22.2	N21 28.7	6 38.4	S16 14.6	15 09.4	S18 31.6
Y									
12	341 28.9	1 49.8	S10 03.7	284 23.1	N21 29.0	21 40.3	S16 14.4	30 11.6	S18 31.5
13	356 31.4	16 49.3	S10 02.6	299 24.1	N21 29.3	36 42.3	S16 14.3	45 13.8	S18 31.5
14	11 33.8	31 48.9	S10 01.5	314 25.0	N21 29.6	51 44.2	S16 14.1	60 16.0	S18 31.4
15	26 36.3	46 48.4	S10 00.3	329 26.0	N21 29.9	66 46.1	S16 13.9	75 18.2	S18 31.3
16	41 38.8	61 47.9	S 9 59.2	344 26.9	N21 30.3	81 48.0	S16 13.8	90 20.4	S18 31.3
17	56 41.2	76 47.4	S 9 58.0	359 27.8	N21 30.6	96 49.9	S16 13.6	105 22.6	S18 31.2
18	71 43.7	91 46.9	S 9 56.9	14 28.8	N21 30.9	111 51.8	S16 13.4	120 24.7	S18 31.1
19	86 46.2	106 46.4	S 9 55.8	29 29.7	N21 31.2	126 53.7	S16 13.3	135 26.9	S18 31.1
20	101 48.6	121 45.9	S 9 54.6	44 30.7	N21 31.5	141 55.6	S16 13.1	150 29.1	S18 31.0
21	116 51.1	136 45.5	S 9 53.5	59 31.6	N21 31.9	156 57.5	S16 12.9	165 31.3	S18 30.9
22	131 53.6	151 45.0	S 9 52.3	74 32.6	N21 32.2	171 59.4	S16 12.8	180 33.5	S18 30.9
23	146 56.0	166 44.5	S 9 51.2	89 33.5	N21 32.5	187 01.3	S16 12.6	195 35.7	S18 30.8
4 0	161 58.5	181 44.0	S 9 50.0	104 34.5	N21 32.8	202 03.2	S16 12.4	210 37.9	S18 30.8
1	177 01.0	196 43.5	S 9 48.9	119 35.4	N21 33.1	217 05.1	S16 12.3	225 40.1	S18 30.7
2	192 03.4	211 43.0	S 9 47.8	134 36.4	N21 33.4	232 07.0	S16 12.1	240 42.3	S18 30.6
3	207 05.9	226 42.6	S 9 46.6	149 37.3	N21 33.8	247 08.9	S16 11.9	255 44.5	S18 30.6
4	222 08.3	241 42.1	S 9 45.5	164 38.2	N21 34.1	262 10.8	S16 11.8	270 46.7	S18 30.5
T 5	237 10.8	256 41.6	S 9 44.3	179 39.2	N21 34.4	277 12.7	S16 11.6	285 48.9	S18 30.4
H									
U 6	252 13.3	271 41.1	S 9 43.2	194 40.1	N21 34.7	292 14.6	S16 11.4	300 51.1	S18 30.4
R 7	267 15.7	286 40.6	S 9 42.0	209 41.1	N21 35.0	307 16.5	S16 11.3	315 53.3	S18 30.3
S 8	282 18.2	301 40.2	S 9 40.9	224 42.0	N21 35.3	322 18.4	S16 11.1	330 55.5	S18 30.2
D 9	297 20.7	316 39.7	S 9 39.7	239 43.0	N21 35.6	337 20.3	S16 10.9	345 57.7	S18 30.2
A 10	312 23.1	331 39.2	S 9 38.6	254 43.9	N21 36.0	352 22.2	S16 10.8	0 59.9	S18 30.1
Y 11	327 25.6	346 38.7	S 9 37.4	269 44.8	N21 36.3	7 24.1	S16 10.6	16 02.1	S18 30.0
12	342 28.1	1 38.2	S 9 36.3	284 45.8	N21 36.6	22 26.0	S16 10.4	31 04.3	S18 30.0
13	357 30.5	16 37.8	S 9 35.1	299 46.7	N21 36.9	37 27.9	S16 10.3	46 06.5	S18 29.9
14	12 33.0	31 37.3	S 9 34.0	314 47.7	N21 37.2	52 29.8	S16 10.1	61 08.7	S18 29.8
15	27 35.5	46 36.8	S 9 32.8	329 48.6	N21 37.5	67 31.7	S16 09.9	76 10.9	S18 29.8
16	42 37.9	61 36.3	S 9 31.7	344 49.6	N21 37.9	82 33.7	S16 09.8	91 13.1	S18 29.7
17	57 40.4	76 35.9	S 9 30.5	359 50.5	N21 38.2	97 35.6	S16 09.6	106 15.3	S18 29.6
18	72 42.8	91 35.4	S 9 29.4	14 51.4	N21 38.5	112 37.5	S16 09.4	121 17.5	S18 29.6
19	87 45.3	106 34.9	S 9 28.2	29 52.4	N21 38.8	127 39.4	S16 09.3	136 19.7	S18 29.5
20	102 47.8	121 34.4	S 9 27.1	44 53.3	N21 39.1	142 41.3	S16 09.1	151 21.9	S18 29.5
21	117 50.2	136 33.9	S 9 25.9	59 54.3	N21 39.4	157 43.2	S16 08.9	166 24.1	S18 29.4
22	132 52.7	151 33.5	S 9 24.7	74 55.2	N21 39.7	172 45.1	S16 08.8	181 26.3	S18 29.3
23	147 55.2	166 33.0	S 9 23.6	89 56.1	N21 40.0	187 47.0	S16 08.6	196 28.5	S18 29.3
		v -0.5	d 1.1	v 0.9	d 0.3	v 1.9	d 0.2	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 57.4	S 7 12.2	322 16.4	10.4	S 2 55.0	15.4	60.0
	1	191 57.5	S 7 11.3	336 45.8	10.4	S 3 10.4	15.4	60.0
	2	206 57.6	S 7 10.3	351 15.2	10.4	S 3 25.7	15.4	60.0
	3	221 57.8	S 7 09.4	5 44.5	10.3	S 3 41.1	15.3	60.0
	4	236 57.9	S 7 08.4	20 13.8	10.3	S 3 56.4	15.3	60.0
T	5	251 58.0	S 7 07.5	34 43.1	10.3	S 4 11.7	15.3	60.0
U								
E	6	266 58.1	S 7 06.5	49 12.4	10.3	S 4 27.0	15.3	60.0
S	7	281 58.3	S 7 05.6	63 41.7	10.3	S 4 42.2	15.3	60.0
D	8	296 58.4	S 7 04.6	78 10.9	10.2	S 4 57.4	15.2	60.0
A	9	311 58.5	S 7 03.7	92 40.2	10.2	S 5 12.6	15.2	60.0
Y	10	326 58.7	S 7 02.7	107 09.4	10.2	S 5 27.8	15.2	60.0
	11	341 58.8	S 7 01.7	121 38.5	10.2	S 5 42.9	15.1	60.0
	12	356 58.9	S 7 00.8	136 07.7	10.2	S 5 58.0	15.1	60.0
	13	11 59.0	S 6 59.8	150 36.8	10.1	S 6 13.1	15.1	60.0
	14	26 59.2	S 6 58.9	165 05.9	10.1	S 6 28.1	15.0	60.0
	15	41 59.3	S 6 57.9	179 35.0	10.1	S 6 43.1	15.0	60.0
	16	56 59.4	S 6 57.0	194 04.0	10.0	S 6 58.0	14.9	60.0
	17	71 59.6	S 6 56.0	208 33.0	10.0	S 7 12.9	14.9	60.0
	18	86 59.7	S 6 55.0	223 02.0	10.0	S 7 27.8	14.9	60.0
	19	101 59.8	S 6 54.1	237 31.0	10.0	S 7 42.6	14.8	60.0
	20	116 60.0	S 6 53.1	251 59.9	9.9	S 7 57.4	14.8	60.0
	21	132 00.1	S 6 52.2	266 28.8	9.9	S 8 12.1	14.7	60.0
	22	147 00.2	S 6 51.2	280 57.7	9.9	S 8 26.8	14.7	60.0
	23	162 00.3	S 6 50.3	295 26.5	9.8	S 8 41.4	14.6	60.0
3	0	177 00.5	S 6 49.3	309 55.3	9.8	S 8 56.0	14.6	59.9
	1	192 00.6	S 6 48.3	324 24.0	9.8	S 9 10.5	14.5	59.9
	2	207 00.7	S 6 47.4	338 52.8	9.7	S 9 25.0	14.5	59.9
	3	222 00.9	S 6 46.4	353 21.4	9.7	S 9 39.4	14.4	59.9
	4	237 01.0	S 6 45.5	7 50.1	9.6	S 9 53.7	14.3	59.9
W	5	252 01.1	S 6 44.5	22 18.7	9.6	S10 08.0	14.3	59.9
E								
D	6	267 01.3	S 6 43.5	36 47.3	9.6	S10 22.2	14.2	59.9
N	7	282 01.4	S 6 42.6	51 15.8	9.5	S10 36.4	14.2	59.9
E	8	297 01.5	S 6 41.6	65 44.3	9.5	S10 50.5	14.1	59.9
S	9	312 01.7	S 6 40.7	80 12.7	9.4	S11 04.5	14.0	59.9
D	10	327 01.8	S 6 39.7	94 41.1	9.4	S11 18.4	14.0	59.9
A	11	342 01.9	S 6 38.7	109 09.5	9.4	S11 32.3	13.9	59.9
Y								
	12	357 02.1	S 6 37.8	123 37.8	9.3	S11 46.1	13.8	59.9
	13	12 02.2	S 6 36.8	138 06.0	9.3	S11 59.9	13.7	59.8
	14	27 02.3	S 6 35.9	152 34.3	9.2	S12 13.6	13.7	59.8
	15	42 02.5	S 6 34.9	167 02.5	9.2	S12 27.1	13.6	59.8
	16	57 02.6	S 6 33.9	181 30.6	9.1	S12 40.7	13.5	59.8
	17	72 02.7	S 6 33.0	195 58.7	9.1	S12 54.1	13.4	59.8
	18	87 02.9	S 6 32.0	210 26.7	9.0	S13 07.5	13.4	59.8
	19	102 03.0	S 6 31.1	224 54.7	9.0	S13 20.7	13.3	59.8
	20	117 03.1	S 6 30.1	239 22.7	8.9	S13 33.9	13.2	59.8
	21	132 03.3	S 6 29.1	253 50.6	8.9	S13 47.0	13.1	59.8
	22	147 03.4	S 6 28.2	268 18.4	8.8	S14 00.1	13.0	59.8
	23	162 03.5	S 6 27.2	282 46.2	8.8	S14 13.0	12.9	59.7
4	0	177 03.7	S 6 26.3	297 14.0	8.7	S14 25.8	12.8	59.7
	1	192 03.8	S 6 25.3	311 41.7	8.7	S14 38.6	12.8	59.7
	2	207 04.0	S 6 24.3	326 09.3	8.6	S14 51.2	12.7	59.7
	3	222 04.1	S 6 23.4	340 36.9	8.6	S15 03.8	12.6	59.7
	4	237 04.2	S 6 22.4	355 04.4	8.5	S15 16.3	12.5	59.7
T	5	252 04.4	S 6 21.4	9 31.9	8.5	S15 28.7	12.4	59.7
H								
U	6	267 04.5	S 6 20.5	23 59.4	8.4	S15 40.9	12.3	59.7
R	7	282 04.6	S 6 19.5	38 26.8	8.4	S15 53.1	12.2	59.6
S	8	297 04.8	S 6 18.5	52 54.1	8.3	S16 05.2	12.1	59.6
D	9	312 04.9	S 6 17.6	67 21.4	8.3	S16 17.2	12.0	59.6
A	10	327 05.1	S 6 16.6	81 48.6	8.2	S16 29.1	11.9	59.6
Y	11	342 05.2	S 6 15.7	96 15.8	8.2	S16 40.8	11.8	59.6
	12	357 05.3	S 6 14.7	110 42.9	8.1	S16 52.5	11.7	59.6
	13	12 05.5	S 6 13.7	125 10.0	8.1	S17 04.1	11.6	59.6
	14	27 05.6	S 6 12.8	139 37.0	8.0	S17 15.5	11.4	59.5
	15	42 05.7	S 6 11.8	154 04.0	8.0	S17 26.8	11.3	59.5
	16	57 05.9	S 6 10.8	168 30.9	7.9	S17 38.1	11.2	59.5
	17	72 06.0	S 6 09.9	182 57.7	7.9	S17 49.2	11.1	59.5
	18	87 06.2	S 6 08.9	197 24.6	7.8	S18 00.2	11.0	59.5
	19	102 06.3	S 6 07.9	211 51.3	7.7	S18 11.1	10.9	59.5
	20	117 06.4	S 6 07.0	226 18.0	7.7	S18 21.9	10.8	59.4
	21	132 06.6	S 6 06.0	240 44.6	7.6	S18 32.5	10.7	59.4
	22	147 06.7	S 6 05.0	255 11.2	7.6	S18 43.0	10.5	59.4
	23	162 06.9	S 6 04.1	269 37.8	7.5	S18 53.5	10.4	59.4
		S.D. 16.1	d 1.0	S.D. 16.3		16.3	16.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.3	S40 13.6
Achernar	335 23.0	S57 08.1
Acrux	173 02.9	S63 12.8
Adhara	255 08.1	S29 00.3
Albireo	67 06.8	N27 60.0
Aldebaran	290 43.2	N16 33.0
Alioth	166 15.3	N55 50.6
Alkaid	152 54.2	N49 12.3
Al Na-ir	27 37.3	S46 51.6
Alnilam	275 40.8	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.3	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.2	N 8 55.3
Ankaa	353 10.7	S42 11.8
Antares	112 19.7	S26 28.6
Arcturus	145 50.6	N19 04.2
Atria	107 16.8	S69 03.6
Avior	234 15.4	S59 34.8
Bellatrix	278 26.2	N 6 22.0
Betelgeuse	270 55.4	N 7 24.5
Canopus	263 53.5	S52 42.7
Capella	280 26.5	N46 01.2
Castor	246 00.8	N31 50.5
Deneb	49 28.3	N45 21.1
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.3	N61 38.2
Elnath	278 05.8	N28 37.5
Eltanin	90 43.8	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.6	S57 13.7
Gienah	175 46.5	S17 39.5
Hadar	148 40.0	S60 28.2
Hamal	327 55.0	N23 33.7
Kaus Austr.	83 36.9	S34 22.4
Kochab	137 19.4	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.1	S36 28.3
Miaplacidus	221 37.9	S69 48.3
Mirfak	308 32.9	N49 56.2
Nunki	75 51.8	S26 16.2
Peacock	53 11.1	S56 40.0
Polaris	317 37.9	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.6	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 06.8	S 8 10.8
Rigil Kent	139 44.4	S60 55.1
Sabik	102 06.4	S15 45.1
Schedar	349 35.0	N56 39.1
Shaula	96 14.7	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.4	S11 16.3
Suhail	222 48.2	S43 31.2
Vega	80 35.5	N38 47.9
Zuben-ubi	137 00.1	S16 07.7

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
5	0	162 57.6	181 32.5	S 9 22.4	104 57.1	N21 40.4	202 48.9	S16 08.4	211 30.7	S18 29.2
	1	178 00.1	196 32.1	S 9 21.3	119 58.0	N21 40.7	217 50.8	S16 08.3	226 32.9	S18 29.1
	2	193 02.6	211 31.6	S 9 20.1	134 59.0	N21 41.0	232 52.7	S16 08.1	241 35.0	S18 29.1
	3	208 05.0	226 31.1	S 9 19.0	149 59.9	N21 41.3	247 54.6	S16 07.9	256 37.2	S18 29.0
	4	223 07.5	241 30.6	S 9 17.8	165 00.8	N21 41.6	262 56.5	S16 07.8	271 39.4	S18 28.9
F	5	238 09.9	256 30.2	S 9 16.6	180 01.8	N21 41.9	277 58.4	S16 07.6	286 41.6	S18 28.9
R										
I	6	253 12.4	271 29.7	S 9 15.5	195 02.7	N21 42.2	293 00.3	S16 07.4	301 43.8	S18 28.8
D	7	268 14.9	286 29.2	S 9 14.3	210 03.6	N21 42.5	308 02.2	S16 07.3	316 46.0	S18 28.7
A	8	283 17.3	301 28.7	S 9 13.2	225 04.6	N21 42.8	323 04.1	S16 07.1	331 48.2	S18 28.7
Y	9	298 19.8	316 28.3	S 9 12.0	240 05.5	N21 43.2	338 06.0	S16 06.9	346 50.4	S18 28.6
	10	313 22.3	331 27.8	S 9 10.9	255 06.5	N21 43.5	353 08.0	S16 06.8	1 52.6	S18 28.5
	11	328 24.7	346 27.3	S 9 09.7	270 07.4	N21 43.8	8 09.9	S16 06.6	16 54.8	S18 28.5
	12	343 27.2	1 26.9	S 9 08.5	285 08.3	N21 44.1	23 11.8	S16 06.4	31 57.0	S18 28.4
	13	358 29.7	16 26.4	S 9 07.4	300 09.3	N21 44.4	38 13.7	S16 06.3	46 59.2	S18 28.4
	14	13 32.1	31 25.9	S 9 06.2	315 10.2	N21 44.7	53 15.6	S16 06.1	62 01.4	S18 28.3
	15	28 34.6	46 25.5	S 9 05.1	330 11.1	N21 45.0	68 17.5	S16 05.9	77 03.6	S18 28.2
	16	43 37.1	61 25.0	S 9 03.9	345 12.1	N21 45.3	83 19.4	S16 05.8	92 05.8	S18 28.2
	17	58 39.5	76 24.5	S 9 02.7	0 13.0	N21 45.6	98 21.3	S16 05.6	107 08.0	S18 28.1
	18	73 42.0	91 24.0	S 9 01.6	15 14.0	N21 45.9	113 23.2	S16 05.4	122 10.2	S18 28.0
	19	88 44.4	106 23.6	S 9 00.4	30 14.9	N21 46.2	128 25.1	S16 05.3	137 12.4	S18 28.0
	20	103 46.9	121 23.1	S 8 59.2	45 15.8	N21 46.6	143 27.0	S16 05.1	152 14.6	S18 27.9
	21	118 49.4	136 22.6	S 8 58.1	60 16.8	N21 46.9	158 28.9	S16 04.9	167 16.8	S18 27.8
	22	133 51.8	151 22.2	S 8 56.9	75 17.7	N21 47.2	173 30.8	S16 04.8	182 19.0	S18 27.8
	23	148 54.3	166 21.7	S 8 55.7	90 18.6	N21 47.5	188 32.7	S16 04.6	197 21.2	S18 27.7
6	0	163 56.8	181 21.2	S 8 54.6	105 19.6	N21 47.8	203 34.7	S16 04.4	212 23.4	S18 27.6
	1	178 59.2	196 20.8	S 8 53.4	120 20.5	N21 48.1	218 36.6	S16 04.3	227 25.6	S18 27.6
	2	194 01.7	211 20.3	S 8 52.2	135 21.4	N21 48.4	233 38.5	S16 04.1	242 27.8	S18 27.5
	3	209 04.2	226 19.9	S 8 51.1	150 22.4	N21 48.7	248 40.4	S16 03.9	257 30.0	S18 27.5
	4	224 06.6	241 19.4	S 8 49.9	165 23.3	N21 49.0	263 42.3	S16 03.8	272 32.2	S18 27.4
S	5	239 09.1	256 18.9	S 8 48.7	180 24.2	N21 49.3	278 44.2	S16 03.6	287 34.4	S18 27.3
A										
T	6	254 11.6	271 18.5	S 8 47.6	195 25.2	N21 49.6	293 46.1	S16 03.4	302 36.6	S18 27.3
U	7	269 14.0	286 18.0	S 8 46.4	210 26.1	N21 49.9	308 48.0	S16 03.3	317 38.8	S18 27.2
R	8	284 16.5	301 17.5	S 8 45.2	225 27.0	N21 50.2	323 49.9	S16 03.1	332 41.0	S18 27.1
D	9	299 18.9	316 17.1	S 8 44.1	240 28.0	N21 50.5	338 51.8	S16 03.0	347 43.2	S18 27.1
A	10	314 21.4	331 16.6	S 8 42.9	255 28.9	N21 50.8	353 53.7	S16 02.8	2 45.4	S18 27.0
Y	11	329 23.9	346 16.1	S 8 41.7	270 29.8	N21 51.1	8 55.6	S16 02.6	17 47.6	S18 26.9
	12	344 26.3	1 15.7	S 8 40.6	285 30.8	N21 51.5	23 57.6	S16 02.5	32 49.8	S18 26.9
	13	359 28.8	16 15.2	S 8 39.4	300 31.7	N21 51.8	38 59.5	S16 02.3	47 52.0	S18 26.8
	14	14 31.3	31 14.8	S 8 38.2	315 32.6	N21 52.1	54 01.4	S16 02.1	62 54.2	S18 26.7
	15	29 33.7	46 14.3	S 8 37.0	330 33.6	N21 52.4	69 03.3	S16 02.0	77 56.4	S18 26.7
	16	44 36.2	61 13.8	S 8 35.9	345 34.5	N21 52.7	84 05.2	S16 01.8	92 58.6	S18 26.6
	17	59 38.7	76 13.4	S 8 34.7	0 35.4	N21 53.0	99 07.1	S16 01.6	108 00.8	S18 26.6
	18	74 41.1	91 12.9	S 8 33.5	15 36.3	N21 53.3	114 09.0	S16 01.5	123 03.0	S18 26.5
	19	89 43.6	106 12.5	S 8 32.4	30 37.3	N21 53.6	129 10.9	S16 01.3	138 05.2	S18 26.4
	20	104 46.0	121 12.0	S 8 31.2	45 38.2	N21 53.9	144 12.8	S16 01.1	153 07.4	S18 26.4
	21	119 48.5	136 11.5	S 8 30.0	60 39.1	N21 54.2	159 14.7	S16 01.0	168 09.7	S18 26.3
	22	134 51.0	151 11.1	S 8 28.8	75 40.1	N21 54.5	174 16.6	S16 00.8	183 11.9	S18 26.2
	23	149 53.4	166 10.6	S 8 27.7	90 41.0	N21 54.8	189 18.6	S16 00.6	198 14.1	S18 26.2
7	0	164 55.9	181 10.2	S 8 26.5	105 41.9	N21 55.1	204 20.5	S16 00.5	213 16.3	S18 26.1
	1	179 58.4	196 09.7	S 8 25.3	120 42.9	N21 55.4	219 22.4	S16 00.3	228 18.5	S18 26.0
	2	195 00.8	211 09.3	S 8 24.1	135 43.8	N21 55.7	234 24.3	S16 00.1	243 20.7	S18 26.0
	3	210 03.3	226 08.8	S 8 23.0	150 44.7	N21 56.0	249 26.2	S15 60.0	258 22.9	S18 25.9
	4	225 05.8	241 08.3	S 8 21.8	165 45.6	N21 56.3	264 28.1	S15 59.8	273 25.1	S18 25.9
S	5	240 08.2	256 07.9	S 8 20.6	180 46.6	N21 56.6	279 30.0	S15 59.6	288 27.3	S18 25.8
U										
N	6	255 10.7	271 07.4	S 8 19.4	195 47.5	N21 56.9	294 31.9	S15 59.5	303 29.5	S18 25.7
D	7	270 13.2	286 07.0	S 8 18.2	210 48.4	N21 57.2	309 33.8	S15 59.3	318 31.7	S18 25.7
A	8	285 15.6	301 06.5	S 8 17.1	225 49.4	N21 57.5	324 35.7	S15 59.1	333 33.9	S18 25.6
Y	9	300 18.1	316 06.1	S 8 15.9	240 50.3	N21 57.8	339 37.7	S15 59.0	348 36.1	S18 25.5
	10	315 20.5	331 05.6	S 8 14.7	255 51.2	N21 58.1	354 39.6	S15 58.8	3 38.3	S18 25.5
	11	330 23.0	346 05.2	S 8 13.5	270 52.1	N21 58.4	9 41.5	S15 58.6	18 40.5	S18 25.4
	12	345 25.5	1 04.7	S 8 12.3	285 53.1	N21 58.7	24 43.4	S15 58.5	33 42.7	S18 25.3
	13	0 27.9	16 04.2	S 8 11.2	300 54.0	N21 59.0	39 45.3	S15 58.3	48 44.9	S18 25.3
	14	15 30.4	31 03.8	S 8 10.0	315 54.9	N21 59.3	54 47.2	S15 58.1	63 47.1	S18 25.2
	15	30 32.9	46 03.3	S 8 08.8	330 55.8	N21 59.6	69 49.1	S15 58.0	78 49.3	S18 25.2
	16	45 35.3	61 02.9	S 8 07.6	345 56.8	N21 59.9	84 51.0	S15 57.8	93 51.5	S18 25.1
	17	60 37.8	76 02.4	S 8 06.4	0 57.7	N22 00.2	99 53.0	S15 57.6	108 53.7	S18 25.0
	18	75 40.3	91 02.0	S 8 05.3	15 58.6	N22 00.5	114 54.9	S15 57.5	123 55.9	S18 25.0
	19	90 42.7	106 01.5	S 8 04.1	30 59.6	N22 00.8	129 56.8	S15 57.3	138 58.1	S18 24.9
	20	105 45.2	121 01.1	S 8 02.9	46 00.5	N22 01.1	144 58.7	S15 57.1	154 00.3	S18 24.8
	21	120 47.7	136 00.6	S 8 01.7	61 01.4	N22 01.4	160 00.6	S15 57.0	169 02.5	S18 24.8
	22	135 50.1	151 00.2	S 8 00.5	76 02.3	N22 01.7	175 02.5	S15 56.8	184 04.7	S18 24.7
	23	150 52.6	165 59.7	S 7 59.3	91 03.3	N22 02.0	190 04.4	S15 56.6	199 06.9	S18 24.6
			v -0.5	d 1.2	v 0.9	d 0.3	v 1.9	d 0.2	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 07.0	S 6 03.1	284 04.2	7.5	S19 03.8	10.3	59.4
	1	192 07.1	S 6 02.1	298 30.7	7.4	S19 13.9	10.2	59.4
	2	207 07.3	S 6 01.2	312 57.1	7.4	S19 24.0	10.0	59.4
	3	222 07.4	S 6 00.2	327 23.4	7.3	S19 33.9	9.9	59.3
	4	237 07.6	S 5 59.3	341 49.7	7.3	S19 43.7	9.8	59.3
F	5	252 07.7	S 5 58.3	356 15.9	7.2	S19 53.4	9.7	59.3
R								
I	6	267 07.8	S 5 57.3	10 42.0	7.2	S20 02.9	9.5	59.3
D	7	282 08.0	S 5 56.4	25 08.2	7.1	S20 12.3	9.4	59.3
A	8	297 08.1	S 5 55.4	39 34.2	7.1	S20 21.6	9.3	59.2
Y	9	312 08.3	S 5 54.4	54 00.2	7.0	S20 30.8	9.2	59.2
	10	327 08.4	S 5 53.4	68 26.2	7.0	S20 39.8	9.0	59.2
	11	342 08.6	S 5 52.5	82 52.1	6.9	S20 48.7	8.9	59.2
	12	357 08.7	S 5 51.5	97 18.0	6.9	S20 57.4	8.8	59.2
	13	12 08.8	S 5 50.5	111 43.8	6.8	S21 06.0	8.6	59.2
	14	27 09.0	S 5 49.6	126 09.6	6.8	S21 14.5	8.5	59.1
	15	42 09.1	S 5 48.6	140 35.3	6.7	S21 22.9	8.3	59.1
	16	57 09.3	S 5 47.6	155 01.0	6.7	S21 31.1	8.2	59.1
	17	72 09.4	S 5 46.7	169 26.7	6.6	S21 39.1	8.1	59.1
	18	87 09.6	S 5 45.7	183 52.2	6.6	S21 47.0	7.9	59.1
	19	102 09.7	S 5 44.7	198 17.8	6.5	S21 54.8	7.8	59.0
	20	117 09.8	S 5 43.8	212 43.3	6.5	S22 02.5	7.6	59.0
	21	132 10.0	S 5 42.8	227 08.8	6.5	S22 10.0	7.5	59.0
	22	147 10.1	S 5 41.8	241 34.2	6.4	S22 17.3	7.4	59.0
	23	162 10.3	S 5 40.9	255 59.6	6.4	S22 24.5	7.2	59.0
6	0	177 10.4	S 5 39.9	270 24.9	6.3	S22 31.6	7.1	59.0
	1	192 10.6	S 5 38.9	284 50.2	6.3	S22 38.5	6.9	58.9
	2	207 10.7	S 5 38.0	299 15.5	6.3	S22 45.3	6.8	58.9
	3	222 10.9	S 5 37.0	313 40.7	6.2	S22 51.9	6.6	58.9
	4	237 11.0	S 5 36.0	328 05.9	6.2	S22 58.3	6.5	58.9
S	5	252 11.1	S 5 35.0	342 31.1	6.2	S23 04.7	6.3	58.9
A								
T	6	267 11.3	S 5 34.1	356 56.2	6.1	S23 10.8	6.2	58.8
U	7	282 11.4	S 5 33.1	11 21.3	6.1	S23 16.9	6.0	58.8
R	8	297 11.6	S 5 32.1	25 46.4	6.1	S23 22.7	5.9	58.8
D	9	312 11.7	S 5 31.2	40 11.4	6.0	S23 28.4	5.7	58.8
A	10	327 11.9	S 5 30.2	54 36.4	6.0	S23 34.0	5.6	58.8
Y	11	342 12.0	S 5 29.2	69 01.4	6.0	S23 39.4	5.4	58.7
	12	357 12.2	S 5 28.3	83 26.3	6.0	S23 44.7	5.3	58.7
	13	12 12.3	S 5 27.3	97 51.3	5.9	S23 49.8	5.1	58.7
	14	27 12.5	S 5 26.3	112 16.2	5.9	S23 54.7	4.9	58.7
	15	42 12.6	S 5 25.3	126 41.0	5.9	S23 59.5	4.8	58.7
	16	57 12.8	S 5 24.4	141 05.9	5.9	S24 04.1	4.6	58.6
	17	72 12.9	S 5 23.4	155 30.7	5.8	S24 08.6	4.5	58.6
	18	87 13.0	S 5 22.4	169 55.6	5.8	S24 12.9	4.3	58.6
	19	102 13.2	S 5 21.5	184 20.4	5.8	S24 17.1	4.2	58.6
	20	117 13.3	S 5 20.5	198 45.2	5.8	S24 21.1	4.0	58.6
	21	132 13.5	S 5 19.5	213 09.9	5.8	S24 25.0	3.8	58.5
	22	147 13.6	S 5 18.5	227 34.7	5.8	S24 28.7	3.7	58.5
	23	162 13.8	S 5 17.6	241 59.4	5.8	S24 32.2	3.5	58.5
7	0	177 13.9	S 5 16.6	256 24.2	5.7	S24 35.6	3.4	58.5
	1	192 14.1	S 5 15.6	270 48.9	5.7	S24 38.8	3.2	58.5
	2	207 14.2	S 5 14.6	285 13.6	5.7	S24 41.8	3.1	58.4
	3	222 14.4	S 5 13.7	299 38.4	5.7	S24 44.7	2.9	58.4
	4	237 14.5	S 5 12.7	314 03.1	5.7	S24 47.5	2.7	58.4
S	5	252 14.7	S 5 11.7	328 27.8	5.7	S24 50.1	2.6	58.4
U								
N	6	267 14.8	S 5 10.8	342 52.5	5.7	S24 52.5	2.4	58.4
D	7	282 15.0	S 5 09.8	357 17.2	5.7	S24 54.7	2.3	58.3
A	8	297 15.1	S 5 08.8	11 42.0	5.7	S24 56.8	2.1	58.3
Y	9	312 15.3	S 5 07.8	26 06.7	5.7	S24 58.8	1.9	58.3
	10	327 15.4	S 5 06.9	40 31.4	5.7	S25 00.5	1.8	58.3
	11	342 15.6	S 5 05.9	54 56.2	5.7	S25 02.2	1.6	58.3
	12	357 15.7	S 5 04.9	69 20.9	5.7	S25 03.6	1.5	58.2
	13	12 15.9	S 5 03.9	83 45.7	5.8	S25 04.9	1.3	58.2
	14	27 16.0	S 5 03.0	98 10.4	5.8	S25 06.1	1.1	58.2
	15	42 16.2	S 5 02.0	112 35.2	5.8	S25 07.0	1.0	58.2
	16	57 16.3	S 5 01.0	127 00.0	5.8	S25 07.9	0.8	58.1
	17	72 16.5	S 5 00.0	141 24.9	5.8	S25 08.5	0.7	58.1
	18	87 16.6	S 4 59.1	155 49.7	5.8	S25 09.0	0.5	58.1
	19	102 16.8	S 4 58.1	170 14.5	5.9	S25 09.4	0.3	58.1
	20	117 16.9	S 4 57.1	184 39.4	5.9	S25 09.5	0.2	58.1
	21	132 17.1	S 4 56.1	199 04.3	5.9	S25 09.6	0.0	58.0
	22	147 17.2	S 4 55.2	213 29.3	5.9	S25 09.4	0.1	58.0
	23	162 17.4	S 4 54.2	227 54.2	6.0	S25 09.2	0.3	58.0
		S.D. 16.1	d 1.0	S.D.	16.1	16.0	15.9	

STARS Name	SHA	Dec
Acamar	315 14.4	S40 13.6
Achernar	335 23.0	S57 08.1
Acrux	173 02.9	S63 12.8
Adhara	255 08.1	S29 00.3
Albireo	67 06.8	N27 60.0
Aldebaran	290 43.2	N16 33.0
Alioth	166 15.3	N55 50.6
Alkaid	152 54.2	N49 12.3
Al Na-ir	27 37.3	S46 51.6
Alnilam	275 40.8	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.3	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.2	N 8 55.3
Ankaa	353 10.7	S42 11.8
Antares	112 19.6	S26 28.6
Arcturus	145 50.6	N19 04.2
Atria	107 16.7	S69 03.6
Avior	234 15.4	S59 34.8
Bellatrix	278 26.2	N 6 22.0
Betelgeuse	270 55.4	N 7 24.5
Canopus	263 53.6	S52 42.7
Capella	280 26.5	N46 01.2
Castor	246 00.8	N31 50.6
Deneb	49 28.2	N45 21.1
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.3	N61 38.2
Elnath	278 05.8	N28 37.5
Eltanin	90 43.8	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.5	S57 13.8
Gienah	175 46.5	S17 39.5
Hadar	148 40.0	S60 28.3
Hamal	327 55.0	N23 33.7
Kaus Austr.	83 36.8	S34 22.4
Kochab	137 19.4	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.5	N 4 10.2
Menkent	148 01.0	S36 28.4
Miaplacidus	221 37.9	S69 48.3
Mirfak	308 32.9	N49 56.2
Nunki	75 51.8	S26 16.2
Peacock	53 11.1	S56 40.0
Polaris	317 38.7	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.5	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 06.9	S 8 10.8
Rigil Kent	139 44.3	S60 55.1
Sabik	102 06.4	S15 45.1
Schedar	349 35.0	N56 39.1
Shaula	96 14.7	S37 07.0
Sirius	258 28.8	S16 44.9
Spica	158 25.3	S11 16.3
Suhail	222 48.2	S43 31.2
Vega	80 35.5	N38 47.9
Zuben-ubi	137 00.1	S16 07.8

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 55.0	180 59.3	S 7 58.2	106 04.2	N22 02.3	205 06.3	S15 56.5	214 09.1	S18 24.6
	1	180 57.5	195 58.8	S 7 57.0	121 05.1	N22 02.6	220 08.2	S15 56.3	229 11.3	S18 24.5
	2	195 60.0	210 58.4	S 7 55.8	136 06.0	N22 02.9	235 10.2	S15 56.1	244 13.5	S18 24.5
	3	211 02.4	225 57.9	S 7 54.6	151 06.9	N22 03.2	250 12.1	S15 56.0	259 15.7	S18 24.4
	4	226 04.9	240 57.5	S 7 53.4	166 07.9	N22 03.5	265 14.0	S15 55.8	274 17.9	S18 24.3
M	5	241 07.4	255 57.0	S 7 52.2	181 08.8	N22 03.8	280 15.9	S15 55.6	289 20.2	S18 24.3
O										
N	6	256 09.8	270 56.6	S 7 51.0	196 09.7	N22 04.0	295 17.8	S15 55.5	304 22.4	S18 24.2
D	7	271 12.3	285 56.1	S 7 49.9	211 10.6	N22 04.3	310 19.7	S15 55.3	319 24.6	S18 24.1
A	8	286 14.8	300 55.7	S 7 48.7	226 11.6	N22 04.6	325 21.6	S15 55.1	334 26.8	S18 24.1
Y	9	301 17.2	315 55.2	S 7 47.5	241 12.5	N22 04.9	340 23.6	S15 55.0	349 29.0	S18 24.0
	10	316 19.7	330 54.8	S 7 46.3	256 13.4	N22 05.2	355 25.5	S15 54.8	4 31.2	S18 23.9
	11	331 22.2	345 54.3	S 7 45.1	271 14.3	N22 05.5	10 27.4	S15 54.6	19 33.4	S18 23.9
	12	346 24.6	0 53.9	S 7 43.9	286 15.3	N22 05.8	25 29.3	S15 54.5	34 35.6	S18 23.8
	13	1 27.1	15 53.5	S 7 42.7	301 16.2	N22 06.1	40 31.2	S15 54.3	49 37.8	S18 23.8
	14	16 29.5	30 53.0	S 7 41.5	316 17.1	N22 06.4	55 33.1	S15 54.1	64 40.0	S18 23.7
	15	31 32.0	45 52.6	S 7 40.3	331 18.0	N22 06.7	70 35.0	S15 54.0	79 42.2	S18 23.6
	16	46 34.5	60 52.1	S 7 39.2	346 18.9	N22 07.0	85 36.9	S15 53.8	94 44.4	S18 23.6
	17	61 36.9	75 51.7	S 7 38.0	1 19.9	N22 07.3	100 38.9	S15 53.6	109 46.6	S18 23.5
	18	76 39.4	90 51.2	S 7 36.8	16 20.8	N22 07.6	115 40.8	S15 53.5	124 48.8	S18 23.4
	19	91 41.9	105 50.8	S 7 35.6	31 21.7	N22 07.9	130 42.7	S15 53.3	139 51.0	S18 23.4
	20	106 44.3	120 50.3	S 7 34.4	46 22.6	N22 08.2	145 44.6	S15 53.1	154 53.2	S18 23.3
	21	121 46.8	135 49.9	S 7 33.2	61 23.5	N22 08.5	160 46.5	S15 53.0	169 55.4	S18 23.3
	22	136 49.3	150 49.5	S 7 32.0	76 24.5	N22 08.7	175 48.4	S15 52.8	184 57.6	S18 23.2
	23	151 51.7	165 49.0	S 7 30.8	91 25.4	N22 09.0	190 50.3	S15 52.6	199 59.8	S18 23.1
9	0	166 54.2	180 48.6	S 7 29.6	106 26.3	N22 09.3	205 52.3	S15 52.5	215 02.1	S18 23.1
	1	181 56.7	195 48.1	S 7 28.4	121 27.2	N22 09.6	220 54.2	S15 52.3	230 04.3	S18 23.0
	2	196 59.1	210 47.7	S 7 27.2	136 28.1	N22 09.9	235 56.1	S15 52.1	245 06.5	S18 22.9
	3	212 01.6	225 47.2	S 7 26.0	151 29.1	N22 10.2	250 58.0	S15 52.0	260 08.7	S18 22.9
	4	227 04.0	240 46.8	S 7 24.8	166 30.0	N22 10.5	265 59.9	S15 51.8	275 10.9	S18 22.8
T	5	242 06.5	255 46.4	S 7 23.7	181 30.9	N22 10.8	281 01.8	S15 51.7	290 13.1	S18 22.7
U										
E	6	257 09.0	270 45.9	S 7 22.5	196 31.8	N22 11.1	296 03.8	S15 51.5	305 15.3	S18 22.7
S	7	272 11.4	285 45.5	S 7 21.3	211 32.7	N22 11.4	311 05.7	S15 51.3	320 17.5	S18 22.6
D	8	287 13.9	300 45.0	S 7 20.1	226 33.7	N22 11.7	326 07.6	S15 51.2	335 19.7	S18 22.6
A	9	302 16.4	315 44.6	S 7 18.9	241 34.6	N22 11.9	341 09.5	S15 51.0	350 21.9	S18 22.5
Y	10	317 18.8	330 44.2	S 7 17.7	256 35.5	N22 12.2	356 11.4	S15 50.8	5 24.1	S18 22.4
	11	332 21.3	345 43.7	S 7 16.5	271 36.4	N22 12.5	11 13.3	S15 50.7	20 26.3	S18 22.4
	12	347 23.8	0 43.3	S 7 15.3	286 37.3	N22 12.8	26 15.2	S15 50.5	35 28.5	S18 22.3
	13	2 26.2	15 42.8	S 7 14.1	301 38.2	N22 13.1	41 17.2	S15 50.3	50 30.7	S18 22.2
	14	17 28.7	30 42.4	S 7 12.9	316 39.2	N22 13.4	56 19.1	S15 50.2	65 33.0	S18 22.2
	15	32 31.1	45 42.0	S 7 11.7	331 40.1	N22 13.7	71 21.0	S15 50.0	80 35.2	S18 22.1
	16	47 33.6	60 41.5	S 7 10.5	346 41.0	N22 14.0	86 22.9	S15 49.8	95 37.4	S18 22.1
	17	62 36.1	75 41.1	S 7 09.3	1 41.9	N22 14.3	101 24.8	S15 49.7	110 39.6	S18 22.0
	18	77 38.5	90 40.6	S 7 08.1	16 42.8	N22 14.5	116 26.7	S15 49.5	125 41.8	S18 21.9
	19	92 41.0	105 40.2	S 7 06.9	31 43.7	N22 14.8	131 28.7	S15 49.3	140 44.0	S18 21.9
	20	107 43.5	120 39.8	S 7 05.7	46 44.7	N22 15.1	146 30.6	S15 49.2	155 46.2	S18 21.8
	21	122 45.9	135 39.3	S 7 04.5	61 45.6	N22 15.4	161 32.5	S15 49.0	170 48.4	S18 21.7
	22	137 48.4	150 38.9	S 7 03.3	76 46.5	N22 15.7	176 34.4	S15 48.8	185 50.6	S18 21.7
	23	152 50.9	165 38.5	S 7 02.1	91 47.4	N22 16.0	191 36.3	S15 48.7	200 52.8	S18 21.6
10	0	167 53.3	180 38.0	S 7 00.9	106 48.3	N22 16.3	206 38.2	S15 48.5	215 55.0	S18 21.6
	1	182 55.8	195 37.6	S 6 59.7	121 49.2	N22 16.5	221 40.2	S15 48.3	230 57.2	S18 21.5
	2	197 58.3	210 37.2	S 6 58.5	136 50.2	N22 16.8	236 42.1	S15 48.2	245 59.4	S18 21.4
	3	213 00.7	225 36.7	S 6 57.3	151 51.1	N22 17.1	251 44.0	S15 48.0	261 01.7	S18 21.4
	4	228 03.2	240 36.3	S 6 56.1	166 52.0	N22 17.4	266 45.9	S15 47.8	276 03.9	S18 21.3
W	5	243 05.6	255 35.9	S 6 54.9	181 52.9	N22 17.7	281 47.8	S15 47.7	291 06.1	S18 21.2
E										
D	6	258 08.1	270 35.4	S 6 53.7	196 53.8	N22 18.0	296 49.8	S15 47.5	306 08.3	S18 21.2
N	7	273 10.6	285 35.0	S 6 52.5	211 54.7	N22 18.3	311 51.7	S15 47.3	321 10.5	S18 21.1
E	8	288 13.0	300 34.6	S 6 51.3	226 55.6	N22 18.5	326 53.6	S15 47.2	336 12.7	S18 21.1
S	9	303 15.5	315 34.1	S 6 50.1	241 56.5	N22 18.8	341 55.5	S15 47.0	351 14.9	S18 21.0
D	10	318 18.0	330 33.7	S 6 48.9	256 57.5	N22 19.1	356 57.4	S15 46.8	6 17.1	S18 20.9
A	11	333 20.4	345 33.3	S 6 47.7	271 58.4	N22 19.4	11 59.3	S15 46.7	21 19.3	S18 20.9
Y										
	12	348 22.9	0 32.8	S 6 46.5	286 59.3	N22 19.7	27 01.3	S15 46.5	36 21.5	S18 20.8
	13	3 25.4	15 32.4	S 6 45.2	302 00.2	N22 20.0	42 03.2	S15 46.3	51 23.7	S18 20.7
	14	18 27.8	30 32.0	S 6 44.0	317 01.1	N22 20.2	57 05.1	S15 46.2	66 26.0	S18 20.7
	15	33 30.3	45 31.5	S 6 42.8	332 02.0	N22 20.5	72 07.0	S15 46.0	81 28.2	S18 20.6
	16	48 32.8	60 31.1	S 6 41.6	347 02.9	N22 20.8	87 08.9	S15 45.8	96 30.4	S18 20.6
	17	63 35.2	75 30.7	S 6 40.4	2 03.8	N22 21.1	102 10.9	S15 45.7	111 32.6	S18 20.5
	18	78 37.7	90 30.2	S 6 39.2	17 04.8	N22 21.4	117 12.8	S15 45.5	126 34.8	S18 20.4
	19	93 40.1	105 29.8	S 6 38.0	32 05.7	N22 21.7	132 14.7	S15 45.4	141 37.0	S18 20.4
	20	108 42.6	120 29.4	S 6 36.8	47 06.6	N22 21.9	147 16.6	S15 45.2	156 39.2	S18 20.3
	21	123 45.1	135 28.9	S 6 35.6	62 07.5	N22 22.2	162 18.5	S15 45.0	171 41.4	S18 20.2
	22	138 47.5	150 28.5	S 6 34.4	77 08.4	N22 22.5	177 20.4	S15 44.9	186 43.6	S18 20.2
	23	153 50.0	165 28.1	S 6 33.2	92 09.3	N22 22.8	192 22.4	S15 44.7	201 45.8	S18 20.1
			v -0.4	d 1.2	v 0.9	d 0.3	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
8	0	177 17.5	S 4 53.2	242 19.2	6.0	S25 08.7	0.4	58.0
	1	192 17.7	S 4 52.2	256 44.2	6.0	S25 08.1	0.6	58.0
	2	207 17.9	S 4 51.3	271 09.3	6.0	S25 07.3	0.8	57.9
	3	222 18.0	S 4 50.3	285 34.4	6.1	S25 06.4	0.9	57.9
	4	237 18.2	S 4 49.3	299 59.5	6.1	S25 05.4	1.1	57.9
M	5	252 18.3	S 4 48.3	314 24.6	6.2	S25 04.1	1.2	57.9
O								
N	6	267 18.5	S 4 47.4	328 49.8	6.2	S25 02.7	1.4	57.9
D	7	282 18.6	S 4 46.4	343 15.0	6.2	S25 01.2	1.5	57.8
A	8	297 18.8	S 4 45.4	357 40.3	6.3	S24 59.5	1.7	57.8
Y	9	312 18.9	S 4 44.4	12 05.6	6.3	S24 57.7	1.8	57.8
	10	327 19.1	S 4 43.5	26 31.0	6.4	S24 55.7	2.0	57.8
	11	342 19.2	S 4 42.5	40 56.4	6.4	S24 53.5	2.1	57.8
	12	357 19.4	S 4 41.5	55 21.8	6.4	S24 51.2	2.3	57.7
	13	12 19.5	S 4 40.5	69 47.3	6.5	S24 48.8	2.4	57.7
	14	27 19.7	S 4 39.6	84 12.9	6.5	S24 46.2	2.6	57.7
	15	42 19.8	S 4 38.6	98 38.5	6.6	S24 43.4	2.7	57.7
	16	57 20.0	S 4 37.6	113 04.1	6.6	S24 40.6	2.9	57.6
	17	72 20.2	S 4 36.6	127 29.8	6.7	S24 37.5	3.0	57.6
	18	87 20.3	S 4 35.6	141 55.6	6.8	S24 34.3	3.2	57.6
	19	102 20.5	S 4 34.7	156 21.4	6.8	S24 31.0	3.3	57.6
	20	117 20.6	S 4 33.7	170 47.2	6.9	S24 27.5	3.5	57.6
	21	132 20.8	S 4 32.7	185 13.2	6.9	S24 23.9	3.6	57.5
	22	147 20.9	S 4 31.7	199 39.1	7.0	S24 20.1	3.8	57.5
	23	162 21.1	S 4 30.8	214 05.2	7.0	S24 16.2	3.9	57.5
9	0	177 21.2	S 4 29.8	228 31.3	7.1	S24 12.1	4.1	57.5
	1	192 21.4	S 4 28.8	242 57.5	7.2	S24 07.9	4.2	57.5
	2	207 21.6	S 4 27.8	257 23.7	7.2	S24 03.6	4.3	57.4
	3	222 21.7	S 4 26.8	271 50.0	7.3	S23 59.1	4.5	57.4
	4	237 21.9	S 4 25.9	286 16.4	7.4	S23 54.5	4.6	57.4
T	5	252 22.0	S 4 24.9	300 42.8	7.4	S23 49.8	4.8	57.4
U								
E	6	267 22.2	S 4 23.9	315 09.3	7.5	S23 44.9	4.9	57.4
S	7	282 22.3	S 4 22.9	329 35.9	7.6	S23 39.9	5.0	57.3
D	8	297 22.5	S 4 22.0	344 02.5	7.6	S23 34.7	5.2	57.3
A	9	312 22.7	S 4 21.0	358 29.2	7.7	S23 29.4	5.3	57.3
Y	10	327 22.8	S 4 20.0	12 56.0	7.8	S23 24.0	5.4	57.3
	11	342 23.0	S 4 19.0	27 22.8	7.9	S23 18.4	5.6	57.3
	12	357 23.1	S 4 18.0	41 49.8	7.9	S23 12.7	5.7	57.2
	13	12 23.3	S 4 17.1	56 16.8	8.0	S23 06.9	5.8	57.2
	14	27 23.4	S 4 16.1	70 43.9	8.1	S23 01.0	5.9	57.2
	15	42 23.6	S 4 15.1	85 11.0	8.2	S22 54.9	6.1	57.2
	16	57 23.8	S 4 14.1	99 38.2	8.2	S22 48.7	6.2	57.1
	17	72 23.9	S 4 13.1	114 05.5	8.3	S22 42.4	6.3	57.1
	18	87 24.1	S 4 12.2	128 32.9	8.4	S22 35.9	6.4	57.1
	19	102 24.2	S 4 11.2	143 00.4	8.5	S22 29.4	6.6	57.1
	20	117 24.4	S 4 10.2	157 27.9	8.5	S22 22.7	6.7	57.1
	21	132 24.6	S 4 09.2	171 55.5	8.6	S22 15.9	6.8	57.0
	22	147 24.7	S 4 08.2	186 23.2	8.7	S22 08.9	6.9	57.0
	23	162 24.9	S 4 07.3	200 51.0	8.8	S22 01.9	7.0	57.0
10	0	177 25.0	S 4 06.3	215 18.9	8.9	S21 54.7	7.2	57.0
	1	192 25.2	S 4 05.3	229 46.8	8.9	S21 47.4	7.3	57.0
	2	207 25.4	S 4 04.3	244 14.8	9.0	S21 40.1	7.4	56.9
	3	222 25.5	S 4 03.3	258 42.9	9.1	S21 32.5	7.5	56.9
	4	237 25.7	S 4 02.4	273 11.1	9.2	S21 24.9	7.6	56.9
W	5	252 25.8	S 4 01.4	287 39.4	9.3	S21 17.2	7.7	56.9
E								
D	6	267 26.0	S 4 00.4	302 07.7	9.3	S21 09.3	7.8	56.9
N	7	282 26.2	S 3 59.4	316 36.1	9.4	S21 01.4	8.0	56.8
E	8	297 26.3	S 3 58.4	331 04.6	9.5	S20 53.3	8.1	56.8
S	9	312 26.5	S 3 57.5	345 33.2	9.6	S20 45.2	8.2	56.8
D	10	327 26.6	S 3 56.5	0 01.9	9.7	S20 36.9	8.3	56.8
A	11	342 26.8	S 3 55.5	14 30.7	9.8	S20 28.5	8.4	56.8
Y								
	12	357 27.0	S 3 54.5	28 59.5	9.8	S20 20.0	8.5	56.7
	13	12 27.1	S 3 53.5	43 28.5	9.9	S20 11.4	8.6	56.7
	14	27 27.3	S 3 52.6	57 57.5	10.0	S20 02.8	8.7	56.7
	15	42 27.4	S 3 51.6	72 26.6	10.1	S19 54.0	8.8	56.7
	16	57 27.6	S 3 50.6	86 55.7	10.2	S19 45.1	8.9	56.7
	17	72 27.8	S 3 49.6	101 25.0	10.3	S19 36.1	9.0	56.6
	18	87 27.9	S 3 48.6	115 54.4	10.3	S19 27.1	9.1	56.6
	19	102 28.1	S 3 47.6	130 23.8	10.4	S19 17.9	9.2	56.6
	20	117 28.2	S 3 46.7	144 53.3	10.5	S19 08.6	9.3	56.6
	21	132 28.4	S 3 45.7	159 22.9	10.6	S18 59.3	9.4	56.5
	22	147 28.6	S 3 44.7	173 52.6	10.7	S18 49.8	9.4	56.5
	23	162 28.7	S 3 43.7	188 22.4	10.8	S18 40.3	9.5	56.5
		S.D. 16.1	d 1.0	S.D. 15.7		15.6		15.5

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.5
Achernar	335 23.0	S57 08.1
Acrux	173 02.8	S63 12.8
Adhara	255 08.1	S29 00.3
Albireo	67 06.8	N27 60.0
Aldebaran	290 43.2	N16 33.0
Alioth	166 15.2	N55 50.6
Alkaid	152 54.1	N49 12.3
Al Na-ir	27 37.3	S46 51.6
Alnilam	275 40.8	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.3	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.2	N 8 55.3
Ankaa	353 10.7	S42 11.8
Antares	112 19.6	S26 28.7
Arcturus	145 50.6	N19 04.2
Atria	107 16.6	S69 03.6
Avior	234 15.5	S59 34.8
Bellatrix	278 26.2	N 6 22.0
Betelgeuse	270 55.4	N 7 24.5
Canopus	263 53.6	S52 42.7
Capella	280 26.5	N46 01.2
Castor	246 00.8	N31 50.6
Deneb	49 28.2	N45 21.1
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.2	N61 38.2
Elnath	278 05.8	N28 37.5
Eltanin	90 43.8	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.5	S57 13.8
Gienah	175 46.5	S17 39.5
Hadar	148 40.0	S60 28.3
Hamal	327 55.0	N23 33.7
Kaus Austr.	83 36.8	S34 22.4
Kochab	137 19.3	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 01.0	S36 28.4
Miaplacidus	221 37.9	S69 48.4
Mirfak	308 32.9	N49 56.2
Nunki	75 51.8	S26 16.2
Peacock	53 11.0	S56 40.0
Polaris	317 39.5	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.5	N12 32.5
Regulus	207 37.4	N11 51.8
Rigel	281 06.9	S 8 10.8
Rigil Kent	139 44.3	S60 55.1
Sabik	102 06.4	S15 45.1
Schedar	349 35.0	N56 39.1
Shaula	96 14.6	S37 07.0
Sirius	258 28.9	S16 44.9
Spica	158 25.3	S11 16.3
Suhail	222 48.2	S43 31.2
Vega	80 35.5	N38 47.9
Zuben-ubi	137 00.0	S16 07.8

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 52.5	180 27.7	S 6 32.0	107 10.2	N22 23.1	207 24.3	S15 44.5	216 48.1	S18 20.1
	1	183 54.9	195 27.2	S 6 30.8	122 11.1	N22 23.3	222 26.2	S15 44.4	231 50.3	S18 20.0
	2	198 57.4	210 26.8	S 6 29.6	137 12.0	N22 23.6	237 28.1	S15 44.2	246 52.5	S18 19.9
	3	213 59.9	225 26.4	S 6 28.3	152 13.0	N22 23.9	252 30.0	S15 44.0	261 54.7	S18 19.9
	4	229 02.3	240 25.9	S 6 27.1	167 13.9	N22 24.2	267 32.0	S15 43.9	276 56.9	S18 19.8
T	5	244 04.8	255 25.5	S 6 25.9	182 14.8	N22 24.5	282 33.9	S15 43.7	291 59.1	S18 19.7
H										
U	6	259 07.2	270 25.1	S 6 24.7	197 15.7	N22 24.7	297 35.8	S15 43.5	307 01.3	S18 19.7
R	7	274 09.7	285 24.7	S 6 23.5	212 16.6	N22 25.0	312 37.7	S15 43.4	322 03.5	S18 19.6
S	8	289 12.2	300 24.2	S 6 22.3	227 17.5	N22 25.3	327 39.7	S15 43.2	337 05.7	S18 19.6
D	9	304 14.6	315 23.8	S 6 21.1	242 18.4	N22 25.6	342 41.6	S15 43.0	352 08.0	S18 19.5
A	10	319 17.1	330 23.4	S 6 19.9	257 19.3	N22 25.9	357 43.5	S15 42.9	7 10.2	S18 19.4
Y	11	334 19.6	345 23.0	S 6 18.7	272 20.2	N22 26.1	12 45.4	S15 42.7	22 12.4	S18 19.4
	12	349 22.0	0 22.5	S 6 17.4	287 21.1	N22 26.4	27 47.3	S15 42.5	37 14.6	S18 19.3
	13	4 24.5	15 22.1	S 6 16.2	302 22.0	N22 26.7	42 49.3	S15 42.4	52 16.8	S18 19.3
	14	19 27.0	30 21.7	S 6 15.0	317 22.9	N22 27.0	57 51.2	S15 42.2	67 19.0	S18 19.2
	15	34 29.4	45 21.3	S 6 13.8	332 23.9	N22 27.2	72 53.1	S15 42.0	82 21.2	S18 19.1
	16	49 31.9	60 20.8	S 6 12.6	347 24.8	N22 27.5	87 55.0	S15 41.9	97 23.4	S18 19.1
	17	64 34.4	75 20.4	S 6 11.4	2 25.7	N22 27.8	102 56.9	S15 41.7	112 25.7	S18 19.0
	18	79 36.8	90 20.0	S 6 10.2	17 26.6	N22 28.1	117 58.9	S15 41.5	127 27.9	S18 18.9
	19	94 39.3	105 19.6	S 6 08.9	32 27.5	N22 28.4	133 00.8	S15 41.4	142 30.1	S18 18.9
	20	109 41.7	120 19.1	S 6 07.7	47 28.4	N22 28.6	148 02.7	S15 41.2	157 32.3	S18 18.8
	21	124 44.2	135 18.7	S 6 06.5	62 29.3	N22 28.9	163 04.6	S15 41.0	172 34.5	S18 18.8
	22	139 46.7	150 18.3	S 6 05.3	77 30.2	N22 29.2	178 06.5	S15 40.9	187 36.7	S18 18.7
	23	154 49.1	165 17.9	S 6 04.1	92 31.1	N22 29.5	193 08.5	S15 40.7	202 38.9	S18 18.6
12	0	169 51.6	180 17.4	S 6 02.9	107 32.0	N22 29.7	208 10.4	S15 40.6	217 41.1	S18 18.6
	1	184 54.1	195 17.0	S 6 01.7	122 32.9	N22 30.0	223 12.3	S15 40.4	232 43.4	S18 18.5
	2	199 56.5	210 16.6	S 6 00.4	137 33.8	N22 30.3	238 14.2	S15 40.2	247 45.6	S18 18.5
	3	214 59.0	225 16.2	S 5 59.2	152 34.7	N22 30.6	253 16.2	S15 40.1	262 47.8	S18 18.4
	4	230 01.5	240 15.8	S 5 58.0	167 35.6	N22 30.8	268 18.1	S15 39.9	277 50.0	S18 18.3
F	5	245 03.9	255 15.3	S 5 56.8	182 36.5	N22 31.1	283 20.0	S15 39.7	292 52.2	S18 18.3
R										
I	6	260 06.4	270 14.9	S 5 55.6	197 37.4	N22 31.4	298 21.9	S15 39.6	307 54.4	S18 18.2
D	7	275 08.9	285 14.5	S 5 54.4	212 38.3	N22 31.7	313 23.9	S15 39.4	322 56.6	S18 18.1
A	8	290 11.3	300 14.1	S 5 53.1	227 39.2	N22 31.9	328 25.8	S15 39.2	337 58.8	S18 18.1
Y	9	305 13.8	315 13.7	S 5 51.9	242 40.1	N22 32.2	343 27.7	S15 39.1	353 01.1	S18 18.0
	10	320 16.2	330 13.2	S 5 50.7	257 41.1	N22 32.5	358 29.6	S15 38.9	8 03.3	S18 18.0
	11	335 18.7	345 12.8	S 5 49.5	272 42.0	N22 32.7	13 31.5	S15 38.7	23 05.5	S18 17.9
	12	350 21.2	0 12.4	S 5 48.3	287 42.9	N22 33.0	28 33.5	S15 38.6	38 07.7	S18 17.8
	13	5 23.6	15 12.0	S 5 47.0	302 43.8	N22 33.3	43 35.4	S15 38.4	53 09.9	S18 17.8
	14	20 26.1	30 11.6	S 5 45.8	317 44.7	N22 33.6	58 37.3	S15 38.2	68 12.1	S18 17.7
	15	35 28.6	45 11.1	S 5 44.6	332 45.6	N22 33.8	73 39.2	S15 38.1	83 14.3	S18 17.7
	16	50 31.0	60 10.7	S 5 43.4	347 46.5	N22 34.1	88 41.2	S15 37.9	98 16.6	S18 17.6
	17	65 33.5	75 10.3	S 5 42.2	2 47.4	N22 34.4	103 43.1	S15 37.7	113 18.8	S18 17.5
	18	80 36.0	90 09.9	S 5 40.9	17 48.3	N22 34.7	118 45.0	S15 37.6	128 21.0	S18 17.5
	19	95 38.4	105 09.5	S 5 39.7	32 49.2	N22 34.9	133 46.9	S15 37.4	143 23.2	S18 17.4
	20	110 40.9	120 09.0	S 5 38.5	47 50.1	N22 35.2	148 48.9	S15 37.2	158 25.4	S18 17.3
	21	125 43.3	135 08.6	S 5 37.3	62 51.0	N22 35.5	163 50.8	S15 37.1	173 27.6	S18 17.3
	22	140 45.8	150 08.2	S 5 36.1	77 51.9	N22 35.7	178 52.7	S15 36.9	188 29.8	S18 17.2
	23	155 48.3	165 07.8	S 5 34.8	92 52.8	N22 36.0	193 54.6	S15 36.8	203 32.1	S18 17.2
13	0	170 50.7	180 07.4	S 5 33.6	107 53.7	N22 36.3	208 56.6	S15 36.6	218 34.3	S18 17.1
	1	185 53.2	195 07.0	S 5 32.4	122 54.6	N22 36.5	223 58.5	S15 36.4	233 36.5	S18 17.0
	2	200 55.7	210 06.5	S 5 31.2	137 55.5	N22 36.8	239 00.4	S15 36.3	248 38.7	S18 17.0
	3	215 58.1	225 06.1	S 5 29.9	152 56.4	N22 37.1	254 02.3	S15 36.1	263 40.9	S18 16.9
	4	231 00.6	240 05.7	S 5 28.7	167 57.3	N22 37.4	269 04.3	S15 35.9	278 43.1	S18 16.9
S	5	246 03.1	255 05.3	S 5 27.5	182 58.2	N22 37.6	284 06.2	S15 35.8	293 45.4	S18 16.8
A										
T	6	261 05.5	270 04.9	S 5 26.3	197 59.1	N22 37.9	299 08.1	S15 35.6	308 47.6	S18 16.7
U	7	276 08.0	285 04.5	S 5 25.1	212 60.0	N22 38.2	314 10.0	S15 35.4	323 49.8	S18 16.7
R	8	291 10.5	300 04.0	S 5 23.8	228 00.9	N22 38.4	329 12.0	S15 35.3	338 52.0	S18 16.6
D	9	306 12.9	315 03.6	S 5 22.6	243 01.8	N22 38.7	344 13.9	S15 35.1	353 54.2	S18 16.6
A	10	321 15.4	330 03.2	S 5 21.4	258 02.7	N22 39.0	359 15.8	S15 34.9	8 56.4	S18 16.5
Y	11	336 17.8	345 02.8	S 5 20.2	273 03.6	N22 39.2	14 17.7	S15 34.8	23 58.6	S18 16.4
	12	351 20.3	0 02.4	S 5 18.9	288 04.5	N22 39.5	29 19.7	S15 34.6	39 00.9	S18 16.4
	13	6 22.8	15 02.0	S 5 17.7	303 05.4	N22 39.8	44 21.6	S15 34.4	54 03.1	S18 16.3
	14	21 25.2	30 01.6	S 5 16.5	318 06.3	N22 40.0	59 23.5	S15 34.3	69 05.3	S18 16.2
	15	36 27.7	45 01.2	S 5 15.3	333 07.2	N22 40.3	74 25.4	S15 34.1	84 07.5	S18 16.2
	16	51 30.2	60 00.7	S 5 14.0	348 08.1	N22 40.6	89 27.4	S15 34.0	99 09.7	S18 16.1
	17	66 32.6	75 00.3	S 5 12.8	3 09.0	N22 40.8	104 29.3	S15 33.8	114 11.9	S18 16.1
	18	81 35.1	89 59.9	S 5 11.6	18 09.9	N22 41.1	119 31.2	S15 33.6	129 14.2	S18 16.0
	19	96 37.6	104 59.5	S 5 10.3	33 10.8	N22 41.4	134 33.2	S15 33.5	144 16.4	S18 15.9
	20	111 40.0	119 59.1	S 5 09.1	48 11.7	N22 41.6	149 35.1	S15 33.3	159 18.6	S18 15.9
	21	126 42.5	134 58.7	S 5 07.9	63 12.6	N22 41.9	164 37.0	S15 33.1	174 20.8	S18 15.8
	22	141 44.9	149 58.3	S 5 06.7	78 13.5	N22 42.1	179 38.9	S15 33.0	189 23.0	S18 15.8
	23	156 47.4	164 57.9	S 5 05.4	93 14.4	N22 42.4	194 40.9	S15 32.8	204 25.3	S18 15.7
			v -0.4	d 1.2	v 0.9	d 0.3	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS	
	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
d h	° '	° '	° '	'	° '	'	'		° ' ° '
11 0	177 28.9	S 3 42.7	202 52.2	10.8	S18 30.7	9.6	56.5	Acamar	315 14.4 S40 13.5
1	192 29.1	S 3 41.8	217 22.1	10.9	S18 21.0	9.7	56.5	Achernar	335 23.1 S57 08.1
2	207 29.2	S 3 40.8	231 52.1	11.0	S18 11.2	9.8	56.4	Acrux	173 02.8 S63 12.8
3	222 29.4	S 3 39.8	246 22.2	11.1	S18 01.3	9.9	56.4	Adhara	255 08.2 S29 00.3
4	237 29.6	S 3 38.8	260 52.4	11.2	S17 51.3	10.0	56.4	Albireo	67 06.7 N27 60.0
T 5	252 29.7	S 3 37.8	275 22.7	11.3	S17 41.3	10.0	56.4		
H								Aldebaran	290 43.3 N16 33.0
U 6	267 29.9	S 3 36.8	289 53.0	11.3	S17 31.2	10.1	56.4	Alioth	166 15.2 N55 50.7
R 7	282 30.0	S 3 35.9	304 23.4	11.4	S17 21.0	10.2	56.3	Alkaid	152 54.1 N49 12.3
S 8	297 30.2	S 3 34.9	318 53.9	11.5	S17 10.7	10.3	56.3	Al Na-ir	27 37.3 S46 51.6
D 9	312 30.4	S 3 33.9	333 24.5	11.6	S17 00.3	10.4	56.3	Alnilam	275 40.8 S 1 11.5
A 10	327 30.5	S 3 32.9	347 55.2	11.7	S16 49.9	10.4	56.3		
Y 11	342 30.7	S 3 31.9	2 25.9	11.7	S16 39.4	10.5	56.3	Alphard	217 50.5 S 8 45.1
								Alphecca	126 06.2 N26 38.4
12	357 30.9	S 3 30.9	16 56.7	11.8	S16 28.8	10.6	56.2	Alpheratz	357 38.3 N29 12.3
13	12 31.0	S 3 30.0	31 27.6	11.9	S16 18.1	10.7	56.2	Altair	62 03.2 N 8 55.2
14	27 31.2	S 3 29.0	45 58.6	12.0	S16 07.4	10.7	56.2	Ankaa	353 10.7 S42 11.7
15	42 31.4	S 3 28.0	60 29.7	12.1	S15 56.6	10.8	56.2		
16	57 31.5	S 3 27.0	75 00.8	12.1	S15 45.7	10.9	56.2	Antares	112 19.6 S26 28.7
17	72 31.7	S 3 26.0	89 32.0	12.2	S15 34.8	10.9	56.1	Arcturus	145 50.5 N19 04.2
								Atria	107 16.6 S69 03.6
18	87 31.8	S 3 25.0	104 03.3	12.3	S15 23.8	11.0	56.1	Avior	234 15.5 S59 34.9
19	102 32.0	S 3 24.1	118 34.6	12.4	S15 12.7	11.1	56.1	Bellatrix	278 26.2 N 6 22.0
20	117 32.2	S 3 23.1	133 06.1	12.4	S15 01.6	11.1	56.1		
21	132 32.3	S 3 22.1	147 37.6	12.5	S14 50.4	11.2	56.1	Betelgeuse	270 55.4 N 7 24.5
22	147 32.5	S 3 21.1	162 09.2	12.6	S14 39.2	11.3	56.0	Canopus	263 53.6 S52 42.7
23	162 32.7	S 3 20.1	176 40.8	12.7	S14 27.8	11.3	56.0	Capella	280 26.5 N46 01.2
								Castor	246 00.8 N31 50.6
12 0	177 32.8	S 3 19.1	191 12.5	12.7	S14 16.5	11.4	56.0	Deneb	49 28.2 N45 21.1
1	192 33.0	S 3 18.2	205 44.3	12.8	S14 05.0	11.4	56.0		
2	207 33.2	S 3 17.2	220 16.2	12.9	S13 53.5	11.5	56.0	Denebola	182 27.8 N14 27.2
3	222 33.3	S 3 16.2	234 48.2	12.9	S13 42.0	11.5	55.9	Diphda	348 50.8 S17 52.5
4	237 33.5	S 3 15.2	249 20.2	13.0	S13 30.4	11.6	55.9	Dubhe	193 44.2 N61 38.2
F 5	252 33.7	S 3 14.2	263 52.3	13.1	S13 18.7	11.7	55.9	Elnath	278 05.8 N28 37.5
R								Eltanin	90 43.7 N51 28.8
I 6	267 33.8	S 3 13.2	278 24.4	13.2	S13 07.0	11.7	55.9		
D 7	282 34.0	S 3 12.2	292 56.6	13.2	S12 55.3	11.8	55.9	Enif	33 42.1 N 9 58.1
A 8	297 34.2	S 3 11.3	307 28.9	13.3	S12 43.5	11.8	55.9	Fomalhaut	15 18.3 S29 30.8
Y 9	312 34.3	S 3 10.3	322 01.3	13.4	S12 31.6	11.9	55.8	Gacrux	171 54.5 S57 13.8
10	327 34.5	S 3 09.3	336 33.7	13.4	S12 19.7	11.9	55.8	Gienah	175 46.5 S17 39.6
11	342 34.7	S 3 08.3	351 06.2	13.5	S12 07.7	12.0	55.8	Hadar	148 39.9 S60 28.3
12	357 34.8	S 3 07.3	5 38.7	13.6	S11 55.7	12.0	55.8	Hamal	327 55.0 N23 33.7
13	12 35.0	S 3 06.3	20 11.3	13.6	S11 43.7	12.0	55.8	Kaus Austr.	83 36.8 S34 22.4
14	27 35.2	S 3 05.4	34 44.0	13.7	S11 31.6	12.1	55.7	Kochab	137 19.3 N74 03.9
15	42 35.3	S 3 04.4	49 16.8	13.7	S11 19.4	12.1	55.7	Markab	13 33.3 N15 18.9
16	57 35.5	S 3 03.4	63 49.6	13.8	S11 07.3	12.2	55.7	Menkar	314 09.6 N 4 10.2
17	72 35.7	S 3 02.4	78 22.4	13.9	S10 55.1	12.2	55.7		
								Menkent	148 01.0 S36 28.4
18	87 35.8	S 3 01.4	92 55.4	13.9	S10 42.8	12.3	55.7	Miaplacidus	221 38.0 S69 48.4
19	102 36.0	S 3 00.4	107 28.3	14.0	S10 30.5	12.3	55.6	Mirfak	308 33.0 N49 56.2
20	117 36.2	S 2 59.4	122 01.4	14.0	S10 18.2	12.3	55.6	Nunki	75 51.8 S26 16.2
21	132 36.4	S 2 58.5	136 34.5	14.1	S10 05.8	12.4	55.6	Peacock	53 11.0 S56 39.9
22	147 36.5	S 2 57.5	151 07.6	14.2	S 9 53.4	12.4	55.6		
23	162 36.7	S 2 56.5	165 40.9	14.2	S 9 41.0	12.4	55.6	Polaris	317 40.6 N89 20.6
								Pollux	243 20.9 N27 58.5
13 0	177 36.9	S 2 55.5	180 14.1	14.3	S 9 28.5	12.5	55.5	Procyon	244 53.9 N 5 10.2
1	192 37.0	S 2 54.5	194 47.5	14.3	S 9 16.0	12.5	55.5	Rasalhague	96 01.5 N12 32.5
2	207 37.2	S 2 53.5	209 20.8	14.4	S 9 03.4	12.5	55.5	Regulus	207 37.4 N11 51.8
3	222 37.4	S 2 52.5	223 54.3	14.4	S 8 50.9	12.6	55.5		
4	237 37.5	S 2 51.6	238 27.7	14.5	S 8 38.3	12.6	55.5	Rigel	281 06.9 S 8 10.8
S 5	252 37.7	S 2 50.6	253 01.3	14.5	S 8 25.7	12.6	55.5	Rigil Kent	139 44.3 S60 55.1
A								Sabik	102 06.3 S15 45.1
T 6	267 37.9	S 2 49.6	267 34.9	14.6	S 8 13.0	12.7	55.4	Schedar	349 35.0 N56 39.1
U 7	282 38.0	S 2 48.6	282 08.5	14.6	S 8 00.3	12.7	55.4	Shaula	96 14.6 S37 07.0
R 8	297 38.2	S 2 47.6	296 42.2	14.7	S 7 47.6	12.7	55.4		
D 9	312 38.4	S 2 46.6	311 15.9	14.7	S 7 34.9	12.7	55.4	Sirius	258 28.9 S16 44.9
A 10	327 38.6	S 2 45.6	325 49.7	14.8	S 7 22.1	12.8	55.4	Spica	158 25.3 S11 16.3
Y 11	342 38.7	S 2 44.7	340 23.5	14.8	S 7 09.4	12.8	55.3	Suhail	222 48.2 S43 31.2
								Vega	80 35.4 N38 47.9
12	357 38.9	S 2 43.7	354 57.4	14.9	S 6 56.6	12.8	55.3	Zuben-ubi	137 00.0 S16 07.8
13	12 39.1	S 2 42.7	9 31.3	14.9	S 6 43.8	12.8	55.3		
14	27 39.2	S 2 41.7	24 05.3	15.0	S 6 30.9	12.8	55.3		
15	42 39.4	S 2 40.7	38 39.3	15.0	S 6 18.1	12.9	55.3		
16	57 39.6	S 2 39.7	53 13.3	15.0	S 6 05.2	12.9	55.3		
17	72 39.7	S 2 38.7	67 47.4	15.1	S 5 52.3	12.9	55.2		
18	87 39.9	S 2 37.8	82 21.5	15.1	S 5 39.4	12.9	55.2		
19	102 40.1	S 2 36.8	96 55.7	15.2	S 5 26.5	12.9	55.2		
20	117 40.3	S 2 35.8	111 29.9	15.2	S 5 13.5	12.9	55.2		
21	132 40.4	S 2 34.8	126 04.2	15.2	S 5 00.6	12.9	55.2		
22	147 40.6	S 2 33.8	140 38.4	15.3	S 4 47.6	13.0	55.1		
23	162 40.8	S 2 32.8	155 12.8	15.3	S 4 34.7	13.0	55.1		
	S.D. 16.1	d 1.0	S.D.	15.3	15.2	15.1			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
14	0	171 49.9	179 57.4	S 5 04.2	108 15.3	N22 42.7	209 42.8	S15 32.6	219 27.5	S18 15.6
	1	186 52.3	194 57.0	S 5 03.0	123 16.1	N22 42.9	224 44.7	S15 32.5	234 29.7	S18 15.6
	2	201 54.8	209 56.6	S 5 01.7	138 17.0	N22 43.2	239 46.6	S15 32.3	249 31.9	S18 15.5
	3	216 57.3	224 56.2	S 5 00.5	153 17.9	N22 43.5	254 48.6	S15 32.1	264 34.1	S18 15.5
	4	231 59.7	239 55.8	S 4 59.3	168 18.8	N22 43.7	269 50.5	S15 32.0	279 36.3	S18 15.4
S	5	247 02.2	254 55.4	S 4 58.1	183 19.7	N22 44.0	284 52.4	S15 31.8	294 38.6	S18 15.3
U										
N	6	262 04.7	269 55.0	S 4 56.8	198 20.6	N22 44.3	299 54.4	S15 31.6	309 40.8	S18 15.3
D	7	277 07.1	284 54.6	S 4 55.6	213 21.5	N22 44.5	314 56.3	S15 31.5	324 43.0	S18 15.2
A	8	292 09.6	299 54.2	S 4 54.4	228 22.4	N22 44.8	329 58.2	S15 31.3	339 45.2	S18 15.2
Y	9	307 12.1	314 53.8	S 4 53.1	243 23.3	N22 45.0	345 00.1	S15 31.2	354 47.4	S18 15.1
	10	322 14.5	329 53.3	S 4 51.9	258 24.2	N22 45.3	0 02.1	S15 31.0	9 49.6	S18 15.0
	11	337 17.0	344 52.9	S 4 50.7	273 25.1	N22 45.6	15 04.0	S15 30.8	24 51.9	S18 15.0
	12	352 19.4	359 52.5	S 4 49.5	288 26.0	N22 45.8	30 05.9	S15 30.7	39 54.1	S18 14.9
	13	7 21.9	14 52.1	S 4 48.2	303 26.9	N22 46.1	45 07.9	S15 30.5	54 56.3	S18 14.9
	14	22 24.4	29 51.7	S 4 47.0	318 27.8	N22 46.4	60 09.8	S15 30.3	69 58.5	S18 14.8
	15	37 26.8	44 51.3	S 4 45.8	333 28.7	N22 46.6	75 11.7	S15 30.2	85 00.7	S18 14.7
	16	52 29.3	59 50.9	S 4 44.5	348 29.6	N22 46.9	90 13.7	S15 30.0	100 03.0	S18 14.7
	17	67 31.8	74 50.5	S 4 43.3	3 30.5	N22 47.1	105 15.6	S15 29.8	115 05.2	S18 14.6
	18	82 34.2	89 50.1	S 4 42.1	18 31.4	N22 47.4	120 17.5	S15 29.7	130 07.4	S18 14.6
	19	97 36.7	104 49.7	S 4 40.8	33 32.3	N22 47.7	135 19.4	S15 29.5	145 09.6	S18 14.5
	20	112 39.2	119 49.3	S 4 39.6	48 33.1	N22 47.9	150 21.4	S15 29.3	160 11.8	S18 14.4
	21	127 41.6	134 48.9	S 4 38.4	63 34.0	N22 48.2	165 23.3	S15 29.2	175 14.1	S18 14.4
	22	142 44.1	149 48.5	S 4 37.1	78 34.9	N22 48.4	180 25.2	S15 29.0	190 16.3	S18 14.3
	23	157 46.6	164 48.0	S 4 35.9	93 35.8	N22 48.7	195 27.2	S15 28.8	205 18.5	S18 14.3
15	0	172 49.0	179 47.6	S 4 34.7	108 36.7	N22 48.9	210 29.1	S15 28.7	220 20.7	S18 14.2
	1	187 51.5	194 47.2	S 4 33.4	123 37.6	N22 49.2	225 31.0	S15 28.5	235 22.9	S18 14.1
	2	202 53.9	209 46.8	S 4 32.2	138 38.5	N22 49.5	240 32.9	S15 28.4	250 25.2	S18 14.1
	3	217 56.4	224 46.4	S 4 31.0	153 39.4	N22 49.7	255 34.9	S15 28.2	265 27.4	S18 14.0
	4	232 58.9	239 46.0	S 4 29.7	168 40.3	N22 50.0	270 36.8	S15 28.0	280 29.6	S18 14.0
M	5	248 01.3	254 45.6	S 4 28.5	183 41.2	N22 50.2	285 38.7	S15 27.9	295 31.8	S18 13.9
O										
N	6	263 03.8	269 45.2	S 4 27.3	198 42.1	N22 50.5	300 40.7	S15 27.7	310 34.0	S18 13.8
D	7	278 06.3	284 44.8	S 4 26.0	213 43.0	N22 50.7	315 42.6	S15 27.5	325 36.3	S18 13.8
A	8	293 08.7	299 44.4	S 4 24.8	228 43.8	N22 51.0	330 44.5	S15 27.4	340 38.5	S18 13.7
Y	9	308 11.2	314 44.0	S 4 23.5	243 44.7	N22 51.3	345 46.5	S15 27.2	355 40.7	S18 13.7
	10	323 13.7	329 43.6	S 4 22.3	258 45.6	N22 51.5	0 48.4	S15 27.0	10 42.9	S18 13.6
	11	338 16.1	344 43.2	S 4 21.1	273 46.5	N22 51.8	15 50.3	S15 26.9	25 45.1	S18 13.5
	12	353 18.6	359 42.8	S 4 19.8	288 47.4	N22 52.0	30 52.3	S15 26.7	40 47.4	S18 13.5
	13	8 21.0	14 42.4	S 4 18.6	303 48.3	N22 52.3	45 54.2	S15 26.5	55 49.6	S18 13.4
	14	23 23.5	29 42.0	S 4 17.4	318 49.2	N22 52.5	60 56.1	S15 26.4	70 51.8	S18 13.4
	15	38 26.0	44 41.6	S 4 16.1	333 50.1	N22 52.8	75 58.1	S15 26.2	85 54.0	S18 13.3
	16	53 28.4	59 41.2	S 4 14.9	348 51.0	N22 53.0	90 60.0	S15 26.1	100 56.2	S18 13.2
	17	68 30.9	74 40.8	S 4 13.7	3 51.9	N22 53.3	106 01.9	S15 25.9	115 58.5	S18 13.2
	18	83 33.4	89 40.4	S 4 12.4	18 52.7	N22 53.6	121 03.9	S15 25.7	131 00.7	S18 13.1
	19	98 35.8	104 40.0	S 4 11.2	33 53.6	N22 53.8	136 05.8	S15 25.6	146 02.9	S18 13.1
	20	113 38.3	119 39.6	S 4 09.9	48 54.5	N22 54.1	151 07.7	S15 25.4	161 05.1	S18 13.0
	21	128 40.8	134 39.2	S 4 08.7	63 55.4	N22 54.3	166 09.7	S15 25.2	176 07.4	S18 12.9
	22	143 43.2	149 38.8	S 4 07.5	78 56.3	N22 54.6	181 11.6	S15 25.1	191 09.6	S18 12.9
	23	158 45.7	164 38.4	S 4 06.2	93 57.2	N22 54.8	196 13.5	S15 24.9	206 11.8	S18 12.8
16	0	173 48.1	179 38.0	S 4 05.0	108 58.1	N22 55.1	211 15.5	S15 24.7	221 14.0	S18 12.8
	1	188 50.6	194 37.6	S 4 03.8	123 59.0	N22 55.3	226 17.4	S15 24.6	236 16.2	S18 12.7
	2	203 53.1	209 37.2	S 4 02.5	138 59.8	N22 55.6	241 19.3	S15 24.4	251 18.5	S18 12.6
	3	218 55.5	224 36.8	S 4 01.3	154 00.7	N22 55.8	256 21.3	S15 24.2	266 20.7	S18 12.6
	4	233 58.0	239 36.4	S 4 00.0	169 01.6	N22 56.1	271 23.2	S15 24.1	281 22.9	S18 12.5
T	5	249 00.5	254 36.0	S 3 58.8	184 02.5	N22 56.3	286 25.1	S15 23.9	296 25.1	S18 12.5
U										
E	6	264 02.9	269 35.6	S 3 57.6	199 03.4	N22 56.6	301 27.1	S15 23.8	311 27.4	S18 12.4
S	7	279 05.4	284 35.2	S 3 56.3	214 04.3	N22 56.8	316 29.0	S15 23.6	326 29.6	S18 12.3
D	8	294 07.9	299 34.8	S 3 55.1	229 05.2	N22 57.1	331 30.9	S15 23.4	341 31.8	S18 12.3
A	9	309 10.3	314 34.4	S 3 53.8	244 06.1	N22 57.3	346 32.9	S15 23.3	356 34.0	S18 12.2
Y	10	324 12.8	329 34.0	S 3 52.6	259 06.9	N22 57.6	1 34.8	S15 23.1	11 36.3	S18 12.2
	11	339 15.3	344 33.6	S 3 51.4	274 07.8	N22 57.8	16 36.7	S15 22.9	26 38.5	S18 12.1
	12	354 17.7	359 33.2	S 3 50.1	289 08.7	N22 58.1	31 38.7	S15 22.8	41 40.7	S18 12.0
	13	9 20.2	14 32.8	S 3 48.9	304 09.6	N22 58.3	46 40.6	S15 22.6	56 42.9	S18 12.0
	14	24 22.6	29 32.4	S 3 47.6	319 10.5	N22 58.6	61 42.5	S15 22.4	71 45.1	S18 11.9
	15	39 25.1	44 32.0	S 3 46.4	334 11.4	N22 58.8	76 44.5	S15 22.3	86 47.4	S18 11.9
	16	54 27.6	59 31.6	S 3 45.1	349 12.2	N22 59.1	91 46.4	S15 22.1	101 49.6	S18 11.8
	17	69 30.0	74 31.2	S 3 43.9	4 13.1	N22 59.3	106 48.3	S15 22.0	116 51.8	S18 11.7
	18	84 32.5	89 30.8	S 3 42.7	19 14.0	N22 59.6	121 50.3	S15 21.8	131 54.0	S18 11.7
	19	99 35.0	104 30.4	S 3 41.4	34 14.9	N22 59.8	136 52.2	S15 21.6	146 56.3	S18 11.6
	20	114 37.4	119 30.0	S 3 40.2	49 15.8	N23 00.1	151 54.1	S15 21.5	161 58.5	S18 11.6
	21	129 39.9	134 29.6	S 3 38.9	64 16.7	N23 00.3	166 56.1	S15 21.3	177 00.7	S18 11.5
	22	144 42.4	149 29.2	S 3 37.7	79 17.6	N23 00.6	181 58.0	S15 21.1	192 02.9	S18 11.4
	23	159 44.8	164 28.8	S 3 36.4	94 18.4	N23 00.8	196 59.9	S15 21.0	207 05.2	S18 11.4
			v -0.4	d 1.2	v 0.9	d 0.3	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
14	0	177 40.9	S 2 31.8	169 47.1	15.3	S 4 21.7	13.0	55.1
	1	192 41.1	S 2 30.8	184 21.5	15.4	S 4 08.7	13.0	55.1
	2	207 41.3	S 2 29.9	198 55.9	15.4	S 3 55.7	13.0	55.1
	3	222 41.5	S 2 28.9	213 30.4	15.5	S 3 42.7	13.0	55.1
	4	237 41.6	S 2 27.9	228 04.8	15.5	S 3 29.7	13.0	55.0
S	5	252 41.8	S 2 26.9	242 39.4	15.5	S 3 16.6	13.0	55.0
U								
N	6	267 42.0	S 2 25.9	257 13.9	15.5	S 3 03.6	13.0	55.0
D	7	282 42.1	S 2 24.9	271 48.5	15.6	S 2 50.6	13.0	55.0
A	8	297 42.3	S 2 23.9	286 23.1	15.6	S 2 37.6	13.0	55.0
Y	9	312 42.5	S 2 23.0	300 57.7	15.6	S 2 24.5	13.0	55.0
	10	327 42.7	S 2 22.0	315 32.4	15.7	S 2 11.5	13.0	54.9
	11	342 42.8	S 2 21.0	330 07.0	15.7	S 1 58.4	13.0	54.9
	12	357 43.0	S 2 20.0	344 41.8	15.7	S 1 45.4	13.0	54.9
	13	12 43.2	S 2 19.0	359 16.5	15.7	S 1 32.4	13.0	54.9
	14	27 43.4	S 2 18.0	13 51.2	15.8	S 1 19.3	13.0	54.9
	15	42 43.5	S 2 17.0	28 26.0	15.8	S 1 06.3	13.0	54.9
	16	57 43.7	S 2 16.0	43 00.8	15.8	S 0 53.3	13.0	54.9
	17	72 43.9	S 2 15.1	57 35.6	15.8	S 0 40.2	13.0	54.8
	18	87 44.0	S 2 14.1	72 10.5	15.8	S 0 27.2	13.0	54.8
	19	102 44.2	S 2 13.1	86 45.3	15.9	S 0 14.2	13.0	54.8
	20	117 44.4	S 2 12.1	101 20.2	15.9	S 0 01.2	13.0	54.8
	21	132 44.6	S 2 11.1	115 55.1	15.9	N 0 11.8	13.0	54.8
	22	147 44.7	S 2 10.1	130 30.0	15.9	N 0 24.8	13.0	54.8
	23	162 44.9	S 2 09.1	145 04.9	15.9	N 0 37.8	13.0	54.7
15	0	177 45.1	S 2 08.1	159 39.8	15.9	N 0 50.8	13.0	54.7
	1	192 45.3	S 2 07.2	174 14.8	15.9	N 1 03.7	13.0	54.7
	2	207 45.4	S 2 06.2	188 49.7	16.0	N 1 16.7	13.0	54.7
	3	222 45.6	S 2 05.2	203 24.7	16.0	N 1 29.6	12.9	54.7
	4	237 45.8	S 2 04.2	217 59.7	16.0	N 1 42.6	12.9	54.7
M	5	252 46.0	S 2 03.2	232 34.7	16.0	N 1 55.5	12.9	54.7
O								
N	6	267 46.1	S 2 02.2	247 09.7	16.0	N 2 08.4	12.9	54.6
D	7	282 46.3	S 2 01.2	261 44.7	16.0	N 2 21.3	12.9	54.6
A	8	297 46.5	S 2 00.2	276 19.7	16.0	N 2 34.1	12.9	54.6
Y	9	312 46.7	S 1 59.3	290 54.7	16.0	N 2 47.0	12.9	54.6
	10	327 46.8	S 1 58.3	305 29.7	16.0	N 2 59.8	12.8	54.6
	11	342 47.0	S 1 57.3	320 04.7	16.0	N 3 12.6	12.8	54.6
	12	357 47.2	S 1 56.3	334 39.8	16.0	N 3 25.4	12.8	54.6
	13	12 47.4	S 1 55.3	349 14.8	16.0	N 3 38.2	12.8	54.6
	14	27 47.5	S 1 54.3	3 49.9	16.0	N 3 51.0	12.8	54.5
	15	42 47.7	S 1 53.3	18 24.9	16.0	N 4 03.7	12.7	54.5
	16	57 47.9	S 1 52.3	32 59.9	16.0	N 4 16.4	12.7	54.5
	17	72 48.1	S 1 51.3	47 35.0	16.0	N 4 29.1	12.7	54.5
	18	87 48.2	S 1 50.4	62 10.0	16.0	N 4 41.8	12.7	54.5
	19	102 48.4	S 1 49.4	76 45.0	16.0	N 4 54.5	12.6	54.5
	20	117 48.6	S 1 48.4	91 20.1	16.0	N 5 07.1	12.6	54.5
	21	132 48.8	S 1 47.4	105 55.1	16.0	N 5 19.7	12.6	54.5
	22	147 48.9	S 1 46.4	120 30.1	16.0	N 5 32.2	12.6	54.4
	23	162 49.1	S 1 45.4	135 05.1	16.0	N 5 44.8	12.5	54.4
16	0	177 49.3	S 1 44.4	149 40.1	16.0	N 5 57.3	12.5	54.4
	1	192 49.5	S 1 43.4	164 15.2	16.0	N 6 09.8	12.5	54.4
	2	207 49.7	S 1 42.5	178 50.1	16.0	N 6 22.3	12.5	54.4
	3	222 49.8	S 1 41.5	193 25.1	16.0	N 6 34.7	12.4	54.4
	4	237 50.0	S 1 40.5	208 00.1	16.0	N 6 47.1	12.4	54.4
T	5	252 50.2	S 1 39.5	222 35.1	16.0	N 6 59.4	12.4	54.4
U								
E	6	267 50.4	S 1 38.5	237 10.0	16.0	N 7 11.8	12.3	54.4
S	7	282 50.5	S 1 37.5	251 45.0	15.9	N 7 24.1	12.3	54.3
D	8	297 50.7	S 1 36.5	266 19.9	15.9	N 7 36.4	12.3	54.3
A	9	312 50.9	S 1 35.5	280 54.8	15.9	N 7 48.6	12.2	54.3
Y	10	327 51.1	S 1 34.5	295 29.7	15.9	N 8 00.8	12.2	54.3
	11	342 51.2	S 1 33.6	310 04.6	15.9	N 8 13.0	12.2	54.3
	12	357 51.4	S 1 32.6	324 39.5	15.9	N 8 25.1	12.1	54.3
	13	12 51.6	S 1 31.6	339 14.3	15.9	N 8 37.2	12.1	54.3
	14	27 51.8	S 1 30.6	353 49.1	15.8	N 8 49.2	12.1	54.3
	15	42 52.0	S 1 29.6	8 24.0	15.8	N 9 01.3	12.0	54.3
	16	57 52.1	S 1 28.6	22 58.8	15.8	N 9 13.2	12.0	54.3
	17	72 52.3	S 1 27.6	37 33.5	15.8	N 9 25.2	11.9	54.3
	18	87 52.5	S 1 26.6	52 08.3	15.8	N 9 37.1	11.9	54.3
	19	102 52.7	S 1 25.6	66 43.0	15.7	N 9 48.9	11.9	54.2
	20	117 52.9	S 1 24.7	81 17.7	15.7	N10 00.7	11.8	54.2
	21	132 53.0	S 1 23.7	95 52.4	15.7	N10 12.5	11.8	54.2
	22	147 53.2	S 1 22.7	110 27.1	15.7	N10 24.3	11.7	54.2
	23	162 53.4	S 1 21.7	125 01.7	15.6	N10 35.9	11.7	54.2
		S.D. 16.1	d 1.0	S.D.	15.0	14.9	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.5
Achernar	335 23.1	S57 08.1
Acrux	173 02.8	S63 12.8
Adhara	255 08.2	S29 00.3
Albireo	67 06.7	N27 60.0
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.2	N55 50.7
Alkaid	152 54.1	N49 12.3
Al Na-ir	27 37.2	S46 51.6
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.2	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.2	N 8 55.2
Ankaa	353 10.7	S42 11.7
Antares	112 19.6	S26 28.7
Arcturus	145 50.5	N19 04.2
Atria	107 16.5	S69 03.6
Avior	234 15.5	S59 34.9
Bellatrix	278 26.2	N 6 22.0
Betelgeuse	270 55.4	N 7 24.5
Canopus	263 53.6	S52 42.7
Capella	280 26.5	N46 01.2
Castor	246 00.8	N31 50.6
Deneb	49 28.2	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.2	N61 38.2
Elnath	278 05.9	N28 37.5
Eltanin	90 43.7	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.5	S57 13.8
Gienah	175 46.5	S17 39.6
Hadar	148 39.9	S60 28.3
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.7	S34 22.4
Kochab	137 19.2	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 01.0	S36 28.4
Miaplacidus	221 38.0	S69 48.4
Mirfak	308 33.0	N49 56.2
Nunki	75 51.7	S26 16.2
Peacock	53 11.0	S56 39.9
Polaris	317 41.5	N89 20.6
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.5	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 06.9	S 8 10.8
Rigil Kent	139 44.2	S60 55.1
Sabik	102 06.3	S15 45.1
Schedar	349 35.0	N56 39.1
Shaula	96 14.6	S37 07.0
Sirius	258 28.9	S16 44.9
Spica	158 25.3	S11 16.3
Suhail	222 48.2	S43 31.2
Vega	80 35.4	N38 47.9
Zuben-ubi	136 60.0	S16 07.8

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 47.3	179 28.4	S 3 35.2	109 19.3	N23 01.1	212 01.9	S15 20.8	222 07.4	S18 11.3
	1	189 49.8	194 28.0	S 3 34.0	124 20.2	N23 01.3	227 03.8	S15 20.6	237 09.6	S18 11.3
	2	204 52.2	209 27.6	S 3 32.7	139 21.1	N23 01.6	242 05.8	S15 20.5	252 11.8	S18 11.2
	3	219 54.7	224 27.2	S 3 31.5	154 22.0	N23 01.8	257 07.7	S15 20.3	267 14.1	S18 11.2
	4	234 57.1	239 26.8	S 3 30.2	169 22.9	N23 02.1	272 09.6	S15 20.2	282 16.3	S18 11.1
W	5	249 59.6	254 26.4	S 3 29.0	184 23.7	N23 02.3	287 11.6	S15 20.0	297 18.5	S18 11.0
E										
D	6	265 02.1	269 26.0	S 3 27.7	199 24.6	N23 02.5	302 13.5	S15 19.8	312 20.7	S18 11.0
N	7	280 04.5	284 25.6	S 3 26.5	214 25.5	N23 02.8	317 15.4	S15 19.7	327 23.0	S18 10.9
E	8	295 07.0	299 25.2	S 3 25.3	229 26.4	N23 03.0	332 17.4	S15 19.5	342 25.2	S18 10.9
S	9	310 09.5	314 24.8	S 3 24.0	244 27.3	N23 03.3	347 19.3	S15 19.3	357 27.4	S18 10.8
D	10	325 11.9	329 24.4	S 3 22.8	259 28.1	N23 03.5	2 21.3	S15 19.2	12 29.6	S18 10.7
A	11	340 14.4	344 24.0	S 3 21.5	274 29.0	N23 03.8	17 23.2	S15 19.0	27 31.9	S18 10.7
Y										
	12	355 16.9	359 23.6	S 3 20.3	289 29.9	N23 04.0	32 25.1	S15 18.8	42 34.1	S18 10.6
	13	10 19.3	14 23.2	S 3 19.0	304 30.8	N23 04.3	47 27.1	S15 18.7	57 36.3	S18 10.6
	14	25 21.8	29 22.8	S 3 17.8	319 31.7	N23 04.5	62 29.0	S15 18.5	72 38.5	S18 10.5
	15	40 24.2	44 22.4	S 3 16.5	334 32.6	N23 04.7	77 30.9	S15 18.4	87 40.8	S18 10.4
	16	55 26.7	59 22.1	S 3 15.3	349 33.4	N23 05.0	92 32.9	S15 18.2	102 43.0	S18 10.4
	17	70 29.2	74 21.7	S 3 14.0	4 34.3	N23 05.2	107 34.8	S15 18.0	117 45.2	S18 10.3
	18	85 31.6	89 21.3	S 3 12.8	19 35.2	N23 05.5	122 36.8	S15 17.9	132 47.5	S18 10.3
	19	100 34.1	104 20.9	S 3 11.6	34 36.1	N23 05.7	137 38.7	S15 17.7	147 49.7	S18 10.2
	20	115 36.6	119 20.5	S 3 10.3	49 37.0	N23 06.0	152 40.6	S15 17.5	162 51.9	S18 10.2
	21	130 39.0	134 20.1	S 3 09.1	64 37.8	N23 06.2	167 42.6	S15 17.4	177 54.1	S18 10.1
	22	145 41.5	149 19.7	S 3 07.8	79 38.7	N23 06.4	182 44.5	S15 17.2	192 56.4	S18 10.0
	23	160 44.0	164 19.3	S 3 06.6	94 39.6	N23 06.7	197 46.4	S15 17.0	207 58.6	S18 10.0
18	0	175 46.4	179 18.9	S 3 05.3	109 40.5	N23 06.9	212 48.4	S15 16.9	223 00.8	S18 09.9
	1	190 48.9	194 18.5	S 3 04.1	124 41.4	N23 07.2	227 50.3	S15 16.7	238 03.0	S18 09.9
	2	205 51.4	209 18.1	S 3 02.8	139 42.2	N23 07.4	242 52.3	S15 16.6	253 05.3	S18 09.8
	3	220 53.8	224 17.7	S 3 01.6	154 43.1	N23 07.6	257 54.2	S15 16.4	268 07.5	S18 09.7
	4	235 56.3	239 17.3	S 3 00.3	169 44.0	N23 07.9	272 56.1	S15 16.2	283 09.7	S18 09.7
T	5	250 58.7	254 16.9	S 2 59.1	184 44.9	N23 08.1	287 58.1	S15 16.1	298 11.9	S18 09.6
H										
U	6	266 01.2	269 16.5	S 2 57.8	199 45.8	N23 08.4	303 00.0	S15 15.9	313 14.2	S18 09.6
R	7	281 03.7	284 16.2	S 2 56.6	214 46.6	N23 08.6	318 02.0	S15 15.7	328 16.4	S18 09.5
S	8	296 06.1	299 15.8	S 2 55.3	229 47.5	N23 08.8	333 03.9	S15 15.6	343 18.6	S18 09.5
D	9	311 08.6	314 15.4	S 2 54.1	244 48.4	N23 09.1	348 05.8	S15 15.4	358 20.9	S18 09.4
A	10	326 11.1	329 15.0	S 2 52.8	259 49.3	N23 09.3	3 07.8	S15 15.3	13 23.1	S18 09.3
Y	11	341 13.5	344 14.6	S 2 51.6	274 50.1	N23 09.6	18 09.7	S15 15.1	28 25.3	S18 09.3
	12	356 16.0	359 14.2	S 2 50.3	289 51.0	N23 09.8	33 11.7	S15 14.9	43 27.5	S18 09.2
	13	11 18.5	14 13.8	S 2 49.1	304 51.9	N23 10.0	48 13.6	S15 14.8	58 29.8	S18 09.2
	14	26 20.9	29 13.4	S 2 47.8	319 52.8	N23 10.3	63 15.5	S15 14.6	73 32.0	S18 09.1
	15	41 23.4	44 13.0	S 2 46.6	334 53.7	N23 10.5	78 17.5	S15 14.4	88 34.2	S18 09.0
	16	56 25.9	59 12.6	S 2 45.3	349 54.5	N23 10.7	93 19.4	S15 14.3	103 36.5	S18 09.0
	17	71 28.3	74 12.2	S 2 44.1	4 55.4	N23 11.0	108 21.4	S15 14.1	118 38.7	S18 08.9
	18	86 30.8	89 11.9	S 2 42.9	19 56.3	N23 11.2	123 23.3	S15 14.0	133 40.9	S18 08.9
	19	101 33.2	104 11.5	S 2 41.6	34 57.2	N23 11.5	138 25.2	S15 13.8	148 43.1	S18 08.8
	20	116 35.7	119 11.1	S 2 40.4	49 58.0	N23 11.7	153 27.2	S15 13.6	163 45.4	S18 08.8
	21	131 38.2	134 10.7	S 2 39.1	64 58.9	N23 11.9	168 29.1	S15 13.5	178 47.6	S18 08.7
	22	146 40.6	149 10.3	S 2 37.9	79 59.8	N23 12.2	183 31.1	S15 13.3	193 49.8	S18 08.6
	23	161 43.1	164 09.9	S 2 36.6	95 00.7	N23 12.4	198 33.0	S15 13.1	208 52.1	S18 08.6
19	0	176 45.6	179 09.5	S 2 35.3	110 01.5	N23 12.6	213 35.0	S15 13.0	223 54.3	S18 08.5
	1	191 48.0	194 09.1	S 2 34.1	125 02.4	N23 12.9	228 36.9	S15 12.8	238 56.5	S18 08.5
	2	206 50.5	209 08.7	S 2 32.8	140 03.3	N23 13.1	243 38.8	S15 12.6	253 58.8	S18 08.4
	3	221 53.0	224 08.3	S 2 31.6	155 04.2	N23 13.3	258 40.8	S15 12.5	269 01.0	S18 08.3
	4	236 55.4	239 08.0	S 2 30.3	170 05.0	N23 13.6	273 42.7	S15 12.3	284 03.2	S18 08.3
F	5	251 57.9	254 07.6	S 2 29.1	185 05.9	N23 13.8	288 44.7	S15 12.2	299 05.4	S18 08.2
R										
I	6	267 00.3	269 07.2	S 2 27.8	200 06.8	N23 14.0	303 46.6	S15 12.0	314 07.7	S18 08.2
D	7	282 02.8	284 06.8	S 2 26.6	215 07.7	N23 14.3	318 48.6	S15 11.8	329 09.9	S18 08.1
A	8	297 05.3	299 06.4	S 2 25.3	230 08.5	N23 14.5	333 50.5	S15 11.7	344 12.1	S18 08.1
Y	9	312 07.7	314 06.0	S 2 24.1	245 09.4	N23 14.7	348 52.4	S15 11.5	359 14.4	S18 08.0
	10	327 10.2	329 05.6	S 2 22.8	260 10.3	N23 15.0	3 54.4	S15 11.3	14 16.6	S18 07.9
	11	342 12.7	344 05.2	S 2 21.6	275 11.2	N23 15.2	18 56.3	S15 11.2	29 18.8	S18 07.9
	12	357 15.1	359 04.9	S 2 20.3	290 12.0	N23 15.4	33 58.3	S15 11.0	44 21.1	S18 07.8
	13	12 17.6	14 04.5	S 2 19.1	305 12.9	N23 15.7	49 00.2	S15 10.9	59 23.3	S18 07.8
	14	27 20.1	29 04.1	S 2 17.8	320 13.8	N23 15.9	64 02.2	S15 10.7	74 25.5	S18 07.7
	15	42 22.5	44 03.7	S 2 16.6	335 14.7	N23 16.1	79 04.1	S15 10.5	89 27.8	S18 07.7
	16	57 25.0	59 03.3	S 2 15.3	350 15.5	N23 16.4	94 06.0	S15 10.4	104 30.0	S18 07.6
	17	72 27.5	74 02.9	S 2 14.1	5 16.4	N23 16.6	109 08.0	S15 10.2	119 32.2	S18 07.5
	18	87 29.9	89 02.5	S 2 12.8	20 17.3	N23 16.8	124 09.9	S15 10.0	134 34.5	S18 07.5
	19	102 32.4	104 02.1	S 2 11.6	35 18.1	N23 17.1	139 11.9	S15 09.9	149 36.7	S18 07.4
	20	117 34.8	119 01.8	S 2 10.3	50 19.0	N23 17.3	154 13.8	S15 09.7	164 38.9	S18 07.4
	21	132 37.3	134 01.4	S 2 09.1	65 19.9	N23 17.5	169 15.8	S15 09.6	179 41.1	S18 07.3
	22	147 39.8	149 01.0	S 2 07.8	80 20.8	N23 17.7	184 17.7	S15 09.4	194 43.4	S18 07.3
	23	162 42.2	164 00.6	S 2 06.6	95 21.6	N23 18.0	199 19.7	S15 09.2	209 45.6	S18 07.2
			v -0.4	d 1.2	v 0.9	d 0.2	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
17	0	177 53.6	S 1 20.7	139 36.3	15.6	N10 47.6	11.6	54.2
	1	192 53.7	S 1 19.7	154 10.9	15.6	N10 59.2	11.6	54.2
	2	207 53.9	S 1 18.7	168 45.4	15.6	N11 10.7	11.6	54.2
	3	222 54.1	S 1 17.7	183 20.0	15.5	N11 22.2	11.5	54.2
	4	237 54.3	S 1 16.7	197 54.5	15.5	N11 33.7	11.5	54.2
W	5	252 54.5	S 1 15.8	212 28.9	15.5	N11 45.1	11.4	54.2
E								
D	6	267 54.6	S 1 14.8	227 03.4	15.4	N11 56.5	11.4	54.2
N	7	282 54.8	S 1 13.8	241 37.8	15.4	N12 07.8	11.3	54.2
E	8	297 55.0	S 1 12.8	256 12.2	15.4	N12 19.0	11.3	54.2
S	9	312 55.2	S 1 11.8	270 46.5	15.3	N12 30.3	11.2	54.2
D	10	327 55.4	S 1 10.8	285 20.8	15.3	N12 41.4	11.2	54.2
A	11	342 55.5	S 1 09.8	299 55.1	15.3	N12 52.5	11.1	54.1
Y								
	12	357 55.7	S 1 08.8	314 29.3	15.2	N13 03.6	11.1	54.1
	13	12 55.9	S 1 07.8	329 03.6	15.2	N13 14.6	11.0	54.1
	14	27 56.1	S 1 06.9	343 37.7	15.2	N13 25.5	10.9	54.1
	15	42 56.3	S 1 05.9	358 11.9	15.1	N13 36.4	10.9	54.1
	16	57 56.4	S 1 04.9	12 46.0	15.1	N13 47.3	10.8	54.1
	17	72 56.6	S 1 03.9	27 20.0	15.1	N13 58.0	10.8	54.1
	18	87 56.8	S 1 02.9	41 54.0	15.0	N14 08.8	10.7	54.1
	19	102 57.0	S 1 01.9	56 28.0	15.0	N14 19.4	10.7	54.1
	20	117 57.2	S 1 00.9	71 02.0	14.9	N14 30.0	10.6	54.1
	21	132 57.3	S 0 59.9	85 35.9	14.9	N14 40.6	10.5	54.1
	22	147 57.5	S 0 58.9	100 09.7	14.9	N14 51.1	10.5	54.1
	23	162 57.7	S 0 58.0	114 43.6	14.8	N15 01.5	10.4	54.1
18	0	177 57.9	S 0 57.0	129 17.3	14.8	N15 11.9	10.4	54.1
	1	192 58.1	S 0 56.0	143 51.1	14.7	N15 22.2	10.3	54.1
	2	207 58.2	S 0 55.0	158 24.8	14.7	N15 32.4	10.2	54.1
	3	222 58.4	S 0 54.0	172 58.4	14.6	N15 42.6	10.2	54.1
	4	237 58.6	S 0 53.0	187 32.0	14.6	N15 52.7	10.1	54.1
T	5	252 58.8	S 0 52.0	202 05.6	14.6	N16 02.8	10.1	54.1
H								
U	6	267 59.0	S 0 51.0	216 39.1	14.5	N16 12.8	10.0	54.1
R	7	282 59.1	S 0 50.0	231 12.6	14.5	N16 22.7	9.9	54.1
S	8	297 59.3	S 0 49.1	245 46.0	14.4	N16 32.5	9.9	54.1
D	9	312 59.5	S 0 48.1	260 19.3	14.4	N16 42.3	9.8	54.1
A	10	327 59.7	S 0 47.1	274 52.7	14.3	N16 52.1	9.7	54.1
Y	11	342 59.9	S 0 46.1	289 25.9	14.3	N17 01.7	9.7	54.1
	12	358 00.1	S 0 45.1	303 59.2	14.2	N17 11.3	9.6	54.1
	13	13 00.2	S 0 44.1	318 32.3	14.2	N17 20.8	9.5	54.1
	14	28 00.4	S 0 43.1	333 05.5	14.1	N17 30.2	9.4	54.1
	15	43 00.6	S 0 42.1	347 38.5	14.1	N17 39.6	9.4	54.1
	16	58 00.8	S 0 41.1	2 11.6	14.0	N17 48.9	9.3	54.1
	17	73 01.0	S 0 40.2	16 44.5	14.0	N17 58.1	9.2	54.1
	18	88 01.1	S 0 39.2	31 17.5	13.9	N18 07.3	9.1	54.1
	19	103 01.3	S 0 38.2	45 50.3	13.9	N18 16.3	9.1	54.1
	20	118 01.5	S 0 37.2	60 23.1	13.8	N18 25.3	9.0	54.1
	21	133 01.7	S 0 36.2	74 55.9	13.8	N18 34.3	8.9	54.1
	22	148 01.9	S 0 35.2	89 28.6	13.7	N18 43.1	8.8	54.1
	23	163 02.1	S 0 34.2	104 01.3	13.7	N18 51.9	8.8	54.1
19	0	178 02.2	S 0 33.2	118 33.9	13.6	N19 00.6	8.7	54.2
	1	193 02.4	S 0 32.2	133 06.4	13.5	N19 09.2	8.6	54.2
	2	208 02.6	S 0 31.3	147 38.9	13.5	N19 17.7	8.5	54.2
	3	223 02.8	S 0 30.3	162 11.3	13.4	N19 26.2	8.5	54.2
	4	238 03.0	S 0 29.3	176 43.7	13.4	N19 34.5	8.4	54.2
F	5	253 03.2	S 0 28.3	191 16.0	13.3	N19 42.8	8.3	54.2
R								
I	6	268 03.3	S 0 27.3	205 48.3	13.3	N19 51.0	8.2	54.2
D	7	283 03.5	S 0 26.3	220 20.5	13.2	N19 59.2	8.1	54.2
A	8	298 03.7	S 0 25.3	234 52.6	13.1	N20 07.2	8.0	54.2
Y	9	313 03.9	S 0 24.3	249 24.7	13.1	N20 15.2	8.0	54.2
	10	328 04.1	S 0 23.3	263 56.8	13.0	N20 23.0	7.9	54.2
	11	343 04.3	S 0 22.4	278 28.7	13.0	N20 30.8	7.8	54.2
	12	358 04.4	S 0 21.4	293 00.6	12.9	N20 38.5	7.7	54.2
	13	13 04.6	S 0 20.4	307 32.5	12.9	N20 46.1	7.6	54.2
	14	28 04.8	S 0 19.4	322 04.3	12.8	N20 53.6	7.5	54.3
	15	43 05.0	S 0 18.4	336 36.0	12.7	N21 01.1	7.4	54.3
	16	58 05.2	S 0 17.4	351 07.7	12.7	N21 08.4	7.3	54.3
	17	73 05.4	S 0 16.4	5 39.3	12.6	N21 15.7	7.3	54.3
	18	88 05.5	S 0 15.4	20 10.9	12.6	N21 22.8	7.2	54.3
	19	103 05.7	S 0 14.4	34 42.4	12.5	N21 29.9	7.1	54.3
	20	118 05.9	S 0 13.5	49 13.8	12.4	N21 36.8	7.0	54.3
	21	133 06.1	S 0 12.5	63 45.2	12.4	N21 43.7	6.9	54.3
	22	148 06.3	S 0 11.5	78 16.6	12.3	N21 50.5	6.8	54.3
	23	163 06.5	S 0 10.5	92 47.8	12.3	N21 57.2	6.7	54.3
		S.D. 16.1	d 1.0	S.D.	14.8	14.7	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.5
Achernar	335 23.1	S57 08.0
Acrux	173 02.8	S63 12.9
Adhara	255 08.2	S29 00.3
Albireo	67 06.7	N27 60.0
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.2	N55 50.7
Alkaid	152 54.1	N49 12.3
Al Na-ir	27 37.2	S46 51.6
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.2	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.1	N 8 55.2
Ankaa	353 10.7	S42 11.7
Antares	112 19.5	S26 28.7
Arcturus	145 50.5	N19 04.2
Atria	107 16.5	S69 03.6
Avior	234 15.5	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.4	N 7 24.5
Canopus	263 53.7	S52 42.7
Capella	280 26.6	N46 01.2
Castor	246 00.9	N31 50.6
Deneb	49 28.2	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.5
Dubhe	193 44.2	N61 38.3
Elnath	278 05.9	N28 37.5
Eltanin	90 43.7	N51 28.8
Enif	33 42.1	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.5	S57 13.8
Gienah	175 46.4	S17 39.6
Hadar	148 39.9	S60 28.3
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.7	S34 22.4
Kochab	137 19.2	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 01.0	S36 28.4
Miaplacidus	221 38.0	S69 48.4
Mirfak	308 33.0	N49 56.2
Nunki	75 51.7	S26 16.2
Peacock	53 11.0	S56 39.9
Polaris	317 42.2	N89 20.5
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.4	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 06.9	S 8 10.8
Rigil Kent	139 44.2	S60 55.1
Sabik	102 06.3	S15 45.1
Schedar	349 35.0	N56 39.1
Shaula	96 14.6	S37 07.0
Sirius	258 28.9	S16 44.9
Spica	158 25.3	S11 16.3
Suhail	222 48.2	S43 31.3
Vega	80 35.4	N38 47.9
Zuben-ubi	136 60.0	S16 07.8

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 44.7	179 00.2	S 2 05.3	110 22.5	N23 18.2	214 21.6	S15 09.1	224 47.8	S18 07.1
	1	192 47.2	193 59.8	S 2 04.0	125 23.4	N23 18.4	229 23.5	S15 08.9	239 50.1	S18 07.1
	2	207 49.6	208 59.4	S 2 02.8	140 24.2	N23 18.7	244 25.5	S15 08.7	254 52.3	S18 07.0
	3	222 52.1	223 59.1	S 2 01.5	155 25.1	N23 18.9	259 27.4	S15 08.6	269 54.5	S18 07.0
	4	237 54.6	238 58.7	S 2 00.3	170 26.0	N23 19.1	274 29.4	S15 08.4	284 56.8	S18 06.9
S	5	252 57.0	253 58.3	S 1 59.0	185 26.9	N23 19.3	289 31.3	S15 08.3	299 59.0	S18 06.9
A										
T	6	267 59.5	268 57.9	S 1 57.8	200 27.7	N23 19.6	304 33.3	S15 08.1	315 01.2	S18 06.8
U	7	283 02.0	283 57.5	S 1 56.5	215 28.6	N23 19.8	319 35.2	S15 07.9	330 03.5	S18 06.7
R	8	298 04.4	298 57.1	S 1 55.3	230 29.5	N23 20.0	334 37.2	S15 07.8	345 05.7	S18 06.7
D	9	313 06.9	313 56.7	S 1 54.0	245 30.3	N23 20.2	349 39.1	S15 07.6	0 07.9	S18 06.6
A	10	328 09.3	328 56.4	S 1 52.8	260 31.2	N23 20.5	4 41.1	S15 07.4	15 10.2	S18 06.6
Y	11	343 11.8	343 56.0	S 1 51.5	275 32.1	N23 20.7	19 43.0	S15 07.3	30 12.4	S18 06.5
	12	358 14.3	358 55.6	S 1 50.3	290 32.9	N23 20.9	34 44.9	S15 07.1	45 14.6	S18 06.5
	13	13 16.7	13 55.2	S 1 49.0	305 33.8	N23 21.2	49 46.9	S15 07.0	60 16.9	S18 06.4
	14	28 19.2	28 54.8	S 1 47.7	320 34.7	N23 21.4	64 48.8	S15 06.8	75 19.1	S18 06.3
	15	43 21.7	43 54.4	S 1 46.5	335 35.6	N23 21.6	79 50.8	S15 06.6	90 21.3	S18 06.3
	16	58 24.1	58 54.0	S 1 45.2	350 36.4	N23 21.8	94 52.7	S15 06.5	105 23.6	S18 06.2
	17	73 26.6	73 53.7	S 1 44.0	5 37.3	N23 22.1	109 54.7	S15 06.3	120 25.8	S18 06.2
	18	88 29.1	88 53.3	S 1 42.7	20 38.2	N23 22.3	124 56.6	S15 06.2	135 28.0	S18 06.1
	19	103 31.5	103 52.9	S 1 41.5	35 39.0	N23 22.5	139 58.6	S15 06.0	150 30.3	S18 06.1
	20	118 34.0	118 52.5	S 1 40.2	50 39.9	N23 22.7	155 00.5	S15 05.8	165 32.5	S18 06.0
	21	133 36.4	133 52.1	S 1 39.0	65 40.8	N23 23.0	170 02.5	S15 05.7	180 34.7	S18 05.9
	22	148 38.9	148 51.7	S 1 37.7	80 41.6	N23 23.2	185 04.4	S15 05.5	195 37.0	S18 05.9
	23	163 41.4	163 51.4	S 1 36.4	95 42.5	N23 23.4	200 06.4	S15 05.3	210 39.2	S18 05.8
21	0	178 43.8	178 51.0	S 1 35.2	110 43.4	N23 23.6	215 08.3	S15 05.2	225 41.5	S18 05.8
	1	193 46.3	193 50.6	S 1 33.9	125 44.2	N23 23.8	230 10.3	S15 05.0	240 43.7	S18 05.7
	2	208 48.8	208 50.2	S 1 32.7	140 45.1	N23 24.1	245 12.2	S15 04.9	255 45.9	S18 05.7
	3	223 51.2	223 49.8	S 1 31.4	155 46.0	N23 24.3	260 14.2	S15 04.7	270 48.2	S18 05.6
	4	238 53.7	238 49.4	S 1 30.2	170 46.8	N23 24.5	275 16.1	S15 04.5	285 50.4	S18 05.5
S	5	253 56.2	253 49.1	S 1 28.9	185 47.7	N23 24.7	290 18.1	S15 04.4	300 52.6	S18 05.5
U										
N	6	268 58.6	268 48.7	S 1 27.7	200 48.6	N23 25.0	305 20.0	S15 04.2	315 54.9	S18 05.4
D	7	284 01.1	283 48.3	S 1 26.4	215 49.4	N23 25.2	320 22.0	S15 04.0	330 57.1	S18 05.4
A	8	299 03.6	298 47.9	S 1 25.1	230 50.3	N23 25.4	335 23.9	S15 03.9	345 59.3	S18 05.3
Y	9	314 06.0	313 47.5	S 1 23.9	245 51.2	N23 25.6	350 25.9	S15 03.7	1 01.6	S18 05.3
	10	329 08.5	328 47.1	S 1 22.6	260 52.0	N23 25.8	5 27.8	S15 03.6	16 03.8	S18 05.2
	11	344 10.9	343 46.8	S 1 21.4	275 52.9	N23 26.1	20 29.7	S15 03.4	31 06.0	S18 05.1
	12	359 13.4	358 46.4	S 1 20.1	290 53.8	N23 26.3	35 31.7	S15 03.2	46 08.3	S18 05.1
	13	14 15.9	13 46.0	S 1 18.9	305 54.6	N23 26.5	50 33.6	S15 03.1	61 10.5	S18 05.0
	14	29 18.3	28 45.6	S 1 17.6	320 55.5	N23 26.7	65 35.6	S15 02.9	76 12.8	S18 05.0
	15	44 20.8	43 45.2	S 1 16.3	335 56.4	N23 26.9	80 37.5	S15 02.8	91 15.0	S18 04.9
	16	59 23.3	58 44.8	S 1 15.1	350 57.2	N23 27.2	95 39.5	S15 02.6	106 17.2	S18 04.9
	17	74 25.7	73 44.5	S 1 13.8	5 58.1	N23 27.4	110 41.4	S15 02.4	121 19.5	S18 04.8
	18	89 28.2	88 44.1	S 1 12.6	20 59.0	N23 27.6	125 43.4	S15 02.3	136 21.7	S18 04.8
	19	104 30.7	103 43.7	S 1 11.3	35 59.8	N23 27.8	140 45.3	S15 02.1	151 23.9	S18 04.7
	20	119 33.1	118 43.3	S 1 10.1	51 00.7	N23 28.0	155 47.3	S15 02.0	166 26.2	S18 04.6
	21	134 35.6	133 42.9	S 1 08.8	66 01.6	N23 28.2	170 49.2	S15 01.8	181 28.4	S18 04.6
	22	149 38.1	148 42.6	S 1 07.5	81 02.4	N23 28.5	185 51.2	S15 01.6	196 30.6	S18 04.5
	23	164 40.5	163 42.2	S 1 06.3	96 03.3	N23 28.7	200 53.2	S15 01.5	211 32.9	S18 04.5
22	0	179 43.0	178 41.8	S 1 05.0	111 04.2	N23 28.9	215 55.1	S15 01.3	226 35.1	S18 04.4
	1	194 45.4	193 41.4	S 1 03.8	126 05.0	N23 29.1	230 57.1	S15 01.1	241 37.4	S18 04.4
	2	209 47.9	208 41.0	S 1 02.5	141 05.9	N23 29.3	245 59.0	S15 01.0	256 39.6	S18 04.3
	3	224 50.4	223 40.6	S 1 01.3	156 06.8	N23 29.5	261 01.0	S15 00.8	271 41.8	S18 04.2
	4	239 52.8	238 40.3	S 0 60.0	171 07.6	N23 29.8	276 02.9	S15 00.7	286 44.1	S18 04.2
M	5	254 55.3	253 39.9	S 0 58.7	186 08.5	N23 30.0	291 04.9	S15 00.5	301 46.3	S18 04.1
O										
N	6	269 57.8	268 39.5	S 0 57.5	201 09.3	N23 30.2	306 06.8	S15 00.3	316 48.6	S18 04.1
D	7	285 00.2	283 39.1	S 0 56.2	216 10.2	N23 30.4	321 08.8	S15 00.2	331 50.8	S18 04.0
A	8	300 02.7	298 38.7	S 0 55.0	231 11.1	N23 30.6	336 10.7	S15 00.0	346 53.0	S18 04.0
Y	9	315 05.2	313 38.4	S 0 53.7	246 11.9	N23 30.8	351 12.7	S14 59.9	1 55.3	S18 03.9
	10	330 07.6	328 38.0	S 0 52.4	261 12.8	N23 31.1	6 14.6	S14 59.7	16 57.5	S18 03.9
	11	345 10.1	343 37.6	S 0 51.2	276 13.7	N23 31.3	21 16.6	S14 59.5	31 59.7	S18 03.8
	12	0 12.6	358 37.2	S 0 49.9	291 14.5	N23 31.5	36 18.5	S14 59.4	47 02.0	S18 03.7
	13	15 15.0	13 36.8	S 0 48.7	306 15.4	N23 31.7	51 20.5	S14 59.2	62 04.2	S18 03.7
	14	30 17.5	28 36.5	S 0 47.4	321 16.2	N23 31.9	66 22.4	S14 59.1	77 06.5	S18 03.6
	15	45 19.9	43 36.1	S 0 46.2	336 17.1	N23 32.1	81 24.4	S14 58.9	92 08.7	S18 03.6
	16	60 22.4	58 35.7	S 0 44.9	351 18.0	N23 32.3	96 26.3	S14 58.7	107 10.9	S18 03.5
	17	75 24.9	73 35.3	S 0 43.6	6 18.8	N23 32.5	111 28.3	S14 58.6	122 13.2	S18 03.5
	18	90 27.3	88 34.9	S 0 42.4	21 19.7	N23 32.8	126 30.2	S14 58.4	137 15.4	S18 03.4
	19	105 29.8	103 34.6	S 0 41.1	36 20.6	N23 33.0	141 32.2	S14 58.2	152 17.7	S18 03.4
	20	120 32.3	118 34.2	S 0 39.9	51 21.4	N23 33.2	156 34.2	S14 58.1	167 19.9	S18 03.3
	21	135 34.7	133 33.8	S 0 38.6	66 22.3	N23 33.4	171 36.1	S14 57.9	182 22.1	S18 03.2
	22	150 37.2	148 33.4	S 0 37.3	81 23.1	N23 33.6	186 38.1	S14 57.8	197 24.4	S18 03.2
	23	165 39.7	163 33.0	S 0 36.1	96 24.0	N23 33.8	201 40.0	S14 57.6	212 26.6	S18 03.1
			v -0.4	d 1.3	v 0.9	d 0.2	v 1.9	d 0.2	v 2.2	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
20	0	178 06.6	S 0 09.5	107 19.0	12.2	N22 03.8	6.6	54.4
	1	193 06.8	S 0 08.5	121 50.2	12.1	N22 10.3	6.5	54.4
	2	208 07.0	S 0 07.5	136 21.2	12.1	N22 16.7	6.4	54.4
	3	223 07.2	S 0 06.5	150 52.3	12.0	N22 23.0	6.3	54.4
	4	238 07.4	S 0 05.6	165 23.2	12.0	N22 29.2	6.2	54.4
S	5	253 07.6	S 0 04.6	179 54.1	11.9	N22 35.3	6.1	54.4
A								
T	6	268 07.7	S 0 03.6	194 25.0	11.8	N22 41.3	6.0	54.4
U	7	283 07.9	S 0 02.6	208 55.7	11.8	N22 47.2	5.9	54.4
R	8	298 08.1	S 0 01.6	223 26.5	11.7	N22 53.0	5.8	54.5
D	9	313 08.3	S 0 00.6	237 57.1	11.7	N22 58.7	5.7	54.5
A	10	328 08.5	N 0 00.4	252 27.7	11.6	N23 04.3	5.6	54.5
Y	11	343 08.7	N 0 01.4	266 58.3	11.5	N23 09.8	5.5	54.5
	12	358 08.9	N 0 02.4	281 28.8	11.5	N23 15.2	5.4	54.5
	13	13 09.0	N 0 03.3	295 59.2	11.4	N23 20.5	5.3	54.5
	14	28 09.2	N 0 04.3	310 29.5	11.4	N23 25.7	5.2	54.5
	15	43 09.4	N 0 05.3	324 59.8	11.3	N23 30.7	5.1	54.6
	16	58 09.6	N 0 06.3	339 30.1	11.2	N23 35.7	5.0	54.6
	17	73 09.8	N 0 07.3	354 00.3	11.2	N23 40.6	4.9	54.6
	18	88 10.0	N 0 08.3	8 30.4	11.1	N23 45.3	4.7	54.6
	19	103 10.2	N 0 09.3	23 00.5	11.1	N23 49.9	4.6	54.6
	20	118 10.3	N 0 10.3	37 30.5	11.0	N23 54.5	4.5	54.6
	21	133 10.5	N 0 11.2	52 00.4	11.0	N23 58.9	4.4	54.7
	22	148 10.7	N 0 12.2	66 30.3	10.9	N24 03.2	4.3	54.7
	23	163 10.9	N 0 13.2	81 00.2	10.8	N24 07.4	4.2	54.7
21	0	178 11.1	N 0 14.2	95 30.0	10.8	N24 11.5	4.1	54.7
	1	193 11.3	N 0 15.2	109 59.7	10.7	N24 15.4	4.0	54.7
	2	208 11.5	N 0 16.2	124 29.4	10.7	N24 19.3	3.9	54.8
	3	223 11.6	N 0 17.2	138 59.0	10.6	N24 23.0	3.7	54.8
	4	238 11.8	N 0 18.2	153 28.6	10.6	N24 26.6	3.6	54.8
S	5	253 12.0	N 0 19.1	167 58.1	10.5	N24 30.1	3.5	54.8
U								
N	6	268 12.2	N 0 20.1	182 27.5	10.5	N24 33.5	3.4	54.8
D	7	283 12.4	N 0 21.1	196 56.9	10.4	N24 36.8	3.3	54.9
A	8	298 12.6	N 0 22.1	211 26.3	10.3	N24 40.0	3.2	54.9
Y	9	313 12.8	N 0 23.1	225 55.6	10.3	N24 43.0	3.0	54.9
	10	328 12.9	N 0 24.1	240 24.8	10.2	N24 45.9	2.9	54.9
	11	343 13.1	N 0 25.1	254 54.0	10.2	N24 48.7	2.8	54.9
	12	358 13.3	N 0 26.1	269 23.1	10.1	N24 51.4	2.7	55.0
	13	13 13.5	N 0 27.0	283 52.2	10.1	N24 53.9	2.6	55.0
	14	28 13.7	N 0 28.0	298 21.3	10.0	N24 56.3	2.4	55.0
	15	43 13.9	N 0 29.0	312 50.3	10.0	N24 58.7	2.3	55.0
	16	58 14.1	N 0 30.0	327 19.2	9.9	N25 00.8	2.2	55.1
	17	73 14.2	N 0 31.0	341 48.1	9.9	N25 02.9	2.1	55.1
	18	88 14.4	N 0 32.0	356 16.9	9.8	N25 04.8	1.9	55.1
	19	103 14.6	N 0 33.0	10 45.7	9.8	N25 06.6	1.8	55.1
	20	118 14.8	N 0 34.0	25 14.5	9.8	N25 08.3	1.7	55.2
	21	133 15.0	N 0 34.9	39 43.2	9.7	N25 09.9	1.6	55.2
	22	148 15.2	N 0 35.9	54 11.9	9.7	N25 11.3	1.4	55.2
	23	163 15.4	N 0 36.9	68 40.5	9.6	N25 12.6	1.3	55.2
22	0	178 15.6	N 0 37.9	83 09.1	9.6	N25 13.8	1.2	55.3
	1	193 15.7	N 0 38.9	97 37.6	9.5	N25 14.9	1.1	55.3
	2	208 15.9	N 0 39.9	112 06.1	9.5	N25 15.8	0.9	55.3
	3	223 16.1	N 0 40.9	126 34.6	9.5	N25 16.6	0.8	55.3
	4	238 16.3	N 0 41.9	141 03.0	9.4	N25 17.3	0.7	55.4
M	5	253 16.5	N 0 42.8	155 31.4	9.4	N25 17.8	0.5	55.4
O								
N	6	268 16.7	N 0 43.8	169 59.7	9.3	N25 18.2	0.4	55.4
D	7	283 16.9	N 0 44.8	184 28.0	9.3	N25 18.5	0.3	55.4
A	8	298 17.0	N 0 45.8	198 56.3	9.3	N25 18.6	0.1	55.5
Y	9	313 17.2	N 0 46.8	213 24.5	9.2	N25 18.6	0.0	55.5
	10	328 17.4	N 0 47.8	227 52.7	9.2	N25 18.5	0.1	55.5
	11	343 17.6	N 0 48.8	242 20.9	9.2	N25 18.2	0.3	55.5
	12	358 17.8	N 0 49.7	256 49.0	9.1	N25 17.9	0.4	55.6
	13	13 18.0	N 0 50.7	271 17.1	9.1	N25 17.3	0.5	55.6
	14	28 18.2	N 0 51.7	285 45.2	9.1	N25 16.7	0.7	55.6
	15	43 18.4	N 0 52.7	300 13.2	9.0	N25 15.9	0.8	55.7
	16	58 18.5	N 0 53.7	314 41.2	9.0	N25 15.0	0.9	55.7
	17	73 18.7	N 0 54.7	329 09.2	9.0	N25 13.9	1.1	55.7
	18	88 18.9	N 0 55.7	343 37.1	8.9	N25 12.7	1.2	55.8
	19	103 19.1	N 0 56.6	358 05.0	8.9	N25 11.4	1.3	55.8
	20	118 19.3	N 0 57.6	12 32.9	8.9	N25 09.9	1.5	55.8
	21	133 19.5	N 0 58.6	27 00.8	8.9	N25 08.3	1.6	55.8
	22	148 19.7	N 0 59.6	41 28.7	8.8	N25 06.6	1.7	55.9
	23	163 19.9	N 1 00.6	55 56.5	8.8	N25 04.7	1.9	55.9
		S.D. 16.1	d 1.0	S.D.	14.9	15.0	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.5
Achernar	335 23.1	S57 08.0
Acrux	173 02.8	S63 12.9
Adhara	255 08.2	S29 00.3
Albireo	67 06.7	N27 60.0
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.2	N55 50.7
Alkaid	152 54.1	N49 12.3
Al Na-ir	27 37.2	S46 51.6
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.2	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.1	N 8 55.2
Ankaa	353 10.7	S42 11.7
Antares	112 19.5	S26 28.7
Arcturus	145 50.5	N19 04.2
Atria	107 16.4	S69 03.7
Avior	234 15.6	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.5
Canopus	263 53.7	S52 42.7
Capella	280 26.6	N46 01.2
Castor	246 00.9	N31 50.6
Deneb	49 28.1	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.4
Dubhe	193 44.2	N61 38.3
Elnath	278 05.9	N28 37.5
Eltanin	90 43.6	N51 28.8
Enif	33 42.0	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.5	S57 13.9
Gienah	175 46.4	S17 39.6
Hadar	148 39.9	S60 28.3
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.7	S34 22.4
Kochab	137 19.1	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.4
Miaplacidus	221 38.1	S69 48.4
Mirfak	308 33.0	N49 56.2
Nunki	75 51.7	S26 16.2
Peacock	53 10.9	S56 39.9
Polaris	317 42.7	N89 20.5
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.2
Rasalhague	96 01.4	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 06.9	S 8 10.8
Rigil Kent	139 44.2	S60 55.2
Sabik	102 06.3	S15 45.1
Schedar	349 35.0	N56 39.1
Shaula	96 14.5	S37 07.0
Sirius	258 28.9	S16 44.9
Spica	158 25.3	S11 16.3
Suhail	222 48.2	S43 31.3
Vega	80 35.4	N38 47.9
Zuben-ubi	136 60.0	S16 07.8

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 42.1	178 32.7	S 0 34.8	111 24.9	N23 34.0	216 42.0	S14 57.4	227 28.9	S18 03.1
	1	195 44.6	193 32.3	S 0 33.6	126 25.7	N23 34.2	231 43.9	S14 57.3	242 31.1	S18 03.0
	2	210 47.1	208 31.9	S 0 32.3	141 26.6	N23 34.4	246 45.9	S14 57.1	257 33.3	S18 03.0
	3	225 49.5	223 31.5	S 0 31.0	156 27.4	N23 34.7	261 47.8	S14 57.0	272 35.6	S18 02.9
	4	240 52.0	238 31.1	S 0 29.8	171 28.3	N23 34.9	276 49.8	S14 56.8	287 37.8	S18 02.9
T	5	255 54.4	253 30.8	S 0 28.5	186 29.2	N23 35.1	291 51.7	S14 56.6	302 40.1	S18 02.8
U										
E	6	270 56.9	268 30.4	S 0 27.3	201 30.0	N23 35.3	306 53.7	S14 56.5	317 42.3	S18 02.7
S	7	285 59.4	283 30.0	S 0 26.0	216 30.9	N23 35.5	321 55.7	S14 56.3	332 44.5	S18 02.7
D	8	301 01.8	298 29.6	S 0 24.7	231 31.7	N23 35.7	336 57.6	S14 56.2	347 46.8	S18 02.6
A	9	316 04.3	313 29.2	S 0 23.5	246 32.6	N23 35.9	351 59.6	S14 56.0	2 49.0	S18 02.6
Y	10	331 06.8	328 28.9	S 0 22.2	261 33.5	N23 36.1	7 01.5	S14 55.8	17 51.3	S18 02.5
	11	346 09.2	343 28.5	S 0 21.0	276 34.3	N23 36.3	22 03.5	S14 55.7	32 53.5	S18 02.5
	12	1 11.7	358 28.1	S 0 19.7	291 35.2	N23 36.5	37 05.4	S14 55.5	47 55.8	S18 02.4
	13	16 14.2	13 27.7	S 0 18.5	306 36.0	N23 36.7	52 07.4	S14 55.4	62 58.0	S18 02.4
	14	31 16.6	28 27.4	S 0 17.2	321 36.9	N23 36.9	67 09.3	S14 55.2	78 00.2	S18 02.3
	15	46 19.1	43 27.0	S 0 15.9	336 37.8	N23 37.2	82 11.3	S14 55.0	93 02.5	S18 02.2
	16	61 21.5	58 26.6	S 0 14.7	351 38.6	N23 37.4	97 13.3	S14 54.9	108 04.7	S18 02.2
	17	76 24.0	73 26.2	S 0 13.4	6 39.5	N23 37.6	112 15.2	S14 54.7	123 07.0	S18 02.1
	18	91 26.5	88 25.8	S 0 12.2	21 40.3	N23 37.8	127 17.2	S14 54.6	138 09.2	S18 02.1
	19	106 28.9	103 25.5	S 0 10.9	36 41.2	N23 38.0	142 19.1	S14 54.4	153 11.4	S18 02.0
	20	121 31.4	118 25.1	S 0 09.6	51 42.0	N23 38.2	157 21.1	S14 54.2	168 13.7	S18 02.0
	21	136 33.9	133 24.7	S 0 08.4	66 42.9	N23 38.4	172 23.0	S14 54.1	183 15.9	S18 01.9
	22	151 36.3	148 24.3	S 0 07.1	81 43.8	N23 38.6	187 25.0	S14 53.9	198 18.2	S18 01.9
	23	166 38.8	163 23.9	S 0 05.9	96 44.6	N23 38.8	202 27.0	S14 53.8	213 20.4	S18 01.8
24	0	181 41.3	178 23.6	S 0 04.6	111 45.5	N23 39.0	217 28.9	S14 53.6	228 22.7	S18 01.8
	1	196 43.7	193 23.2	S 0 03.3	126 46.3	N23 39.2	232 30.9	S14 53.4	243 24.9	S18 01.7
	2	211 46.2	208 22.8	S 0 02.1	141 47.2	N23 39.4	247 32.8	S14 53.3	258 27.2	S18 01.6
	3	226 48.7	223 22.4	S 0 00.8	156 48.0	N23 39.6	262 34.8	S14 53.1	273 29.4	S18 01.6
	4	241 51.1	238 22.1	N 0 00.4	171 48.9	N23 39.8	277 36.7	S14 53.0	288 31.6	S18 01.5
W	5	256 53.6	253 21.7	N 0 01.7	186 49.8	N23 40.0	292 38.7	S14 52.8	303 33.9	S18 01.5
E										
D	6	271 56.0	268 21.3	N 0 03.0	201 50.6	N23 40.2	307 40.7	S14 52.6	318 36.1	S18 01.4
N	7	286 58.5	283 20.9	N 0 04.2	216 51.5	N23 40.4	322 42.6	S14 52.5	333 38.4	S18 01.4
E	8	302 01.0	298 20.5	N 0 05.5	231 52.3	N23 40.6	337 44.6	S14 52.3	348 40.6	S18 01.3
S	9	317 03.4	313 20.2	N 0 06.7	246 53.2	N23 40.8	352 46.5	S14 52.2	3 42.9	S18 01.3
D	10	332 05.9	328 19.8	N 0 08.0	261 54.0	N23 41.0	7 48.5	S14 52.0	18 45.1	S18 01.2
A	11	347 08.4	343 19.4	N 0 09.3	276 54.9	N23 41.2	22 50.5	S14 51.8	33 47.3	S18 01.2
Y										
	12	2 10.8	358 19.0	N 0 10.5	291 55.8	N23 41.4	37 52.4	S14 51.7	48 49.6	S18 01.1
	13	17 13.3	13 18.7	N 0 11.8	306 56.6	N23 41.6	52 54.4	S14 51.5	63 51.8	S18 01.0
	14	32 15.8	28 18.3	N 0 13.0	321 57.5	N23 41.8	67 56.3	S14 51.4	78 54.1	S18 01.0
	15	47 18.2	43 17.9	N 0 14.3	336 58.3	N23 42.0	82 58.3	S14 51.2	93 56.3	S18 00.9
	16	62 20.7	58 17.5	N 0 15.6	351 59.2	N23 42.2	98 00.2	S14 51.0	108 58.6	S18 00.9
	17	77 23.2	73 17.1	N 0 16.8	7 00.0	N23 42.4	113 02.2	S14 50.9	124 00.8	S18 00.8
	18	92 25.6	88 16.8	N 0 18.1	22 00.9	N23 42.6	128 04.2	S14 50.7	139 03.1	S18 00.8
	19	107 28.1	103 16.4	N 0 19.3	37 01.7	N23 42.8	143 06.1	S14 50.6	154 05.3	S18 00.7
	20	122 30.5	118 16.0	N 0 20.6	52 02.6	N23 43.0	158 08.1	S14 50.4	169 07.6	S18 00.7
	21	137 33.0	133 15.6	N 0 21.9	67 03.4	N23 43.2	173 10.0	S14 50.2	184 09.8	S18 00.6
	22	152 35.5	148 15.3	N 0 23.1	82 04.3	N23 43.4	188 12.0	S14 50.1	199 12.0	S18 00.6
	23	167 37.9	163 14.9	N 0 24.4	97 05.2	N23 43.6	203 14.0	S14 49.9	214 14.3	S18 00.5
25	0	182 40.4	178 14.5	N 0 25.7	112 06.0	N23 43.8	218 15.9	S14 49.8	229 16.5	S18 00.4
	1	197 42.9	193 14.1	N 0 26.9	127 06.9	N23 44.0	233 17.9	S14 49.6	244 18.8	S18 00.4
	2	212 45.3	208 13.7	N 0 28.2	142 07.7	N23 44.2	248 19.9	S14 49.4	259 21.0	S18 00.3
	3	227 47.8	223 13.4	N 0 29.4	157 08.6	N23 44.4	263 21.8	S14 49.3	274 23.3	S18 00.3
	4	242 50.3	238 13.0	N 0 30.7	172 09.4	N23 44.6	278 23.8	S14 49.1	289 25.5	S18 00.2
T	5	257 52.7	253 12.6	N 0 32.0	187 10.3	N23 44.8	293 25.7	S14 49.0	304 27.8	S18 00.2
H										
U	6	272 55.2	268 12.2	N 0 33.2	202 11.1	N23 45.0	308 27.7	S14 48.8	319 30.0	S18 00.1
R	7	287 57.6	283 11.9	N 0 34.5	217 12.0	N23 45.2	323 29.7	S14 48.6	334 32.3	S18 00.1
S	8	303 00.1	298 11.5	N 0 35.7	232 12.8	N23 45.4	338 31.6	S14 48.5	349 34.5	S18 00.0
D	9	318 02.6	313 11.1	N 0 37.0	247 13.7	N23 45.6	353 33.6	S14 48.3	4 36.8	S17 60.0
A	10	333 05.0	328 10.7	N 0 38.3	262 14.5	N23 45.8	8 35.5	S14 48.2	19 39.0	S17 59.9
Y	11	348 07.5	343 10.4	N 0 39.5	277 15.4	N23 46.0	23 37.5	S14 48.0	34 41.2	S17 59.9
	12	3 10.0	358 10.0	N 0 40.8	292 16.2	N23 46.2	38 39.5	S14 47.8	49 43.5	S17 59.8
	13	18 12.4	13 09.6	N 0 42.0	307 17.1	N23 46.4	53 41.4	S14 47.7	64 45.7	S17 59.7
	14	33 14.9	28 09.2	N 0 43.3	322 18.0	N23 46.6	68 43.4	S14 47.5	79 48.0	S17 59.7
	15	48 17.4	43 08.8	N 0 44.6	337 18.8	N23 46.8	83 45.4	S14 47.4	94 50.2	S17 59.6
	16	63 19.8	58 08.5	N 0 45.8	352 19.7	N23 47.0	98 47.3	S14 47.2	109 52.5	S17 59.6
	17	78 22.3	73 08.1	N 0 47.1	7 20.5	N23 47.2	113 49.3	S14 47.1	124 54.7	S17 59.5
	18	93 24.8	88 07.7	N 0 48.3	22 21.4	N23 47.4	128 51.2	S14 46.9	139 57.0	S17 59.5
	19	108 27.2	103 07.3	N 0 49.6	37 22.2	N23 47.5	143 53.2	S14 46.7	154 59.2	S17 59.4
	20	123 29.7	118 07.0	N 0 50.9	52 23.1	N23 47.7	158 55.2	S14 46.6	170 01.5	S17 59.4
	21	138 32.1	133 06.6	N 0 52.1	67 23.9	N23 47.9	173 57.1	S14 46.4	185 03.7	S17 59.3
	22	153 34.6	148 06.2	N 0 53.4	82 24.8	N23 48.1	188 59.1	S14 46.3	200 06.0	S17 59.3
	23	168 37.1	163 05.8	N 0 54.6	97 25.6	N23 48.3	204 01.1	S14 46.1	215 08.2	S17 59.2
			v -0.4	d 1.3	v 0.9	d 0.2	v 2.0	d 0.2	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 20.1	N 1 01.6	70 24.3	8.8	N25 02.7	2.0	55.9
	1	193 20.2	N 1 02.6	84 52.1	8.8	N25 00.6	2.1	56.0
	2	208 20.4	N 1 03.5	99 19.8	8.8	N24 58.3	2.3	56.0
	3	223 20.6	N 1 04.5	113 47.6	8.7	N24 55.9	2.4	56.0
	4	238 20.8	N 1 05.5	128 15.3	8.7	N24 53.4	2.6	56.1
T	5	253 21.0	N 1 06.5	142 43.0	8.7	N24 50.7	2.7	56.1
U								
E	6	268 21.2	N 1 07.5	157 10.7	8.7	N24 47.8	2.8	56.1
S	7	283 21.4	N 1 08.5	171 38.4	8.7	N24 44.9	3.0	56.2
D	8	298 21.6	N 1 09.5	186 06.0	8.7	N24 41.8	3.1	56.2
A	9	313 21.7	N 1 10.4	200 33.7	8.6	N24 38.5	3.2	56.2
Y	10	328 21.9	N 1 11.4	215 01.3	8.6	N24 35.1	3.4	56.3
	11	343 22.1	N 1 12.4	229 28.9	8.6	N24 31.6	3.5	56.3
	12	358 22.3	N 1 13.4	243 56.5	8.6	N24 28.0	3.7	56.3
	13	13 22.5	N 1 14.4	258 24.1	8.6	N24 24.2	3.8	56.4
	14	28 22.7	N 1 15.4	272 51.7	8.6	N24 20.2	3.9	56.4
	15	43 22.9	N 1 16.4	287 19.3	8.6	N24 16.2	4.1	56.4
	16	58 23.1	N 1 17.3	301 46.9	8.6	N24 12.0	4.2	56.5
	17	73 23.3	N 1 18.3	316 14.5	8.6	N24 07.6	4.3	56.5
	18	88 23.4	N 1 19.3	330 42.0	8.6	N24 03.1	4.5	56.5
	19	103 23.6	N 1 20.3	345 09.6	8.6	N23 58.5	4.6	56.6
	20	118 23.8	N 1 21.3	359 37.2	8.6	N23 53.8	4.8	56.6
	21	133 24.0	N 1 22.3	14 04.7	8.6	N23 48.9	4.9	56.6
	22	148 24.2	N 1 23.2	28 32.3	8.6	N23 43.8	5.0	56.7
	23	163 24.4	N 1 24.2	42 59.8	8.6	N23 38.6	5.2	56.7
24	0	178 24.6	N 1 25.2	57 27.4	8.6	N23 33.3	5.3	56.8
	1	193 24.8	N 1 26.2	71 54.9	8.6	N23 27.9	5.4	56.8
	2	208 24.9	N 1 27.2	86 22.5	8.6	N23 22.3	5.6	56.8
	3	223 25.1	N 1 28.2	100 50.1	8.6	N23 16.6	5.7	56.9
	4	238 25.3	N 1 29.2	115 17.6	8.6	N23 10.7	5.9	56.9
W	5	253 25.5	N 1 30.1	129 45.2	8.6	N23 04.7	6.0	56.9
E								
D	6	268 25.7	N 1 31.1	144 12.8	8.6	N22 58.6	6.1	57.0
N	7	283 25.9	N 1 32.1	158 40.3	8.6	N22 52.3	6.3	57.0
E	8	298 26.1	N 1 33.1	173 07.9	8.6	N22 45.9	6.4	57.0
S	9	313 26.3	N 1 34.1	187 35.5	8.6	N22 39.4	6.5	57.1
D	10	328 26.5	N 1 35.1	202 03.1	8.6	N22 32.7	6.7	57.1
A	11	343 26.6	N 1 36.0	216 30.7	8.6	N22 25.9	6.8	57.2
Y								
	12	358 26.8	N 1 37.0	230 58.4	8.6	N22 19.0	6.9	57.2
	13	13 27.0	N 1 38.0	245 26.0	8.6	N22 11.9	7.1	57.2
	14	28 27.2	N 1 39.0	259 53.6	8.6	N22 04.7	7.2	57.3
	15	43 27.4	N 1 40.0	274 21.3	8.7	N21 57.3	7.3	57.3
	16	58 27.6	N 1 41.0	288 48.9	8.7	N21 49.9	7.5	57.3
	17	73 27.8	N 1 41.9	303 16.6	8.7	N21 42.3	7.6	57.4
	18	88 28.0	N 1 42.9	317 44.3	8.7	N21 34.5	7.7	57.4
	19	103 28.2	N 1 43.9	332 12.0	8.7	N21 26.6	7.9	57.5
	20	118 28.3	N 1 44.9	346 39.7	8.7	N21 18.6	8.0	57.5
	21	133 28.5	N 1 45.9	1 07.5	8.7	N21 10.5	8.1	57.5
	22	148 28.7	N 1 46.9	15 35.2	8.7	N21 02.2	8.3	57.6
	23	163 28.9	N 1 47.8	30 03.0	8.8	N20 53.9	8.4	57.6
25	0	178 29.1	N 1 48.8	44 30.7	8.8	N20 45.3	8.5	57.7
	1	193 29.3	N 1 49.8	58 58.5	8.8	N20 36.7	8.6	57.7
	2	208 29.5	N 1 50.8	73 26.4	8.8	N20 27.9	8.8	57.7
	3	223 29.7	N 1 51.8	87 54.2	8.8	N20 19.0	8.9	57.8
	4	238 29.9	N 1 52.7	102 22.0	8.9	N20 10.0	9.0	57.8
T	5	253 30.1	N 1 53.7	116 49.9	8.9	N20 00.8	9.2	57.8
H								
U	6	268 30.2	N 1 54.7	131 17.8	8.9	N19 51.5	9.3	57.9
R	7	283 30.4	N 1 55.7	145 45.7	8.9	N19 42.1	9.4	57.9
S	8	298 30.6	N 1 56.7	160 13.6	8.9	N19 32.6	9.5	58.0
D	9	313 30.8	N 1 57.7	174 41.6	8.9	N19 23.0	9.7	58.0
A	10	328 31.0	N 1 58.6	189 09.5	9.0	N19 13.2	9.8	58.0
Y	11	343 31.2	N 1 59.6	203 37.5	9.0	N19 03.3	9.9	58.1
	12	358 31.4	N 2 00.6	218 05.5	9.0	N18 53.3	10.0	58.1
	13	13 31.6	N 2 01.6	232 33.6	9.0	N18 43.1	10.1	58.2
	14	28 31.8	N 2 02.6	247 01.6	9.1	N18 32.9	10.3	58.2
	15	43 31.9	N 2 03.6	261 29.7	9.1	N18 22.5	10.4	58.2
	16	58 32.1	N 2 04.5	275 57.8	9.1	N18 12.0	10.5	58.3
	17	73 32.3	N 2 05.5	290 25.9	9.1	N18 01.4	10.6	58.3
	18	88 32.5	N 2 06.5	304 54.0	9.1	N17 50.7	10.7	58.3
	19	103 32.7	N 2 07.5	319 22.2	9.2	N17 39.8	10.8	58.4
	20	118 32.9	N 2 08.5	333 50.4	9.2	N17 28.9	11.0	58.4
	21	133 33.1	N 2 09.4	348 18.6	9.2	N17 17.8	11.1	58.5
	22	148 33.3	N 2 10.4	2 46.8	9.2	N17 06.6	11.2	58.5
	23	163 33.5	N 2 11.4	17 15.1	9.2	N16 55.3	11.3	58.5
		S.D. 16.0	d 1.0	S.D.	15.3	15.6	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.5
Achernar	335 23.1	S57 08.0
Acrux	173 02.8	S63 12.9
Adhara	255 08.2	S29 00.3
Albireo	67 06.7	N27 60.0
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.2	N55 50.7
Alkaid	152 54.1	N49 12.4
Al Na-ir	27 37.2	S46 51.5
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.2	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.1	N 8 55.2
Ankaa	353 10.6	S42 11.7
Antares	112 19.5	S26 28.7
Arcturus	145 50.5	N19 04.2
Atria	107 16.4	S69 03.7
Avior	234 15.6	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.5
Canopus	263 53.7	S52 42.7
Capella	280 26.6	N46 01.2
Castor	246 00.9	N31 50.6
Deneb	49 28.1	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.4
Dubhe	193 44.2	N61 38.3
Elnath	278 05.9	N28 37.5
Eltanin	90 43.6	N51 28.8
Enif	33 42.0	N 9 58.1
Fomalhaut	15 18.3	S29 30.8
Gacrux	171 54.5	S57 13.9
Gienah	175 46.4	S17 39.6
Hadar	148 39.8	S60 28.3
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.7	S34 22.4
Kochab	137 19.1	N74 03.9
Markab	13 33.3	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.4
Miaplacidus	221 38.1	S69 48.4
Mirfak	308 33.0	N49 56.2
Nunki	75 51.7	S26 16.2
Peacock	53 10.9	S56 39.9
Polaris	317 43.4	N89 20.5
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.4	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 06.9	S 8 10.8
Rigil Kent	139 44.1	S60 55.2
Sabik	102 06.3	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.5	S37 07.0
Sirius	258 28.9	S16 44.9
Spica	158 25.3	S11 16.3
Suhail	222 48.2	S43 31.3
Vega	80 35.3	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
26	0	183 39.5	178 05.5	N 0 55.9	112 26.5	N23 48.5	219 03.0	S14 45.9	230 10.5	S17 59.2
	1	198 42.0	193 05.1	N 0 57.2	127 27.3	N23 48.7	234 05.0	S14 45.8	245 12.7	S17 59.1
	2	213 44.5	208 04.7	N 0 58.4	142 28.2	N23 48.9	249 07.0	S14 45.6	260 15.0	S17 59.1
	3	228 46.9	223 04.3	N 0 59.7	157 29.0	N23 49.1	264 08.9	S14 45.5	275 17.2	S17 59.0
	4	243 49.4	238 03.9	N 1 00.9	172 29.9	N23 49.3	279 10.9	S14 45.3	290 19.5	S17 58.9
F	5	258 51.9	253 03.6	N 1 02.2	187 30.7	N23 49.5	294 12.8	S14 45.1	305 21.7	S17 58.9
R										
I	6	273 54.3	268 03.2	N 1 03.5	202 31.6	N23 49.6	309 14.8	S14 45.0	320 24.0	S17 58.8
D	7	288 56.8	283 02.8	N 1 04.7	217 32.4	N23 49.8	324 16.8	S14 44.8	335 26.2	S17 58.8
A	8	303 59.2	298 02.4	N 1 06.0	232 33.3	N23 50.0	339 18.7	S14 44.7	350 28.5	S17 58.7
Y	9	319 01.7	313 02.1	N 1 07.2	247 34.1	N23 50.2	354 20.7	S14 44.5	5 30.7	S17 58.7
	10	334 04.2	328 01.7	N 1 08.5	262 35.0	N23 50.4	9 22.7	S14 44.4	20 33.0	S17 58.6
	11	349 06.6	343 01.3	N 1 09.8	277 35.8	N23 50.6	24 24.6	S14 44.2	35 35.2	S17 58.6
	12	4 09.1	358 00.9	N 1 11.0	292 36.7	N23 50.8	39 26.6	S14 44.0	50 37.5	S17 58.5
	13	19 11.6	13 00.6	N 1 12.3	307 37.5	N23 51.0	54 28.6	S14 43.9	65 39.7	S17 58.5
	14	34 14.0	28 00.2	N 1 13.5	322 38.4	N23 51.2	69 30.5	S14 43.7	80 42.0	S17 58.4
	15	49 16.5	42 59.8	N 1 14.8	337 39.2	N23 51.3	84 32.5	S14 43.6	95 44.2	S17 58.4
	16	64 19.0	57 59.4	N 1 16.1	352 40.1	N23 51.5	99 34.5	S14 43.4	110 46.5	S17 58.3
	17	79 21.4	72 59.0	N 1 17.3	7 40.9	N23 51.7	114 36.4	S14 43.2	125 48.7	S17 58.3
	18	94 23.9	87 58.7	N 1 18.6	22 41.8	N23 51.9	129 38.4	S14 43.1	140 51.0	S17 58.2
	19	109 26.4	102 58.3	N 1 19.8	37 42.6	N23 52.1	144 40.4	S14 42.9	155 53.2	S17 58.1
	20	124 28.8	117 57.9	N 1 21.1	52 43.5	N23 52.3	159 42.3	S14 42.8	170 55.5	S17 58.1
	21	139 31.3	132 57.5	N 1 22.4	67 44.3	N23 52.5	174 44.3	S14 42.6	185 57.7	S17 58.0
	22	154 33.7	147 57.2	N 1 23.6	82 45.2	N23 52.7	189 46.3	S14 42.5	200 60.0	S17 58.0
	23	169 36.2	162 56.8	N 1 24.9	97 46.0	N23 52.8	204 48.2	S14 42.3	216 02.2	S17 57.9
27	0	184 38.7	177 56.4	N 1 26.1	112 46.8	N23 53.0	219 50.2	S14 42.1	231 04.5	S17 57.9
	1	199 41.1	192 56.0	N 1 27.4	127 47.7	N23 53.2	234 52.2	S14 42.0	246 06.7	S17 57.8
	2	214 43.6	207 55.7	N 1 28.7	142 48.5	N23 53.4	249 54.1	S14 41.8	261 09.0	S17 57.8
	3	229 46.1	222 55.3	N 1 29.9	157 49.4	N23 53.6	264 56.1	S14 41.7	276 11.2	S17 57.7
	4	244 48.5	237 54.9	N 1 31.2	172 50.2	N23 53.8	279 58.1	S14 41.5	291 13.5	S17 57.7
S	5	259 51.0	252 54.5	N 1 32.4	187 51.1	N23 53.9	295 00.0	S14 41.3	306 15.7	S17 57.6
A										
T	6	274 53.5	267 54.1	N 1 33.7	202 51.9	N23 54.1	310 02.0	S14 41.2	321 18.0	S17 57.6
U	7	289 55.9	282 53.8	N 1 35.0	217 52.8	N23 54.3	325 04.0	S14 41.0	336 20.2	S17 57.5
R	8	304 58.4	297 53.4	N 1 36.2	232 53.6	N23 54.5	340 05.9	S14 40.9	351 22.5	S17 57.5
D	9	320 00.9	312 53.0	N 1 37.5	247 54.5	N23 54.7	355 07.9	S14 40.7	6 24.7	S17 57.4
A	10	335 03.3	327 52.6	N 1 38.7	262 55.3	N23 54.9	10 09.9	S14 40.6	21 27.0	S17 57.4
Y	11	350 05.8	342 52.3	N 1 40.0	277 56.2	N23 55.0	25 11.9	S14 40.4	36 29.2	S17 57.3
	12	5 08.2	357 51.9	N 1 41.2	292 57.0	N23 55.2	40 13.8	S14 40.2	51 31.5	S17 57.3
	13	20 10.7	12 51.5	N 1 42.5	307 57.9	N23 55.4	55 15.8	S14 40.1	66 33.8	S17 57.2
	14	35 13.2	27 51.1	N 1 43.8	322 58.7	N23 55.6	70 17.8	S14 39.9	81 36.0	S17 57.2
	15	50 15.6	42 50.8	N 1 45.0	337 59.5	N23 55.8	85 19.7	S14 39.8	96 38.3	S17 57.1
	16	65 18.1	57 50.4	N 1 46.3	353 00.4	N23 56.0	100 21.7	S14 39.6	111 40.5	S17 57.0
	17	80 20.6	72 50.0	N 1 47.5	8 01.2	N23 56.1	115 23.7	S14 39.5	126 42.8	S17 57.0
	18	95 23.0	87 49.6	N 1 48.8	23 02.1	N23 56.3	130 25.6	S14 39.3	141 45.0	S17 56.9
	19	110 25.5	102 49.2	N 1 50.1	38 02.9	N23 56.5	145 27.6	S14 39.1	156 47.3	S17 56.9
	20	125 28.0	117 48.9	N 1 51.3	53 03.8	N23 56.7	160 29.6	S14 39.0	171 49.5	S17 56.8
	21	140 30.4	132 48.5	N 1 52.6	68 04.6	N23 56.9	175 31.6	S14 38.8	186 51.8	S17 56.8
	22	155 32.9	147 48.1	N 1 53.8	83 05.5	N23 57.0	190 33.5	S14 38.7	201 54.0	S17 56.7
	23	170 35.3	162 47.7	N 1 55.1	98 06.3	N23 57.2	205 35.5	S14 38.5	216 56.3	S17 56.7
28	0	185 37.8	177 47.4	N 1 56.4	113 07.2	N23 57.4	220 37.5	S14 38.4	231 58.5	S17 56.6
	1	200 40.3	192 47.0	N 1 57.6	128 08.0	N23 57.6	235 39.4	S14 38.2	247 00.8	S17 56.6
	2	215 42.7	207 46.6	N 1 58.9	143 08.8	N23 57.7	250 41.4	S14 38.0	262 03.1	S17 56.5
	3	230 45.2	222 46.2	N 2 00.1	158 09.7	N23 57.9	265 43.4	S14 37.9	277 05.3	S17 56.5
	4	245 47.7	237 45.9	N 2 01.4	173 10.5	N23 58.1	280 45.3	S14 37.7	292 07.6	S17 56.4
S	5	260 50.1	252 45.5	N 2 02.6	188 11.4	N23 58.3	295 47.3	S14 37.6	307 09.8	S17 56.4
U										
N	6	275 52.6	267 45.1	N 2 03.9	203 12.2	N23 58.5	310 49.3	S14 37.4	322 12.1	S17 56.3
D	7	290 55.1	282 44.7	N 2 05.2	218 13.1	N23 58.6	325 51.3	S14 37.3	337 14.3	S17 56.3
A	8	305 57.5	297 44.3	N 2 06.4	233 13.9	N23 58.8	340 53.2	S14 37.1	352 16.6	S17 56.2
Y	9	320 60.0	312 44.0	N 2 07.7	248 14.8	N23 59.0	355 55.2	S14 36.9	7 18.8	S17 56.2
	10	336 02.5	327 43.6	N 2 08.9	263 15.6	N23 59.2	10 57.2	S14 36.8	22 21.1	S17 56.1
	11	351 04.9	342 43.2	N 2 10.2	278 16.4	N23 59.3	25 59.2	S14 36.6	37 23.3	S17 56.1
	12	6 07.4	357 42.8	N 2 11.4	293 17.3	N23 59.5	41 01.1	S14 36.5	52 25.6	S17 56.0
	13	21 09.8	12 42.5	N 2 12.7	308 18.1	N23 59.7	56 03.1	S14 36.3	67 27.9	S17 56.0
	14	36 12.3	27 42.1	N 2 14.0	323 19.0	N23 59.9	71 05.1	S14 36.2	82 30.1	S17 55.9
	15	51 14.8	42 41.7	N 2 15.2	338 19.8	N24 00.0	86 07.0	S14 36.0	97 32.4	S17 55.9
	16	66 17.2	57 41.3	N 2 16.5	353 20.7	N24 00.2	101 09.0	S14 35.8	112 34.6	S17 55.8
	17	81 19.7	72 40.9	N 2 17.7	8 21.5	N24 00.4	116 11.0	S14 35.7	127 36.9	S17 55.7
	18	96 22.2	87 40.6	N 2 19.0	23 22.3	N24 00.6	131 13.0	S14 35.5	142 39.1	S17 55.7
	19	111 24.6	102 40.2	N 2 20.3	38 23.2	N24 00.7	146 14.9	S14 35.4	157 41.4	S17 55.6
	20	126 27.1	117 39.8	N 2 21.5	53 24.0	N24 00.9	161 16.9	S14 35.2	172 43.7	S17 55.6
	21	141 29.6	132 39.4	N 2 22.8	68 24.9	N24 01.1	176 18.9	S14 35.1	187 45.9	S17 55.5
	22	156 32.0	147 39.1	N 2 24.0	83 25.7	N24 01.3	191 20.9	S14 34.9	202 48.2	S17 55.5
	23	171 34.5	162 38.7	N 2 25.3	98 26.5	N24 01.4	206 22.8	S14 34.7	217 50.4	S17 55.4
			v -0.4	d 1.3	v 0.8	d 0.2	v 2.0	d 0.2	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
26	0	178 33.7	N 2 12.4	31 43.3	9.3	N16 43.9	11.4	58.6
	1	193 33.8	N 2 13.4	46 11.6	9.3	N16 32.4	11.5	58.6
	2	208 34.0	N 2 14.3	60 39.9	9.3	N16 20.8	11.6	58.6
	3	223 34.2	N 2 15.3	75 08.3	9.3	N16 09.1	11.7	58.7
	4	238 34.4	N 2 16.3	89 36.6	9.4	N15 57.2	11.8	58.7
F	5	253 34.6	N 2 17.3	104 05.0	9.4	N15 45.3	11.9	58.8
R								
I	6	268 34.8	N 2 18.3	118 33.4	9.4	N15 33.3	12.0	58.8
D	7	283 35.0	N 2 19.2	133 01.8	9.4	N15 21.1	12.1	58.8
A	8	298 35.2	N 2 20.2	147 30.3	9.4	N15 08.9	12.3	58.9
Y	9	313 35.4	N 2 21.2	161 58.8	9.5	N14 56.5	12.4	58.9
	10	328 35.5	N 2 22.2	176 27.2	9.5	N14 44.0	12.5	58.9
	11	343 35.7	N 2 23.2	190 55.8	9.5	N14 31.5	12.6	59.0
	12	358 35.9	N 2 24.1	205 24.3	9.5	N14 18.8	12.6	59.0
	13	13 36.1	N 2 25.1	219 52.8	9.6	N14 06.1	12.7	59.0
	14	28 36.3	N 2 26.1	234 21.4	9.6	N13 53.3	12.8	59.1
	15	43 36.5	N 2 27.1	248 50.0	9.6	N13 40.3	12.9	59.1
	16	58 36.7	N 2 28.1	263 18.6	9.6	N13 27.3	13.0	59.2
	17	73 36.9	N 2 29.0	277 47.3	9.6	N13 14.2	13.1	59.2
	18	88 37.1	N 2 30.0	292 15.9	9.7	N13 01.0	13.2	59.2
	19	103 37.3	N 2 31.0	306 44.6	9.7	N12 47.7	13.3	59.3
	20	118 37.4	N 2 32.0	321 13.3	9.7	N12 34.3	13.4	59.3
	21	133 37.6	N 2 33.0	335 42.0	9.7	N12 20.8	13.5	59.3
	22	148 37.8	N 2 33.9	350 10.7	9.7	N12 07.2	13.6	59.4
	23	163 38.0	N 2 34.9	4 39.4	9.7	N11 53.6	13.6	59.4
27	0	178 38.2	N 2 35.9	19 08.2	9.8	N11 39.8	13.7	59.4
	1	193 38.4	N 2 36.9	33 37.0	9.8	N11 26.0	13.8	59.5
	2	208 38.6	N 2 37.8	48 05.8	9.8	N11 12.1	13.9	59.5
	3	223 38.8	N 2 38.8	62 34.6	9.8	N10 58.2	14.0	59.5
	4	238 39.0	N 2 39.8	77 03.4	9.8	N10 44.1	14.1	59.6
S	5	253 39.2	N 2 40.8	91 32.2	9.8	N10 30.0	14.1	59.6
A								
T	6	268 39.3	N 2 41.8	106 01.1	9.8	N10 15.8	14.2	59.6
U	7	283 39.5	N 2 42.7	120 29.9	9.9	N10 01.5	14.3	59.7
R	8	298 39.7	N 2 43.7	134 58.8	9.9	N 9 47.2	14.3	59.7
D	9	313 39.9	N 2 44.7	149 27.7	9.9	N 9 32.7	14.4	59.7
A	10	328 40.1	N 2 45.7	163 56.6	9.9	N 9 18.3	14.5	59.7
Y	11	343 40.3	N 2 46.6	178 25.5	9.9	N 9 03.7	14.6	59.8
	12	358 40.5	N 2 47.6	192 54.4	9.9	N 8 49.1	14.6	59.8
	13	13 40.7	N 2 48.6	207 23.4	9.9	N 8 34.4	14.7	59.8
	14	28 40.9	N 2 49.6	221 52.3	9.9	N 8 19.6	14.8	59.9
	15	43 41.1	N 2 50.6	236 21.2	9.9	N 8 04.8	14.8	59.9
	16	58 41.2	N 2 51.5	250 50.2	10.0	N 7 49.9	14.9	59.9
	17	73 41.4	N 2 52.5	265 19.2	10.0	N 7 35.0	14.9	60.0
	18	88 41.6	N 2 53.5	279 48.1	10.0	N 7 20.0	15.0	60.0
	19	103 41.8	N 2 54.5	294 17.1	10.0	N 7 05.0	15.0	60.0
	20	118 42.0	N 2 55.4	308 46.1	10.0	N 6 49.9	15.1	60.0
	21	133 42.2	N 2 56.4	323 15.1	10.0	N 6 34.7	15.2	60.1
	22	148 42.4	N 2 57.4	337 44.0	10.0	N 6 19.5	15.2	60.1
	23	163 42.6	N 2 58.4	352 13.0	10.0	N 6 04.2	15.3	60.1
28	0	178 42.8	N 2 59.3	6 42.0	10.0	N 5 48.9	15.3	60.1
	1	193 42.9	N 3 00.3	21 11.0	10.0	N 5 33.6	15.4	60.2
	2	208 43.1	N 3 01.3	35 40.0	10.0	N 5 18.2	15.4	60.2
	3	223 43.3	N 3 02.3	50 09.0	10.0	N 5 02.7	15.4	60.2
	4	238 43.5	N 3 03.3	64 38.0	10.0	N 4 47.3	15.5	60.2
S	5	253 43.7	N 3 04.2	79 07.0	10.0	N 4 31.7	15.5	60.3
U								
N	6	268 43.9	N 3 05.2	93 36.0	10.0	N 4 16.2	15.6	60.3
D	7	283 44.1	N 3 06.2	108 05.0	10.0	N 4 00.6	15.6	60.3
A	8	298 44.3	N 3 07.2	122 33.9	10.0	N 3 45.0	15.6	60.3
Y	9	313 44.5	N 3 08.1	137 02.9	10.0	N 3 29.3	15.7	60.4
	10	328 44.7	N 3 09.1	151 31.9	10.0	N 3 13.6	15.7	60.4
	11	343 44.8	N 3 10.1	166 00.9	10.0	N 2 57.9	15.7	60.4
	12	358 45.0	N 3 11.1	180 29.8	10.0	N 2 42.1	15.8	60.4
	13	13 45.2	N 3 12.0	194 58.8	9.9	N 2 26.3	15.8	60.4
	14	28 45.4	N 3 13.0	209 27.7	9.9	N 2 10.5	15.8	60.5
	15	43 45.6	N 3 14.0	223 56.6	9.9	N 1 54.7	15.8	60.5
	16	58 45.8	N 3 15.0	238 25.5	9.9	N 1 38.8	15.9	60.5
	17	73 46.0	N 3 15.9	252 54.4	9.9	N 1 23.0	15.9	60.5
	18	88 46.2	N 3 16.9	267 23.3	9.9	N 1 07.1	15.9	60.5
	19	103 46.4	N 3 17.9	281 52.2	9.9	N 0 51.2	15.9	60.5
	20	118 46.5	N 3 18.8	296 21.1	9.9	N 0 35.2	15.9	60.6
	21	133 46.7	N 3 19.8	310 49.9	9.8	N 0 19.3	15.9	60.6
	22	148 46.9	N 3 20.8	325 18.7	9.8	N 0 03.4	15.9	60.6
	23	163 47.1	N 3 21.8	339 47.6	9.8	S 0 12.6	16.0	60.6
		S.D. 16.0	d 1.0	S.D.	16.1	16.3	16.5	

STARS Name	SHA	Dec
Acamar	315 14.5	S40 13.5
Achernar	335 23.1	S57 08.0
Acrux	173 02.8	S63 12.9
Adhara	255 08.2	S29 00.3
Albireo	67 06.6	N27 60.0
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.2	N55 50.7
Alkaid	152 54.0	N49 12.4
Al Na-ir	27 37.2	S46 51.5
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.1	N26 38.4
Alpheratz	357 38.3	N29 12.3
Altair	62 03.1	N 8 55.2
Ankaa	353 10.6	S42 11.7
Antares	112 19.5	S26 28.7
Arcturus	145 50.5	N19 04.2
Atria	107 16.3	S69 03.7
Avior	234 15.6	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.5
Canopus	263 53.8	S52 42.7
Capella	280 26.6	N46 01.2
Castor	246 00.9	N31 50.6
Deneb	49 28.1	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.4
Dubhe	193 44.2	N61 38.3
Elnath	278 05.9	N28 37.5
Eltanin	90 43.6	N51 28.8
Enif	33 42.0	N 9 58.1
Fomalhaut	15 18.3	S29 30.7
Gacrux	171 54.5	S57 13.9
Gienah	175 46.4	S17 39.6
Hadar	148 39.8	S60 28.4
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.6	S34 22.4
Kochab	137 19.0	N74 04.0
Markab	13 33.3	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.4
Miaplacidus	221 38.1	S69 48.4
Mirfak	308 33.0	N49 56.2
Nunki	75 51.6	S26 16.2
Peacock	53 10.8	S56 39.9
Polaris	317 44.2	N89 20.5
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.4	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 06.9	S 8 10.8
Rigil Kent	139 44.1	S60 55.2
Sabik	102 06.2	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.5	S37 07.0
Sirius	258 28.9	S16 44.9
Spica	158 25.2	S11 16.3
Suhail	222 48.3	S43 31.3
Vega	80 35.3	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
29	0	186 36.9	177 38.3	N 2 26.5	113 27.4	N24 01.6	221 24.8	S14 34.6	232 52.7	S17 55.4
	1	201 39.4	192 37.9	N 2 27.8	128 28.2	N24 01.8	236 26.8	S14 34.4	247 54.9	S17 55.3
	2	216 41.9	207 37.5	N 2 29.0	143 29.1	N24 01.9	251 28.8	S14 34.3	262 57.2	S17 55.3
	3	231 44.3	222 37.2	N 2 30.3	158 29.9	N24 02.1	266 30.7	S14 34.1	277 59.5	S17 55.2
	4	246 46.8	237 36.8	N 2 31.6	173 30.8	N24 02.3	281 32.7	S14 34.0	293 01.7	S17 55.2
M	5	261 49.3	252 36.4	N 2 32.8	188 31.6	N24 02.5	296 34.7	S14 33.8	308 04.0	S17 55.1
O										
N	6	276 51.7	267 36.0	N 2 34.1	203 32.4	N24 02.6	311 36.7	S14 33.6	323 06.2	S17 55.1
D	7	291 54.2	282 35.6	N 2 35.3	218 33.3	N24 02.8	326 38.6	S14 33.5	338 08.5	S17 55.0
A	8	306 56.7	297 35.3	N 2 36.6	233 34.1	N24 03.0	341 40.6	S14 33.3	353 10.7	S17 55.0
Y	9	321 59.1	312 34.9	N 2 37.8	248 35.0	N24 03.1	356 42.6	S14 33.2	8 13.0	S17 54.9
	10	337 01.6	327 34.5	N 2 39.1	263 35.8	N24 03.3	11 44.6	S14 33.0	23 15.3	S17 54.9
	11	352 04.1	342 34.1	N 2 40.4	278 36.6	N24 03.5	26 46.5	S14 32.9	38 17.5	S17 54.8
	12	7 06.5	357 33.8	N 2 41.6	293 37.5	N24 03.6	41 48.5	S14 32.7	53 19.8	S17 54.8
	13	22 09.0	12 33.4	N 2 42.9	308 38.3	N24 03.8	56 50.5	S14 32.6	68 22.0	S17 54.7
	14	37 11.4	27 33.0	N 2 44.1	323 39.2	N24 04.0	71 52.5	S14 32.4	83 24.3	S17 54.7
	15	52 13.9	42 32.6	N 2 45.4	338 40.0	N24 04.2	86 54.4	S14 32.2	98 26.6	S17 54.6
	16	67 16.4	57 32.2	N 2 46.6	353 40.8	N24 04.3	101 56.4	S14 32.1	113 28.8	S17 54.6
	17	82 18.8	72 31.9	N 2 47.9	8 41.7	N24 04.5	116 58.4	S14 31.9	128 31.1	S17 54.5
	18	97 21.3	87 31.5	N 2 49.1	23 42.5	N24 04.7	132 00.4	S14 31.8	143 33.3	S17 54.5
	19	112 23.8	102 31.1	N 2 50.4	38 43.4	N24 04.8	147 02.3	S14 31.6	158 35.6	S17 54.4
	20	127 26.2	117 30.7	N 2 51.7	53 44.2	N24 05.0	162 04.3	S14 31.5	173 37.9	S17 54.4
	21	142 28.7	132 30.3	N 2 52.9	68 45.0	N24 05.2	177 06.3	S14 31.3	188 40.1	S17 54.3
	22	157 31.2	147 30.0	N 2 54.2	83 45.9	N24 05.3	192 08.3	S14 31.1	203 42.4	S17 54.3
	23	172 33.6	162 29.6	N 2 55.4	98 46.7	N24 05.5	207 10.3	S14 31.0	218 44.6	S17 54.2
30	0	187 36.1	177 29.2	N 2 56.7	113 47.6	N24 05.7	222 12.2	S14 30.8	233 46.9	S17 54.2
	1	202 38.5	192 28.8	N 2 57.9	128 48.4	N24 05.8	237 14.2	S14 30.7	248 49.2	S17 54.1
	2	217 41.0	207 28.4	N 2 59.2	143 49.2	N24 06.0	252 16.2	S14 30.5	263 51.4	S17 54.1
	3	232 43.5	222 28.1	N 3 00.4	158 50.1	N24 06.2	267 18.2	S14 30.4	278 53.7	S17 54.0
	4	247 45.9	237 27.7	N 3 01.7	173 50.9	N24 06.3	282 20.1	S14 30.2	293 55.9	S17 54.0
T	5	262 48.4	252 27.3	N 3 02.9	188 51.7	N24 06.5	297 22.1	S14 30.1	308 58.2	S17 53.9
U										
E	6	277 50.9	267 26.9	N 3 04.2	203 52.6	N24 06.6	312 24.1	S14 29.9	324 00.5	S17 53.9
S	7	292 53.3	282 26.5	N 3 05.5	218 53.4	N24 06.8	327 26.1	S14 29.7	339 02.7	S17 53.8
D	8	307 55.8	297 26.2	N 3 06.7	233 54.3	N24 07.0	342 28.1	S14 29.6	354 05.0	S17 53.8
A	9	322 58.3	312 25.8	N 3 08.0	248 55.1	N24 07.1	357 30.0	S14 29.4	9 07.2	S17 53.7
Y	10	338 00.7	327 25.4	N 3 09.2	263 55.9	N24 07.3	12 32.0	S14 29.3	24 09.5	S17 53.7
	11	353 03.2	342 25.0	N 3 10.5	278 56.8	N24 07.5	27 34.0	S14 29.1	39 11.8	S17 53.6
	12	8 05.7	357 24.6	N 3 11.7	293 57.6	N24 07.6	42 36.0	S14 29.0	54 14.0	S17 53.6
	13	23 08.1	12 24.3	N 3 13.0	308 58.4	N24 07.8	57 38.0	S14 28.8	69 16.3	S17 53.5
	14	38 10.6	27 23.9	N 3 14.2	323 59.3	N24 07.9	72 39.9	S14 28.7	84 18.5	S17 53.5
	15	53 13.0	42 23.5	N 3 15.5	339 00.1	N24 08.1	87 41.9	S14 28.5	99 20.8	S17 53.4
	16	68 15.5	57 23.1	N 3 16.7	354 01.0	N24 08.3	102 43.9	S14 28.3	114 23.1	S17 53.4
	17	83 18.0	72 22.7	N 3 18.0	9 01.8	N24 08.4	117 45.9	S14 28.2	129 25.3	S17 53.3
	18	98 20.4	87 22.4	N 3 19.2	24 02.6	N24 08.6	132 47.9	S14 28.0	144 27.6	S17 53.3
	19	113 22.9	102 22.0	N 3 20.5	39 03.5	N24 08.8	147 49.8	S14 27.9	159 29.9	S17 53.2
	20	128 25.4	117 21.6	N 3 21.8	54 04.3	N24 08.9	162 51.8	S14 27.7	174 32.1	S17 53.2
	21	143 27.8	132 21.2	N 3 23.0	69 05.1	N24 09.1	177 53.8	S14 27.6	189 34.4	S17 53.1
	22	158 30.3	147 20.8	N 3 24.3	84 06.0	N24 09.2	192 55.8	S14 27.4	204 36.6	S17 53.1
	23	173 32.8	162 20.5	N 3 25.5	99 06.8	N24 09.4	207 57.8	S14 27.3	219 38.9	S17 53.0
31	0	188 35.2	177 20.1	N 3 26.8	114 07.7	N24 09.6	222 59.7	S14 27.1	234 41.2	S17 53.0
	1	203 37.7	192 19.7	N 3 28.0	129 08.5	N24 09.7	238 01.7	S14 26.9	249 43.4	S17 52.9
	2	218 40.1	207 19.3	N 3 29.3	144 09.3	N24 09.9	253 03.7	S14 26.8	264 45.7	S17 52.9
	3	233 42.6	222 18.9	N 3 30.5	159 10.2	N24 10.0	268 05.7	S14 26.6	279 48.0	S17 52.8
	4	248 45.1	237 18.5	N 3 31.8	174 11.0	N24 10.2	283 07.7	S14 26.5	294 50.2	S17 52.8
W	5	263 47.5	252 18.2	N 3 33.0	189 11.8	N24 10.3	298 09.6	S14 26.3	309 52.5	S17 52.7
E										
D	6	278 50.0	267 17.8	N 3 34.3	204 12.7	N24 10.5	313 11.6	S14 26.2	324 54.8	S17 52.7
N	7	293 52.5	282 17.4	N 3 35.5	219 13.5	N24 10.7	328 13.6	S14 26.0	339 57.0	S17 52.6
E	8	308 54.9	297 17.0	N 3 36.8	234 14.3	N24 10.8	343 15.6	S14 25.9	354 59.3	S17 52.6
S	9	323 57.4	312 16.6	N 3 38.0	249 15.2	N24 11.0	358 17.6	S14 25.7	10 01.5	S17 52.5
D	10	338 59.9	327 16.3	N 3 39.3	264 16.0	N24 11.1	13 19.6	S14 25.6	25 03.8	S17 52.5
A	11	354 02.3	342 15.9	N 3 40.5	279 16.8	N24 11.3	28 21.5	S14 25.4	40 06.1	S17 52.4
Y										
	12	9 04.8	357 15.5	N 3 41.8	294 17.7	N24 11.4	43 23.5	S14 25.2	55 08.3	S17 52.4
	13	24 07.3	12 15.1	N 3 43.0	309 18.5	N24 11.6	58 25.5	S14 25.1	70 10.6	S17 52.3
	14	39 09.7	27 14.7	N 3 44.3	324 19.3	N24 11.8	73 27.5	S14 24.9	85 12.9	S17 52.3
	15	54 12.2	42 14.3	N 3 45.5	339 20.2	N24 11.9	88 29.5	S14 24.8	100 15.1	S17 52.2
	16	69 14.6	57 14.0	N 3 46.8	354 21.0	N24 12.1	103 31.5	S14 24.6	115 17.4	S17 52.2
	17	84 17.1	72 13.6	N 3 48.0	9 21.8	N24 12.2	118 33.4	S14 24.5	130 19.7	S17 52.1
	18	99 19.6	87 13.2	N 3 49.3	24 22.7	N24 12.4	133 35.4	S14 24.3	145 21.9	S17 52.1
	19	114 22.0	102 12.8	N 3 50.5	39 23.5	N24 12.5	148 37.4	S14 24.2	160 24.2	S17 52.0
	20	129 24.5	117 12.4	N 3 51.8	54 24.3	N24 12.7	163 39.4	S14 24.0	175 26.5	S17 52.0
	21	144 27.0	132 12.0	N 3 53.0	69 25.2	N24 12.8	178 41.4	S14 23.9	190 28.7	S17 51.9
	22	159 29.4	147 11.7	N 3 54.3	84 26.0	N24 13.0	193 43.4	S14 23.7	205 31.0	S17 51.9
	23	174 31.9	162 11.3	N 3 55.5	99 26.8	N24 13.1	208 45.3	S14 23.5	220 33.3	S17 51.8
			v -0.4	d 1.3	v 0.8	d 0.2	v 2.0	d 0.2	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 '
29	0	178 47.3	N 3 22.7	354 16.4	9.8	S 0 28.6	16.0	60.6
	1	193 47.5	N 3 23.7	8 45.1	9.8	S 0 44.5	16.0	60.6
	2	208 47.7	N 3 24.7	23 13.9	9.8	S 1 00.5	16.0	60.7
	3	223 47.9	N 3 25.7	37 42.6	9.7	S 1 16.5	16.0	60.7
	4	238 48.1	N 3 26.6	52 11.3	9.7	S 1 32.4	16.0	60.7
M	5	253 48.2	N 3 27.6	66 40.0	9.7	S 1 48.4	16.0	60.7
O								
N	6	268 48.4	N 3 28.6	81 08.7	9.7	S 2 04.4	16.0	60.7
D	7	283 48.6	N 3 29.6	95 37.3	9.6	S 2 20.3	16.0	60.7
A	8	298 48.8	N 3 30.5	110 06.0	9.6	S 2 36.3	16.0	60.7
Y	9	313 49.0	N 3 31.5	124 34.6	9.6	S 2 52.2	15.9	60.7
	10	328 49.2	N 3 32.5	139 03.1	9.6	S 3 08.2	15.9	60.8
	11	343 49.4	N 3 33.4	153 31.7	9.5	S 3 24.1	15.9	60.8
	12	358 49.6	N 3 34.4	168 00.2	9.5	S 3 40.0	15.9	60.8
	13	13 49.8	N 3 35.4	182 28.7	9.5	S 3 55.9	15.9	60.8
	14	28 49.9	N 3 36.4	196 57.1	9.5	S 4 11.7	15.9	60.8
	15	43 50.1	N 3 37.3	211 25.5	9.4	S 4 27.6	15.8	60.8
	16	58 50.3	N 3 38.3	225 53.9	9.4	S 4 43.4	15.8	60.8
	17	73 50.5	N 3 39.3	240 22.3	9.4	S 4 59.2	15.8	60.8
	18	88 50.7	N 3 40.3	254 50.6	9.3	S 5 15.0	15.8	60.8
	19	103 50.9	N 3 41.2	269 18.9	9.3	S 5 30.7	15.7	60.8
	20	118 51.1	N 3 42.2	283 47.1	9.3	S 5 46.5	15.7	60.8
	21	133 51.3	N 3 43.2	298 15.4	9.2	S 6 02.2	15.7	60.8
	22	148 51.5	N 3 44.1	312 43.5	9.2	S 6 17.8	15.7	60.8
	23	163 51.6	N 3 45.1	327 11.7	9.1	S 6 33.4	15.6	60.8
30	0	178 51.8	N 3 46.1	341 39.8	9.1	S 6 49.0	15.6	60.8
	1	193 52.0	N 3 47.0	356 07.8	9.1	S 7 04.5	15.5	60.9
	2	208 52.2	N 3 48.0	10 35.9	9.0	S 7 20.0	15.5	60.9
	3	223 52.4	N 3 49.0	25 03.8	9.0	S 7 35.5	15.5	60.9
	4	238 52.6	N 3 50.0	39 31.8	8.9	S 7 50.9	15.4	60.9
T	5	253 52.8	N 3 50.9	53 59.7	8.9	S 8 06.3	15.4	60.9
U								
E	6	268 53.0	N 3 51.9	68 27.5	8.9	S 8 21.6	15.3	60.9
S	7	283 53.1	N 3 52.9	82 55.3	8.8	S 8 36.9	15.3	60.9
D	8	298 53.3	N 3 53.8	97 23.1	8.8	S 8 52.1	15.2	60.9
A	9	313 53.5	N 3 54.8	111 50.8	8.7	S 9 07.3	15.2	60.9
Y	10	328 53.7	N 3 55.8	126 18.5	8.7	S 9 22.4	15.1	60.9
	11	343 53.9	N 3 56.7	140 46.1	8.6	S 9 37.4	15.0	60.9
	12	358 54.1	N 3 57.7	155 13.7	8.6	S 9 52.4	15.0	60.8
	13	13 54.3	N 3 58.7	169 41.3	8.5	S10 07.3	14.9	60.8
	14	28 54.5	N 3 59.7	184 08.7	8.5	S10 22.2	14.9	60.8
	15	43 54.7	N 4 00.6	198 36.2	8.4	S10 37.0	14.8	60.8
	16	58 54.8	N 4 01.6	213 03.6	8.4	S10 51.7	14.7	60.8
	17	73 55.0	N 4 02.6	227 30.9	8.3	S11 06.4	14.7	60.8
	18	88 55.2	N 4 03.5	241 58.2	8.3	S11 21.0	14.6	60.8
	19	103 55.4	N 4 04.5	256 25.4	8.2	S11 35.5	14.5	60.8
	20	118 55.6	N 4 05.5	270 52.6	8.2	S11 49.9	14.4	60.8
	21	133 55.8	N 4 06.4	285 19.8	8.1	S12 04.3	14.4	60.8
	22	148 56.0	N 4 07.4	299 46.8	8.1	S12 18.6	14.3	60.8
	23	163 56.2	N 4 08.4	314 13.9	8.0	S12 32.8	14.2	60.8
31	0	178 56.3	N 4 09.3	328 40.8	8.0	S12 46.9	14.1	60.8
	1	193 56.5	N 4 10.3	343 07.8	7.9	S13 00.9	14.0	60.8
	2	208 56.7	N 4 11.3	357 34.6	7.9	S13 14.9	14.0	60.8
	3	223 56.9	N 4 12.2	12 01.4	7.8	S13 28.8	13.9	60.8
	4	238 57.1	N 4 13.2	26 28.2	7.8	S13 42.6	13.8	60.7
W	5	253 57.3	N 4 14.2	40 54.9	7.7	S13 56.2	13.7	60.7
E								
D	6	268 57.5	N 4 15.1	55 21.5	7.6	S14 09.8	13.6	60.7
N	7	283 57.7	N 4 16.1	69 48.1	7.6	S14 23.3	13.5	60.7
E	8	298 57.8	N 4 17.1	84 14.7	7.5	S14 36.8	13.4	60.7
S	9	313 58.0	N 4 18.0	98 41.2	7.5	S14 50.1	13.3	60.7
D	10	328 58.2	N 4 19.0	113 07.6	7.4	S15 03.3	13.2	60.7
A	11	343 58.4	N 4 20.0	127 33.9	7.4	S15 16.4	13.1	60.7
Y								
	12	358 58.6	N 4 20.9	142 00.2	7.3	S15 29.4	13.0	60.6
	13	13 58.8	N 4 21.9	156 26.5	7.3	S15 42.3	12.9	60.6
	14	28 59.0	N 4 22.9	170 52.7	7.2	S15 55.1	12.8	60.6
	15	43 59.2	N 4 23.8	185 18.8	7.1	S16 07.8	12.7	60.6
	16	58 59.3	N 4 24.8	199 44.9	7.1	S16 20.4	12.6	60.6
	17	73 59.5	N 4 25.8	214 10.9	7.0	S16 32.8	12.5	60.6
	18	88 59.7	N 4 26.7	228 36.9	7.0	S16 45.2	12.4	60.6
	19	103 59.9	N 4 27.7	243 02.8	6.9	S16 57.4	12.2	60.5
	20	119 00.1	N 4 28.7	257 28.7	6.9	S17 09.5	12.1	60.5
	21	134 00.3	N 4 29.6	271 54.5	6.8	S17 21.6	12.0	60.5
	22	149 00.5	N 4 30.6	286 20.2	6.7	S17 33.4	11.9	60.5
	23	164 00.6	N 4 31.6	300 45.9	6.7	S17 45.2	11.8	60.5
		S.D. 16.0	d 1.0	S.D.	16.6		16.6	16.5

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.5
Achernar	335 23.1	S57 08.0
Acrux	173 02.8	S63 12.9
Adhara	255 08.3	S29 00.3
Albireo	67 06.6	N27 60.0
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.2	N55 50.7
Alkaid	152 54.0	N49 12.4
Al Na-ir	27 37.2	S46 51.5
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.1	N26 38.4
Alpheratz	357 38.3	N29 12.2
Altair	62 03.0	N 8 55.2
Ankaa	353 10.6	S42 11.7
Antares	112 19.4	S26 28.7
Arcturus	145 50.5	N19 04.2
Atria	107 16.3	S69 03.7
Avior	234 15.7	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.5
Canopus	263 53.8	S52 42.7
Capella	280 26.6	N46 01.2
Castor	246 00.9	N31 50.6
Deneb	49 28.1	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.4
Dubhe	193 44.3	N61 38.3
Elnath	278 05.9	N28 37.5
Eltanin	90 43.5	N51 28.8
Enif	33 42.0	N 9 58.1
Fomalhaut	15 18.3	S29 30.7
Gacrux	171 54.5	S57 13.9
Gienah	175 46.4	S17 39.6
Hadar	148 39.8	S60 28.4
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.6	S34 22.4
Kochab	137 19.0	N74 04.0
Markab	13 33.3	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.4
Miaplacidus	221 38.2	S69 48.5
Mirfak	308 33.1	N49 56.2
Nunki	75 51.6	S26 16.2
Peacock	53 10.8	S56 39.9
Polaris	317 44.7	N89 20.5
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.4	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 44.1	S60 55.2
Sabik	102 06.2	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.4	S37 07.0
Sirius	258 29.0	S16 44.9
Spica	158 25.2	S11 16.3
Suhail	222 48.3	S43 31.3
Vega	80 35.3	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

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 34.4	177 10.9	N 3 56.8	114 27.7	N24 13.3	223 47.3	S14 23.4	235 35.5	S17 51.8
	1	204 36.8	192 10.5	N 3 58.0	129 28.5	N24 13.4	238 49.3	S14 23.2	250 37.8	S17 51.7
	2	219 39.3	207 10.1	N 3 59.3	144 29.3	N24 13.6	253 51.3	S14 23.1	265 40.1	S17 51.7
	3	234 41.8	222 09.7	N 4 00.5	159 30.2	N24 13.7	268 53.3	S14 22.9	280 42.3	S17 51.6
	4	249 44.2	237 09.4	N 4 01.8	174 31.0	N24 13.9	283 55.3	S14 22.8	295 44.6	S17 51.6
T	5	264 46.7	252 09.0	N 4 03.0	189 31.8	N24 14.0	298 57.3	S14 22.6	310 46.9	S17 51.5
H										
U	6	279 49.1	267 08.6	N 4 04.3	204 32.7	N24 14.2	313 59.2	S14 22.5	325 49.1	S17 51.5
R	7	294 51.6	282 08.2	N 4 05.5	219 33.5	N24 14.3	329 01.2	S14 22.3	340 51.4	S17 51.4
S	8	309 54.1	297 07.8	N 4 06.8	234 34.3	N24 14.5	344 03.2	S14 22.2	355 53.7	S17 51.4
D	9	324 56.5	312 07.4	N 4 08.0	249 35.2	N24 14.7	359 05.2	S14 22.0	10 55.9	S17 51.3
A	10	339 59.0	327 07.0	N 4 09.3	264 36.0	N24 14.8	14 07.2	S14 21.8	25 58.2	S17 51.3
Y	11	355 01.5	342 06.7	N 4 10.5	279 36.8	N24 14.9	29 09.2	S14 21.7	41 00.5	S17 51.2
	12	10 03.9	357 06.3	N 4 11.8	294 37.7	N24 15.1	44 11.2	S14 21.5	56 02.7	S17 51.2
	13	25 06.4	12 05.9	N 4 13.0	309 38.5	N24 15.2	59 13.1	S14 21.4	71 05.0	S17 51.1
	14	40 08.9	27 05.5	N 4 14.3	324 39.3	N24 15.4	74 15.1	S14 21.2	86 07.3	S17 51.1
	15	55 11.3	42 05.1	N 4 15.5	339 40.2	N24 15.5	89 17.1	S14 21.1	101 09.5	S17 51.0
	16	70 13.8	57 04.7	N 4 16.7	354 41.0	N24 15.7	104 19.1	S14 20.9	116 11.8	S17 51.0
	17	85 16.3	72 04.3	N 4 18.0	9 41.8	N24 15.8	119 21.1	S14 20.8	131 14.1	S17 50.9
	18	100 18.7	87 04.0	N 4 19.2	24 42.7	N24 16.0	134 23.1	S14 20.6	146 16.3	S17 50.9
	19	115 21.2	102 03.6	N 4 20.5	39 43.5	N24 16.1	149 25.1	S14 20.5	161 18.6	S17 50.8
	20	130 23.6	117 03.2	N 4 21.7	54 44.3	N24 16.3	164 27.1	S14 20.3	176 20.9	S17 50.8
	21	145 26.1	132 02.8	N 4 23.0	69 45.2	N24 16.4	179 29.0	S14 20.2	191 23.1	S17 50.8
	22	160 28.6	147 02.4	N 4 24.2	84 46.0	N24 16.6	194 31.0	S14 20.0	206 25.4	S17 50.7
	23	175 31.0	162 02.0	N 4 25.5	99 46.8	N24 16.7	209 33.0	S14 19.8	221 27.7	S17 50.7
2	0	190 33.5	177 01.6	N 4 26.7	114 47.6	N24 16.9	224 35.0	S14 19.7	236 30.0	S17 50.6
	1	205 36.0	192 01.3	N 4 28.0	129 48.5	N24 17.0	239 37.0	S14 19.5	251 32.2	S17 50.6
	2	220 38.4	207 00.9	N 4 29.2	144 49.3	N24 17.2	254 39.0	S14 19.4	266 34.5	S17 50.5
	3	235 40.9	222 00.5	N 4 30.4	159 50.1	N24 17.3	269 41.0	S14 19.2	281 36.8	S17 50.5
	4	250 43.4	237 00.1	N 4 31.7	174 51.0	N24 17.4	284 43.0	S14 19.1	296 39.0	S17 50.4
F	5	265 45.8	251 59.7	N 4 32.9	189 51.8	N24 17.6	299 44.9	S14 18.9	311 41.3	S17 50.4
R										
I	6	280 48.3	266 59.3	N 4 34.2	204 52.6	N24 17.7	314 46.9	S14 18.8	326 43.6	S17 50.3
D	7	295 50.7	281 58.9	N 4 35.4	219 53.5	N24 17.9	329 48.9	S14 18.6	341 45.8	S17 50.3
A	8	310 53.2	296 58.6	N 4 36.7	234 54.3	N24 18.0	344 50.9	S14 18.5	356 48.1	S17 50.2
Y	9	325 55.7	311 58.2	N 4 37.9	249 55.1	N24 18.2	359 52.9	S14 18.3	11 50.4	S17 50.2
	10	340 58.1	326 57.8	N 4 39.2	264 55.9	N24 18.3	14 54.9	S14 18.2	26 52.7	S17 50.1
	11	356 00.6	341 57.4	N 4 40.4	279 56.8	N24 18.5	29 56.9	S14 18.0	41 54.9	S17 50.1
	12	11 03.1	356 57.0	N 4 41.6	294 57.6	N24 18.6	44 58.9	S14 17.9	56 57.2	S17 50.0
	13	26 05.5	11 56.6	N 4 42.9	309 58.4	N24 18.7	60 00.9	S14 17.7	71 59.5	S17 50.0
	14	41 08.0	26 56.2	N 4 44.1	324 59.3	N24 18.9	75 02.9	S14 17.5	87 01.7	S17 49.9
	15	56 10.5	41 55.8	N 4 45.4	340 00.1	N24 19.0	90 04.8	S14 17.4	102 04.0	S17 49.9
	16	71 12.9	56 55.4	N 4 46.6	355 00.9	N24 19.2	105 06.8	S14 17.2	117 06.3	S17 49.8
	17	86 15.4	71 55.1	N 4 47.9	10 01.7	N24 19.3	120 08.8	S14 17.1	132 08.5	S17 49.8
	18	101 17.9	86 54.7	N 4 49.1	25 02.6	N24 19.4	135 10.8	S14 16.9	147 10.8	S17 49.7
	19	116 20.3	101 54.3	N 4 50.4	40 03.4	N24 19.6	150 12.8	S14 16.8	162 13.1	S17 49.7
	20	131 22.8	116 53.9	N 4 51.6	55 04.2	N24 19.7	165 14.8	S14 16.6	177 15.4	S17 49.6
	21	146 25.2	131 53.5	N 4 52.8	70 05.1	N24 19.9	180 16.8	S14 16.5	192 17.6	S17 49.6
	22	161 27.7	146 53.1	N 4 54.1	85 05.9	N24 20.0	195 18.8	S14 16.3	207 19.9	S17 49.6
	23	176 30.2	161 52.7	N 4 55.3	100 06.7	N24 20.1	210 20.8	S14 16.2	222 22.2	S17 49.5
3	0	191 32.6	176 52.3	N 4 56.6	115 07.5	N24 20.3	225 22.8	S14 16.0	237 24.5	S17 49.5
	1	206 35.1	191 51.9	N 4 57.8	130 08.4	N24 20.4	240 24.8	S14 15.9	252 26.7	S17 49.4
	2	221 37.6	206 51.6	N 4 59.0	145 09.2	N24 20.6	255 26.8	S14 15.7	267 29.0	S17 49.4
	3	236 40.0	221 51.2	N 5 00.3	160 10.0	N24 20.7	270 28.7	S14 15.6	282 31.3	S17 49.3
	4	251 42.5	236 50.8	N 5 01.5	175 10.9	N24 20.8	285 30.7	S14 15.4	297 33.5	S17 49.3
S	5	266 45.0	251 50.4	N 5 02.8	190 11.7	N24 21.0	300 32.7	S14 15.3	312 35.8	S17 49.2
A										
T	6	281 47.4	266 50.0	N 5 04.0	205 12.5	N24 21.1	315 34.7	S14 15.1	327 38.1	S17 49.2
U	7	296 49.9	281 49.6	N 5 05.2	220 13.3	N24 21.3	330 36.7	S14 15.0	342 40.4	S17 49.1
R	8	311 52.4	296 49.2	N 5 06.5	235 14.2	N24 21.4	345 38.7	S14 14.8	357 42.6	S17 49.1
D	9	326 54.8	311 48.8	N 5 07.7	250 15.0	N24 21.5	0 40.7	S14 14.6	12 44.9	S17 49.0
A	10	341 57.3	326 48.4	N 5 09.0	265 15.8	N24 21.7	15 42.7	S14 14.5	27 47.2	S17 49.0
Y	11	356 59.7	341 48.0	N 5 10.2	280 16.6	N24 21.8	30 44.7	S14 14.3	42 49.5	S17 48.9
	12	12 02.2	356 47.6	N 5 11.4	295 17.5	N24 21.9	45 46.7	S14 14.2	57 51.7	S17 48.9
	13	27 04.7	11 47.3	N 5 12.7	310 18.3	N24 22.1	60 48.7	S14 14.0	72 54.0	S17 48.8
	14	42 07.1	26 46.9	N 5 13.9	325 19.1	N24 22.2	75 50.7	S14 13.9	87 56.3	S17 48.8
	15	57 09.6	41 46.5	N 5 15.2	340 20.0	N24 22.3	90 52.7	S14 13.7	102 58.6	S17 48.7
	16	72 12.1	56 46.1	N 5 16.4	355 20.8	N24 22.5	105 54.7	S14 13.6	118 00.8	S17 48.7
	17	87 14.5	71 45.7	N 5 17.6	10 21.6	N24 22.6	120 56.7	S14 13.4	133 03.1	S17 48.7
	18	102 17.0	86 45.3	N 5 18.9	25 22.4	N24 22.7	135 58.7	S14 13.3	148 05.4	S17 48.6
	19	117 19.5	101 44.9	N 5 20.1	40 23.3	N24 22.9	151 00.6	S14 13.1	163 07.6	S17 48.6
	20	132 21.9	116 44.5	N 5 21.4	55 24.1	N24 23.0	166 02.6	S14 13.0	178 09.9	S17 48.5
	21	147 24.4	131 44.1	N 5 22.6	70 24.9	N24 23.1	181 04.6	S14 12.8	193 12.2	S17 48.5
	22	162 26.8	146 43.7	N 5 23.8	85 25.7	N24 23.3	196 06.6	S14 12.7	208 14.5	S17 48.4
	23	177 29.3	161 43.3	N 5 25.1	100 26.6	N24 23.4	211 08.6	S14 12.5	223 16.7	S17 48.4
			v -0.4	d 1.2	v 0.8	d 0.1	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
		° '	° '	° '	'	° '	'	'
1	0	179 00.8	N 4 32.5	315 11.6	6.6	S17 56.9	11.6	60.5
	1	194 01.0	N 4 33.5	329 37.1	6.6	S18 08.4	11.5	60.4
	2	209 01.2	N 4 34.5	344 02.7	6.5	S18 19.8	11.4	60.4
	3	224 01.4	N 4 35.4	358 28.1	6.5	S18 31.1	11.3	60.4
	4	239 01.6	N 4 36.4	12 53.5	6.4	S18 42.2	11.1	60.4
T	5	254 01.8	N 4 37.3	27 18.9	6.4	S18 53.2	11.0	60.4
H								
U	6	269 01.9	N 4 38.3	41 44.2	6.3	S19 04.1	10.9	60.3
R	7	284 02.1	N 4 39.3	56 09.5	6.3	S19 14.9	10.8	60.3
S	8	299 02.3	N 4 40.2	70 34.7	6.2	S19 25.5	10.6	60.3
D	9	314 02.5	N 4 41.2	84 59.8	6.1	S19 36.0	10.5	60.3
A	10	329 02.7	N 4 42.2	99 24.9	6.1	S19 46.3	10.3	60.3
Y	11	344 02.9	N 4 43.1	113 49.9	6.0	S19 56.5	10.2	60.2
	12	359 03.1	N 4 44.1	128 14.9	6.0	S20 06.6	10.1	60.2
	13	14 03.2	N 4 45.1	142 39.9	5.9	S20 16.5	9.9	60.2
	14	29 03.4	N 4 46.0	157 04.8	5.9	S20 26.3	9.8	60.2
	15	44 03.6	N 4 47.0	171 29.6	5.8	S20 36.0	9.6	60.1
	16	59 03.8	N 4 47.9	185 54.4	5.8	S20 45.5	9.5	60.1
	17	74 04.0	N 4 48.9	200 19.2	5.8	S20 54.8	9.4	60.1
	18	89 04.2	N 4 49.9	214 43.9	5.7	S21 04.0	9.2	60.1
	19	104 04.4	N 4 50.8	229 08.6	5.7	S21 13.1	9.1	60.0
	20	119 04.5	N 4 51.8	243 33.2	5.6	S21 22.0	8.9	60.0
	21	134 04.7	N 4 52.8	257 57.8	5.6	S21 30.8	8.8	60.0
	22	149 04.9	N 4 53.7	272 22.3	5.5	S21 39.4	8.6	60.0
	23	164 05.1	N 4 54.7	286 46.8	5.5	S21 47.9	8.5	60.0
2	0	179 05.3	N 4 55.6	301 11.3	5.5	S21 56.2	8.3	59.9
	1	194 05.5	N 4 56.6	315 35.7	5.4	S22 04.4	8.2	59.9
	2	209 05.7	N 4 57.6	330 00.1	5.4	S22 12.4	8.0	59.9
	3	224 05.8	N 4 58.5	344 24.4	5.3	S22 20.3	7.9	59.8
	4	239 06.0	N 4 59.5	358 48.7	5.3	S22 28.0	7.7	59.8
F	5	254 06.2	N 5 00.4	13 13.0	5.3	S22 35.5	7.5	59.8
R								
I	6	269 06.4	N 5 01.4	27 37.2	5.2	S22 42.9	7.4	59.8
D	7	284 06.6	N 5 02.4	42 01.5	5.2	S22 50.1	7.2	59.7
A	8	299 06.8	N 5 03.3	56 25.6	5.2	S22 57.2	7.1	59.7
Y	9	314 06.9	N 5 04.3	70 49.8	5.2	S23 04.1	6.9	59.7
	10	329 07.1	N 5 05.2	85 13.9	5.1	S23 10.8	6.7	59.7
	11	344 07.3	N 5 06.2	99 38.0	5.1	S23 17.4	6.6	59.6
	12	359 07.5	N 5 07.2	114 02.1	5.1	S23 23.9	6.4	59.6
	13	14 07.7	N 5 08.1	128 26.1	5.0	S23 30.1	6.3	59.6
	14	29 07.9	N 5 09.1	142 50.2	5.0	S23 36.2	6.1	59.6
	15	44 08.1	N 5 10.0	157 14.2	5.0	S23 42.2	5.9	59.5
	16	59 08.2	N 5 11.0	171 38.2	5.0	S23 47.9	5.8	59.5
	17	74 08.4	N 5 12.0	186 02.1	5.0	S23 53.5	5.6	59.5
	18	89 08.6	N 5 12.9	200 26.1	5.0	S23 59.0	5.4	59.4
	19	104 08.8	N 5 13.9	214 50.0	4.9	S24 04.3	5.3	59.4
	20	119 09.0	N 5 14.8	229 13.9	4.9	S24 09.4	5.1	59.4
	21	134 09.2	N 5 15.8	243 37.9	4.9	S24 14.3	4.9	59.4
	22	149 09.3	N 5 16.7	258 01.8	4.9	S24 19.1	4.8	59.3
	23	164 09.5	N 5 17.7	272 25.7	4.9	S24 23.7	4.6	59.3
3	0	179 09.7	N 5 18.7	286 49.6	4.9	S24 28.1	4.4	59.3
	1	194 09.9	N 5 19.6	301 13.5	4.9	S24 32.4	4.3	59.2
	2	209 10.1	N 5 20.6	315 37.3	4.9	S24 36.5	4.1	59.2
	3	224 10.3	N 5 21.5	330 01.2	4.9	S24 40.5	3.9	59.2
	4	239 10.4	N 5 22.5	344 25.1	4.9	S24 44.2	3.8	59.1
S	5	254 10.6	N 5 23.4	358 49.0	4.9	S24 47.9	3.6	59.1
A								
T	6	269 10.8	N 5 24.4	13 12.9	4.9	S24 51.3	3.4	59.1
U	7	284 11.0	N 5 25.4	27 36.8	4.9	S24 54.6	3.3	59.1
R	8	299 11.2	N 5 26.3	42 00.7	4.9	S24 57.7	3.1	59.0
D	9	314 11.4	N 5 27.3	56 24.6	4.9	S25 00.6	2.9	59.0
A	10	329 11.5	N 5 28.2	70 48.5	4.9	S25 03.3	2.8	59.0
Y	11	344 11.7	N 5 29.2	85 12.5	4.9	S25 05.9	2.6	58.9
	12	359 11.9	N 5 30.1	99 36.4	5.0	S25 08.4	2.4	58.9
	13	14 12.1	N 5 31.1	114 00.4	5.0	S25 10.6	2.3	58.9
	14	29 12.3	N 5 32.0	128 24.4	5.0	S25 12.7	2.1	58.8
	15	44 12.4	N 5 33.0	142 48.4	5.0	S25 14.6	1.9	58.8
	16	59 12.6	N 5 34.0	157 12.4	5.0	S25 16.4	1.8	58.8
	17	74 12.8	N 5 34.9	171 36.5	5.1	S25 18.0	1.6	58.8
	18	89 13.0	N 5 35.9	186 00.5	5.1	S25 19.4	1.4	58.7
	19	104 13.2	N 5 36.8	200 24.6	5.1	S25 20.6	1.3	58.7
	20	119 13.4	N 5 37.8	214 48.8	5.1	S25 21.7	1.1	58.7
	21	134 13.5	N 5 38.7	229 12.9	5.2	S25 22.6	0.9	58.6
	22	149 13.7	N 5 39.7	243 37.1	5.2	S25 23.4	0.8	58.6
	23	164 13.9	N 5 40.6	258 01.3	5.2	S25 24.0	0.6	58.6
		S.D. 16.0	d 1.0	S.D.	16.4	16.2	16.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.5
Achernar	335 23.1	S57 08.0
Acrux	173 02.8	S63 13.0
Adhara	255 08.3	S29 00.3
Albireo	67 06.6	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.7
Alkaid	152 54.0	N49 12.4
Al Na-ir	27 37.1	S46 51.5
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.5	S 8 45.1
Alphecca	126 06.1	N26 38.5
Alpheratz	357 38.3	N29 12.2
Altair	62 03.0	N 8 55.2
Ankaa	353 10.6	S42 11.7
Antares	112 19.4	S26 28.7
Arcturus	145 50.4	N19 04.2
Atria	107 16.2	S69 03.7
Avior	234 15.7	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.5
Canopus	263 53.8	S52 42.7
Capella	280 26.6	N46 01.2
Castor	246 00.9	N31 50.6
Deneb	49 28.1	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.4
Dubhe	193 44.3	N61 38.3
Elnath	278 05.9	N28 37.5
Eltanin	90 43.5	N51 28.8
Enif	33 42.0	N 9 58.1
Fomalhaut	15 18.2	S29 30.7
Gacrux	171 54.5	S57 13.9
Gienah	175 46.4	S17 39.6
Hadar	148 39.8	S60 28.4
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.6	S34 22.4
Kochab	137 19.0	N74 04.0
Markab	13 33.2	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.5
Miaplacidus	221 38.2	S69 48.5
Mirfak	308 33.1	N49 56.2
Nunki	75 51.6	S26 16.2
Peacock	53 10.8	S56 39.9
Polaris	317 45.0	N89 20.5
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.3	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 44.1	S60 55.2
Sabik	102 06.2	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.4	S37 07.0
Sirius	258 29.0	S16 44.9
Spica	158 25.2	S11 16.3
Suhail	222 48.3	S43 31.3
Vega	80 35.3	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
4 0	192 31.8	176 42.9	N 5 26.3	115 27.4	N24 23.5	226 10.6	S14 12.4	238 19.0	S17 48.3
1	207 34.2	191 42.5	N 5 27.5	130 28.2	N24 23.7	241 12.6	S14 12.2	253 21.3	S17 48.3
2	222 36.7	206 42.2	N 5 28.8	145 29.0	N24 23.8	256 14.6	S14 12.1	268 23.6	S17 48.2
3	237 39.2	221 41.8	N 5 30.0	160 29.9	N24 23.9	271 16.6	S14 11.9	283 25.9	S17 48.2
4	252 41.6	236 41.4	N 5 31.2	175 30.7	N24 24.1	286 18.6	S14 11.8	298 28.1	S17 48.1
S 5	267 44.1	251 41.0	N 5 32.5	190 31.5	N24 24.2	301 20.6	S14 11.6	313 30.4	S17 48.1
U									
N 6	282 46.6	266 40.6	N 5 33.7	205 32.3	N24 24.3	316 22.6	S14 11.5	328 32.7	S17 48.0
D 7	297 49.0	281 40.2	N 5 35.0	220 33.2	N24 24.5	331 24.6	S14 11.3	343 35.0	S17 48.0
A 8	312 51.5	296 39.8	N 5 36.2	235 34.0	N24 24.6	346 26.6	S14 11.2	358 37.2	S17 48.0
Y 9	327 54.0	311 39.4	N 5 37.4	250 34.8	N24 24.7	1 28.6	S14 11.0	13 39.5	S17 47.9
10	342 56.4	326 39.0	N 5 38.7	265 35.6	N24 24.9	16 30.6	S14 10.9	28 41.8	S17 47.9
11	357 58.9	341 38.6	N 5 39.9	280 36.5	N24 25.0	31 32.6	S14 10.7	43 44.1	S17 47.8
12	13 01.3	356 38.2	N 5 41.1	295 37.3	N24 25.1	46 34.6	S14 10.6	58 46.3	S17 47.8
13	28 03.8	11 37.8	N 5 42.4	310 38.1	N24 25.2	61 36.6	S14 10.4	73 48.6	S17 47.7
14	43 06.3	26 37.4	N 5 43.6	325 38.9	N24 25.4	76 38.6	S14 10.2	88 50.9	S17 47.7
15	58 08.7	41 37.0	N 5 44.8	340 39.8	N24 25.5	91 40.6	S14 10.1	103 53.2	S17 47.6
16	73 11.2	56 36.6	N 5 46.1	355 40.6	N24 25.6	106 42.6	S14 09.9	118 55.4	S17 47.6
17	88 13.7	71 36.2	N 5 47.3	10 41.4	N24 25.8	121 44.6	S14 09.8	133 57.7	S17 47.5
18	103 16.1	86 35.8	N 5 48.5	25 42.2	N24 25.9	136 46.6	S14 09.6	149 00.0	S17 47.5
19	118 18.6	101 35.4	N 5 49.8	40 43.0	N24 26.0	151 48.6	S14 09.5	164 02.3	S17 47.4
20	133 21.1	116 35.0	N 5 51.0	55 43.9	N24 26.1	166 50.6	S14 09.3	179 04.6	S17 47.4
21	148 23.5	131 34.6	N 5 52.2	70 44.7	N24 26.3	181 52.6	S14 09.2	194 06.8	S17 47.4
22	163 26.0	146 34.2	N 5 53.5	85 45.5	N24 26.4	196 54.6	S14 09.0	209 09.1	S17 47.3
23	178 28.5	161 33.8	N 5 54.7	100 46.3	N24 26.5	211 56.6	S14 08.9	224 11.4	S17 47.3
5 0	193 30.9	176 33.5	N 5 55.9	115 47.2	N24 26.6	226 58.6	S14 08.7	239 13.7	S17 47.2
1	208 33.4	191 33.1	N 5 57.2	130 48.0	N24 26.8	242 00.6	S14 08.6	254 16.0	S17 47.2
2	223 35.8	206 32.7	N 5 58.4	145 48.8	N24 26.9	257 02.6	S14 08.4	269 18.2	S17 47.1
3	238 38.3	221 32.3	N 5 59.6	160 49.6	N24 27.0	272 04.6	S14 08.3	284 20.5	S17 47.1
4	253 40.8	236 31.9	N 6 00.9	175 50.5	N24 27.1	287 06.6	S14 08.1	299 22.8	S17 47.0
M 5	268 43.2	251 31.5	N 6 02.1	190 51.3	N24 27.3	302 08.6	S14 08.0	314 25.1	S17 47.0
O									
N 6	283 45.7	266 31.1	N 6 03.3	205 52.1	N24 27.4	317 10.6	S14 07.8	329 27.3	S17 46.9
D 7	298 48.2	281 30.7	N 6 04.5	220 52.9	N24 27.5	332 12.6	S14 07.7	344 29.6	S17 46.9
A 8	313 50.6	296 30.3	N 6 05.8	235 53.7	N24 27.6	347 14.6	S14 07.5	359 31.9	S17 46.8
Y 9	328 53.1	311 29.9	N 6 07.0	250 54.6	N24 27.8	2 16.6	S14 07.4	14 34.2	S17 46.8
10	343 55.6	326 29.5	N 6 08.2	265 55.4	N24 27.9	17 18.6	S14 07.2	29 36.5	S17 46.8
11	358 58.0	341 29.1	N 6 09.5	280 56.2	N24 28.0	32 20.6	S14 07.1	44 38.7	S17 46.7
12	14 00.5	356 28.7	N 6 10.7	295 57.0	N24 28.1	47 22.6	S14 06.9	59 41.0	S17 46.7
13	29 03.0	11 28.3	N 6 11.9	310 57.9	N24 28.2	62 24.6	S14 06.8	74 43.3	S17 46.6
14	44 05.4	26 27.9	N 6 13.2	325 58.7	N24 28.4	77 26.6	S14 06.6	89 45.6	S17 46.6
15	59 07.9	41 27.5	N 6 14.4	340 59.5	N24 28.5	92 28.6	S14 06.5	104 47.9	S17 46.5
16	74 10.3	56 27.1	N 6 15.6	356 00.3	N24 28.6	107 30.6	S14 06.3	119 50.1	S17 46.5
17	89 12.8	71 26.7	N 6 16.8	11 01.1	N24 28.7	122 32.6	S14 06.2	134 52.4	S17 46.4
18	104 15.3	86 26.3	N 6 18.1	26 02.0	N24 28.9	137 34.6	S14 06.0	149 54.7	S17 46.4
19	119 17.7	101 25.9	N 6 19.3	41 02.8	N24 29.0	152 36.6	S14 05.9	164 57.0	S17 46.4
20	134 20.2	116 25.5	N 6 20.5	56 03.6	N24 29.1	167 38.6	S14 05.7	179 59.3	S17 46.3
21	149 22.7	131 25.1	N 6 21.7	71 04.4	N24 29.2	182 40.6	S14 05.6	195 01.6	S17 46.3
22	164 25.1	146 24.7	N 6 23.0	86 05.2	N24 29.3	197 42.6	S14 05.4	210 03.8	S17 46.2
23	179 27.6	161 24.3	N 6 24.2	101 06.1	N24 29.5	212 44.6	S14 05.3	225 06.1	S17 46.2
6 0	194 30.1	176 23.9	N 6 25.4	116 06.9	N24 29.6	227 46.6	S14 05.1	240 08.4	S17 46.1
1	209 32.5	191 23.5	N 6 26.7	131 07.7	N24 29.7	242 48.6	S14 05.0	255 10.7	S17 46.1
2	224 35.0	206 23.1	N 6 27.9	146 08.5	N24 29.8	257 50.6	S14 04.8	270 13.0	S17 46.0
3	239 37.5	221 22.7	N 6 29.1	161 09.3	N24 29.9	272 52.6	S14 04.7	285 15.2	S17 46.0
4	254 39.9	236 22.3	N 6 30.3	176 10.2	N24 30.0	287 54.6	S14 04.5	300 17.5	S17 45.9
T 5	269 42.4	251 21.9	N 6 31.6	191 11.0	N24 30.2	302 56.6	S14 04.4	315 19.8	S17 45.9
U									
E 6	284 44.8	266 21.5	N 6 32.8	206 11.8	N24 30.3	317 58.6	S14 04.2	330 22.1	S17 45.9
S 7	299 47.3	281 21.0	N 6 34.0	221 12.6	N24 30.4	333 00.6	S14 04.1	345 24.4	S17 45.8
D 8	314 49.8	296 20.6	N 6 35.2	236 13.4	N24 30.5	348 02.6	S14 03.9	0 26.7	S17 45.8
A 9	329 52.2	311 20.2	N 6 36.5	251 14.3	N24 30.6	3 04.7	S14 03.8	15 28.9	S17 45.7
Y 10	344 54.7	326 19.8	N 6 37.7	266 15.1	N24 30.7	18 06.7	S14 03.6	30 31.2	S17 45.7
11	359 57.2	341 19.4	N 6 38.9	281 15.9	N24 30.9	33 08.7	S14 03.5	45 33.5	S17 45.6
12	14 59.6	356 19.0	N 6 40.1	296 16.7	N24 31.0	48 10.7	S14 03.3	60 35.8	S17 45.6
13	30 02.1	11 18.6	N 6 41.3	311 17.5	N24 31.1	63 12.7	S14 03.2	75 38.1	S17 45.5
14	45 04.6	26 18.2	N 6 42.6	326 18.4	N24 31.2	78 14.7	S14 03.0	90 40.4	S17 45.5
15	60 07.0	41 17.8	N 6 43.8	341 19.2	N24 31.3	93 16.7	S14 02.9	105 42.6	S17 45.5
16	75 09.5	56 17.4	N 6 45.0	356 20.0	N24 31.4	108 18.7	S14 02.7	120 44.9	S17 45.4
17	90 11.9	71 17.0	N 6 46.2	11 20.8	N24 31.6	123 20.7	S14 02.6	135 47.2	S17 45.4
18	105 14.4	86 16.6	N 6 47.5	26 21.6	N24 31.7	138 22.7	S14 02.4	150 49.5	S17 45.3
19	120 16.9	101 16.2	N 6 48.7	41 22.5	N24 31.8	153 24.7	S14 02.3	165 51.8	S17 45.3
20	135 19.3	116 15.8	N 6 49.9	56 23.3	N24 31.9	168 26.7	S14 02.1	180 54.1	S17 45.2
21	150 21.8	131 15.4	N 6 51.1	71 24.1	N24 32.0	183 28.7	S14 02.0	195 56.3	S17 45.2
22	165 24.3	146 15.0	N 6 52.3	86 24.9	N24 32.1	198 30.7	S14 01.8	210 58.6	S17 45.1
23	180 26.7	161 14.6	N 6 53.6	101 25.7	N24 32.2	213 32.7	S14 01.7	226 00.9	S17 45.1
		v -0.4	d 1.2	v 0.8	d 0.1	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 '
4	0	179 14.1	N 5 41.6	272 25.6	5.3	S25 24.4	0.4	58.5
	1	194 14.3	N 5 42.5	286 49.9	5.3	S25 24.7	0.3	58.5
	2	209 14.5	N 5 43.5	301 14.2	5.3	S25 24.8	0.1	58.5
	3	224 14.6	N 5 44.4	315 38.6	5.4	S25 24.7	0.1	58.4
	4	239 14.8	N 5 45.4	330 03.0	5.4	S25 24.4	0.2	58.4
S	5	254 15.0	N 5 46.4	344 27.5	5.5	S25 24.1	0.4	58.4
U								
N	6	269 15.2	N 5 47.3	358 52.0	5.5	S25 23.5	0.6	58.4
D	7	284 15.4	N 5 48.3	13 16.6	5.6	S25 22.8	0.7	58.3
A	8	299 15.5	N 5 49.2	27 41.2	5.6	S25 21.9	0.9	58.3
Y	9	314 15.7	N 5 50.2	42 05.8	5.7	S25 20.9	1.0	58.3
	10	329 15.9	N 5 51.1	56 30.5	5.7	S25 19.7	1.2	58.2
	11	344 16.1	N 5 52.1	70 55.3	5.8	S25 18.3	1.4	58.2
	12	359 16.3	N 5 53.0	85 20.1	5.8	S25 16.8	1.5	58.2
	13	14 16.4	N 5 54.0	99 45.0	5.9	S25 15.1	1.7	58.1
	14	29 16.6	N 5 54.9	114 09.9	5.9	S25 13.3	1.8	58.1
	15	44 16.8	N 5 55.9	128 34.9	6.0	S25 11.3	2.0	58.1
	16	59 17.0	N 5 56.8	142 59.9	6.0	S25 09.1	2.1	58.0
	17	74 17.2	N 5 57.8	157 25.0	6.1	S25 06.8	2.3	58.0
	18	89 17.3	N 5 58.7	171 50.2	6.2	S25 04.4	2.4	58.0
	19	104 17.5	N 5 59.7	186 15.4	6.2	S25 01.8	2.6	58.0
	20	119 17.7	N 6 00.6	200 40.7	6.3	S24 59.0	2.8	57.9
	21	134 17.9	N 6 01.6	215 06.1	6.4	S24 56.1	2.9	57.9
	22	149 18.1	N 6 02.5	229 31.5	6.4	S24 53.1	3.1	57.9
	23	164 18.2	N 6 03.5	243 57.0	6.5	S24 49.9	3.2	57.8
5	0	179 18.4	N 6 04.4	258 22.6	6.6	S24 46.5	3.4	57.8
	1	194 18.6	N 6 05.4	272 48.2	6.6	S24 43.0	3.5	57.8
	2	209 18.8	N 6 06.3	287 13.9	6.7	S24 39.4	3.6	57.7
	3	224 19.0	N 6 07.3	301 39.7	6.8	S24 35.6	3.8	57.7
	4	239 19.1	N 6 08.2	316 05.6	6.9	S24 31.7	3.9	57.7
M	5	254 19.3	N 6 09.2	330 31.5	6.9	S24 27.6	4.1	57.7
O								
N	6	269 19.5	N 6 10.1	344 57.5	7.0	S24 23.4	4.2	57.6
D	7	284 19.7	N 6 11.1	359 23.6	7.1	S24 19.0	4.4	57.6
A	8	299 19.9	N 6 12.0	13 49.8	7.2	S24 14.5	4.5	57.6
Y	9	314 20.0	N 6 13.0	28 16.1	7.3	S24 09.9	4.6	57.5
	10	329 20.2	N 6 13.9	42 42.4	7.3	S24 05.1	4.8	57.5
	11	344 20.4	N 6 14.9	57 08.8	7.4	S24 00.2	4.9	57.5
	12	359 20.6	N 6 15.8	71 35.3	7.5	S23 55.1	5.0	57.4
	13	14 20.7	N 6 16.7	86 01.9	7.6	S23 50.0	5.2	57.4
	14	29 20.9	N 6 17.7	100 28.5	7.7	S23 44.6	5.3	57.4
	15	44 21.1	N 6 18.6	114 55.3	7.7	S23 39.2	5.4	57.4
	16	59 21.3	N 6 19.6	129 22.1	7.8	S23 33.6	5.6	57.3
	17	74 21.5	N 6 20.5	143 49.0	7.9	S23 27.9	5.7	57.3
	18	89 21.6	N 6 21.5	158 16.0	8.0	S23 22.1	5.8	57.3
	19	104 21.8	N 6 22.4	172 43.1	8.1	S23 16.1	6.0	57.2
	20	119 22.0	N 6 23.4	187 10.3	8.2	S23 10.0	6.1	57.2
	21	134 22.2	N 6 24.3	201 37.5	8.3	S23 03.8	6.2	57.2
	22	149 22.3	N 6 25.3	216 04.9	8.3	S22 57.5	6.3	57.2
	23	164 22.5	N 6 26.2	230 32.3	8.4	S22 51.0	6.5	57.1
6	0	179 22.7	N 6 27.2	244 59.9	8.5	S22 44.4	6.6	57.1
	1	194 22.9	N 6 28.1	259 27.5	8.6	S22 37.7	6.7	57.1
	2	209 23.1	N 6 29.0	273 55.2	8.7	S22 30.9	6.8	57.1
	3	224 23.2	N 6 30.0	288 23.0	8.8	S22 24.0	6.9	57.0
	4	239 23.4	N 6 30.9	302 50.8	8.9	S22 16.9	7.1	57.0
T	5	254 23.6	N 6 31.9	317 18.8	9.0	S22 09.8	7.2	57.0
U								
E	6	269 23.8	N 6 32.8	331 46.9	9.1	S22 02.5	7.3	56.9
S	7	284 23.9	N 6 33.8	346 15.0	9.2	S21 55.1	7.4	56.9
D	8	299 24.1	N 6 34.7	0 43.3	9.2	S21 47.6	7.5	56.9
A	9	314 24.3	N 6 35.6	15 11.6	9.3	S21 39.9	7.6	56.9
Y	10	329 24.5	N 6 36.6	29 40.0	9.4	S21 32.2	7.7	56.8
	11	344 24.7	N 6 37.5	44 08.6	9.5	S21 24.4	7.8	56.8
	12	359 24.8	N 6 38.5	58 37.2	9.6	S21 16.4	7.9	56.8
	13	14 25.0	N 6 39.4	73 05.9	9.7	S21 08.4	8.0	56.8
	14	29 25.2	N 6 40.4	87 34.7	9.8	S21 00.2	8.2	56.7
	15	44 25.4	N 6 41.3	102 03.5	9.9	S20 52.0	8.3	56.7
	16	59 25.5	N 6 42.2	116 32.5	10.0	S20 43.6	8.4	56.7
	17	74 25.7	N 6 43.2	131 01.6	10.1	S20 35.2	8.5	56.6
	18	89 25.9	N 6 44.1	145 30.7	10.2	S20 26.6	8.6	56.6
	19	104 26.1	N 6 45.1	159 60.0	10.2	S20 17.9	8.7	56.6
	20	119 26.2	N 6 46.0	174 29.3	10.3	S20 09.2	8.8	56.6
	21	134 26.4	N 6 47.0	188 58.7	10.4	S20 00.3	8.9	56.5
	22	149 26.6	N 6 47.9	203 28.2	10.5	S19 51.4	8.9	56.5
	23	164 26.8	N 6 48.8	217 57.8	10.6	S19 42.4	9.0	56.5
		S.D. 16.0	d 0.9	S.D.	15.8		15.7	15.5

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.5
Achernar	335 23.1	S57 07.9
Acrux	173 02.8	S63 13.0
Adhara	255 08.3	S29 00.3
Albireo	67 06.6	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.8
Alkaid	152 54.0	N49 12.4
Al Na-ir	27 37.1	S46 51.5
Alnilam	275 40.9	S 1 11.5
Alphard	217 50.6	S 8 45.2
Alphecca	126 06.1	N26 38.5
Alpheratz	357 38.3	N29 12.2
Altair	62 03.0	N 8 55.3
Ankaa	353 10.6	S42 11.6
Antares	112 19.4	S26 28.7
Arcturus	145 50.4	N19 04.2
Atria	107 16.2	S69 03.7
Avior	234 15.7	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.5
Canopus	263 53.8	S52 42.7
Capella	280 26.7	N46 01.2
Castor	246 00.9	N31 50.6
Deneb	49 28.0	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.8	S17 52.4
Dubhe	193 44.3	N61 38.3
Elnath	278 05.9	N28 37.5
Eltanin	90 43.5	N51 28.8
Enif	33 41.9	N 9 58.1
Fomalhaut	15 18.2	S29 30.7
Gacrux	171 54.4	S57 13.9
Gienah	175 46.4	S17 39.6
Hadar	148 39.8	S60 28.4
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.6	S34 22.4
Kochab	137 18.9	N74 04.0
Markab	13 33.2	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.5
Miaplacidus	221 38.3	S69 48.5
Mirfak	308 33.1	N49 56.2
Nunki	75 51.6	S26 16.2
Peacock	53 10.7	S56 39.9
Polaris	317 45.4	N89 20.5
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.3	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 44.0	S60 55.2
Sabik	102 06.2	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.4	S37 07.0
Sirius	258 29.0	S16 44.9
Spica	158 25.2	S11 16.3
Suhail	222 48.3	S43 31.3
Vega	80 35.2	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
7 0	195 29.2	176 14.2	N 6 54.8	116 26.5	N24 32.3	228 34.7	S14 01.6	241 03.2	S17 45.1
1	210 31.7	191 13.8	N 6 56.0	131 27.4	N24 32.5	243 36.8	S14 01.4	256 05.5	S17 45.0
2	225 34.1	206 13.4	N 6 57.2	146 28.2	N24 32.6	258 38.8	S14 01.3	271 07.8	S17 45.0
3	240 36.6	221 12.9	N 6 58.4	161 29.0	N24 32.7	273 40.8	S14 01.1	286 10.1	S17 44.9
4	255 39.1	236 12.5	N 6 59.7	176 29.8	N24 32.8	288 42.8	S14 01.0	301 12.3	S17 44.9
W 5	270 41.5	251 12.1	N 7 00.9	191 30.6	N24 32.9	303 44.8	S14 00.8	316 14.6	S17 44.8
E									
D 6	285 44.0	266 11.7	N 7 02.1	206 31.4	N24 33.0	318 46.8	S14 00.7	331 16.9	S17 44.8
N 7	300 46.4	281 11.3	N 7 03.3	221 32.3	N24 33.1	333 48.8	S14 00.5	346 19.2	S17 44.7
E 8	315 48.9	296 10.9	N 7 04.5	236 33.1	N24 33.2	348 50.8	S14 00.4	1 21.5	S17 44.7
S 9	330 51.4	311 10.5	N 7 05.8	251 33.9	N24 33.3	3 52.8	S14 00.2	16 23.8	S17 44.7
D 10	345 53.8	326 10.1	N 7 07.0	266 34.7	N24 33.5	18 54.8	S14 00.1	31 26.1	S17 44.6
A 11	0 56.3	341 09.7	N 7 08.2	281 35.5	N24 33.6	33 56.8	S13 59.9	46 28.3	S17 44.6
Y									
12	15 58.8	356 09.3	N 7 09.4	296 36.4	N24 33.7	48 58.8	S13 59.8	61 30.6	S17 44.5
13	31 01.2	11 08.9	N 7 10.6	311 37.2	N24 33.8	64 00.9	S13 59.6	76 32.9	S17 44.5
14	46 03.7	26 08.5	N 7 11.8	326 38.0	N24 33.9	79 02.9	S13 59.5	91 35.2	S17 44.4
15	61 06.2	41 08.0	N 7 13.1	341 38.8	N24 34.0	94 04.9	S13 59.3	106 37.5	S17 44.4
16	76 08.6	56 07.6	N 7 14.3	356 39.6	N24 34.1	109 06.9	S13 59.2	121 39.8	S17 44.4
17	91 11.1	71 07.2	N 7 15.5	11 40.4	N24 34.2	124 08.9	S13 59.0	136 42.1	S17 44.3
18	106 13.6	86 06.8	N 7 16.7	26 41.3	N24 34.3	139 10.9	S13 58.9	151 44.4	S17 44.3
19	121 16.0	101 06.4	N 7 17.9	41 42.1	N24 34.4	154 12.9	S13 58.7	166 46.6	S17 44.2
20	136 18.5	116 06.0	N 7 19.1	56 42.9	N24 34.5	169 14.9	S13 58.6	181 48.9	S17 44.2
21	151 20.9	131 05.6	N 7 20.4	71 43.7	N24 34.6	184 16.9	S13 58.4	196 51.2	S17 44.1
22	166 23.4	146 05.2	N 7 21.6	86 44.5	N24 34.7	199 19.0	S13 58.3	211 53.5	S17 44.1
23	181 25.9	161 04.8	N 7 22.8	101 45.3	N24 34.8	214 21.0	S13 58.1	226 55.8	S17 44.0
8 0	196 28.3	176 04.3	N 7 24.0	116 46.1	N24 35.0	229 23.0	S13 58.0	241 58.1	S17 44.0
1	211 30.8	191 03.9	N 7 25.2	131 47.0	N24 35.1	244 25.0	S13 57.8	257 00.4	S17 44.0
2	226 33.3	206 03.5	N 7 26.4	146 47.8	N24 35.2	259 27.0	S13 57.7	272 02.7	S17 43.9
3	241 35.7	221 03.1	N 7 27.6	161 48.6	N24 35.3	274 29.0	S13 57.6	287 04.9	S17 43.9
4	256 38.2	236 02.7	N 7 28.8	176 49.4	N24 35.4	289 31.0	S13 57.4	302 07.2	S17 43.8
T 5	271 40.7	251 02.3	N 7 30.1	191 50.2	N24 35.5	304 33.0	S13 57.3	317 09.5	S17 43.8
H									
U 6	286 43.1	266 01.9	N 7 31.3	206 51.0	N24 35.6	319 35.0	S13 57.1	332 11.8	S17 43.7
R 7	301 45.6	281 01.5	N 7 32.5	221 51.9	N24 35.7	334 37.1	S13 57.0	347 14.1	S17 43.7
S 8	316 48.0	296 01.0	N 7 33.7	236 52.7	N24 35.8	349 39.1	S13 56.8	2 16.4	S17 43.7
D 9	331 50.5	311 00.6	N 7 34.9	251 53.5	N24 35.9	4 41.1	S13 56.7	17 18.7	S17 43.6
A 10	346 53.0	326 00.2	N 7 36.1	266 54.3	N24 36.0	19 43.1	S13 56.5	32 21.0	S17 43.6
Y 11	1 55.4	340 59.8	N 7 37.3	281 55.1	N24 36.1	34 45.1	S13 56.4	47 23.3	S17 43.5
12	16 57.9	355 59.4	N 7 38.5	296 55.9	N24 36.2	49 47.1	S13 56.2	62 25.6	S17 43.5
13	32 00.4	10 59.0	N 7 39.7	311 56.7	N24 36.3	64 49.1	S13 56.1	77 27.8	S17 43.4
14	47 02.8	25 58.6	N 7 41.0	326 57.6	N24 36.4	79 51.2	S13 55.9	92 30.1	S17 43.4
15	62 05.3	40 58.1	N 7 42.2	341 58.4	N24 36.5	94 53.2	S13 55.8	107 32.4	S17 43.4
16	77 07.8	55 57.7	N 7 43.4	356 59.2	N24 36.6	109 55.2	S13 55.6	122 34.7	S17 43.3
17	92 10.2	70 57.3	N 7 44.6	12 00.0	N24 36.7	124 57.2	S13 55.5	137 37.0	S17 43.3
18	107 12.7	85 56.9	N 7 45.8	27 00.8	N24 36.8	139 59.2	S13 55.3	152 39.3	S17 43.2
19	122 15.2	100 56.5	N 7 47.0	42 01.6	N24 36.9	155 01.2	S13 55.2	167 41.6	S17 43.2
20	137 17.6	115 56.1	N 7 48.2	57 02.4	N24 37.0	170 03.2	S13 55.0	182 43.9	S17 43.1
21	152 20.1	130 55.6	N 7 49.4	72 03.3	N24 37.1	185 05.3	S13 54.9	197 46.2	S17 43.1
22	167 22.5	145 55.2	N 7 50.6	87 04.1	N24 37.2	200 07.3	S13 54.8	212 48.5	S17 43.1
23	182 25.0	160 54.8	N 7 51.8	102 04.9	N24 37.3	215 09.3	S13 54.6	227 50.7	S17 43.0
9 0	197 27.5	175 54.4	N 7 53.0	117 05.7	N24 37.4	230 11.3	S13 54.5	242 53.0	S17 43.0
1	212 29.9	190 54.0	N 7 54.2	132 06.5	N24 37.5	245 13.3	S13 54.3	257 55.3	S17 42.9
2	227 32.4	205 53.6	N 7 55.4	147 07.3	N24 37.6	260 15.3	S13 54.2	272 57.6	S17 42.9
3	242 34.9	220 53.1	N 7 56.7	162 08.1	N24 37.7	275 17.3	S13 54.0	287 59.9	S17 42.8
4	257 37.3	235 52.7	N 7 57.9	177 09.0	N24 37.8	290 19.4	S13 53.9	303 02.2	S17 42.8
F 5	272 39.8	250 52.3	N 7 59.1	192 09.8	N24 37.9	305 21.4	S13 53.7	318 04.5	S17 42.8
R									
I 6	287 42.3	265 51.9	N 8 00.3	207 10.6	N24 38.0	320 23.4	S13 53.6	333 06.8	S17 42.7
D 7	302 44.7	280 51.5	N 8 01.5	222 11.4	N24 38.1	335 25.4	S13 53.4	348 09.1	S17 42.7
A 8	317 47.2	295 51.0	N 8 02.7	237 12.2	N24 38.2	350 27.4	S13 53.3	3 11.4	S17 42.6
Y 9	332 49.6	310 50.6	N 8 03.9	252 13.0	N24 38.3	5 29.4	S13 53.1	18 13.7	S17 42.6
10	347 52.1	325 50.2	N 8 05.1	267 13.8	N24 38.4	20 31.5	S13 53.0	33 16.0	S17 42.6
11	2 54.6	340 49.8	N 8 06.3	282 14.6	N24 38.5	35 33.5	S13 52.9	48 18.3	S17 42.5
12	17 57.0	355 49.4	N 8 07.5	297 15.5	N24 38.6	50 35.5	S13 52.7	63 20.5	S17 42.5
13	32 59.5	10 48.9	N 8 08.7	312 16.3	N24 38.6	65 37.5	S13 52.6	78 22.8	S17 42.4
14	48 02.0	25 48.5	N 8 09.9	327 17.1	N24 38.7	80 39.5	S13 52.4	93 25.1	S17 42.4
15	63 04.4	40 48.1	N 8 11.1	342 17.9	N24 38.8	95 41.6	S13 52.3	108 27.4	S17 42.3
16	78 06.9	55 47.7	N 8 12.3	357 18.7	N24 38.9	110 43.6	S13 52.1	123 29.7	S17 42.3
17	93 09.4	70 47.3	N 8 13.5	12 19.5	N24 39.0	125 45.6	S13 52.0	138 32.0	S17 42.3
18	108 11.8	85 46.8	N 8 14.7	27 20.3	N24 39.1	140 47.6	S13 51.8	153 34.3	S17 42.2
19	123 14.3	100 46.4	N 8 15.9	42 21.1	N24 39.2	155 49.6	S13 51.7	168 36.6	S17 42.2
20	138 16.8	115 46.0	N 8 17.1	57 22.0	N24 39.3	170 51.6	S13 51.5	183 38.9	S17 42.1
21	153 19.2	130 45.6	N 8 18.3	72 22.8	N24 39.4	185 53.7	S13 51.4	198 41.2	S17 42.1
22	168 21.7	145 45.2	N 8 19.5	87 23.6	N24 39.5	200 55.7	S13 51.2	213 43.5	S17 42.1
23	183 24.1	160 44.7	N 8 20.7	102 24.4	N24 39.6	215 57.7	S13 51.1	228 45.8	S17 42.0
		v -0.4	d 1.2	v 0.8	d 0.1	v 2.0	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
7	0	179 26.9	N 6 49.8	232 27.5	10.7	S19 33.2	9.1	56.5
	1	194 27.1	N 6 50.7	246 57.3	10.8	S19 24.0	9.2	56.4
	2	209 27.3	N 6 51.7	261 27.2	10.9	S19 14.7	9.3	56.4
	3	224 27.5	N 6 52.6	275 57.1	11.0	S19 05.3	9.4	56.4
	4	239 27.6	N 6 53.5	290 27.2	11.0	S18 55.8	9.5	56.4
W	5	254 27.8	N 6 54.5	304 57.3	11.1	S18 46.2	9.6	56.3
E								
D	6	269 28.0	N 6 55.4	319 27.5	11.2	S18 36.6	9.7	56.3
N	7	284 28.2	N 6 56.3	333 57.8	11.3	S18 26.8	9.7	56.3
E	8	299 28.3	N 6 57.3	348 28.2	11.4	S18 17.0	9.8	56.3
S	9	314 28.5	N 6 58.2	2 58.7	11.5	S18 07.1	9.9	56.2
D	10	329 28.7	N 6 59.2	17 29.3	11.6	S17 57.1	10.0	56.2
A	11	344 28.9	N 7 00.1	31 59.9	11.6	S17 47.0	10.1	56.2
Y								
	12	359 29.0	N 7 01.0	46 30.6	11.7	S17 36.9	10.1	56.2
	13	14 29.2	N 7 02.0	61 01.5	11.8	S17 26.7	10.2	56.2
	14	29 29.4	N 7 02.9	75 32.4	11.9	S17 16.4	10.3	56.1
	15	44 29.5	N 7 03.9	90 03.4	12.0	S17 06.0	10.4	56.1
	16	59 29.7	N 7 04.8	104 34.4	12.1	S16 55.6	10.4	56.1
	17	74 29.9	N 7 05.7	119 05.6	12.1	S16 45.1	10.5	56.1
	18	89 30.1	N 7 06.7	133 36.8	12.2	S16 34.5	10.6	56.0
	19	104 30.2	N 7 07.6	148 08.1	12.3	S16 23.8	10.7	56.0
	20	119 30.4	N 7 08.5	162 39.5	12.4	S16 13.1	10.7	56.0
	21	134 30.6	N 7 09.5	177 11.0	12.5	S16 02.3	10.8	56.0
	22	149 30.8	N 7 10.4	191 42.5	12.5	S15 51.5	10.9	55.9
	23	164 30.9	N 7 11.3	206 14.1	12.6	S15 40.5	10.9	55.9
8	0	179 31.1	N 7 12.3	220 45.8	12.7	S15 29.5	11.0	55.9
	1	194 31.3	N 7 13.2	235 17.6	12.8	S15 18.5	11.1	55.9
	2	209 31.4	N 7 14.1	249 49.5	12.9	S15 07.4	11.1	55.9
	3	224 31.6	N 7 15.1	264 21.4	12.9	S14 56.2	11.2	55.8
	4	239 31.8	N 7 16.0	278 53.4	13.0	S14 45.0	11.2	55.8
T	5	254 32.0	N 7 17.0	293 25.5	13.1	S14 33.7	11.3	55.8
H								
U	6	269 32.1	N 7 17.9	307 57.6	13.2	S14 22.3	11.3	55.8
R	7	284 32.3	N 7 18.8	322 29.8	13.2	S14 10.9	11.4	55.7
S	8	299 32.5	N 7 19.8	337 02.1	13.3	S13 59.5	11.5	55.7
D	9	314 32.7	N 7 20.7	351 34.5	13.4	S13 47.9	11.5	55.7
A	10	329 32.8	N 7 21.6	6 06.9	13.4	S13 36.4	11.6	55.7
Y	11	344 33.0	N 7 22.6	20 39.4	13.5	S13 24.8	11.6	55.7
	12	359 33.2	N 7 23.5	35 12.0	13.6	S13 13.1	11.7	55.6
	13	14 33.3	N 7 24.4	49 44.7	13.6	S13 01.4	11.7	55.6
	14	29 33.5	N 7 25.4	64 17.4	13.7	S12 49.6	11.8	55.6
	15	44 33.7	N 7 26.3	78 50.1	13.8	S12 37.8	11.8	55.6
	16	59 33.9	N 7 27.2	93 23.0	13.8	S12 25.9	11.9	55.6
	17	74 34.0	N 7 28.1	107 55.9	13.9	S12 14.0	11.9	55.5
	18	89 34.2	N 7 29.1	122 28.8	14.0	S12 02.0	12.0	55.5
	19	104 34.4	N 7 30.0	137 01.9	14.0	S11 50.0	12.0	55.5
	20	119 34.5	N 7 30.9	151 35.0	14.1	S11 38.0	12.0	55.5
	21	134 34.7	N 7 31.9	166 08.1	14.1	S11 25.9	12.1	55.5
	22	149 34.9	N 7 32.8	180 41.3	14.2	S11 13.7	12.1	55.4
	23	164 35.0	N 7 33.7	195 14.6	14.3	S11 01.6	12.2	55.4
9	0	179 35.2	N 7 34.7	209 47.9	14.3	S10 49.4	12.2	55.4
	1	194 35.4	N 7 35.6	224 21.3	14.4	S10 37.1	12.2	55.4
	2	209 35.6	N 7 36.5	238 54.7	14.4	S10 24.8	12.3	55.4
	3	224 35.7	N 7 37.5	253 28.2	14.5	S10 12.5	12.3	55.3
	4	239 35.9	N 7 38.4	268 01.8	14.6	S10 00.1	12.4	55.3
F	5	254 36.1	N 7 39.3	282 35.4	14.6	S 9 47.8	12.4	55.3
R								
I	6	269 36.2	N 7 40.2	297 09.0	14.7	S 9 35.3	12.4	55.3
D	7	284 36.4	N 7 41.2	311 42.8	14.7	S 9 22.9	12.5	55.3
A	8	299 36.6	N 7 42.1	326 16.5	14.8	S 9 10.4	12.5	55.3
Y	9	314 36.7	N 7 43.0	340 50.3	14.8	S 8 57.9	12.5	55.2
	10	329 36.9	N 7 44.0	355 24.2	14.9	S 8 45.3	12.6	55.2
	11	344 37.1	N 7 44.9	9 58.1	14.9	S 8 32.7	12.6	55.2
	12	359 37.2	N 7 45.8	24 32.1	15.0	S 8 20.1	12.6	55.2
	13	14 37.4	N 7 46.7	39 06.1	15.0	S 8 07.5	12.6	55.2
	14	29 37.6	N 7 47.7	53 40.1	15.1	S 7 54.8	12.7	55.1
	15	44 37.7	N 7 48.6	68 14.2	15.1	S 7 42.1	12.7	55.1
	16	59 37.9	N 7 49.5	82 48.4	15.1	S 7 29.4	12.7	55.1
	17	74 38.1	N 7 50.4	97 22.5	15.2	S 7 16.7	12.7	55.1
	18	89 38.3	N 7 51.4	111 56.8	15.2	S 7 03.9	12.8	55.1
	19	104 38.4	N 7 52.3	126 31.0	15.3	S 6 51.2	12.8	55.1
	20	119 38.6	N 7 53.2	141 05.3	15.3	S 6 38.4	12.8	55.0
	21	134 38.8	N 7 54.1	155 39.7	15.3	S 6 25.6	12.8	55.0
	22	149 38.9	N 7 55.1	170 14.1	15.4	S 6 12.7	12.8	55.0
	23	164 39.1	N 7 56.0	184 48.5	15.4	S 5 59.9	12.9	55.0
		S.D. 16.0	d 0.9	S.D.	15.3	15.2	15.0	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.4
Achernar	335 23.1	S57 07.9
Acrux	173 02.8	S63 13.0
Adhara	255 08.3	S29 00.3
Albireo	67 06.5	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.1	N55 50.8
Alkaid	152 54.0	N49 12.4
Al Na-ir	27 37.1	S46 51.5
Alnilam	275 41.0	S 1 11.5
Alphard	217 50.6	S 8 45.2
Alphecca	126 06.1	N26 38.5
Alpheratz	357 38.3	N29 12.2
Altair	62 03.0	N 8 55.3
Ankaa	353 10.6	S42 11.6
Antares	112 19.4	S26 28.7
Arcturus	145 50.4	N19 04.2
Atria	107 16.1	S69 03.7
Avior	234 15.7	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.5
Canopus	263 53.9	S52 42.7
Capella	280 26.7	N46 01.2
Castor	246 01.0	N31 50.6
Deneb	49 28.0	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.7	S17 52.4
Dubhe	193 44.3	N61 38.3
Elnath	278 06.0	N28 37.5
Eltanin	90 43.5	N51 28.8
Enif	33 41.9	N 9 58.1
Fomalhaut	15 18.2	S29 30.7
Gacrux	171 54.5	S57 14.0
Gienah	175 46.4	S17 39.6
Hadar	148 39.7	S60 28.4
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.5	S34 22.4
Kochab	137 18.9	N74 04.0
Markab	13 33.2	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.5
Miaplacidus	221 38.3	S69 48.5
Mirfak	308 33.1	N49 56.2
Nunki	75 51.5	S26 16.2
Peacock	53 10.7	S56 39.9
Polaris	317 45.8	N89 20.5
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.3	N12 32.5
Regulus	207 37.5	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 44.0	S60 55.2
Sabik	102 06.1	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.4	S37 07.0
Sirius	258 29.0	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.3	S43 31.3
Vega	80 35.2	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

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 26.6	175 44.3	N 8 21.9	117 25.2	N24 39.7	230 59.7	S13 51.0	243 48.1	S17 42.0
	1	213 29.1	190 43.9	N 8 23.1	132 26.0	N24 39.8	246 01.7	S13 50.8	258 50.4	S17 41.9
	2	228 31.5	205 43.5	N 8 24.3	147 26.8	N24 39.9	261 03.8	S13 50.7	273 52.7	S17 41.9
	3	243 34.0	220 43.0	N 8 25.5	162 27.6	N24 39.9	276 05.8	S13 50.5	288 55.0	S17 41.8
	4	258 36.5	235 42.6	N 8 26.7	177 28.4	N24 40.0	291 07.8	S13 50.4	303 57.3	S17 41.8
S	5	273 38.9	250 42.2	N 8 27.9	192 29.3	N24 40.1	306 09.8	S13 50.2	318 59.6	S17 41.8
A										
T	6	288 41.4	265 41.8	N 8 29.1	207 30.1	N24 40.2	321 11.8	S13 50.1	334 01.9	S17 41.7
U	7	303 43.9	280 41.3	N 8 30.3	222 30.9	N24 40.3	336 13.9	S13 49.9	349 04.1	S17 41.7
R	8	318 46.3	295 40.9	N 8 31.5	237 31.7	N24 40.4	351 15.9	S13 49.8	4 06.4	S17 41.6
D	9	333 48.8	310 40.5	N 8 32.7	252 32.5	N24 40.5	6 17.9	S13 49.6	19 08.7	S17 41.6
A	10	348 51.3	325 40.1	N 8 33.9	267 33.3	N24 40.6	21 19.9	S13 49.5	34 11.0	S17 41.6
Y	11	3 53.7	340 39.6	N 8 35.1	282 34.1	N24 40.7	36 21.9	S13 49.4	49 13.3	S17 41.5
	12	18 56.2	355 39.2	N 8 36.3	297 34.9	N24 40.7	51 24.0	S13 49.2	64 15.6	S17 41.5
	13	33 58.6	10 38.8	N 8 37.5	312 35.7	N24 40.8	66 26.0	S13 49.1	79 17.9	S17 41.4
	14	49 01.1	25 38.4	N 8 38.7	327 36.6	N24 40.9	81 28.0	S13 48.9	94 20.2	S17 41.4
	15	64 03.6	40 37.9	N 8 39.8	342 37.4	N24 41.0	96 30.0	S13 48.8	109 22.5	S17 41.4
	16	79 06.0	55 37.5	N 8 41.0	357 38.2	N24 41.1	111 32.1	S13 48.6	124 24.8	S17 41.3
	17	94 08.5	70 37.1	N 8 42.2	12 39.0	N24 41.2	126 34.1	S13 48.5	139 27.1	S17 41.3
	18	109 11.0	85 36.6	N 8 43.4	27 39.8	N24 41.3	141 36.1	S13 48.3	154 29.4	S17 41.2
	19	124 13.4	100 36.2	N 8 44.6	42 40.6	N24 41.4	156 38.1	S13 48.2	169 31.7	S17 41.2
	20	139 15.9	115 35.8	N 8 45.8	57 41.4	N24 41.4	171 40.2	S13 48.1	184 34.0	S17 41.1
	21	154 18.4	130 35.4	N 8 47.0	72 42.2	N24 41.5	186 42.2	S13 47.9	199 36.3	S17 41.1
	22	169 20.8	145 34.9	N 8 48.2	87 43.0	N24 41.6	201 44.2	S13 47.8	214 38.6	S17 41.1
	23	184 23.3	160 34.5	N 8 49.4	102 43.8	N24 41.7	216 46.2	S13 47.6	229 40.9	S17 41.0
11	0	199 25.7	175 34.1	N 8 50.6	117 44.7	N24 41.8	231 48.2	S13 47.5	244 43.2	S17 41.0
	1	214 28.2	190 33.6	N 8 51.8	132 45.5	N24 41.9	246 50.3	S13 47.3	259 45.5	S17 40.9
	2	229 30.7	205 33.2	N 8 53.0	147 46.3	N24 41.9	261 52.3	S13 47.2	274 47.8	S17 40.9
	3	244 33.1	220 32.8	N 8 54.1	162 47.1	N24 42.0	276 54.3	S13 47.0	289 50.1	S17 40.9
	4	259 35.6	235 32.3	N 8 55.3	177 47.9	N24 42.1	291 56.3	S13 46.9	304 52.4	S17 40.8
S	5	274 38.1	250 31.9	N 8 56.5	192 48.7	N24 42.2	306 58.4	S13 46.8	319 54.7	S17 40.8
U										
N	6	289 40.5	265 31.5	N 8 57.7	207 49.5	N24 42.3	322 00.4	S13 46.6	334 57.0	S17 40.7
D	7	304 43.0	280 31.1	N 8 58.9	222 50.3	N24 42.4	337 02.4	S13 46.5	349 59.3	S17 40.7
A	8	319 45.5	295 30.6	N 9 00.1	237 51.1	N24 42.4	352 04.4	S13 46.3	5 01.6	S17 40.7
Y	9	334 47.9	310 30.2	N 9 01.3	252 51.9	N24 42.5	7 06.5	S13 46.2	20 03.9	S17 40.6
	10	349 50.4	325 29.8	N 9 02.5	267 52.7	N24 42.6	22 08.5	S13 46.0	35 06.2	S17 40.6
	11	4 52.9	340 29.3	N 9 03.7	282 53.5	N24 42.7	37 10.5	S13 45.9	50 08.5	S17 40.5
	12	19 55.3	355 28.9	N 9 04.8	297 54.4	N24 42.8	52 12.5	S13 45.8	65 10.8	S17 40.5
	13	34 57.8	10 28.5	N 9 06.0	312 55.2	N24 42.9	67 14.6	S13 45.6	80 13.1	S17 40.5
	14	50 00.2	25 28.0	N 9 07.2	327 56.0	N24 42.9	82 16.6	S13 45.5	95 15.4	S17 40.4
	15	65 02.7	40 27.6	N 9 08.4	342 56.8	N24 43.0	97 18.6	S13 45.3	110 17.7	S17 40.4
	16	80 05.2	55 27.2	N 9 09.6	357 57.6	N24 43.1	112 20.6	S13 45.2	125 20.0	S17 40.3
	17	95 07.6	70 26.7	N 9 10.8	12 58.4	N24 43.2	127 22.7	S13 45.0	140 22.3	S17 40.3
	18	110 10.1	85 26.3	N 9 12.0	27 59.2	N24 43.3	142 24.7	S13 44.9	155 24.6	S17 40.3
	19	125 12.6	100 25.9	N 9 13.1	43 00.0	N24 43.3	157 26.7	S13 44.7	170 26.9	S17 40.2
	20	140 15.0	115 25.4	N 9 14.3	58 00.8	N24 43.4	172 28.8	S13 44.6	185 29.2	S17 40.2
	21	155 17.5	130 25.0	N 9 15.5	73 01.6	N24 43.5	187 30.8	S13 44.5	200 31.5	S17 40.1
	22	170 20.0	145 24.5	N 9 16.7	88 02.4	N24 43.6	202 32.8	S13 44.3	215 33.8	S17 40.1
	23	185 22.4	160 24.1	N 9 17.9	103 03.2	N24 43.6	217 34.8	S13 44.2	230 36.1	S17 40.1
12	0	200 24.9	175 23.7	N 9 19.1	118 04.1	N24 43.7	232 36.9	S13 44.0	245 38.4	S17 40.0
	1	215 27.3	190 23.2	N 9 20.2	133 04.9	N24 43.8	247 38.9	S13 43.9	260 40.7	S17 40.0
	2	230 29.8	205 22.8	N 9 21.4	148 05.7	N24 43.9	262 40.9	S13 43.7	275 43.0	S17 39.9
	3	245 32.3	220 22.4	N 9 22.6	163 06.5	N24 44.0	277 43.0	S13 43.6	290 45.3	S17 39.9
	4	260 34.7	235 21.9	N 9 23.8	178 07.3	N24 44.0	292 45.0	S13 43.5	305 47.6	S17 39.9
M	5	275 37.2	250 21.5	N 9 25.0	193 08.1	N24 44.1	307 47.0	S13 43.3	320 49.9	S17 39.8
O										
N	6	290 39.7	265 21.0	N 9 26.1	208 08.9	N24 44.2	322 49.0	S13 43.2	335 52.2	S17 39.8
D	7	305 42.1	280 20.6	N 9 27.3	223 09.7	N24 44.3	337 51.1	S13 43.0	350 54.5	S17 39.7
A	8	320 44.6	295 20.2	N 9 28.5	238 10.5	N24 44.3	352 53.1	S13 42.9	5 56.8	S17 39.7
Y	9	335 47.1	310 19.7	N 9 29.7	253 11.3	N24 44.4	7 55.1	S13 42.7	20 59.1	S17 39.7
	10	350 49.5	325 19.3	N 9 30.9	268 12.1	N24 44.5	22 57.2	S13 42.6	36 01.4	S17 39.6
	11	5 52.0	340 18.9	N 9 32.0	283 12.9	N24 44.6	37 59.2	S13 42.5	51 03.7	S17 39.6
	12	20 54.5	355 18.4	N 9 33.2	298 13.7	N24 44.6	53 01.2	S13 42.3	66 06.0	S17 39.5
	13	35 56.9	10 18.0	N 9 34.4	313 14.5	N24 44.7	68 03.2	S13 42.2	81 08.3	S17 39.5
	14	50 59.4	25 17.5	N 9 35.6	328 15.4	N24 44.8	83 05.3	S13 42.0	96 10.6	S17 39.5
	15	66 01.8	40 17.1	N 9 36.7	343 16.2	N24 44.9	98 07.3	S13 41.9	111 12.9	S17 39.4
	16	81 04.3	55 16.7	N 9 37.9	358 17.0	N24 44.9	113 09.3	S13 41.7	126 15.2	S17 39.4
	17	96 06.8	70 16.2	N 9 39.1	13 17.8	N24 45.0	128 11.4	S13 41.6	141 17.6	S17 39.3
	18	111 09.2	85 15.8	N 9 40.3	28 18.6	N24 45.1	143 13.4	S13 41.5	156 19.9	S17 39.3
	19	126 11.7	100 15.3	N 9 41.4	43 19.4	N24 45.1	158 15.4	S13 41.3	171 22.2	S17 39.3
	20	141 14.2	115 14.9	N 9 42.6	58 20.2	N24 45.2	173 17.5	S13 41.2	186 24.5	S17 39.2
	21	156 16.6	130 14.4	N 9 43.8	73 21.0	N24 45.3	188 19.5	S13 41.0	201 26.8	S17 39.2
	22	171 19.1	145 14.0	N 9 45.0	88 21.8	N24 45.4	203 21.5	S13 40.9	216 29.1	S17 39.2
	23	186 21.6	160 13.6	N 9 46.1	103 22.6	N24 45.4	218 23.6	S13 40.7	231 31.4	S17 39.1
			v -0.4	d 1.2	v 0.8	d 0.1	v 2.0	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
10	0	179 39.3	N 7 56.9	199 23.0	15.5	S 5 47.0	12.9	55.0
	1	194 39.4	N 7 57.8	213 57.5	15.5	S 5 34.1	12.9	55.0
	2	209 39.6	N 7 58.8	228 32.0	15.5	S 5 21.2	12.9	55.0
	3	224 39.8	N 7 59.7	243 06.5	15.6	S 5 08.3	12.9	54.9
	4	239 39.9	N 8 00.6	257 41.1	15.6	S 4 55.3	12.9	54.9
S	5	254 40.1	N 8 01.5	272 15.8	15.6	S 4 42.4	12.9	54.9
A								
T	6	269 40.3	N 8 02.5	286 50.4	15.7	S 4 29.4	13.0	54.9
U	7	284 40.4	N 8 03.4	301 25.1	15.7	S 4 16.5	13.0	54.9
R	8	299 40.6	N 8 04.3	315 59.9	15.7	S 4 03.5	13.0	54.9
D	9	314 40.8	N 8 05.2	330 34.6	15.8	S 3 50.5	13.0	54.8
A	10	329 40.9	N 8 06.2	345 09.4	15.8	S 3 37.5	13.0	54.8
Y	11	344 41.1	N 8 07.1	359 44.2	15.8	S 3 24.5	13.0	54.8
	12	359 41.3	N 8 08.0	14 19.0	15.8	S 3 11.5	13.0	54.8
	13	14 41.4	N 8 08.9	28 53.9	15.9	S 2 58.5	13.0	54.8
	14	29 41.6	N 8 09.8	43 28.8	15.9	S 2 45.4	13.0	54.8
	15	44 41.7	N 8 10.8	58 03.7	15.9	S 2 32.4	13.0	54.8
	16	59 41.9	N 8 11.7	72 38.6	15.9	S 2 19.4	13.0	54.7
	17	74 42.1	N 8 12.6	87 13.6	16.0	S 2 06.3	13.0	54.7
	18	89 42.2	N 8 13.5	101 48.5	16.0	S 1 53.3	13.0	54.7
	19	104 42.4	N 8 14.5	116 23.5	16.0	S 1 40.3	13.0	54.7
	20	119 42.6	N 8 15.4	130 58.5	16.0	S 1 27.2	13.0	54.7
	21	134 42.7	N 8 16.3	145 33.6	16.0	S 1 14.2	13.0	54.7
	22	149 42.9	N 8 17.2	160 08.6	16.0	S 1 01.1	13.0	54.7
	23	164 43.1	N 8 18.1	174 43.7	16.1	S 0 48.1	13.0	54.6
11	0	179 43.2	N 8 19.0	189 18.7	16.1	S 0 35.1	13.0	54.6
	1	194 43.4	N 8 20.0	203 53.8	16.1	S 0 22.0	13.0	54.6
	2	209 43.6	N 8 20.9	218 28.9	16.1	S 0 09.0	13.0	54.6
	3	224 43.7	N 8 21.8	233 04.1	16.1	N 0 04.0	13.0	54.6
	4	239 43.9	N 8 22.7	247 39.2	16.1	N 0 17.0	13.0	54.6
S	5	254 44.0	N 8 23.6	262 14.3	16.1	N 0 30.0	13.0	54.6
U								
N	6	269 44.2	N 8 24.6	276 49.5	16.2	N 0 43.1	13.0	54.6
D	7	284 44.4	N 8 25.5	291 24.6	16.2	N 0 56.0	13.0	54.5
A	8	299 44.5	N 8 26.4	305 59.8	16.2	N 1 09.0	13.0	54.5
Y	9	314 44.7	N 8 27.3	320 35.0	16.2	N 1 22.0	13.0	54.5
	10	329 44.9	N 8 28.2	335 10.2	16.2	N 1 35.0	13.0	54.5
	11	344 45.0	N 8 29.1	349 45.3	16.2	N 1 47.9	13.0	54.5
	12	359 45.2	N 8 30.1	4 20.5	16.2	N 2 00.9	12.9	54.5
	13	14 45.4	N 8 31.0	18 55.7	16.2	N 2 13.8	12.9	54.5
	14	29 45.5	N 8 31.9	33 30.9	16.2	N 2 26.7	12.9	54.5
	15	44 45.7	N 8 32.8	48 06.1	16.2	N 2 39.6	12.9	54.4
	16	59 45.8	N 8 33.7	62 41.3	16.2	N 2 52.5	12.9	54.4
	17	74 46.0	N 8 34.6	77 16.5	16.2	N 3 05.4	12.9	54.4
	18	89 46.2	N 8 35.6	91 51.7	16.2	N 3 18.3	12.9	54.4
	19	104 46.3	N 8 36.5	106 27.0	16.2	N 3 31.1	12.8	54.4
	20	119 46.5	N 8 37.4	121 02.2	16.2	N 3 43.9	12.8	54.4
	21	134 46.6	N 8 38.3	135 37.4	16.2	N 3 56.7	12.8	54.4
	22	149 46.8	N 8 39.2	150 12.5	16.2	N 4 09.5	12.8	54.4
	23	164 47.0	N 8 40.1	164 47.7	16.2	N 4 22.3	12.8	54.4
12	0	179 47.1	N 8 41.0	179 22.9	16.2	N 4 35.0	12.7	54.3
	1	194 47.3	N 8 41.9	193 58.1	16.2	N 4 47.8	12.7	54.3
	2	209 47.4	N 8 42.9	208 33.3	16.2	N 5 00.5	12.7	54.3
	3	224 47.6	N 8 43.8	223 08.4	16.2	N 5 13.1	12.7	54.3
	4	239 47.8	N 8 44.7	237 43.6	16.2	N 5 25.8	12.7	54.3
M	5	254 47.9	N 8 45.6	252 18.8	16.1	N 5 38.4	12.6	54.3
O								
N	6	269 48.1	N 8 46.5	266 53.9	16.1	N 5 51.0	12.6	54.3
D	7	284 48.3	N 8 47.4	281 29.0	16.1	N 6 03.6	12.6	54.3
A	8	299 48.4	N 8 48.3	296 04.1	16.1	N 6 16.1	12.6	54.3
Y	9	314 48.6	N 8 49.2	310 39.2	16.1	N 6 28.7	12.5	54.3
	10	329 48.7	N 8 50.2	325 14.3	16.1	N 6 41.2	12.5	54.3
	11	344 48.9	N 8 51.1	339 49.4	16.1	N 6 53.6	12.5	54.2
	12	359 49.1	N 8 52.0	354 24.5	16.1	N 7 06.1	12.4	54.2
	13	14 49.2	N 8 52.9	8 59.5	16.0	N 7 18.5	12.4	54.2
	14	29 49.4	N 8 53.8	23 34.6	16.0	N 7 30.8	12.4	54.2
	15	44 49.5	N 8 54.7	38 09.6	16.0	N 7 43.2	12.3	54.2
	16	59 49.7	N 8 55.6	52 44.6	16.0	N 7 55.5	12.3	54.2
	17	74 49.8	N 8 56.5	67 19.5	16.0	N 8 07.8	12.3	54.2
	18	89 50.0	N 8 57.4	81 54.5	16.0	N 8 20.0	12.2	54.2
	19	104 50.2	N 8 58.3	96 29.4	15.9	N 8 32.2	12.2	54.2
	20	119 50.3	N 8 59.2	111 04.4	15.9	N 8 44.4	12.2	54.2
	21	134 50.5	N 9 00.2	125 39.3	15.9	N 8 56.5	12.1	54.2
	22	149 50.6	N 9 01.1	140 14.1	15.9	N 9 08.6	12.1	54.2
	23	164 50.8	N 9 02.0	154 49.0	15.9	N 9 20.7	12.1	54.1
		S.D. 16.0	d 0.9	S.D. 14.9		14.8		14.8

Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.4
Achernar	335 23.1	S57 07.9
Acrux	173 02.8	S63 13.0
Adhara	255 08.3	S29 00.3
Albireo	67 06.5	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.1	N55 50.8
Alkaid	152 54.0	N49 12.4
Al Na-ir	27 37.1	S46 51.5
Alnilam	275 41.0	S 1 11.5
Alphard	217 50.6	S 8 45.2
Alphecca	126 06.1	N26 38.5
Alpheratz	357 38.3	N29 12.2
Altair	62 03.0	N 8 55.3
Ankaa	353 10.6	S42 11.6
Antares	112 19.4	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 16.1	S69 03.7
Avior	234 15.8	S59 34.9
Bellatrix	278 26.3	N 6 22.0
Betelgeuse	270 55.5	N 7 24.6
Canopus	263 53.9	S52 42.7
Capella	280 26.7	N46 01.2
Castor	246 01.0	N31 50.6
Deneb	49 28.0	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.7	S17 52.4
Dubhe	193 44.3	N61 38.4
Elnath	278 06.0	N28 37.5
Eltanin	90 43.4	N51 28.8
Enif	33 41.9	N 9 58.1
Fomalhaut	15 18.2	S29 30.7
Gacrux	171 54.5	S57 14.0
Gienah	175 46.4	S17 39.6
Hadar	148 39.7	S60 28.4
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.5	S34 22.4
Kochab	137 18.9	N74 04.0
Markab	13 33.2	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.9	S36 28.5
Miaplacidus	221 38.3	S69 48.5
Mirfak	308 33.1	N49 56.1
Nunki	75 51.5	S26 16.2
Peacock	53 10.7	S56 39.9
Polaris	317 46.2	N89 20.4
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.3	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 44.0	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.3	S37 07.0
Sirius	258 29.0	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.3	S43 31.3
Vega	80 35.2	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
13	0	201 24.0	175 13.1	N 9 47.3	118 23.4	N24 45.5	233 25.6	S13 40.6	246 33.7	S17 39.1
	1	216 26.5	190 12.7	N 9 48.5	133 24.2	N24 45.6	248 27.6	S13 40.5	261 36.0	S17 39.0
	2	231 28.9	205 12.2	N 9 49.7	148 25.0	N24 45.6	263 29.7	S13 40.3	276 38.3	S17 39.0
	3	246 31.4	220 11.8	N 9 50.8	163 25.8	N24 45.7	278 31.7	S13 40.2	291 40.6	S17 39.0
	4	261 33.9	235 11.3	N 9 52.0	178 26.6	N24 45.8	293 33.7	S13 40.0	306 42.9	S17 38.9
T	5	276 36.3	250 10.9	N 9 53.2	193 27.4	N24 45.8	308 35.8	S13 39.9	321 45.2	S17 38.9
U										
E	6	291 38.8	265 10.4	N 9 54.3	208 28.2	N24 45.9	323 37.8	S13 39.8	336 47.5	S17 38.8
S	7	306 41.3	280 10.0	N 9 55.5	223 29.1	N24 46.0	338 39.8	S13 39.6	351 49.8	S17 38.8
D	8	321 43.7	295 09.6	N 9 56.7	238 29.9	N24 46.1	353 41.9	S13 39.5	6 52.1	S17 38.8
A	9	336 46.2	310 09.1	N 9 57.8	253 30.7	N24 46.1	8 43.9	S13 39.3	21 54.4	S17 38.7
Y	10	351 48.7	325 08.7	N 9 59.0	268 31.5	N24 46.2	23 45.9	S13 39.2	36 56.7	S17 38.7
	11	6 51.1	340 08.2	N10 00.2	283 32.3	N24 46.3	38 48.0	S13 39.0	51 59.1	S17 38.7
	12	21 53.6	355 07.8	N10 01.4	298 33.1	N24 46.3	53 50.0	S13 38.9	67 01.4	S17 38.6
	13	36 56.1	10 07.3	N10 02.5	313 33.9	N24 46.4	68 52.0	S13 38.8	82 03.7	S17 38.6
	14	51 58.5	25 06.9	N10 03.7	328 34.7	N24 46.5	83 54.1	S13 38.6	97 06.0	S17 38.5
	15	67 01.0	40 06.4	N10 04.9	343 35.5	N24 46.5	98 56.1	S13 38.5	112 08.3	S17 38.5
	16	82 03.4	55 06.0	N10 06.0	358 36.3	N24 46.6	113 58.1	S13 38.3	127 10.6	S17 38.5
	17	97 05.9	70 05.5	N10 07.2	13 37.1	N24 46.7	129 00.2	S13 38.2	142 12.9	S17 38.4
	18	112 08.4	85 05.1	N10 08.4	28 37.9	N24 46.7	144 02.2	S13 38.1	157 15.2	S17 38.4
	19	127 10.8	100 04.6	N10 09.5	43 38.7	N24 46.8	159 04.2	S13 37.9	172 17.5	S17 38.3
	20	142 13.3	115 04.2	N10 10.7	58 39.5	N24 46.8	174 06.3	S13 37.8	187 19.8	S17 38.3
	21	157 15.8	130 03.7	N10 11.9	73 40.3	N24 46.9	189 08.3	S13 37.6	202 22.1	S17 38.3
	22	172 18.2	145 03.3	N10 13.0	88 41.1	N24 47.0	204 10.4	S13 37.5	217 24.4	S17 38.2
	23	187 20.7	160 02.8	N10 14.2	103 41.9	N24 47.0	219 12.4	S13 37.4	232 26.7	S17 38.2
14	0	202 23.2	175 02.4	N10 15.3	118 42.7	N24 47.1	234 14.4	S13 37.2	247 29.1	S17 38.2
	1	217 25.6	190 01.9	N10 16.5	133 43.5	N24 47.2	249 16.5	S13 37.1	262 31.4	S17 38.1
	2	232 28.1	205 01.5	N10 17.7	148 44.3	N24 47.2	264 18.5	S13 36.9	277 33.7	S17 38.1
	3	247 30.6	220 01.0	N10 18.8	163 45.1	N24 47.3	279 20.5	S13 36.8	292 36.0	S17 38.0
	4	262 33.0	235 00.6	N10 20.0	178 45.9	N24 47.4	294 22.6	S13 36.7	307 38.3	S17 38.0
W	5	277 35.5	250 00.1	N10 21.2	193 46.7	N24 47.4	309 24.6	S13 36.5	322 40.6	S17 38.0
E										
D	6	292 37.9	264 59.7	N10 22.3	208 47.6	N24 47.5	324 26.7	S13 36.4	337 42.9	S17 37.9
N	7	307 40.4	279 59.2	N10 23.5	223 48.4	N24 47.5	339 28.7	S13 36.2	352 45.2	S17 37.9
E	8	322 42.9	294 58.8	N10 24.6	238 49.2	N24 47.6	354 30.7	S13 36.1	7 47.5	S17 37.9
S	9	337 45.3	309 58.3	N10 25.8	253 50.0	N24 47.7	9 32.8	S13 35.9	22 49.8	S17 37.8
D	10	352 47.8	324 57.9	N10 27.0	268 50.8	N24 47.7	24 34.8	S13 35.8	37 52.1	S17 37.8
A	11	7 50.3	339 57.4	N10 28.1	283 51.6	N24 47.8	39 36.8	S13 35.7	52 54.5	S17 37.7
Y										
	12	22 52.7	354 56.9	N10 29.3	298 52.4	N24 47.8	54 38.9	S13 35.5	67 56.8	S17 37.7
	13	37 55.2	9 56.5	N10 30.4	313 53.2	N24 47.9	69 40.9	S13 35.4	82 59.1	S17 37.7
	14	52 57.7	24 56.0	N10 31.6	328 54.0	N24 48.0	84 43.0	S13 35.2	98 01.4	S17 37.6
	15	68 00.1	39 55.6	N10 32.7	343 54.8	N24 48.0	99 45.0	S13 35.1	113 03.7	S17 37.6
	16	83 02.6	54 55.1	N10 33.9	358 55.6	N24 48.1	114 47.0	S13 35.0	128 06.0	S17 37.6
	17	98 05.0	69 54.7	N10 35.1	13 56.4	N24 48.1	129 49.1	S13 34.8	143 08.3	S17 37.5
	18	113 07.5	84 54.2	N10 36.2	28 57.2	N24 48.2	144 51.1	S13 34.7	158 10.6	S17 37.5
	19	128 10.0	99 53.8	N10 37.4	43 58.0	N24 48.3	159 53.2	S13 34.5	173 12.9	S17 37.4
	20	143 12.4	114 53.3	N10 38.5	58 58.8	N24 48.3	174 55.2	S13 34.4	188 15.3	S17 37.4
	21	158 14.9	129 52.8	N10 39.7	73 59.6	N24 48.4	189 57.2	S13 34.3	203 17.6	S17 37.4
	22	173 17.4	144 52.4	N10 40.8	89 00.4	N24 48.4	204 59.3	S13 34.1	218 19.9	S17 37.3
	23	188 19.8	159 51.9	N10 42.0	104 01.2	N24 48.5	220 01.3	S13 34.0	233 22.2	S17 37.3
15	0	203 22.3	174 51.5	N10 43.1	119 02.0	N24 48.5	235 03.4	S13 33.9	248 24.5	S17 37.3
	1	218 24.8	189 51.0	N10 44.3	134 02.8	N24 48.6	250 05.4	S13 33.7	263 26.8	S17 37.2
	2	233 27.2	204 50.5	N10 45.4	149 03.6	N24 48.7	265 07.4	S13 33.6	278 29.1	S17 37.2
	3	248 29.7	219 50.1	N10 46.6	164 04.4	N24 48.7	280 09.5	S13 33.4	293 31.4	S17 37.1
	4	263 32.2	234 49.6	N10 47.7	179 05.2	N24 48.8	295 11.5	S13 33.3	308 33.8	S17 37.1
T	5	278 34.6	249 49.2	N10 48.9	194 06.0	N24 48.8	310 13.6	S13 33.2	323 36.1	S17 37.1
H										
U	6	293 37.1	264 48.7	N10 50.0	209 06.8	N24 48.9	325 15.6	S13 33.0	338 38.4	S17 37.0
R	7	308 39.5	279 48.2	N10 51.2	224 07.6	N24 48.9	340 17.7	S13 32.9	353 40.7	S17 37.0
S	8	323 42.0	294 47.8	N10 52.3	239 08.4	N24 49.0	355 19.7	S13 32.7	8 43.0	S17 37.0
D	9	338 44.5	309 47.3	N10 53.5	254 09.2	N24 49.0	10 21.7	S13 32.6	23 45.3	S17 36.9
A	10	353 46.9	324 46.9	N10 54.6	269 10.0	N24 49.1	25 23.8	S13 32.5	38 47.6	S17 36.9
Y	11	8 49.4	339 46.4	N10 55.8	284 10.8	N24 49.1	40 25.8	S13 32.3	53 49.9	S17 36.9
	12	23 51.9	354 45.9	N10 56.9	299 11.6	N24 49.2	55 27.9	S13 32.2	68 52.3	S17 36.8
	13	38 54.3	9 45.5	N10 58.1	314 12.4	N24 49.2	70 29.9	S13 32.0	83 54.6	S17 36.8
	14	53 56.8	24 45.0	N10 59.2	329 13.2	N24 49.3	85 32.0	S13 31.9	98 56.9	S17 36.7
	15	68 59.3	39 44.5	N11 00.4	344 14.0	N24 49.4	100 34.0	S13 31.8	113 59.2	S17 36.7
	16	84 01.7	54 44.1	N11 01.5	359 14.8	N24 49.4	115 36.0	S13 31.6	129 01.5	S17 36.7
	17	99 04.2	69 43.6	N11 02.7	14 15.6	N24 49.5	130 38.1	S13 31.5	144 03.8	S17 36.6
	18	114 06.7	84 43.1	N11 03.8	29 16.4	N24 49.5	145 40.1	S13 31.3	159 06.2	S17 36.6
	19	129 09.1	99 42.7	N11 05.0	44 17.2	N24 49.6	160 42.2	S13 31.2	174 08.5	S17 36.6
	20	144 11.6	114 42.2	N11 06.1	59 18.0	N24 49.6	175 44.2	S13 31.1	189 10.8	S17 36.5
	21	159 14.0	129 41.8	N11 07.2	74 18.8	N24 49.7	190 46.3	S13 30.9	204 13.1	S17 36.5
	22	174 16.5	144 41.3	N11 08.4	89 19.6	N24 49.7	205 48.3	S13 30.8	219 15.4	S17 36.5
	23	189 19.0	159 40.8	N11 09.5	104 20.4	N24 49.8	220 50.4	S13 30.7	234 17.7	S17 36.4
			v -0.5	d 1.2	v 0.8	d 0.1	v 2.0	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
13	0	179 51.0	N 9 02.9	169 23.8	15.8	N 9 32.7	12.0	54.1
	1	194 51.1	N 9 03.8	183 58.6	15.8	N 9 44.7	12.0	54.1
	2	209 51.3	N 9 04.7	198 33.4	15.8	N 9 56.6	11.9	54.1
	3	224 51.4	N 9 05.6	213 08.1	15.8	N10 08.5	11.9	54.1
	4	239 51.6	N 9 06.5	227 42.9	15.7	N10 20.4	11.9	54.1
T	5	254 51.7	N 9 07.4	242 17.6	15.7	N10 32.2	11.8	54.1
U								
E	6	269 51.9	N 9 08.3	256 52.2	15.7	N10 43.9	11.8	54.1
S	7	284 52.1	N 9 09.2	271 26.9	15.6	N10 55.7	11.7	54.1
D	8	299 52.2	N 9 10.1	286 01.5	15.6	N11 07.4	11.7	54.1
A	9	314 52.4	N 9 11.0	300 36.1	15.6	N11 19.0	11.6	54.1
Y	10	329 52.5	N 9 11.9	315 10.6	15.6	N11 30.6	11.6	54.1
	11	344 52.7	N 9 12.8	329 45.1	15.5	N11 42.1	11.5	54.1
	12	359 52.8	N 9 13.7	344 19.6	15.5	N11 53.6	11.5	54.1
	13	14 53.0	N 9 14.6	358 54.1	15.5	N12 05.1	11.4	54.1
	14	29 53.1	N 9 15.6	13 28.5	15.4	N12 16.5	11.4	54.1
	15	44 53.3	N 9 16.5	28 02.9	15.4	N12 27.8	11.3	54.1
	16	59 53.5	N 9 17.4	42 37.2	15.4	N12 39.1	11.3	54.1
	17	74 53.6	N 9 18.3	57 11.6	15.3	N12 50.4	11.2	54.0
	18	89 53.8	N 9 19.2	71 45.8	15.3	N13 01.6	11.2	54.0
	19	104 53.9	N 9 20.1	86 20.1	15.2	N13 12.7	11.1	54.0
	20	119 54.1	N 9 21.0	100 54.3	15.2	N13 23.8	11.1	54.0
	21	134 54.2	N 9 21.9	115 28.5	15.2	N13 34.8	11.0	54.0
	22	149 54.4	N 9 22.8	130 02.6	15.1	N13 45.8	11.0	54.0
	23	164 54.5	N 9 23.7	144 36.7	15.1	N13 56.7	10.9	54.0
14	0	179 54.7	N 9 24.6	159 10.7	15.1	N14 07.6	10.9	54.0
	1	194 54.9	N 9 25.5	173 44.8	15.0	N14 18.4	10.8	54.0
	2	209 55.0	N 9 26.4	188 18.7	15.0	N14 29.2	10.8	54.0
	3	224 55.2	N 9 27.3	202 52.7	14.9	N14 39.9	10.7	54.0
	4	239 55.3	N 9 28.2	217 26.6	14.9	N14 50.5	10.6	54.0
W	5	254 55.5	N 9 29.1	232 00.4	14.8	N15 01.1	10.6	54.0
E								
D	6	269 55.6	N 9 30.0	246 34.2	14.8	N15 11.6	10.5	54.0
N	7	284 55.8	N 9 30.9	261 08.0	14.8	N15 22.0	10.5	54.0
E	8	299 55.9	N 9 31.8	275 41.7	14.7	N15 32.4	10.4	54.0
S	9	314 56.1	N 9 32.7	290 15.4	14.7	N15 42.8	10.3	54.0
D	10	329 56.2	N 9 33.6	304 49.0	14.6	N15 53.0	10.3	54.0
A	11	344 56.4	N 9 34.5	319 22.6	14.6	N16 03.2	10.2	54.0
Y								
	12	359 56.5	N 9 35.4	333 56.1	14.5	N16 13.3	10.1	54.0
	13	14 56.7	N 9 36.3	348 29.6	14.5	N16 23.4	10.1	54.0
	14	29 56.8	N 9 37.2	3 03.0	14.4	N16 33.4	10.0	54.0
	15	44 57.0	N 9 38.0	17 36.4	14.4	N16 43.3	9.9	54.0
	16	59 57.1	N 9 38.9	32 09.8	14.4	N16 53.2	9.9	54.0
	17	74 57.3	N 9 39.8	46 43.1	14.3	N17 03.0	9.8	54.0
	18	89 57.4	N 9 40.7	61 16.4	14.3	N17 12.7	9.7	54.0
	19	104 57.6	N 9 41.6	75 49.6	14.2	N17 22.4	9.7	54.0
	20	119 57.8	N 9 42.5	90 22.7	14.2	N17 31.9	9.6	54.0
	21	134 57.9	N 9 43.4	104 55.8	14.1	N17 41.5	9.5	54.0
	22	149 58.1	N 9 44.3	119 28.9	14.1	N17 50.9	9.4	54.0
	23	164 58.2	N 9 45.2	134 01.9	14.0	N18 00.3	9.4	54.0
15	0	179 58.4	N 9 46.1	148 34.8	14.0	N18 09.5	9.3	54.0
	1	194 58.5	N 9 47.0	163 07.7	13.9	N18 18.8	9.2	54.0
	2	209 58.7	N 9 47.9	177 40.6	13.9	N18 27.9	9.1	54.0
	3	224 58.8	N 9 48.8	192 13.4	13.8	N18 37.0	9.1	54.0
	4	239 59.0	N 9 49.7	206 46.1	13.7	N18 45.9	9.0	54.0
T	5	254 59.1	N 9 50.6	221 18.8	13.7	N18 54.8	8.9	54.0
H								
U	6	269 59.3	N 9 51.5	235 51.5	13.6	N19 03.7	8.8	54.0
R	7	284 59.4	N 9 52.4	250 24.1	13.6	N19 12.4	8.7	54.0
S	8	299 59.6	N 9 53.2	264 56.6	13.5	N19 21.1	8.7	54.0
D	9	314 59.7	N 9 54.1	279 29.1	13.5	N19 29.7	8.6	54.0
A	10	329 59.9	N 9 55.0	294 01.5	13.4	N19 38.2	8.5	54.0
Y	11	345 00.0	N 9 55.9	308 33.9	13.4	N19 46.6	8.4	54.0
	12	0 00.2	N 9 56.8	323 06.2	13.3	N19 54.9	8.3	54.0
	13	15 00.3	N 9 57.7	337 38.5	13.3	N20 03.2	8.3	54.0
	14	30 00.5	N 9 58.6	352 10.7	13.2	N20 11.3	8.2	54.0
	15	45 00.6	N 9 59.5	6 42.9	13.2	N20 19.4	8.1	54.0
	16	60 00.8	N10 00.4	21 15.0	13.1	N20 27.4	8.0	54.0
	17	75 00.9	N10 01.3	35 47.0	13.1	N20 35.3	7.9	54.0
	18	90 01.0	N10 02.2	50 19.0	13.0	N20 43.1	7.8	54.1
	19	105 01.2	N10 03.0	64 51.0	12.9	N20 50.9	7.7	54.1
	20	120 01.3	N10 03.9	79 22.9	12.9	N20 58.5	7.6	54.1
	21	135 01.5	N10 04.8	93 54.7	12.8	N21 06.1	7.6	54.1
	22	150 01.6	N10 05.7	108 26.5	12.8	N21 13.5	7.5	54.1
	23	165 01.8	N10 06.6	122 58.2	12.7	N21 20.9	7.4	54.1
		S.D. 15.9	d 0.9	S.D.	14.7	14.7	14.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.4
Achernar	335 23.1	S57 07.9
Acrux	173 02.8	S63 13.0
Adhara	255 08.3	S29 00.3
Albireo	67 06.5	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.8
Alkaid	152 54.0	N49 12.4
Al Na-ir	27 37.0	S46 51.5
Alnilam	275 41.0	S 1 11.5
Alphard	217 50.6	S 8 45.2
Alphecca	126 06.0	N26 38.5
Alpheratz	357 38.3	N29 12.2
Altair	62 02.9	N 8 55.3
Ankaa	353 10.6	S42 11.6
Antares	112 19.3	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 16.0	S69 03.7
Avior	234 15.8	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 53.9	S52 42.7
Capella	280 26.7	N46 01.2
Castor	246 01.0	N31 50.6
Deneb	49 28.0	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.7	S17 52.4
Dubhe	193 44.3	N61 38.4
Elnath	278 06.0	N28 37.5
Eltanin	90 43.4	N51 28.8
Enif	33 41.9	N 9 58.1
Fomalhaut	15 18.2	S29 30.7
Gacrux	171 54.5	S57 14.0
Gienah	175 46.4	S17 39.6
Hadar	148 39.7	S60 28.5
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.5	S34 22.4
Kochab	137 18.9	N74 04.0
Markab	13 33.2	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.5
Miaplacidus	221 38.4	S69 48.5
Mirfak	308 33.1	N49 56.1
Nunki	75 51.5	S26 16.2
Peacock	53 10.6	S56 39.9
Polaris	317 46.3	N89 20.4
Pollux	243 21.1	N27 58.5
Procyon	244 54.0	N 5 10.2
Rasalhague	96 01.3	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 44.0	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 35.0	N56 39.0
Shaula	96 14.3	S37 07.0
Sirius	258 29.0	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.4	S43 31.3
Vega	80 35.2	N38 47.9
Zuben-ubi	136 59.9	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
16	0	204 21.4	174 40.4	N11 10.7	119 21.3	N24 49.8	235 52.4	S13 30.5	249 20.0	S17 36.4
	1	219 23.9	189 39.9	N11 11.8	134 22.1	N24 49.9	250 54.5	S13 30.4	264 22.4	S17 36.3
	2	234 26.4	204 39.4	N11 13.0	149 22.9	N24 49.9	265 56.5	S13 30.2	279 24.7	S17 36.3
	3	249 28.8	219 39.0	N11 14.1	164 23.7	N24 50.0	280 58.5	S13 30.1	294 27.0	S17 36.3
	4	264 31.3	234 38.5	N11 15.2	179 24.5	N24 50.0	296 00.6	S13 30.0	309 29.3	S17 36.2
F	5	279 33.8	249 38.0	N11 16.4	194 25.3	N24 50.1	311 02.6	S13 29.8	324 31.6	S17 36.2
R										
I	6	294 36.2	264 37.5	N11 17.5	209 26.1	N24 50.1	326 04.7	S13 29.7	339 33.9	S17 36.2
D	7	309 38.7	279 37.1	N11 18.7	224 26.9	N24 50.1	341 06.7	S13 29.6	354 36.3	S17 36.1
A	8	324 41.1	294 36.6	N11 19.8	239 27.7	N24 50.2	356 08.8	S13 29.4	9 38.6	S17 36.1
Y	9	339 43.6	309 36.1	N11 20.9	254 28.5	N24 50.2	11 10.8	S13 29.3	24 40.9	S17 36.1
	10	354 46.1	324 35.7	N11 22.1	269 29.3	N24 50.3	26 12.9	S13 29.1	39 43.2	S17 36.0
	11	9 48.5	339 35.2	N11 23.2	284 30.1	N24 50.3	41 14.9	S13 29.0	54 45.5	S17 36.0
	12	24 51.0	354 34.7	N11 24.4	299 30.9	N24 50.4	56 17.0	S13 28.9	69 47.8	S17 36.0
	13	39 53.5	9 34.3	N11 25.5	314 31.7	N24 50.4	71 19.0	S13 28.7	84 50.2	S17 35.9
	14	54 55.9	24 33.8	N11 26.6	329 32.5	N24 50.5	86 21.1	S13 28.6	99 52.5	S17 35.9
	15	69 58.4	39 33.3	N11 27.8	344 33.3	N24 50.5	101 23.1	S13 28.5	114 54.8	S17 35.8
	16	85 00.9	54 32.8	N11 28.9	359 34.1	N24 50.6	116 25.2	S13 28.3	129 57.1	S17 35.8
	17	100 03.3	69 32.4	N11 30.0	14 34.9	N24 50.6	131 27.2	S13 28.2	144 59.4	S17 35.8
	18	115 05.8	84 31.9	N11 31.2	29 35.7	N24 50.6	146 29.3	S13 28.0	160 01.8	S17 35.7
	19	130 08.3	99 31.4	N11 32.3	44 36.5	N24 50.7	161 31.3	S13 27.9	175 04.1	S17 35.7
	20	145 10.7	114 30.9	N11 33.4	59 37.3	N24 50.7	176 33.4	S13 27.8	190 06.4	S17 35.7
	21	160 13.2	129 30.5	N11 34.6	74 38.1	N24 50.8	191 35.4	S13 27.6	205 08.7	S17 35.6
	22	175 15.6	144 30.0	N11 35.7	89 38.9	N24 50.8	206 37.5	S13 27.5	220 11.0	S17 35.6
	23	190 18.1	159 29.5	N11 36.8	104 39.7	N24 50.9	221 39.5	S13 27.4	235 13.3	S17 35.6
17	0	205 20.6	174 29.1	N11 38.0	119 40.5	N24 50.9	236 41.6	S13 27.2	250 15.7	S17 35.5
	1	220 23.0	189 28.6	N11 39.1	134 41.3	N24 51.0	251 43.6	S13 27.1	265 18.0	S17 35.5
	2	235 25.5	204 28.1	N11 40.2	149 42.1	N24 51.0	266 45.7	S13 26.9	280 20.3	S17 35.5
	3	250 28.0	219 27.6	N11 41.3	164 42.9	N24 51.0	281 47.7	S13 26.8	295 22.6	S17 35.4
	4	265 30.4	234 27.1	N11 42.5	179 43.7	N24 51.1	296 49.8	S13 26.7	310 24.9	S17 35.4
S	5	280 32.9	249 26.7	N11 43.6	194 44.5	N24 51.1	311 51.8	S13 26.5	325 27.3	S17 35.4
A										
T	6	295 35.4	264 26.2	N11 44.7	209 45.3	N24 51.2	326 53.9	S13 26.4	340 29.6	S17 35.3
U	7	310 37.8	279 25.7	N11 45.9	224 46.1	N24 51.2	341 55.9	S13 26.3	355 31.9	S17 35.3
R	8	325 40.3	294 25.2	N11 47.0	239 46.9	N24 51.2	356 58.0	S13 26.1	10 34.2	S17 35.3
D	9	340 42.8	309 24.8	N11 48.1	254 47.7	N24 51.3	12 00.0	S13 26.0	25 36.5	S17 35.2
A	10	355 45.2	324 24.3	N11 49.2	269 48.5	N24 51.3	27 02.1	S13 25.9	40 38.9	S17 35.2
Y	11	10 47.7	339 23.8	N11 50.4	284 49.3	N24 51.4	42 04.1	S13 25.7	55 41.2	S17 35.1
	12	25 50.1	354 23.3	N11 51.5	299 50.1	N24 51.4	57 06.2	S13 25.6	70 43.5	S17 35.1
	13	40 52.6	9 22.8	N11 52.6	314 50.8	N24 51.4	72 08.2	S13 25.4	85 45.8	S17 35.1
	14	55 55.1	24 22.4	N11 53.7	329 51.6	N24 51.5	87 10.3	S13 25.3	100 48.1	S17 35.0
	15	70 57.5	39 21.9	N11 54.9	344 52.4	N24 51.5	102 12.3	S13 25.2	115 50.5	S17 35.0
	16	86 00.0	54 21.4	N11 56.0	359 53.2	N24 51.5	117 14.4	S13 25.0	130 52.8	S17 35.0
	17	101 02.5	69 20.9	N11 57.1	14 54.0	N24 51.6	132 16.4	S13 24.9	145 55.1	S17 34.9
	18	116 04.9	84 20.4	N11 58.2	29 54.8	N24 51.6	147 18.5	S13 24.8	160 57.4	S17 34.9
	19	131 07.4	99 20.0	N11 59.4	44 55.6	N24 51.7	162 20.5	S13 24.6	175 59.8	S17 34.9
	20	146 09.9	114 19.5	N12 00.5	59 56.4	N24 51.7	177 22.6	S13 24.5	191 02.1	S17 34.8
	21	161 12.3	129 19.0	N12 01.6	74 57.2	N24 51.7	192 24.7	S13 24.4	206 04.4	S17 34.8
	22	176 14.8	144 18.5	N12 02.7	89 58.0	N24 51.8	207 26.7	S13 24.2	221 06.7	S17 34.8
	23	191 17.3	159 18.0	N12 03.8	104 58.8	N24 51.8	222 28.8	S13 24.1	236 09.0	S17 34.7
18	0	206 19.7	174 17.5	N12 05.0	119 59.6	N24 51.8	237 30.8	S13 24.0	251 11.4	S17 34.7
	1	221 22.2	189 17.1	N12 06.1	135 00.4	N24 51.9	252 32.9	S13 23.8	266 13.7	S17 34.7
	2	236 24.6	204 16.6	N12 07.2	150 01.2	N24 51.9	267 34.9	S13 23.7	281 16.0	S17 34.6
	3	251 27.1	219 16.1	N12 08.3	165 02.0	N24 51.9	282 37.0	S13 23.5	296 18.3	S17 34.6
	4	266 29.6	234 15.6	N12 09.4	180 02.8	N24 52.0	297 39.0	S13 23.4	311 20.7	S17 34.6
S	5	281 32.0	249 15.1	N12 10.5	195 03.6	N24 52.0	312 41.1	S13 23.3	326 23.0	S17 34.5
U										
N	6	296 34.5	264 14.6	N12 11.7	210 04.4	N24 52.0	327 43.2	S13 23.1	341 25.3	S17 34.5
D	7	311 37.0	279 14.1	N12 12.8	225 05.2	N24 52.1	342 45.2	S13 23.0	356 27.6	S17 34.5
A	8	326 39.4	294 13.7	N12 13.9	240 06.0	N24 52.1	357 47.3	S13 22.9	11 30.0	S17 34.4
Y	9	341 41.9	309 13.2	N12 15.0	255 06.8	N24 52.1	12 49.3	S13 22.7	26 32.3	S17 34.4
	10	356 44.4	324 12.7	N12 16.1	270 07.6	N24 52.2	27 51.4	S13 22.6	41 34.6	S17 34.4
	11	11 46.8	339 12.2	N12 17.2	285 08.4	N24 52.2	42 53.4	S13 22.5	56 36.9	S17 34.3
	12	26 49.3	354 11.7	N12 18.3	300 09.2	N24 52.2	57 55.5	S13 22.3	71 39.3	S17 34.3
	13	41 51.8	9 11.2	N12 19.5	315 10.0	N24 52.3	72 57.6	S13 22.2	86 41.6	S17 34.3
	14	56 54.2	24 10.7	N12 20.6	330 10.8	N24 52.3	87 59.6	S13 22.1	101 43.9	S17 34.2
	15	71 56.7	39 10.2	N12 21.7	345 11.6	N24 52.3	103 01.7	S13 21.9	116 46.2	S17 34.2
	16	86 59.1	54 09.8	N12 22.8	0 12.4	N24 52.4	118 03.7	S13 21.8	131 48.6	S17 34.2
	17	102 01.6	69 09.3	N12 23.9	15 13.2	N24 52.4	133 05.8	S13 21.7	146 50.9	S17 34.1
	18	117 04.1	84 08.8	N12 25.0	30 14.0	N24 52.4	148 07.8	S13 21.5	161 53.2	S17 34.1
	19	132 06.5	99 08.3	N12 26.1	45 14.8	N24 52.5	163 09.9	S13 21.4	176 55.5	S17 34.1
	20	147 09.0	114 07.8	N12 27.2	60 15.6	N24 52.5	178 12.0	S13 21.3	191 57.9	S17 34.0
	21	162 11.5	129 07.3	N12 28.3	75 16.4	N24 52.5	193 14.0	S13 21.1	207 00.2	S17 34.0
	22	177 13.9	144 06.8	N12 29.5	90 17.2	N24 52.5	208 16.1	S13 21.0	222 02.5	S17 34.0
	23	192 16.4	159 06.3	N12 30.6	105 18.0	N24 52.6	223 18.1	S13 20.9	237 04.8	S17 33.9
			v -0.5	d 1.1	v 0.8	d 0.0	v 2.1	d 0.1	v 2.3	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
16 0	180 01.9	N10 07.5	137 29.9	12.7	N21 28.2	7.3	54.1	Acamar	315 14.5	S40 13.4
1	195 02.1	N10 08.4	152 01.5	12.6	N21 35.4	7.2	54.1	Achernar	335 23.1	S57 07.9
2	210 02.2	N10 09.3	166 33.0	12.6	N21 42.5	7.1	54.1	Acrux	173 02.8	S63 13.0
3	225 02.4	N10 10.1	181 04.5	12.5	N21 49.5	7.0	54.1	Adhara	255 08.4	S29 00.3
4	240 02.5	N10 11.0	195 36.0	12.4	N21 56.4	6.9	54.1	Albireo	67 06.5	N27 60.0
F 5	255 02.7	N10 11.9	210 07.4	12.4	N22 03.2	6.8	54.1			
R								Aldebaran	290 43.4	N16 33.0
I 6	270 02.8	N10 12.8	224 38.7	12.3	N22 09.9	6.7	54.1	Alioth	166 15.2	N55 50.8
D 7	285 03.0	N10 13.7	239 10.0	12.3	N22 16.5	6.6	54.1	Alkaid	152 54.0	N49 12.5
A 8	300 03.1	N10 14.6	253 41.2	12.2	N22 23.0	6.5	54.1	Al Na-ir	27 37.0	S46 51.4
Y 9	315 03.3	N10 15.5	268 12.4	12.2	N22 29.4	6.4	54.1	Alnilam	275 41.0	S 1 11.5
10	330 03.4	N10 16.3	282 43.5	12.1	N22 35.7	6.3	54.2			
11	345 03.5	N10 17.2	297 14.5	12.1	N22 42.0	6.2	54.2	Alphard	217 50.6	S 8 45.2
								Alphecca	126 06.0	N26 38.5
12	0 03.7	N10 18.1	311 45.5	12.0	N22 48.1	6.1	54.2	Alpheratz	357 38.2	N29 12.2
13	15 03.8	N10 19.0	326 16.5	12.0	N22 54.1	6.0	54.2	Altair	62 02.9	N 8 55.3
14	30 04.0	N10 19.9	340 47.4	11.9	N23 00.0	5.9	54.2	Ankaa	353 10.6	S42 11.6
15	45 04.1	N10 20.8	355 18.2	11.8	N23 05.8	5.8	54.2			
16	60 04.3	N10 21.6	9 49.0	11.8	N23 11.5	5.7	54.2	Antares	112 19.3	S26 28.7
17	75 04.4	N10 22.5	24 19.8	11.7	N23 17.1	5.6	54.2	Arcturus	145 50.4	N19 04.3
								Atria	107 16.0	S69 03.7
18	90 04.6	N10 23.4	38 50.4	11.7	N23 22.6	5.5	54.2	Avior	234 15.8	S59 34.9
19	105 04.7	N10 24.3	53 21.1	11.6	N23 28.0	5.4	54.2	Bellatrix	278 26.4	N 6 22.0
20	120 04.8	N10 25.2	67 51.6	11.6	N23 33.3	5.3	54.3			
21	135 05.0	N10 26.0	82 22.2	11.5	N23 38.5	5.2	54.3	Betelgeuse	270 55.6	N 7 24.6
22	150 05.1	N10 26.9	96 52.6	11.5	N23 43.6	5.1	54.3	Canopus	263 53.9	S52 42.7
23	165 05.3	N10 27.8	111 23.1	11.4	N23 48.5	5.0	54.3	Capella	280 26.7	N46 01.2
17 0	180 05.4	N10 28.7	125 53.4	11.4	N23 53.4	4.9	54.3	Castor	246 01.0	N31 50.6
1	195 05.6	N10 29.6	140 23.8	11.3	N23 58.1	4.7	54.3	Deneb	49 27.9	N45 21.0
2	210 05.7	N10 30.4	154 54.0	11.3	N24 02.8	4.6	54.3	Denebola	182 27.8	N14 27.2
3	225 05.8	N10 31.3	169 24.2	11.2	N24 07.3	4.5	54.3	Diphda	348 50.7	S17 52.4
4	240 06.0	N10 32.2	183 54.4	11.2	N24 11.7	4.4	54.3	Dubhe	193 44.3	N61 38.4
S 5	255 06.1	N10 33.1	198 24.5	11.1	N24 16.0	4.3	54.4	Elnath	278 06.0	N28 37.4
A								Eltanin	90 43.4	N51 28.8
T 6	270 06.3	N10 34.0	212 54.6	11.1	N24 20.2	4.2	54.4			
U 7	285 06.4	N10 34.8	227 24.6	11.0	N24 24.3	4.1	54.4	Enif	33 41.9	N 9 58.1
R 8	300 06.6	N10 35.7	241 54.6	11.0	N24 28.3	4.0	54.4	Fomalhaut	15 18.2	S29 30.7
D 9	315 06.7	N10 36.6	256 24.5	10.9	N24 32.1	3.9	54.4	Gacrux	171 54.5	S57 14.0
A 10	330 06.8	N10 37.5	270 54.4	10.9	N24 35.8	3.7	54.4	Gienah	175 46.4	S17 39.6
Y 11	345 07.0	N10 38.3	285 24.2	10.8	N24 39.5	3.6	54.4	Hadar	148 39.7	S60 28.5
12	0 07.1	N10 39.2	299 54.0	10.8	N24 43.0	3.5	54.5	Hamal	327 55.0	N23 33.6
13	15 07.3	N10 40.1	314 23.7	10.7	N24 46.4	3.4	54.5	Kaus Austr.	83 36.4	S34 22.4
14	30 07.4	N10 41.0	328 53.4	10.7	N24 49.6	3.3	54.5	Kochab	137 18.9	N74 04.1
15	45 07.6	N10 41.8	343 23.1	10.7	N24 52.8	3.2	54.5	Markab	13 33.2	N15 18.9
16	60 07.7	N10 42.7	357 52.7	10.6	N24 55.8	3.0	54.5	Menkar	314 09.6	N 4 10.2
17	75 07.8	N10 43.6	12 22.3	10.6	N24 58.7	2.9	54.5			
								Menkent	148 00.8	S36 28.5
18	90 08.0	N10 44.5	26 51.8	10.5	N25 01.5	2.8	54.6	Miaplacidus	221 38.4	S69 48.5
19	105 08.1	N10 45.3	41 21.3	10.5	N25 04.2	2.7	54.6	Mirfak	308 33.1	N49 56.1
20	120 08.3	N10 46.2	55 50.7	10.4	N25 06.8	2.6	54.6	Nunki	75 51.5	S26 16.2
21	135 08.4	N10 47.1	70 20.1	10.4	N25 09.2	2.4	54.6	Peacock	53 10.6	S56 39.8
22	150 08.5	N10 48.0	84 49.5	10.4	N25 11.5	2.3	54.6			
23	165 08.7	N10 48.8	99 18.8	10.3	N25 13.7	2.2	54.6	Polaris	317 46.3	N89 20.4
18 0	180 08.8	N10 49.7	113 48.1	10.3	N25 15.8	2.1	54.7	Pollux	243 21.1	N27 58.5
1	195 09.0	N10 50.6	128 17.3	10.2	N25 17.8	2.0	54.7	Procyon	244 54.1	N 5 10.2
2	210 09.1	N10 51.5	142 46.5	10.2	N25 19.6	1.8	54.7	Rasalhague	96 01.2	N12 32.6
3	225 09.2	N10 52.3	157 15.7	10.2	N25 21.3	1.7	54.7	Regulus	207 37.5	N11 51.8
4	240 09.4	N10 53.2	171 44.8	10.1	N25 22.9	1.6	54.7			
S 5	255 09.5	N10 54.1	186 13.9	10.1	N25 24.4	1.5	54.7	Rigel	281 07.0	S 8 10.8
U								Rigil Kent	139 44.0	S60 55.3
N 6	270 09.6	N10 54.9	200 43.0	10.1	N25 25.7	1.3	54.8	Sabik	102 06.1	S15 45.1
D 7	285 09.8	N10 55.8	215 12.0	10.0	N25 26.9	1.2	54.8	Schedar	349 35.0	N56 39.0
A 8	300 09.9	N10 56.7	229 41.0	10.0	N25 28.0	1.1	54.8	Shaula	96 14.3	S37 07.0
Y 9	315 10.1	N10 57.6	244 10.0	10.0	N25 28.9	1.0	54.8	Sirius	258 29.0	S16 44.9
10	330 10.2	N10 58.4	258 38.9	9.9	N25 29.8	0.8	54.8	Spica	158 25.2	S11 16.4
11	345 10.3	N10 59.3	273 07.8	9.9	N25 30.5	0.7	54.9	Suhail	222 48.4	S43 31.3
								Vega	80 35.1	N38 47.9
12	0 10.5	N11 00.2	287 36.7	9.9	N25 31.1	0.6	54.9	Zuben-ubi	136 59.8	S16 07.8
13	15 10.6	N11 01.0	302 05.5	9.8	N25 31.5	0.5	54.9			
14	30 10.7	N11 01.9	316 34.3	9.8	N25 31.8	0.3	54.9			
15	45 10.9	N11 02.8	331 03.1	9.8	N25 32.0	0.2	55.0			
16	60 11.0	N11 03.6	345 31.9	9.8	N25 32.1	0.1	55.0			
17	75 11.2	N11 04.5	0 00.6	9.7	N25 32.0	0.1	55.0			
18	90 11.3	N11 05.4	14 29.4	9.7	N25 31.8	0.2	55.0			
19	105 11.4	N11 06.2	28 58.0	9.7	N25 31.5	0.3	55.0			
20	120 11.6	N11 07.1	43 26.7	9.7	N25 31.1	0.4	55.1			
21	135 11.7	N11 08.0	57 55.4	9.6	N25 30.5	0.6	55.1			
22	150 11.8	N11 08.8	72 24.0	9.6	N25 29.8	0.7	55.1			
23	165 12.0	N11 09.7	86 52.6	9.6	N25 28.9	0.8	55.1			
	S.D. 15.9	d 0.9	S.D.	14.8	14.8	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 ° '
19	0	207 18.9	174 05.8	N12 31.7	120 18.8	N24 52.6	238 20.2	S13 20.7	252 07.2	S17 33.9
	1	222 21.3	189 05.3	N12 32.8	135 19.6	N24 52.6	253 22.3	S13 20.6	267 09.5	S17 33.9
	2	237 23.8	204 04.8	N12 33.9	150 20.4	N24 52.7	268 24.3	S13 20.4	282 11.8	S17 33.8
	3	252 26.2	219 04.3	N12 35.0	165 21.2	N24 52.7	283 26.4	S13 20.3	297 14.1	S17 33.8
	4	267 28.7	234 03.9	N12 36.1	180 22.0	N24 52.7	298 28.4	S13 20.2	312 16.5	S17 33.8
M	5	282 31.2	249 03.4	N12 37.2	195 22.8	N24 52.7	313 30.5	S13 20.0	327 18.8	S17 33.7
O										
N	6	297 33.6	264 02.9	N12 38.3	210 23.6	N24 52.8	328 32.6	S13 19.9	342 21.1	S17 33.7
D	7	312 36.1	279 02.4	N12 39.4	225 24.4	N24 52.8	343 34.6	S13 19.8	357 23.5	S17 33.7
A	8	327 38.6	294 01.9	N12 40.5	240 25.2	N24 52.8	358 36.7	S13 19.6	12 25.8	S17 33.6
Y	9	342 41.0	309 01.4	N12 41.6	255 26.0	N24 52.8	13 38.7	S13 19.5	27 28.1	S17 33.6
	10	357 43.5	324 00.9	N12 42.7	270 26.8	N24 52.9	28 40.8	S13 19.4	42 30.4	S17 33.6
	11	12 46.0	339 00.4	N12 43.8	285 27.6	N24 52.9	43 42.9	S13 19.2	57 32.8	S17 33.5
	12	27 48.4	353 59.9	N12 44.9	300 28.3	N24 52.9	58 44.9	S13 19.1	72 35.1	S17 33.5
	13	42 50.9	8 59.4	N12 46.0	315 29.1	N24 52.9	73 47.0	S13 19.0	87 37.4	S17 33.5
	14	57 53.4	23 58.9	N12 47.1	330 29.9	N24 53.0	88 49.0	S13 18.8	102 39.8	S17 33.4
	15	72 55.8	38 58.4	N12 48.2	345 30.7	N24 53.0	103 51.1	S13 18.7	117 42.1	S17 33.4
	16	87 58.3	53 57.9	N12 49.3	0 31.5	N24 53.0	118 53.2	S13 18.6	132 44.4	S17 33.4
	17	103 00.7	68 57.4	N12 50.4	15 32.3	N24 53.0	133 55.2	S13 18.4	147 46.7	S17 33.3
	18	118 03.2	83 56.9	N12 51.5	30 33.1	N24 53.1	148 57.3	S13 18.3	162 49.1	S17 33.3
	19	133 05.7	98 56.4	N12 52.6	45 33.9	N24 53.1	163 59.4	S13 18.2	177 51.4	S17 33.3
	20	148 08.1	113 55.9	N12 53.7	60 34.7	N24 53.1	179 01.4	S13 18.0	192 53.7	S17 33.2
	21	163 10.6	128 55.4	N12 54.8	75 35.5	N24 53.1	194 03.5	S13 17.9	207 56.1	S17 33.2
	22	178 13.1	143 54.9	N12 55.9	90 36.3	N24 53.1	209 05.6	S13 17.8	222 58.4	S17 33.2
	23	193 15.5	158 54.4	N12 57.0	105 37.1	N24 53.2	224 07.6	S13 17.7	238 00.7	S17 33.2
20	0	208 18.0	173 53.9	N12 58.1	120 37.9	N24 53.2	239 09.7	S13 17.5	253 03.0	S17 33.1
	1	223 20.5	188 53.4	N12 59.2	135 38.7	N24 53.2	254 11.7	S13 17.4	268 05.4	S17 33.1
	2	238 22.9	203 52.9	N13 00.3	150 39.5	N24 53.2	269 13.8	S13 17.3	283 07.7	S17 33.1
	3	253 25.4	218 52.4	N13 01.4	165 40.3	N24 53.2	284 15.9	S13 17.1	298 10.0	S17 33.0
	4	268 27.9	233 51.9	N13 02.4	180 41.1	N24 53.3	299 17.9	S13 17.0	313 12.4	S17 33.0
T	5	283 30.3	248 51.4	N13 03.5	195 41.9	N24 53.3	314 20.0	S13 16.9	328 14.7	S17 33.0
U										
E	6	298 32.8	263 50.9	N13 04.6	210 42.7	N24 53.3	329 22.1	S13 16.7	343 17.0	S17 32.9
S	7	313 35.2	278 50.4	N13 05.7	225 43.5	N24 53.3	344 24.1	S13 16.6	358 19.4	S17 32.9
D	8	328 37.7	293 49.9	N13 06.8	240 44.3	N24 53.3	359 26.2	S13 16.5	13 21.7	S17 32.9
A	9	343 40.2	308 49.4	N13 07.9	255 45.1	N24 53.4	14 28.3	S13 16.3	28 24.0	S17 32.8
Y	10	358 42.6	323 48.8	N13 09.0	270 45.9	N24 53.4	29 30.3	S13 16.2	43 26.4	S17 32.8
	11	13 45.1	338 48.3	N13 10.1	285 46.7	N24 53.4	44 32.4	S13 16.1	58 28.7	S17 32.8
	12	28 47.6	353 47.8	N13 11.2	300 47.5	N24 53.4	59 34.5	S13 15.9	73 31.0	S17 32.7
	13	43 50.0	8 47.3	N13 12.2	315 48.3	N24 53.4	74 36.5	S13 15.8	88 33.4	S17 32.7
	14	58 52.5	23 46.8	N13 13.3	330 49.1	N24 53.4	89 38.6	S13 15.7	103 35.7	S17 32.7
	15	73 55.0	38 46.3	N13 14.4	345 49.8	N24 53.5	104 40.7	S13 15.5	118 38.0	S17 32.6
	16	88 57.4	53 45.8	N13 15.5	0 50.6	N24 53.5	119 42.7	S13 15.4	133 40.4	S17 32.6
	17	103 59.9	68 45.3	N13 16.6	15 51.4	N24 53.5	134 44.8	S13 15.3	148 42.7	S17 32.6
	18	119 02.4	83 44.8	N13 17.7	30 52.2	N24 53.5	149 46.9	S13 15.1	163 45.0	S17 32.6
	19	134 04.8	98 44.3	N13 18.8	45 53.0	N24 53.5	164 48.9	S13 15.0	178 47.4	S17 32.5
	20	149 07.3	113 43.8	N13 19.8	60 53.8	N24 53.5	179 51.0	S13 14.9	193 49.7	S17 32.5
	21	164 09.7	128 43.3	N13 20.9	75 54.6	N24 53.6	194 53.1	S13 14.7	208 52.0	S17 32.5
	22	179 12.2	143 42.7	N13 22.0	90 55.4	N24 53.6	209 55.1	S13 14.6	223 54.4	S17 32.4
	23	194 14.7	158 42.2	N13 23.1	105 56.2	N24 53.6	224 57.2	S13 14.5	238 56.7	S17 32.4
21	0	209 17.1	173 41.7	N13 24.2	120 57.0	N24 53.6	239 59.3	S13 14.4	253 59.0	S17 32.4
	1	224 19.6	188 41.2	N13 25.2	135 57.8	N24 53.6	255 01.3	S13 14.2	269 01.4	S17 32.3
	2	239 22.1	203 40.7	N13 26.3	150 58.6	N24 53.6	270 03.4	S13 14.1	284 03.7	S17 32.3
	3	254 24.5	218 40.2	N13 27.4	165 59.4	N24 53.6	285 05.5	S13 14.0	299 06.0	S17 32.3
	4	269 27.0	233 39.7	N13 28.5	181 00.2	N24 53.7	300 07.6	S13 13.8	314 08.4	S17 32.2
W	5	284 29.5	248 39.2	N13 29.6	196 01.0	N24 53.7	315 09.6	S13 13.7	329 10.7	S17 32.2
E										
D	6	299 31.9	263 38.6	N13 30.6	211 01.8	N24 53.7	330 11.7	S13 13.6	344 13.0	S17 32.2
N	7	314 34.4	278 38.1	N13 31.7	226 02.6	N24 53.7	345 13.8	S13 13.4	359 15.4	S17 32.1
E	8	329 36.8	293 37.6	N13 32.8	241 03.4	N24 53.7	0 15.8	S13 13.3	14 17.7	S17 32.1
S	9	344 39.3	308 37.1	N13 33.9	256 04.2	N24 53.7	15 17.9	S13 13.2	29 20.0	S17 32.1
D	10	359 41.8	323 36.6	N13 34.9	271 05.0	N24 53.7	30 20.0	S13 13.0	44 22.4	S17 32.1
A	11	14 44.2	338 36.1	N13 36.0	286 05.8	N24 53.7	45 22.1	S13 12.9	59 24.7	S17 32.0
Y										
	12	29 46.7	353 35.6	N13 37.1	301 06.6	N24 53.7	60 24.1	S13 12.8	74 27.0	S17 32.0
	13	44 49.2	8 35.0	N13 38.2	316 07.3	N24 53.8	75 26.2	S13 12.7	89 29.4	S17 32.0
	14	59 51.6	23 34.5	N13 39.2	331 08.1	N24 53.8	90 28.3	S13 12.5	104 31.7	S17 31.9
	15	74 54.1	38 34.0	N13 40.3	346 08.9	N24 53.8	105 30.3	S13 12.4	119 34.0	S17 31.9
	16	89 56.6	53 33.5	N13 41.4	1 09.7	N24 53.8	120 32.4	S13 12.3	134 36.4	S17 31.9
	17	104 59.0	68 33.0	N13 42.5	16 10.5	N24 53.8	135 34.5	S13 12.1	149 38.7	S17 31.8
	18	120 01.5	83 32.4	N13 43.5	31 11.3	N24 53.8	150 36.6	S13 12.0	164 41.1	S17 31.8
	19	135 04.0	98 31.9	N13 44.6	46 12.1	N24 53.8	165 38.6	S13 11.9	179 43.4	S17 31.8
	20	150 06.4	113 31.4	N13 45.7	61 12.9	N24 53.8	180 40.7	S13 11.7	194 45.7	S17 31.8
	21	165 08.9	128 30.9	N13 46.7	76 13.7	N24 53.8	195 42.8	S13 11.6	209 48.1	S17 31.7
	22	180 11.3	143 30.4	N13 47.8	91 14.5	N24 53.8	210 44.8	S13 11.5	224 50.4	S17 31.7
	23	195 13.8	158 29.9	N13 48.9	106 15.3	N24 53.8	225 46.9	S13 11.4	239 52.7	S17 31.7
			v -0.5	d 1.1	v 0.8	d 0.0	v 2.1	d 0.1	v 2.3	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
	° '	° '	° '	'	° '	'	'		° ' ° '
19 0	180 12.1	N11 10.6	101 21.2	9.6	N25 28.0	1.0	55.2	Acamar	315 14.5 S40 13.4
1	195 12.2	N11 11.4	115 49.7	9.6	N25 26.9	1.1	55.2	Achernar	335 23.1 S57 07.8
2	210 12.4	N11 12.3	130 18.3	9.5	N25 25.7	1.2	55.2	Acrux	173 02.8 S63 13.0
3	225 12.5	N11 13.2	144 46.8	9.5	N25 24.3	1.4	55.2	Adhara	255 08.4 S29 00.3
4	240 12.7	N11 14.0	159 15.3	9.5	N25 22.8	1.5	55.3	Albireo	67 06.4 N27 60.0
M 5	255 12.8	N11 14.9	173 43.8	9.5	N25 21.2	1.6	55.3		
O								Aldebaran	290 43.4 N16 33.0
N 6	270 12.9	N11 15.7	188 12.3	9.5	N25 19.4	1.8	55.3	Alioth	166 15.2 N55 50.8
D 7	285 13.1	N11 16.6	202 40.8	9.5	N25 17.5	1.9	55.3	Alkaid	152 54.0 N49 12.5
A 8	300 13.2	N11 17.5	217 09.3	9.5	N25 15.5	2.0	55.4	Al Na-ir	27 37.0 S46 51.4
Y 9	315 13.3	N11 18.3	231 37.7	9.4	N25 13.4	2.1	55.4	Alnilam	275 41.0 S 1 11.4
10	330 13.5	N11 19.2	246 06.1	9.4	N25 11.1	2.3	55.4		
11	345 13.6	N11 20.1	260 34.6	9.4	N25 08.7	2.4	55.4	Alphard	217 50.6 S 8 45.2
								Alphecca	126 06.0 N26 38.5
12	0 13.7	N11 20.9	275 03.0	9.4	N25 06.1	2.5	55.5	Alpheratz	357 38.2 N29 12.2
13	15 13.9	N11 21.8	289 31.4	9.4	N25 03.5	2.7	55.5	Altair	62 02.9 N 8 55.3
14	30 14.0	N11 22.6	303 59.8	9.4	N25 00.7	2.8	55.5	Ankaa	353 10.6 S42 11.6
15	45 14.1	N11 23.5	318 28.2	9.4	N24 57.7	2.9	55.6		
16	60 14.3	N11 24.4	332 56.6	9.4	N24 54.6	3.1	55.6	Antares	112 19.3 S26 28.7
17	75 14.4	N11 25.2	347 25.0	9.4	N24 51.4	3.2	55.6	Arcturus	145 50.4 N19 04.3
								Atria	107 15.9 S69 03.7
18	90 14.5	N11 26.1	1 53.3	9.4	N24 48.1	3.3	55.6	Avior	234 15.9 S59 34.9
19	105 14.7	N11 26.9	16 21.7	9.4	N24 44.6	3.5	55.7	Bellatrix	278 26.4 N 6 22.0
20	120 14.8	N11 27.8	30 50.1	9.4	N24 41.0	3.6	55.7		
21	135 14.9	N11 28.7	45 18.5	9.4	N24 37.3	3.7	55.7	Betelgeuse	270 55.6 N 7 24.6
22	150 15.0	N11 29.5	59 46.8	9.4	N24 33.4	3.9	55.8	Canopus	263 54.0 S52 42.7
23	165 15.2	N11 30.4	74 15.2	9.4	N24 29.4	4.0	55.8	Capella	280 26.7 N46 01.2
20 0	180 15.3	N11 31.2	88 43.6	9.4	N24 25.3	4.1	55.8	Castor	246 01.0 N31 50.6
1	195 15.4	N11 32.1	103 11.9	9.4	N24 21.0	4.3	55.8	Deneb	49 27.9 N45 21.0
2	210 15.6	N11 32.9	117 40.3	9.4	N24 16.7	4.4	55.9		
3	225 15.7	N11 33.8	132 08.7	9.4	N24 12.1	4.5	55.9	Denebola	182 27.8 N14 27.2
4	240 15.8	N11 34.7	146 37.1	9.4	N24 07.5	4.7	55.9	Diphda	348 50.7 S17 52.4
T 5	255 16.0	N11 35.5	161 05.5	9.4	N24 02.7	4.8	56.0	Dubhe	193 44.4 N61 38.4
U								Elnath	278 06.0 N28 37.4
E 6	270 16.1	N11 36.4	175 33.8	9.4	N23 57.8	4.9	56.0	Eltanin	90 43.3 N51 28.8
S 7	285 16.2	N11 37.2	190 02.2	9.4	N23 52.7	5.0	56.0		
D 8	300 16.4	N11 38.1	204 30.6	9.4	N23 47.5	5.2	56.1	Enif	33 41.9 N 9 58.1
A 9	315 16.5	N11 38.9	218 59.0	9.4	N23 42.2	5.3	56.1	Fomalhaut	15 18.1 S29 30.7
Y 10	330 16.6	N11 39.8	233 27.4	9.4	N23 36.8	5.4	56.1	Gacrux	171 54.5 S57 14.0
11	345 16.7	N11 40.6	247 55.9	9.4	N23 31.2	5.6	56.2	Gienah	175 46.4 S17 39.6
								Hadar	148 39.7 S60 28.5
12	0 16.9	N11 41.5	262 24.3	9.4	N23 25.5	5.7	56.2		
13	15 17.0	N11 42.3	276 52.7	9.4	N23 19.7	5.8	56.2	Hamal	327 55.0 N23 33.6
14	30 17.1	N11 43.2	291 21.2	9.4	N23 13.7	6.0	56.3	Kaus Austr.	83 36.4 S34 22.4
15	45 17.3	N11 44.0	305 49.6	9.5	N23 07.6	6.1	56.3	Kochab	137 18.8 N74 04.1
16	60 17.4	N11 44.9	320 18.1	9.5	N23 01.4	6.2	56.3	Markab	13 33.1 N15 18.9
17	75 17.5	N11 45.8	334 46.6	9.5	N22 55.1	6.3	56.4	Menkar	314 09.6 N 4 10.2
								Menkent	148 00.8 S36 28.5
18	90 17.6	N11 46.6	349 15.1	9.5	N22 48.6	6.5	56.4	Miaplacidus	221 38.5 S69 48.5
19	105 17.8	N11 47.5	3 43.6	9.5	N22 42.0	6.6	56.4	Mirfak	308 33.1 N49 56.1
20	120 17.9	N11 48.3	18 12.1	9.5	N22 35.3	6.7	56.5	Nunki	75 51.4 S26 16.2
21	135 18.0	N11 49.2	32 40.6	9.5	N22 28.4	6.9	56.5	Peacock	53 10.5 S56 39.8
22	150 18.2	N11 50.0	47 09.2	9.5	N22 21.4	7.0	56.5		
23	165 18.3	N11 50.9	61 37.7	9.6	N22 14.3	7.1	56.6	Polaris	317 46.4 N89 20.4
21 0	180 18.4	N11 51.7	76 06.3	9.6	N22 07.1	7.2	56.6	Pollux	243 21.1 N27 58.5
1	195 18.5	N11 52.6	90 34.9	9.6	N21 59.7	7.4	56.6	Procyon	244 54.1 N 5 10.2
2	210 18.7	N11 53.4	105 03.5	9.6	N21 52.2	7.5	56.7	Rasalhague	96 01.2 N12 32.6
3	225 18.8	N11 54.2	119 32.1	9.6	N21 44.6	7.6	56.7	Regulus	207 37.5 N11 51.8
4	240 18.9	N11 55.1	134 00.7	9.6	N21 36.9	7.7	56.8		
W 5	255 19.0	N11 55.9	148 29.4	9.7	N21 29.0	7.9	56.8	Rigel	281 07.0 S 8 10.8
E								Rigil Kent	139 43.9 S60 55.3
D 6	270 19.2	N11 56.8	162 58.1	9.7	N21 21.0	8.0	56.8	Sabik	102 06.1 S15 45.1
N 7	285 19.3	N11 57.6	177 26.7	9.7	N21 12.9	8.1	56.9	Schedar	349 35.0 N56 38.9
E 8	300 19.4	N11 58.5	191 55.4	9.7	N21 04.7	8.2	56.9	Shaula	96 14.3 S37 07.1
S 9	315 19.5	N11 59.3	206 24.2	9.7	N20 56.3	8.4	56.9	Sirius	258 29.1 S16 44.9
D 10	330 19.7	N12 00.2	220 52.9	9.7	N20 47.8	8.5	57.0	Spica	158 25.2 S11 16.4
A 11	345 19.8	N12 01.0	235 21.7	9.8	N20 39.2	8.6	57.0	Suhail	222 48.4 S43 31.3
Y								Vega	80 35.1 N38 47.9
12	0 19.9	N12 01.9	249 50.4	9.8	N20 30.5	8.7	57.1	Zuben-ubi	136 59.8 S16 07.8
13	15 20.0	N12 02.7	264 19.2	9.8	N20 21.7	8.8	57.1		
14	30 20.2	N12 03.6	278 48.0	9.8	N20 12.7	9.0	57.1		
15	45 20.3	N12 04.4	293 16.9	9.8	N20 03.6	9.1	57.2		
16	60 20.4	N12 05.2	307 45.7	9.9	N19 54.4	9.2	57.2		
17	75 20.5	N12 06.1	322 14.6	9.9	N19 45.1	9.3	57.2		
18	90 20.7	N12 06.9	336 43.5	9.9	N19 35.7	9.4	57.3		
19	105 20.8	N12 07.8	351 12.4	9.9	N19 26.1	9.5	57.3		
20	120 20.9	N12 08.6	5 41.3	9.9	N19 16.5	9.7	57.4		
21	135 21.0	N12 09.5	20 10.3	9.9	N19 06.7	9.8	57.4		
22	150 21.2	N12 10.3	34 39.2	10.0	N18 56.8	9.9	57.4		
23	165 21.3	N12 11.1	49 08.2	10.0	N18 46.8	10.0	57.5		
	S.D. 15.9	d 0.9	S.D.	15.1	15.3	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 ° '
22	0	210 16.3	173 29.3	N13 49.9	121 16.1	N24 53.8	240 49.0	S13 11.2	254 55.1	S17 31.6
	1	225 18.7	188 28.8	N13 51.0	136 16.9	N24 53.9	255 51.1	S13 11.1	269 57.4	S17 31.6
	2	240 21.2	203 28.3	N13 52.1	151 17.7	N24 53.9	270 53.1	S13 11.0	284 59.8	S17 31.6
	3	255 23.7	218 27.8	N13 53.1	166 18.5	N24 53.9	285 55.2	S13 10.8	300 02.1	S17 31.5
	4	270 26.1	233 27.2	N13 54.2	181 19.3	N24 53.9	300 57.3	S13 10.7	315 04.4	S17 31.5
T	5	285 28.6	248 26.7	N13 55.3	196 20.1	N24 53.9	315 59.4	S13 10.6	330 06.8	S17 31.5
H										
U	6	300 31.1	263 26.2	N13 56.3	211 20.9	N24 53.9	331 01.4	S13 10.5	345 09.1	S17 31.5
R	7	315 33.5	278 25.7	N13 57.4	226 21.7	N24 53.9	346 03.5	S13 10.3	0 11.4	S17 31.4
S	8	330 36.0	293 25.1	N13 58.4	241 22.4	N24 53.9	1 05.6	S13 10.2	15 13.8	S17 31.4
D	9	345 38.4	308 24.6	N13 59.5	256 23.2	N24 53.9	16 07.7	S13 10.1	30 16.1	S17 31.4
A	10	0 40.9	323 24.1	N14 00.6	271 24.0	N24 53.9	31 09.7	S13 09.9	45 18.5	S17 31.3
Y	11	15 43.4	338 23.6	N14 01.6	286 24.8	N24 53.9	46 11.8	S13 09.8	60 20.8	S17 31.3
	12	30 45.8	353 23.0	N14 02.7	301 25.6	N24 53.9	61 13.9	S13 09.7	75 23.1	S17 31.3
	13	45 48.3	8 22.5	N14 03.8	316 26.4	N24 53.9	76 16.0	S13 09.5	90 25.5	S17 31.2
	14	60 50.8	23 22.0	N14 04.8	331 27.2	N24 53.9	91 18.0	S13 09.4	105 27.8	S17 31.2
	15	75 53.2	38 21.5	N14 05.9	346 28.0	N24 53.9	106 20.1	S13 09.3	120 30.2	S17 31.2
	16	90 55.7	53 20.9	N14 06.9	1 28.8	N24 53.9	121 22.2	S13 09.2	135 32.5	S17 31.2
	17	105 58.2	68 20.4	N14 08.0	16 29.6	N24 53.9	136 24.3	S13 09.0	150 34.8	S17 31.1
	18	121 00.6	83 19.9	N14 09.0	31 30.4	N24 53.9	151 26.4	S13 08.9	165 37.2	S17 31.1
	19	136 03.1	98 19.3	N14 10.1	46 31.2	N24 53.9	166 28.4	S13 08.8	180 39.5	S17 31.1
	20	151 05.6	113 18.8	N14 11.1	61 32.0	N24 53.9	181 30.5	S13 08.6	195 41.9	S17 31.0
	21	166 08.0	128 18.3	N14 12.2	76 32.8	N24 53.9	196 32.6	S13 08.5	210 44.2	S17 31.0
	22	181 10.5	143 17.8	N14 13.3	91 33.6	N24 53.9	211 34.7	S13 08.4	225 46.5	S17 31.0
	23	196 12.9	158 17.2	N14 14.3	106 34.4	N24 53.9	226 36.7	S13 08.3	240 48.9	S17 31.0
23	0	211 15.4	173 16.7	N14 15.4	121 35.2	N24 53.9	241 38.8	S13 08.1	255 51.2	S17 30.9
	1	226 17.9	188 16.2	N14 16.4	136 35.9	N24 53.9	256 40.9	S13 08.0	270 53.6	S17 30.9
	2	241 20.3	203 15.6	N14 17.5	151 36.7	N24 53.9	271 43.0	S13 07.9	285 55.9	S17 30.9
	3	256 22.8	218 15.1	N14 18.5	166 37.5	N24 53.9	286 45.1	S13 07.8	300 58.2	S17 30.8
	4	271 25.3	233 14.6	N14 19.6	181 38.3	N24 53.9	301 47.1	S13 07.6	316 00.6	S17 30.8
F	5	286 27.7	248 14.0	N14 20.6	196 39.1	N24 53.9	316 49.2	S13 07.5	331 02.9	S17 30.8
R										
I	6	301 30.2	263 13.5	N14 21.7	211 39.9	N24 53.9	331 51.3	S13 07.4	346 05.3	S17 30.8
D	7	316 32.7	278 13.0	N14 22.7	226 40.7	N24 53.9	346 53.4	S13 07.2	1 07.6	S17 30.7
A	8	331 35.1	293 12.4	N14 23.8	241 41.5	N24 53.9	1 55.5	S13 07.1	16 10.0	S17 30.7
Y	9	346 37.6	308 11.9	N14 24.8	256 42.3	N24 53.9	16 57.5	S13 07.0	31 12.3	S17 30.7
	10	1 40.1	323 11.4	N14 25.9	271 43.1	N24 53.9	31 59.6	S13 06.9	46 14.6	S17 30.6
	11	16 42.5	338 10.8	N14 26.9	286 43.9	N24 53.9	47 01.7	S13 06.7	61 17.0	S17 30.6
	12	31 45.0	353 10.3	N14 27.9	301 44.7	N24 53.9	62 03.8	S13 06.6	76 19.3	S17 30.6
	13	46 47.4	8 09.8	N14 29.0	316 45.5	N24 53.9	77 05.9	S13 06.5	91 21.7	S17 30.6
	14	61 49.9	23 09.2	N14 30.0	331 46.3	N24 53.9	92 07.9	S13 06.3	106 24.0	S17 30.5
	15	76 52.4	38 08.7	N14 31.1	346 47.1	N24 53.9	107 10.0	S13 06.2	121 26.4	S17 30.5
	16	91 54.8	53 08.1	N14 32.1	1 47.9	N24 53.9	122 12.1	S13 06.1	136 28.7	S17 30.5
	17	106 57.3	68 07.6	N14 33.2	16 48.7	N24 53.9	137 14.2	S13 06.0	151 31.0	S17 30.4
	18	121 59.8	83 07.1	N14 34.2	31 49.4	N24 53.9	152 16.3	S13 05.8	166 33.4	S17 30.4
	19	137 02.2	98 06.5	N14 35.2	46 50.2	N24 53.9	167 18.4	S13 05.7	181 35.7	S17 30.4
	20	152 04.7	113 06.0	N14 36.3	61 51.0	N24 53.8	182 20.4	S13 05.6	196 38.1	S17 30.4
	21	167 07.2	128 05.4	N14 37.3	76 51.8	N24 53.8	197 22.5	S13 05.5	211 40.4	S17 30.3
	22	182 09.6	143 04.9	N14 38.4	91 52.6	N24 53.8	212 24.6	S13 05.3	226 42.8	S17 30.3
	23	197 12.1	158 04.4	N14 39.4	106 53.4	N24 53.8	227 26.7	S13 05.2	241 45.1	S17 30.3
24	0	212 14.5	173 03.8	N14 40.4	121 54.2	N24 53.8	242 28.8	S13 05.1	256 47.5	S17 30.2
	1	227 17.0	188 03.3	N14 41.5	136 55.0	N24 53.8	257 30.9	S13 05.0	271 49.8	S17 30.2
	2	242 19.5	203 02.7	N14 42.5	151 55.8	N24 53.8	272 32.9	S13 04.8	286 52.1	S17 30.2
	3	257 21.9	218 02.2	N14 43.5	166 56.6	N24 53.8	287 35.0	S13 04.7	301 54.5	S17 30.2
	4	272 24.4	233 01.6	N14 44.6	181 57.4	N24 53.8	302 37.1	S13 04.6	316 56.8	S17 30.1
S	5	287 26.9	248 01.1	N14 45.6	196 58.2	N24 53.8	317 39.2	S13 04.4	331 59.2	S17 30.1
A										
T	6	302 29.3	263 00.6	N14 46.6	211 59.0	N24 53.8	332 41.3	S13 04.3	347 01.5	S17 30.1
U	7	317 31.8	278 00.0	N14 47.7	226 59.8	N24 53.8	347 43.4	S13 04.2	2 03.9	S17 30.1
R	8	332 34.3	292 59.5	N14 48.7	242 00.6	N24 53.7	2 45.4	S13 04.1	17 06.2	S17 30.0
D	9	347 36.7	307 58.9	N14 49.7	257 01.3	N24 53.7	17 47.5	S13 03.9	32 08.6	S17 30.0
A	10	2 39.2	322 58.4	N14 50.8	272 02.1	N24 53.7	32 49.6	S13 03.8	47 10.9	S17 30.0
Y	11	17 41.7	337 57.8	N14 51.8	287 02.9	N24 53.7	47 51.7	S13 03.7	62 13.3	S17 29.9
	12	32 44.1	352 57.3	N14 52.8	302 03.7	N24 53.7	62 53.8	S13 03.6	77 15.6	S17 29.9
	13	47 46.6	7 56.7	N14 53.9	317 04.5	N24 53.7	77 55.9	S13 03.4	92 18.0	S17 29.9
	14	62 49.0	22 56.2	N14 54.9	332 05.3	N24 53.7	92 58.0	S13 03.3	107 20.3	S17 29.9
	15	77 51.5	37 55.6	N14 55.9	347 06.1	N24 53.7	108 00.0	S13 03.2	122 22.7	S17 29.8
	16	92 54.0	52 55.1	N14 56.9	2 06.9	N24 53.7	123 02.1	S13 03.1	137 25.0	S17 29.8
	17	107 56.4	67 54.5	N14 58.0	17 07.7	N24 53.6	138 04.2	S13 02.9	152 27.3	S17 29.8
	18	122 58.9	82 54.0	N14 59.0	32 08.5	N24 53.6	153 06.3	S13 02.8	167 29.7	S17 29.8
	19	138 01.4	97 53.5	N15 00.0	47 09.3	N24 53.6	168 08.4	S13 02.7	182 32.0	S17 29.7
	20	153 03.8	112 52.9	N15 01.1	62 10.1	N24 53.6	183 10.5	S13 02.6	197 34.4	S17 29.7
	21	168 06.3	127 52.4	N15 02.1	77 10.9	N24 53.6	198 12.6	S13 02.4	212 36.7	S17 29.7
	22	183 08.8	142 51.8	N15 03.1	92 11.7	N24 53.6	213 14.7	S13 02.3	227 39.1	S17 29.6
	23	198 11.2	157 51.2	N15 04.1	107 12.5	N24 53.6	228 16.7	S13 02.2	242 41.4	S17 29.6
			v -0.5	d 1.0	v 0.8	d 0.0	v 2.1	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
22	0	180 21.4	N12 12.0	63 37.2	10.0	N18 36.6	10.1	57.5
	1	195 21.5	N12 12.8	78 06.2	10.0	N18 26.4	10.2	57.6
	2	210 21.7	N12 13.7	92 35.3	10.0	N18 16.1	10.3	57.6
	3	225 21.8	N12 14.5	107 04.3	10.1	N18 05.6	10.5	57.6
	4	240 21.9	N12 15.3	121 33.4	10.1	N17 55.0	10.6	57.7
T	5	255 22.0	N12 16.2	136 02.5	10.1	N17 44.3	10.7	57.7
H								
U	6	270 22.1	N12 17.0	150 31.7	10.1	N17 33.6	10.8	57.8
R	7	285 22.3	N12 17.9	165 00.8	10.1	N17 22.7	10.9	57.8
S	8	300 22.4	N12 18.7	179 29.9	10.2	N17 11.6	11.0	57.8
D	9	315 22.5	N12 19.5	193 59.1	10.2	N17 00.5	11.1	57.9
A	10	330 22.6	N12 20.4	208 28.3	10.2	N16 49.3	11.2	57.9
Y	11	345 22.7	N12 21.2	222 57.5	10.2	N16 38.0	11.3	57.9
	12	0 22.9	N12 22.0	237 26.8	10.2	N16 26.6	11.4	58.0
	13	15 23.0	N12 22.9	251 56.0	10.2	N16 15.0	11.5	58.0
	14	30 23.1	N12 23.7	266 25.3	10.3	N16 03.4	11.6	58.1
	15	45 23.2	N12 24.5	280 54.6	10.3	N15 51.6	11.7	58.1
	16	60 23.3	N12 25.4	295 23.9	10.3	N15 39.8	11.8	58.2
	17	75 23.5	N12 26.2	309 53.2	10.3	N15 27.9	11.9	58.2
	18	90 23.6	N12 27.0	324 22.5	10.3	N15 15.8	12.0	58.2
	19	105 23.7	N12 27.9	338 51.8	10.3	N15 03.7	12.1	58.3
	20	120 23.8	N12 28.7	353 21.2	10.4	N14 51.4	12.2	58.3
	21	135 23.9	N12 29.6	7 50.6	10.4	N14 39.1	12.3	58.4
	22	150 24.1	N12 30.4	22 20.0	10.4	N14 26.7	12.4	58.4
	23	165 24.2	N12 31.2	36 49.4	10.4	N14 14.1	12.5	58.4
23	0	180 24.3	N12 32.0	51 18.8	10.4	N14 01.5	12.6	58.5
	1	195 24.4	N12 32.9	65 48.2	10.4	N13 48.8	12.7	58.5
	2	210 24.5	N12 33.7	80 17.7	10.4	N13 36.0	12.8	58.6
	3	225 24.6	N12 34.5	94 47.1	10.5	N13 23.1	12.9	58.6
	4	240 24.8	N12 35.4	109 16.6	10.5	N13 10.1	13.0	58.6
F	5	255 24.9	N12 36.2	123 46.1	10.5	N12 57.0	13.1	58.7
R								
I	6	270 25.0	N12 37.0	138 15.6	10.5	N12 43.9	13.2	58.7
D	7	285 25.1	N12 37.9	152 45.1	10.5	N12 30.6	13.3	58.8
A	8	300 25.2	N12 38.7	167 14.6	10.5	N12 17.3	13.3	58.8
Y	9	315 25.3	N12 39.5	181 44.1	10.5	N12 03.8	13.4	58.8
	10	330 25.5	N12 40.4	196 13.6	10.5	N11 50.3	13.5	58.9
	11	345 25.6	N12 41.2	210 43.1	10.5	N11 36.8	13.6	58.9
	12	0 25.7	N12 42.0	225 12.7	10.5	N11 23.1	13.7	59.0
	13	15 25.8	N12 42.8	239 42.2	10.5	N11 09.3	13.8	59.0
	14	30 25.9	N12 43.7	254 11.8	10.6	N10 55.5	13.8	59.0
	15	45 26.0	N12 44.5	268 41.3	10.6	N10 41.6	13.9	59.1
	16	60 26.2	N12 45.3	283 10.9	10.6	N10 27.6	14.0	59.1
	17	75 26.3	N12 46.1	297 40.5	10.6	N10 13.5	14.1	59.2
	18	90 26.4	N12 47.0	312 10.0	10.6	N 9 59.4	14.1	59.2
	19	105 26.5	N12 47.8	326 39.6	10.6	N 9 45.2	14.2	59.2
	20	120 26.6	N12 48.6	341 09.2	10.6	N 9 30.9	14.3	59.3
	21	135 26.7	N12 49.4	355 38.7	10.6	N 9 16.5	14.4	59.3
	22	150 26.8	N12 50.3	10 08.3	10.6	N 9 02.1	14.4	59.3
	23	165 27.0	N12 51.1	24 37.9	10.6	N 8 47.6	14.5	59.4
24	0	180 27.1	N12 51.9	39 07.4	10.6	N 8 33.1	14.6	59.4
	1	195 27.2	N12 52.7	53 37.0	10.6	N 8 18.4	14.6	59.5
	2	210 27.3	N12 53.6	68 06.6	10.6	N 8 03.7	14.7	59.5
	3	225 27.4	N12 54.4	82 36.1	10.6	N 7 49.0	14.8	59.5
	4	240 27.5	N12 55.2	97 05.7	10.6	N 7 34.2	14.8	59.6
S	5	255 27.6	N12 56.0	111 35.2	10.5	N 7 19.3	14.9	59.6
A								
T	6	270 27.7	N12 56.8	126 04.8	10.5	N 7 04.3	14.9	59.6
U	7	285 27.9	N12 57.7	140 34.3	10.5	N 6 49.4	15.0	59.7
R	8	300 28.0	N12 58.5	155 03.9	10.5	N 6 34.3	15.1	59.7
D	9	315 28.1	N12 59.3	169 33.4	10.5	N 6 19.2	15.1	59.8
A	10	330 28.2	N13 00.1	184 02.9	10.5	N 6 04.0	15.2	59.8
Y	11	345 28.3	N13 00.9	198 32.4	10.5	N 5 48.8	15.2	59.8
	12	0 28.4	N13 01.8	213 01.9	10.5	N 5 33.5	15.3	59.9
	13	15 28.5	N13 02.6	227 31.3	10.5	N 5 18.2	15.3	59.9
	14	30 28.6	N13 03.4	242 00.8	10.5	N 5 02.9	15.4	59.9
	15	45 28.7	N13 04.2	256 30.2	10.4	N 4 47.4	15.4	60.0
	16	60 28.9	N13 05.0	270 59.7	10.4	N 4 32.0	15.5	60.0
	17	75 29.0	N13 05.9	285 29.1	10.4	N 4 16.5	15.5	60.0
	18	90 29.1	N13 06.7	299 58.5	10.4	N 4 00.9	15.5	60.1
	19	105 29.2	N13 07.5	314 27.9	10.4	N 3 45.3	15.6	60.1
	20	120 29.3	N13 08.3	328 57.2	10.4	N 3 29.7	15.6	60.1
	21	135 29.4	N13 09.1	343 26.6	10.3	N 3 14.1	15.7	60.2
	22	150 29.5	N13 09.9	357 55.9	10.3	N 2 58.4	15.7	60.2
	23	165 29.6	N13 10.7	12 25.2	10.3	N 2 42.6	15.7	60.2
		S.D. 15.9	d 0.8	S.D. 15.8		16.1	16.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.4
Achernar	335 23.1	S57 07.8
Acrux	173 02.8	S63 13.1
Adhara	255 08.4	S29 00.3
Albireo	67 06.4	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.8
Alkaid	152 54.0	N49 12.5
Al Na-ir	27 36.9	S46 51.4
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.6	S 8 45.2
Alphecca	126 06.0	N26 38.5
Alpheratz	357 38.2	N29 12.2
Altair	62 02.9	N 8 55.3
Ankaa	353 10.6	S42 11.5
Antares	112 19.3	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 15.9	S69 03.8
Avior	234 15.9	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.0	S52 42.7
Capella	280 26.7	N46 01.2
Castor	246 01.0	N31 50.6
Deneb	49 27.9	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.7	S17 52.3
Dubhe	193 44.4	N61 38.4
Elnath	278 06.0	N28 37.4
Eltanin	90 43.3	N51 28.9
Enif	33 41.8	N 9 58.1
Fomalhaut	15 18.1	S29 30.6
Gacrux	171 54.5	S57 14.0
Gienah	175 46.4	S17 39.6
Hadar	148 39.7	S60 28.5
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.4	S34 22.4
Kochab	137 18.8	N74 04.1
Markab	13 33.1	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.5
Miaplacidus	221 38.5	S69 48.5
Mirfak	308 33.1	N49 56.1
Nunki	75 51.4	S26 16.2
Peacock	53 10.5	S56 39.8
Polaris	317 46.5	N89 20.4
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.2
Rasalhague	96 01.2	N12 32.6
Regulus	207 37.5	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 43.9	S60 55.3
Sabik	102 06.0	S15 45.1
Schedar	349 34.9	N56 38.9
Shaula	96 14.2	S37 07.1
Sirius	258 29.1	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.4	S43 31.3
Vega	80 35.1	N38 47.9
Zuben-ubi	136 59.8	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
25	0	213 13.7	172 50.7	N15 05.1	122 13.2	N24 53.5	243 18.8	S13 02.1	257 43.8	S17 29.6
	1	228 16.1	187 50.1	N15 06.2	137 14.0	N24 53.5	258 20.9	S13 01.9	272 46.1	S17 29.6
	2	243 18.6	202 49.6	N15 07.2	152 14.8	N24 53.5	273 23.0	S13 01.8	287 48.5	S17 29.5
	3	258 21.1	217 49.0	N15 08.2	167 15.6	N24 53.5	288 25.1	S13 01.7	302 50.8	S17 29.5
	4	273 23.5	232 48.5	N15 09.2	182 16.4	N24 53.5	303 27.2	S13 01.6	317 53.2	S17 29.5
S	5	288 26.0	247 47.9	N15 10.2	197 17.2	N24 53.5	318 29.3	S13 01.4	332 55.5	S17 29.5
U										
N	6	303 28.5	262 47.4	N15 11.3	212 18.0	N24 53.4	333 31.4	S13 01.3	347 57.9	S17 29.4
D	7	318 30.9	277 46.8	N15 12.3	227 18.8	N24 53.4	348 33.5	S13 01.2	3 00.2	S17 29.4
A	8	333 33.4	292 46.3	N15 13.3	242 19.6	N24 53.4	3 35.6	S13 01.1	18 02.6	S17 29.4
Y	9	348 35.9	307 45.7	N15 14.3	257 20.4	N24 53.4	18 37.6	S13 00.9	33 04.9	S17 29.4
	10	3 38.3	322 45.2	N15 15.3	272 21.2	N24 53.4	33 39.7	S13 00.8	48 07.3	S17 29.3
	11	18 40.8	337 44.6	N15 16.3	287 22.0	N24 53.4	48 41.8	S13 00.7	63 09.6	S17 29.3
	12	33 43.3	352 44.0	N15 17.4	302 22.8	N24 53.3	63 43.9	S13 00.6	78 12.0	S17 29.3
	13	48 45.7	7 43.5	N15 18.4	317 23.6	N24 53.3	78 46.0	S13 00.4	93 14.3	S17 29.2
	14	63 48.2	22 42.9	N15 19.4	332 24.3	N24 53.3	93 48.1	S13 00.3	108 16.7	S17 29.2
	15	78 50.6	37 42.4	N15 20.4	347 25.1	N24 53.3	108 50.2	S13 00.2	123 19.0	S17 29.2
	16	93 53.1	52 41.8	N15 21.4	2 25.9	N24 53.3	123 52.3	S13 00.1	138 21.4	S17 29.2
	17	108 55.6	67 41.2	N15 22.4	17 26.7	N24 53.2	138 54.4	S12 59.9	153 23.7	S17 29.1
	18	123 58.0	82 40.7	N15 23.4	32 27.5	N24 53.2	153 56.5	S12 59.8	168 26.1	S17 29.1
	19	139 00.5	97 40.1	N15 24.4	47 28.3	N24 53.2	168 58.6	S12 59.7	183 28.4	S17 29.1
	20	154 03.0	112 39.6	N15 25.4	62 29.1	N24 53.2	184 00.6	S12 59.6	198 30.8	S17 29.1
	21	169 05.4	127 39.0	N15 26.5	77 29.9	N24 53.2	199 02.7	S12 59.5	213 33.1	S17 29.0
	22	184 07.9	142 38.4	N15 27.5	92 30.7	N24 53.1	214 04.8	S12 59.3	228 35.5	S17 29.0
	23	199 10.4	157 37.9	N15 28.5	107 31.5	N24 53.1	229 06.9	S12 59.2	243 37.8	S17 29.0
26	0	214 12.8	172 37.3	N15 29.5	122 32.3	N24 53.1	244 09.0	S12 59.1	258 40.2	S17 29.0
	1	229 15.3	187 36.8	N15 30.5	137 33.1	N24 53.1	259 11.1	S12 59.0	273 42.6	S17 28.9
	2	244 17.7	202 36.2	N15 31.5	152 33.9	N24 53.1	274 13.2	S12 58.8	288 44.9	S17 28.9
	3	259 20.2	217 35.6	N15 32.5	167 34.6	N24 53.0	289 15.3	S12 58.7	303 47.3	S17 28.9
	4	274 22.7	232 35.1	N15 33.5	182 35.4	N24 53.0	304 17.4	S12 58.6	318 49.6	S17 28.9
M	5	289 25.1	247 34.5	N15 34.5	197 36.2	N24 53.0	319 19.5	S12 58.5	333 52.0	S17 28.8
O										
N	6	304 27.6	262 33.9	N15 35.5	212 37.0	N24 53.0	334 21.6	S12 58.3	348 54.3	S17 28.8
D	7	319 30.1	277 33.4	N15 36.5	227 37.8	N24 52.9	349 23.7	S12 58.2	3 56.7	S17 28.8
A	8	334 32.5	292 32.8	N15 37.5	242 38.6	N24 52.9	4 25.8	S12 58.1	18 59.0	S17 28.8
Y	9	349 35.0	307 32.2	N15 38.5	257 39.4	N24 52.9	19 27.9	S12 58.0	34 01.4	S17 28.7
	10	4 37.5	322 31.7	N15 39.5	272 40.2	N24 52.9	34 30.0	S12 57.9	49 03.7	S17 28.7
	11	19 39.9	337 31.1	N15 40.5	287 41.0	N24 52.8	49 32.1	S12 57.7	64 06.1	S17 28.7
	12	34 42.4	352 30.5	N15 41.5	302 41.8	N24 52.8	64 34.2	S12 57.6	79 08.4	S17 28.7
	13	49 44.9	7 30.0	N15 42.5	317 42.6	N24 52.8	79 36.3	S12 57.5	94 10.8	S17 28.6
	14	64 47.3	22 29.4	N15 43.5	332 43.4	N24 52.8	94 38.4	S12 57.4	109 13.2	S17 28.6
	15	79 49.8	37 28.8	N15 44.5	347 44.2	N24 52.7	109 40.4	S12 57.2	124 15.5	S17 28.6
	16	94 52.2	52 28.3	N15 45.5	2 45.0	N24 52.7	124 42.5	S12 57.1	139 17.9	S17 28.6
	17	109 54.7	67 27.7	N15 46.5	17 45.7	N24 52.7	139 44.6	S12 57.0	154 20.2	S17 28.5
	18	124 57.2	82 27.1	N15 47.5	32 46.5	N24 52.6	154 46.7	S12 56.9	169 22.6	S17 28.5
	19	139 59.6	97 26.5	N15 48.5	47 47.3	N24 52.6	169 48.8	S12 56.8	184 24.9	S17 28.5
	20	155 02.1	112 26.0	N15 49.5	62 48.1	N24 52.6	184 50.9	S12 56.6	199 27.3	S17 28.5
	21	170 04.6	127 25.4	N15 50.4	77 48.9	N24 52.6	199 53.0	S12 56.5	214 29.6	S17 28.4
	22	185 07.0	142 24.8	N15 51.4	92 49.7	N24 52.5	214 55.1	S12 56.4	229 32.0	S17 28.4
	23	200 09.5	157 24.2	N15 52.4	107 50.5	N24 52.5	229 57.2	S12 56.3	244 34.4	S17 28.4
27	0	215 12.0	172 23.7	N15 53.4	122 51.3	N24 52.5	244 59.3	S12 56.1	259 36.7	S17 28.4
	1	230 14.4	187 23.1	N15 54.4	137 52.1	N24 52.4	260 01.4	S12 56.0	274 39.1	S17 28.3
	2	245 16.9	202 22.5	N15 55.4	152 52.9	N24 52.4	275 03.5	S12 55.9	289 41.4	S17 28.3
	3	260 19.4	217 22.0	N15 56.4	167 53.7	N24 52.4	290 05.6	S12 55.8	304 43.8	S17 28.3
	4	275 21.8	232 21.4	N15 57.4	182 54.5	N24 52.4	305 07.7	S12 55.7	319 46.1	S17 28.3
T	5	290 24.3	247 20.8	N15 58.4	197 55.3	N24 52.3	320 09.8	S12 55.5	334 48.5	S17 28.2
U										
E	6	305 26.7	262 20.2	N15 59.3	212 56.0	N24 52.3	335 11.9	S12 55.4	349 50.8	S17 28.2
S	7	320 29.2	277 19.6	N16 00.3	227 56.8	N24 52.3	350 14.0	S12 55.3	4 53.2	S17 28.2
D	8	335 31.7	292 19.1	N16 01.3	242 57.6	N24 52.2	5 16.1	S12 55.2	19 55.6	S17 28.2
A	9	350 34.1	307 18.5	N16 02.3	257 58.4	N24 52.2	20 18.2	S12 55.1	34 57.9	S17 28.1
Y	10	5 36.6	322 17.9	N16 03.3	272 59.2	N24 52.2	35 20.3	S12 54.9	50 00.3	S17 28.1
	11	20 39.1	337 17.3	N16 04.3	288 00.0	N24 52.1	50 22.4	S12 54.8	65 02.6	S17 28.1
	12	35 41.5	352 16.8	N16 05.2	303 00.8	N24 52.1	65 24.5	S12 54.7	80 05.0	S17 28.1
	13	50 44.0	7 16.2	N16 06.2	318 01.6	N24 52.1	80 26.6	S12 54.6	95 07.4	S17 28.0
	14	65 46.5	22 15.6	N16 07.2	333 02.4	N24 52.0	95 28.7	S12 54.4	110 09.7	S17 28.0
	15	80 48.9	37 15.0	N16 08.2	348 03.2	N24 52.0	110 30.8	S12 54.3	125 12.1	S17 28.0
	16	95 51.4	52 14.4	N16 09.2	3 04.0	N24 52.0	125 32.9	S12 54.2	140 14.4	S17 28.0
	17	110 53.8	67 13.9	N16 10.1	18 04.8	N24 51.9	140 35.0	S12 54.1	155 16.8	S17 27.9
	18	125 56.3	82 13.3	N16 11.1	33 05.6	N24 51.9	155 37.1	S12 54.0	170 19.1	S17 27.9
	19	140 58.8	97 12.7	N16 12.1	48 06.3	N24 51.9	170 39.2	S12 53.8	185 21.5	S17 27.9
	20	156 01.2	112 12.1	N16 13.1	63 07.1	N24 51.8	185 41.3	S12 53.7	200 23.9	S17 27.9
	21	171 03.7	127 11.5	N16 14.0	78 07.9	N24 51.8	200 43.4	S12 53.6	215 26.2	S17 27.8
	22	186 06.2	142 10.9	N16 15.0	93 08.7	N24 51.8	215 45.5	S12 53.5	230 28.6	S17 27.8
	23	201 08.6	157 10.4	N16 16.0	108 09.5	N24 51.7	230 47.6	S12 53.4	245 30.9	S17 27.8
			v -0.6	d 1.0	v 0.8	d 0.0	v 2.1	d 0.1	v 2.4	d 0.0

G.M.T	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
d h	° '	° '	° '	'	° '	'	'
25 0	180 29.7	N13 11.6	26 54.5	10.3	N 2 26.9	15.8	60.3
1	195 29.8	N13 12.4	41 23.7	10.3	N 2 11.1	15.8	60.3
2	210 29.9	N13 13.2	55 52.9	10.2	N 1 55.2	15.8	60.3
3	225 30.1	N13 14.0	70 22.1	10.2	N 1 39.4	15.9	60.4
4	240 30.2	N13 14.8	84 51.3	10.2	N 1 23.5	15.9	60.4
S 5	255 30.3	N13 15.6	99 20.5	10.1	N 1 07.6	15.9	60.4
U							
N 6	270 30.4	N13 16.4	113 49.6	10.1	N 0 51.6	15.9	60.5
D 7	285 30.5	N13 17.3	128 18.7	10.1	N 0 35.7	16.0	60.5
A 8	300 30.6	N13 18.1	142 47.7	10.1	N 0 19.7	16.0	60.5
Y 9	315 30.7	N13 18.9	157 16.7	10.0	N 0 03.7	16.0	60.5
10	330 30.8	N13 19.7	171 45.7	10.0	S 0 12.3	16.0	60.6
11	345 30.9	N13 20.5	186 14.7	10.0	S 0 28.3	16.0	60.6
12	0 31.0	N13 21.3	200 43.6	9.9	S 0 44.3	16.0	60.6
13	15 31.1	N13 22.1	215 12.5	9.9	S 1 00.4	16.0	60.6
14	30 31.2	N13 22.9	229 41.3	9.9	S 1 16.4	16.1	60.7
15	45 31.3	N13 23.7	244 10.2	9.8	S 1 32.5	16.1	60.7
16	60 31.4	N13 24.5	258 38.9	9.8	S 1 48.6	16.1	60.7
17	75 31.5	N13 25.3	273 07.7	9.7	S 2 04.7	16.1	60.8
18	90 31.6	N13 26.2	287 36.4	9.7	S 2 20.7	16.1	60.8
19	105 31.8	N13 27.0	302 05.0	9.7	S 2 36.8	16.1	60.8
20	120 31.9	N13 27.8	316 33.6	9.6	S 2 52.9	16.1	60.8
21	135 32.0	N13 28.6	331 02.2	9.6	S 3 09.0	16.1	60.8
22	150 32.1	N13 29.4	345 30.7	9.5	S 3 25.0	16.1	60.9
23	165 32.2	N13 30.2	359 59.2	9.5	S 3 41.1	16.1	60.9
26 0	180 32.3	N13 31.0	14 27.6	9.4	S 3 57.1	16.1	60.9
1	195 32.4	N13 31.8	28 56.0	9.4	S 4 13.2	16.0	60.9
2	210 32.5	N13 32.6	43 24.3	9.3	S 4 29.2	16.0	61.0
3	225 32.6	N13 33.4	57 52.6	9.3	S 4 45.2	16.0	61.0
4	240 32.7	N13 34.2	72 20.8	9.2	S 5 01.2	16.0	61.0
M 5	255 32.8	N13 35.0	86 49.0	9.2	S 5 17.2	16.0	61.0
O							
N 6	270 32.9	N13 35.8	101 17.2	9.1	S 5 33.1	16.0	61.0
D 7	285 33.0	N13 36.6	115 45.2	9.1	S 5 49.1	15.9	61.1
A 8	300 33.1	N13 37.4	130 13.3	9.0	S 6 05.0	15.9	61.1
Y 9	315 33.2	N13 38.2	144 41.2	9.0	S 6 20.9	15.9	61.1
10	330 33.3	N13 39.0	159 09.1	8.9	S 6 36.7	15.9	61.1
11	345 33.4	N13 39.8	173 37.0	8.9	S 6 52.5	15.8	61.1
12	0 33.5	N13 40.6	188 04.8	8.8	S 7 08.3	15.8	61.1
13	15 33.6	N13 41.4	202 32.5	8.7	S 7 24.1	15.8	61.2
14	30 33.7	N13 42.2	217 00.2	8.7	S 7 39.8	15.7	61.2
15	45 33.8	N13 43.0	231 27.8	8.6	S 7 55.5	15.7	61.2
16	60 33.9	N13 43.8	245 55.4	8.6	S 8 11.1	15.6	61.2
17	75 34.0	N13 44.6	260 22.9	8.5	S 8 26.7	15.6	61.2
18	90 34.1	N13 45.4	274 50.3	8.4	S 8 42.3	15.6	61.2
19	105 34.2	N13 46.2	289 17.7	8.4	S 8 57.8	15.5	61.2
20	120 34.3	N13 47.0	303 45.0	8.3	S 9 13.2	15.5	61.2
21	135 34.4	N13 47.8	318 12.3	8.2	S 9 28.6	15.4	61.3
22	150 34.5	N13 48.6	332 39.5	8.2	S 9 44.0	15.4	61.3
23	165 34.6	N13 49.4	347 06.6	8.1	S 9 59.3	15.3	61.3
27 0	180 34.7	N13 50.2	1 33.6	8.0	S10 14.5	15.2	61.3
1	195 34.8	N13 51.0	16 00.6	8.0	S10 29.7	15.2	61.3
2	210 34.9	N13 51.8	30 27.5	7.9	S10 44.8	15.1	61.3
3	225 35.0	N13 52.6	44 54.4	7.8	S10 59.9	15.1	61.3
4	240 35.1	N13 53.4	59 21.1	7.8	S11 14.9	15.0	61.3
T 5	255 35.2	N13 54.2	73 47.9	7.7	S11 29.8	14.9	61.3
U							
E 6	270 35.3	N13 55.0	88 14.5	7.6	S11 44.7	14.9	61.3
S 7	285 35.4	N13 55.8	102 41.1	7.6	S11 59.4	14.8	61.3
D 8	300 35.5	N13 56.6	117 07.6	7.5	S12 14.1	14.7	61.3
A 9	315 35.6	N13 57.3	131 34.0	7.4	S12 28.8	14.6	61.3
Y 10	330 35.7	N13 58.1	146 00.3	7.4	S12 43.3	14.6	61.3
11	345 35.8	N13 58.9	160 26.6	7.3	S12 57.8	14.5	61.4
12	0 35.9	N13 59.7	174 52.8	7.2	S13 12.2	14.4	61.4
13	15 36.0	N14 00.5	189 19.0	7.1	S13 26.5	14.3	61.4
14	30 36.0	N14 01.3	203 45.0	7.1	S13 40.7	14.2	61.4
15	45 36.1	N14 02.1	218 11.0	7.0	S13 54.9	14.1	61.4
16	60 36.2	N14 02.9	232 36.9	6.9	S14 08.9	14.0	61.4
17	75 36.3	N14 03.7	247 02.8	6.8	S14 22.9	14.0	61.4
18	90 36.4	N14 04.5	261 28.5	6.8	S14 36.7	13.9	61.4
19	105 36.5	N14 05.2	275 54.2	6.7	S14 50.5	13.8	61.4
20	120 36.6	N14 06.0	290 19.8	6.6	S15 04.1	13.7	61.4
21	135 36.7	N14 06.8	304 45.4	6.5	S15 17.7	13.6	61.3
22	150 36.8	N14 07.6	319 10.9	6.5	S15 31.2	13.5	61.3
23	165 36.9	N14 08.4	333 36.2	6.4	S15 44.5	13.4	61.3
	S.D. 15.9	d 0.8	S.D. 16.5		16.7	16.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.4
Achernar	335 23.1	S57 07.8
Acrux	173 02.8	S63 13.1
Adhara	255 08.4	S29 00.3
Albireo	67 06.4	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.9
Alkaid	152 54.0	N49 12.5
Al Na-ir	27 36.9	S46 51.4
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.6	S 8 45.2
Alphecca	126 06.0	N26 38.5
Alpheratz	357 38.2	N29 12.2
Altair	62 02.9	N 8 55.3
Ankaa	353 10.5	S42 11.5
Antares	112 19.3	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 15.8	S69 03.8
Avior	234 15.9	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.0	S52 42.7
Capella	280 26.7	N46 01.2
Castor	246 01.0	N31 50.6
Deneb	49 27.8	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.7	S17 52.3
Dubhe	193 44.4	N61 38.4
Elnath	278 06.0	N28 37.4
Eltanin	90 43.3	N51 28.9
Enif	33 41.8	N 9 58.1
Fomalhaut	15 18.1	S29 30.6
Gacrux	171 54.5	S57 14.0
Gienah	175 46.4	S17 39.6
Hadar	148 39.7	S60 28.5
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.4	S34 22.4
Kochab	137 18.8	N74 04.1
Markab	13 33.1	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.5
Miaplacidus	221 38.6	S69 48.5
Mirfak	308 33.1	N49 56.1
Nunki	75 51.4	S26 16.2
Peacock	53 10.5	S56 39.8
Polaris	317 46.5	N89 20.4
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.2
Rasalhague	96 01.2	N12 32.6
Regulus	207 37.6	N11 51.8
Rigel	281 07.0	S 8 10.8
Rigil Kent	139 43.9	S60 55.3
Sabik	102 06.0	S15 45.1
Schedar	349 34.9	N56 38.9
Shaula	96 14.2	S37 07.1
Sirius	258 29.1	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.4	S43 31.3
Vega	80 35.1	N38 47.9
Zuben-ubi	136 59.8	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
28	0	216 11.1	172 09.8	N16 17.0	123 10.3	N24 51.7	245 49.8	S12 53.2	260 33.3	S17 27.8
	1	231 13.6	187 09.2	N16 17.9	138 11.1	N24 51.7	260 51.9	S12 53.1	275 35.7	S17 27.8
	2	246 16.0	202 08.6	N16 18.9	153 11.9	N24 51.6	275 54.0	S12 53.0	290 38.0	S17 27.7
	3	261 18.5	217 08.0	N16 19.9	168 12.7	N24 51.6	290 56.1	S12 52.9	305 40.4	S17 27.7
	4	276 21.0	232 07.4	N16 20.8	183 13.5	N24 51.5	305 58.2	S12 52.8	320 42.7	S17 27.7
W	5	291 23.4	247 06.8	N16 21.8	198 14.3	N24 51.5	321 00.3	S12 52.6	335 45.1	S17 27.7
E										
D	6	306 25.9	262 06.3	N16 22.8	213 15.1	N24 51.5	336 02.4	S12 52.5	350 47.5	S17 27.6
N	7	321 28.3	277 05.7	N16 23.8	228 15.8	N24 51.4	351 04.5	S12 52.4	5 49.8	S17 27.6
E	8	336 30.8	292 05.1	N16 24.7	243 16.6	N24 51.4	6 06.6	S12 52.3	20 52.2	S17 27.6
S	9	351 33.3	307 04.5	N16 25.7	258 17.4	N24 51.3	21 08.7	S12 52.2	35 54.6	S17 27.6
D	10	6 35.7	322 03.9	N16 26.7	273 18.2	N24 51.3	36 10.8	S12 52.0	50 56.9	S17 27.5
A	11	21 38.2	337 03.3	N16 27.6	288 19.0	N24 51.3	51 12.9	S12 51.9	65 59.3	S17 27.5
Y										
	12	36 40.7	352 02.7	N16 28.6	303 19.8	N24 51.2	66 15.0	S12 51.8	81 01.6	S17 27.5
	13	51 43.1	7 02.1	N16 29.5	318 20.6	N24 51.2	81 17.1	S12 51.7	96 04.0	S17 27.5
	14	66 45.6	22 01.5	N16 30.5	333 21.4	N24 51.1	96 19.2	S12 51.6	111 06.4	S17 27.5
	15	81 48.1	37 00.9	N16 31.5	348 22.2	N24 51.1	111 21.3	S12 51.5	126 08.7	S17 27.4
	16	96 50.5	52 00.4	N16 32.4	3 23.0	N24 51.1	126 23.4	S12 51.3	141 11.1	S17 27.4
	17	111 53.0	66 59.8	N16 33.4	18 23.8	N24 51.0	141 25.5	S12 51.2	156 13.4	S17 27.4
	18	126 55.5	81 59.2	N16 34.3	33 24.6	N24 51.0	156 27.7	S12 51.1	171 15.8	S17 27.4
	19	141 57.9	96 58.6	N16 35.3	48 25.4	N24 50.9	171 29.8	S12 51.0	186 18.2	S17 27.3
	20	157 00.4	111 58.0	N16 36.3	63 26.1	N24 50.9	186 31.9	S12 50.9	201 20.5	S17 27.3
	21	172 02.8	126 57.4	N16 37.2	78 26.9	N24 50.9	201 34.0	S12 50.7	216 22.9	S17 27.3
	22	187 05.3	141 56.8	N16 38.2	93 27.7	N24 50.8	216 36.1	S12 50.6	231 25.3	S17 27.3
	23	202 07.8	156 56.2	N16 39.1	108 28.5	N24 50.8	231 38.2	S12 50.5	246 27.6	S17 27.2
29	0	217 10.2	171 55.6	N16 40.1	123 29.3	N24 50.7	246 40.3	S12 50.4	261 30.0	S17 27.2
	1	232 12.7	186 55.0	N16 41.0	138 30.1	N24 50.7	261 42.4	S12 50.3	276 32.4	S17 27.2
	2	247 15.2	201 54.4	N16 42.0	153 30.9	N24 50.6	276 44.5	S12 50.1	291 34.7	S17 27.2
	3	262 17.6	216 53.8	N16 43.0	168 31.7	N24 50.6	291 46.6	S12 50.0	306 37.1	S17 27.2
	4	277 20.1	231 53.2	N16 43.9	183 32.5	N24 50.5	306 48.7	S12 49.9	321 39.4	S17 27.1
T	5	292 22.6	246 52.6	N16 44.9	198 33.3	N24 50.5	321 50.8	S12 49.8	336 41.8	S17 27.1
H										
U	6	307 25.0	261 52.0	N16 45.8	213 34.1	N24 50.5	336 53.0	S12 49.7	351 44.2	S17 27.1
R	7	322 27.5	276 51.4	N16 46.8	228 34.9	N24 50.4	351 55.1	S12 49.6	6 46.5	S17 27.1
S	8	337 30.0	291 50.8	N16 47.7	243 35.6	N24 50.4	6 57.2	S12 49.4	21 48.9	S17 27.0
D	9	352 32.4	306 50.2	N16 48.7	258 36.4	N24 50.3	21 59.3	S12 49.3	36 51.3	S17 27.0
A	10	7 34.9	321 49.6	N16 49.6	273 37.2	N24 50.3	37 01.4	S12 49.2	51 53.6	S17 27.0
Y	11	22 37.3	336 49.0	N16 50.6	288 38.0	N24 50.2	52 03.5	S12 49.1	66 56.0	S17 27.0
	12	37 39.8	351 48.4	N16 51.5	303 38.8	N24 50.2	67 05.6	S12 49.0	81 58.4	S17 27.0
	13	52 42.3	6 47.8	N16 52.4	318 39.6	N24 50.1	82 07.7	S12 48.9	97 00.7	S17 26.9
	14	67 44.7	21 47.2	N16 53.4	333 40.4	N24 50.1	97 09.8	S12 48.7	112 03.1	S17 26.9
	15	82 47.2	36 46.6	N16 54.3	348 41.2	N24 50.0	112 12.0	S12 48.6	127 05.5	S17 26.9
	16	97 49.7	51 46.0	N16 55.3	3 42.0	N24 50.0	127 14.1	S12 48.5	142 07.8	S17 26.9
	17	112 52.1	66 45.4	N16 56.2	18 42.8	N24 49.9	142 16.2	S12 48.4	157 10.2	S17 26.8
	18	127 54.6	81 44.8	N16 57.2	33 43.6	N24 49.9	157 18.3	S12 48.3	172 12.6	S17 26.8
	19	142 57.1	96 44.2	N16 58.1	48 44.4	N24 49.8	172 20.4	S12 48.1	187 14.9	S17 26.8
	20	157 59.5	111 43.6	N16 59.0	63 45.1	N24 49.8	187 22.5	S12 48.0	202 17.3	S17 26.8
	21	173 02.0	126 43.0	N16 60.0	78 45.9	N24 49.7	202 24.6	S12 47.9	217 19.7	S17 26.8
	22	188 04.4	141 42.4	N17 00.9	93 46.7	N24 49.7	217 26.7	S12 47.8	232 22.0	S17 26.7
	23	203 06.9	156 41.8	N17 01.9	108 47.5	N24 49.6	232 28.9	S12 47.7	247 24.4	S17 26.7
30	0	218 09.4	171 41.2	N17 02.8	123 48.3	N24 49.6	247 31.0	S12 47.6	262 26.8	S17 26.7
	1	233 11.8	186 40.5	N17 03.7	138 49.1	N24 49.5	262 33.1	S12 47.4	277 29.1	S17 26.7
	2	248 14.3	201 39.9	N17 04.7	153 49.9	N24 49.5	277 35.2	S12 47.3	292 31.5	S17 26.7
	3	263 16.8	216 39.3	N17 05.6	168 50.7	N24 49.4	292 37.3	S12 47.2	307 33.9	S17 26.6
	4	278 19.2	231 38.7	N17 06.5	183 51.5	N24 49.4	307 39.4	S12 47.1	322 36.2	S17 26.6
F	5	293 21.7	246 38.1	N17 07.5	198 52.3	N24 49.3	322 41.6	S12 47.0	337 38.6	S17 26.6
R										
I	6	308 24.2	261 37.5	N17 08.4	213 53.1	N24 49.3	337 43.7	S12 46.9	352 41.0	S17 26.6
D	7	323 26.6	276 36.9	N17 09.3	228 53.9	N24 49.2	352 45.8	S12 46.7	7 43.4	S17 26.5
A	8	338 29.1	291 36.3	N17 10.3	243 54.7	N24 49.2	7 47.9	S12 46.6	22 45.7	S17 26.5
Y	9	353 31.6	306 35.7	N17 11.2	258 55.4	N24 49.1	22 50.0	S12 46.5	37 48.1	S17 26.5
	10	8 34.0	321 35.1	N17 12.1	273 56.2	N24 49.1	37 52.1	S12 46.4	52 50.5	S17 26.5
	11	23 36.5	336 34.4	N17 13.1	288 57.0	N24 49.0	52 54.2	S12 46.3	67 52.8	S17 26.5
	12	38 38.9	351 33.8	N17 14.0	303 57.8	N24 49.0	67 56.4	S12 46.2	82 55.2	S17 26.4
	13	53 41.4	6 33.2	N17 14.9	318 58.6	N24 48.9	82 58.5	S12 46.1	97 57.6	S17 26.4
	14	68 43.9	21 32.6	N17 15.8	333 59.4	N24 48.8	98 00.6	S12 45.9	112 59.9	S17 26.4
	15	83 46.3	36 32.0	N17 16.8	349 00.2	N24 48.8	113 02.7	S12 45.8	128 02.3	S17 26.4
	16	98 48.8	51 31.4	N17 17.7	4 01.0	N24 48.7	128 04.8	S12 45.7	143 04.7	S17 26.4
	17	113 51.3	66 30.8	N17 18.6	19 01.8	N24 48.7	143 06.9	S12 45.6	158 07.0	S17 26.3
	18	128 53.7	81 30.1	N17 19.5	34 02.6	N24 48.6	158 09.1	S12 45.5	173 09.4	S17 26.3
	19	143 56.2	96 29.5	N17 20.5	49 03.4	N24 48.6	173 11.2	S12 45.4	188 11.8	S17 26.3
	20	158 58.7	111 28.9	N17 21.4	64 04.2	N24 48.5	188 13.3	S12 45.2	203 14.2	S17 26.3
	21	174 01.1	126 28.3	N17 22.3	79 04.9	N24 48.5	203 15.4	S12 45.1	218 16.5	S17 26.3
	22	189 03.6	141 27.7	N17 23.2	94 05.7	N24 48.4	218 17.5	S12 45.0	233 18.9	S17 26.2
	23	204 06.1	156 27.0	N17 24.1	109 06.5	N24 48.3	233 19.7	S12 44.9	248 21.3	S17 26.2
			v -0.6	d 0.9	v 0.8	d 0.0	v 2.1	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
28	0	180 37.0	N14 09.2	348 01.6	6.3	S15 57.8	13.2	61.3
	1	195 37.1	N14 10.0	2 26.8	6.2	S16 10.9	13.1	61.3
	2	210 37.2	N14 10.8	16 52.0	6.2	S16 23.9	13.0	61.3
	3	225 37.3	N14 11.5	31 17.1	6.1	S16 36.8	12.9	61.3
	4	240 37.4	N14 12.3	45 42.1	6.0	S16 49.6	12.8	61.3
W	5	255 37.4	N14 13.1	60 07.0	5.9	S17 02.3	12.7	61.3
E								
D	6	270 37.5	N14 13.9	74 31.9	5.9	S17 14.9	12.6	61.3
N	7	285 37.6	N14 14.7	88 56.7	5.8	S17 27.3	12.4	61.3
E	8	300 37.7	N14 15.5	103 21.4	5.7	S17 39.7	12.3	61.3
S	9	315 37.8	N14 16.2	117 46.1	5.7	S17 51.9	12.2	61.3
D	10	330 37.9	N14 17.0	132 10.7	5.6	S18 03.9	12.1	61.3
A	11	345 38.0	N14 17.8	146 35.2	5.5	S18 15.9	11.9	61.2
Y								
	12	0 38.1	N14 18.6	160 59.6	5.4	S18 27.7	11.8	61.2
	13	15 38.2	N14 19.4	175 24.0	5.4	S18 39.4	11.7	61.2
	14	30 38.3	N14 20.1	189 48.3	5.3	S18 50.9	11.6	61.2
	15	45 38.4	N14 20.9	204 12.5	5.2	S19 02.3	11.4	61.2
	16	60 38.4	N14 21.7	218 36.7	5.2	S19 13.6	11.3	61.2
	17	75 38.5	N14 22.5	233 00.8	5.1	S19 24.8	11.1	61.2
	18	90 38.6	N14 23.3	247 24.8	5.0	S19 35.8	11.0	61.2
	19	105 38.7	N14 24.0	261 48.8	5.0	S19 46.6	10.9	61.1
	20	120 38.8	N14 24.8	276 12.7	4.9	S19 57.3	10.7	61.1
	21	135 38.9	N14 25.6	290 36.5	4.8	S20 07.9	10.6	61.1
	22	150 39.0	N14 26.4	305 00.3	4.8	S20 18.3	10.4	61.1
	23	165 39.1	N14 27.2	319 24.0	4.7	S20 28.6	10.3	61.1
29	0	180 39.2	N14 27.9	333 47.6	4.6	S20 38.7	10.1	61.1
	1	195 39.2	N14 28.7	348 11.2	4.6	S20 48.7	10.0	61.0
	2	210 39.3	N14 29.5	2 34.7	4.5	S20 58.6	9.8	61.0
	3	225 39.4	N14 30.3	16 58.2	4.5	S21 08.2	9.7	61.0
	4	240 39.5	N14 31.0	31 21.6	4.4	S21 17.7	9.5	61.0
T	5	255 39.6	N14 31.8	45 44.9	4.3	S21 27.1	9.4	61.0
H								
U	6	270 39.7	N14 32.6	60 08.2	4.3	S21 36.3	9.2	60.9
R	7	285 39.8	N14 33.4	74 31.5	4.2	S21 45.3	9.0	60.9
S	8	300 39.8	N14 34.1	88 54.7	4.2	S21 54.2	8.9	60.9
D	9	315 39.9	N14 34.9	103 17.8	4.1	S22 02.9	8.7	60.9
A	10	330 40.0	N14 35.7	117 40.9	4.1	S22 11.5	8.6	60.9
Y	11	345 40.1	N14 36.4	132 03.9	4.0	S22 19.9	8.4	60.8
	12	0 40.2	N14 37.2	146 26.9	4.0	S22 28.1	8.2	60.8
	13	15 40.3	N14 38.0	160 49.9	4.0	S22 36.2	8.1	60.8
	14	30 40.4	N14 38.8	175 12.8	3.9	S22 44.1	7.9	60.8
	15	45 40.4	N14 39.5	189 35.7	3.9	S22 51.8	7.7	60.7
	16	60 40.5	N14 40.3	203 58.5	3.8	S22 59.3	7.6	60.7
	17	75 40.6	N14 41.1	218 21.3	3.8	S23 06.7	7.4	60.7
	18	90 40.7	N14 41.8	232 44.0	3.8	S23 13.9	7.2	60.7
	19	105 40.8	N14 42.6	247 06.7	3.7	S23 21.0	7.0	60.6
	20	120 40.9	N14 43.4	261 29.4	3.7	S23 27.8	6.9	60.6
	21	135 40.9	N14 44.1	275 52.1	3.7	S23 34.5	6.7	60.6
	22	150 41.0	N14 44.9	290 14.7	3.6	S23 41.0	6.5	60.6
	23	165 41.1	N14 45.7	304 37.3	3.6	S23 47.4	6.3	60.5
30	0	180 41.2	N14 46.4	318 59.9	3.6	S23 53.5	6.2	60.5
	1	195 41.3	N14 47.2	333 22.5	3.6	S23 59.5	6.0	60.5
	2	210 41.3	N14 48.0	347 45.0	3.5	S24 05.3	5.8	60.4
	3	225 41.4	N14 48.7	2 07.5	3.5	S24 10.9	5.6	60.4
	4	240 41.5	N14 49.5	16 30.0	3.5	S24 16.4	5.4	60.4
F	5	255 41.6	N14 50.3	30 52.5	3.5	S24 21.6	5.3	60.4
R								
I	6	270 41.7	N14 51.0	45 15.0	3.5	S24 26.7	5.1	60.3
D	7	285 41.8	N14 51.8	59 37.4	3.5	S24 31.6	4.9	60.3
A	8	300 41.8	N14 52.6	73 59.9	3.5	S24 36.4	4.7	60.3
Y	9	315 41.9	N14 53.3	88 22.4	3.5	S24 40.9	4.5	60.2
	10	330 42.0	N14 54.1	102 44.8	3.4	S24 45.3	4.4	60.2
	11	345 42.1	N14 54.8	117 07.2	3.4	S24 49.5	4.2	60.2
	12	0 42.2	N14 55.6	131 29.7	3.4	S24 53.5	4.0	60.1
	13	15 42.2	N14 56.4	145 52.1	3.4	S24 57.3	3.8	60.1
	14	30 42.3	N14 57.1	160 14.6	3.5	S25 00.9	3.6	60.1
	15	45 42.4	N14 57.9	174 37.1	3.5	S25 04.4	3.5	60.0
	16	60 42.5	N14 58.6	188 59.5	3.5	S25 07.6	3.3	60.0
	17	75 42.5	N14 59.4	203 22.0	3.5	S25 10.7	3.1	60.0
	18	90 42.6	N15 00.2	217 44.5	3.5	S25 13.6	2.9	59.9
	19	105 42.7	N15 00.9	232 07.0	3.5	S25 16.4	2.7	59.9
	20	120 42.8	N15 01.7	246 29.6	3.5	S25 18.9	2.5	59.9
	21	135 42.9	N15 02.4	260 52.1	3.6	S25 21.3	2.4	59.8
	22	150 42.9	N15 03.2	275 14.7	3.6	S25 23.4	2.2	59.8
	23	165 43.0	N15 04.0	289 37.3	3.6	S25 25.4	2.0	59.8
		S.D. 15.9	d 0.8	S.D.	16.7	16.6	16.4	

STARS Name	SHA	Dec
Acamar	315 14.5	S40 13.3
Achernar	335 23.1	S57 07.8
Acrux	173 02.8	S63 13.1
Adhara	255 08.4	S29 00.3
Albireo	67 06.4	N27 60.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.9
Alkaid	152 54.0	N49 12.5
Al Na-ir	27 36.9	S46 51.4
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.6	S 8 45.2
Alphecca	126 06.0	N26 38.5
Alpheratz	357 38.2	N29 12.2
Altair	62 02.8	N 8 55.3
Ankaa	353 10.5	S42 11.5
Antares	112 19.2	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 15.8	S69 03.8
Avior	234 16.0	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.0	S52 42.7
Capella	280 26.8	N46 01.2
Castor	246 01.1	N31 50.6
Deneb	49 27.8	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.7	S17 52.3
Dubhe	193 44.4	N61 38.4
Elnath	278 06.0	N28 37.4
Eltanin	90 43.3	N51 28.9
Enif	33 41.8	N 9 58.1
Fomalhaut	15 18.1	S29 30.6
Gacrux	171 54.5	S57 14.0
Gienah	175 46.4	S17 39.6
Hadar	148 39.7	S60 28.5
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.3	S34 22.4
Kochab	137 18.8	N74 04.1
Markab	13 33.1	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.5
Miaplacidus	221 38.6	S69 48.5
Mirfak	308 33.1	N49 56.1
Nunki	75 51.4	S26 16.2
Peacock	53 10.4	S56 39.8
Polaris	317 46.2	N89 20.3
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.2
Rasalhague	96 01.2	N12 32.6
Regulus	207 37.6	N11 51.8
Rigel	281 07.1	S 8 10.8
Rigil Kent	139 43.9	S60 55.3
Sabik	102 06.0	S15 45.1
Schedar	349 34.9	N56 38.9
Shaula	96 14.2	S37 07.1
Sirius	258 29.1	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.4	S43 31.3
Vega	80 35.0	N38 47.9
Zuben-ubi	136 59.8	S16 07.8

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	219 08.5	171 26.4	N17 25.1	124 07.3	N24 48.3	248 21.8	S12 44.8	263 23.6	S17 26.2
	1	234 11.0	186 25.8	N17 26.0	139 08.1	N24 48.2	263 23.9	S12 44.7	278 26.0	S17 26.2
	2	249 13.4	201 25.2	N17 26.9	154 08.9	N24 48.2	278 26.0	S12 44.6	293 28.4	S17 26.2
	3	264 15.9	216 24.6	N17 27.8	169 09.7	N24 48.1	293 28.1	S12 44.4	308 30.8	S17 26.1
	4	279 18.4	231 24.0	N17 28.7	184 10.5	N24 48.0	308 30.3	S12 44.3	323 33.1	S17 26.1
S	5	294 20.8	246 23.3	N17 29.7	199 11.3	N24 48.0	323 32.4	S12 44.2	338 35.5	S17 26.1
A										
T	6	309 23.3	261 22.7	N17 30.6	214 12.1	N24 47.9	338 34.5	S12 44.1	353 37.9	S17 26.1
U	7	324 25.8	276 22.1	N17 31.5	229 12.9	N24 47.9	353 36.6	S12 44.0	8 40.3	S17 26.1
R	8	339 28.2	291 21.5	N17 32.4	244 13.7	N24 47.8	8 38.7	S12 43.9	23 42.6	S17 26.0
D	9	354 30.7	306 20.8	N17 33.3	259 14.4	N24 47.7	23 40.9	S12 43.8	38 45.0	S17 26.0
A	10	9 33.2	321 20.2	N17 34.2	274 15.2	N24 47.7	38 43.0	S12 43.6	53 47.4	S17 26.0
Y	11	24 35.6	336 19.6	N17 35.1	289 16.0	N24 47.6	53 45.1	S12 43.5	68 49.7	S17 26.0
	12	39 38.1	351 19.0	N17 36.0	304 16.8	N24 47.6	68 47.2	S12 43.4	83 52.1	S17 26.0
	13	54 40.6	6 18.3	N17 36.9	319 17.6	N24 47.5	83 49.3	S12 43.3	98 54.5	S17 25.9
	14	69 43.0	21 17.7	N17 37.9	334 18.4	N24 47.4	98 51.5	S12 43.2	113 56.9	S17 25.9
	15	84 45.5	36 17.1	N17 38.8	349 19.2	N24 47.4	113 53.6	S12 43.1	128 59.2	S17 25.9
	16	99 47.9	51 16.5	N17 39.7	4 20.0	N24 47.3	128 55.7	S12 43.0	144 01.6	S17 25.9
	17	114 50.4	66 15.8	N17 40.6	19 20.8	N24 47.2	143 57.8	S12 42.8	159 04.0	S17 25.9
	18	129 52.9	81 15.2	N17 41.5	34 21.6	N24 47.2	158 60.0	S12 42.7	174 06.4	S17 25.8
	19	144 55.3	96 14.6	N17 42.4	49 22.4	N24 47.1	174 02.1	S12 42.6	189 08.7	S17 25.8
	20	159 57.8	111 14.0	N17 43.3	64 23.2	N24 47.1	189 04.2	S12 42.5	204 11.1	S17 25.8
	21	175 00.3	126 13.3	N17 44.2	79 23.9	N24 47.0	204 06.3	S12 42.4	219 13.5	S17 25.8
	22	190 02.7	141 12.7	N17 45.1	94 24.7	N24 46.9	219 08.5	S12 42.3	234 15.9	S17 25.8
	23	205 05.2	156 12.1	N17 46.0	109 25.5	N24 46.9	234 10.6	S12 42.2	249 18.2	S17 25.7
2	0	220 07.7	171 11.4	N17 46.9	124 26.3	N24 46.8	249 12.7	S12 42.1	264 20.6	S17 25.7
	1	235 10.1	186 10.8	N17 47.8	139 27.1	N24 46.7	264 14.8	S12 41.9	279 23.0	S17 25.7
	2	250 12.6	201 10.2	N17 48.7	154 27.9	N24 46.7	279 17.0	S12 41.8	294 25.4	S17 25.7
	3	265 15.1	216 09.5	N17 49.6	169 28.7	N24 46.6	294 19.1	S12 41.7	309 27.7	S17 25.7
	4	280 17.5	231 08.9	N17 50.5	184 29.5	N24 46.5	309 21.2	S12 41.6	324 30.1	S17 25.6
S	5	295 20.0	246 08.3	N17 51.4	199 30.3	N24 46.5	324 23.3	S12 41.5	339 32.5	S17 25.6
U										
N	6	310 22.4	261 07.6	N17 52.3	214 31.1	N24 46.4	339 25.5	S12 41.4	354 34.9	S17 25.6
D	7	325 24.9	276 07.0	N17 53.2	229 31.9	N24 46.3	354 27.6	S12 41.3	9 37.2	S17 25.6
A	8	340 27.4	291 06.4	N17 54.1	244 32.7	N24 46.3	9 29.7	S12 41.2	24 39.6	S17 25.6
Y	9	355 29.8	306 05.7	N17 55.0	259 33.5	N24 46.2	24 31.8	S12 41.0	39 42.0	S17 25.5
	10	10 32.3	321 05.1	N17 55.8	274 34.2	N24 46.1	39 34.0	S12 40.9	54 44.4	S17 25.5
	11	25 34.8	336 04.5	N17 56.7	289 35.0	N24 46.1	54 36.1	S12 40.8	69 46.8	S17 25.5
	12	40 37.2	351 03.8	N17 57.6	304 35.8	N24 46.0	69 38.2	S12 40.7	84 49.1	S17 25.5
	13	55 39.7	6 03.2	N17 58.5	319 36.6	N24 45.9	84 40.3	S12 40.6	99 51.5	S17 25.5
	14	70 42.2	21 02.6	N17 59.4	334 37.4	N24 45.9	99 42.5	S12 40.5	114 53.9	S17 25.5
	15	85 44.6	36 01.9	N18 00.3	349 38.2	N24 45.8	114 44.6	S12 40.4	129 56.3	S17 25.4
	16	100 47.1	51 01.3	N18 01.2	4 39.0	N24 45.7	129 46.7	S12 40.3	144 58.6	S17 25.4
	17	115 49.5	66 00.6	N18 02.1	19 39.8	N24 45.6	144 48.9	S12 40.1	160 01.0	S17 25.4
	18	130 52.0	81 00.0	N18 03.0	34 40.6	N24 45.6	159 51.0	S12 40.0	175 03.4	S17 25.4
	19	145 54.5	95 59.4	N18 03.8	49 41.4	N24 45.5	174 53.1	S12 39.9	190 05.8	S17 25.4
	20	160 56.9	110 58.7	N18 04.7	64 42.2	N24 45.4	189 55.2	S12 39.8	205 08.2	S17 25.3
	21	175 59.4	125 58.1	N18 05.6	79 43.0	N24 45.4	204 57.4	S12 39.7	220 10.5	S17 25.3
	22	191 01.9	140 57.4	N18 06.5	94 43.7	N24 45.3	219 59.5	S12 39.6	235 12.9	S17 25.3
	23	206 04.3	155 56.8	N18 07.4	109 44.5	N24 45.2	235 01.6	S12 39.5	250 15.3	S17 25.3
3	0	221 06.8	170 56.2	N18 08.2	124 45.3	N24 45.1	250 03.8	S12 39.4	265 17.7	S17 25.3
	1	236 09.3	185 55.5	N18 09.1	139 46.1	N24 45.1	265 05.9	S12 39.3	280 20.1	S17 25.3
	2	251 11.7	200 54.9	N18 10.0	154 46.9	N24 45.0	280 08.0	S12 39.1	295 22.4	S17 25.2
	3	266 14.2	215 54.2	N18 10.9	169 47.7	N24 44.9	295 10.2	S12 39.0	310 24.8	S17 25.2
	4	281 16.7	230 53.6	N18 11.8	184 48.5	N24 44.9	310 12.3	S12 38.9	325 27.2	S17 25.2
M	5	296 19.1	245 52.9	N18 12.6	199 49.3	N24 44.8	325 14.4	S12 38.8	340 29.6	S17 25.2
O										
N	6	311 21.6	260 52.3	N18 13.5	214 50.1	N24 44.7	340 16.5	S12 38.7	355 32.0	S17 25.2
D	7	326 24.0	275 51.6	N18 14.4	229 50.9	N24 44.6	355 18.7	S12 38.6	10 34.3	S17 25.1
A	8	341 26.5	290 51.0	N18 15.3	244 51.7	N24 44.6	10 20.8	S12 38.5	25 36.7	S17 25.1
Y	9	356 29.0	305 50.4	N18 16.1	259 52.5	N24 44.5	25 22.9	S12 38.4	40 39.1	S17 25.1
	10	11 31.4	320 49.7	N18 17.0	274 53.2	N24 44.4	40 25.1	S12 38.3	55 41.5	S17 25.1
	11	26 33.9	335 49.1	N18 17.9	289 54.0	N24 44.3	55 27.2	S12 38.1	70 43.9	S17 25.1
	12	41 36.4	350 48.4	N18 18.7	304 54.8	N24 44.3	70 29.3	S12 38.0	85 46.2	S17 25.1
	13	56 38.8	5 47.8	N18 19.6	319 55.6	N24 44.2	85 31.5	S12 37.9	100 48.6	S17 25.0
	14	71 41.3	20 47.1	N18 20.5	334 56.4	N24 44.1	100 33.6	S12 37.8	115 51.0	S17 25.0
	15	86 43.8	35 46.5	N18 21.4	349 57.2	N24 44.0	115 35.7	S12 37.7	130 53.4	S17 25.0
	16	101 46.2	50 45.8	N18 22.2	4 58.0	N24 44.0	130 37.9	S12 37.6	145 55.8	S17 25.0
	17	116 48.7	65 45.2	N18 23.1	19 58.8	N24 43.9	145 40.0	S12 37.5	160 58.2	S17 25.0
	18	131 51.2	80 44.5	N18 24.0	34 59.6	N24 43.8	160 42.1	S12 37.4	176 00.5	S17 25.0
	19	146 53.6	95 43.9	N18 24.8	50 00.4	N24 43.7	175 44.3	S12 37.3	191 02.9	S17 24.9
	20	161 56.1	110 43.2	N18 25.7	65 01.2	N24 43.6	190 46.4	S12 37.2	206 05.3	S17 24.9
	21	176 58.5	125 42.6	N18 26.5	80 02.0	N24 43.6	205 48.5	S12 37.0	221 07.7	S17 24.9
	22	192 01.0	140 41.9	N18 27.4	95 02.8	N24 43.5	220 50.7	S12 36.9	236 10.1	S17 24.9
	23	207 03.5	155 41.2	N18 28.3	110 03.5	N24 43.4	235 52.8	S12 36.8	251 12.4	S17 24.9
			v -0.6	d 0.9	v 0.8	d 0.1	v 2.1	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	180 43.1	N15 04.7	303 59.9	3.6	S25 27.2	1.8	59.7	Acamar	315 14.5	S40 13.3
1	195 43.2	N15 05.5	318 22.6	3.7	S25 28.9	1.6	59.7	Achernar	335 23.1	S57 07.8
2	210 43.2	N15 06.2	332 45.3	3.7	S25 30.3	1.5	59.7	Acrux	173 02.8	S63 13.1
3	225 43.3	N15 07.0	347 08.0	3.7	S25 31.6	1.3	59.6	Adhara	255 08.4	S29 00.3
4	240 43.4	N15 07.7	1 30.8	3.8	S25 32.7	1.1	59.6	Albireo	67 06.3	N27 60.0
S 5	255 43.5	N15 08.5	15 53.6	3.8	S25 33.6	0.9	59.6			
A								Aldebaran	290 43.4	N16 33.0
T 6	270 43.5	N15 09.2	30 16.4	3.8	S25 34.4	0.7	59.5	Alioth	166 15.2	N55 50.9
U 7	285 43.6	N15 10.0	44 39.3	3.9	S25 34.9	0.6	59.5	Alkaid	152 54.0	N49 12.5
R 8	300 43.7	N15 10.7	59 02.2	3.9	S25 35.3	0.4	59.5	Al Na-ir	27 36.9	S46 51.4
D 9	315 43.8	N15 11.5	73 25.2	4.0	S25 35.5	0.2	59.4	Alnilam	275 41.0	S 1 11.4
A 10	330 43.8	N15 12.2	87 48.2	4.0	S25 35.5	0.0	59.4			
Y 11	345 43.9	N15 13.0	102 11.3	4.1	S25 35.4	0.1	59.3	Alphard	217 50.6	S 8 45.2
								Alphecca	126 06.0	N26 38.5
12	0 44.0	N15 13.7	116 34.5	4.1	S25 35.0	0.3	59.3	Alpheratz	357 38.2	N29 12.2
13	15 44.1	N15 14.5	130 57.6	4.2	S25 34.5	0.5	59.3	Altair	62 02.8	N 8 55.3
14	30 44.1	N15 15.3	145 20.9	4.2	S25 33.9	0.7	59.2	Ankaa	353 10.5	S42 11.5
15	45 44.2	N15 16.0	159 44.2	4.3	S25 33.0	0.8	59.2			
16	60 44.3	N15 16.7	174 07.6	4.4	S25 32.0	1.0	59.2	Antares	112 19.2	S26 28.7
17	75 44.3	N15 17.5	188 31.0	4.4	S25 30.8	1.2	59.1	Arcturus	145 50.4	N19 04.3
								Atria	107 15.7	S69 03.8
18	90 44.4	N15 18.2	202 54.5	4.5	S25 29.5	1.4	59.1	Avior	234 16.0	S59 34.9
19	105 44.5	N15 19.0	217 18.0	4.6	S25 27.9	1.5	59.1	Bellatrix	278 26.4	N 6 22.0
20	120 44.6	N15 19.7	231 41.7	4.6	S25 26.2	1.7	59.0			
21	135 44.6	N15 20.5	246 05.4	4.7	S25 24.4	1.9	59.0	Betelgeuse	270 55.6	N 7 24.6
22	150 44.7	N15 21.2	260 29.1	4.8	S25 22.3	2.0	58.9	Canopus	263 54.0	S52 42.7
23	165 44.8	N15 22.0	274 53.0	4.8	S25 20.1	2.2	58.9	Capella	280 26.8	N46 01.2
2 0	180 44.8	N15 22.7	289 16.9	4.9	S25 17.8	2.4	58.9	Castor	246 01.1	N31 50.6
1	195 44.9	N15 23.5	303 40.9	5.0	S25 15.3	2.5	58.8	Deneb	49 27.8	N45 21.0
2	210 45.0	N15 24.2	318 05.0	5.1	S25 12.6	2.7	58.8			
3	225 45.1	N15 25.0	332 29.1	5.2	S25 09.7	2.8	58.8	Denebola	182 27.8	N14 27.2
4	240 45.1	N15 25.7	346 53.4	5.2	S25 06.7	3.0	58.7	Diphda	348 50.7	S17 52.3
S 5	255 45.2	N15 26.5	1 17.7	5.3	S25 03.6	3.2	58.7	Dubhe	193 44.4	N61 38.4
U								Elnath	278 06.0	N28 37.4
N 6	270 45.3	N15 27.2	15 42.1	5.4	S25 00.2	3.3	58.6	Eltanin	90 43.2	N51 28.9
D 7	285 45.3	N15 27.9	30 06.6	5.5	S24 56.8	3.5	58.6			
A 8	300 45.4	N15 28.7	44 31.2	5.6	S24 53.1	3.6	58.6	Enif	33 41.8	N 9 58.1
Y 9	315 45.5	N15 29.4	58 55.8	5.7	S24 49.3	3.8	58.5	Fomalhaut	15 18.0	S29 30.6
10	330 45.5	N15 30.2	73 20.6	5.8	S24 45.4	3.9	58.5	Gacrux	171 54.5	S57 14.1
11	345 45.6	N15 30.9	87 45.4	5.8	S24 41.3	4.1	58.5	Gienah	175 46.4	S17 39.6
								Hadar	148 39.7	S60 28.5
12	0 45.7	N15 31.6	102 10.4	5.9	S24 37.1	4.2	58.4			
13	15 45.7	N15 32.4	116 35.4	6.0	S24 32.7	4.4	58.4	Hamal	327 55.0	N23 33.6
14	30 45.8	N15 33.1	131 00.5	6.1	S24 28.1	4.5	58.3	Kaus Austr.	83 36.3	S34 22.4
15	45 45.9	N15 33.9	145 25.7	6.2	S24 23.4	4.7	58.3	Kochab	137 18.8	N74 04.1
16	60 45.9	N15 34.6	159 51.1	6.3	S24 18.6	4.8	58.3	Markab	13 33.1	N15 18.9
17	75 46.0	N15 35.3	174 16.5	6.4	S24 13.6	5.0	58.2	Menkar	314 09.6	N 4 10.2
								Menkent	148 00.8	S36 28.5
18	90 46.1	N15 36.1	188 42.0	6.5	S24 08.5	5.1	58.2	Miaplacidus	221 38.7	S69 48.5
19	105 46.1	N15 36.8	203 07.6	6.6	S24 03.3	5.3	58.1	Mirfak	308 33.1	N49 56.1
20	120 46.2	N15 37.6	217 33.3	6.7	S23 57.9	5.4	58.1	Nunki	75 51.3	S26 16.1
21	135 46.3	N15 38.3	231 59.1	6.8	S23 52.3	5.5	58.1	Peacock	53 10.4	S56 39.8
22	150 46.3	N15 39.0	246 25.0	6.9	S23 46.6	5.7	58.0			
23	165 46.4	N15 39.8	260 51.0	7.0	S23 40.8	5.8	58.0	Polaris	317 45.9	N89 20.3
3 0	180 46.5	N15 40.5	275 17.2	7.1	S23 34.9	5.9	58.0	Pollux	243 21.1	N27 58.5
1	195 46.5	N15 41.2	289 43.4	7.2	S23 28.8	6.1	57.9	Procyon	244 54.1	N 5 10.2
2	210 46.6	N15 42.0	304 09.7	7.3	S23 22.6	6.2	57.9	Rasalhague	96 01.1	N12 32.6
3	225 46.7	N15 42.7	318 36.1	7.4	S23 16.3	6.3	57.9	Regulus	207 37.6	N11 51.8
4	240 46.7	N15 43.4	333 02.6	7.5	S23 09.8	6.5	57.8			
M 5	255 46.8	N15 44.2	347 29.3	7.6	S23 03.2	6.6	57.8	Rigel	281 07.1	S 8 10.8
O								Rigil Kent	139 43.9	S60 55.4
N 6	270 46.8	N15 44.9	1 56.0	7.7	S22 56.5	6.7	57.7	Sabik	102 06.0	S15 45.1
D 7	285 46.9	N15 45.6	16 22.9	7.8	S22 49.7	6.8	57.7	Schedar	349 34.9	N56 38.9
A 8	300 47.0	N15 46.4	30 49.8	8.0	S22 42.7	7.0	57.7	Shaula	96 14.2	S37 07.1
Y 9	315 47.0	N15 47.1	45 16.9	8.1	S22 35.6	7.1	57.6	Sirius	258 29.1	S16 44.9
10	330 47.1	N15 47.8	59 44.0	8.2	S22 28.4	7.2	57.6	Spica	158 25.2	S11 16.4
11	345 47.2	N15 48.6	74 11.3	8.3	S22 21.1	7.3	57.6	Suhail	222 48.5	S43 31.3
								Vega	80 35.0	N38 47.9
12	0 47.2	N15 49.3	88 38.7	8.4	S22 13.6	7.4	57.5	Zuben-ubi	136 59.8	S16 07.8
13	15 47.3	N15 50.0	103 06.2	8.5	S22 06.1	7.6	57.5			
14	30 47.3	N15 50.7	117 33.8	8.6	S21 58.4	7.7	57.5			
15	45 47.4	N15 51.5	132 01.4	8.7	S21 50.6	7.8	57.4			
16	60 47.5	N15 52.2	146 29.3	8.8	S21 42.7	7.9	57.4			
17	75 47.5	N15 52.9	160 57.2	8.9	S21 34.7	8.0	57.3			
18	90 47.6	N15 53.7	175 25.2	9.0	S21 26.6	8.1	57.3			
19	105 47.6	N15 54.4	189 53.3	9.1	S21 18.4	8.2	57.3			
20	120 47.7	N15 55.1	204 21.5	9.2	S21 10.1	8.3	57.2			
21	135 47.8	N15 55.8	218 49.9	9.3	S21 01.7	8.4	57.2			
22	150 47.8	N15 56.6	233 18.3	9.4	S20 53.1	8.5	57.2			
23	165 47.9	N15 57.3	247 46.9	9.5	S20 44.5	8.6	57.1			
	S.D. 15.9	d 0.7	S.D.	16.2	15.9	15.7				

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	222 05.9	170 40.6	N18 29.1	125 04.3	N24 43.3	250 55.0	S12 36.7	266 14.8	S17 24.9
	1	237 08.4	185 39.9	N18 30.0	140 05.1	N24 43.2	265 57.1	S12 36.6	281 17.2	S17 24.8
	2	252 10.9	200 39.3	N18 30.9	155 05.9	N24 43.2	280 59.2	S12 36.5	296 19.6	S17 24.8
	3	267 13.3	215 38.6	N18 31.7	170 06.7	N24 43.1	296 01.4	S12 36.4	311 22.0	S17 24.8
	4	282 15.8	230 38.0	N18 32.6	185 07.5	N24 43.0	311 03.5	S12 36.3	326 24.4	S17 24.8
T	5	297 18.3	245 37.3	N18 33.4	200 08.3	N24 42.9	326 05.6	S12 36.2	341 26.8	S17 24.8
U										
E	6	312 20.7	260 36.7	N18 34.3	215 09.1	N24 42.8	341 07.8	S12 36.1	356 29.1	S17 24.8
S	7	327 23.2	275 36.0	N18 35.1	230 09.9	N24 42.8	356 09.9	S12 36.0	11 31.5	S17 24.7
D	8	342 25.7	290 35.3	N18 36.0	245 10.7	N24 42.7	11 12.0	S12 35.8	26 33.9	S17 24.7
A	9	357 28.1	305 34.7	N18 36.8	260 11.5	N24 42.6	26 14.2	S12 35.7	41 36.3	S17 24.7
Y	10	12 30.6	320 34.0	N18 37.7	275 12.3	N24 42.5	41 16.3	S12 35.6	56 38.7	S17 24.7
	11	27 33.0	335 33.4	N18 38.5	290 13.0	N24 42.4	56 18.5	S12 35.5	71 41.1	S17 24.7
	12	42 35.5	350 32.7	N18 39.4	305 13.8	N24 42.3	71 20.6	S12 35.4	86 43.4	S17 24.7
	13	57 38.0	5 32.1	N18 40.2	320 14.6	N24 42.3	86 22.7	S12 35.3	101 45.8	S17 24.6
	14	72 40.4	20 31.4	N18 41.1	335 15.4	N24 42.2	101 24.9	S12 35.2	116 48.2	S17 24.6
	15	87 42.9	35 30.7	N18 41.9	350 16.2	N24 42.1	116 27.0	S12 35.1	131 50.6	S17 24.6
	16	102 45.4	50 30.1	N18 42.8	5 17.0	N24 42.0	131 29.2	S12 35.0	146 53.0	S17 24.6
	17	117 47.8	65 29.4	N18 43.6	20 17.8	N24 41.9	146 31.3	S12 34.9	161 55.4	S17 24.6
	18	132 50.3	80 28.7	N18 44.5	35 18.6	N24 41.8	161 33.4	S12 34.8	176 57.8	S17 24.6
	19	147 52.8	95 28.1	N18 45.3	50 19.4	N24 41.8	176 35.6	S12 34.7	192 00.1	S17 24.5
	20	162 55.2	110 27.4	N18 46.2	65 20.2	N24 41.7	191 37.7	S12 34.5	207 02.5	S17 24.5
	21	177 57.7	125 26.8	N18 47.0	80 21.0	N24 41.6	206 39.9	S12 34.4	222 04.9	S17 24.5
	22	193 00.1	140 26.1	N18 47.9	95 21.8	N24 41.5	221 42.0	S12 34.3	237 07.3	S17 24.5
	23	208 02.6	155 25.4	N18 48.7	110 22.6	N24 41.4	236 44.1	S12 34.2	252 09.7	S17 24.5
5	0	223 05.1	170 24.8	N18 49.5	125 23.3	N24 41.3	251 46.3	S12 34.1	267 12.1	S17 24.5
	1	238 07.5	185 24.1	N18 50.4	140 24.1	N24 41.2	266 48.4	S12 34.0	282 14.5	S17 24.4
	2	253 10.0	200 23.4	N18 51.2	155 24.9	N24 41.2	281 50.6	S12 33.9	297 16.9	S17 24.4
	3	268 12.5	215 22.8	N18 52.1	170 25.7	N24 41.1	296 52.7	S12 33.8	312 19.2	S17 24.4
	4	283 14.9	230 22.1	N18 52.9	185 26.5	N24 41.0	311 54.8	S12 33.7	327 21.6	S17 24.4
W	5	298 17.4	245 21.4	N18 53.7	200 27.3	N24 40.9	326 57.0	S12 33.6	342 24.0	S17 24.4
E										
D	6	313 19.9	260 20.8	N18 54.6	215 28.1	N24 40.8	341 59.1	S12 33.5	357 26.4	S17 24.4
N	7	328 22.3	275 20.1	N18 55.4	230 28.9	N24 40.7	357 01.3	S12 33.4	12 28.8	S17 24.3
E	8	343 24.8	290 19.4	N18 56.2	245 29.7	N24 40.6	12 03.4	S12 33.3	27 31.2	S17 24.3
S	9	358 27.3	305 18.7	N18 57.1	260 30.5	N24 40.5	27 05.6	S12 33.2	42 33.6	S17 24.3
D	10	13 29.7	320 18.1	N18 57.9	275 31.3	N24 40.4	42 07.7	S12 33.0	57 36.0	S17 24.3
A	11	28 32.2	335 17.4	N18 58.7	290 32.1	N24 40.4	57 09.8	S12 32.9	72 38.4	S17 24.3
Y										
	12	43 34.6	350 16.7	N18 59.6	305 32.9	N24 40.3	72 12.0	S12 32.8	87 40.7	S17 24.3
	13	58 37.1	5 16.1	N19 00.4	320 33.6	N24 40.2	87 14.1	S12 32.7	102 43.1	S17 24.3
	14	73 39.6	20 15.4	N19 01.2	335 34.4	N24 40.1	102 16.3	S12 32.6	117 45.5	S17 24.2
	15	88 42.0	35 14.7	N19 02.0	350 35.2	N24 40.0	117 18.4	S12 32.5	132 47.9	S17 24.2
	16	103 44.5	50 14.0	N19 02.9	5 36.0	N24 39.9	132 20.6	S12 32.4	147 50.3	S17 24.2
	17	118 47.0	65 13.4	N19 03.7	20 36.8	N24 39.8	147 22.7	S12 32.3	162 52.7	S17 24.2
	18	133 49.4	80 12.7	N19 04.5	35 37.6	N24 39.7	162 24.9	S12 32.2	177 55.1	S17 24.2
	19	148 51.9	95 12.0	N19 05.3	50 38.4	N24 39.6	177 27.0	S12 32.1	192 57.5	S17 24.2
	20	163 54.4	110 11.3	N19 06.2	65 39.2	N24 39.5	192 29.1	S12 32.0	207 59.9	S17 24.2
	21	178 56.8	125 10.7	N19 07.0	80 40.0	N24 39.4	207 31.3	S12 31.9	223 02.3	S17 24.1
	22	193 59.3	140 10.0	N19 07.8	95 40.8	N24 39.3	222 33.4	S12 31.8	238 04.6	S17 24.1
	23	209 01.8	155 09.3	N19 08.6	110 41.6	N24 39.3	237 35.6	S12 31.7	253 07.0	S17 24.1
6	0	224 04.2	170 08.6	N19 09.4	125 42.4	N24 39.2	252 37.7	S12 31.6	268 09.4	S17 24.1
	1	239 06.7	185 08.0	N19 10.3	140 43.2	N24 39.1	267 39.9	S12 31.5	283 11.8	S17 24.1
	2	254 09.1	200 07.3	N19 11.1	155 43.9	N24 39.0	282 42.0	S12 31.4	298 14.2	S17 24.1
	3	269 11.6	215 06.6	N19 11.9	170 44.7	N24 38.9	297 44.2	S12 31.2	313 16.6	S17 24.0
	4	284 14.1	230 05.9	N19 12.7	185 45.5	N24 38.8	312 46.3	S12 31.1	328 19.0	S17 24.0
T	5	299 16.5	245 05.2	N19 13.5	200 46.3	N24 38.7	327 48.5	S12 31.0	343 21.4	S17 24.0
H										
U	6	314 19.0	260 04.6	N19 14.3	215 47.1	N24 38.6	342 50.6	S12 30.9	358 23.8	S17 24.0
R	7	329 21.5	275 03.9	N19 15.2	230 47.9	N24 38.5	357 52.8	S12 30.8	13 26.2	S17 24.0
S	8	344 23.9	290 03.2	N19 16.0	245 48.7	N24 38.4	12 54.9	S12 30.7	28 28.6	S17 24.0
D	9	359 26.4	305 02.5	N19 16.8	260 49.5	N24 38.3	27 57.1	S12 30.6	43 31.0	S17 24.0
A	10	14 28.9	320 01.8	N19 17.6	275 50.3	N24 38.2	42 59.2	S12 30.5	58 33.4	S17 23.9
Y	11	29 31.3	335 01.1	N19 18.4	290 51.1	N24 38.1	58 01.4	S12 30.4	73 35.7	S17 23.9
	12	44 33.8	350 00.5	N19 19.2	305 51.9	N24 38.0	73 03.5	S12 30.3	88 38.1	S17 23.9
	13	59 36.2	4 59.8	N19 20.0	320 52.7	N24 37.9	88 05.7	S12 30.2	103 40.5	S17 23.9
	14	74 38.7	19 59.1	N19 20.8	335 53.5	N24 37.8	103 07.8	S12 30.1	118 42.9	S17 23.9
	15	89 41.2	34 58.4	N19 21.6	350 54.3	N24 37.7	118 10.0	S12 30.0	133 45.3	S17 23.9
	16	104 43.6	49 57.7	N19 22.4	5 55.0	N24 37.6	133 12.1	S12 29.9	148 47.7	S17 23.9
	17	119 46.1	64 57.0	N19 23.2	20 55.8	N24 37.5	148 14.3	S12 29.8	163 50.1	S17 23.9
	18	134 48.6	79 56.4	N19 24.0	35 56.6	N24 37.4	163 16.4	S12 29.7	178 52.5	S17 23.8
	19	149 51.0	94 55.7	N19 24.8	50 57.4	N24 37.3	178 18.6	S12 29.6	193 54.9	S17 23.8
	20	164 53.5	109 55.0	N19 25.6	65 58.2	N24 37.2	193 20.7	S12 29.5	208 57.3	S17 23.8
	21	179 56.0	124 54.3	N19 26.4	80 59.0	N24 37.1	208 22.9	S12 29.4	223 59.7	S17 23.8
	22	194 58.4	139 53.6	N19 27.2	95 59.8	N24 37.0	223 25.0	S12 29.3	239 02.1	S17 23.8
	23	210 00.9	154 52.9	N19 28.0	111 00.6	N24 36.9	238 27.2	S12 29.2	254 04.5	S17 23.8
			v -0.7	d 0.8	v 0.8	d 0.1	v 2.1	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
4	0	180 47.9	N15 58.0	262 15.5	9.7	S20 35.8	8.7	57.1
	1	195 48.0	N15 58.7	276 44.3	9.8	S20 26.9	8.8	57.1
	2	210 48.1	N15 59.5	291 13.1	9.9	S20 18.0	8.9	57.0
	3	225 48.1	N16 00.2	305 42.1	10.0	S20 09.0	9.0	57.0
	4	240 48.2	N16 00.9	320 11.2	10.1	S19 59.9	9.1	57.0
T	5	255 48.2	N16 01.6	334 40.4	10.2	S19 50.7	9.2	56.9
U								
E	6	270 48.3	N16 02.3	349 09.7	10.3	S19 41.4	9.3	56.9
S	7	285 48.3	N16 03.1	3 39.0	10.4	S19 32.0	9.4	56.9
D	8	300 48.4	N16 03.8	18 08.5	10.5	S19 22.5	9.5	56.8
A	9	315 48.5	N16 04.5	32 38.1	10.6	S19 12.9	9.6	56.8
Y	10	330 48.5	N16 05.2	47 07.8	10.7	S19 03.3	9.7	56.8
	11	345 48.6	N16 05.9	61 37.6	10.8	S18 53.5	9.7	56.7
	12	0 48.6	N16 06.7	76 07.5	10.9	S18 43.7	9.8	56.7
	13	15 48.7	N16 07.4	90 37.5	11.0	S18 33.8	9.9	56.7
	14	30 48.7	N16 08.1	105 07.6	11.1	S18 23.8	10.0	56.6
	15	45 48.8	N16 08.8	119 37.8	11.2	S18 13.7	10.1	56.6
	16	60 48.8	N16 09.5	134 08.1	11.3	S18 03.6	10.1	56.6
	17	75 48.9	N16 10.2	148 38.5	11.4	S17 53.3	10.2	56.5
	18	90 49.0	N16 11.0	163 09.0	11.5	S17 43.0	10.3	56.5
	19	105 49.0	N16 11.7	177 39.5	11.6	S17 32.7	10.4	56.5
	20	120 49.1	N16 12.4	192 10.2	11.7	S17 22.2	10.4	56.4
	21	135 49.1	N16 13.1	206 41.0	11.8	S17 11.7	10.5	56.4
	22	150 49.2	N16 13.8	221 11.8	11.9	S17 01.1	10.6	56.4
	23	165 49.2	N16 14.5	235 42.8	12.0	S16 50.4	10.7	56.3
5	0	180 49.3	N16 15.3	250 13.9	12.1	S16 39.7	10.7	56.3
	1	195 49.3	N16 16.0	264 45.0	12.1	S16 28.9	10.8	56.3
	2	210 49.4	N16 16.7	279 16.2	12.2	S16 18.1	10.9	56.3
	3	225 49.4	N16 17.4	293 47.6	12.3	S16 07.1	10.9	56.2
	4	240 49.5	N16 18.1	308 19.0	12.4	S15 56.1	11.0	56.2
W	5	255 49.5	N16 18.8	322 50.5	12.5	S15 45.1	11.1	56.2
E								
D	6	270 49.6	N16 19.5	337 22.1	12.6	S15 34.0	11.1	56.1
N	7	285 49.6	N16 20.2	351 53.7	12.7	S15 22.8	11.2	56.1
E	8	300 49.7	N16 20.9	6 25.5	12.8	S15 11.5	11.2	56.1
S	9	315 49.7	N16 21.7	20 57.3	12.8	S15 00.3	11.3	56.0
D	10	330 49.8	N16 22.4	35 29.3	12.9	S14 48.9	11.4	56.0
A	11	345 49.8	N16 23.1	50 01.3	13.0	S14 37.5	11.4	56.0
Y								
	12	0 49.9	N16 23.8	64 33.4	13.1	S14 26.0	11.5	56.0
	13	15 49.9	N16 24.5	79 05.6	13.2	S14 14.5	11.5	55.9
	14	30 50.0	N16 25.2	93 37.8	13.3	S14 02.9	11.6	55.9
	15	45 50.0	N16 25.9	108 10.1	13.3	S13 51.3	11.6	55.9
	16	60 50.1	N16 26.6	122 42.6	13.4	S13 39.6	11.7	55.9
	17	75 50.1	N16 27.3	137 15.1	13.5	S13 27.9	11.7	55.8
	18	90 50.2	N16 28.0	151 47.6	13.6	S13 16.2	11.8	55.8
	19	105 50.2	N16 28.7	166 20.3	13.6	S13 04.3	11.8	55.8
	20	120 50.3	N16 29.4	180 53.0	13.7	S12 52.5	11.9	55.7
	21	135 50.3	N16 30.1	195 25.8	13.8	S12 40.6	11.9	55.7
	22	150 50.4	N16 30.8	209 58.6	13.9	S12 28.6	12.0	55.7
	23	165 50.4	N16 31.5	224 31.6	13.9	S12 16.6	12.0	55.7
6	0	180 50.5	N16 32.2	239 04.6	14.0	S12 04.6	12.0	55.6
	1	195 50.5	N16 32.9	253 37.6	14.1	S11 52.5	12.1	55.6
	2	210 50.6	N16 33.6	268 10.8	14.1	S11 40.4	12.1	55.6
	3	225 50.6	N16 34.3	282 44.0	14.2	S11 28.2	12.2	55.6
	4	240 50.6	N16 35.0	297 17.3	14.3	S11 16.0	12.2	55.5
T	5	255 50.7	N16 35.7	311 50.6	14.3	S11 03.8	12.2	55.5
H								
U	6	270 50.7	N16 36.4	326 24.0	14.4	S10 51.5	12.3	55.5
R	7	285 50.8	N16 37.1	340 57.5	14.5	S10 39.2	12.3	55.5
S	8	300 50.8	N16 37.8	355 31.0	14.5	S10 26.9	12.3	55.4
D	9	315 50.9	N16 38.5	10 04.6	14.6	S10 14.5	12.4	55.4
A	10	330 50.9	N16 39.2	24 38.3	14.7	S10 02.1	12.4	55.4
Y	11	345 51.0	N16 39.9	39 12.0	14.7	S 9 49.7	12.4	55.4
	12	0 51.0	N16 40.6	53 45.8	14.8	S 9 37.2	12.5	55.3
	13	15 51.0	N16 41.3	68 19.6	14.8	S 9 24.7	12.5	55.3
	14	30 51.1	N16 42.0	82 53.5	14.9	S 9 12.2	12.5	55.3
	15	45 51.1	N16 42.7	97 27.4	14.9	S 8 59.6	12.6	55.3
	16	60 51.2	N16 43.4	112 01.4	15.0	S 8 47.0	12.6	55.3
	17	75 51.2	N16 44.1	126 35.4	15.0	S 8 34.4	12.6	55.2
	18	90 51.3	N16 44.8	141 09.5	15.1	S 8 21.8	12.6	55.2
	19	105 51.3	N16 45.5	155 43.7	15.1	S 8 09.1	12.7	55.2
	20	120 51.3	N16 46.2	170 17.9	15.2	S 7 56.4	12.7	55.2
	21	135 51.4	N16 46.9	184 52.1	15.2	S 7 43.7	12.7	55.2
	22	150 51.4	N16 47.6	199 26.4	15.3	S 7 31.0	12.7	55.1
	23	165 51.5	N16 48.2	214 00.8	15.3	S 7 18.2	12.8	55.1
		S.D. 15.9	d 0.7	S.D.	15.4		15.2	15.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.3
Achernar	335 23.1	S57 07.8
Acrux	173 02.9	S63 13.1
Adhara	255 08.4	S29 00.3
Albireo	67 06.3	N28 00.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.9
Alkaid	152 54.0	N49 12.5
Al Na-ir	27 36.8	S46 51.4
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.7	S 8 45.1
Alphecca	126 06.0	N26 38.5
Alpheratz	357 38.1	N29 12.2
Altair	62 02.8	N 8 55.3
Ankaa	353 10.5	S42 11.5
Antares	112 19.2	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 15.7	S69 03.8
Avior	234 16.0	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.1	S52 42.7
Capella	280 26.8	N46 01.2
Castor	246 01.1	N31 50.6
Deneb	49 27.8	N45 21.0
Denebola	182 27.8	N14 27.2
Diphda	348 50.6	S17 52.3
Dubhe	193 44.5	N61 38.4
Elnath	278 06.0	N28 37.4
Eltanin	90 43.2	N51 28.9
Enif	33 41.7	N 9 58.1
Fomalhaut	15 18.0	S29 30.6
Gacrux	171 54.5	S57 14.1
Gienah	175 46.4	S17 39.6
Hadar	148 39.7	S60 28.6
Hamal	327 55.0	N23 33.6
Kaus Austr.	83 36.3	S34 22.4
Kochab	137 18.8	N74 04.1
Markab	13 33.1	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.6
Miaplacidus	221 38.7	S69 48.5
Mirfak	308 33.1	N49 56.1
Nunki	75 51.3	S26 16.1
Peacock	53 10.4	S56 39.8
Polaris	317 45.8	N89 20.3
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.2
Rasalhague	96 01.1	N12 32.6
Regulus	207 37.6	N11 51.8
Rigel	281 07.1	S 8 10.8
Rigil Kent	139 43.9	S60 55.4
Sabik	102 06.0	S15 45.1
Schedar	349 34.9	N56 38.9
Shaula	96 14.1	S37 07.1
Sirius	258 29.1	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.5	S43 31.3
Vega	80 35.0	N38 48.0
Zuben-ubi	136 59.8	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
7	0	225 03.4	169 52.2	N19 28.8	126 01.4	N24 36.8	253 29.3	S12 29.1	269 06.9	S17 23.8
	1	240 05.8	184 51.5	N19 29.6	141 02.2	N24 36.7	268 31.5	S12 29.0	284 09.3	S17 23.7
	2	255 08.3	199 50.8	N19 30.4	156 03.0	N24 36.6	283 33.6	S12 28.9	299 11.7	S17 23.7
	3	270 10.7	214 50.2	N19 31.2	171 03.8	N24 36.5	298 35.8	S12 28.7	314 14.1	S17 23.7
	4	285 13.2	229 49.5	N19 32.0	186 04.6	N24 36.4	313 37.9	S12 28.6	329 16.5	S17 23.7
F	5	300 15.7	244 48.8	N19 32.8	201 05.4	N24 36.3	328 40.1	S12 28.5	344 18.8	S17 23.7
R										
I	6	315 18.1	259 48.1	N19 33.6	216 06.1	N24 36.2	343 42.2	S12 28.4	359 21.2	S17 23.7
D	7	330 20.6	274 47.4	N19 34.4	231 06.9	N24 36.1	358 44.4	S12 28.3	14 23.6	S17 23.7
A	8	345 23.1	289 46.7	N19 35.2	246 07.7	N24 36.0	13 46.6	S12 28.2	29 26.0	S17 23.6
Y	9	0 25.5	304 46.0	N19 36.0	261 08.5	N24 35.9	28 48.7	S12 28.1	44 28.4	S17 23.6
	10	15 28.0	319 45.3	N19 36.8	276 09.3	N24 35.8	43 50.9	S12 28.0	59 30.8	S17 23.6
	11	30 30.5	334 44.6	N19 37.6	291 10.1	N24 35.7	58 53.0	S12 27.9	74 33.2	S17 23.6
	12	45 32.9	349 43.9	N19 38.3	306 10.9	N24 35.6	73 55.2	S12 27.8	89 35.6	S17 23.6
	13	60 35.4	4 43.2	N19 39.1	321 11.7	N24 35.5	88 57.3	S12 27.7	104 38.0	S17 23.6
	14	75 37.8	19 42.5	N19 39.9	336 12.5	N24 35.4	103 59.5	S12 27.6	119 40.4	S17 23.6
	15	90 40.3	34 41.8	N19 40.7	351 13.3	N24 35.3	119 01.6	S12 27.5	134 42.8	S17 23.6
	16	105 42.8	49 41.1	N19 41.5	6 14.1	N24 35.2	134 03.8	S12 27.4	149 45.2	S17 23.5
	17	120 45.2	64 40.4	N19 42.3	21 14.9	N24 35.1	149 06.0	S12 27.3	164 47.6	S17 23.5
	18	135 47.7	79 39.7	N19 43.0	36 15.7	N24 35.0	164 08.1	S12 27.2	179 50.0	S17 23.5
	19	150 50.2	94 39.0	N19 43.8	51 16.5	N24 34.9	179 10.3	S12 27.1	194 52.4	S17 23.5
	20	165 52.6	109 38.3	N19 44.6	66 17.2	N24 34.7	194 12.4	S12 27.0	209 54.8	S17 23.5
	21	180 55.1	124 37.6	N19 45.4	81 18.0	N24 34.6	209 14.6	S12 26.9	224 57.2	S17 23.5
	22	195 57.6	139 36.9	N19 46.2	96 18.8	N24 34.5	224 16.7	S12 26.8	239 59.6	S17 23.5
	23	211 00.0	154 36.2	N19 46.9	111 19.6	N24 34.4	239 18.9	S12 26.7	255 02.0	S17 23.5
8	0	226 02.5	169 35.5	N19 47.7	126 20.4	N24 34.3	254 21.1	S12 26.6	270 04.4	S17 23.4
	1	241 05.0	184 34.8	N19 48.5	141 21.2	N24 34.2	269 23.2	S12 26.5	285 06.8	S17 23.4
	2	256 07.4	199 34.1	N19 49.3	156 22.0	N24 34.1	284 25.4	S12 26.4	300 09.2	S17 23.4
	3	271 09.9	214 33.4	N19 50.0	171 22.8	N24 34.0	299 27.5	S12 26.3	315 11.6	S17 23.4
	4	286 12.3	229 32.7	N19 50.8	186 23.6	N24 33.9	314 29.7	S12 26.2	330 14.0	S17 23.4
S	5	301 14.8	244 32.0	N19 51.6	201 24.4	N24 33.8	329 31.8	S12 26.1	345 16.4	S17 23.4
A										
T	6	316 17.3	259 31.3	N19 52.3	216 25.2	N24 33.7	344 34.0	S12 26.0	0 18.8	S17 23.4
U	7	331 19.7	274 30.6	N19 53.1	231 26.0	N24 33.5	359 36.2	S12 25.9	15 21.2	S17 23.4
R	8	346 22.2	289 29.9	N19 53.9	246 26.8	N24 33.4	14 38.3	S12 25.8	30 23.6	S17 23.3
D	9	1 24.7	304 29.2	N19 54.7	261 27.6	N24 33.3	29 40.5	S12 25.7	45 26.0	S17 23.3
A	10	16 27.1	319 28.5	N19 55.4	276 28.4	N24 33.2	44 42.6	S12 25.6	60 28.4	S17 23.3
Y	11	31 29.6	334 27.8	N19 56.2	291 29.1	N24 33.1	59 44.8	S12 25.5	75 30.8	S17 23.3
	12	46 32.1	349 27.1	N19 57.0	306 29.9	N24 33.0	74 47.0	S12 25.4	90 33.2	S17 23.3
	13	61 34.5	4 26.4	N19 57.7	321 30.7	N24 32.9	89 49.1	S12 25.3	105 35.6	S17 23.3
	14	76 37.0	19 25.7	N19 58.5	336 31.5	N24 32.8	104 51.3	S12 25.2	120 38.0	S17 23.3
	15	91 39.5	34 25.0	N19 59.2	351 32.3	N24 32.7	119 53.5	S12 25.1	135 40.4	S17 23.3
	16	106 41.9	49 24.3	N20 00.0	6 33.1	N24 32.5	134 55.6	S12 25.0	150 42.8	S17 23.3
	17	121 44.4	64 23.6	N20 00.8	21 33.9	N24 32.4	149 57.8	S12 24.9	165 45.2	S17 23.2
	18	136 46.8	79 22.9	N20 01.5	36 34.7	N24 32.3	164 59.9	S12 24.8	180 47.6	S17 23.2
	19	151 49.3	94 22.1	N20 02.3	51 35.5	N24 32.2	180 02.1	S12 24.7	195 50.0	S17 23.2
	20	166 51.8	109 21.4	N20 03.0	66 36.3	N24 32.1	195 04.3	S12 24.6	210 52.4	S17 23.2
	21	181 54.2	124 20.7	N20 03.8	81 37.1	N24 32.0	210 06.4	S12 24.5	225 54.8	S17 23.2
	22	196 56.7	139 20.0	N20 04.5	96 37.9	N24 31.9	225 08.6	S12 24.4	240 57.2	S17 23.2
	23	211 59.2	154 19.3	N20 05.3	111 38.7	N24 31.7	240 10.8	S12 24.3	255 59.6	S17 23.2
9	0	227 01.6	169 18.6	N20 06.1	126 39.5	N24 31.6	255 12.9	S12 24.2	271 02.0	S17 23.2
	1	242 04.1	184 17.9	N20 06.8	141 40.3	N24 31.5	270 15.1	S12 24.1	286 04.4	S17 23.1
	2	257 06.6	199 17.2	N20 07.6	156 41.1	N24 31.4	285 17.3	S12 24.0	301 06.9	S17 23.1
	3	272 09.0	214 16.4	N20 08.3	171 41.8	N24 31.3	300 19.4	S12 23.9	316 09.3	S17 23.1
	4	287 11.5	229 15.7	N20 09.1	186 42.6	N24 31.2	315 21.6	S12 23.8	331 11.7	S17 23.1
S	5	302 13.9	244 15.0	N20 09.8	201 43.4	N24 31.1	330 23.7	S12 23.7	346 14.1	S17 23.1
U										
N	6	317 16.4	259 14.3	N20 10.6	216 44.2	N24 30.9	345 25.9	S12 23.6	1 16.5	S17 23.1
D	7	332 18.9	274 13.6	N20 11.3	231 45.0	N24 30.8	0 28.1	S12 23.5	16 18.9	S17 23.1
A	8	347 21.3	289 12.9	N20 12.1	246 45.8	N24 30.7	15 30.2	S12 23.4	31 21.3	S17 23.1
Y	9	2 23.8	304 12.2	N20 12.8	261 46.6	N24 30.6	30 32.4	S12 23.3	46 23.7	S17 23.1
	10	17 26.3	319 11.4	N20 13.5	276 47.4	N24 30.5	45 34.6	S12 23.2	61 26.1	S17 23.0
	11	32 28.7	334 10.7	N20 14.3	291 48.2	N24 30.3	60 36.7	S12 23.1	76 28.5	S17 23.0
	12	47 31.2	349 10.0	N20 15.0	306 49.0	N24 30.2	75 38.9	S12 23.0	91 30.9	S17 23.0
	13	62 33.7	4 09.3	N20 15.8	321 49.8	N24 30.1	90 41.1	S12 22.9	106 33.3	S17 23.0
	14	77 36.1	19 08.6	N20 16.5	336 50.6	N24 30.0	105 43.2	S12 22.8	121 35.7	S17 23.0
	15	92 38.6	34 07.8	N20 17.2	351 51.4	N24 29.9	120 45.4	S12 22.7	136 38.1	S17 23.0
	16	107 41.1	49 07.1	N20 18.0	6 52.2	N24 29.8	135 47.6	S12 22.6	151 40.5	S17 23.0
	17	122 43.5	64 06.4	N20 18.7	21 53.0	N24 29.6	150 49.7	S12 22.5	166 42.9	S17 23.0
	18	137 46.0	79 05.7	N20 19.5	36 53.8	N24 29.5	165 51.9	S12 22.4	181 45.3	S17 23.0
	19	152 48.4	94 05.0	N20 20.2	51 54.6	N24 29.4	180 54.1	S12 22.3	196 47.7	S17 23.0
	20	167 50.9	109 04.2	N20 20.9	66 55.3	N24 29.3	195 56.3	S12 22.2	211 50.1	S17 22.9
	21	182 53.4	124 03.5	N20 21.7	81 56.1	N24 29.1	210 58.4	S12 22.1	226 52.6	S17 22.9
	22	197 55.8	139 02.8	N20 22.4	96 56.9	N24 29.0	226 00.6	S12 22.0	241 55.0	S17 22.9
	23	212 58.3	154 02.1	N20 23.1	111 57.7	N24 28.9	241 02.8	S12 21.9	256 57.4	S17 22.9
			v -0.7	d 0.8	v 0.8	d 0.1	v 2.2	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
7 0	180 51.5	N16 48.9	228 35.2	15.4 S	7 05.5	12.8	55.1	Acamar	315 14.5 S40 13.3
1	195 51.6	N16 49.6	243 09.6	15.4 S	6 52.7	12.8	55.1	Achernar	335 23.1 S57 07.7
2	210 51.6	N16 50.3	257 44.1	15.5 S	6 39.9	12.8	55.0	Acrux	173 02.9 S63 13.1
3	225 51.6	N16 51.0	272 18.6	15.5 S	6 27.0	12.8	55.0	Adhara	255 08.4 S29 00.3
4	240 51.7	N16 51.7	286 53.2	15.6 S	6 14.2	12.8	55.0	Albireo	67 06.3 N28 00.0
F 5	255 51.7	N16 52.4	301 27.8	15.6 S	6 01.3	12.9	55.0		
R								Aldebaran	290 43.4 N16 33.0
I 6	270 51.7	N16 53.1	316 02.4	15.6 S	5 48.4	12.9	55.0	Alioth	166 15.2 N55 50.9
D 7	285 51.8	N16 53.8	330 37.1	15.7 S	5 35.5	12.9	54.9	Alkaid	152 54.0 N49 12.5
A 8	300 51.8	N16 54.4	345 11.8	15.7 S	5 22.6	12.9	54.9	Al Na-ir	27 36.8 S46 51.4
Y 9	315 51.9	N16 55.1	359 46.5	15.8 S	5 09.7	12.9	54.9	Alnilam	275 41.0 S 1 11.4
10	330 51.9	N16 55.8	14 21.3	15.8 S	4 56.8	12.9	54.9		
11	345 51.9	N16 56.5	28 56.2	15.8 S	4 43.8	12.9	54.9	Alphard	217 50.7 S 8 45.1
								Alphecca	126 06.0 N26 38.6
12	0 52.0	N16 57.2	43 31.0	15.9 S	4 30.9	13.0	54.9	Alpheratz	357 38.1 N29 12.2
13	15 52.0	N16 57.9	58 05.9	15.9 S	4 17.9	13.0	54.8	Altair	62 02.8 N 8 55.3
14	30 52.1	N16 58.5	72 40.8	15.9 S	4 05.0	13.0	54.8	Ankaa	353 10.5 S42 11.5
15	45 52.1	N16 59.2	87 15.8	16.0 S	3 52.0	13.0	54.8		
16	60 52.1	N16 59.9	101 50.8	16.0 S	3 39.0	13.0	54.8	Antares	112 19.2 S26 28.7
17	75 52.2	N17 00.6	116 25.8	16.0 S	3 26.0	13.0	54.8	Arcturus	145 50.4 N19 04.3
								Atria	107 15.7 S69 03.8
18	90 52.2	N17 01.3	131 00.8	16.0 S	3 13.0	13.0	54.7	Avior	234 16.1 S59 34.9
19	105 52.2	N17 02.0	145 35.9	16.1 S	2 60.0	13.0	54.7	Bellatrix	278 26.4 N 6 22.0
20	120 52.3	N17 02.6	160 11.0	16.1 S	2 47.0	13.0	54.7		
21	135 52.3	N17 03.3	174 46.1	16.1 S	2 33.9	13.0	54.7	Betelgeuse	270 55.6 N 7 24.6
22	150 52.3	N17 04.0	189 21.2	16.1 S	2 20.9	13.0	54.7	Canopus	263 54.1 S52 42.7
23	165 52.4	N17 04.7	203 56.4	16.2 S	2 07.9	13.0	54.7	Capella	280 26.8 N46 01.2
8 0	180 52.4	N17 05.4	218 31.5	16.2 S	1 54.9	13.0	54.7	Castor	246 01.1 N31 50.6
1	195 52.4	N17 06.0	233 06.7	16.2 S	1 41.8	13.0	54.6	Deneb	49 27.7 N45 21.0
2	210 52.5	N17 06.7	247 42.0	16.2 S	1 28.8	13.0	54.6		
3	225 52.5	N17 07.4	262 17.2	16.2 S	1 15.8	13.0	54.6	Denebola	182 27.8 N14 27.3
4	240 52.5	N17 08.1	276 52.4	16.3 S	1 02.8	13.0	54.6	Diphda	348 50.6 S17 52.3
S 5	255 52.6	N17 08.7	291 27.7	16.3 S	0 49.8	13.0	54.6	Dubhe	193 44.5 N61 38.4
A								Elnath	278 06.0 N28 37.4
T 6	270 52.6	N17 09.4	306 03.0	16.3 S	0 36.7	13.0	54.6	Eltanin	90 43.2 N51 28.9
U 7	285 52.6	N17 10.1	320 38.3	16.3 S	0 23.7	13.0	54.5		
R 8	300 52.7	N17 10.8	335 13.6	16.3 S	0 10.7	13.0	54.5	Enif	33 41.7 N 9 58.1
D 9	315 52.7	N17 11.4	349 48.9	16.3 N	0 02.3	13.0	54.5	Fomalhaut	15 18.0 S29 30.6
A 10	330 52.7	N17 12.1	4 24.3	16.3 N	0 15.3	13.0	54.5	Gacrux	171 54.5 S57 14.1
Y 11	345 52.8	N17 12.8	18 59.6	16.3 N	0 28.3	13.0	54.5	Gienah	175 46.4 S17 39.6
								Hadar	148 39.7 S60 28.6
12	0 52.8	N17 13.5	33 35.0	16.4 N	0 41.3	13.0	54.5		
13	15 52.8	N17 14.1	48 10.4	16.4 N	0 54.3	13.0	54.5	Hamal	327 55.0 N23 33.6
14	30 52.9	N17 14.8	62 45.7	16.4 N	1 07.2	13.0	54.4	Kaus Austr.	83 36.3 S34 22.4
15	45 52.9	N17 15.5	77 21.1	16.4 N	1 20.2	13.0	54.4	Kochab	137 18.8 N74 04.2
16	60 52.9	N17 16.2	91 56.5	16.4 N	1 33.1	13.0	54.4	Markab	13 33.0 N15 18.9
17	75 53.0	N17 16.8	106 31.9	16.4 N	1 46.1	12.9	54.4	Menkar	314 09.6 N 4 10.2
								Menkent	148 00.8 S36 28.6
18	90 53.0	N17 17.5	121 07.3	16.4 N	1 59.0	12.9	54.4	Miaplacidus	221 38.7 S69 48.5
19	105 53.0	N17 18.2	135 42.7	16.4 N	2 11.9	12.9	54.4	Mirfak	308 33.1 N49 56.1
20	120 53.0	N17 18.8	150 18.1	16.4 N	2 24.8	12.9	54.4	Nunki	75 51.3 S26 16.1
21	135 53.1	N17 19.5	164 53.5	16.4 N	2 37.7	12.9	54.4	Peacock	53 10.3 S56 39.8
22	150 53.1	N17 20.2	179 28.9	16.4 N	2 50.6	12.9	54.3		
23	165 53.1	N17 20.8	194 04.3	16.4 N	3 03.5	12.9	54.3	Polaris	317 45.6 N89 20.3
9 0	180 53.2	N17 21.5	208 39.7	16.4 N	3 16.3	12.8	54.3	Pollux	243 21.2 N27 58.5
1	195 53.2	N17 22.2	223 15.1	16.4 N	3 29.1	12.8	54.3	Procyon	244 54.1 N 5 10.2
2	210 53.2	N17 22.8	237 50.5	16.4 N	3 42.0	12.8	54.3	Rasalhague	96 01.1 N12 32.6
3	225 53.2	N17 23.5	252 25.9	16.4 N	3 54.7	12.8	54.3	Regulus	207 37.6 N11 51.8
4	240 53.3	N17 24.2	267 01.3	16.4 N	4 07.5	12.8	54.3		
S 5	255 53.3	N17 24.8	281 36.7	16.4 N	4 20.3	12.8	54.3	Rigel	281 07.1 S 8 10.8
U								Rigil Kent	139 43.9 S60 55.4
N 6	270 53.3	N17 25.5	296 12.1	16.4 N	4 33.0	12.7	54.3	Sabik	102 06.0 S15 45.1
D 7	285 53.4	N17 26.2	310 47.4	16.4 N	4 45.7	12.7	54.3	Schedar	349 34.8 N56 38.9
A 8	300 53.4	N17 26.8	325 22.8	16.4 N	4 58.4	12.7	54.2	Shaula	96 14.1 S37 07.1
Y 9	315 53.4	N17 27.5	339 58.1	16.4 N	5 11.1	12.7	54.2	Sirius	258 29.1 S16 44.9
10	330 53.4	N17 28.1	354 33.5	16.3 N	5 23.7	12.7	54.2	Spica	158 25.2 S11 16.4
11	345 53.5	N17 28.8	9 08.8	16.3 N	5 36.4	12.6	54.2	Suhail	222 48.5 S43 31.3
								Vega	80 35.0 N38 48.0
12	0 53.5	N17 29.5	23 44.1	16.3 N	5 49.0	12.6	54.2	Zuben-ubi	136 59.8 S16 07.8
13	15 53.5	N17 30.1	38 19.4	16.3 N	6 01.6	12.6	54.2		
14	30 53.5	N17 30.8	52 54.7	16.3 N	6 14.1	12.6	54.2		
15	45 53.6	N17 31.4	67 30.0	16.3 N	6 26.6	12.5	54.2		
16	60 53.6	N17 32.1	82 05.3	16.3 N	6 39.1	12.5	54.2		
17	75 53.6	N17 32.8	96 40.5	16.2 N	6 51.6	12.5	54.2		
18	90 53.6	N17 33.4	111 15.7	16.2 N	7 04.0	12.4	54.2		
19	105 53.7	N17 34.1	125 51.0	16.2 N	7 16.5	12.4	54.1		
20	120 53.7	N17 34.7	140 26.1	16.2 N	7 28.8	12.4	54.1		
21	135 53.7	N17 35.4	155 01.3	16.2 N	7 41.2	12.4	54.1		
22	150 53.7	N17 36.0	169 36.5	16.2 N	7 53.5	12.3	54.1		
23	165 53.8	N17 36.7	184 11.6	16.1 N	8 05.8	12.3	54.1		
	S.D. 15.8	d 0.7	S.D.	14.9	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 ° '
10	0	228 00.8	169 01.4	N20 23.9	126 58.5	N24 28.8	256 04.9	S12 21.8	271 59.8	S17 22.9
	1	243 03.2	184 00.6	N20 24.6	141 59.3	N24 28.7	271 07.1	S12 21.7	287 02.2	S17 22.9
	2	258 05.7	198 59.9	N20 25.3	157 00.1	N24 28.5	286 09.3	S12 21.6	302 04.6	S17 22.9
	3	273 08.2	213 59.2	N20 26.0	172 00.9	N24 28.4	301 11.4	S12 21.5	317 07.0	S17 22.9
	4	288 10.6	228 58.5	N20 26.8	187 01.7	N24 28.3	316 13.6	S12 21.4	332 09.4	S17 22.9
M	5	303 13.1	243 57.7	N20 27.5	202 02.5	N24 28.2	331 15.8	S12 21.3	347 11.8	S17 22.9
O										
N	6	318 15.5	258 57.0	N20 28.2	217 03.3	N24 28.0	346 18.0	S12 21.2	2 14.2	S17 22.8
D	7	333 18.0	273 56.3	N20 28.9	232 04.1	N24 27.9	1 20.1	S12 21.1	17 16.6	S17 22.8
A	8	348 20.5	288 55.5	N20 29.7	247 04.9	N24 27.8	16 22.3	S12 21.1	32 19.0	S17 22.8
Y	9	3 22.9	303 54.8	N20 30.4	262 05.7	N24 27.7	31 24.5	S12 21.0	47 21.5	S17 22.8
	10	18 25.4	318 54.1	N20 31.1	277 06.5	N24 27.5	46 26.6	S12 20.9	62 23.9	S17 22.8
	11	33 27.9	333 53.4	N20 31.8	292 07.3	N24 27.4	61 28.8	S12 20.8	77 26.3	S17 22.8
	12	48 30.3	348 52.6	N20 32.6	307 08.1	N24 27.3	76 31.0	S12 20.7	92 28.7	S17 22.8
	13	63 32.8	3 51.9	N20 33.3	322 08.9	N24 27.2	91 33.2	S12 20.6	107 31.1	S17 22.8
	14	78 35.3	18 51.2	N20 34.0	337 09.6	N24 27.0	106 35.3	S12 20.5	122 33.5	S17 22.8
	15	93 37.7	33 50.4	N20 34.7	352 10.4	N24 26.9	121 37.5	S12 20.4	137 35.9	S17 22.8
	16	108 40.2	48 49.7	N20 35.4	7 11.2	N24 26.8	136 39.7	S12 20.3	152 38.3	S17 22.7
	17	123 42.7	63 49.0	N20 36.1	22 12.0	N24 26.7	151 41.9	S12 20.2	167 40.7	S17 22.7
	18	138 45.1	78 48.2	N20 36.8	37 12.8	N24 26.5	166 44.0	S12 20.1	182 43.1	S17 22.7
	19	153 47.6	93 47.5	N20 37.6	52 13.6	N24 26.4	181 46.2	S12 20.0	197 45.6	S17 22.7
	20	168 50.0	108 46.8	N20 38.3	67 14.4	N24 26.3	196 48.4	S12 19.9	212 48.0	S17 22.7
	21	183 52.5	123 46.0	N20 39.0	82 15.2	N24 26.1	211 50.6	S12 19.8	227 50.4	S17 22.7
	22	198 55.0	138 45.3	N20 39.7	97 16.0	N24 26.0	226 52.7	S12 19.7	242 52.8	S17 22.7
	23	213 57.4	153 44.6	N20 40.4	112 16.8	N24 25.9	241 54.9	S12 19.6	257 55.2	S17 22.7
11	0	228 59.9	168 43.8	N20 41.1	127 17.6	N24 25.8	256 57.1	S12 19.5	272 57.6	S17 22.7
	1	244 02.4	183 43.1	N20 41.8	142 18.4	N24 25.6	271 59.3	S12 19.4	288 00.0	S17 22.7
	2	259 04.8	198 42.4	N20 42.5	157 19.2	N24 25.5	287 01.4	S12 19.3	303 02.4	S17 22.7
	3	274 07.3	213 41.6	N20 43.2	172 20.0	N24 25.4	302 03.6	S12 19.2	318 04.8	S17 22.6
	4	289 09.8	228 40.9	N20 43.9	187 20.8	N24 25.2	317 05.8	S12 19.1	333 07.3	S17 22.6
T	5	304 12.2	243 40.2	N20 44.6	202 21.6	N24 25.1	332 08.0	S12 19.0	348 09.7	S17 22.6
U										
E	6	319 14.7	258 39.4	N20 45.3	217 22.4	N24 25.0	347 10.1	S12 18.9	3 12.1	S17 22.6
S	7	334 17.2	273 38.7	N20 46.0	232 23.2	N24 24.8	2 12.3	S12 18.9	18 14.5	S17 22.6
D	8	349 19.6	288 38.0	N20 46.7	247 24.0	N24 24.7	17 14.5	S12 18.8	33 16.9	S17 22.6
A	9	4 22.1	303 37.2	N20 47.4	262 24.8	N24 24.6	32 16.7	S12 18.7	48 19.3	S17 22.6
Y	10	19 24.5	318 36.5	N20 48.1	277 25.5	N24 24.4	47 18.9	S12 18.6	63 21.7	S17 22.6
	11	34 27.0	333 35.7	N20 48.8	292 26.3	N24 24.3	62 21.0	S12 18.5	78 24.1	S17 22.6
	12	49 29.5	348 35.0	N20 49.5	307 27.1	N24 24.2	77 23.2	S12 18.4	93 26.6	S17 22.6
	13	64 31.9	3 34.3	N20 50.2	322 27.9	N24 24.1	92 25.4	S12 18.3	108 29.0	S17 22.6
	14	79 34.4	18 33.5	N20 50.9	337 28.7	N24 23.9	107 27.6	S12 18.2	123 31.4	S17 22.6
	15	94 36.9	33 32.8	N20 51.6	352 29.5	N24 23.8	122 29.8	S12 18.1	138 33.8	S17 22.5
	16	109 39.3	48 32.0	N20 52.3	7 30.3	N24 23.6	137 31.9	S12 18.0	153 36.2	S17 22.5
	17	124 41.8	63 31.3	N20 53.0	22 31.1	N24 23.5	152 34.1	S12 17.9	168 38.6	S17 22.5
	18	139 44.3	78 30.5	N20 53.7	37 31.9	N24 23.4	167 36.3	S12 17.8	183 41.0	S17 22.5
	19	154 46.7	93 29.8	N20 54.4	52 32.7	N24 23.2	182 38.5	S12 17.7	198 43.5	S17 22.5
	20	169 49.2	108 29.1	N20 55.1	67 33.5	N24 23.1	197 40.7	S12 17.6	213 45.9	S17 22.5
	21	184 51.6	123 28.3	N20 55.7	82 34.3	N24 23.0	212 42.8	S12 17.5	228 48.3	S17 22.5
	22	199 54.1	138 27.6	N20 56.4	97 35.1	N24 22.8	227 45.0	S12 17.4	243 50.7	S17 22.5
	23	214 56.6	153 26.8	N20 57.1	112 35.9	N24 22.7	242 47.2	S12 17.3	258 53.1	S17 22.5
12	0	229 59.0	168 26.1	N20 57.8	127 36.7	N24 22.6	257 49.4	S12 17.3	273 55.5	S17 22.5
	1	245 01.5	183 25.3	N20 58.5	142 37.5	N24 22.4	272 51.6	S12 17.2	288 58.0	S17 22.5
	2	260 04.0	198 24.6	N20 59.2	157 38.3	N24 22.3	287 53.7	S12 17.1	304 00.4	S17 22.5
	3	275 06.4	213 23.8	N20 59.8	172 39.1	N24 22.2	302 55.9	S12 17.0	319 02.8	S17 22.5
	4	290 08.9	228 23.1	N21 00.5	187 39.9	N24 22.0	317 58.1	S12 16.9	334 05.2	S17 22.4
W	5	305 11.4	243 22.3	N21 01.2	202 40.7	N24 21.9	333 00.3	S12 16.8	349 07.6	S17 22.4
E										
D	6	320 13.8	258 21.6	N21 01.9	217 41.5	N24 21.7	348 02.5	S12 16.7	4 10.0	S17 22.4
N	7	335 16.3	273 20.8	N21 02.6	232 42.3	N24 21.6	3 04.7	S12 16.6	19 12.4	S17 22.4
E	8	350 18.8	288 20.1	N21 03.2	247 43.1	N24 21.5	18 06.8	S12 16.5	34 14.9	S17 22.4
S	9	5 21.2	303 19.3	N21 03.9	262 43.8	N24 21.3	33 09.0	S12 16.4	49 17.3	S17 22.4
D	10	20 23.7	318 18.6	N21 04.6	277 44.6	N24 21.2	48 11.2	S12 16.3	64 19.7	S17 22.4
A	11	35 26.1	333 17.8	N21 05.2	292 45.4	N24 21.0	63 13.4	S12 16.2	79 22.1	S17 22.4
Y										
	12	50 28.6	348 17.1	N21 05.9	307 46.2	N24 20.9	78 15.6	S12 16.1	94 24.5	S17 22.4
	13	65 31.1	3 16.3	N21 06.6	322 47.0	N24 20.8	93 17.8	S12 16.1	109 27.0	S17 22.4
	14	80 33.5	18 15.6	N21 07.3	337 47.8	N24 20.6	108 20.0	S12 16.0	124 29.4	S17 22.4
	15	95 36.0	33 14.8	N21 07.9	352 48.6	N24 20.5	123 22.1	S12 15.9	139 31.8	S17 22.4
	16	110 38.5	48 14.1	N21 08.6	7 49.4	N24 20.3	138 24.3	S12 15.8	154 34.2	S17 22.4
	17	125 40.9	63 13.3	N21 09.3	22 50.2	N24 20.2	153 26.5	S12 15.7	169 36.6	S17 22.3
	18	140 43.4	78 12.6	N21 09.9	37 51.0	N24 20.1	168 28.7	S12 15.6	184 39.0	S17 22.3
	19	155 45.9	93 11.8	N21 10.6	52 51.8	N24 19.9	183 30.9	S12 15.5	199 41.5	S17 22.3
	20	170 48.3	108 11.1	N21 11.3	67 52.6	N24 19.8	198 33.1	S12 15.4	214 43.9	S17 22.3
	21	185 50.8	123 10.3	N21 11.9	82 53.4	N24 19.6	213 35.3	S12 15.3	229 46.3	S17 22.3
	22	200 53.3	138 09.6	N21 12.6	97 54.2	N24 19.5	228 37.4	S12 15.2	244 48.7	S17 22.3
	23	215 55.7	153 08.8	N21 13.2	112 55.0	N24 19.3	243 39.6	S12 15.1	259 51.1	S17 22.3
			v -0.7	d 0.7	v 0.8	d 0.1	v 2.2	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
10	0	180 53.8	N17 37.3	198 46.7	16.1	N 8 18.1	12.3	54.1
	1	195 53.8	N17 38.0	213 21.8	16.1	N 8 30.3	12.2	54.1
	2	210 53.8	N17 38.7	227 56.9	16.1	N 8 42.5	12.2	54.1
	3	225 53.8	N17 39.3	242 31.9	16.0	N 8 54.6	12.2	54.1
	4	240 53.9	N17 40.0	257 06.9	16.0	N 9 06.7	12.1	54.1
M	5	255 53.9	N17 40.6	271 41.9	16.0	N 9 18.8	12.1	54.1
O								
N	6	270 53.9	N17 41.3	286 16.9	16.0	N 9 30.9	12.0	54.1
D	7	285 53.9	N17 41.9	300 51.8	15.9	N 9 42.9	12.0	54.1
A	8	300 53.9	N17 42.6	315 26.7	15.9	N 9 54.8	12.0	54.1
Y	9	315 54.0	N17 43.2	330 01.6	15.9	N10 06.8	11.9	54.0
	10	330 54.0	N17 43.9	344 36.4	15.9	N10 18.6	11.9	54.0
	11	345 54.0	N17 44.5	359 11.3	15.8	N10 30.5	11.8	54.0
	12	0 54.0	N17 45.2	13 46.1	15.8	N10 42.3	11.8	54.0
	13	15 54.0	N17 45.8	28 20.8	15.8	N10 54.1	11.8	54.0
	14	30 54.1	N17 46.5	42 55.5	15.7	N11 05.8	11.7	54.0
	15	45 54.1	N17 47.1	57 30.2	15.7	N11 17.5	11.7	54.0
	16	60 54.1	N17 47.8	72 04.9	15.7	N11 29.1	11.6	54.0
	17	75 54.1	N17 48.4	86 39.5	15.6	N11 40.7	11.6	54.0
	18	90 54.1	N17 49.0	101 14.1	15.6	N11 52.2	11.5	54.0
	19	105 54.2	N17 49.7	115 48.7	15.6	N12 03.7	11.5	54.0
	20	120 54.2	N17 50.3	130 23.2	15.5	N12 15.1	11.4	54.0
	21	135 54.2	N17 51.0	144 57.7	15.5	N12 26.5	11.4	54.0
	22	150 54.2	N17 51.6	159 32.1	15.4	N12 37.9	11.3	54.0
	23	165 54.2	N17 52.3	174 06.5	15.4	N12 49.2	11.3	54.0
11	0	180 54.2	N17 52.9	188 40.9	15.4	N13 00.4	11.2	54.0
	1	195 54.3	N17 53.5	203 15.2	15.3	N13 11.6	11.2	54.0
	2	210 54.3	N17 54.2	217 49.5	15.3	N13 22.8	11.1	54.0
	3	225 54.3	N17 54.8	232 23.7	15.2	N13 33.9	11.1	54.0
	4	240 54.3	N17 55.5	246 57.9	15.2	N13 44.9	11.0	54.0
T	5	255 54.3	N17 56.1	261 32.1	15.2	N13 55.9	11.0	54.0
U								
E	6	270 54.3	N17 56.7	276 06.2	15.1	N14 06.8	10.9	54.0
S	7	285 54.3	N17 57.4	290 40.3	15.1	N14 17.7	10.9	54.0
D	8	300 54.4	N17 58.0	305 14.3	15.0	N14 28.5	10.8	54.0
A	9	315 54.4	N17 58.7	319 48.3	15.0	N14 39.3	10.8	54.0
Y	10	330 54.4	N17 59.3	334 22.3	14.9	N14 50.0	10.7	54.0
	11	345 54.4	N17 59.9	348 56.2	14.9	N15 00.6	10.6	53.9
	12	0 54.4	N18 00.6	3 30.0	14.9	N15 11.2	10.6	53.9
	13	15 54.4	N18 01.2	18 03.8	14.8	N15 21.7	10.5	53.9
	14	30 54.4	N18 01.8	32 37.6	14.8	N15 32.1	10.5	53.9
	15	45 54.5	N18 02.5	47 11.3	14.7	N15 42.5	10.4	53.9
	16	60 54.5	N18 03.1	61 45.0	14.7	N15 52.9	10.3	53.9
	17	75 54.5	N18 03.7	76 18.6	14.6	N16 03.1	10.3	53.9
	18	90 54.5	N18 04.4	90 52.1	14.6	N16 13.3	10.2	53.9
	19	105 54.5	N18 05.0	105 25.7	14.5	N16 23.5	10.1	53.9
	20	120 54.5	N18 05.6	119 59.1	14.5	N16 33.6	10.1	53.9
	21	135 54.5	N18 06.3	134 32.6	14.4	N16 43.6	10.0	53.9
	22	150 54.5	N18 06.9	149 05.9	14.4	N16 53.5	9.9	53.9
	23	165 54.5	N18 07.5	163 39.2	14.3	N17 03.4	9.9	53.9
12	0	180 54.6	N18 08.2	178 12.5	14.3	N17 13.2	9.8	53.9
	1	195 54.6	N18 08.8	192 45.7	14.2	N17 22.9	9.7	53.9
	2	210 54.6	N18 09.4	207 18.9	14.2	N17 32.6	9.7	53.9
	3	225 54.6	N18 10.0	221 52.0	14.1	N17 42.1	9.6	53.9
	4	240 54.6	N18 10.7	236 25.1	14.1	N17 51.7	9.5	53.9
W	5	255 54.6	N18 11.3	250 58.1	14.0	N18 01.1	9.4	53.9
E								
D	6	270 54.6	N18 11.9	265 31.0	14.0	N18 10.5	9.4	53.9
N	7	285 54.6	N18 12.6	280 03.9	13.9	N18 19.8	9.3	53.9
E	8	300 54.6	N18 13.2	294 36.8	13.8	N18 29.0	9.2	53.9
S	9	315 54.6	N18 13.8	309 09.6	13.8	N18 38.1	9.1	53.9
D	10	330 54.7	N18 14.4	323 42.3	13.7	N18 47.2	9.1	54.0
A	11	345 54.7	N18 15.1	338 15.0	13.7	N18 56.2	9.0	54.0
Y								
	12	0 54.7	N18 15.7	352 47.6	13.6	N19 05.1	8.9	54.0
	13	15 54.7	N18 16.3	7 20.2	13.6	N19 13.9	8.8	54.0
	14	30 54.7	N18 16.9	21 52.7	13.5	N19 22.7	8.7	54.0
	15	45 54.7	N18 17.5	36 25.2	13.5	N19 31.3	8.7	54.0
	16	60 54.7	N18 18.2	50 57.6	13.4	N19 39.9	8.6	54.0
	17	75 54.7	N18 18.8	65 29.9	13.4	N19 48.4	8.5	54.0
	18	90 54.7	N18 19.4	80 02.2	13.3	N19 56.8	8.4	54.0
	19	105 54.7	N18 20.0	94 34.4	13.2	N20 05.2	8.3	54.0
	20	120 54.7	N18 20.6	109 06.6	13.2	N20 13.4	8.2	54.0
	21	135 54.7	N18 21.3	123 38.8	13.1	N20 21.6	8.2	54.0
	22	150 54.7	N18 21.9	138 10.8	13.1	N20 29.7	8.1	54.0
	23	165 54.7	N18 22.5	152 42.8	13.0	N20 37.6	8.0	54.0
		S.D. 15.8	d 0.6	S.D.	14.7	14.7	14.7	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.5	S40 13.3
Achernar	335 23.0	S57 07.7
Acrux	173 02.9	S63 13.1
Adhara	255 08.5	S29 00.2
Albireo	67 06.3	N28 00.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.9
Alkaid	152 54.0	N49 12.6
Al Na-ir	27 36.8	S46 51.4
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.7	S 8 45.1
Alphecca	126 05.9	N26 38.6
Alpheratz	357 38.1	N29 12.2
Altair	62 02.7	N 8 55.3
Ankaa	353 10.5	S42 11.5
Antares	112 19.2	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 15.7	S69 03.8
Avior	234 16.1	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.1	S52 42.6
Capella	280 26.8	N46 01.2
Castor	246 01.1	N31 50.6
Deneb	49 27.7	N45 21.0
Denebola	182 27.8	N14 27.3
Diphda	348 50.6	S17 52.3
Dubhe	193 44.5	N61 38.4
Elnath	278 06.0	N28 37.4
Eltanin	90 43.2	N51 28.9
Enif	33 41.7	N 9 58.2
Fomalhaut	15 18.0	S29 30.6
Gacrux	171 54.5	S57 14.1
Gienah	175 46.5	S17 39.6
Hadar	148 39.7	S60 28.6
Hamal	327 54.9	N23 33.6
Kaus Austr.	83 36.3	S34 22.4
Kochab	137 18.8	N74 04.2
Markab	13 33.0	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.6
Miaplacidus	221 38.8	S69 48.5
Mirfak	308 33.1	N49 56.1
Nunki	75 51.3	S26 16.1
Peacock	53 10.3	S56 39.8
Polaris	317 45.1	N89 20.3
Pollux	243 21.2	N27 58.5
Procyon	244 54.1	N 5 10.2
Rasalhague	96 01.1	N12 32.6
Regulus	207 37.6	N11 51.8
Rigel	281 07.1	S 8 10.8
Rigil Kent	139 43.9	S60 55.4
Sabik	102 05.9	S15 45.1
Schedar	349 34.8	N56 38.9
Shaula	96 14.1	S37 07.1
Sirius	258 29.1	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.5	S43 31.3
Vega	80 35.0	N38 48.0
Zuben-ubi	136 59.8	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
13	0	230 58.2	168 08.0	N21 13.9	127 55.8	N24 19.2	258 41.8	S12 15.0	274 53.6	S17 22.3
	1	246 00.6	183 07.3	N21 14.6	142 56.6	N24 19.1	273 44.0	S12 15.0	289 56.0	S17 22.3
	2	261 03.1	198 06.5	N21 15.2	157 57.4	N24 18.9	288 46.2	S12 14.9	304 58.4	S17 22.3
	3	276 05.6	213 05.8	N21 15.9	172 58.2	N24 18.8	303 48.4	S12 14.8	320 00.8	S17 22.3
	4	291 08.0	228 05.0	N21 16.5	187 59.0	N24 18.6	318 50.6	S12 14.7	335 03.2	S17 22.3
T	5	306 10.5	243 04.3	N21 17.2	202 59.8	N24 18.5	333 52.8	S12 14.6	350 05.7	S17 22.3
H										
U	6	321 13.0	258 03.5	N21 17.8	218 00.6	N24 18.3	348 55.0	S12 14.5	5 08.1	S17 22.3
R	7	336 15.4	273 02.7	N21 18.5	233 01.4	N24 18.2	3 57.1	S12 14.4	20 10.5	S17 22.3
S	8	351 17.9	288 02.0	N21 19.1	248 02.2	N24 18.0	18 59.3	S12 14.3	35 12.9	S17 22.3
D	9	6 20.4	303 01.2	N21 19.8	263 03.0	N24 17.9	34 01.5	S12 14.2	50 15.3	S17 22.2
A	10	21 22.8	318 00.5	N21 20.4	278 03.8	N24 17.8	49 03.7	S12 14.1	65 17.8	S17 22.2
Y	11	36 25.3	332 59.7	N21 21.1	293 04.6	N24 17.6	64 05.9	S12 14.1	80 20.2	S17 22.2
	12	51 27.8	347 58.9	N21 21.7	308 05.4	N24 17.5	79 08.1	S12 14.0	95 22.6	S17 22.2
	13	66 30.2	2 58.2	N21 22.4	323 06.2	N24 17.3	94 10.3	S12 13.9	110 25.0	S17 22.2
	14	81 32.7	17 57.4	N21 23.0	338 06.9	N24 17.2	109 12.5	S12 13.8	125 27.5	S17 22.2
	15	96 35.1	32 56.6	N21 23.7	353 07.7	N24 17.0	124 14.7	S12 13.7	140 29.9	S17 22.2
	16	111 37.6	47 55.9	N21 24.3	8 08.5	N24 16.9	139 16.9	S12 13.6	155 32.3	S17 22.2
	17	126 40.1	62 55.1	N21 25.0	23 09.3	N24 16.7	154 19.1	S12 13.5	170 34.7	S17 22.2
	18	141 42.5	77 54.3	N21 25.6	38 10.1	N24 16.6	169 21.2	S12 13.4	185 37.1	S17 22.2
	19	156 45.0	92 53.6	N21 26.2	53 10.9	N24 16.4	184 23.4	S12 13.3	200 39.6	S17 22.2
	20	171 47.5	107 52.8	N21 26.9	68 11.7	N24 16.3	199 25.6	S12 13.2	215 42.0	S17 22.2
	21	186 49.9	122 52.1	N21 27.5	83 12.5	N24 16.1	214 27.8	S12 13.2	230 44.4	S17 22.2
	22	201 52.4	137 51.3	N21 28.2	98 13.3	N24 16.0	229 30.0	S12 13.1	245 46.8	S17 22.2
	23	216 54.9	152 50.5	N21 28.8	113 14.1	N24 15.8	244 32.2	S12 13.0	260 49.3	S17 22.2
14	0	231 57.3	167 49.8	N21 29.4	128 14.9	N24 15.7	259 34.4	S12 12.9	275 51.7	S17 22.2
	1	246 59.8	182 49.0	N21 30.1	143 15.7	N24 15.5	274 36.6	S12 12.8	290 54.1	S17 22.2
	2	262 02.3	197 48.2	N21 30.7	158 16.5	N24 15.4	289 38.8	S12 12.7	305 56.5	S17 22.1
	3	277 04.7	212 47.5	N21 31.3	173 17.3	N24 15.2	304 41.0	S12 12.6	320 59.0	S17 22.1
	4	292 07.2	227 46.7	N21 32.0	188 18.1	N24 15.1	319 43.2	S12 12.5	336 01.4	S17 22.1
F	5	307 09.6	242 45.9	N21 32.6	203 18.9	N24 14.9	334 45.4	S12 12.4	351 03.8	S17 22.1
R										
I	6	322 12.1	257 45.1	N21 33.2	218 19.7	N24 14.8	349 47.6	S12 12.4	6 06.2	S17 22.1
D	7	337 14.6	272 44.4	N21 33.8	233 20.5	N24 14.6	4 49.8	S12 12.3	21 08.7	S17 22.1
A	8	352 17.0	287 43.6	N21 34.5	248 21.3	N24 14.5	19 52.0	S12 12.2	36 11.1	S17 22.1
Y	9	7 19.5	302 42.8	N21 35.1	263 22.1	N24 14.3	34 54.2	S12 12.1	51 13.5	S17 22.1
	10	22 22.0	317 42.1	N21 35.7	278 22.9	N24 14.2	49 56.4	S12 12.0	66 15.9	S17 22.1
	11	37 24.4	332 41.3	N21 36.3	293 23.7	N24 14.0	64 58.6	S12 11.9	81 18.4	S17 22.1
	12	52 26.9	347 40.5	N21 37.0	308 24.5	N24 13.8	80 00.8	S12 11.8	96 20.8	S17 22.1
	13	67 29.4	2 39.7	N21 37.6	323 25.3	N24 13.7	95 03.0	S12 11.7	111 23.2	S17 22.1
	14	82 31.8	17 39.0	N21 38.2	338 26.1	N24 13.5	110 05.2	S12 11.7	126 25.6	S17 22.1
	15	97 34.3	32 38.2	N21 38.8	353 26.9	N24 13.4	125 07.3	S12 11.6	141 28.1	S17 22.1
	16	112 36.7	47 37.4	N21 39.4	8 27.7	N24 13.2	140 09.5	S12 11.5	156 30.5	S17 22.1
	17	127 39.2	62 36.6	N21 40.1	23 28.5	N24 13.1	155 11.7	S12 11.4	171 32.9	S17 22.1
	18	142 41.7	77 35.9	N21 40.7	38 29.3	N24 12.9	170 13.9	S12 11.3	186 35.3	S17 22.1
	19	157 44.1	92 35.1	N21 41.3	53 30.1	N24 12.8	185 16.1	S12 11.2	201 37.8	S17 22.1
	20	172 46.6	107 34.3	N21 41.9	68 30.9	N24 12.6	200 18.3	S12 11.1	216 40.2	S17 22.1
	21	187 49.1	122 33.5	N21 42.5	83 31.7	N24 12.4	215 20.5	S12 11.0	231 42.6	S17 22.1
	22	202 51.5	137 32.8	N21 43.1	98 32.5	N24 12.3	230 22.7	S12 11.0	246 45.1	S17 22.1
	23	217 54.0	152 32.0	N21 43.7	113 33.3	N24 12.1	245 24.9	S12 10.9	261 47.5	S17 22.0
15	0	232 56.5	167 31.2	N21 44.4	128 34.1	N24 12.0	260 27.1	S12 10.8	276 49.9	S17 22.0
	1	247 58.9	182 30.4	N21 45.0	143 34.9	N24 11.8	275 29.3	S12 10.7	291 52.3	S17 22.0
	2	263 01.4	197 29.7	N21 45.6	158 35.7	N24 11.7	290 31.5	S12 10.6	306 54.8	S17 22.0
	3	278 03.9	212 28.9	N21 46.2	173 36.5	N24 11.5	305 33.7	S12 10.5	321 57.2	S17 22.0
	4	293 06.3	227 28.1	N21 46.8	188 37.3	N24 11.3	320 35.9	S12 10.4	336 59.6	S17 22.0
S	5	308 08.8	242 27.3	N21 47.4	203 38.1	N24 11.2	335 38.1	S12 10.4	352 02.0	S17 22.0
A										
T	6	323 11.2	257 26.5	N21 48.0	218 38.9	N24 11.0	350 40.3	S12 10.3	7 04.5	S17 22.0
U	7	338 13.7	272 25.8	N21 48.6	233 39.7	N24 10.9	5 42.6	S12 10.2	22 06.9	S17 22.0
R	8	353 16.2	287 25.0	N21 49.2	248 40.5	N24 10.7	20 44.8	S12 10.1	37 09.3	S17 22.0
D	9	8 18.6	302 24.2	N21 49.8	263 41.3	N24 10.5	35 47.0	S12 10.0	52 11.8	S17 22.0
A	10	23 21.1	317 23.4	N21 50.4	278 42.1	N24 10.4	50 49.2	S12 09.9	67 14.2	S17 22.0
Y	11	38 23.6	332 22.6	N21 51.0	293 42.9	N24 10.2	65 51.4	S12 09.8	82 16.6	S17 22.0
	12	53 26.0	347 21.9	N21 51.6	308 43.7	N24 10.1	80 53.6	S12 09.8	97 19.1	S17 22.0
	13	68 28.5	2 21.1	N21 52.2	323 44.5	N24 09.9	95 55.8	S12 09.7	112 21.5	S17 22.0
	14	83 31.0	17 20.3	N21 52.8	338 45.3	N24 09.7	110 58.0	S12 09.6	127 23.9	S17 22.0
	15	98 33.4	32 19.5	N21 53.4	353 46.1	N24 09.6	126 00.2	S12 09.5	142 26.3	S17 22.0
	16	113 35.9	47 18.7	N21 54.0	8 46.9	N24 09.4	141 02.4	S12 09.4	157 28.8	S17 22.0
	17	128 38.4	62 17.9	N21 54.6	23 47.7	N24 09.3	156 04.6	S12 09.3	172 31.2	S17 22.0
	18	143 40.8	77 17.2	N21 55.2	38 48.5	N24 09.1	171 06.8	S12 09.2	187 33.6	S17 22.0
	19	158 43.3	92 16.4	N21 55.7	53 49.3	N24 08.9	186 09.0	S12 09.2	202 36.1	S17 22.0
	20	173 45.7	107 15.6	N21 56.3	68 50.1	N24 08.8	201 11.2	S12 09.1	217 38.5	S17 22.0
	21	188 48.2	122 14.8	N21 56.9	83 50.9	N24 08.6	216 13.4	S12 09.0	232 40.9	S17 22.0
	22	203 50.7	137 14.0	N21 57.5	98 51.7	N24 08.4	231 15.6	S12 08.9	247 43.4	S17 22.0
	23	218 53.1	152 13.2	N21 58.1	113 52.5	N24 08.3	246 17.8	S12 08.8	262 45.8	S17 22.0
			v -0.8	d 0.6	v 0.8	d 0.2	v 2.2	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
13	0	180 54.7	N18 23.1	167 14.8	13.0	N20 45.5	7.9	54.0
	1	195 54.7	N18 23.7	181 46.7	12.9	N20 53.4	7.8	54.0
	2	210 54.7	N18 24.3	196 18.5	12.8	N21 01.1	7.7	54.0
	3	225 54.7	N18 25.0	210 50.3	12.8	N21 08.7	7.6	54.0
	4	240 54.8	N18 25.6	225 22.1	12.7	N21 16.3	7.5	54.0
T	5	255 54.8	N18 26.2	239 53.7	12.7	N21 23.7	7.4	54.0
H								
U	6	270 54.8	N18 26.8	254 25.4	12.6	N21 31.1	7.4	54.0
R	7	285 54.8	N18 27.4	268 56.9	12.6	N21 38.3	7.3	54.0
S	8	300 54.8	N18 28.0	283 28.4	12.5	N21 45.5	7.2	54.0
D	9	315 54.8	N18 28.6	297 59.9	12.5	N21 52.6	7.1	54.0
A	10	330 54.8	N18 29.3	312 31.3	12.4	N21 59.6	7.0	54.0
Y	11	345 54.8	N18 29.9	327 02.6	12.3	N22 06.4	6.9	54.0
	12	0 54.8	N18 30.5	341 33.9	12.3	N22 13.2	6.8	54.1
	13	15 54.8	N18 31.1	356 05.1	12.2	N22 19.9	6.7	54.1
	14	30 54.8	N18 31.7	10 36.3	12.2	N22 26.5	6.6	54.1
	15	45 54.8	N18 32.3	25 07.4	12.1	N22 33.0	6.5	54.1
	16	60 54.8	N18 32.9	39 38.5	12.1	N22 39.4	6.4	54.1
	17	75 54.8	N18 33.5	54 09.5	12.0	N22 45.7	6.3	54.1
	18	90 54.8	N18 34.1	68 40.5	12.0	N22 51.8	6.2	54.1
	19	105 54.8	N18 34.7	83 11.4	11.9	N22 57.9	6.1	54.1
	20	120 54.8	N18 35.3	97 42.2	11.8	N23 03.9	6.0	54.1
	21	135 54.8	N18 35.9	112 13.0	11.8	N23 09.8	5.9	54.1
	22	150 54.8	N18 36.5	126 43.8	11.7	N23 15.6	5.8	54.1
	23	165 54.8	N18 37.2	141 14.4	11.7	N23 21.2	5.7	54.1
14	0	180 54.8	N18 37.8	155 45.1	11.6	N23 26.8	5.6	54.1
	1	195 54.8	N18 38.4	170 15.7	11.6	N23 32.3	5.5	54.1
	2	210 54.8	N18 39.0	184 46.2	11.5	N23 37.6	5.3	54.2
	3	225 54.8	N18 39.6	199 16.7	11.5	N23 42.8	5.2	54.2
	4	240 54.8	N18 40.2	213 47.1	11.4	N23 48.0	5.1	54.2
F	5	255 54.8	N18 40.8	228 17.5	11.4	N23 53.0	5.0	54.2
R								
I	6	270 54.8	N18 41.4	242 47.8	11.3	N23 57.9	4.9	54.2
D	7	285 54.8	N18 42.0	257 18.1	11.3	N24 02.7	4.8	54.2
A	8	300 54.8	N18 42.6	271 48.4	11.2	N24 07.4	4.7	54.2
Y	9	315 54.8	N18 43.2	286 18.6	11.2	N24 12.0	4.6	54.2
	10	330 54.7	N18 43.8	300 48.7	11.1	N24 16.5	4.5	54.2
	11	345 54.7	N18 44.4	315 18.8	11.1	N24 20.8	4.4	54.2
	12	0 54.7	N18 45.0	329 48.8	11.0	N24 25.1	4.2	54.2
	13	15 54.7	N18 45.6	344 18.8	11.0	N24 29.2	4.1	54.3
	14	30 54.7	N18 46.2	358 48.8	11.0	N24 33.2	4.0	54.3
	15	45 54.7	N18 46.7	13 18.7	10.9	N24 37.1	3.9	54.3
	16	60 54.7	N18 47.3	27 48.6	10.9	N24 40.9	3.8	54.3
	17	75 54.7	N18 47.9	42 18.4	10.8	N24 44.6	3.7	54.3
	18	90 54.7	N18 48.5	56 48.2	10.8	N24 48.1	3.6	54.3
	19	105 54.7	N18 49.1	71 17.9	10.7	N24 51.6	3.4	54.3
	20	120 54.7	N18 49.7	85 47.6	10.7	N24 54.9	3.3	54.3
	21	135 54.7	N18 50.3	100 17.3	10.7	N24 58.1	3.2	54.3
	22	150 54.7	N18 50.9	114 46.9	10.6	N25 01.2	3.1	54.4
	23	165 54.7	N18 51.5	129 16.5	10.6	N25 04.1	3.0	54.4
15	0	180 54.7	N18 52.1	143 46.1	10.5	N25 07.0	2.8	54.4
	1	195 54.7	N18 52.7	158 15.6	10.5	N25 09.7	2.7	54.4
	2	210 54.7	N18 53.3	172 45.0	10.5	N25 12.3	2.6	54.4
	3	225 54.6	N18 53.9	187 14.5	10.4	N25 14.8	2.5	54.4
	4	240 54.6	N18 54.4	201 43.9	10.4	N25 17.1	2.4	54.4
S	5	255 54.6	N18 55.0	216 13.2	10.4	N25 19.4	2.2	54.4
A								
T	6	270 54.6	N18 55.6	230 42.6	10.3	N25 21.5	2.1	54.5
U	7	285 54.6	N18 56.2	245 11.9	10.3	N25 23.5	2.0	54.5
R	8	300 54.6	N18 56.8	259 41.1	10.3	N25 25.4	1.9	54.5
D	9	315 54.6	N18 57.4	274 10.4	10.2	N25 27.1	1.7	54.5
A	10	330 54.6	N18 58.0	288 39.6	10.2	N25 28.7	1.6	54.5
Y	11	345 54.6	N18 58.5	303 08.8	10.2	N25 30.2	1.5	54.5
	12	0 54.6	N18 59.1	317 37.9	10.2	N25 31.6	1.4	54.5
	13	15 54.6	N18 59.7	332 07.1	10.1	N25 32.9	1.2	54.6
	14	30 54.5	N19 00.3	346 36.2	10.1	N25 34.0	1.1	54.6
	15	45 54.5	N19 00.9	1 05.2	10.1	N25 35.0	1.0	54.6
	16	60 54.5	N19 01.5	15 34.3	10.0	N25 35.8	0.9	54.6
	17	75 54.5	N19 02.0	30 03.3	10.0	N25 36.6	0.7	54.6
	18	90 54.5	N19 02.6	44 32.3	10.0	N25 37.2	0.6	54.6
	19	105 54.5	N19 03.2	59 01.3	10.0	N25 37.7	0.5	54.7
	20	120 54.5	N19 03.8	73 30.2	10.0	N25 38.1	0.4	54.7
	21	135 54.5	N19 04.4	87 59.2	9.9	N25 38.3	0.2	54.7
	22	150 54.4	N19 04.9	102 28.1	9.9	N25 38.4	0.1	54.7
	23	165 54.4	N19 05.5	116 57.0	9.9	N25 38.4	0.0	54.7
		S.D. 15.8	d 0.6	S.D.	14.7	14.8	14.9	

STARS Name	SHA	Dec
Acamar	315 14.5	S40 13.3
Achernar	335 23.0	S57 07.7
Acrux	173 02.9	S63 13.2
Adhara	255 08.5	S29 00.2
Albireo	67 06.3	N28 00.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.9
Alkaid	152 54.0	N49 12.6
Al Na-ir	27 36.7	S46 51.4
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.7	S 8 45.1
Alphecca	126 05.9	N26 38.6
Alpheratz	357 38.1	N29 12.2
Altair	62 02.7	N 8 55.3
Ankaa	353 10.4	S42 11.4
Antares	112 19.2	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 15.6	S69 03.8
Avior	234 16.1	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.1	S52 42.6
Capella	280 26.8	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.7	N45 21.0
Denebola	182 27.8	N14 27.3
Diphda	348 50.6	S17 52.3
Dubhe	193 44.5	N61 38.4
Elnath	278 06.0	N28 37.4
Eltanin	90 43.2	N51 28.9
Enif	33 41.7	N 9 58.2
Fomalhaut	15 18.0	S29 30.6
Gacrux	171 54.5	S57 14.1
Gienah	175 46.5	S17 39.7
Hadar	148 39.7	S60 28.6
Hamal	327 54.9	N23 33.6
Kaus Austr.	83 36.2	S34 22.4
Kochab	137 18.8	N74 04.2
Markab	13 33.0	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.6
Miaplacidus	221 38.8	S69 48.5
Mirfak	308 33.1	N49 56.0
Nunki	75 51.2	S26 16.1
Peacock	53 10.2	S56 39.8
Polaris	317 44.5	N89 20.3
Pollux	243 21.2	N27 58.5
Procyon	244 54.1	N 5 10.2
Rasalhague	96 01.1	N12 32.6
Regulus	207 37.6	N11 51.8
Rigel	281 07.1	S 8 10.8
Rigil Kent	139 43.9	S60 55.4
Sabik	102 05.9	S15 45.1
Schedar	349 34.8	N56 38.9
Shaula	96 14.1	S37 07.1
Sirius	258 29.1	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.5	S43 31.3
Vega	80 34.9	N38 48.0
Zuben-ubi	136 59.8	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
16	0	233 55.6	167 12.4	N21 58.7	128 53.3	N24 08.1	261 20.0	S12 08.7	277 48.2	S17 22.0
	1	248 58.1	182 11.7	N21 59.3	143 54.1	N24 07.9	276 22.2	S12 08.7	292 50.7	S17 22.0
	2	264 00.5	197 10.9	N21 59.8	158 54.9	N24 07.8	291 24.4	S12 08.6	307 53.1	S17 21.9
	3	279 03.0	212 10.1	N22 00.4	173 55.7	N24 07.6	306 26.6	S12 08.5	322 55.5	S17 21.9
	4	294 05.5	227 09.3	N22 01.0	188 56.5	N24 07.5	321 28.9	S12 08.4	337 58.0	S17 21.9
S	5	309 07.9	242 08.5	N22 01.6	203 57.3	N24 07.3	336 31.1	S12 08.3	353 00.4	S17 21.9
U										
N	6	324 10.4	257 07.7	N22 02.2	218 58.1	N24 07.1	351 33.3	S12 08.2	8 02.8	S17 21.9
D	7	339 12.9	272 06.9	N22 02.7	233 58.9	N24 07.0	6 35.5	S12 08.1	23 05.3	S17 21.9
A	8	354 15.3	287 06.1	N22 03.3	248 59.7	N24 06.8	21 37.7	S12 08.1	38 07.7	S17 21.9
Y	9	9 17.8	302 05.3	N22 03.9	264 00.5	N24 06.6	36 39.9	S12 08.0	53 10.1	S17 21.9
	10	24 20.2	317 04.5	N22 04.5	279 01.3	N24 06.5	51 42.1	S12 07.9	68 12.6	S17 21.9
	11	39 22.7	332 03.8	N22 05.0	294 02.1	N24 06.3	66 44.3	S12 07.8	83 15.0	S17 21.9
	12	54 25.2	347 03.0	N22 05.6	309 02.9	N24 06.1	81 46.5	S12 07.7	98 17.4	S17 21.9
	13	69 27.6	2 02.2	N22 06.2	324 03.7	N24 05.9	96 48.7	S12 07.6	113 19.9	S17 21.9
	14	84 30.1	17 01.4	N22 06.7	339 04.5	N24 05.8	111 50.9	S12 07.6	128 22.3	S17 21.9
	15	99 32.6	32 00.6	N22 07.3	354 05.3	N24 05.6	126 53.2	S12 07.5	143 24.7	S17 21.9
	16	114 35.0	46 59.8	N22 07.9	9 06.1	N24 05.4	141 55.4	S12 07.4	158 27.2	S17 21.9
	17	129 37.5	61 59.0	N22 08.4	24 06.9	N24 05.3	156 57.6	S12 07.3	173 29.6	S17 21.9
	18	144 40.0	76 58.2	N22 09.0	39 07.7	N24 05.1	171 59.8	S12 07.2	188 32.0	S17 21.9
	19	159 42.4	91 57.4	N22 09.6	54 08.5	N24 04.9	187 02.0	S12 07.2	203 34.5	S17 21.9
	20	174 44.9	106 56.6	N22 10.1	69 09.3	N24 04.8	202 04.2	S12 07.1	218 36.9	S17 21.9
	21	189 47.4	121 55.8	N22 10.7	84 10.1	N24 04.6	217 06.4	S12 07.0	233 39.3	S17 21.9
	22	204 49.8	136 55.0	N22 11.3	99 10.9	N24 04.4	232 08.6	S12 06.9	248 41.8	S17 21.9
	23	219 52.3	151 54.2	N22 11.8	114 11.7	N24 04.2	247 10.8	S12 06.8	263 44.2	S17 21.9
17	0	234 54.7	166 53.4	N22 12.4	129 12.5	N24 04.1	262 13.1	S12 06.7	278 46.6	S17 21.9
	1	249 57.2	181 52.6	N22 12.9	144 13.3	N24 03.9	277 15.3	S12 06.7	293 49.1	S17 21.9
	2	264 59.7	196 51.8	N22 13.5	159 14.1	N24 03.7	292 17.5	S12 06.6	308 51.5	S17 21.9
	3	280 02.1	211 51.0	N22 14.1	174 14.9	N24 03.6	307 19.7	S12 06.5	323 54.0	S17 21.9
	4	295 04.6	226 50.2	N22 14.6	189 15.7	N24 03.4	322 21.9	S12 06.4	338 56.4	S17 21.9
M	5	310 07.1	241 49.4	N22 15.2	204 16.5	N24 03.2	337 24.1	S12 06.3	353 58.8	S17 21.9
O										
N	6	325 09.5	256 48.6	N22 15.7	219 17.3	N24 03.0	352 26.3	S12 06.3	9 01.3	S17 21.9
D	7	340 12.0	271 47.8	N22 16.3	234 18.1	N24 02.9	7 28.6	S12 06.2	24 03.7	S17 21.9
A	8	355 14.5	286 47.0	N22 16.8	249 18.9	N24 02.7	22 30.8	S12 06.1	39 06.1	S17 21.9
Y	9	10 16.9	301 46.2	N22 17.4	264 19.7	N24 02.5	37 33.0	S12 06.0	54 08.6	S17 21.9
	10	25 19.4	316 45.4	N22 17.9	279 20.5	N24 02.3	52 35.2	S12 05.9	69 11.0	S17 21.9
	11	40 21.8	331 44.6	N22 18.5	294 21.3	N24 02.2	67 37.4	S12 05.8	84 13.5	S17 21.9
	12	55 24.3	346 43.8	N22 19.0	309 22.1	N24 02.0	82 39.6	S12 05.8	99 15.9	S17 21.9
	13	70 26.8	1 43.0	N22 19.5	324 22.9	N24 01.8	97 41.9	S12 05.7	114 18.3	S17 21.9
	14	85 29.2	16 42.2	N22 20.1	339 23.7	N24 01.6	112 44.1	S12 05.6	129 20.8	S17 21.9
	15	100 31.7	31 41.4	N22 20.6	354 24.5	N24 01.5	127 46.3	S12 05.5	144 23.2	S17 21.9
	16	115 34.2	46 40.6	N22 21.2	9 25.3	N24 01.3	142 48.5	S12 05.4	159 25.6	S17 21.9
	17	130 36.6	61 39.8	N22 21.7	24 26.1	N24 01.1	157 50.7	S12 05.4	174 28.1	S17 21.9
	18	145 39.1	76 39.0	N22 22.3	39 26.9	N24 00.9	172 52.9	S12 05.3	189 30.5	S17 21.9
	19	160 41.6	91 38.2	N22 22.8	54 27.7	N24 00.8	187 55.2	S12 05.2	204 33.0	S17 21.9
	20	175 44.0	106 37.4	N22 23.3	69 28.5	N24 00.6	202 57.4	S12 05.1	219 35.4	S17 21.9
	21	190 46.5	121 36.6	N22 23.9	84 29.3	N24 00.4	217 59.6	S12 05.0	234 37.8	S17 21.9
	22	205 49.0	136 35.8	N22 24.4	99 30.1	N24 00.2	233 01.8	S12 05.0	249 40.3	S17 21.9
	23	220 51.4	151 35.0	N22 24.9	114 30.9	N24 00.1	248 04.0	S12 04.9	264 42.7	S17 21.9
18	0	235 53.9	166 34.2	N22 25.5	129 31.7	N23 59.9	263 06.2	S12 04.8	279 45.2	S17 21.9
	1	250 56.3	181 33.4	N22 26.0	144 32.5	N23 59.7	278 08.5	S12 04.7	294 47.6	S17 21.9
	2	265 58.8	196 32.6	N22 26.5	159 33.3	N23 59.5	293 10.7	S12 04.6	309 50.0	S17 21.9
	3	281 01.3	211 31.8	N22 27.1	174 34.1	N23 59.3	308 12.9	S12 04.6	324 52.5	S17 21.9
	4	296 03.7	226 31.0	N22 27.6	189 34.9	N23 59.2	323 15.1	S12 04.5	339 54.9	S17 21.9
T	5	311 06.2	241 30.2	N22 28.1	204 35.7	N23 59.0	338 17.3	S12 04.4	354 57.4	S17 21.9
U										
E	6	326 08.7	256 29.3	N22 28.6	219 36.5	N23 58.8	353 19.6	S12 04.3	9 59.8	S17 21.9
S	7	341 11.1	271 28.5	N22 29.2	234 37.3	N23 58.6	8 21.8	S12 04.2	25 02.3	S17 21.9
D	8	356 13.6	286 27.7	N22 29.7	249 38.1	N23 58.4	23 24.0	S12 04.2	40 04.7	S17 21.9
A	9	11 16.1	301 26.9	N22 30.2	264 38.9	N23 58.3	38 26.2	S12 04.1	55 07.1	S17 21.9
Y	10	26 18.5	316 26.1	N22 30.7	279 39.7	N23 58.1	53 28.5	S12 04.0	70 09.6	S17 21.9
	11	41 21.0	331 25.3	N22 31.2	294 40.5	N23 57.9	68 30.7	S12 03.9	85 12.0	S17 21.9
	12	56 23.5	346 24.5	N22 31.8	309 41.3	N23 57.7	83 32.9	S12 03.9	100 14.5	S17 21.9
	13	71 25.9	1 23.7	N22 32.3	324 42.1	N23 57.5	98 35.1	S12 03.8	115 16.9	S17 21.9
	14	86 28.4	16 22.9	N22 32.8	339 42.9	N23 57.4	113 37.3	S12 03.7	130 19.3	S17 21.9
	15	101 30.8	31 22.1	N22 33.3	354 43.7	N23 57.2	128 39.6	S12 03.6	145 21.8	S17 21.9
	16	116 33.3	46 21.2	N22 33.8	9 44.5	N23 57.0	143 41.8	S12 03.5	160 24.2	S17 21.9
	17	131 35.8	61 20.4	N22 34.3	24 45.3	N23 56.8	158 44.0	S12 03.5	175 26.7	S17 21.9
	18	146 38.2	76 19.6	N22 34.9	39 46.1	N23 56.6	173 46.2	S12 03.4	190 29.1	S17 21.9
	19	161 40.7	91 18.8	N22 35.4	54 47.0	N23 56.4	188 48.5	S12 03.3	205 31.6	S17 21.9
	20	176 43.2	106 18.0	N22 35.9	69 47.8	N23 56.3	203 50.7	S12 03.2	220 34.0	S17 21.9
	21	191 45.6	121 17.2	N22 36.4	84 48.6	N23 56.1	218 52.9	S12 03.2	235 36.4	S17 21.9
	22	206 48.1	136 16.4	N22 36.9	99 49.4	N23 55.9	233 55.1	S12 03.1	250 38.9	S17 21.9
	23	221 50.6	151 15.5	N22 37.4	114 50.2	N23 55.7	248 57.4	S12 03.0	265 41.3	S17 21.9
			v -0.8	d 0.5	v 0.8	d 0.2	v 2.2	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
16	0	180 54.4	N19 06.1	131 25.9	9.9	N25 38.3	0.1	54.7
	1	195 54.4	N19 06.7	145 54.8	9.9	N25 38.0	0.3	54.8
	2	210 54.4	N19 07.2	160 23.6	9.9	N25 37.6	0.4	54.8
	3	225 54.4	N19 07.8	174 52.5	9.8	N25 37.1	0.5	54.8
	4	240 54.4	N19 08.4	189 21.3	9.8	N25 36.4	0.7	54.8
S	5	255 54.4	N19 09.0	203 50.1	9.8	N25 35.6	0.8	54.8
U								
N	6	270 54.3	N19 09.5	218 18.9	9.8	N25 34.7	0.9	54.8
D	7	285 54.3	N19 10.1	232 47.7	9.8	N25 33.7	1.0	54.9
A	8	300 54.3	N19 10.7	247 16.5	9.8	N25 32.5	1.2	54.9
Y	9	315 54.3	N19 11.3	261 45.3	9.8	N25 31.2	1.3	54.9
	10	330 54.3	N19 11.8	276 14.0	9.8	N25 29.7	1.4	54.9
	11	345 54.3	N19 12.4	290 42.8	9.8	N25 28.2	1.6	54.9
	12	0 54.3	N19 13.0	305 11.5	9.8	N25 26.5	1.7	55.0
	13	15 54.2	N19 13.5	319 40.3	9.8	N25 24.7	1.8	55.0
	14	30 54.2	N19 14.1	334 09.0	9.7	N25 22.7	1.9	55.0
	15	45 54.2	N19 14.7	348 37.8	9.7	N25 20.7	2.1	55.0
	16	60 54.2	N19 15.2	3 06.5	9.7	N25 18.5	2.2	55.0
	17	75 54.2	N19 15.8	17 35.3	9.7	N25 16.1	2.3	55.1
	18	90 54.2	N19 16.4	32 04.0	9.7	N25 13.7	2.5	55.1
	19	105 54.1	N19 16.9	46 32.7	9.7	N25 11.1	2.6	55.1
	20	120 54.1	N19 17.5	61 01.5	9.7	N25 08.3	2.7	55.1
	21	135 54.1	N19 18.1	75 30.2	9.7	N25 05.5	2.9	55.1
	22	150 54.1	N19 18.6	89 59.0	9.7	N25 02.5	3.0	55.2
	23	165 54.1	N19 19.2	104 27.7	9.8	N24 59.4	3.1	55.2
17	0	180 54.0	N19 19.8	118 56.5	9.8	N24 56.2	3.2	55.2
	1	195 54.0	N19 20.3	133 25.3	9.8	N24 52.8	3.4	55.2
	2	210 54.0	N19 20.9	147 54.0	9.8	N24 49.3	3.5	55.2
	3	225 54.0	N19 21.5	162 22.8	9.8	N24 45.7	3.6	55.3
	4	240 54.0	N19 22.0	176 51.6	9.8	N24 41.9	3.8	55.3
M	5	255 53.9	N19 22.6	191 20.4	9.8	N24 38.0	3.9	55.3
O								
N	6	270 53.9	N19 23.1	205 49.2	9.8	N24 34.0	4.0	55.3
D	7	285 53.9	N19 23.7	220 18.0	9.8	N24 29.9	4.1	55.4
A	8	300 53.9	N19 24.3	234 46.8	9.8	N24 25.6	4.3	55.4
Y	9	315 53.9	N19 24.8	249 15.7	9.8	N24 21.2	4.4	55.4
	10	330 53.8	N19 25.4	263 44.5	9.9	N24 16.7	4.5	55.4
	11	345 53.8	N19 25.9	278 13.4	9.9	N24 12.1	4.6	55.5
	12	0 53.8	N19 26.5	292 42.3	9.9	N24 07.3	4.8	55.5
	13	15 53.8	N19 27.0	307 11.1	9.9	N24 02.4	4.9	55.5
	14	30 53.8	N19 27.6	321 40.1	9.9	N23 57.4	5.0	55.5
	15	45 53.7	N19 28.2	336 09.0	9.9	N23 52.2	5.1	55.6
	16	60 53.7	N19 28.7	350 37.9	9.9	N23 47.0	5.3	55.6
	17	75 53.7	N19 29.3	5 06.9	10.0	N23 41.6	5.4	55.6
	18	90 53.7	N19 29.8	19 35.8	10.0	N23 36.0	5.5	55.6
	19	105 53.6	N19 30.4	34 04.8	10.0	N23 30.4	5.6	55.7
	20	120 53.6	N19 30.9	48 33.9	10.0	N23 24.6	5.8	55.7
	21	135 53.6	N19 31.5	63 02.9	10.0	N23 18.7	5.9	55.7
	22	150 53.6	N19 32.0	77 31.9	10.1	N23 12.7	6.0	55.7
	23	165 53.6	N19 32.6	92 01.0	10.1	N23 06.6	6.1	55.8
18	0	180 53.5	N19 33.1	106 30.1	10.1	N23 00.3	6.3	55.8
	1	195 53.5	N19 33.7	120 59.2	10.1	N22 53.9	6.4	55.8
	2	210 53.5	N19 34.2	135 28.4	10.1	N22 47.4	6.5	55.8
	3	225 53.5	N19 34.8	149 57.5	10.2	N22 40.8	6.6	55.9
	4	240 53.4	N19 35.3	164 26.7	10.2	N22 34.0	6.8	55.9
T	5	255 53.4	N19 35.9	178 55.9	10.2	N22 27.1	6.9	55.9
U								
E	6	270 53.4	N19 36.4	193 25.1	10.2	N22 20.1	7.0	56.0
S	7	285 53.4	N19 37.0	207 54.4	10.3	N22 13.0	7.1	56.0
D	8	300 53.3	N19 37.5	222 23.7	10.3	N22 05.8	7.2	56.0
A	9	315 53.3	N19 38.0	236 53.0	10.3	N21 58.5	7.4	56.0
Y	10	330 53.3	N19 38.6	251 22.3	10.3	N21 51.0	7.5	56.1
	11	345 53.2	N19 39.1	265 51.6	10.4	N21 43.4	7.6	56.1
	12	0 53.2	N19 39.7	280 21.0	10.4	N21 35.7	7.7	56.1
	13	15 53.2	N19 40.2	294 50.4	10.4	N21 27.9	7.8	56.2
	14	30 53.2	N19 40.8	309 19.9	10.4	N21 19.9	7.9	56.2
	15	45 53.1	N19 41.3	323 49.3	10.5	N21 11.9	8.1	56.2
	16	60 53.1	N19 41.8	338 18.8	10.5	N21 03.7	8.2	56.3
	17	75 53.1	N19 42.4	352 48.3	10.5	N20 55.4	8.3	56.3
	18	90 53.1	N19 42.9	7 17.8	10.5	N20 47.0	8.4	56.3
	19	105 53.0	N19 43.5	21 47.4	10.6	N20 38.5	8.5	56.3
	20	120 53.0	N19 44.0	36 17.0	10.6	N20 29.9	8.6	56.4
	21	135 53.0	N19 44.5	50 46.6	10.6	N20 21.2	8.7	56.4
	22	150 52.9	N19 45.1	65 16.2	10.6	N20 12.3	8.8	56.4
	23	165 52.9	N19 45.6	79 45.9	10.7	N20 03.4	9.0	56.5
		S.D. 15.8	d 0.6	S.D.	15.0	15.1	15.3	

STARS Name	SHA	Dec
Acamar	315 14.5	S40 13.2
Achernar	335 23.0	S57 07.7
Acrux	173 02.9	S63 13.2
Adhara	255 08.5	S29 00.2
Albireo	67 06.2	N28 00.0
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.2	N55 50.9
Alkaid	152 54.0	N49 12.6
Al Na-ir	27 36.7	S46 51.3
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.7	S 8 45.1
Alphecca	126 05.9	N26 38.6
Alpheratz	357 38.1	N29 12.2
Altair	62 02.7	N 8 55.3
Ankaa	353 10.4	S42 11.4
Antares	112 19.2	S26 28.7
Arcturus	145 50.4	N19 04.3
Atria	107 15.6	S69 03.8
Avior	234 16.1	S59 34.9
Bellatrix	278 26.4	N 6 22.0
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.1	S52 42.6
Capella	280 26.8	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.6	N45 21.1
Denebola	182 27.9	N14 27.3
Diphda	348 50.6	S17 52.3
Dubhe	193 44.6	N61 38.5
Elnath	278 06.0	N28 37.4
Eltanin	90 43.1	N51 29.0
Enif	33 41.7	N 9 58.2
Fomalhaut	15 17.9	S29 30.6
Gacrux	171 54.5	S57 14.1
Gienah	175 46.5	S17 39.7
Hadar	148 39.7	S60 28.6
Hamal	327 54.9	N23 33.6
Kaus Austr.	83 36.2	S34 22.4
Kochab	137 18.8	N74 04.2
Markab	13 33.0	N15 18.9
Menkar	314 09.6	N 4 10.2
Menkent	148 00.8	S36 28.6
Miaplacidus	221 38.9	S69 48.5
Mirfak	308 33.1	N49 56.0
Nunki	75 51.2	S26 16.1
Peacock	53 10.2	S56 39.8
Polaris	317 43.9	N89 20.3
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 01.1	N12 32.6
Regulus	207 37.6	N11 51.8
Rigel	281 07.1	S 8 10.8
Rigil Kent	139 43.9	S60 55.4
Sabik	102 05.9	S15 45.1
Schedar	349 34.7	N56 38.9
Shaula	96 14.0	S37 07.1
Sirius	258 29.1	S16 44.9
Spica	158 25.2	S11 16.4
Suhail	222 48.6	S43 31.3
Vega	80 34.9	N38 48.0
Zuben-ubi	136 59.8	S16 07.8

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 53.0	166 14.7	N22 37.9	129 51.0	N23 55.5	263 59.6	S12 02.9	280 43.8	S17 21.9
	1	251 55.5	181 13.9	N22 38.4	144 51.8	N23 55.3	279 01.8	S12 02.8	295 46.2	S17 21.9
	2	266 58.0	196 13.1	N22 38.9	159 52.6	N23 55.1	294 04.0	S12 02.8	310 48.7	S17 21.9
	3	282 00.4	211 12.3	N22 39.4	174 53.4	N23 55.0	309 06.3	S12 02.7	325 51.1	S17 21.9
	4	297 02.9	226 11.5	N22 39.9	189 54.2	N23 54.8	324 08.5	S12 02.6	340 53.6	S17 21.9
W	5	312 05.3	241 10.7	N22 40.4	204 55.0	N23 54.6	339 10.7	S12 02.5	355 56.0	S17 21.9
E										
D	6	327 07.8	256 09.8	N22 40.9	219 55.8	N23 54.4	354 12.9	S12 02.5	10 58.5	S17 21.9
N	7	342 10.3	271 09.0	N22 41.4	234 56.6	N23 54.2	9 15.2	S12 02.4	26 00.9	S17 21.9
E	8	357 12.7	286 08.2	N22 41.9	249 57.4	N23 54.0	24 17.4	S12 02.3	41 03.3	S17 21.9
S	9	12 15.2	301 07.4	N22 42.4	264 58.2	N23 53.8	39 19.6	S12 02.2	56 05.8	S17 21.9
D	10	27 17.7	316 06.6	N22 42.9	279 59.0	N23 53.6	54 21.9	S12 02.2	71 08.2	S17 21.9
A	11	42 20.1	331 05.7	N22 43.4	294 59.8	N23 53.5	69 24.1	S12 02.1	86 10.7	S17 21.9
Y										
	12	57 22.6	346 04.9	N22 43.9	310 00.6	N23 53.3	84 26.3	S12 02.0	101 13.1	S17 21.9
	13	72 25.1	1 04.1	N22 44.4	325 01.4	N23 53.1	99 28.5	S12 01.9	116 15.6	S17 21.9
	14	87 27.5	16 03.3	N22 44.9	340 02.2	N23 52.9	114 30.8	S12 01.8	131 18.0	S17 21.9
	15	102 30.0	31 02.5	N22 45.4	355 03.0	N23 52.7	129 33.0	S12 01.8	146 20.5	S17 21.9
	16	117 32.4	46 01.6	N22 45.9	10 03.8	N23 52.5	144 35.2	S12 01.7	161 22.9	S17 21.9
	17	132 34.9	61 00.8	N22 46.3	25 04.6	N23 52.3	159 37.5	S12 01.6	176 25.4	S17 21.9
	18	147 37.4	76 00.0	N22 46.8	40 05.4	N23 52.1	174 39.7	S12 01.5	191 27.8	S17 21.9
	19	162 39.8	90 59.2	N22 47.3	55 06.2	N23 51.9	189 41.9	S12 01.5	206 30.3	S17 21.9
	20	177 42.3	105 58.4	N22 47.8	70 07.1	N23 51.7	204 44.2	S12 01.4	221 32.7	S17 21.9
	21	192 44.8	120 57.5	N22 48.3	85 07.9	N23 51.6	219 46.4	S12 01.3	236 35.2	S17 21.9
	22	207 47.2	135 56.7	N22 48.8	100 08.7	N23 51.4	234 48.6	S12 01.2	251 37.6	S17 21.9
	23	222 49.7	150 55.9	N22 49.2	115 09.5	N23 51.2	249 50.9	S12 01.2	266 40.0	S17 21.9
20	0	237 52.2	165 55.1	N22 49.7	130 10.3	N23 51.0	264 53.1	S12 01.1	281 42.5	S17 21.9
	1	252 54.6	180 54.2	N22 50.2	145 11.1	N23 50.8	279 55.3	S12 01.0	296 44.9	S17 21.9
	2	267 57.1	195 53.4	N22 50.7	160 11.9	N23 50.6	294 57.5	S12 00.9	311 47.4	S17 21.9
	3	282 59.6	210 52.6	N22 51.1	175 12.7	N23 50.4	309 59.8	S12 00.9	326 49.8	S17 21.9
	4	298 02.0	225 51.8	N22 51.6	190 13.5	N23 50.2	325 02.0	S12 00.8	341 52.3	S17 21.9
T	5	313 04.5	240 50.9	N22 52.1	205 14.3	N23 50.0	340 04.2	S12 00.7	356 54.7	S17 21.9
H										
U	6	328 06.9	255 50.1	N22 52.6	220 15.1	N23 49.8	355 06.5	S12 00.6	11 57.2	S17 21.9
R	7	343 09.4	270 49.3	N22 53.0	235 15.9	N23 49.6	10 08.7	S12 00.6	26 59.6	S17 21.9
S	8	358 11.9	285 48.5	N22 53.5	250 16.7	N23 49.4	25 11.0	S12 00.5	42 02.1	S17 21.9
D	9	13 14.3	300 47.6	N22 54.0	265 17.5	N23 49.2	40 13.2	S12 00.4	57 04.5	S17 21.9
A	10	28 16.8	315 46.8	N22 54.4	280 18.3	N23 49.0	55 15.4	S12 00.4	72 07.0	S17 21.9
Y	11	43 19.3	330 46.0	N22 54.9	295 19.1	N23 48.8	70 17.7	S12 00.3	87 09.4	S17 21.9
	12	58 21.7	345 45.2	N22 55.4	310 19.9	N23 48.7	85 19.9	S12 00.2	102 11.9	S17 21.9
	13	73 24.2	0 44.3	N22 55.8	325 20.7	N23 48.5	100 22.1	S12 00.1	117 14.3	S17 21.9
	14	88 26.7	15 43.5	N22 56.3	340 21.6	N23 48.3	115 24.4	S12 00.1	132 16.8	S17 21.9
	15	103 29.1	30 42.7	N22 56.8	355 22.4	N23 48.1	130 26.6	S11 60.0	147 19.2	S17 21.9
	16	118 31.6	45 41.9	N22 57.2	10 23.2	N23 47.9	145 28.8	S11 59.9	162 21.7	S17 21.9
	17	133 34.1	60 41.0	N22 57.7	25 24.0	N23 47.7	160 31.1	S11 59.8	177 24.1	S17 21.9
	18	148 36.5	75 40.2	N22 58.1	40 24.8	N23 47.5	175 33.3	S11 59.8	192 26.6	S17 21.9
	19	163 39.0	90 39.4	N22 58.6	55 25.6	N23 47.3	190 35.5	S11 59.7	207 29.0	S17 21.9
	20	178 41.4	105 38.5	N22 59.1	70 26.4	N23 47.1	205 37.8	S11 59.6	222 31.5	S17 21.9
	21	193 43.9	120 37.7	N22 59.5	85 27.2	N23 46.9	220 40.0	S11 59.5	237 34.0	S17 21.9
	22	208 46.4	135 36.9	N22 60.0	100 28.0	N23 46.7	235 42.3	S11 59.5	252 36.4	S17 21.9
	23	223 48.8	150 36.0	N23 00.4	115 28.8	N23 46.5	250 44.5	S11 59.4	267 38.9	S17 21.9
21	0	238 51.3	165 35.2	N23 00.9	130 29.6	N23 46.3	265 46.7	S11 59.3	282 41.3	S17 21.9
	1	253 53.8	180 34.4	N23 01.3	145 30.4	N23 46.1	280 49.0	S11 59.3	297 43.8	S17 21.9
	2	268 56.2	195 33.5	N23 01.8	160 31.2	N23 45.9	295 51.2	S11 59.2	312 46.2	S17 22.0
	3	283 58.7	210 32.7	N23 02.2	175 32.0	N23 45.7	310 53.5	S11 59.1	327 48.7	S17 22.0
	4	299 01.2	225 31.9	N23 02.7	190 32.8	N23 45.5	325 55.7	S11 59.0	342 51.1	S17 22.0
F	5	314 03.6	240 31.0	N23 03.1	205 33.6	N23 45.3	340 57.9	S11 59.0	357 53.6	S17 22.0
R										
I	6	329 06.1	255 30.2	N23 03.6	220 34.5	N23 45.1	356 00.2	S11 58.9	12 56.0	S17 22.0
D	7	344 08.5	270 29.4	N23 04.0	235 35.3	N23 44.9	11 02.4	S11 58.8	27 58.5	S17 22.0
A	8	359 11.0	285 28.5	N23 04.4	250 36.1	N23 44.7	26 04.7	S11 58.8	43 00.9	S17 22.0
Y	9	14 13.5	300 27.7	N23 04.9	265 36.9	N23 44.5	41 06.9	S11 58.7	58 03.4	S17 22.0
	10	29 15.9	315 26.9	N23 05.3	280 37.7	N23 44.3	56 09.1	S11 58.6	73 05.8	S17 22.0
	11	44 18.4	330 26.0	N23 05.8	295 38.5	N23 44.1	71 11.4	S11 58.5	88 08.3	S17 22.0
	12	59 20.9	345 25.2	N23 06.2	310 39.3	N23 43.9	86 13.6	S11 58.5	103 10.8	S17 22.0
	13	74 23.3	0 24.4	N23 06.6	325 40.1	N23 43.7	101 15.9	S11 58.4	118 13.2	S17 22.0
	14	89 25.8	15 23.5	N23 07.1	340 40.9	N23 43.5	116 18.1	S11 58.3	133 15.7	S17 22.0
	15	104 28.3	30 22.7	N23 07.5	355 41.7	N23 43.3	131 20.3	S11 58.3	148 18.1	S17 22.0
	16	119 30.7	45 21.9	N23 07.9	10 42.5	N23 43.1	146 22.6	S11 58.2	163 20.6	S17 22.0
	17	134 33.2	60 21.0	N23 08.4	25 43.3	N23 42.9	161 24.8	S11 58.1	178 23.0	S17 22.0
	18	149 35.7	75 20.2	N23 08.8	40 44.1	N23 42.7	176 27.1	S11 58.0	193 25.5	S17 22.0
	19	164 38.1	90 19.4	N23 09.2	55 45.0	N23 42.4	191 29.3	S11 58.0	208 27.9	S17 22.0
	20	179 40.6	105 18.5	N23 09.7	70 45.8	N23 42.2	206 31.6	S11 57.9	223 30.4	S17 22.0
	21	194 43.0	120 17.7	N23 10.1	85 46.6	N23 42.0	221 33.8	S11 57.8	238 32.8	S17 22.0
	22	209 45.5	135 16.8	N23 10.5	100 47.4	N23 41.8	236 36.1	S11 57.8	253 35.3	S17 22.0
	23	224 48.0	150 16.0	N23 10.9	115 48.2	N23 41.6	251 38.3	S11 57.7	268 37.8	S17 22.0
			v -0.8	d 0.5	v 0.8	d 0.2	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
	° '	° '	° '	'	° '	'	'		° ' ° '
19 0	180 52.9	N19 46.1	94 15.6	10.7	N19 54.3	9.1	56.5	Acamar	315 14.5 S40 13.2
1	195 52.8	N19 46.7	108 45.3	10.7	N19 45.1	9.2	56.5	Achernar	335 23.0 S57 07.7
2	210 52.8	N19 47.2	123 15.0	10.7	N19 35.8	9.3	56.6	Acrux	173 02.9 S63 13.2
3	225 52.8	N19 47.7	137 44.8	10.8	N19 26.4	9.4	56.6	Adhara	255 08.5 S29 00.2
4	240 52.8	N19 48.3	152 14.6	10.8	N19 16.9	9.5	56.6	Albireo	67 06.2 N28 00.1
W 5	255 52.7	N19 48.8	166 44.4	10.8	N19 07.3	9.6	56.7		
E								Aldebaran	290 43.4 N16 33.0
D 6	270 52.7	N19 49.3	181 14.3	10.9	N18 57.6	9.7	56.7	Alioth	166 15.2 N55 50.9
N 7	285 52.7	N19 49.9	195 44.2	10.9	N18 47.8	9.8	56.7	Alkaid	152 54.0 N49 12.6
E 8	300 52.6	N19 50.4	210 14.1	10.9	N18 37.8	9.9	56.8	Al Na-ir	27 36.7 S46 51.3
S 9	315 52.6	N19 50.9	224 44.0	10.9	N18 27.8	10.0	56.8	Alnilam	275 41.0 S 1 11.4
D 10	330 52.6	N19 51.5	239 14.0	11.0	N18 17.7	10.1	56.8		
A 11	345 52.5	N19 52.0	253 44.0	11.0	N18 07.4	10.2	56.9	Alphard	217 50.7 S 8 45.1
Y								Alphecca	126 05.9 N26 38.6
12	0 52.5	N19 52.5	268 14.0	11.0	N17 57.1	10.3	56.9	Alpheratz	357 38.0 N29 12.2
13	15 52.5	N19 53.1	282 44.0	11.0	N17 46.6	10.4	56.9	Altair	62 02.7 N 8 55.3
14	30 52.4	N19 53.6	297 14.0	11.1	N17 36.1	10.5	57.0	Ankaa	353 10.4 S42 11.4
15	45 52.4	N19 54.1	311 44.1	11.1	N17 25.4	10.7	57.0		
16	60 52.4	N19 54.6	326 14.2	11.1	N17 14.7	10.8	57.0	Antares	112 19.1 S26 28.7
17	75 52.3	N19 55.2	340 44.4	11.1	N17 03.8	10.8	57.1	Arcturus	145 50.4 N19 04.4
								Atria	107 15.6 S69 03.9
18	90 52.3	N19 55.7	355 14.5	11.2	N16 52.9	10.9	57.1	Avior	234 16.2 S59 34.9
19	105 52.3	N19 56.2	9 44.7	11.2	N16 41.8	11.0	57.1	Bellatrix	278 26.4 N 6 22.0
20	120 52.2	N19 56.7	24 14.9	11.2	N16 30.7	11.1	57.2		
21	135 52.2	N19 57.3	38 45.1	11.2	N16 19.5	11.2	57.2	Betelgeuse	270 55.6 N 7 24.6
22	150 52.2	N19 57.8	53 15.4	11.2	N16 08.1	11.3	57.2	Canopus	263 54.2 S52 42.6
23	165 52.1	N19 58.3	67 45.6	11.3	N15 56.7	11.4	57.3	Capella	280 26.8 N46 01.1
20 0	180 52.1	N19 58.8	82 15.9	11.3	N15 45.2	11.5	57.3	Castor	246 01.1 N31 50.6
1	195 52.1	N19 59.3	96 46.2	11.3	N15 33.6	11.6	57.4	Deneb	49 27.6 N45 21.1
2	210 52.0	N19 59.9	111 16.5	11.3	N15 21.8	11.7	57.4		
3	225 52.0	N20 00.4	125 46.9	11.3	N15 10.0	11.8	57.4	Denebola	182 27.9 N14 27.3
4	240 52.0	N20 00.9	140 17.3	11.4	N14 58.2	11.9	57.5	Diphda	348 50.6 S17 52.2
T 5	255 51.9	N20 01.4	154 47.6	11.4	N14 46.2	12.0	57.5	Dubhe	193 44.6 N61 38.5
H								Elnath	278 06.0 N28 37.4
U 6	270 51.9	N20 01.9	169 18.0	11.4	N14 34.1	12.1	57.5	Eltanin	90 43.1 N51 29.0
R 7	285 51.8	N20 02.5	183 48.5	11.4	N14 21.9	12.2	57.6		
S 8	300 51.8	N20 03.0	198 18.9	11.4	N14 09.7	12.2	57.6	Enif	33 41.6 N 9 58.2
D 9	315 51.8	N20 03.5	212 49.4	11.5	N13 57.4	12.3	57.6	Fomalhaut	15 17.9 S29 30.5
A 10	330 51.7	N20 04.0	227 19.8	11.5	N13 44.9	12.4	57.7	Gacrux	171 54.6 S57 14.1
Y 11	345 51.7	N20 04.5	241 50.3	11.5	N13 32.4	12.5	57.7	Gienah	175 46.5 S17 39.7
								Hadar	148 39.7 S60 28.6
12	0 51.7	N20 05.0	256 20.8	11.5	N13 19.9	12.6	57.8		
13	15 51.6	N20 05.5	270 51.3	11.5	N13 07.2	12.7	57.8	Hamal	327 54.9 N23 33.6
14	30 51.6	N20 06.1	285 21.8	11.5	N12 54.4	12.8	57.8	Kaus Austr.	83 36.2 S34 22.4
15	45 51.5	N20 06.6	299 52.4	11.5	N12 41.6	12.8	57.9	Kochab	137 18.8 N74 04.2
16	60 51.5	N20 07.1	314 22.9	11.6	N12 28.7	12.9	57.9	Markab	13 32.9 N15 18.9
17	75 51.5	N20 07.6	328 53.5	11.6	N12 15.7	13.0	57.9	Menkar	314 09.6 N 4 10.2
								Menkent	148 00.8 S36 28.6
18	90 51.4	N20 08.1	343 24.1	11.6	N12 02.6	13.1	58.0	Miaplacidus	221 38.9 S69 48.5
19	105 51.4	N20 08.6	357 54.6	11.6	N11 49.5	13.2	58.0	Mirfak	308 33.0 N49 56.0
20	120 51.3	N20 09.1	12 25.2	11.6	N11 36.2	13.2	58.1	Nunki	75 51.2 S26 16.1
21	135 51.3	N20 09.6	26 55.8	11.6	N11 22.9	13.3	58.1	Peacock	53 10.2 S56 39.8
22	150 51.3	N20 10.1	41 26.4	11.6	N11 09.6	13.4	58.1		
23	165 51.2	N20 10.7	55 57.0	11.6	N10 56.1	13.5	58.2	Polaris	317 43.5 N89 20.2
21 0	180 51.2	N20 11.2	70 27.7	11.6	N10 42.6	13.5	58.2	Pollux	243 21.2 N27 58.5
1	195 51.1	N20 11.7	84 58.3	11.6	N10 29.0	13.6	58.2	Procyon	244 54.2 N 5 10.2
2	210 51.1	N20 12.2	99 28.9	11.6	N10 15.3	13.7	58.3	Rasalhague	96 01.0 N12 32.6
3	225 51.1	N20 12.7	113 59.5	11.6	N10 01.6	13.7	58.3	Regulus	207 37.6 N11 51.9
4	240 51.0	N20 13.2	128 30.2	11.6	N 9 47.8	13.8	58.4		
F 5	255 51.0	N20 13.7	143 00.8	11.6	N 9 33.9	13.9	58.4	Rigel	281 07.1 S 8 10.7
R								Rigil Kent	139 43.9 S60 55.4
I 6	270 50.9	N20 14.2	157 31.4	11.6	N 9 19.9	13.9	58.4	Sabik	102 05.9 S15 45.1
D 7	285 50.9	N20 14.7	172 02.1	11.6	N 9 05.9	14.0	58.5	Schedar	349 34.7 N56 38.9
A 8	300 50.9	N20 15.2	186 32.7	11.6	N 8 51.9	14.1	58.5	Shaula	96 14.0 S37 07.1
Y 9	315 50.8	N20 15.7	201 03.3	11.6	N 8 37.7	14.1	58.5		
10	330 50.8	N20 16.2	215 34.0	11.6	N 8 23.5	14.2	58.6	Sirius	258 29.1 S16 44.8
11	345 50.7	N20 16.7	230 04.6	11.6	N 8 09.3	14.3	58.6	Spica	158 25.2 S11 16.4
								Suhail	222 48.6 S43 31.3
12	0 50.7	N20 17.2	244 35.2	11.6	N 7 54.9	14.3	58.7	Vega	80 34.9 N38 48.0
13	15 50.6	N20 17.7	259 05.8	11.6	N 7 40.6	14.4	58.7	Zuben-ubi	136 59.8 S16 07.8
14	30 50.6	N20 18.2	273 36.4	11.6	N 7 26.1	14.4	58.7		
15	45 50.5	N20 18.7	288 07.0	11.6	N 7 11.6	14.5	58.8		
16	60 50.5	N20 19.2	302 37.6	11.6	N 6 57.1	14.6	58.8		
17	75 50.5	N20 19.7	317 08.2	11.6	N 6 42.5	14.6	58.9		
18	90 50.4	N20 20.2	331 38.8	11.6	N 6 27.8	14.7	58.9		
19	105 50.4	N20 20.7	346 09.3	11.6	N 6 13.1	14.7	58.9		
20	120 50.3	N20 21.2	0 39.9	11.5	N 5 58.3	14.8	59.0		
21	135 50.3	N20 21.7	15 10.4	11.5	N 5 43.5	14.8	59.0		
22	150 50.2	N20 22.2	29 40.9	11.5	N 5 28.6	14.9	59.0		
23	165 50.2	N20 22.7	44 11.4	11.5	N 5 13.7	14.9	59.1		
	S.D. 15.8	d 0.5	S.D.	15.5	15.7	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 ° '
22	0	239 50.4	165 15.2	N23 11.4	130 49.0	N23 41.4	266 40.5	S11 57.6	283 40.2	S17 22.0
	1	254 52.9	180 14.3	N23 11.8	145 49.8	N23 41.2	281 42.8	S11 57.5	298 42.7	S17 22.0
	2	269 55.4	195 13.5	N23 12.2	160 50.6	N23 41.0	296 45.0	S11 57.5	313 45.1	S17 22.0
	3	284 57.8	210 12.6	N23 12.6	175 51.4	N23 40.8	311 47.3	S11 57.4	328 47.6	S17 22.0
	4	300 00.3	225 11.8	N23 13.1	190 52.2	N23 40.6	326 49.5	S11 57.3	343 50.0	S17 22.0
S	5	315 02.8	240 11.0	N23 13.5	205 53.0	N23 40.4	341 51.8	S11 57.3	358 52.5	S17 22.1
A										
T	6	330 05.2	255 10.1	N23 13.9	220 53.8	N23 40.2	356 54.0	S11 57.2	13 55.0	S17 22.1
U	7	345 07.7	270 09.3	N23 14.3	235 54.7	N23 40.0	11 56.3	S11 57.1	28 57.4	S17 22.1
R	8	0 10.1	285 08.4	N23 14.7	250 55.5	N23 39.8	26 58.5	S11 57.1	43 59.9	S17 22.1
D	9	15 12.6	300 07.6	N23 15.1	265 56.3	N23 39.6	42 00.8	S11 57.0	59 02.3	S17 22.1
A	10	30 15.1	315 06.8	N23 15.5	280 57.1	N23 39.3	57 03.0	S11 56.9	74 04.8	S17 22.1
Y	11	45 17.5	330 05.9	N23 16.0	295 57.9	N23 39.1	72 05.3	S11 56.9	89 07.3	S17 22.1
	12	60 20.0	345 05.1	N23 16.4	310 58.7	N23 38.9	87 07.5	S11 56.8	104 09.7	S17 22.1
	13	75 22.5	0 04.2	N23 16.8	325 59.5	N23 38.7	102 09.8	S11 56.7	119 12.2	S17 22.1
	14	90 24.9	15 03.4	N23 17.2	341 00.3	N23 38.5	117 12.0	S11 56.6	134 14.6	S17 22.1
	15	105 27.4	30 02.5	N23 17.6	356 01.1	N23 38.3	132 14.3	S11 56.6	149 17.1	S17 22.1
	16	120 29.9	45 01.7	N23 18.0	11 01.9	N23 38.1	147 16.5	S11 56.5	164 19.5	S17 22.1
	17	135 32.3	60 00.9	N23 18.4	26 02.7	N23 37.9	162 18.7	S11 56.4	179 22.0	S17 22.1
	18	150 34.8	75 00.0	N23 18.8	41 03.6	N23 37.7	177 21.0	S11 56.4	194 24.5	S17 22.1
	19	165 37.3	89 59.2	N23 19.2	56 04.4	N23 37.5	192 23.2	S11 56.3	209 26.9	S17 22.1
	20	180 39.7	104 58.3	N23 19.6	71 05.2	N23 37.2	207 25.5	S11 56.2	224 29.4	S17 22.1
	21	195 42.2	119 57.5	N23 20.0	86 06.0	N23 37.0	222 27.8	S11 56.2	239 31.8	S17 22.1
	22	210 44.6	134 56.6	N23 20.4	101 06.8	N23 36.8	237 30.0	S11 56.1	254 34.3	S17 22.1
	23	225 47.1	149 55.8	N23 20.8	116 07.6	N23 36.6	252 32.3	S11 56.0	269 36.8	S17 22.1
23	0	240 49.6	164 54.9	N23 21.2	131 08.4	N23 36.4	267 34.5	S11 56.0	284 39.2	S17 22.1
	1	255 52.0	179 54.1	N23 21.6	146 09.2	N23 36.2	282 36.8	S11 55.9	299 41.7	S17 22.1
	2	270 54.5	194 53.2	N23 22.0	161 10.0	N23 36.0	297 39.0	S11 55.8	314 44.1	S17 22.2
	3	285 57.0	209 52.4	N23 22.4	176 10.8	N23 35.8	312 41.3	S11 55.8	329 46.6	S17 22.2
	4	300 59.4	224 51.5	N23 22.8	191 11.7	N23 35.5	327 43.5	S11 55.7	344 49.1	S17 22.2
S	5	316 01.9	239 50.7	N23 23.2	206 12.5	N23 35.3	342 45.8	S11 55.6	359 51.5	S17 22.2
U										
N	6	331 04.4	254 49.9	N23 23.6	221 13.3	N23 35.1	357 48.0	S11 55.6	14 54.0	S17 22.2
D	7	346 06.8	269 49.0	N23 23.9	236 14.1	N23 34.9	12 50.3	S11 55.5	29 56.5	S17 22.2
A	8	1 09.3	284 48.2	N23 24.3	251 14.9	N23 34.7	27 52.5	S11 55.4	44 58.9	S17 22.2
Y	9	16 11.8	299 47.3	N23 24.7	266 15.7	N23 34.5	42 54.8	S11 55.4	60 01.4	S17 22.2
	10	31 14.2	314 46.5	N23 25.1	281 16.5	N23 34.3	57 57.0	S11 55.3	75 03.8	S17 22.2
	11	46 16.7	329 45.6	N23 25.5	296 17.3	N23 34.0	72 59.3	S11 55.2	90 06.3	S17 22.2
	12	61 19.1	344 44.8	N23 25.9	311 18.1	N23 33.8	88 01.5	S11 55.2	105 08.8	S17 22.2
	13	76 21.6	359 43.9	N23 26.2	326 18.9	N23 33.6	103 03.8	S11 55.1	120 11.2	S17 22.2
	14	91 24.1	14 43.1	N23 26.6	341 19.8	N23 33.4	118 06.1	S11 55.0	135 13.7	S17 22.2
	15	106 26.5	29 42.2	N23 27.0	356 20.6	N23 33.2	133 08.3	S11 55.0	150 16.2	S17 22.2
	16	121 29.0	44 41.4	N23 27.4	11 21.4	N23 33.0	148 10.6	S11 54.9	165 18.6	S17 22.2
	17	136 31.5	59 40.5	N23 27.8	26 22.2	N23 32.7	163 12.8	S11 54.8	180 21.1	S17 22.2
	18	151 33.9	74 39.7	N23 28.1	41 23.0	N23 32.5	178 15.1	S11 54.8	195 23.5	S17 22.2
	19	166 36.4	89 38.8	N23 28.5	56 23.8	N23 32.3	193 17.3	S11 54.7	210 26.0	S17 22.2
	20	181 38.9	104 38.0	N23 28.9	71 24.6	N23 32.1	208 19.6	S11 54.6	225 28.5	S17 22.3
	21	196 41.3	119 37.1	N23 29.3	86 25.4	N23 31.9	223 21.9	S11 54.6	240 30.9	S17 22.3
	22	211 43.8	134 36.2	N23 29.6	101 26.3	N23 31.7	238 24.1	S11 54.5	255 33.4	S17 22.3
	23	226 46.2	149 35.4	N23 30.0	116 27.1	N23 31.4	253 26.4	S11 54.4	270 35.9	S17 22.3
24	0	241 48.7	164 34.5	N23 30.4	131 27.9	N23 31.2	268 28.6	S11 54.4	285 38.3	S17 22.3
	1	256 51.2	179 33.7	N23 30.7	146 28.7	N23 31.0	283 30.9	S11 54.3	300 40.8	S17 22.3
	2	271 53.6	194 32.8	N23 31.1	161 29.5	N23 30.8	298 33.1	S11 54.2	315 43.3	S17 22.3
	3	286 56.1	209 32.0	N23 31.5	176 30.3	N23 30.6	313 35.4	S11 54.2	330 45.7	S17 22.3
	4	301 58.6	224 31.1	N23 31.8	191 31.1	N23 30.3	328 37.7	S11 54.1	345 48.2	S17 22.3
M	5	317 01.0	239 30.3	N23 32.2	206 31.9	N23 30.1	343 39.9	S11 54.0	0 50.7	S17 22.3
O										
N	6	332 03.5	254 29.4	N23 32.5	221 32.7	N23 29.9	358 42.2	S11 54.0	15 53.1	S17 22.3
D	7	347 06.0	269 28.6	N23 32.9	236 33.6	N23 29.7	13 44.4	S11 53.9	30 55.6	S17 22.3
A	8	2 08.4	284 27.7	N23 33.3	251 34.4	N23 29.4	28 46.7	S11 53.9	45 58.1	S17 22.3
Y	9	17 10.9	299 26.9	N23 33.6	266 35.2	N23 29.2	43 49.0	S11 53.8	61 00.5	S17 22.3
	10	32 13.4	314 26.0	N23 34.0	281 36.0	N23 29.0	58 51.2	S11 53.7	76 03.0	S17 22.3
	11	47 15.8	329 25.1	N23 34.3	296 36.8	N23 28.8	73 53.5	S11 53.7	91 05.5	S17 22.4
	12	62 18.3	344 24.3	N23 34.7	311 37.6	N23 28.6	88 55.7	S11 53.6	106 07.9	S17 22.4
	13	77 20.7	359 23.4	N23 35.0	326 38.4	N23 28.3	103 58.0	S11 53.5	121 10.4	S17 22.4
	14	92 23.2	14 22.6	N23 35.4	341 39.2	N23 28.1	119 00.3	S11 53.5	136 12.9	S17 22.4
	15	107 25.7	29 21.7	N23 35.7	356 40.1	N23 27.9	134 02.5	S11 53.4	151 15.3	S17 22.4
	16	122 28.1	44 20.9	N23 36.1	11 40.9	N23 27.7	149 04.8	S11 53.3	166 17.8	S17 22.4
	17	137 30.6	59 20.0	N23 36.4	26 41.7	N23 27.4	164 07.1	S11 53.3	181 20.3	S17 22.4
	18	152 33.1	74 19.1	N23 36.8	41 42.5	N23 27.2	179 09.3	S11 53.2	196 22.7	S17 22.4
	19	167 35.5	89 18.3	N23 37.1	56 43.3	N23 27.0	194 11.6	S11 53.1	211 25.2	S17 22.4
	20	182 38.0	104 17.4	N23 37.5	71 44.1	N23 26.8	209 13.9	S11 53.1	226 27.7	S17 22.4
	21	197 40.5	119 16.6	N23 37.8	86 44.9	N23 26.5	224 16.1	S11 53.0	241 30.1	S17 22.4
	22	212 42.9	134 15.7	N23 38.2	101 45.7	N23 26.3	239 18.4	S11 53.0	256 32.6	S17 22.4
	23	227 45.4	149 14.9	N23 38.5	116 46.6	N23 26.1	254 20.6	S11 52.9	271 35.1	S17 22.4
			v -0.8	d 0.4	v 0.8	d 0.2	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
22 0	180 50.1	N20 23.2	58 41.9	11.5 N	4 58.7	15.0	59.1	Acamar	315 14.5 S40 13.2
1	195 50.1	N20 23.6	73 12.4	11.5 N	4 43.7	15.0	59.2	Achernar	335 23.0 S57 07.7
2	210 50.1	N20 24.1	87 42.8	11.4 N	4 28.7	15.1	59.2	Acrux	173 03.0 S63 13.2
3	225 50.0	N20 24.6	102 13.2	11.4 N	4 13.6	15.1	59.2	Adhara	255 08.5 S29 00.2
4	240 50.0	N20 25.1	116 43.6	11.4 N	3 58.5	15.1	59.3	Albireo	67 06.2 N28 00.1
S 5	255 49.9	N20 25.6	131 14.0	11.4 N	3 43.3	15.2	59.3		
A								Aldebaran	290 43.4 N16 33.0
T 6	270 49.9	N20 26.1	145 44.4	11.4 N	3 28.1	15.2	59.3	Alioth	166 15.3 N55 51.0
U 7	285 49.8	N20 26.6	160 14.7	11.3 N	3 12.8	15.3	59.4	Alkaid	152 54.0 N49 12.6
R 8	300 49.8	N20 27.1	174 45.0	11.3 N	2 57.5	15.3	59.4	Al Na-ir	27 36.6 S46 51.3
D 9	315 49.7	N20 27.6	189 15.3	11.3 N	2 42.2	15.3	59.4	Alnilam	275 41.0 S 1 11.4
A 10	330 49.7	N20 28.0	203 45.6	11.3 N	2 26.8	15.4	59.5		
Y 11	345 49.6	N20 28.5	218 15.8	11.2 N	2 11.4	15.4	59.5	Alphard	217 50.7 S 8 45.1
								Alphecca	126 05.9 N26 38.6
12	0 49.6	N20 29.0	232 46.0	11.2 N	1 56.0	15.4	59.6	Alpheratz	357 38.0 N29 12.2
13	15 49.5	N20 29.5	247 16.1	11.2 N	1 40.5	15.5	59.6	Altair	62 02.7 N 8 55.3
14	30 49.5	N20 30.0	261 46.3	11.1 N	1 25.1	15.5	59.6	Ankaa	353 10.4 S42 11.4
15	45 49.4	N20 30.5	276 16.4	11.1 N	1 09.6	15.5	59.7		
16	60 49.4	N20 31.0	290 46.4	11.1 N	0 54.0	15.5	59.7	Antares	112 19.1 S26 28.7
17	75 49.3	N20 31.4	305 16.5	11.0 N	0 38.5	15.6	59.7	Arcturus	145 50.4 N19 04.4
								Atria	107 15.5 S69 03.9
18	90 49.3	N20 31.9	319 46.5	11.0 N	0 22.9	15.6	59.8	Avior	234 16.2 S59 34.9
19	105 49.2	N20 32.4	334 16.4	11.0 N	0 07.3	15.6	59.8	Bellatrix	278 26.4 N 6 22.0
20	120 49.2	N20 32.9	348 46.3	10.9 S	0 08.4	15.6	59.8		
21	135 49.1	N20 33.4	3 16.2	10.9 S	0 24.0	15.6	59.9	Betelgeuse	270 55.6 N 7 24.6
22	150 49.1	N20 33.8	17 46.0	10.8 S	0 39.7	15.7	59.9	Canopus	263 54.2 S52 42.6
23	165 49.0	N20 34.3	32 15.8	10.8 S	0 55.3	15.7	59.9	Capella	280 26.8 N46 01.1
								Castor	246 01.1 N31 50.6
23 0	180 49.0	N20 34.8	46 45.6	10.7 S	1 11.0	15.7	60.0	Deneb	49 27.6 N45 21.1
1	195 48.9	N20 35.3	61 15.3	10.7 S	1 26.7	15.7	60.0		
2	210 48.9	N20 35.7	75 44.9	10.7 S	1 42.4	15.7	60.0	Denebola	182 27.9 N14 27.3
3	225 48.8	N20 36.2	90 14.5	10.6 S	1 58.1	15.7	60.1	Diphda	348 50.5 S17 52.2
4	240 48.8	N20 36.7	104 44.1	10.6 S	2 13.9	15.7	60.1	Dubhe	193 44.6 N61 38.5
S 5	255 48.7	N20 37.2	119 13.6	10.5 S	2 29.6	15.7	60.1	Elnath	278 06.0 N28 37.4
U								Eltanin	90 43.1 N51 29.0
N 6	270 48.7	N20 37.6	133 43.1	10.5 S	2 45.3	15.7	60.2		
D 7	285 48.6	N20 38.1	148 12.5	10.4 S	3 01.1	15.7	60.2	Enif	33 41.6 N 9 58.2
A 8	300 48.6	N20 38.6	162 41.8	10.4 S	3 16.8	15.7	60.2	Fomalhaut	15 17.9 S29 30.5
Y 9	315 48.5	N20 39.1	177 11.1	10.3 S	3 32.6	15.7	60.3	Gacrux	171 54.6 S57 14.1
10	330 48.5	N20 39.5	191 40.4	10.2 S	3 48.3	15.7	60.3	Gienah	175 46.5 S17 39.7
11	345 48.4	N20 40.0	206 09.6	10.2 S	4 04.0	15.7	60.3	Hadar	148 39.7 S60 28.6
12	0 48.3	N20 40.5	220 38.7	10.1 S	4 19.8	15.7	60.4	Hamal	327 54.9 N23 33.6
13	15 48.3	N20 40.9	235 07.8	10.1 S	4 35.5	15.7	60.4	Kaus Austr.	83 36.2 S34 22.4
14	30 48.2	N20 41.4	249 36.8	10.0 S	4 51.2	15.7	60.4	Kochab	137 18.9 N74 04.2
15	45 48.2	N20 41.9	264 05.7	10.0 S	5 06.9	15.7	60.4	Markab	13 32.9 N15 18.9
16	60 48.1	N20 42.4	278 34.6	9.9 S	5 22.6	15.7	60.5	Menkar	314 09.6 N 4 10.2
17	75 48.1	N20 42.8	293 03.5	9.8 S	5 38.3	15.7	60.5		
								Menkent	148 00.8 S36 28.6
18	90 48.0	N20 43.3	307 32.2	9.8 S	5 53.9	15.7	60.5	Miaplacidus	221 39.0 S69 48.5
19	105 48.0	N20 43.8	322 00.9	9.7 S	6 09.5	15.6	60.6	Mirfak	308 33.0 N49 56.0
20	120 47.9	N20 44.2	336 29.6	9.6 S	6 25.2	15.6	60.6	Nunki	75 51.2 S26 16.1
21	135 47.9	N20 44.7	350 58.1	9.6 S	6 40.8	15.6	60.6	Peacock	53 10.1 S56 39.8
22	150 47.8	N20 45.1	5 26.6	9.5 S	6 56.3	15.6	60.6		
23	165 47.7	N20 45.6	19 55.1	9.4 S	7 11.9	15.5	60.7	Polaris	317 42.9 N89 20.2
								Pollux	243 21.2 N27 58.5
24 0	180 47.7	N20 46.1	34 23.4	9.4 S	7 27.4	15.5	60.7	Procyon	244 54.2 N 5 10.2
1	195 47.6	N20 46.5	48 51.7	9.3 S	7 42.9	15.5	60.7	Rasalhague	96 01.0 N12 32.7
2	210 47.6	N20 47.0	63 19.9	9.2 S	7 58.3	15.5	60.7	Regulus	207 37.6 N11 51.9
3	225 47.5	N20 47.5	77 48.1	9.1 S	8 13.8	15.4	60.8		
4	240 47.5	N20 47.9	92 16.1	9.1 S	8 29.2	15.4	60.8	Rigel	281 07.1 S 8 10.7
M 5	255 47.4	N20 48.4	106 44.1	9.0 S	8 44.5	15.4	60.8	Rigil Kent	139 43.9 S60 55.5
O								Sabik	102 05.9 S15 45.1
N 6	270 47.3	N20 48.8	121 12.0	8.9 S	8 59.8	15.3	60.8	Schedar	349 34.7 N56 38.9
D 7	285 47.3	N20 49.3	135 39.9	8.8 S	9 15.1	15.3	60.9	Shaula	96 14.0 S37 07.1
A 8	300 47.2	N20 49.8	150 07.6	8.8 S	9 30.3	15.2	60.9		
Y 9	315 47.2	N20 50.2	164 35.3	8.7 S	9 45.5	15.2	60.9	Sirius	258 29.2 S16 44.8
10	330 47.1	N20 50.7	179 02.9	8.6 S10	00.6	15.1	60.9	Spica	158 25.2 S11 16.4
11	345 47.1	N20 51.1	193 30.4	8.5 S10	15.7	15.1	60.9	Suhail	222 48.6 S43 31.3
								Vega	80 34.9 N38 48.0
12	0 47.0	N20 51.6	207 57.9	8.4 S10	30.8	15.0	61.0	Zuben-ubi	136 59.8 S16 07.8
13	15 46.9	N20 52.0	222 25.2	8.4 S10	45.7	15.0	61.0		
14	30 46.9	N20 52.5	236 52.5	8.3 S11	00.7	14.9	61.0		
15	45 46.8	N20 52.9	251 19.7	8.2 S11	15.5	14.9	61.0		
16	60 46.8	N20 53.4	265 46.8	8.1 S11	30.3	14.8	61.0		
17	75 46.7	N20 53.9	280 13.8	8.0 S11	45.1	14.7	61.1		
18	90 46.6	N20 54.3	294 40.8	7.9 S11	59.8	14.7	61.1		
19	105 46.6	N20 54.8	309 07.6	7.8 S12	14.4	14.6	61.1		
20	120 46.5	N20 55.2	323 34.4	7.8 S12	29.0	14.6	61.1		
21	135 46.5	N20 55.7	338 01.0	7.7 S12	43.4	14.5	61.1		
22	150 46.4	N20 56.1	352 27.6	7.6 S12	57.8	14.4	61.1		
23	165 46.3	N20 56.6	6 54.1	7.5 S13	12.2	14.3	61.2		
	S.D. 15.8	d 0.5	S.D.	16.2	16.4		16.6		

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
25	0	242 47.9	164 14.0	N23 38.8	131 47.4	N23 25.9	269 22.9	S11 52.8	286 37.5	S17 22.4
	1	257 50.3	179 13.1	N23 39.2	146 48.2	N23 25.6	284 25.2	S11 52.8	301 40.0	S17 22.5
	2	272 52.8	194 12.3	N23 39.5	161 49.0	N23 25.4	299 27.4	S11 52.7	316 42.5	S17 22.5
	3	287 55.2	209 11.4	N23 39.9	176 49.8	N23 25.2	314 29.7	S11 52.6	331 44.9	S17 22.5
	4	302 57.7	224 10.6	N23 40.2	191 50.6	N23 25.0	329 32.0	S11 52.6	346 47.4	S17 22.5
T	5	318 00.2	239 09.7	N23 40.5	206 51.4	N23 24.7	344 34.2	S11 52.5	1 49.9	S17 22.5
U										
E	6	333 02.6	254 08.8	N23 40.9	221 52.3	N23 24.5	359 36.5	S11 52.5	16 52.4	S17 22.5
S	7	348 05.1	269 08.0	N23 41.2	236 53.1	N23 24.3	14 38.8	S11 52.4	31 54.8	S17 22.5
D	8	3 07.6	284 07.1	N23 41.5	251 53.9	N23 24.0	29 41.0	S11 52.3	46 57.3	S17 22.5
A	9	18 10.0	299 06.3	N23 41.8	266 54.7	N23 23.8	44 43.3	S11 52.3	61 59.8	S17 22.5
Y	10	33 12.5	314 05.4	N23 42.2	281 55.5	N23 23.6	59 45.6	S11 52.2	77 02.2	S17 22.5
	11	48 15.0	329 04.5	N23 42.5	296 56.3	N23 23.4	74 47.8	S11 52.1	92 04.7	S17 22.5
	12	63 17.4	344 03.7	N23 42.8	311 57.1	N23 23.1	89 50.1	S11 52.1	107 07.2	S17 22.5
	13	78 19.9	359 02.8	N23 43.2	326 58.0	N23 22.9	104 52.4	S11 52.0	122 09.6	S17 22.5
	14	93 22.3	14 01.9	N23 43.5	341 58.8	N23 22.7	119 54.6	S11 52.0	137 12.1	S17 22.6
	15	108 24.8	29 01.1	N23 43.8	356 59.6	N23 22.4	134 56.9	S11 51.9	152 14.6	S17 22.6
	16	123 27.3	44 00.2	N23 44.1	12 00.4	N23 22.2	149 59.2	S11 51.8	167 17.1	S17 22.6
	17	138 29.7	58 59.4	N23 44.4	27 01.2	N23 22.0	165 01.5	S11 51.8	182 19.5	S17 22.6
	18	153 32.2	73 58.5	N23 44.8	42 02.0	N23 21.7	180 03.7	S11 51.7	197 22.0	S17 22.6
	19	168 34.7	88 57.6	N23 45.1	57 02.8	N23 21.5	195 06.0	S11 51.7	212 24.5	S17 22.6
	20	183 37.1	103 56.8	N23 45.4	72 03.7	N23 21.3	210 08.3	S11 51.6	227 26.9	S17 22.6
	21	198 39.6	118 55.9	N23 45.7	87 04.5	N23 21.1	225 10.5	S11 51.5	242 29.4	S17 22.6
	22	213 42.1	133 55.0	N23 46.0	102 05.3	N23 20.8	240 12.8	S11 51.5	257 31.9	S17 22.6
	23	228 44.5	148 54.2	N23 46.3	117 06.1	N23 20.6	255 15.1	S11 51.4	272 34.4	S17 22.6
26	0	243 47.0	163 53.3	N23 46.6	132 06.9	N23 20.4	270 17.4	S11 51.4	287 36.8	S17 22.6
	1	258 49.5	178 52.4	N23 46.9	147 07.7	N23 20.1	285 19.6	S11 51.3	302 39.3	S17 22.6
	2	273 51.9	193 51.6	N23 47.3	162 08.6	N23 19.9	300 21.9	S11 51.2	317 41.8	S17 22.7
	3	288 54.4	208 50.7	N23 47.6	177 09.4	N23 19.7	315 24.2	S11 51.2	332 44.3	S17 22.7
	4	303 56.8	223 49.9	N23 47.9	192 10.2	N23 19.4	330 26.4	S11 51.1	347 46.7	S17 22.7
W	5	318 59.3	238 49.0	N23 48.2	207 11.0	N23 19.2	345 28.7	S11 51.1	2 49.2	S17 22.7
E										
D	6	334 01.8	253 48.1	N23 48.5	222 11.8	N23 18.9	0 31.0	S11 51.0	17 51.7	S17 22.7
N	7	349 04.2	268 47.3	N23 48.8	237 12.6	N23 18.7	15 33.3	S11 50.9	32 54.1	S17 22.7
E	8	4 06.7	283 46.4	N23 49.1	252 13.4	N23 18.5	30 35.5	S11 50.9	47 56.6	S17 22.7
S	9	19 09.2	298 45.5	N23 49.4	267 14.3	N23 18.2	45 37.8	S11 50.8	62 59.1	S17 22.7
D	10	34 11.6	313 44.7	N23 49.7	282 15.1	N23 18.0	60 40.1	S11 50.8	78 01.6	S17 22.7
A	11	49 14.1	328 43.8	N23 50.0	297 15.9	N23 17.8	75 42.4	S11 50.7	93 04.0	S17 22.7
Y										
	12	64 16.6	343 42.9	N23 50.3	312 16.7	N23 17.5	90 44.6	S11 50.6	108 06.5	S17 22.7
	13	79 19.0	358 42.1	N23 50.6	327 17.5	N23 17.3	105 46.9	S11 50.6	123 09.0	S17 22.8
	14	94 21.5	13 41.2	N23 50.9	342 18.3	N23 17.1	120 49.2	S11 50.5	138 11.5	S17 22.8
	15	109 24.0	28 40.3	N23 51.2	357 19.2	N23 16.8	135 51.5	S11 50.5	153 13.9	S17 22.8
	16	124 26.4	43 39.4	N23 51.5	12 20.0	N23 16.6	150 53.7	S11 50.4	168 16.4	S17 22.8
	17	139 28.9	58 38.6	N23 51.7	27 20.8	N23 16.4	165 56.0	S11 50.3	183 18.9	S17 22.8
	18	154 31.3	73 37.7	N23 52.0	42 21.6	N23 16.1	180 58.3	S11 50.3	198 21.4	S17 22.8
	19	169 33.8	88 36.8	N23 52.3	57 22.4	N23 15.9	196 00.6	S11 50.2	213 23.8	S17 22.8
	20	184 36.3	103 36.0	N23 52.6	72 23.2	N23 15.6	211 02.8	S11 50.2	228 26.3	S17 22.8
	21	199 38.7	118 35.1	N23 52.9	87 24.1	N23 15.4	226 05.1	S11 50.1	243 28.8	S17 22.8
	22	214 41.2	133 34.2	N23 53.2	102 24.9	N23 15.2	241 07.4	S11 50.1	258 31.3	S17 22.8
	23	229 43.7	148 33.4	N23 53.5	117 25.7	N23 14.9	256 09.7	S11 50.0	273 33.8	S17 22.9
27	0	244 46.1	163 32.5	N23 53.7	132 26.5	N23 14.7	271 12.0	S11 49.9	288 36.2	S17 22.9
	1	259 48.6	178 31.6	N23 54.0	147 27.3	N23 14.4	286 14.2	S11 49.9	303 38.7	S17 22.9
	2	274 51.1	193 30.8	N23 54.3	162 28.2	N23 14.2	301 16.5	S11 49.8	318 41.2	S17 22.9
	3	289 53.5	208 29.9	N23 54.6	177 29.0	N23 14.0	316 18.8	S11 49.8	333 43.7	S17 22.9
	4	304 56.0	223 29.0	N23 54.9	192 29.8	N23 13.7	331 21.1	S11 49.7	348 46.1	S17 22.9
T	5	319 58.5	238 28.1	N23 55.1	207 30.6	N23 13.5	346 23.4	S11 49.7	3 48.6	S17 22.9
H										
U	6	335 00.9	253 27.3	N23 55.4	222 31.4	N23 13.2	1 25.6	S11 49.6	18 51.1	S17 22.9
R	7	350 03.4	268 26.4	N23 55.7	237 32.2	N23 13.0	16 27.9	S11 49.5	33 53.6	S17 22.9
S	8	5 05.8	283 25.5	N23 56.0	252 33.1	N23 12.8	31 30.2	S11 49.5	48 56.1	S17 22.9
D	9	20 08.3	298 24.7	N23 56.2	267 33.9	N23 12.5	46 32.5	S11 49.4	63 58.5	S17 23.0
A	10	35 10.8	313 23.8	N23 56.5	282 34.7	N23 12.3	61 34.8	S11 49.4	79 01.0	S17 23.0
Y	11	50 13.2	328 22.9	N23 56.8	297 35.5	N23 12.0	76 37.0	S11 49.3	94 03.5	S17 23.0
	12	65 15.7	343 22.0	N23 57.0	312 36.3	N23 11.8	91 39.3	S11 49.3	109 06.0	S17 23.0
	13	80 18.2	358 21.2	N23 57.3	327 37.1	N23 11.5	106 41.6	S11 49.2	124 08.4	S17 23.0
	14	95 20.6	13 20.3	N23 57.6	342 38.0	N23 11.3	121 43.9	S11 49.1	139 10.9	S17 23.0
	15	110 23.1	28 19.4	N23 57.8	357 38.8	N23 11.1	136 46.2	S11 49.1	154 13.4	S17 23.0
	16	125 25.6	43 18.6	N23 58.1	12 39.6	N23 10.8	151 48.5	S11 49.0	169 15.9	S17 23.0
	17	140 28.0	58 17.7	N23 58.4	27 40.4	N23 10.6	166 50.7	S11 49.0	184 18.4	S17 23.0
	18	155 30.5	73 16.8	N23 58.6	42 41.2	N23 10.3	181 53.0	S11 48.9	199 20.8	S17 23.0
	19	170 33.0	88 15.9	N23 58.9	57 42.1	N23 10.1	196 55.3	S11 48.9	214 23.3	S17 23.1
	20	185 35.4	103 15.1	N23 59.1	72 42.9	N23 09.8	211 57.6	S11 48.8	229 25.8	S17 23.1
	21	200 37.9	118 14.2	N23 59.4	87 43.7	N23 09.6	226 59.9	S11 48.8	244 28.3	S17 23.1
	22	215 40.3	133 13.3	N23 59.7	102 44.5	N23 09.3	242 02.2	S11 48.7	259 30.8	S17 23.1
	23	230 42.8	148 12.4	N23 59.9	117 45.3	N23 09.1	257 04.4	S11 48.6	274 33.2	S17 23.1
			v -0.9	d 0.3	v 0.8	d 0.2	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
25 0	180 46.3	N20 57.0	21 20.5	7.4	S13 26.4	14.3	61.2	Acamar	315 14.5 S40 13.2
1	195 46.2	N20 57.5	35 46.8	7.3	S13 40.6	14.2	61.2	Achernar	335 22.9 S57 07.6
2	210 46.1	N20 57.9	50 13.1	7.2	S13 54.7	14.1	61.2	Acrux	173 03.0 S63 13.2
3	225 46.1	N20 58.3	64 39.2	7.1	S14 08.7	14.0	61.2	Adhara	255 08.5 S29 00.2
4	240 46.0	N20 58.8	79 05.2	7.0	S14 22.7	13.9	61.2	Albireo	67 06.2 N28 00.1
T 5	255 46.0	N20 59.2	93 31.2	7.0	S14 36.5	13.8	61.2		
U								Aldebaran	290 43.4 N16 33.0
E 6	270 45.9	N20 59.7	107 57.0	6.9	S14 50.3	13.8	61.3	Alioth	166 15.3 N55 51.0
S 7	285 45.8	N21 00.1	122 22.8	6.8	S15 03.9	13.7	61.3	Alkaid	152 54.0 N49 12.6
D 8	300 45.8	N21 00.6	136 48.5	6.7	S15 17.5	13.6	61.3	Al Na-ir	27 36.6 S46 51.3
A 9	315 45.7	N21 01.0	151 14.1	6.6	S15 31.0	13.5	61.3	Alnilam	275 41.0 S 1 11.4
Y 10	330 45.6	N21 01.4	165 39.5	6.5	S15 44.4	13.4	61.3		
11	345 45.6	N21 01.9	180 04.9	6.4	S15 57.7	13.3	61.3	Alphard	217 50.7 S 8 45.1
								Alphecca	126 05.9 N26 38.6
12	0 45.5	N21 02.3	194 30.2	6.3	S16 10.8	13.2	61.3	Alpheratz	357 38.0 N29 12.2
13	15 45.5	N21 02.8	208 55.5	6.2	S16 23.9	13.1	61.3	Altair	62 02.6 N 8 55.4
14	30 45.4	N21 03.2	223 20.6	6.1	S16 36.9	13.0	61.3	Ankaa	353 10.3 S42 11.4
15	45 45.3	N21 03.6	237 45.6	6.0	S16 49.7	12.9	61.3		
16	60 45.3	N21 04.1	252 10.5	5.9	S17 02.5	12.8	61.3	Antares	112 19.1 S26 28.7
17	75 45.2	N21 04.5	266 35.4	5.8	S17 15.1	12.6	61.3	Arcturus	145 50.4 N19 04.4
								Atria	107 15.5 S69 03.9
18	90 45.1	N21 05.0	281 00.1	5.7	S17 27.7	12.5	61.4	Avior	234 16.2 S59 34.9
19	105 45.1	N21 05.4	295 24.7	5.6	S17 40.1	12.4	61.4	Bellatrix	278 26.4 N 6 22.0
20	120 45.0	N21 05.8	309 49.3	5.6	S17 52.4	12.3	61.4		
21	135 44.9	N21 06.3	324 13.8	5.5	S18 04.5	12.2	61.4	Betelgeuse	270 55.6 N 7 24.6
22	150 44.9	N21 06.7	338 38.1	5.4	S18 16.6	12.0	61.4	Canopus	263 54.2 S52 42.6
23	165 44.8	N21 07.1	353 02.4	5.3	S18 28.5	11.9	61.4	Capella	280 26.8 N46 01.1
26 0	180 44.7	N21 07.6	7 26.6	5.2	S18 40.3	11.8	61.4	Castor	246 01.1 N31 50.6
1	195 44.7	N21 08.0	21 50.7	5.1	S18 51.9	11.7	61.4	Deneb	49 27.6 N45 21.1
2	210 44.6	N21 08.4	36 14.7	5.0	S19 03.5	11.5	61.4		
3	225 44.5	N21 08.9	50 38.7	4.9	S19 14.9	11.4	61.4	Denebola	182 27.9 N14 27.3
4	240 44.5	N21 09.3	65 02.5	4.8	S19 26.1	11.3	61.4	Diphda	348 50.5 S17 52.2
W 5	255 44.4	N21 09.7	79 26.2	4.7	S19 37.3	11.1	61.4	Dubhe	193 44.6 N61 38.5
E								Elnath	278 06.0 N28 37.4
D 6	270 44.3	N21 10.2	93 49.9	4.7	S19 48.3	11.0	61.4	Eltanin	90 43.1 N51 29.0
N 7	285 44.3	N21 10.6	108 13.5	4.6	S19 59.1	10.8	61.4		
E 8	300 44.2	N21 11.0	122 37.0	4.5	S20 09.8	10.7	61.4	Enif	33 41.6 N 9 58.2
S 9	315 44.1	N21 11.4	137 00.4	4.4	S20 20.4	10.6	61.4	Fomalhaut	15 17.9 S29 30.5
D 10	330 44.1	N21 11.9	151 23.7	4.3	S20 30.8	10.4	61.3	Gacrux	171 54.6 S57 14.1
A 11	345 44.0	N21 12.3	165 46.9	4.2	S20 41.1	10.3	61.3	Gienah	175 46.5 S17 39.7
Y								Hadar	148 39.7 S60 28.6
12	0 43.9	N21 12.7	180 10.1	4.2	S20 51.2	10.1	61.3		
13	15 43.9	N21 13.1	194 33.2	4.1	S21 01.1	10.0	61.3	Hamal	327 54.9 N23 33.6
14	30 43.8	N21 13.6	208 56.2	4.0	S21 11.0	9.8	61.3	Kaus Austr.	83 36.1 S34 22.4
15	45 43.7	N21 14.0	223 19.1	3.9	S21 20.6	9.7	61.3	Kochab	137 18.9 N74 04.3
16	60 43.6	N21 14.4	237 41.9	3.8	S21 30.1	9.5	61.3	Markab	13 32.9 N15 18.9
17	75 43.6	N21 14.8	252 04.7	3.8	S21 39.5	9.3	61.3	Menkar	314 09.6 N 4 10.2
								Menkent	148 00.8 S36 28.6
18	90 43.5	N21 15.3	266 27.4	3.7	S21 48.6	9.2	61.3	Miaplacidus	221 39.0 S69 48.5
19	105 43.4	N21 15.7	280 50.0	3.6	S21 57.7	9.0	61.3	Mirfak	308 33.0 N49 56.0
20	120 43.4	N21 16.1	295 12.6	3.6	S22 06.5	8.9	61.3	Nunki	75 51.2 S26 16.1
21	135 43.3	N21 16.5	309 35.1	3.5	S22 15.2	8.7	61.3	Peacock	53 10.1 S56 39.8
22	150 43.2	N21 16.9	323 57.5	3.4	S22 23.7	8.5	61.3		
23	165 43.1	N21 17.4	338 19.8	3.4	S22 32.1	8.4	61.2	Polaris	317 42.1 N89 20.2
27 0	180 43.1	N21 17.8	352 42.1	3.3	S22 40.3	8.2	61.2	Pollux	243 21.2 N27 58.5
1	195 43.0	N21 18.2	7 04.4	3.2	S22 48.3	8.0	61.2	Procyon	244 54.2 N 5 10.2
2	210 42.9	N21 18.6	21 26.5	3.2	S22 56.1	7.8	61.2	Rasalhague	96 01.0 N12 32.7
3	225 42.9	N21 19.0	35 48.6	3.1	S23 03.8	7.7	61.2	Regulus	207 37.6 N11 51.9
4	240 42.8	N21 19.4	50 10.7	3.1	S23 11.3	7.5	61.2		
T 5	255 42.7	N21 19.8	64 32.7	3.0	S23 18.6	7.3	61.2	Rigel	281 07.1 S 8 10.7
H								Rigil Kent	139 43.9 S60 55.5
U 6	270 42.6	N21 20.3	78 54.6	2.9	S23 25.8	7.1	61.1	Sabik	102 05.9 S15 45.1
R 7	285 42.6	N21 20.7	93 16.5	2.9	S23 32.7	7.0	61.1	Schedar	349 34.7 N56 38.9
S 8	300 42.5	N21 21.1	107 38.4	2.9	S23 39.5	6.8	61.1	Shaula	96 14.0 S37 07.1
D 9	315 42.4	N21 21.5	122 00.2	2.8	S23 46.1	6.6	61.1	Sirius	258 29.2 S16 44.8
A 10	330 42.4	N21 21.9	136 22.0	2.8	S23 52.6	6.4	61.1	Spica	158 25.2 S11 16.4
Y 11	345 42.3	N21 22.3	150 43.7	2.7	S23 58.8	6.2	61.1	Suhail	222 48.6 S43 31.3
								Vega	80 34.9 N38 48.0
12	0 42.2	N21 22.7	165 05.4	2.7	S24 04.9	6.1	61.0	Zuben-ubi	136 59.8 S16 07.8
13	15 42.1	N21 23.1	179 27.0	2.6	S24 10.7	5.9	61.0		
14	30 42.1	N21 23.6	193 48.6	2.6	S24 16.4	5.7	61.0		
15	45 42.0	N21 24.0	208 10.2	2.6	S24 21.9	5.5	61.0		
16	60 41.9	N21 24.4	222 31.8	2.6	S24 27.3	5.3	61.0		
17	75 41.8	N21 24.8	236 53.3	2.5	S24 32.4	5.1	60.9		
18	90 41.8	N21 25.2	251 14.8	2.5	S24 37.3	4.9	60.9		
19	105 41.7	N21 25.6	265 36.3	2.5	S24 42.1	4.8	60.9		
20	120 41.6	N21 26.0	279 57.7	2.5	S24 46.6	4.6	60.9		
21	135 41.5	N21 26.4	294 19.2	2.4	S24 51.0	4.4	60.8		
22	150 41.5	N21 26.8	308 40.6	2.4	S24 55.2	4.2	60.8		
23	165 41.4	N21 27.2	323 02.0	2.4	S24 59.2	4.0	60.8		
	S.D. 15.8	d 0.4	S.D. 16.7		16.7		16.6		

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
28	0	245 45.3	163 11.6	N24 00.2	132 46.2	N23 08.9	272 06.7	S11 48.6	289 35.7	S17 23.1
	1	260 47.7	178 10.7	N24 00.4	147 47.0	N23 08.6	287 09.0	S11 48.5	304 38.2	S17 23.1
	2	275 50.2	193 09.8	N24 00.7	162 47.8	N23 08.4	302 11.3	S11 48.5	319 40.7	S17 23.1
	3	290 52.7	208 08.9	N24 00.9	177 48.6	N23 08.1	317 13.6	S11 48.4	334 43.2	S17 23.1
	4	305 55.1	223 08.1	N24 01.2	192 49.4	N23 07.9	332 15.9	S11 48.4	349 45.7	S17 23.2
F	5	320 57.6	238 07.2	N24 01.4	207 50.2	N23 07.6	347 18.2	S11 48.3	4 48.1	S17 23.2
R										
I	6	336 00.1	253 06.3	N24 01.7	222 51.1	N23 07.4	2 20.4	S11 48.3	19 50.6	S17 23.2
D	7	351 02.5	268 05.4	N24 01.9	237 51.9	N23 07.1	17 22.7	S11 48.2	34 53.1	S17 23.2
A	8	6 05.0	283 04.6	N24 02.1	252 52.7	N23 06.9	32 25.0	S11 48.2	49 55.6	S17 23.2
Y	9	21 07.4	298 03.7	N24 02.4	267 53.5	N23 06.6	47 27.3	S11 48.1	64 58.1	S17 23.2
	10	36 09.9	313 02.8	N24 02.6	282 54.3	N23 06.4	62 29.6	S11 48.0	80 00.5	S17 23.2
	11	51 12.4	328 01.9	N24 02.9	297 55.2	N23 06.1	77 31.9	S11 48.0	95 03.0	S17 23.2
	12	66 14.8	343 01.1	N24 03.1	312 56.0	N23 05.9	92 34.2	S11 47.9	110 05.5	S17 23.2
	13	81 17.3	358 00.2	N24 03.3	327 56.8	N23 05.6	107 36.5	S11 47.9	125 08.0	S17 23.3
	14	96 19.8	12 59.3	N24 03.6	342 57.6	N23 05.4	122 38.7	S11 47.8	140 10.5	S17 23.3
	15	111 22.2	27 58.4	N24 03.8	357 58.4	N23 05.1	137 41.0	S11 47.8	155 13.0	S17 23.3
	16	126 24.7	42 57.5	N24 04.0	12 59.3	N23 04.9	152 43.3	S11 47.7	170 15.4	S17 23.3
	17	141 27.2	57 56.7	N24 04.3	28 00.1	N23 04.6	167 45.6	S11 47.7	185 17.9	S17 23.3
	18	156 29.6	72 55.8	N24 04.5	43 00.9	N23 04.4	182 47.9	S11 47.6	200 20.4	S17 23.3
	19	171 32.1	87 54.9	N24 04.7	58 01.7	N23 04.1	197 50.2	S11 47.6	215 22.9	S17 23.3
	20	186 34.6	102 54.0	N24 05.0	73 02.6	N23 03.9	212 52.5	S11 47.5	230 25.4	S17 23.3
	21	201 37.0	117 53.2	N24 05.2	88 03.4	N23 03.6	227 54.8	S11 47.5	245 27.9	S17 23.4
	22	216 39.5	132 52.3	N24 05.4	103 04.2	N23 03.4	242 57.1	S11 47.4	260 30.3	S17 23.4
	23	231 41.9	147 51.4	N24 05.6	118 05.0	N23 03.1	257 59.4	S11 47.3	275 32.8	S17 23.4
29	0	246 44.4	162 50.5	N24 05.9	133 05.8	N23 02.9	273 01.7	S11 47.3	290 35.3	S17 23.4
	1	261 46.9	177 49.6	N24 06.1	148 06.7	N23 02.6	288 04.0	S11 47.2	305 37.8	S17 23.4
	2	276 49.3	192 48.8	N24 06.3	163 07.5	N23 02.4	303 06.2	S11 47.2	320 40.3	S17 23.4
	3	291 51.8	207 47.9	N24 06.5	178 08.3	N23 02.1	318 08.5	S11 47.1	335 42.8	S17 23.4
	4	306 54.3	222 47.0	N24 06.8	193 09.1	N23 01.9	333 10.8	S11 47.1	350 45.3	S17 23.4
S	5	321 56.7	237 46.1	N24 07.0	208 09.9	N23 01.6	348 13.1	S11 47.0	5 47.7	S17 23.5
A										
T	6	336 59.2	252 45.2	N24 07.2	223 10.8	N23 01.3	3 15.4	S11 47.0	20 50.2	S17 23.5
U	7	352 01.7	267 44.4	N24 07.4	238 11.6	N23 01.1	18 17.7	S11 46.9	35 52.7	S17 23.5
R	8	7 04.1	282 43.5	N24 07.6	253 12.4	N23 00.8	33 20.0	S11 46.9	50 55.2	S17 23.5
D	9	22 06.6	297 42.6	N24 07.8	268 13.2	N23 00.6	48 22.3	S11 46.8	65 57.7	S17 23.5
A	10	37 09.1	312 41.7	N24 08.0	283 14.1	N23 00.3	63 24.6	S11 46.8	81 00.2	S17 23.5
Y	11	52 11.5	327 40.8	N24 08.3	298 14.9	N23 00.1	78 26.9	S11 46.7	96 02.7	S17 23.5
	12	67 14.0	342 40.0	N24 08.5	313 15.7	N22 59.8	93 29.2	S11 46.7	111 05.1	S17 23.5
	13	82 16.4	357 39.1	N24 08.7	328 16.5	N22 59.6	108 31.5	S11 46.6	126 07.6	S17 23.6
	14	97 18.9	12 38.2	N24 08.9	343 17.3	N22 59.3	123 33.8	S11 46.6	141 10.1	S17 23.6
	15	112 21.4	27 37.3	N24 09.1	358 18.2	N22 59.0	138 36.1	S11 46.5	156 12.6	S17 23.6
	16	127 23.8	42 36.4	N24 09.3	13 19.0	N22 58.8	153 38.4	S11 46.5	171 15.1	S17 23.6
	17	142 26.3	57 35.6	N24 09.5	28 19.8	N22 58.5	168 40.7	S11 46.4	186 17.6	S17 23.6
	18	157 28.8	72 34.7	N24 09.7	43 20.6	N22 58.3	183 43.0	S11 46.4	201 20.1	S17 23.6
	19	172 31.2	87 33.8	N24 09.9	58 21.5	N22 58.0	198 45.3	S11 46.3	216 22.6	S17 23.6
	20	187 33.7	102 32.9	N24 10.1	73 22.3	N22 57.8	213 47.6	S11 46.3	231 25.0	S17 23.6
	21	202 36.2	117 32.0	N24 10.3	88 23.1	N22 57.5	228 49.9	S11 46.2	246 27.5	S17 23.7
	22	217 38.6	132 31.2	N24 10.5	103 23.9	N22 57.2	243 52.2	S11 46.2	261 30.0	S17 23.7
	23	232 41.1	147 30.3	N24 10.7	118 24.7	N22 57.0	258 54.5	S11 46.1	276 32.5	S17 23.7
30	0	247 43.6	162 29.4	N24 10.9	133 25.6	N22 56.7	273 56.8	S11 46.1	291 35.0	S17 23.7
	1	262 46.0	177 28.5	N24 11.1	148 26.4	N22 56.5	288 59.1	S11 46.0	306 37.5	S17 23.7
	2	277 48.5	192 27.6	N24 11.3	163 27.2	N22 56.2	304 01.4	S11 46.0	321 40.0	S17 23.7
	3	292 50.9	207 26.7	N24 11.5	178 28.0	N22 55.9	319 03.7	S11 45.9	336 42.5	S17 23.7
	4	307 53.4	222 25.9	N24 11.6	193 28.9	N22 55.7	334 06.0	S11 45.9	351 45.0	S17 23.7
S	5	322 55.9	237 25.0	N24 11.8	208 29.7	N22 55.4	349 08.3	S11 45.8	6 47.5	S17 23.8
U										
N	6	337 58.3	252 24.1	N24 12.0	223 30.5	N22 55.2	4 10.6	S11 45.8	21 49.9	S17 23.8
D	7	353 00.8	267 23.2	N24 12.2	238 31.3	N22 54.9	19 12.9	S11 45.7	36 52.4	S17 23.8
A	8	8 03.3	282 22.3	N24 12.4	253 32.2	N22 54.6	34 15.2	S11 45.7	51 54.9	S17 23.8
Y	9	23 05.7	297 21.4	N24 12.6	268 33.0	N22 54.4	49 17.5	S11 45.6	66 57.4	S17 23.8
	10	38 08.2	312 20.6	N24 12.8	283 33.8	N22 54.1	64 19.8	S11 45.6	81 59.9	S17 23.8
	11	53 10.7	327 19.7	N24 12.9	298 34.6	N22 53.9	79 22.1	S11 45.5	97 02.4	S17 23.8
	12	68 13.1	342 18.8	N24 13.1	313 35.4	N22 53.6	94 24.4	S11 45.5	112 04.9	S17 23.9
	13	83 15.6	357 17.9	N24 13.3	328 36.3	N22 53.3	109 26.7	S11 45.4	127 07.4	S17 23.9
	14	98 18.1	12 17.0	N24 13.5	343 37.1	N22 53.1	124 29.0	S11 45.4	142 09.9	S17 23.9
	15	113 20.5	27 16.1	N24 13.7	358 37.9	N22 52.8	139 31.3	S11 45.3	157 12.4	S17 23.9
	16	128 23.0	42 15.3	N24 13.8	13 38.7	N22 52.5	154 33.6	S11 45.3	172 14.8	S17 23.9
	17	143 25.4	57 14.4	N24 14.0	28 39.6	N22 52.3	169 35.9	S11 45.2	187 17.3	S17 23.9
	18	158 27.9	72 13.5	N24 14.2	43 40.4	N22 52.0	184 38.2	S11 45.2	202 19.8	S17 23.9
	19	173 30.4	87 12.6	N24 14.3	58 41.2	N22 51.7	199 40.5	S11 45.1	217 22.3	S17 24.0
	20	188 32.8	102 11.7	N24 14.5	73 42.0	N22 51.5	214 42.8	S11 45.1	232 24.8	S17 24.0
	21	203 35.3	117 10.8	N24 14.7	88 42.9	N22 51.2	229 45.1	S11 45.0	247 27.3	S17 24.0
	22	218 37.8	132 10.0	N24 14.9	103 43.7	N22 51.0	244 47.4	S11 45.0	262 29.8	S17 24.0
	23	233 40.2	147 09.1	N24 15.0	118 44.5	N22 50.7	259 49.7	S11 44.9	277 32.3	S17 24.0
			v -0.9	d 0.2	v 0.8	d 0.3	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 '
28	0	180 41.3	N21 27.6	337 23.4	2.4	S25 03.0	3.8	60.8
	1	195 41.2	N21 28.0	351 44.8	2.4	S25 06.6	3.6	60.7
	2	210 41.2	N21 28.4	6 06.2	2.4	S25 10.0	3.4	60.7
	3	225 41.1	N21 28.8	20 27.6	2.4	S25 13.3	3.2	60.7
	4	240 41.0	N21 29.2	34 49.1	2.4	S25 16.3	3.0	60.7
F	5	255 40.9	N21 29.6	49 10.5	2.4	S25 19.1	2.8	60.6
R								
I	6	270 40.8	N21 30.0	63 31.9	2.4	S25 21.8	2.7	60.6
D	7	285 40.8	N21 30.4	77 53.3	2.4	S25 24.3	2.5	60.6
A	8	300 40.7	N21 30.8	92 14.7	2.4	S25 26.5	2.3	60.6
Y	9	315 40.6	N21 31.2	106 36.2	2.5	S25 28.6	2.1	60.5
	10	330 40.5	N21 31.6	120 57.7	2.5	S25 30.5	1.9	60.5
	11	345 40.5	N21 32.0	135 19.2	2.5	S25 32.2	1.7	60.5
	12	0 40.4	N21 32.4	149 40.7	2.5	S25 33.7	1.5	60.4
	13	15 40.3	N21 32.8	164 02.2	2.5	S25 35.0	1.3	60.4
	14	30 40.2	N21 33.2	178 23.8	2.6	S25 36.1	1.1	60.4
	15	45 40.1	N21 33.6	192 45.4	2.6	S25 37.0	0.9	60.3
	16	60 40.1	N21 34.0	207 07.1	2.6	S25 37.8	0.7	60.3
	17	75 40.0	N21 34.3	221 28.7	2.7	S25 38.3	0.5	60.3
	18	90 39.9	N21 34.7	235 50.5	2.7	S25 38.7	0.4	60.3
	19	105 39.8	N21 35.1	250 12.2	2.8	S25 38.9	0.2	60.2
	20	120 39.7	N21 35.5	264 34.0	2.8	S25 38.8	0.0	60.2
	21	135 39.7	N21 35.9	278 55.9	2.9	S25 38.6	0.2	60.2
	22	150 39.6	N21 36.3	293 17.8	2.9	S25 38.2	0.4	60.1
	23	165 39.5	N21 36.7	307 39.7	3.0	S25 37.7	0.6	60.1
29	0	180 39.4	N21 37.1	322 01.8	3.0	S25 36.9	0.8	60.1
	1	195 39.3	N21 37.5	336 23.8	3.1	S25 36.0	0.9	60.0
	2	210 39.3	N21 37.8	350 46.0	3.1	S25 34.8	1.1	60.0
	3	225 39.2	N21 38.2	5 08.2	3.2	S25 33.5	1.3	60.0
	4	240 39.1	N21 38.6	19 30.4	3.3	S25 32.0	1.5	59.9
S	5	255 39.0	N21 39.0	33 52.7	3.3	S25 30.4	1.7	59.9
A								
T	6	270 38.9	N21 39.4	48 15.1	3.4	S25 28.5	1.9	59.8
U	7	285 38.8	N21 39.8	62 37.6	3.5	S25 26.5	2.0	59.8
R	8	300 38.8	N21 40.1	77 00.1	3.5	S25 24.3	2.2	59.8
D	9	315 38.7	N21 40.5	91 22.8	3.6	S25 21.9	2.4	59.7
A	10	330 38.6	N21 40.9	105 45.5	3.7	S25 19.3	2.6	59.7
Y	11	345 38.5	N21 41.3	120 08.2	3.8	S25 16.6	2.7	59.7
	12	0 38.4	N21 41.7	134 31.1	3.9	S25 13.7	2.9	59.6
	13	15 38.3	N21 42.0	148 54.0	3.9	S25 10.6	3.1	59.6
	14	30 38.3	N21 42.4	163 17.1	4.0	S25 07.4	3.2	59.6
	15	45 38.2	N21 42.8	177 40.2	4.1	S25 03.9	3.4	59.5
	16	60 38.1	N21 43.2	192 03.4	4.2	S25 00.3	3.6	59.5
	17	75 38.0	N21 43.5	206 26.7	4.3	S24 56.6	3.8	59.4
	18	90 37.9	N21 43.9	220 50.1	4.4	S24 52.7	3.9	59.4
	19	105 37.8	N21 44.3	235 13.6	4.5	S24 48.6	4.1	59.4
	20	120 37.8	N21 44.7	249 37.1	4.6	S24 44.3	4.2	59.3
	21	135 37.7	N21 45.0	264 00.8	4.7	S24 39.9	4.4	59.3
	22	150 37.6	N21 45.4	278 24.6	4.8	S24 35.4	4.6	59.3
	23	165 37.5	N21 45.8	292 48.5	4.9	S24 30.7	4.7	59.2
30	0	180 37.4	N21 46.2	307 12.5	5.0	S24 25.8	4.9	59.2
	1	195 37.3	N21 46.5	321 36.5	5.1	S24 20.7	5.0	59.1
	2	210 37.2	N21 46.9	336 00.7	5.2	S24 15.6	5.2	59.1
	3	225 37.2	N21 47.3	350 25.0	5.3	S24 10.2	5.3	59.1
	4	240 37.1	N21 47.6	4 49.4	5.4	S24 04.7	5.5	59.0
S	5	255 37.0	N21 48.0	19 13.9	5.5	S23 59.1	5.6	59.0
U								
N	6	270 36.9	N21 48.4	33 38.6	5.6	S23 53.3	5.8	58.9
D	7	285 36.8	N21 48.7	48 03.3	5.7	S23 47.4	5.9	58.9
A	8	300 36.7	N21 49.1	62 28.1	5.8	S23 41.3	6.1	58.9
Y	9	315 36.6	N21 49.5	76 53.1	6.0	S23 35.1	6.2	58.8
	10	330 36.5	N21 49.8	91 18.1	6.1	S23 28.7	6.4	58.8
	11	345 36.5	N21 50.2	105 43.3	6.2	S23 22.2	6.5	58.7
	12	0 36.4	N21 50.6	120 08.6	6.3	S23 15.6	6.6	58.7
	13	15 36.3	N21 50.9	134 34.0	6.4	S23 08.8	6.8	58.7
	14	30 36.2	N21 51.3	148 59.6	6.5	S23 01.9	6.9	58.6
	15	45 36.1	N21 51.6	163 25.2	6.6	S22 54.9	7.0	58.6
	16	60 36.0	N21 52.0	177 51.0	6.8	S22 47.7	7.2	58.5
	17	75 35.9	N21 52.4	192 16.8	6.9	S22 40.4	7.3	58.5
	18	90 35.8	N21 52.7	206 42.8	7.0	S22 33.0	7.4	58.5
	19	105 35.7	N21 53.1	221 08.9	7.1	S22 25.5	7.5	58.4
	20	120 35.7	N21 53.4	235 35.2	7.2	S22 17.8	7.7	58.4
	21	135 35.6	N21 53.8	250 01.5	7.4	S22 10.0	7.8	58.3
	22	150 35.5	N21 54.2	264 28.0	7.5	S22 02.1	7.9	58.3
	23	165 35.4	N21 54.5	278 54.6	7.6	S21 54.0	8.0	58.3
		S.D. 15.8	d 0.4	S.D.	16.5		16.2	16.0

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.2
Achernar	335 22.9	S57 07.6
Acrux	173 03.0	S63 13.2
Adhara	255 08.5	S29 00.2
Albireo	67 06.2	N28 00.1
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.3	N55 51.0
Alkaid	152 54.0	N49 12.6
Al Na-ir	27 36.6	S46 51.3
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.7	S 8 45.1
Alphecca	126 05.9	N26 38.6
Alpheratz	357 38.0	N29 12.2
Altair	62 02.6	N 8 55.4
Ankaa	353 10.3	S42 11.4
Antares	112 19.1	S26 28.7
Arcturus	145 50.4	N19 04.4
Atria	107 15.5	S69 03.9
Avior	234 16.2	S59 34.9
Bellatrix	278 26.4	N 6 22.1
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.2	S52 42.6
Capella	280 26.8	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.5	N45 21.1
Denebola	182 27.9	N14 27.3
Diphda	348 50.5	S17 52.2
Dubhe	193 44.7	N61 38.5
Elnath	278 06.0	N28 37.4
Eltanin	90 43.1	N51 29.0
Enif	33 41.6	N 9 58.2
Fomalhaut	15 17.8	S29 30.5
Gacrux	171 54.6	S57 14.1
Gienah	175 46.5	S17 39.7
Hadar	148 39.7	S60 28.7
Hamal	327 54.8	N23 33.6
Kaus Austr.	83 36.1	S34 22.4
Kochab	137 18.9	N74 04.3
Markab	13 32.9	N15 19.0
Menkar	314 09.5	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.0	S69 48.5
Mirfak	308 33.0	N49 56.0
Nunki	75 51.1	S26 16.1
Peacock	53 10.0	S56 39.8
Polaris	317 41.3	N89 20.2
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 01.0	N12 32.7
Regulus	207 37.6	N11 51.9
Rigel	281 07.1	S 8 10.7
Rigil Kent	139 43.9	S60 55.5
Sabik	102 05.9	S15 45.1
Schedar	349 34.6	N56 38.9
Shaula	96 14.0	S37 07.1
Sirius	258 29.2	S16 44.8
Spica	158 25.2	S11 16.4
Suhail	222 48.6	S43 31.3
Vega	80 34.8	N38 48.1
Zuben-ubi	136 59.7	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
31	0	248 42.7	162 08.2	N24 15.2	133 45.3	N22 50.4	274 52.0	S11 44.9	292 34.8	S17 24.0
	1	263 45.2	177 07.3	N24 15.3	148 46.2	N22 50.2	289 54.3	S11 44.9	307 37.3	S17 24.0
	2	278 47.6	192 06.4	N24 15.5	163 47.0	N22 49.9	304 56.6	S11 44.8	322 39.8	S17 24.1
	3	293 50.1	207 05.5	N24 15.7	178 47.8	N22 49.6	319 58.9	S11 44.8	337 42.3	S17 24.1
	4	308 52.6	222 04.6	N24 15.8	193 48.6	N22 49.4	335 01.3	S11 44.7	352 44.8	S17 24.1
M	5	323 55.0	237 03.8	N24 16.0	208 49.5	N22 49.1	350 03.6	S11 44.7	7 47.3	S17 24.1
O										
N	6	338 57.5	252 02.9	N24 16.1	223 50.3	N22 48.8	5 05.9	S11 44.6	22 49.8	S17 24.1
D	7	353 59.9	267 02.0	N24 16.3	238 51.1	N22 48.6	20 08.2	S11 44.6	37 52.2	S17 24.1
A	8	9 02.4	282 01.1	N24 16.5	253 51.9	N22 48.3	35 10.5	S11 44.5	52 54.7	S17 24.1
Y	9	24 04.9	297 00.2	N24 16.6	268 52.8	N22 48.0	50 12.8	S11 44.5	67 57.2	S17 24.2
	10	39 07.3	311 59.3	N24 16.8	283 53.6	N22 47.7	65 15.1	S11 44.4	82 59.7	S17 24.2
	11	54 09.8	326 58.4	N24 16.9	298 54.4	N22 47.5	80 17.4	S11 44.4	98 02.2	S17 24.2
	12	69 12.3	341 57.6	N24 17.1	313 55.3	N22 47.2	95 19.7	S11 44.3	113 04.7	S17 24.2
	13	84 14.7	356 56.7	N24 17.2	328 56.1	N22 46.9	110 22.0	S11 44.3	128 07.2	S17 24.2
	14	99 17.2	11 55.8	N24 17.4	343 56.9	N22 46.7	125 24.3	S11 44.2	143 09.7	S17 24.2
	15	114 19.7	26 54.9	N24 17.5	358 57.7	N22 46.4	140 26.6	S11 44.2	158 12.2	S17 24.3
	16	129 22.1	41 54.0	N24 17.7	13 58.6	N22 46.1	155 29.0	S11 44.2	173 14.7	S17 24.3
	17	144 24.6	56 53.1	N24 17.8	28 59.4	N22 45.9	170 31.3	S11 44.1	188 17.2	S17 24.3
	18	159 27.0	71 52.2	N24 17.9	44 00.2	N22 45.6	185 33.6	S11 44.1	203 19.7	S17 24.3
	19	174 29.5	86 51.4	N24 18.1	59 01.0	N22 45.3	200 35.9	S11 44.0	218 22.2	S17 24.3
	20	189 32.0	101 50.5	N24 18.2	74 01.9	N22 45.1	215 38.2	S11 44.0	233 24.7	S17 24.3
	21	204 34.4	116 49.6	N24 18.4	89 02.7	N22 44.8	230 40.5	S11 43.9	248 27.2	S17 24.3
	22	219 36.9	131 48.7	N24 18.5	104 03.5	N22 44.5	245 42.8	S11 43.9	263 29.7	S17 24.4
	23	234 39.4	146 47.8	N24 18.6	119 04.3	N22 44.2	260 45.1	S11 43.8	278 32.2	S17 24.4
1	0	249 41.8	161 46.9	N24 18.8	134 05.2	N22 44.0	275 47.5	S11 43.8	293 34.7	S17 24.4
	1	264 44.3	176 46.0	N24 18.9	149 06.0	N22 43.7	290 49.8	S11 43.7	308 37.2	S17 24.4
	2	279 46.8	191 45.1	N24 19.0	164 06.8	N22 43.4	305 52.1	S11 43.7	323 39.7	S17 24.4
	3	294 49.2	206 44.3	N24 19.2	179 07.7	N22 43.1	320 54.4	S11 43.7	338 42.2	S17 24.4
	4	309 51.7	221 43.4	N24 19.3	194 08.5	N22 42.9	335 56.7	S11 43.6	353 44.7	S17 24.5
T	5	324 54.2	236 42.5	N24 19.4	209 09.3	N22 42.6	350 59.0	S11 43.6	8 47.2	S17 24.5
U										
E	6	339 56.6	251 41.6	N24 19.6	224 10.1	N22 42.3	6 01.3	S11 43.5	23 49.7	S17 24.5
S	7	354 59.1	266 40.7	N24 19.7	239 11.0	N22 42.1	21 03.7	S11 43.5	38 52.2	S17 24.5
D	8	10 01.5	281 39.8	N24 19.8	254 11.8	N22 41.8	36 06.0	S11 43.4	53 54.7	S17 24.5
A	9	25 04.0	296 38.9	N24 19.9	269 12.6	N22 41.5	51 08.3	S11 43.4	68 57.2	S17 24.5
Y	10	40 06.5	311 38.0	N24 20.1	284 13.4	N22 41.2	66 10.6	S11 43.4	83 59.6	S17 24.5
	11	55 08.9	326 37.2	N24 20.2	299 14.3	N22 41.0	81 12.9	S11 43.3	99 02.1	S17 24.6
	12	70 11.4	341 36.3	N24 20.3	314 15.1	N22 40.7	96 15.2	S11 43.3	114 04.6	S17 24.6
	13	85 13.9	356 35.4	N24 20.4	329 15.9	N22 40.4	111 17.6	S11 43.2	129 07.1	S17 24.6
	14	100 16.3	11 34.5	N24 20.5	344 16.8	N22 40.1	126 19.9	S11 43.2	144 09.6	S17 24.6
	15	115 18.8	26 33.6	N24 20.7	359 17.6	N22 39.9	141 22.2	S11 43.1	159 12.1	S17 24.6
	16	130 21.3	41 32.7	N24 20.8	14 18.4	N22 39.6	156 24.5	S11 43.1	174 14.6	S17 24.6
	17	145 23.7	56 31.8	N24 20.9	29 19.2	N22 39.3	171 26.8	S11 43.1	189 17.1	S17 24.7
	18	160 26.2	71 30.9	N24 21.0	44 20.1	N22 39.0	186 29.1	S11 43.0	204 19.6	S17 24.7
	19	175 28.7	86 30.0	N24 21.1	59 20.9	N22 38.7	201 31.5	S11 43.0	219 22.1	S17 24.7
	20	190 31.1	101 29.2	N24 21.2	74 21.7	N22 38.5	216 33.8	S11 42.9	234 24.6	S17 24.7
	21	205 33.6	116 28.3	N24 21.3	89 22.6	N22 38.2	231 36.1	S11 42.9	249 27.1	S17 24.7
	22	220 36.0	131 27.4	N24 21.4	104 23.4	N22 37.9	246 38.4	S11 42.8	264 29.6	S17 24.7
	23	235 38.5	146 26.5	N24 21.5	119 24.2	N22 37.6	261 40.7	S11 42.8	279 32.1	S17 24.8
2	0	250 41.0	161 25.6	N24 21.7	134 25.0	N22 37.4	276 43.1	S11 42.8	294 34.6	S17 24.8
	1	265 43.4	176 24.7	N24 21.8	149 25.9	N22 37.1	291 45.4	S11 42.7	309 37.1	S17 24.8
	2	280 45.9	191 23.8	N24 21.9	164 26.7	N22 36.8	306 47.7	S11 42.7	324 39.6	S17 24.8
	3	295 48.4	206 22.9	N24 22.0	179 27.5	N22 36.5	321 50.0	S11 42.6	339 42.2	S17 24.8
	4	310 50.8	221 22.0	N24 22.1	194 28.4	N22 36.2	336 52.3	S11 42.6	354 44.7	S17 24.8
W	5	325 53.3	236 21.2	N24 22.2	209 29.2	N22 36.0	351 54.7	S11 42.5	9 47.2	S17 24.9
E										
D	6	340 55.8	251 20.3	N24 22.3	224 30.0	N22 35.7	6 57.0	S11 42.5	24 49.7	S17 24.9
N	7	355 58.2	266 19.4	N24 22.4	239 30.8	N22 35.4	21 59.3	S11 42.5	39 52.2	S17 24.9
E	8	11 00.7	281 18.5	N24 22.5	254 31.7	N22 35.1	37 01.6	S11 42.4	54 54.7	S17 24.9
S	9	26 03.2	296 17.6	N24 22.5	269 32.5	N22 34.8	52 04.0	S11 42.4	69 57.2	S17 24.9
D	10	41 05.6	311 16.7	N24 22.6	284 33.3	N22 34.6	67 06.3	S11 42.3	84 59.7	S17 24.9
A	11	56 08.1	326 15.8	N24 22.7	299 34.2	N22 34.3	82 08.6	S11 42.3	100 02.2	S17 25.0
Y										
	12	71 10.5	341 14.9	N24 22.8	314 35.0	N22 34.0	97 10.9	S11 42.3	115 04.7	S17 25.0
	13	86 13.0	356 14.0	N24 22.9	329 35.8	N22 33.7	112 13.3	S11 42.2	130 07.2	S17 25.0
	14	101 15.5	11 13.1	N24 23.0	344 36.7	N22 33.4	127 15.6	S11 42.2	145 09.7	S17 25.0
	15	116 17.9	26 12.3	N24 23.1	359 37.5	N22 33.1	142 17.9	S11 42.1	160 12.2	S17 25.0
	16	131 20.4	41 11.4	N24 23.2	14 38.3	N22 32.9	157 20.2	S11 42.1	175 14.7	S17 25.1
	17	146 22.9	56 10.5	N24 23.3	29 39.2	N22 32.6	172 22.6	S11 42.1	190 17.2	S17 25.1
	18	161 25.3	71 09.6	N24 23.3	44 40.0	N22 32.3	187 24.9	S11 42.0	205 19.7	S17 25.1
	19	176 27.8	86 08.7	N24 23.4	59 40.8	N22 32.0	202 27.2	S11 42.0	220 22.2	S17 25.1
	20	191 30.3	101 07.8	N24 23.5	74 41.6	N22 31.7	217 29.5	S11 41.9	235 24.7	S17 25.1
	21	206 32.7	116 06.9	N24 23.6	89 42.5	N22 31.4	232 31.9	S11 41.9	250 27.2	S17 25.1
	22	221 35.2	131 06.0	N24 23.7	104 43.3	N22 31.2	247 34.2	S11 41.9	265 29.7	S17 25.2
	23	236 37.6	146 05.1	N24 23.7	119 44.1	N22 30.9	262 36.5	S11 41.8	280 32.2	S17 25.2
			v -0.9	d 0.1	v 0.8	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 '
31	0	180 35.3	N21 54.9	293 21.3	7.7	S21 45.9	8.2	58.2
	1	195 35.2	N21 55.2	307 48.1	7.8	S21 37.6	8.3	58.2
	2	210 35.1	N21 55.6	322 15.1	7.9	S21 29.2	8.4	58.1
	3	225 35.0	N21 55.9	336 42.1	8.1	S21 20.7	8.5	58.1
	4	240 34.9	N21 56.3	351 09.3	8.2	S21 12.1	8.6	58.1
M	5	255 34.8	N21 56.6	5 36.6	8.3	S21 03.4	8.7	58.0
O								
N	6	270 34.8	N21 57.0	20 04.1	8.4	S20 54.6	8.8	58.0
D	7	285 34.7	N21 57.3	34 31.6	8.5	S20 45.7	8.9	57.9
A	8	300 34.6	N21 57.7	48 59.3	8.7	S20 36.6	9.0	57.9
Y	9	315 34.5	N21 58.0	63 27.0	8.8	S20 27.5	9.1	57.9
	10	330 34.4	N21 58.4	77 54.9	8.9	S20 18.3	9.2	57.8
	11	345 34.3	N21 58.7	92 23.0	9.0	S20 08.9	9.3	57.8
	12	0 34.2	N21 59.1	106 51.1	9.1	S19 59.5	9.4	57.7
	13	15 34.1	N21 59.4	121 19.3	9.3	S19 49.9	9.5	57.7
	14	30 34.0	N21 59.8	135 47.7	9.4	S19 40.3	9.6	57.7
	15	45 33.9	N22 00.1	150 16.2	9.5	S19 30.6	9.7	57.6
	16	60 33.8	N22 00.5	164 44.8	9.6	S19 20.8	9.8	57.6
	17	75 33.7	N22 00.8	179 13.5	9.7	S19 10.9	9.9	57.5
	18	90 33.6	N22 01.2	193 42.4	9.8	S19 00.9	10.0	57.5
	19	105 33.5	N22 01.5	208 11.3	9.9	S18 50.8	10.1	57.5
	20	120 33.5	N22 01.8	222 40.4	10.1	S18 40.7	10.2	57.4
	21	135 33.4	N22 02.2	237 09.6	10.2	S18 30.4	10.2	57.4
	22	150 33.3	N22 02.5	251 38.8	10.3	S18 20.1	10.3	57.4
	23	165 33.2	N22 02.9	266 08.2	10.4	S18 09.7	10.4	57.3
1	0	180 33.1	N22 03.2	280 37.8	10.5	S17 59.2	10.5	57.3
	1	195 33.0	N22 03.5	295 07.4	10.6	S17 48.6	10.6	57.2
	2	210 32.9	N22 03.9	309 37.1	10.7	S17 38.0	10.6	57.2
	3	225 32.8	N22 04.2	324 07.0	10.8	S17 27.3	10.7	57.2
	4	240 32.7	N22 04.6	338 36.9	11.0	S17 16.5	10.8	57.1
T	5	255 32.6	N22 04.9	353 07.0	11.1	S17 05.6	10.9	57.1
U								
E	6	270 32.5	N22 05.2	7 37.1	11.2	S16 54.7	10.9	57.0
S	7	285 32.4	N22 05.6	22 07.4	11.3	S16 43.7	11.0	57.0
D	8	300 32.3	N22 05.9	36 37.8	11.4	S16 32.6	11.1	57.0
A	9	315 32.2	N22 06.2	51 08.3	11.5	S16 21.5	11.1	56.9
Y	10	330 32.1	N22 06.6	65 38.9	11.6	S16 10.3	11.2	56.9
	11	345 32.0	N22 06.9	80 09.5	11.7	S15 59.0	11.3	56.9
	12	0 31.9	N22 07.2	94 40.3	11.8	S15 47.7	11.3	56.8
	13	15 31.8	N22 07.6	109 11.2	11.9	S15 36.3	11.4	56.8
	14	30 31.7	N22 07.9	123 42.2	12.0	S15 24.8	11.5	56.8
	15	45 31.6	N22 08.2	138 13.3	12.1	S15 13.3	11.5	56.7
	16	60 31.5	N22 08.5	152 44.5	12.2	S15 01.8	11.6	56.7
	17	75 31.4	N22 08.9	167 15.8	12.3	S14 50.1	11.6	56.6
	18	90 31.3	N22 09.2	181 47.1	12.4	S14 38.5	11.7	56.6
	19	105 31.2	N22 09.5	196 18.6	12.5	S14 26.7	11.7	56.6
	20	120 31.1	N22 09.9	210 50.2	12.6	S14 15.0	11.8	56.5
	21	135 31.0	N22 10.2	225 21.8	12.7	S14 03.1	11.8	56.5
	22	150 30.9	N22 10.5	239 53.6	12.8	S13 51.2	11.9	56.5
	23	165 30.8	N22 10.8	254 25.4	12.8	S13 39.3	11.9	56.4
2	0	180 30.7	N22 11.2	268 57.4	12.9	S13 27.3	12.0	56.4
	1	195 30.6	N22 11.5	283 29.4	13.0	S13 15.3	12.0	56.4
	2	210 30.5	N22 11.8	298 01.5	13.1	S13 03.2	12.1	56.3
	3	225 30.4	N22 12.1	312 33.7	13.2	S12 51.1	12.1	56.3
	4	240 30.4	N22 12.4	327 06.0	13.3	S12 38.9	12.2	56.3
W	5	255 30.3	N22 12.8	341 38.3	13.4	S12 26.7	12.2	56.2
E								
D	6	270 30.2	N22 13.1	356 10.8	13.4	S12 14.5	12.2	56.2
N	7	285 30.1	N22 13.4	10 43.3	13.5	S12 02.2	12.3	56.2
E	8	300 30.0	N22 13.7	25 15.9	13.6	S11 49.9	12.3	56.1
S	9	315 29.8	N22 14.0	39 48.6	13.7	S11 37.5	12.4	56.1
D	10	330 29.7	N22 14.3	54 21.3	13.8	S11 25.1	12.4	56.1
A	11	345 29.6	N22 14.7	68 54.2	13.8	S11 12.7	12.4	56.0
Y								
	12	0 29.5	N22 15.0	83 27.1	13.9	S11 00.2	12.5	56.0
	13	15 29.4	N22 15.3	98 00.1	14.0	S10 47.7	12.5	56.0
	14	30 29.3	N22 15.6	112 33.2	14.1	S10 35.2	12.5	55.9
	15	45 29.2	N22 15.9	127 06.3	14.1	S10 22.6	12.6	55.9
	16	60 29.1	N22 16.2	141 39.5	14.2	S10 10.1	12.6	55.9
	17	75 29.0	N22 16.5	156 12.8	14.3	S 9 57.4	12.6	55.9
	18	90 28.9	N22 16.9	170 46.1	14.3	S 9 44.8	12.7	55.8
	19	105 28.8	N22 17.2	185 19.5	14.4	S 9 32.1	12.7	55.8
	20	120 28.7	N22 17.5	199 53.0	14.5	S 9 19.4	12.7	55.8
	21	135 28.6	N22 17.8	214 26.6	14.5	S 9 06.7	12.7	55.7
	22	150 28.5	N22 18.1	229 00.2	14.6	S 8 53.9	12.8	55.7
	23	165 28.4	N22 18.4	243 33.9	14.7	S 8 41.1	12.8	55.7
		S.D. 15.8	d 0.3	S.D. 15.7		15.5	15.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.2
Achernar	335 22.9	S57 07.6
Acrux	173 03.0	S63 13.2
Adhara	255 08.5	S29 00.2
Albireo	67 06.1	N28 00.1
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.3	N55 51.0
Alkaid	152 54.0	N49 12.6
Al Na-ir	27 36.5	S46 51.3
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.7	S 8 45.1
Alphecca	126 05.9	N26 38.6
Alpheratz	357 37.9	N29 12.2
Altair	62 02.6	N 8 55.4
Ankaa	353 10.3	S42 11.3
Antares	112 19.1	S26 28.7
Arcturus	145 50.4	N19 04.4
Atria	107 15.5	S69 03.9
Avior	234 16.3	S59 34.9
Bellatrix	278 26.4	N 6 22.1
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.2	S52 42.6
Capella	280 26.7	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.5	N45 21.1
Denebola	182 27.9	N14 27.3
Diphda	348 50.5	S17 52.2
Dubhe	193 44.7	N61 38.5
Elnath	278 06.0	N28 37.4
Eltanin	90 43.1	N51 29.0
Enif	33 41.5	N 9 58.2
Fomalhaut	15 17.8	S29 30.5
Gacrux	171 54.6	S57 14.2
Gienah	175 46.5	S17 39.7
Hadar	148 39.7	S60 28.7
Hamal	327 54.8	N23 33.6
Kaus Austr.	83 36.1	S34 22.4
Kochab	137 18.9	N74 04.3
Markab	13 32.8	N15 19.0
Menkar	314 09.5	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.1	S69 48.5
Mirfak	308 33.0	N49 56.0
Nunki	75 51.1	S26 16.1
Peacock	53 10.0	S56 39.8
Polaris	317 40.5	N89 20.2
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 01.0	N12 32.7
Regulus	207 37.7	N11 51.9
Rigel	281 07.1	S 8 10.7
Rigil Kent	139 43.9	S60 55.5
Sabik	102 05.8	S15 45.1
Schedar	349 34.6	N56 38.9
Shaula	96 14.0	S37 07.1
Sirius	258 29.2	S16 44.8
Spica	158 25.2	S11 16.4
Suhail	222 48.6	S43 31.3
Vega	80 34.8	N38 48.1
Zuben-ubi	136 59.7	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
3	0	251 40.1	161 04.2	N24 23.8	134 45.0	N22 30.6	277 38.8	S11 41.8	295 34.7	S17 25.2
	1	266 42.6	176 03.4	N24 23.9	149 45.8	N22 30.3	292 41.2	S11 41.7	310 37.2	S17 25.2
	2	281 45.0	191 02.5	N24 24.0	164 46.6	N22 30.0	307 43.5	S11 41.7	325 39.7	S17 25.2
	3	296 47.5	206 01.6	N24 24.0	179 47.5	N22 29.7	322 45.8	S11 41.7	340 42.2	S17 25.2
	4	311 50.0	221 00.7	N24 24.1	194 48.3	N22 29.4	337 48.2	S11 41.6	355 44.7	S17 25.3
T	5	326 52.4	235 59.8	N24 24.2	209 49.1	N22 29.2	352 50.5	S11 41.6	10 47.2	S17 25.3
H										
U	6	341 54.9	250 58.9	N24 24.2	224 50.0	N22 28.9	7 52.8	S11 41.5	25 49.8	S17 25.3
R	7	356 57.4	265 58.0	N24 24.3	239 50.8	N22 28.6	22 55.1	S11 41.5	40 52.3	S17 25.3
S	8	11 59.8	280 57.1	N24 24.4	254 51.6	N22 28.3	37 57.5	S11 41.5	55 54.8	S17 25.3
D	9	27 02.3	295 56.2	N24 24.4	269 52.5	N22 28.0	52 59.8	S11 41.4	70 57.3	S17 25.4
A	10	42 04.8	310 55.3	N24 24.5	284 53.3	N22 27.7	68 02.1	S11 41.4	85 59.8	S17 25.4
Y	11	57 07.2	325 54.5	N24 24.6	299 54.1	N22 27.4	83 04.5	S11 41.4	101 02.3	S17 25.4
	12	72 09.7	340 53.6	N24 24.6	314 54.9	N22 27.1	98 06.8	S11 41.3	116 04.8	S17 25.4
	13	87 12.1	355 52.7	N24 24.7	329 55.8	N22 26.9	113 09.1	S11 41.3	131 07.3	S17 25.4
	14	102 14.6	10 51.8	N24 24.7	344 56.6	N22 26.6	128 11.5	S11 41.2	146 09.8	S17 25.4
	15	117 17.1	25 50.9	N24 24.8	359 57.4	N22 26.3	143 13.8	S11 41.2	161 12.3	S17 25.5
	16	132 19.5	40 50.0	N24 24.9	14 58.3	N22 26.0	158 16.1	S11 41.2	176 14.8	S17 25.5
	17	147 22.0	55 49.1	N24 24.9	29 59.1	N22 25.7	173 18.5	S11 41.1	191 17.3	S17 25.5
	18	162 24.5	70 48.2	N24 25.0	44 59.9	N22 25.4	188 20.8	S11 41.1	206 19.8	S17 25.5
	19	177 26.9	85 47.3	N24 25.0	60 00.8	N22 25.1	203 23.1	S11 41.1	221 22.3	S17 25.5
	20	192 29.4	100 46.4	N24 25.1	75 01.6	N22 24.8	218 25.5	S11 41.0	236 24.9	S17 25.6
	21	207 31.9	115 45.6	N24 25.1	90 02.4	N22 24.5	233 27.8	S11 41.0	251 27.4	S17 25.6
	22	222 34.3	130 44.7	N24 25.2	105 03.3	N22 24.3	248 30.1	S11 40.9	266 29.9	S17 25.6
	23	237 36.8	145 43.8	N24 25.2	120 04.1	N22 24.0	263 32.5	S11 40.9	281 32.4	S17 25.6
4	0	252 39.2	160 42.9	N24 25.3	135 04.9	N22 23.7	278 34.8	S11 40.9	296 34.9	S17 25.6
	1	267 41.7	175 42.0	N24 25.3	150 05.8	N22 23.4	293 37.1	S11 40.8	311 37.4	S17 25.7
	2	282 44.2	190 41.1	N24 25.3	165 06.6	N22 23.1	308 39.5	S11 40.8	326 39.9	S17 25.7
	3	297 46.6	205 40.2	N24 25.4	180 07.4	N22 22.8	323 41.8	S11 40.8	341 42.4	S17 25.7
	4	312 49.1	220 39.3	N24 25.4	195 08.3	N22 22.5	338 44.1	S11 40.7	356 44.9	S17 25.7
F	5	327 51.6	235 38.4	N24 25.5	210 09.1	N22 22.2	353 46.5	S11 40.7	11 47.4	S17 25.7
R										
I	6	342 54.0	250 37.5	N24 25.5	225 09.9	N22 21.9	8 48.8	S11 40.7	26 49.9	S17 25.8
D	7	357 56.5	265 36.6	N24 25.5	240 10.8	N22 21.6	23 51.1	S11 40.6	41 52.5	S17 25.8
A	8	12 59.0	280 35.8	N24 25.6	255 11.6	N22 21.3	38 53.5	S11 40.6	56 55.0	S17 25.8
Y	9	28 01.4	295 34.9	N24 25.6	270 12.4	N22 21.0	53 55.8	S11 40.5	71 57.5	S17 25.8
	10	43 03.9	310 34.0	N24 25.7	285 13.3	N22 20.7	68 58.2	S11 40.5	86 60.0	S17 25.8
	11	58 06.4	325 33.1	N24 25.7	300 14.1	N22 20.4	84 00.5	S11 40.5	102 02.5	S17 25.8
	12	73 08.8	340 32.2	N24 25.7	315 14.9	N22 20.2	99 02.8	S11 40.4	117 05.0	S17 25.9
	13	88 11.3	355 31.3	N24 25.7	330 15.8	N22 19.9	114 05.2	S11 40.4	132 07.5	S17 25.9
	14	103 13.7	10 30.4	N24 25.8	345 16.6	N22 19.6	129 07.5	S11 40.4	147 10.0	S17 25.9
	15	118 16.2	25 29.5	N24 25.8	0 17.4	N22 19.3	144 09.8	S11 40.3	162 12.5	S17 25.9
	16	133 18.7	40 28.6	N24 25.8	15 18.3	N22 19.0	159 12.2	S11 40.3	177 15.1	S17 25.9
	17	148 21.1	55 27.7	N24 25.9	30 19.1	N22 18.7	174 14.5	S11 40.3	192 17.6	S17 26.0
	18	163 23.6	70 26.9	N24 25.9	45 20.0	N22 18.4	189 16.9	S11 40.2	207 20.1	S17 26.0
	19	178 26.1	85 26.0	N24 25.9	60 20.8	N22 18.1	204 19.2	S11 40.2	222 22.6	S17 26.0
	20	193 28.5	100 25.1	N24 25.9	75 21.6	N22 17.8	219 21.5	S11 40.2	237 25.1	S17 26.0
	21	208 31.0	115 24.2	N24 25.9	90 22.5	N22 17.5	234 23.9	S11 40.1	252 27.6	S17 26.0
	22	223 33.5	130 23.3	N24 26.0	105 23.3	N22 17.2	249 26.2	S11 40.1	267 30.1	S17 26.1
	23	238 35.9	145 22.4	N24 26.0	120 24.1	N22 16.9	264 28.6	S11 40.1	282 32.6	S17 26.1
5	0	253 38.4	160 21.5	N24 26.0	135 25.0	N22 16.6	279 30.9	S11 40.0	297 35.2	S17 26.1
	1	268 40.9	175 20.6	N24 26.0	150 25.8	N22 16.3	294 33.3	S11 40.0	312 37.7	S17 26.1
	2	283 43.3	190 19.7	N24 26.0	165 26.6	N22 16.0	309 35.6	S11 40.0	327 40.2	S17 26.1
	3	298 45.8	205 18.8	N24 26.0	180 27.5	N22 15.7	324 37.9	S11 39.9	342 42.7	S17 26.2
	4	313 48.2	220 17.9	N24 26.0	195 28.3	N22 15.4	339 40.3	S11 39.9	357 45.2	S17 26.2
S	5	328 50.7	235 17.1	N24 26.0	210 29.1	N22 15.1	354 42.6	S11 39.9	12 47.7	S17 26.2
A										
T	6	343 53.2	250 16.2	N24 26.1	225 30.0	N22 14.8	9 45.0	S11 39.8	27 50.2	S17 26.2
U	7	358 55.6	265 15.3	N24 26.1	240 30.8	N22 14.5	24 47.3	S11 39.8	42 52.7	S17 26.2
R	8	13 58.1	280 14.4	N24 26.1	255 31.6	N22 14.2	39 49.7	S11 39.8	57 55.3	S17 26.3
D	9	29 00.6	295 13.5	N24 26.1	270 32.5	N22 13.9	54 52.0	S11 39.7	72 57.8	S17 26.3
A	10	44 03.0	310 12.6	N24 26.1	285 33.3	N22 13.6	69 54.4	S11 39.7	88 00.3	S17 26.3
Y	11	59 05.5	325 11.7	N24 26.1	300 34.2	N22 13.3	84 56.7	S11 39.7	103 02.8	S17 26.3
	12	74 08.0	340 10.8	N24 26.1	315 35.0	N22 13.0	99 59.0	S11 39.6	118 05.3	S17 26.3
	13	89 10.4	355 09.9	N24 26.1	330 35.8	N22 12.7	115 01.4	S11 39.6	133 07.8	S17 26.4
	14	104 12.9	10 09.0	N24 26.1	345 36.7	N22 12.4	130 03.7	S11 39.6	148 10.4	S17 26.4
	15	119 15.3	25 08.2	N24 26.1	0 37.5	N22 12.1	145 06.1	S11 39.5	163 12.9	S17 26.4
	16	134 17.8	40 07.3	N24 26.1	15 38.3	N22 11.8	160 08.4	S11 39.5	178 15.4	S17 26.4
	17	149 20.3	55 06.4	N24 26.1	30 39.2	N22 11.5	175 10.8	S11 39.5	193 17.9	S17 26.5
	18	164 22.7	70 05.5	N24 26.1	45 40.0	N22 11.2	190 13.1	S11 39.4	208 20.4	S17 26.5
	19	179 25.2	85 04.6	N24 26.1	60 40.9	N22 10.9	205 15.5	S11 39.4	223 22.9	S17 26.5
	20	194 27.7	100 03.7	N24 26.0	75 41.7	N22 10.6	220 17.8	S11 39.4	238 25.4	S17 26.5
	21	209 30.1	115 02.8	N24 26.0	90 42.5	N22 10.3	235 20.2	S11 39.3	253 28.0	S17 26.5
	22	224 32.6	130 01.9	N24 26.0	105 43.4	N22 10.0	250 22.5	S11 39.3	268 30.5	S17 26.6
	23	239 35.1	145 01.0	N24 26.0	120 44.2	N22 09.7	265 24.9	S11 39.3	283 33.0	S17 26.6
			v -0.9	d 0.0	v 0.8	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 '
3	0	180 28.3	N22 18.7	258 07.6	14.7	S 8 28.3	12.8	55.6
	1	195 28.2	N22 19.0	272 41.4	14.8	S 8 15.5	12.8	55.6
	2	210 28.1	N22 19.3	287 15.3	14.9	S 8 02.7	12.8	55.6
	3	225 28.0	N22 19.6	301 49.2	14.9	S 7 49.8	12.9	55.6
	4	240 27.9	N22 19.9	316 23.2	15.0	S 7 36.9	12.9	55.5
T	5	255 27.8	N22 20.2	330 57.2	15.0	S 7 24.0	12.9	55.5
H								
U	6	270 27.7	N22 20.5	345 31.3	15.1	S 7 11.1	12.9	55.5
R	7	285 27.6	N22 20.8	0 05.4	15.1	S 6 58.1	12.9	55.5
S	8	300 27.5	N22 21.1	14 39.6	15.2	S 6 45.2	13.0	55.4
D	9	315 27.4	N22 21.5	29 13.8	15.2	S 6 32.2	13.0	55.4
A	10	330 27.3	N22 21.8	43 48.1	15.3	S 6 19.2	13.0	55.4
Y	11	345 27.2	N22 22.1	58 22.5	15.3	S 6 06.2	13.0	55.3
	12	0 27.1	N22 22.4	72 56.9	15.4	S 5 53.2	13.0	55.3
	13	15 27.0	N22 22.6	87 31.3	15.4	S 5 40.2	13.0	55.3
	14	30 26.9	N22 22.9	102 05.8	15.5	S 5 27.2	13.0	55.3
	15	45 26.8	N22 23.2	116 40.3	15.5	S 5 14.1	13.0	55.2
	16	60 26.7	N22 23.5	131 14.9	15.6	S 5 01.1	13.1	55.2
	17	75 26.5	N22 23.8	145 49.5	15.6	S 4 48.0	13.1	55.2
	18	90 26.4	N22 24.1	160 24.2	15.7	S 4 35.0	13.1	55.2
	19	105 26.3	N22 24.4	174 58.9	15.7	S 4 21.9	13.1	55.1
	20	120 26.2	N22 24.7	189 33.6	15.7	S 4 08.8	13.1	55.1
	21	135 26.1	N22 25.0	204 08.4	15.8	S 3 55.7	13.1	55.1
	22	150 26.0	N22 25.3	218 43.2	15.8	S 3 42.6	13.1	55.1
	23	165 25.9	N22 25.6	233 18.0	15.8	S 3 29.5	13.1	55.1
4	0	180 25.8	N22 25.9	247 52.9	15.9	S 3 16.4	13.1	55.0
	1	195 25.7	N22 26.2	262 27.8	15.9	S 3 03.3	13.1	55.0
	2	210 25.6	N22 26.5	277 02.8	15.9	S 2 50.2	13.1	55.0
	3	225 25.5	N22 26.8	291 37.8	16.0	S 2 37.1	13.1	55.0
	4	240 25.4	N22 27.0	306 12.8	16.0	S 2 24.0	13.1	54.9
F	5	255 25.3	N22 27.3	320 47.8	16.0	S 2 10.9	13.1	54.9
R								
I	6	270 25.2	N22 27.6	335 22.9	16.1	S 1 57.8	13.1	54.9
D	7	285 25.0	N22 27.9	349 57.9	16.1	S 1 44.7	13.1	54.9
A	8	300 24.9	N22 28.2	4 33.1	16.1	S 1 31.6	13.1	54.9
Y	9	315 24.8	N22 28.5	19 08.2	16.1	S 1 18.5	13.1	54.8
	10	330 24.7	N22 28.8	33 43.4	16.2	S 1 05.4	13.1	54.8
	11	345 24.6	N22 29.0	48 18.5	16.2	S 0 52.4	13.1	54.8
	12	0 24.5	N22 29.3	62 53.8	16.2	S 0 39.3	13.1	54.8
	13	15 24.4	N22 29.6	77 29.0	16.2	S 0 26.2	13.1	54.8
	14	30 24.3	N22 29.9	92 04.2	16.2	S 0 13.1	13.1	54.7
	15	45 24.2	N22 30.2	106 39.5	16.3	S 0 00.1	13.1	54.7
	16	60 24.1	N22 30.5	121 14.8	16.3	N 0 13.0	13.1	54.7
	17	75 24.0	N22 30.7	135 50.1	16.3	N 0 26.0	13.0	54.7
	18	90 23.9	N22 31.0	150 25.4	16.3	N 0 39.1	13.0	54.7
	19	105 23.7	N22 31.3	165 00.7	16.3	N 0 52.1	13.0	54.6
	20	120 23.6	N22 31.6	179 36.0	16.3	N 1 05.1	13.0	54.6
	21	135 23.5	N22 31.8	194 11.4	16.3	N 1 18.1	13.0	54.6
	22	150 23.4	N22 32.1	208 46.7	16.4	N 1 31.1	13.0	54.6
	23	165 23.3	N22 32.4	223 22.1	16.4	N 1 44.1	13.0	54.6
5	0	180 23.2	N22 32.7	237 57.5	16.4	N 1 57.0	13.0	54.6
	1	195 23.1	N22 32.9	252 32.9	16.4	N 2 10.0	12.9	54.5
	2	210 23.0	N22 33.2	267 08.2	16.4	N 2 22.9	12.9	54.5
	3	225 22.9	N22 33.5	281 43.6	16.4	N 2 35.8	12.9	54.5
	4	240 22.7	N22 33.8	296 19.0	16.4	N 2 48.7	12.9	54.5
S	5	255 22.6	N22 34.0	310 54.4	16.4	N 3 01.6	12.9	54.5
A								
T	6	270 22.5	N22 34.3	325 29.8	16.4	N 3 14.5	12.9	54.5
U	7	285 22.4	N22 34.6	340 05.3	16.4	N 3 27.3	12.9	54.4
R	8	300 22.3	N22 34.8	354 40.7	16.4	N 3 40.2	12.8	54.4
D	9	315 22.2	N22 35.1	9 16.1	16.4	N 3 53.0	12.8	54.4
A	10	330 22.1	N22 35.4	23 51.5	16.4	N 4 05.8	12.8	54.4
Y	11	345 22.0	N22 35.6	38 26.9	16.4	N 4 18.6	12.8	54.4
	12	0 21.9	N22 35.9	53 02.3	16.4	N 4 31.3	12.8	54.4
	13	15 21.7	N22 36.2	67 37.7	16.4	N 4 44.0	12.7	54.4
	14	30 21.6	N22 36.4	82 13.0	16.4	N 4 56.7	12.7	54.4
	15	45 21.5	N22 36.7	96 48.4	16.4	N 5 09.4	12.7	54.3
	16	60 21.4	N22 37.0	111 23.8	16.4	N 5 22.1	12.7	54.3
	17	75 21.3	N22 37.2	125 59.2	16.4	N 5 34.7	12.6	54.3
	18	90 21.2	N22 37.5	140 34.5	16.4	N 5 47.3	12.6	54.3
	19	105 21.1	N22 37.8	155 09.9	16.3	N 5 59.9	12.6	54.3
	20	120 20.9	N22 38.0	169 45.2	16.3	N 6 12.5	12.6	54.3
	21	135 20.8	N22 38.3	184 20.5	16.3	N 6 25.0	12.5	54.3
	22	150 20.7	N22 38.5	198 55.8	16.3	N 6 37.5	12.5	54.3
	23	165 20.6	N22 38.8	213 31.1	16.3	N 6 50.0	12.5	54.2
		S.D. 15.8	d 0.3	S.D.	15.1	14.9	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.1
Achernar	335 22.9	S57 07.6
Acrux	173 03.0	S63 13.2
Adhara	255 08.5	S29 00.2
Albireo	67 06.1	N28 00.1
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.3	N55 51.0
Alkaid	152 54.1	N49 12.7
Al Na-ir	27 36.5	S46 51.3
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.7	S 8 45.1
Alphecca	126 05.9	N26 38.7
Alpheratz	357 37.9	N29 12.3
Altair	62 02.6	N 8 55.4
Ankaa	353 10.3	S42 11.3
Antares	112 19.1	S26 28.7
Arcturus	145 50.4	N19 04.4
Atria	107 15.4	S69 03.9
Avior	234 16.3	S59 34.9
Bellatrix	278 26.4	N 6 22.1
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.2	S52 42.5
Capella	280 26.7	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.5	N45 21.1
Denebola	182 27.9	N14 27.3
Diphda	348 50.5	S17 52.2
Dubhe	193 44.7	N61 38.5
Elnath	278 06.0	N28 37.4
Eltanin	90 43.1	N51 29.0
Enif	33 41.5	N 9 58.2
Fomalhaut	15 17.8	S29 30.5
Gacrux	171 54.6	S57 14.2
Gienah	175 46.5	S17 39.7
Hadar	148 39.7	S60 28.7
Hamal	327 54.8	N23 33.6
Kaus Austr.	83 36.1	S34 22.4
Kochab	137 19.0	N74 04.3
Markab	13 32.8	N15 19.0
Menkar	314 09.5	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.1	S69 48.5
Mirfak	308 33.0	N49 56.0
Nunki	75 51.1	S26 16.1
Peacock	53 10.0	S56 39.8
Polaris	317 39.8	N89 20.2
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 01.0	N12 32.7
Regulus	207 37.7	N11 51.9
Rigel	281 07.1	S 8 10.7
Rigil Kent	139 43.9	S60 55.5
Sabik	102 05.8	S15 45.1
Schedar	349 34.6	N56 38.9
Shaula	96 14.0	S37 07.1
Sirius	258 29.2	S16 44.8
Spica	158 25.2	S11 16.4
Suhail	222 48.6	S43 31.3
Vega	80 34.8	N38 48.1
Zuben-ubi	136 59.7	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
6 0	254 37.5	160 00.1	N24 26.0	135 45.0	N22 09.4	280 27.2	S11 39.2	298 35.5	S17 26.6
1	269 40.0	174 59.3	N24 26.0	150 45.9	N22 09.1	295 29.6	S11 39.2	313 38.0	S17 26.6
2	284 42.5	189 58.4	N24 26.0	165 46.7	N22 08.8	310 31.9	S11 39.2	328 40.5	S17 26.6
3	299 44.9	204 57.5	N24 25.9	180 47.6	N22 08.5	325 34.3	S11 39.2	343 43.1	S17 26.7
4	314 47.4	219 56.6	N24 25.9	195 48.4	N22 08.2	340 36.6	S11 39.1	358 45.6	S17 26.7
S 5	329 49.8	234 55.7	N24 25.9	210 49.2	N22 07.9	355 39.0	S11 39.1	13 48.1	S17 26.7
U									
N 6	344 52.3	249 54.8	N24 25.9	225 50.1	N22 07.5	10 41.3	S11 39.1	28 50.6	S17 26.7
D 7	359 54.8	264 53.9	N24 25.9	240 50.9	N22 07.2	25 43.7	S11 39.0	43 53.1	S17 26.7
A 8	14 57.2	279 53.0	N24 25.8	255 51.7	N22 06.9	40 46.0	S11 39.0	58 55.7	S17 26.8
Y 9	29 59.7	294 52.1	N24 25.8	270 52.6	N22 06.6	55 48.4	S11 39.0	73 58.2	S17 26.8
10	45 02.2	309 51.3	N24 25.8	285 53.4	N22 06.3	70 50.7	S11 38.9	89 00.7	S17 26.8
11	60 04.6	324 50.4	N24 25.8	300 54.3	N22 06.0	85 53.1	S11 38.9	104 03.2	S17 26.8
12	75 07.1	339 49.5	N24 25.7	315 55.1	N22 05.7	100 55.4	S11 38.9	119 05.7	S17 26.9
13	90 09.6	354 48.6	N24 25.7	330 55.9	N22 05.4	115 57.8	S11 38.9	134 08.2	S17 26.9
14	105 12.0	9 47.7	N24 25.7	345 56.8	N22 05.1	131 00.1	S11 38.8	149 10.8	S17 26.9
15	120 14.5	24 46.8	N24 25.6	0 57.6	N22 04.8	146 02.5	S11 38.8	164 13.3	S17 26.9
16	135 17.0	39 45.9	N24 25.6	15 58.4	N22 04.5	161 04.8	S11 38.8	179 15.8	S17 26.9
17	150 19.4	54 45.0	N24 25.6	30 59.3	N22 04.2	176 07.2	S11 38.7	194 18.3	S17 27.0
18	165 21.9	69 44.1	N24 25.5	46 00.1	N22 03.9	191 09.6	S11 38.7	209 20.8	S17 27.0
19	180 24.3	84 43.3	N24 25.5	61 01.0	N22 03.6	206 11.9	S11 38.7	224 23.4	S17 27.0
20	195 26.8	99 42.4	N24 25.5	76 01.8	N22 03.2	221 14.3	S11 38.7	239 25.9	S17 27.0
21	210 29.3	114 41.5	N24 25.4	91 02.6	N22 02.9	236 16.6	S11 38.6	254 28.4	S17 27.1
22	225 31.7	129 40.6	N24 25.4	106 03.5	N22 02.6	251 19.0	S11 38.6	269 30.9	S17 27.1
23	240 34.2	144 39.7	N24 25.3	121 04.3	N22 02.3	266 21.3	S11 38.6	284 33.4	S17 27.1
7 0	255 36.7	159 38.8	N24 25.3	136 05.2	N22 02.0	281 23.7	S11 38.5	299 36.0	S17 27.1
1	270 39.1	174 37.9	N24 25.2	151 06.0	N22 01.7	296 26.0	S11 38.5	314 38.5	S17 27.1
2	285 41.6	189 37.0	N24 25.2	166 06.8	N22 01.4	311 28.4	S11 38.5	329 41.0	S17 27.2
3	300 44.1	204 36.2	N24 25.1	181 07.7	N22 01.1	326 30.8	S11 38.5	344 43.5	S17 27.2
4	315 46.5	219 35.3	N24 25.1	196 08.5	N22 00.8	341 33.1	S11 38.4	359 46.0	S17 27.2
M 5	330 49.0	234 34.4	N24 25.0	211 09.4	N22 00.4	356 35.5	S11 38.4	14 48.6	S17 27.2
O									
N 6	345 51.4	249 33.5	N24 25.0	226 10.2	N22 00.1	11 37.8	S11 38.4	29 51.1	S17 27.3
D 7	0 53.9	264 32.6	N24 24.9	241 11.0	N21 59.8	26 40.2	S11 38.3	44 53.6	S17 27.3
A 8	15 56.4	279 31.7	N24 24.9	256 11.9	N21 59.5	41 42.6	S11 38.3	59 56.1	S17 27.3
Y 9	30 58.8	294 30.8	N24 24.8	271 12.7	N21 59.2	56 44.9	S11 38.3	74 58.7	S17 27.3
10	46 01.3	309 29.9	N24 24.8	286 13.6	N21 58.9	71 47.3	S11 38.3	90 01.2	S17 27.3
11	61 03.8	324 29.1	N24 24.7	301 14.4	N21 58.6	86 49.6	S11 38.2	105 03.7	S17 27.4
12	76 06.2	339 28.2	N24 24.7	316 15.2	N21 58.3	101 52.0	S11 38.2	120 06.2	S17 27.4
13	91 08.7	354 27.3	N24 24.6	331 16.1	N21 57.9	116 54.4	S11 38.2	135 08.7	S17 27.4
14	106 11.2	9 26.4	N24 24.5	346 16.9	N21 57.6	131 56.7	S11 38.2	150 11.3	S17 27.4
15	121 13.6	24 25.5	N24 24.5	1 17.8	N21 57.3	146 59.1	S11 38.1	165 13.8	S17 27.5
16	136 16.1	39 24.6	N24 24.4	16 18.6	N21 57.0	162 01.4	S11 38.1	180 16.3	S17 27.5
17	151 18.6	54 23.7	N24 24.3	31 19.5	N21 56.7	177 03.8	S11 38.1	195 18.8	S17 27.5
18	166 21.0	69 22.8	N24 24.3	46 20.3	N21 56.4	192 06.2	S11 38.0	210 21.4	S17 27.5
19	181 23.5	84 22.0	N24 24.2	61 21.1	N21 56.1	207 08.5	S11 38.0	225 23.9	S17 27.6
20	196 25.9	99 21.1	N24 24.1	76 22.0	N21 55.7	222 10.9	S11 38.0	240 26.4	S17 27.6
21	211 28.4	114 20.2	N24 24.1	91 22.8	N21 55.4	237 13.3	S11 38.0	255 28.9	S17 27.6
22	226 30.9	129 19.3	N24 24.0	106 23.7	N21 55.1	252 15.6	S11 37.9	270 31.5	S17 27.6
23	241 33.3	144 18.4	N24 23.9	121 24.5	N21 54.8	267 18.0	S11 37.9	285 34.0	S17 27.6
8 0	256 35.8	159 17.5	N24 23.9	136 25.3	N21 54.5	282 20.3	S11 37.9	300 36.5	S17 27.7
1	271 38.3	174 16.6	N24 23.8	151 26.2	N21 54.2	297 22.7	S11 37.9	315 39.0	S17 27.7
2	286 40.7	189 15.8	N24 23.7	166 27.0	N21 53.8	312 25.1	S11 37.8	330 41.6	S17 27.7
3	301 43.2	204 14.9	N24 23.6	181 27.9	N21 53.5	327 27.4	S11 37.8	345 44.1	S17 27.7
4	316 45.7	219 14.0	N24 23.5	196 28.7	N21 53.2	342 29.8	S11 37.8	0 46.6	S17 27.8
T 5	331 48.1	234 13.1	N24 23.5	211 29.6	N21 52.9	357 32.2	S11 37.8	15 49.1	S17 27.8
U									
E 6	346 50.6	249 12.2	N24 23.4	226 30.4	N21 52.6	12 34.5	S11 37.7	30 51.7	S17 27.8
S 7	1 53.1	264 11.3	N24 23.3	241 31.2	N21 52.3	27 36.9	S11 37.7	45 54.2	S17 27.8
D 8	16 55.5	279 10.4	N24 23.2	256 32.1	N21 51.9	42 39.3	S11 37.7	60 56.7	S17 27.9
A 9	31 58.0	294 09.6	N24 23.1	271 32.9	N21 51.6	57 41.6	S11 37.7	75 59.2	S17 27.9
Y 10	47 00.4	309 08.7	N24 23.0	286 33.8	N21 51.3	72 44.0	S11 37.6	91 01.8	S17 27.9
11	62 02.9	324 07.8	N24 23.0	301 34.6	N21 51.0	87 46.4	S11 37.6	106 04.3	S17 27.9
12	77 05.4	339 06.9	N24 22.9	316 35.5	N21 50.7	102 48.7	S11 37.6	121 06.8	S17 28.0
13	92 07.8	354 06.0	N24 22.8	331 36.3	N21 50.3	117 51.1	S11 37.6	136 09.3	S17 28.0
14	107 10.3	9 05.1	N24 22.7	346 37.1	N21 50.0	132 53.5	S11 37.5	151 11.9	S17 28.0
15	122 12.8	24 04.3	N24 22.6	1 38.0	N21 49.7	147 55.8	S11 37.5	166 14.4	S17 28.0
16	137 15.2	39 03.4	N24 22.5	16 38.8	N21 49.4	162 58.2	S11 37.5	181 16.9	S17 28.0
17	152 17.7	54 02.5	N24 22.4	31 39.7	N21 49.1	178 00.6	S11 37.5	196 19.5	S17 28.1
18	167 20.2	69 01.6	N24 22.3	46 40.5	N21 48.7	193 02.9	S11 37.5	211 22.0	S17 28.1
19	182 22.6	84 00.7	N24 22.2	61 41.4	N21 48.4	208 05.3	S11 37.4	226 24.5	S17 28.1
20	197 25.1	98 59.8	N24 22.1	76 42.2	N21 48.1	223 07.7	S11 37.4	241 27.0	S17 28.1
21	212 27.6	113 58.9	N24 22.0	91 43.0	N21 47.8	238 10.1	S11 37.4	256 29.6	S17 28.2
22	227 30.0	128 58.1	N24 21.9	106 43.9	N21 47.5	253 12.4	S11 37.4	271 32.1	S17 28.2
23	242 32.5	143 57.2	N24 21.8	121 44.7	N21 47.1	268 14.8	S11 37.3	286 34.6	S17 28.2
		v -0.9	d 0.1	v 0.8	d 0.3	v 2.4	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
6	0	180 20.5	N22 39.1	228 06.4	16.3	N 7 02.4	12.4	54.2
	1	195 20.4	N22 39.3	242 41.6	16.3	N 7 14.8	12.4	54.2
	2	210 20.3	N22 39.6	257 16.9	16.2	N 7 27.2	12.4	54.2
	3	225 20.1	N22 39.8	271 52.1	16.2	N 7 39.6	12.4	54.2
	4	240 20.0	N22 40.1	286 27.3	16.2	N 7 51.9	12.3	54.2
S	5	255 19.9	N22 40.3	301 02.5	16.2	N 8 04.2	12.3	54.2
U								
N	6	270 19.8	N22 40.6	315 37.7	16.2	N 8 16.4	12.3	54.2
D	7	285 19.7	N22 40.8	330 12.8	16.1	N 8 28.6	12.2	54.2
A	8	300 19.6	N22 41.1	344 47.9	16.1	N 8 40.8	12.2	54.2
Y	9	315 19.5	N22 41.4	359 23.0	16.1	N 8 53.0	12.1	54.1
	10	330 19.3	N22 41.6	13 58.1	16.1	N 9 05.1	12.1	54.1
	11	345 19.2	N22 41.9	28 33.2	16.1	N 9 17.1	12.1	54.1
	12	0 19.1	N22 42.1	43 08.2	16.0	N 9 29.2	12.0	54.1
	13	15 19.0	N22 42.4	57 43.2	16.0	N 9 41.2	12.0	54.1
	14	30 18.9	N22 42.6	72 18.2	16.0	N 9 53.1	12.0	54.1
	15	45 18.8	N22 42.8	86 53.1	15.9	N10 05.1	11.9	54.1
	16	60 18.6	N22 43.1	101 28.0	15.9	N10 17.0	11.9	54.1
	17	75 18.5	N22 43.3	116 02.9	15.9	N10 28.8	11.8	54.1
	18	90 18.4	N22 43.6	130 37.8	15.9	N10 40.6	11.8	54.1
	19	105 18.3	N22 43.8	145 12.6	15.8	N10 52.3	11.8	54.1
	20	120 18.2	N22 44.1	159 47.4	15.8	N11 04.1	11.7	54.1
	21	135 18.1	N22 44.3	174 22.1	15.8	N11 15.7	11.7	54.1
	22	150 17.9	N22 44.6	188 56.9	15.7	N11 27.4	11.6	54.1
	23	165 17.8	N22 44.8	203 31.6	15.7	N11 38.9	11.6	54.1
7	0	180 17.7	N22 45.0	218 06.2	15.7	N11 50.5	11.5	54.0
	1	195 17.6	N22 45.3	232 40.8	15.6	N12 02.0	11.5	54.0
	2	210 17.5	N22 45.5	247 15.4	15.6	N12 13.4	11.4	54.0
	3	225 17.4	N22 45.8	261 50.0	15.5	N12 24.8	11.4	54.0
	4	240 17.2	N22 46.0	276 24.5	15.5	N12 36.1	11.3	54.0
M	5	255 17.1	N22 46.2	290 58.9	15.5	N12 47.4	11.3	54.0
O								
N	6	270 17.0	N22 46.5	305 33.4	15.4	N12 58.7	11.2	54.0
D	7	285 16.9	N22 46.7	320 07.7	15.4	N13 09.9	11.2	54.0
A	8	300 16.8	N22 47.0	334 42.1	15.3	N13 21.0	11.1	54.0
Y	9	315 16.7	N22 47.2	349 16.4	15.3	N13 32.1	11.1	54.0
	10	330 16.5	N22 47.4	3 50.7	15.3	N13 43.1	11.0	54.0
	11	345 16.4	N22 47.7	18 24.9	15.2	N13 54.1	11.0	54.0
	12	0 16.3	N22 47.9	32 59.1	15.2	N14 05.1	10.9	54.0
	13	15 16.2	N22 48.1	47 33.2	15.1	N14 15.9	10.9	54.0
	14	30 16.1	N22 48.4	62 07.3	15.1	N14 26.7	10.8	54.0
	15	45 15.9	N22 48.6	76 41.3	15.0	N14 37.5	10.8	54.0
	16	60 15.8	N22 48.8	91 15.3	15.0	N14 48.2	10.7	54.0
	17	75 15.7	N22 49.0	105 49.3	14.9	N14 58.8	10.6	54.0
	18	90 15.6	N22 49.3	120 23.2	14.9	N15 09.4	10.6	54.0
	19	105 15.5	N22 49.5	134 57.0	14.9	N15 20.0	10.5	54.0
	20	120 15.3	N22 49.7	149 30.8	14.8	N15 30.4	10.5	54.0
	21	135 15.2	N22 50.0	164 04.6	14.8	N15 40.8	10.4	54.0
	22	150 15.1	N22 50.2	178 38.3	14.7	N15 51.2	10.3	54.0
	23	165 15.0	N22 50.4	193 11.9	14.7	N16 01.4	10.3	54.0
8	0	180 14.9	N22 50.6	207 45.5	14.6	N16 11.7	10.2	54.0
	1	195 14.7	N22 50.9	222 19.1	14.6	N16 21.8	10.1	54.0
	2	210 14.6	N22 51.1	236 52.6	14.5	N16 31.9	10.1	54.0
	3	225 14.5	N22 51.3	251 26.0	14.4	N16 41.9	10.0	54.0
	4	240 14.4	N22 51.5	265 59.4	14.4	N16 51.9	10.0	54.0
T	5	255 14.3	N22 51.8	280 32.8	14.3	N17 01.7	9.9	54.0
U								
E	6	270 14.1	N22 52.0	295 06.1	14.3	N17 11.6	9.8	54.0
S	7	285 14.0	N22 52.2	309 39.3	14.2	N17 21.3	9.7	54.0
D	8	300 13.9	N22 52.4	324 12.5	14.2	N17 31.0	9.7	54.0
A	9	315 13.8	N22 52.6	338 45.6	14.1	N17 40.6	9.6	54.0
Y	10	330 13.7	N22 52.9	353 18.7	14.1	N17 50.1	9.5	54.0
	11	345 13.5	N22 53.1	7 51.7	14.0	N17 59.6	9.5	54.0
	12	0 13.4	N22 53.3	22 24.7	14.0	N18 09.0	9.4	54.0
	13	15 13.3	N22 53.5	36 57.6	13.9	N18 18.3	9.3	54.0
	14	30 13.2	N22 53.7	51 30.4	13.8	N18 27.5	9.2	54.0
	15	45 13.0	N22 53.9	66 03.2	13.8	N18 36.7	9.2	54.0
	16	60 12.9	N22 54.1	80 35.9	13.7	N18 45.8	9.1	54.0
	17	75 12.8	N22 54.4	95 08.6	13.7	N18 54.8	9.0	54.0
	18	90 12.7	N22 54.6	109 41.2	13.6	N19 03.7	8.9	54.0
	19	105 12.6	N22 54.8	124 13.8	13.6	N19 12.6	8.9	54.0
	20	120 12.4	N22 55.0	138 46.3	13.5	N19 21.3	8.8	54.0
	21	135 12.3	N22 55.2	153 18.8	13.4	N19 30.0	8.7	54.0
	22	150 12.2	N22 55.4	167 51.1	13.4	N19 38.6	8.6	54.0
	23	165 12.1	N22 55.6	182 23.5	13.3	N19 47.2	8.5	54.0
		S.D. 15.8	d 0.2	S.D.	14.7	14.7	14.7	

STARS Name	SHA	Dec
Acamar	315 14.4	S40 13.1
Achernar	335 22.8	S57 07.6
Acrux	173 03.1	S63 13.2
Adhara	255 08.5	S29 00.2
Albireo	67 06.1	N28 00.1
Aldebaran	290 43.4	N16 33.0
Alioth	166 15.3	N55 51.0
Alkaid	152 54.1	N49 12.7
Al Na-ir	27 36.5	S46 51.3
Alnilam	275 41.0	S 1 11.4
Alphard	217 50.8	S 8 45.1
Alphecca	126 05.9	N26 38.7
Alpheratz	357 37.9	N29 12.3
Altair	62 02.6	N 8 55.4
Ankaa	353 10.2	S42 11.3
Antares	112 19.1	S26 28.7
Arcturus	145 50.4	N19 04.4
Atria	107 15.4	S69 03.9
Avior	234 16.3	S59 34.9
Bellatrix	278 26.4	N 6 22.1
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.2	S52 42.5
Capella	280 26.7	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.5	N45 21.1
Denebola	182 27.9	N14 27.3
Diphda	348 50.4	S17 52.2
Dubhe	193 44.7	N61 38.5
Elnath	278 06.0	N28 37.4
Eltanin	90 43.0	N51 29.1
Enif	33 41.5	N 9 58.2
Fomalhaut	15 17.7	S29 30.5
Gacrux	171 54.7	S57 14.2
Gienah	175 46.5	S17 39.6
Hadar	148 39.7	S60 28.7
Hamal	327 54.8	N23 33.6
Kaus Austr.	83 36.1	S34 22.4
Kochab	137 19.0	N74 04.3
Markab	13 32.8	N15 19.0
Menkar	314 09.5	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.2	S69 48.5
Mirfak	308 32.9	N49 56.0
Nunki	75 51.1	S26 16.1
Peacock	53 09.9	S56 39.8
Polaris	317 38.9	N89 20.2
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 01.0	N12 32.7
Regulus	207 37.7	N11 51.9
Rigel	281 07.0	S 8 10.7
Rigil Kent	139 43.9	S60 55.5
Sabik	102 05.8	S15 45.1
Schedar	349 34.5	N56 38.9
Shaula	96 13.9	S37 07.1
Sirius	258 29.2	S16 44.8
Spica	158 25.2	S11 16.4
Suhail	222 48.7	S43 31.3
Vega	80 34.8	N38 48.1
Zuben-ubi	136 59.8	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
9 0	257 34.9	158 56.3	N24 21.7	136 45.6	N21 46.8	283 17.2	S11 37.3	301 37.1	S17 28.2
1	272 37.4	173 55.4	N24 21.6	151 46.4	N21 46.5	298 19.5	S11 37.3	316 39.7	S17 28.3
2	287 39.9	188 54.5	N24 21.5	166 47.3	N21 46.2	313 21.9	S11 37.3	331 42.2	S17 28.3
3	302 42.3	203 53.7	N24 21.4	181 48.1	N21 45.8	328 24.3	S11 37.2	346 44.7	S17 28.3
4	317 44.8	218 52.8	N24 21.3	196 49.0	N21 45.5	343 26.7	S11 37.2	1 47.3	S17 28.3
W 5	332 47.3	233 51.9	N24 21.2	211 49.8	N21 45.2	358 29.0	S11 37.2	16 49.8	S17 28.4
E									
D 6	347 49.7	248 51.0	N24 21.1	226 50.6	N21 44.9	13 31.4	S11 37.2	31 52.3	S17 28.4
N 7	2 52.2	263 50.1	N24 20.9	241 51.5	N21 44.5	28 33.8	S11 37.2	46 54.9	S17 28.4
E 8	17 54.7	278 49.2	N24 20.8	256 52.3	N21 44.2	43 36.2	S11 37.1	61 57.4	S17 28.4
S 9	32 57.1	293 48.4	N24 20.7	271 53.2	N21 43.9	58 38.5	S11 37.1	76 59.9	S17 28.5
D 10	47 59.6	308 47.5	N24 20.6	286 54.0	N21 43.6	73 40.9	S11 37.1	92 02.4	S17 28.5
A 11	63 02.0	323 46.6	N24 20.5	301 54.9	N21 43.2	88 43.3	S11 37.1	107 05.0	S17 28.5
Y									
12	78 04.5	338 45.7	N24 20.4	316 55.7	N21 42.9	103 45.7	S11 37.1	122 07.5	S17 28.5
13	93 07.0	353 44.8	N24 20.2	331 56.6	N21 42.6	118 48.0	S11 37.0	137 10.0	S17 28.6
14	108 09.4	8 44.0	N24 20.1	346 57.4	N21 42.3	133 50.4	S11 37.0	152 12.6	S17 28.6
15	123 11.9	23 43.1	N24 20.0	1 58.3	N21 41.9	148 52.8	S11 37.0	167 15.1	S17 28.6
16	138 14.4	38 42.2	N24 19.9	16 59.1	N21 41.6	163 55.2	S11 37.0	182 17.6	S17 28.6
17	153 16.8	53 41.3	N24 19.7	31 59.9	N21 41.3	178 57.5	S11 36.9	197 20.2	S17 28.7
18	168 19.3	68 40.4	N24 19.6	47 00.8	N21 41.0	193 59.9	S11 36.9	212 22.7	S17 28.7
19	183 21.8	83 39.5	N24 19.5	62 01.6	N21 40.6	209 02.3	S11 36.9	227 25.2	S17 28.7
20	198 24.2	98 38.7	N24 19.4	77 02.5	N21 40.3	224 04.7	S11 36.9	242 27.7	S17 28.7
21	213 26.7	113 37.8	N24 19.2	92 03.3	N21 40.0	239 07.0	S11 36.9	257 30.3	S17 28.8
22	228 29.2	128 36.9	N24 19.1	107 04.2	N21 39.6	254 09.4	S11 36.8	272 32.8	S17 28.8
23	243 31.6	143 36.0	N24 19.0	122 05.0	N21 39.3	269 11.8	S11 36.8	287 35.3	S17 28.8
10 0	258 34.1	158 35.1	N24 18.8	137 05.9	N21 39.0	284 14.2	S11 36.8	302 37.9	S17 28.8
1	273 36.5	173 34.3	N24 18.7	152 06.7	N21 38.7	299 16.6	S11 36.8	317 40.4	S17 28.9
2	288 39.0	188 33.4	N24 18.6	167 07.6	N21 38.3	314 18.9	S11 36.8	332 42.9	S17 28.9
3	303 41.5	203 32.5	N24 18.4	182 08.4	N21 38.0	329 21.3	S11 36.7	347 45.5	S17 28.9
4	318 43.9	218 31.6	N24 18.3	197 09.3	N21 37.7	344 23.7	S11 36.7	2 48.0	S17 28.9
T 5	333 46.4	233 30.8	N24 18.1	212 10.1	N21 37.3	359 26.1	S11 36.7	17 50.5	S17 29.0
H									
U 6	348 48.9	248 29.9	N24 18.0	227 10.9	N21 37.0	14 28.5	S11 36.7	32 53.1	S17 29.0
R 7	3 51.3	263 29.0	N24 17.9	242 11.8	N21 36.7	29 30.8	S11 36.7	47 55.6	S17 29.0
S 8	18 53.8	278 28.1	N24 17.7	257 12.6	N21 36.4	44 33.2	S11 36.7	62 58.1	S17 29.0
D 9	33 56.3	293 27.2	N24 17.6	272 13.5	N21 36.0	59 35.6	S11 36.6	78 00.7	S17 29.1
A 10	48 58.7	308 26.4	N24 17.4	287 14.3	N21 35.7	74 38.0	S11 36.6	93 03.2	S17 29.1
Y 11	64 01.2	323 25.5	N24 17.3	302 15.2	N21 35.4	89 40.4	S11 36.6	108 05.7	S17 29.1
12	79 03.7	338 24.6	N24 17.1	317 16.0	N21 35.0	104 42.8	S11 36.6	123 08.3	S17 29.1
13	94 06.1	353 23.7	N24 17.0	332 16.9	N21 34.7	119 45.1	S11 36.6	138 10.8	S17 29.2
14	109 08.6	8 22.8	N24 16.8	347 17.7	N21 34.4	134 47.5	S11 36.5	153 13.3	S17 29.2
15	124 11.0	23 22.0	N24 16.7	2 18.6	N21 34.0	149 49.9	S11 36.5	168 15.9	S17 29.2
16	139 13.5	38 21.1	N24 16.5	17 19.4	N21 33.7	164 52.3	S11 36.5	183 18.4	S17 29.3
17	154 16.0	53 20.2	N24 16.4	32 20.3	N21 33.4	179 54.7	S11 36.5	198 21.0	S17 29.3
18	169 18.4	68 19.3	N24 16.2	47 21.1	N21 33.0	194 57.1	S11 36.5	213 23.5	S17 29.3
19	184 20.9	83 18.5	N24 16.1	62 22.0	N21 32.7	209 59.4	S11 36.5	228 26.0	S17 29.3
20	199 23.4	98 17.6	N24 15.9	77 22.8	N21 32.4	225 01.8	S11 36.4	243 28.6	S17 29.4
21	214 25.8	113 16.7	N24 15.7	92 23.7	N21 32.0	240 04.2	S11 36.4	258 31.1	S17 29.4
22	229 28.3	128 15.8	N24 15.6	107 24.5	N21 31.7	255 06.6	S11 36.4	273 33.6	S17 29.4
23	244 30.8	143 15.0	N24 15.4	122 25.4	N21 31.4	270 09.0	S11 36.4	288 36.2	S17 29.4
11 0	259 33.2	158 14.1	N24 15.3	137 26.2	N21 31.0	285 11.4	S11 36.4	303 38.7	S17 29.5
1	274 35.7	173 13.2	N24 15.1	152 27.1	N21 30.7	300 13.8	S11 36.3	318 41.2	S17 29.5
2	289 38.2	188 12.3	N24 14.9	167 27.9	N21 30.4	315 16.1	S11 36.3	333 43.8	S17 29.5
3	304 40.6	203 11.5	N24 14.8	182 28.8	N21 30.0	330 18.5	S11 36.3	348 46.3	S17 29.5
4	319 43.1	218 10.6	N24 14.6	197 29.6	N21 29.7	345 20.9	S11 36.3	3 48.8	S17 29.6
F 5	334 45.5	233 09.7	N24 14.4	212 30.5	N21 29.4	0 23.3	S11 36.3	18 51.4	S17 29.6
R									
I 6	349 48.0	248 08.8	N24 14.3	227 31.3	N21 29.0	15 25.7	S11 36.3	33 53.9	S17 29.6
D 7	4 50.5	263 08.0	N24 14.1	242 32.2	N21 28.7	30 28.1	S11 36.3	48 56.5	S17 29.7
A 8	19 52.9	278 07.1	N24 13.9	257 33.0	N21 28.3	45 30.5	S11 36.2	63 59.0	S17 29.7
Y 9	34 55.4	293 06.2	N24 13.7	272 33.9	N21 28.0	60 32.9	S11 36.2	79 01.5	S17 29.7
10	49 57.9	308 05.3	N24 13.6	287 34.7	N21 27.7	75 35.3	S11 36.2	94 04.1	S17 29.7
11	65 00.3	323 04.5	N24 13.4	302 35.6	N21 27.3	90 37.6	S11 36.2	109 06.6	S17 29.8
12	80 02.8	338 03.6	N24 13.2	317 36.4	N21 27.0	105 40.0	S11 36.2	124 09.1	S17 29.8
13	95 05.3	353 02.7	N24 13.0	332 37.3	N21 26.7	120 42.4	S11 36.2	139 11.7	S17 29.8
14	110 07.7	8 01.8	N24 12.8	347 38.1	N21 26.3	135 44.8	S11 36.1	154 14.2	S17 29.8
15	125 10.2	23 01.0	N24 12.7	2 39.0	N21 26.0	150 47.2	S11 36.1	169 16.8	S17 29.9
16	140 12.7	38 00.1	N24 12.5	17 39.8	N21 25.6	165 49.6	S11 36.1	184 19.3	S17 29.9
17	155 15.1	52 59.2	N24 12.3	32 40.7	N21 25.3	180 52.0	S11 36.1	199 21.8	S17 29.9
18	170 17.6	67 58.4	N24 12.1	47 41.5	N21 25.0	195 54.4	S11 36.1	214 24.4	S17 29.9
19	185 20.0	82 57.5	N24 11.9	62 42.4	N21 24.6	210 56.8	S11 36.1	229 26.9	S17 30.0
20	200 22.5	97 56.6	N24 11.7	77 43.2	N21 24.3	225 59.2	S11 36.1	244 29.5	S17 30.0
21	215 25.0	112 55.7	N24 11.5	92 44.1	N21 23.9	241 01.6	S11 36.0	259 32.0	S17 30.0
22	230 27.4	127 54.9	N24 11.3	107 44.9	N21 23.6	256 04.0	S11 36.0	274 34.5	S17 30.1
23	245 29.9	142 54.0	N24 11.2	122 45.8	N21 23.3	271 06.3	S11 36.0	289 37.1	S17 30.1
		v -0.9	d 0.1	v 0.8	d 0.3	v 2.4	d 0.0	v 2.5	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
9 0	180 11.9	N22 55.8	196 55.7	13.3	N19 55.6	8.4	54.0	Acamar	315 14.4	S40 13.1
1	195 11.8	N22 56.0	211 27.9	13.2	N20 04.0	8.4	54.0	Achernar	335 22.8	S57 07.6
2	210 11.7	N22 56.2	226 00.1	13.2	N20 12.3	8.3	54.0	Acrux	173 03.1	S63 13.2
3	225 11.6	N22 56.4	240 32.2	13.1	N20 20.5	8.2	54.0	Adhara	255 08.5	S29 00.1
4	240 11.4	N22 56.7	255 04.2	13.0	N20 28.6	8.1	54.0	Albireo	67 06.1	N28 00.1
W 5	255 11.3	N22 56.9	269 36.2	13.0	N20 36.6	8.0	54.0			
E								Aldebaran	290 43.3	N16 33.0
D 6	270 11.2	N22 57.1	284 08.1	12.9	N20 44.5	7.9	54.0	Alioth	166 15.4	N55 51.0
N 7	285 11.1	N22 57.3	298 40.0	12.9	N20 52.4	7.8	54.0	Alkaid	152 54.1	N49 12.7
E 8	300 10.9	N22 57.5	313 11.7	12.8	N21 00.1	7.8	54.1	Al Na-ir	27 36.5	S46 51.3
S 9	315 10.8	N22 57.7	327 43.5	12.7	N21 07.8	7.7	54.1	Alnilam	275 41.0	S 1 11.4
D 10	330 10.7	N22 57.9	342 15.2	12.7	N21 15.3	7.6	54.1			
A 11	345 10.6	N22 58.1	356 46.8	12.6	N21 22.8	7.5	54.1	Alphard	217 50.8	S 8 45.1
Y								Alphecca	126 05.9	N26 38.7
12	0 10.5	N22 58.3	11 18.3	12.6	N21 30.2	7.4	54.1	Alpheratz	357 37.9	N29 12.3
13	15 10.3	N22 58.5	25 49.8	12.5	N21 37.5	7.3	54.1	Altair	62 02.5	N 8 55.4
14	30 10.2	N22 58.7	40 21.3	12.4	N21 44.7	7.2	54.1	Ankaa	353 10.2	S42 11.3
15	45 10.1	N22 58.9	54 52.6	12.4	N21 51.8	7.1	54.1			
16	60 10.0	N22 59.1	69 24.0	12.3	N21 58.8	7.0	54.1	Antares	112 19.1	S26 28.8
17	75 09.8	N22 59.3	83 55.2	12.3	N22 05.8	6.9	54.1	Arcturus	145 50.4	N19 04.4
								Atria	107 15.4	S69 04.0
18	90 09.7	N22 59.5	98 26.4	12.2	N22 12.6	6.8	54.1	Avior	234 16.3	S59 34.9
19	105 09.6	N22 59.7	112 57.5	12.1	N22 19.3	6.7	54.1	Bellatrix	278 26.4	N 6 22.1
20	120 09.5	N22 59.8	127 28.6	12.1	N22 25.9	6.6	54.1			
21	135 09.3	N23 00.0	141 59.7	12.0	N22 32.4	6.5	54.1	Betelgeuse	270 55.6	N 7 24.6
22	150 09.2	N23 00.2	156 30.6	12.0	N22 38.9	6.4	54.1	Canopus	263 54.2	S52 42.5
23	165 09.1	N23 00.4	171 01.5	11.9	N22 45.2	6.3	54.1	Capella	280 26.7	N46 01.1
10 0	180 09.0	N23 00.6	185 32.4	11.9	N22 51.4	6.2	54.2	Castor	246 01.1	N31 50.6
1	195 08.8	N23 00.8	200 03.2	11.8	N22 57.5	6.1	54.2	Deneb	49 27.4	N45 21.2
2	210 08.7	N23 01.0	214 33.9	11.7	N23 03.5	6.0	54.2			
3	225 08.6	N23 01.2	229 04.6	11.7	N23 09.4	5.9	54.2	Denebola	182 27.9	N14 27.3
4	240 08.5	N23 01.4	243 35.2	11.6	N23 15.2	5.8	54.2	Diphda	348 50.4	S17 52.2
T 5	255 08.3	N23 01.6	258 05.8	11.6	N23 20.9	5.7	54.2	Dubhe	193 44.8	N61 38.5
H								Elnath	278 06.0	N28 37.4
U 6	270 08.2	N23 01.7	272 36.3	11.5	N23 26.5	5.6	54.2	Eltanin	90 43.0	N51 29.1
R 7	285 08.1	N23 01.9	287 06.8	11.5	N23 32.0	5.5	54.2			
S 8	300 07.9	N23 02.1	301 37.2	11.4	N23 37.4	5.4	54.2	Enif	33 41.5	N 9 58.2
D 9	315 07.8	N23 02.3	316 07.5	11.4	N23 42.7	5.3	54.2	Fomalhaut	15 17.7	S29 30.5
A 10	330 07.7	N23 02.5	330 37.8	11.3	N23 47.8	5.2	54.2	Gacrux	171 54.7	S57 14.2
Y 11	345 07.6	N23 02.7	345 08.1	11.2	N23 52.9	5.1	54.2	Gienah	175 46.5	S17 39.6
								Hadar	148 39.7	S60 28.7
12	0 07.4	N23 02.9	359 38.3	11.2	N23 57.8	4.9	54.3			
13	15 07.3	N23 03.0	14 08.4	11.1	N24 02.6	4.8	54.3	Hamal	327 54.8	N23 33.6
14	30 07.2	N23 03.2	28 38.5	11.1	N24 07.4	4.7	54.3	Kaus Austr.	83 36.0	S34 22.4
15	45 07.1	N23 03.4	43 08.5	11.0	N24 12.0	4.6	54.3	Kochab	137 19.0	N74 04.3
16	60 06.9	N23 03.6	57 38.5	11.0	N24 16.5	4.5	54.3	Markab	13 32.8	N15 19.0
17	75 06.8	N23 03.8	72 08.5	10.9	N24 20.8	4.4	54.3	Menkar	314 09.5	N 4 10.3
								Menkent	148 00.8	S36 28.6
18	90 06.7	N23 03.9	86 38.4	10.9	N24 25.1	4.3	54.3	Miaplacidus	221 39.2	S69 48.5
19	105 06.5	N23 04.1	101 08.2	10.8	N24 29.3	4.1	54.3	Mirfak	308 32.9	N49 56.0
20	120 06.4	N23 04.3	115 38.0	10.8	N24 33.3	4.0	54.3	Nunki	75 51.1	S26 16.1
21	135 06.3	N23 04.5	130 07.8	10.8	N24 37.2	3.9	54.3	Peacock	53 09.9	S56 39.8
22	150 06.2	N23 04.6	144 37.5	10.7	N24 41.0	3.8	54.4			
23	165 06.0	N23 04.8	159 07.1	10.7	N24 44.7	3.7	54.4	Polaris	317 37.8	N89 20.2
11 0	180 05.9	N23 05.0	173 36.7	10.6	N24 48.3	3.6	54.4	Pollux	243 21.2	N27 58.5
1	195 05.8	N23 05.2	188 06.3	10.6	N24 51.7	3.4	54.4	Procyon	244 54.2	N 5 10.2
2	210 05.7	N23 05.3	202 35.8	10.5	N24 55.0	3.3	54.4	Rasalhague	96 01.0	N12 32.7
3	225 05.5	N23 05.5	217 05.3	10.5	N24 58.2	3.2	54.4	Regulus	207 37.7	N11 51.9
4	240 05.4	N23 05.7	231 34.8	10.4	N25 01.3	3.1	54.4			
F 5	255 05.3	N23 05.9	246 04.2	10.4	N25 04.3	3.0	54.4	Rigel	281 07.0	S 8 10.7
R								Rigil Kent	139 43.9	S60 55.5
I 6	270 05.1	N23 06.0	260 33.6	10.4	N25 07.1	2.8	54.4	Sabik	102 05.8	S15 45.1
D 7	285 05.0	N23 06.2	275 02.9	10.3	N25 09.9	2.7	54.5	Schedar	349 34.5	N56 38.9
A 8	300 04.9	N23 06.4	289 32.2	10.3	N25 12.5	2.6	54.5	Shaula	96 13.9	S37 07.1
Y 9	315 04.8	N23 06.5	304 01.4	10.3	N25 15.0	2.5	54.5	Sirius	258 29.2	S16 44.8
10	330 04.6	N23 06.7	318 30.7	10.2	N25 17.3	2.4	54.5	Spica	158 25.2	S11 16.4
11	345 04.5	N23 06.9	332 59.8	10.2	N25 19.6	2.2	54.5	Suhail	222 48.7	S43 31.3
								Vega	80 34.8	N38 48.1
12	0 04.4	N23 07.0	347 29.0	10.2	N25 21.7	2.1	54.5	Zuben-ubi	136 59.7	S16 07.8
13	15 04.2	N23 07.2	1 58.1	10.1	N25 23.6	2.0	54.5			
14	30 04.1	N23 07.4	16 27.2	10.1	N25 25.5	1.9	54.5			
15	45 04.0	N23 07.5	30 56.2	10.1	N25 27.2	1.7	54.5			
16	60 03.9	N23 07.7	45 25.3	10.0	N25 28.9	1.6	54.6			
17	75 03.7	N23 07.9	59 54.3	10.0	N25 30.3	1.5	54.6			
18	90 03.6	N23 08.0	74 23.2	10.0	N25 31.7	1.4	54.6			
19	105 03.5	N23 08.2	88 52.2	9.9	N25 32.9	1.2	54.6			
20	120 03.3	N23 08.3	103 21.1	9.9	N25 34.0	1.1	54.6			
21	135 03.2	N23 08.5	117 50.0	9.9	N25 35.0	1.0	54.6			
22	150 03.1	N23 08.7	132 18.8	9.9	N25 35.9	0.9	54.6			
23	165 02.9	N23 08.8	146 47.7	9.8	N25 36.6	0.7	54.7			
	S.D. 15.8	d 0.2	S.D.	14.7	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 ° '
12	0	260 32.4	157 53.1	N24 11.0	137 46.6	N21 22.9	286 08.7	S11 36.0	304 39.6	S17 30.1
	1	275 34.8	172 52.3	N24 10.8	152 47.5	N21 22.6	301 11.1	S11 36.0	319 42.2	S17 30.1
	2	290 37.3	187 51.4	N24 10.6	167 48.3	N21 22.2	316 13.5	S11 36.0	334 44.7	S17 30.2
	3	305 39.8	202 50.5	N24 10.4	182 49.2	N21 21.9	331 15.9	S11 36.0	349 47.2	S17 30.2
	4	320 42.2	217 49.7	N24 10.2	197 50.0	N21 21.6	346 18.3	S11 35.9	4 49.8	S17 30.2
S	5	335 44.7	232 48.8	N24 10.0	212 50.9	N21 21.2	1 20.7	S11 35.9	19 52.3	S17 30.3
A										
T	6	350 47.2	247 47.9	N24 09.8	227 51.7	N21 20.9	16 23.1	S11 35.9	34 54.9	S17 30.3
U	7	5 49.6	262 47.0	N24 09.6	242 52.6	N21 20.5	31 25.5	S11 35.9	49 57.4	S17 30.3
R	8	20 52.1	277 46.2	N24 09.4	257 53.4	N21 20.2	46 27.9	S11 35.9	64 59.9	S17 30.3
D	9	35 54.5	292 45.3	N24 09.2	272 54.3	N21 19.8	61 30.3	S11 35.9	80 02.5	S17 30.4
A	10	50 57.0	307 44.4	N24 09.0	287 55.1	N21 19.5	76 32.7	S11 35.9	95 05.0	S17 30.4
Y	11	65 59.5	322 43.6	N24 08.8	302 56.0	N21 19.2	91 35.1	S11 35.8	110 07.6	S17 30.4
	12	81 01.9	337 42.7	N24 08.6	317 56.8	N21 18.8	106 37.5	S11 35.8	125 10.1	S17 30.4
	13	96 04.4	352 41.8	N24 08.3	332 57.7	N21 18.5	121 39.9	S11 35.8	140 12.6	S17 30.5
	14	111 06.9	7 41.0	N24 08.1	347 58.5	N21 18.1	136 42.3	S11 35.8	155 15.2	S17 30.5
	15	126 09.3	22 40.1	N24 07.9	2 59.4	N21 17.8	151 44.7	S11 35.8	170 17.7	S17 30.5
	16	141 11.8	37 39.2	N24 07.7	18 00.2	N21 17.4	166 47.1	S11 35.8	185 20.3	S17 30.6
	17	156 14.3	52 38.4	N24 07.5	33 01.1	N21 17.1	181 49.5	S11 35.8	200 22.8	S17 30.6
	18	171 16.7	67 37.5	N24 07.3	48 01.9	N21 16.7	196 51.9	S11 35.8	215 25.4	S17 30.6
	19	186 19.2	82 36.6	N24 07.1	63 02.8	N21 16.4	211 54.3	S11 35.7	230 27.9	S17 30.6
	20	201 21.6	97 35.8	N24 06.8	78 03.7	N21 16.1	226 56.7	S11 35.7	245 30.4	S17 30.7
	21	216 24.1	112 34.9	N24 06.6	93 04.5	N21 15.7	241 59.1	S11 35.7	260 33.0	S17 30.7
	22	231 26.6	127 34.0	N24 06.4	108 05.4	N21 15.4	257 01.5	S11 35.7	275 35.5	S17 30.7
	23	246 29.0	142 33.2	N24 06.2	123 06.2	N21 15.0	272 03.9	S11 35.7	290 38.1	S17 30.8
13	0	261 31.5	157 32.3	N24 06.0	138 07.1	N21 14.7	287 06.3	S11 35.7	305 40.6	S17 30.8
	1	276 34.0	172 31.4	N24 05.7	153 07.9	N21 14.3	302 08.7	S11 35.7	320 43.2	S17 30.8
	2	291 36.4	187 30.6	N24 05.5	168 08.8	N21 14.0	317 11.1	S11 35.7	335 45.7	S17 30.8
	3	306 38.9	202 29.7	N24 05.3	183 09.6	N21 13.6	332 13.5	S11 35.7	350 48.2	S17 30.9
	4	321 41.4	217 28.8	N24 05.1	198 10.5	N21 13.3	347 15.9	S11 35.6	5 50.8	S17 30.9
S	5	336 43.8	232 28.0	N24 04.8	213 11.3	N21 12.9	2 18.3	S11 35.6	20 53.3	S17 30.9
U										
N	6	351 46.3	247 27.1	N24 04.6	228 12.2	N21 12.6	17 20.7	S11 35.6	35 55.9	S17 31.0
D	7	6 48.8	262 26.3	N24 04.4	243 13.0	N21 12.2	32 23.1	S11 35.6	50 58.4	S17 31.0
A	8	21 51.2	277 25.4	N24 04.1	258 13.9	N21 11.9	47 25.5	S11 35.6	66 01.0	S17 31.0
Y	9	36 53.7	292 24.5	N24 03.9	273 14.8	N21 11.5	62 27.9	S11 35.6	81 03.5	S17 31.0
	10	51 56.1	307 23.7	N24 03.7	288 15.6	N21 11.2	77 30.3	S11 35.6	96 06.1	S17 31.1
	11	66 58.6	322 22.8	N24 03.4	303 16.5	N21 10.8	92 32.7	S11 35.6	111 08.6	S17 31.1
	12	82 01.1	337 21.9	N24 03.2	318 17.3	N21 10.5	107 35.1	S11 35.6	126 11.2	S17 31.1
	13	97 03.5	352 21.1	N24 03.0	333 18.2	N21 10.1	122 37.5	S11 35.6	141 13.7	S17 31.2
	14	112 06.0	7 20.2	N24 02.7	348 19.0	N21 09.8	137 40.0	S11 35.5	156 16.2	S17 31.2
	15	127 08.5	22 19.4	N24 02.5	3 19.9	N21 09.4	152 42.4	S11 35.5	171 18.8	S17 31.2
	16	142 10.9	37 18.5	N24 02.2	18 20.7	N21 09.1	167 44.8	S11 35.5	186 21.3	S17 31.3
	17	157 13.4	52 17.6	N24 02.0	33 21.6	N21 08.7	182 47.2	S11 35.5	201 23.9	S17 31.3
	18	172 15.9	67 16.8	N24 01.8	48 22.5	N21 08.4	197 49.6	S11 35.5	216 26.4	S17 31.3
	19	187 18.3	82 15.9	N24 01.5	63 23.3	N21 08.0	212 52.0	S11 35.5	231 29.0	S17 31.3
	20	202 20.8	97 15.0	N24 01.3	78 24.2	N21 07.7	227 54.4	S11 35.5	246 31.5	S17 31.4
	21	217 23.3	112 14.2	N24 01.0	93 25.0	N21 07.3	242 56.8	S11 35.5	261 34.1	S17 31.4
	22	232 25.7	127 13.3	N24 00.8	108 25.9	N21 07.0	257 59.2	S11 35.5	276 36.6	S17 31.4
	23	247 28.2	142 12.5	N24 00.5	123 26.7	N21 06.6	273 01.6	S11 35.5	291 39.2	S17 31.5
14	0	262 30.6	157 11.6	N24 00.3	138 27.6	N21 06.3	288 04.0	S11 35.5	306 41.7	S17 31.5
	1	277 33.1	172 10.7	N24 00.0	153 28.4	N21 05.9	303 06.4	S11 35.4	321 44.3	S17 31.5
	2	292 35.6	187 09.9	N23 59.8	168 29.3	N21 05.6	318 08.9	S11 35.4	336 46.8	S17 31.5
	3	307 38.0	202 09.0	N23 59.5	183 30.2	N21 05.2	333 11.3	S11 35.4	351 49.4	S17 31.6
	4	322 40.5	217 08.2	N23 59.2	198 31.0	N21 04.9	348 13.7	S11 35.4	6 51.9	S17 31.6
M	5	337 43.0	232 07.3	N23 59.0	213 31.9	N21 04.5	3 16.1	S11 35.4	21 54.4	S17 31.6
O										
N	6	352 45.4	247 06.5	N23 58.7	228 32.7	N21 04.2	18 18.5	S11 35.4	36 57.0	S17 31.7
D	7	7 47.9	262 05.6	N23 58.5	243 33.6	N21 03.8	33 20.9	S11 35.4	51 59.5	S17 31.7
A	8	22 50.4	277 04.7	N23 58.2	258 34.4	N21 03.4	48 23.3	S11 35.4	67 02.1	S17 31.7
Y	9	37 52.8	292 03.9	N23 57.9	273 35.3	N21 03.1	63 25.7	S11 35.4	82 04.6	S17 31.8
	10	52 55.3	307 03.0	N23 57.7	288 36.2	N21 02.7	78 28.1	S11 35.4	97 07.2	S17 31.8
	11	67 57.8	322 02.2	N23 57.4	303 37.0	N21 02.4	93 30.6	S11 35.4	112 09.7	S17 31.8
	12	83 00.2	337 01.3	N23 57.1	318 37.9	N21 02.0	108 33.0	S11 35.4	127 12.3	S17 31.8
	13	98 02.7	352 00.5	N23 56.9	333 38.7	N21 01.7	123 35.4	S11 35.4	142 14.8	S17 31.9
	14	113 05.1	6 59.6	N23 56.6	348 39.6	N21 01.3	138 37.8	S11 35.4	157 17.4	S17 31.9
	15	128 07.6	21 58.8	N23 56.3	3 40.4	N21 01.0	153 40.2	S11 35.3	172 19.9	S17 31.9
	16	143 10.1	36 57.9	N23 56.1	18 41.3	N21 00.6	168 42.6	S11 35.3	187 22.5	S17 32.0
	17	158 12.5	51 57.0	N23 55.8	33 42.2	N21 00.2	183 45.0	S11 35.3	202 25.0	S17 32.0
	18	173 15.0	66 56.2	N23 55.5	48 43.0	N20 59.9	198 47.5	S11 35.3	217 27.6	S17 32.0
	19	188 17.5	81 55.3	N23 55.2	63 43.9	N20 59.5	213 49.9	S11 35.3	232 30.1	S17 32.1
	20	203 19.9	96 54.5	N23 55.0	78 44.7	N20 59.2	228 52.3	S11 35.3	247 32.7	S17 32.1
	21	218 22.4	111 53.6	N23 54.7	93 45.6	N20 58.8	243 54.7	S11 35.3	262 35.2	S17 32.1
	22	233 24.9	126 52.8	N23 54.4	108 46.4	N20 58.5	258 57.1	S11 35.3	277 37.8	S17 32.1
	23	248 27.3	141 51.9	N23 54.1	123 47.3	N20 58.1	273 59.5	S11 35.3	292 40.3	S17 32.2
			v -0.9	d 0.2	v 0.9	d 0.3	v 2.4	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
12	0	180 02.8	N23 09.0	161 16.5	9.8	N25 37.2	0.6	54.7
	1	195 02.7	N23 09.1	175 45.3	9.8	N25 37.7	0.5	54.7
	2	210 02.6	N23 09.3	190 14.1	9.8	N25 38.0	0.3	54.7
	3	225 02.4	N23 09.4	204 42.9	9.8	N25 38.2	0.2	54.7
	4	240 02.3	N23 09.6	219 11.6	9.7	N25 38.3	0.1	54.7
S	5	255 02.2	N23 09.7	233 40.3	9.7	N25 38.2	0.0	54.7
A								
T	6	270 02.0	N23 09.9	248 09.1	9.7	N25 38.1	0.2	54.8
U	7	285 01.9	N23 10.1	262 37.8	9.7	N25 37.7	0.3	54.8
R	8	300 01.8	N23 10.2	277 06.5	9.7	N25 37.3	0.4	54.8
D	9	315 01.6	N23 10.4	291 35.1	9.7	N25 36.7	0.6	54.8
A	10	330 01.5	N23 10.5	306 03.8	9.7	N25 36.0	0.7	54.8
Y	11	345 01.4	N23 10.7	320 32.5	9.7	N25 35.2	0.8	54.8
	12	0 01.3	N23 10.8	335 01.1	9.6	N25 34.3	1.0	54.8
	13	15 01.1	N23 11.0	349 29.7	9.6	N25 33.2	1.1	54.9
	14	30 01.0	N23 11.1	3 58.4	9.6	N25 32.0	1.2	54.9
	15	45 00.9	N23 11.2	18 27.0	9.6	N25 30.6	1.3	54.9
	16	60 00.7	N23 11.4	32 55.6	9.6	N25 29.1	1.5	54.9
	17	75 00.6	N23 11.5	47 24.2	9.6	N25 27.5	1.6	54.9
	18	90 00.5	N23 11.7	61 52.9	9.6	N25 25.8	1.7	54.9
	19	105 00.3	N23 11.8	76 21.5	9.6	N25 23.9	1.9	55.0
	20	120 00.2	N23 12.0	90 50.1	9.6	N25 21.9	2.0	55.0
	21	135 00.1	N23 12.1	105 18.7	9.6	N25 19.8	2.1	55.0
	22	149 59.9	N23 12.3	119 47.3	9.6	N25 17.5	2.3	55.0
	23	164 59.8	N23 12.4	134 16.0	9.6	N25 15.1	2.4	55.0
13	0	179 59.7	N23 12.5	148 44.6	9.6	N25 12.6	2.5	55.0
	1	194 59.6	N23 12.7	163 13.2	9.6	N25 10.0	2.6	55.1
	2	209 59.4	N23 12.8	177 41.9	9.6	N25 07.2	2.8	55.1
	3	224 59.3	N23 13.0	192 10.5	9.6	N25 04.3	2.9	55.1
	4	239 59.2	N23 13.1	206 39.2	9.7	N25 01.3	3.0	55.1
S	5	254 59.0	N23 13.2	221 07.9	9.7	N24 58.1	3.2	55.1
U								
N	6	269 58.9	N23 13.4	235 36.5	9.7	N24 54.8	3.3	55.1
D	7	284 58.8	N23 13.5	250 05.2	9.7	N24 51.4	3.4	55.2
A	8	299 58.6	N23 13.6	264 33.9	9.7	N24 47.8	3.6	55.2
Y	9	314 58.5	N23 13.8	279 02.6	9.7	N24 44.1	3.7	55.2
	10	329 58.4	N23 13.9	293 31.4	9.7	N24 40.3	3.8	55.2
	11	344 58.2	N23 14.0	308 00.1	9.7	N24 36.4	3.9	55.2
	12	359 58.1	N23 14.2	322 28.9	9.8	N24 32.3	4.1	55.3
	13	14 58.0	N23 14.3	336 57.6	9.8	N24 28.1	4.2	55.3
	14	29 57.8	N23 14.4	351 26.4	9.8	N24 23.8	4.3	55.3
	15	44 57.7	N23 14.6	5 55.2	9.8	N24 19.4	4.4	55.3
	16	59 57.6	N23 14.7	20 24.1	9.8	N24 14.8	4.6	55.3
	17	74 57.4	N23 14.8	34 52.9	9.9	N24 10.1	4.7	55.3
	18	89 57.3	N23 14.9	49 21.8	9.9	N24 05.3	4.8	55.4
	19	104 57.2	N23 15.1	63 50.7	9.9	N24 00.3	4.9	55.4
	20	119 57.0	N23 15.2	78 19.6	9.9	N23 55.3	5.1	55.4
	21	134 56.9	N23 15.3	92 48.6	9.9	N23 50.1	5.2	55.4
	22	149 56.8	N23 15.4	107 17.5	10.0	N23 44.7	5.3	55.4
	23	164 56.6	N23 15.6	121 46.5	10.0	N23 39.3	5.4	55.5
14	0	179 56.5	N23 15.7	136 15.5	10.0	N23 33.7	5.6	55.5
	1	194 56.4	N23 15.8	150 44.6	10.0	N23 28.0	5.7	55.5
	2	209 56.2	N23 15.9	165 13.6	10.1	N23 22.2	5.8	55.5
	3	224 56.1	N23 16.1	179 42.7	10.1	N23 16.3	5.9	55.6
	4	239 56.0	N23 16.2	194 11.9	10.1	N23 10.2	6.1	55.6
M	5	254 55.8	N23 16.3	208 41.0	10.2	N23 04.0	6.2	55.6
O								
N	6	269 55.7	N23 16.4	223 10.2	10.2	N22 57.7	6.3	55.6
D	7	284 55.6	N23 16.5	237 39.4	10.2	N22 51.3	6.4	55.6
A	8	299 55.4	N23 16.7	252 08.6	10.2	N22 44.8	6.5	55.7
Y	9	314 55.3	N23 16.8	266 37.9	10.3	N22 38.1	6.7	55.7
	10	329 55.2	N23 16.9	281 07.2	10.3	N22 31.4	6.8	55.7
	11	344 55.0	N23 17.0	295 36.5	10.3	N22 24.5	6.9	55.7
	12	359 54.9	N23 17.1	310 05.9	10.4	N22 17.4	7.0	55.7
	13	14 54.8	N23 17.2	324 35.3	10.4	N22 10.3	7.1	55.8
	14	29 54.6	N23 17.3	339 04.7	10.4	N22 03.1	7.2	55.8
	15	44 54.5	N23 17.5	353 34.2	10.5	N21 55.7	7.4	55.8
	16	59 54.4	N23 17.6	8 03.7	10.5	N21 48.2	7.5	55.8
	17	74 54.2	N23 17.7	22 33.2	10.5	N21 40.7	7.6	55.9
	18	89 54.1	N23 17.8	37 02.8	10.6	N21 32.9	7.7	55.9
	19	104 54.0	N23 17.9	51 32.4	10.6	N21 25.1	7.8	55.9
	20	119 53.8	N23 18.0	66 02.0	10.6	N21 17.2	7.9	55.9
	21	134 53.7	N23 18.1	80 31.7	10.7	N21 09.2	8.0	55.9
	22	149 53.6	N23 18.2	95 01.4	10.7	N21 01.0	8.2	56.0
	23	164 53.4	N23 18.3	109 31.1	10.7	N20 52.7	8.3	56.0
		S.D. 15.7	d 0.1	S.D.	14.9	15.1	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.4	S40 13.1
Achernar	335 22.8	S57 07.5
Acrux	173 03.1	S63 13.2
Adhara	255 08.5	S29 00.1
Albireo	67 06.1	N28 00.2
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.4	N55 51.0
Alkaid	152 54.1	N49 12.7
Al Na-ir	27 36.4	S46 51.3
Alnilam	275 41.0	S 1 11.3
Alphard	217 50.8	S 8 45.1
Alphecca	126 05.9	N26 38.7
Alpheratz	357 37.8	N29 12.3
Altair	62 02.5	N 8 55.4
Ankaa	353 10.2	S42 11.3
Antares	112 19.1	S26 28.8
Arcturus	145 50.4	N19 04.4
Atria	107 15.4	S69 04.0
Avior	234 16.3	S59 34.9
Bellatrix	278 26.4	N 6 22.1
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.2	S52 42.5
Capella	280 26.7	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.4	N45 21.2
Denebola	182 27.9	N14 27.3
Diphda	348 50.4	S17 52.1
Dubhe	193 44.8	N61 38.5
Elnath	278 06.0	N28 37.4
Eltanin	90 43.0	N51 29.1
Enif	33 41.4	N 9 58.3
Fomalhaut	15 17.7	S29 30.5
Gacrux	171 54.7	S57 14.2
Gienah	175 46.5	S17 39.6
Hadar	148 39.7	S60 28.7
Hamal	327 54.7	N23 33.6
Kaus Austr.	83 36.0	S34 22.4
Kochab	137 19.1	N74 04.3
Markab	13 32.7	N15 19.0
Menkar	314 09.5	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.2	S69 48.5
Mirfak	308 32.9	N49 56.0
Nunki	75 51.0	S26 16.1
Peacock	53 09.9	S56 39.8
Polaris	317 36.8	N89 20.2
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 01.0	N12 32.7
Regulus	207 37.7	N11 51.9
Rigel	281 07.0	S 8 10.7
Rigil Kent	139 43.9	S60 55.5
Sabik	102 05.8	S15 45.1
Schedar	349 34.4	N56 38.9
Shaula	96 13.9	S37 07.1
Sirius	258 29.2	S16 44.8
Spica	158 25.2	S11 16.4
Suhail	222 48.7	S43 31.3
Vega	80 34.8	N38 48.1
Zuben-ubi	136 59.7	S16 07.8

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 29.8	156 51.1	N23 53.9	138 48.2	N20 57.7	289 01.9	S11 35.3	307 42.9	S17 32.2
	1	278 32.3	171 50.2	N23 53.6	153 49.0	N20 57.4	304 04.4	S11 35.3	322 45.4	S17 32.2
	2	293 34.7	186 49.4	N23 53.3	168 49.9	N20 57.0	319 06.8	S11 35.3	337 48.0	S17 32.3
	3	308 37.2	201 48.5	N23 53.0	183 50.7	N20 56.7	334 09.2	S11 35.3	352 50.5	S17 32.3
	4	323 39.6	216 47.7	N23 52.7	198 51.6	N20 56.3	349 11.6	S11 35.3	7 53.1	S17 32.3
T	5	338 42.1	231 46.8	N23 52.4	213 52.5	N20 55.9	4 14.0	S11 35.3	22 55.6	S17 32.4
U										
E	6	353 44.6	246 46.0	N23 52.1	228 53.3	N20 55.6	19 16.5	S11 35.3	37 58.2	S17 32.4
S	7	8 47.0	261 45.1	N23 51.9	243 54.2	N20 55.2	34 18.9	S11 35.3	53 00.7	S17 32.4
D	8	23 49.5	276 44.3	N23 51.6	258 55.0	N20 54.9	49 21.3	S11 35.3	68 03.3	S17 32.5
A	9	38 52.0	291 43.4	N23 51.3	273 55.9	N20 54.5	64 23.7	S11 35.2	83 05.9	S17 32.5
Y	10	53 54.4	306 42.6	N23 51.0	288 56.8	N20 54.1	79 26.1	S11 35.2	98 08.4	S17 32.5
	11	68 56.9	321 41.7	N23 50.7	303 57.6	N20 53.8	94 28.6	S11 35.2	113 11.0	S17 32.6
	12	83 59.4	336 40.9	N23 50.4	318 58.5	N20 53.4	109 31.0	S11 35.2	128 13.5	S17 32.6
	13	99 01.8	351 40.0	N23 50.1	333 59.3	N20 53.1	124 33.4	S11 35.2	143 16.1	S17 32.6
	14	114 04.3	6 39.2	N23 49.8	349 00.2	N20 52.7	139 35.8	S11 35.2	158 18.6	S17 32.6
	15	129 06.7	21 38.3	N23 49.5	4 01.1	N20 52.3	154 38.2	S11 35.2	173 21.2	S17 32.7
	16	144 09.2	36 37.5	N23 49.2	19 01.9	N20 52.0	169 40.7	S11 35.2	188 23.7	S17 32.7
	17	159 11.7	51 36.6	N23 48.9	34 02.8	N20 51.6	184 43.1	S11 35.2	203 26.3	S17 32.7
	18	174 14.1	66 35.8	N23 48.6	49 03.6	N20 51.2	199 45.5	S11 35.2	218 28.8	S17 32.8
	19	189 16.6	81 34.9	N23 48.3	64 04.5	N20 50.9	214 47.9	S11 35.2	233 31.4	S17 32.8
	20	204 19.1	96 34.1	N23 48.0	79 05.4	N20 50.5	229 50.3	S11 35.2	248 33.9	S17 32.8
	21	219 21.5	111 33.2	N23 47.7	94 06.2	N20 50.2	244 52.8	S11 35.2	263 36.5	S17 32.9
	22	234 24.0	126 32.4	N23 47.4	109 07.1	N20 49.8	259 55.2	S11 35.2	278 39.0	S17 32.9
	23	249 26.5	141 31.5	N23 47.1	124 07.9	N20 49.4	274 57.6	S11 35.2	293 41.6	S17 32.9
16	0	264 28.9	156 30.7	N23 46.8	139 08.8	N20 49.1	290 00.0	S11 35.2	308 44.2	S17 33.0
	1	279 31.4	171 29.8	N23 46.4	154 09.7	N20 48.7	305 02.5	S11 35.2	323 46.7	S17 33.0
	2	294 33.9	186 29.0	N23 46.1	169 10.5	N20 48.3	320 04.9	S11 35.2	338 49.3	S17 33.0
	3	309 36.3	201 28.2	N23 45.8	184 11.4	N20 48.0	335 07.3	S11 35.2	353 51.8	S17 33.1
	4	324 38.8	216 27.3	N23 45.5	199 12.3	N20 47.6	350 09.7	S11 35.2	8 54.4	S17 33.1
W	5	339 41.2	231 26.5	N23 45.2	214 13.1	N20 47.2	5 12.2	S11 35.2	23 56.9	S17 33.1
E										
D	6	354 43.7	246 25.6	N23 44.9	229 14.0	N20 46.9	20 14.6	S11 35.2	38 59.5	S17 33.1
N	7	9 46.2	261 24.8	N23 44.5	244 14.8	N20 46.5	35 17.0	S11 35.2	54 02.0	S17 33.2
E	8	24 48.6	276 23.9	N23 44.2	259 15.7	N20 46.1	50 19.5	S11 35.2	69 04.6	S17 33.2
S	9	39 51.1	291 23.1	N23 43.9	274 16.6	N20 45.8	65 21.9	S11 35.2	84 07.2	S17 33.2
D	10	54 53.6	306 22.3	N23 43.6	289 17.4	N20 45.4	80 24.3	S11 35.2	99 09.7	S17 33.3
A	11	69 56.0	321 21.4	N23 43.3	304 18.3	N20 45.0	95 26.7	S11 35.2	114 12.3	S17 33.3
Y										
	12	84 58.5	336 20.6	N23 42.9	319 19.1	N20 44.7	110 29.2	S11 35.2	129 14.8	S17 33.3
	13	100 01.0	351 19.7	N23 42.6	334 20.0	N20 44.3	125 31.6	S11 35.2	144 17.4	S17 33.4
	14	115 03.4	6 18.9	N23 42.3	349 20.9	N20 43.9	140 34.0	S11 35.2	159 19.9	S17 33.4
	15	130 05.9	21 18.1	N23 42.0	4 21.7	N20 43.6	155 36.5	S11 35.2	174 22.5	S17 33.4
	16	145 08.4	36 17.2	N23 41.6	19 22.6	N20 43.2	170 38.9	S11 35.2	189 25.0	S17 33.5
	17	160 10.8	51 16.4	N23 41.3	34 23.5	N20 42.8	185 41.3	S11 35.2	204 27.6	S17 33.5
	18	175 13.3	66 15.5	N23 41.0	49 24.3	N20 42.5	200 43.7	S11 35.2	219 30.2	S17 33.5
	19	190 15.7	81 14.7	N23 40.6	64 25.2	N20 42.1	215 46.2	S11 35.2	234 32.7	S17 33.6
	20	205 18.2	96 13.9	N23 40.3	79 26.1	N20 41.7	230 48.6	S11 35.2	249 35.3	S17 33.6
	21	220 20.7	111 13.0	N23 40.0	94 26.9	N20 41.4	245 51.0	S11 35.2	264 37.8	S17 33.6
	22	235 23.1	126 12.2	N23 39.6	109 27.8	N20 41.0	260 53.5	S11 35.2	279 40.4	S17 33.7
	23	250 25.6	141 11.3	N23 39.3	124 28.6	N20 40.6	275 55.9	S11 35.2	294 43.0	S17 33.7
17	0	265 28.1	156 10.5	N23 39.0	139 29.5	N20 40.3	290 58.3	S11 35.2	309 45.5	S17 33.7
	1	280 30.5	171 09.7	N23 38.6	154 30.4	N20 39.9	306 00.8	S11 35.2	324 48.1	S17 33.8
	2	295 33.0	186 08.8	N23 38.3	169 31.2	N20 39.5	321 03.2	S11 35.2	339 50.6	S17 33.8
	3	310 35.5	201 08.0	N23 37.9	184 32.1	N20 39.1	336 05.6	S11 35.2	354 53.2	S17 33.8
	4	325 37.9	216 07.2	N23 37.6	199 33.0	N20 38.8	351 08.1	S11 35.2	9 55.7	S17 33.9
T	5	340 40.4	231 06.3	N23 37.2	214 33.8	N20 38.4	6 10.5	S11 35.2	24 58.3	S17 33.9
H										
U	6	355 42.8	246 05.5	N23 36.9	229 34.7	N20 38.0	21 12.9	S11 35.2	40 00.9	S17 33.9
R	7	10 45.3	261 04.6	N23 36.6	244 35.6	N20 37.7	36 15.4	S11 35.2	55 03.4	S17 34.0
S	8	25 47.8	276 03.8	N23 36.2	259 36.4	N20 37.3	51 17.8	S11 35.2	70 06.0	S17 34.0
D	9	40 50.2	291 03.0	N23 35.9	274 37.3	N20 36.9	66 20.2	S11 35.2	85 08.5	S17 34.0
A	10	55 52.7	306 02.1	N23 35.5	289 38.1	N20 36.5	81 22.7	S11 35.2	100 11.1	S17 34.1
Y	11	70 55.2	321 01.3	N23 35.2	304 39.0	N20 36.2	96 25.1	S11 35.2	115 13.7	S17 34.1
	12	85 57.6	336 00.5	N23 34.8	319 39.9	N20 35.8	111 27.5	S11 35.2	130 16.2	S17 34.1
	13	101 00.1	350 59.6	N23 34.4	334 40.7	N20 35.4	126 30.0	S11 35.2	145 18.8	S17 34.2
	14	116 02.6	5 58.8	N23 34.1	349 41.6	N20 35.0	141 32.4	S11 35.2	160 21.3	S17 34.2
	15	131 05.0	20 58.0	N23 33.7	4 42.5	N20 34.7	156 34.8	S11 35.2	175 23.9	S17 34.2
	16	146 07.5	35 57.1	N23 33.4	19 43.3	N20 34.3	171 37.3	S11 35.2	190 26.5	S17 34.3
	17	161 10.0	50 56.3	N23 33.0	34 44.2	N20 33.9	186 39.7	S11 35.2	205 29.0	S17 34.3
	18	176 12.4	65 55.5	N23 32.7	49 45.1	N20 33.6	201 42.2	S11 35.2	220 31.6	S17 34.3
	19	191 14.9	80 54.7	N23 32.3	64 45.9	N20 33.2	216 44.6	S11 35.2	235 34.1	S17 34.4
	20	206 17.3	95 53.8	N23 31.9	79 46.8	N20 32.8	231 47.0	S11 35.2	250 36.7	S17 34.4
	21	221 19.8	110 53.0	N23 31.6	94 47.7	N20 32.4	246 49.5	S11 35.2	265 39.3	S17 34.4
	22	236 22.3	125 52.2	N23 31.2	109 48.5	N20 32.1	261 51.9	S11 35.2	280 41.8	S17 34.5
	23	251 24.7	140 51.3	N23 30.8	124 49.4	N20 31.7	276 54.4	S11 35.2	295 44.4	S17 34.5
			v -0.8	d 0.3	v 0.9	d 0.4	v 2.4	d 0.0	v 2.6	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
	° '	° '	° '	'	° '	'	'		° ' ° '
15 0	179 53.3	N23 18.4	124 00.9	10.8	N20 44.4	8.4	56.0	Acamar	315 14.3 S40 13.1
1	194 53.2	N23 18.5	138 30.7	10.8	N20 35.9	8.5	56.0	Achernar	335 22.7 S57 07.5
2	209 53.0	N23 18.7	153 00.6	10.8	N20 27.3	8.6	56.1	Acrux	173 03.1 S63 13.2
3	224 52.9	N23 18.8	167 30.5	10.9	N20 18.6	8.7	56.1	Adhara	255 08.5 S29 00.1
4	239 52.8	N23 18.9	182 00.4	10.9	N20 09.8	8.8	56.1	Albireo	67 06.1 N28 00.2
T 5	254 52.6	N23 19.0	196 30.3	11.0	N20 00.9	8.9	56.1		
U								Aldebaran	290 43.3 N16 33.0
E 6	269 52.5	N23 19.1	211 00.3	11.0	N19 51.9	9.0	56.2	Alioth	166 15.4 N55 51.0
S 7	284 52.4	N23 19.2	225 30.4	11.0	N19 42.7	9.1	56.2	Alkaid	152 54.1 N49 12.7
D 8	299 52.2	N23 19.3	240 00.4	11.1	N19 33.5	9.2	56.2	Al Na-ir	27 36.4 S46 51.3
A 9	314 52.1	N23 19.4	254 30.5	11.1	N19 24.2	9.3	56.2	Alnilam	275 41.0 S 1 11.3
Y 10	329 52.0	N23 19.5	269 00.7	11.1	N19 14.7	9.4	56.3		
11	344 51.8	N23 19.6	283 30.8	11.2	N19 05.2	9.5	56.3	Alphard	217 50.8 S 8 45.1
								Alphecca	126 05.9 N26 38.7
12	359 51.7	N23 19.7	298 01.0	11.2	N18 55.6	9.6	56.3	Alpheratz	357 37.8 N29 12.3
13	14 51.6	N23 19.8	312 31.3	11.2	N18 45.8	9.7	56.3	Altair	62 02.5 N 8 55.4
14	29 51.4	N23 19.9	327 01.6	11.3	N18 36.0	9.8	56.4	Ankaa	353 10.1 S42 11.3
15	44 51.3	N23 19.9	341 31.9	11.3	N18 26.0	9.9	56.4		
16	59 51.2	N23 20.0	356 02.2	11.3	N18 16.0	10.0	56.4	Antares	112 19.1 S26 28.8
17	74 51.0	N23 20.1	10 32.6	11.4	N18 05.9	10.1	56.4	Arcturus	145 50.4 N19 04.4
								Atria	107 15.4 S69 04.0
18	89 50.9	N23 20.2	25 03.0	11.4	N17 55.6	10.2	56.5	Avior	234 16.4 S59 34.8
19	104 50.8	N23 20.3	39 33.5	11.5	N17 45.3	10.3	56.5	Bellatrix	278 26.4 N 6 22.1
20	119 50.6	N23 20.4	54 04.0	11.5	N17 34.9	10.4	56.5		
21	134 50.5	N23 20.5	68 34.5	11.5	N17 24.4	10.5	56.5	Betelgeuse	270 55.6 N 7 24.6
22	149 50.4	N23 20.6	83 05.0	11.6	N17 13.7	10.6	56.6	Canopus	263 54.2 S52 42.5
23	164 50.2	N23 20.7	97 35.6	11.6	N17 03.0	10.7	56.6	Capella	280 26.7 N46 01.1
16 0	179 50.1	N23 20.8	112 06.3	11.6	N16 52.2	10.8	56.6	Castor	246 01.1 N31 50.6
1	194 49.9	N23 20.9	126 36.9	11.7	N16 41.4	10.9	56.6	Deneb	49 27.4 N45 21.2
2	209 49.8	N23 21.0	141 07.6	11.7	N16 30.4	11.0	56.7		
3	224 49.7	N23 21.0	155 38.3	11.7	N16 19.3	11.1	56.7	Denebola	182 27.9 N14 27.3
4	239 49.5	N23 21.1	170 09.1	11.8	N16 08.1	11.2	56.7	Diphda	348 50.4 S17 52.1
W 5	254 49.4	N23 21.2	184 39.9	11.8	N15 56.9	11.2	56.8	Dubhe	193 44.8 N61 38.5
E								Elnath	278 06.0 N28 37.4
D 6	269 49.3	N23 21.3	199 10.7	11.8	N15 45.6	11.3	56.8	Eltanin	90 43.0 N51 29.1
N 7	284 49.1	N23 21.4	213 41.5	11.8	N15 34.1	11.4	56.8		
E 8	299 49.0	N23 21.5	228 12.4	11.9	N15 22.6	11.5	56.8	Enif	33 41.4 N 9 58.3
S 9	314 48.9	N23 21.5	242 43.3	11.9	N15 11.0	11.6	56.9	Fomalhaut	15 17.7 S29 30.5
D 10	329 48.7	N23 21.6	257 14.2	11.9	N14 59.4	11.7	56.9	Gacrux	171 54.7 S57 14.2
A 11	344 48.6	N23 21.7	271 45.2	12.0	N14 47.6	11.8	56.9	Gienah	175 46.5 S17 39.6
Y								Hadar	148 39.7 S60 28.7
12	359 48.5	N23 21.8	286 16.2	12.0	N14 35.8	11.8	57.0		
13	14 48.3	N23 21.9	300 47.2	12.0	N14 23.8	11.9	57.0	Hamal	327 54.7 N23 33.6
14	29 48.2	N23 21.9	315 18.2	12.0	N14 11.8	12.0	57.0	Kaus Austr.	83 36.0 S34 22.4
15	44 48.1	N23 22.0	329 49.3	12.1	N13 59.7	12.1	57.0	Kochab	137 19.1 N74 04.3
16	59 47.9	N23 22.1	344 20.4	12.1	N13 47.6	12.2	57.1	Markab	13 32.7 N15 19.0
17	74 47.8	N23 22.2	358 51.5	12.1	N13 35.3	12.2	57.1	Menkar	314 09.4 N 4 10.3
								Menkent	148 00.8 S36 28.6
18	89 47.7	N23 22.3	13 22.6	12.1	N13 23.0	12.3	57.1	Miaplacidus	221 39.3 S69 48.5
19	104 47.5	N23 22.3	27 53.8	12.2	N13 10.6	12.4	57.2	Mirfak	308 32.9 N49 56.0
20	119 47.4	N23 22.4	42 25.0	12.2	N12 58.2	12.5	57.2	Nunki	75 51.0 S26 16.1
21	134 47.2	N23 22.5	56 56.2	12.2	N12 45.6	12.5	57.2	Peacock	53 09.8 S56 39.8
22	149 47.1	N23 22.6	71 27.4	12.2	N12 33.0	12.6	57.2		
23	164 47.0	N23 22.6	85 58.7	12.2	N12 20.3	12.7	57.3	Polaris	317 36.0 N89 20.2
17 0	179 46.8	N23 22.7	100 29.9	12.3	N12 07.5	12.8	57.3	Pollux	243 21.2 N27 58.5
1	194 46.7	N23 22.8	115 01.2	12.3	N11 54.7	12.8	57.3	Procyon	244 54.2 N 5 10.2
2	209 46.6	N23 22.8	129 32.5	12.3	N11 41.8	12.9	57.4	Rasalhague	96 00.9 N12 32.7
3	224 46.4	N23 22.9	144 03.8	12.3	N11 28.8	13.0	57.4	Regulus	207 37.7 N11 51.9
4	239 46.3	N23 23.0	158 35.2	12.3	N11 15.8	13.0	57.4		
T 5	254 46.2	N23 23.0	173 06.5	12.4	N11 02.7	13.1	57.4	Rigel	281 07.0 S 8 10.7
H								Rigil Kent	139 43.9 S60 55.5
U 6	269 46.0	N23 23.1	187 37.9	12.4	N10 49.5	13.2	57.5	Sabik	102 05.8 S15 45.1
R 7	284 45.9	N23 23.2	202 09.3	12.4	N10 36.3	13.2	57.5	Schedar	349 34.4 N56 38.9
S 8	299 45.8	N23 23.2	216 40.7	12.4	N10 23.0	13.3	57.5	Shaula	96 13.9 S37 07.1
D 9	314 45.6	N23 23.3	231 12.1	12.4	N10 09.6	13.4	57.6	Sirius	258 29.2 S16 44.8
A 10	329 45.5	N23 23.4	245 43.5	12.4	N 9 56.2	13.4	57.6	Spica	158 25.2 S11 16.4
Y 11	344 45.3	N23 23.4	260 14.9	12.4	N 9 42.7	13.5	57.6	Suhail	222 48.7 S43 31.3
								Vega	80 34.8 N38 48.1
12	359 45.2	N23 23.5	274 46.4	12.4	N 9 29.1	13.6	57.7	Zuben-ubi	136 59.7 S16 07.8
13	14 45.1	N23 23.6	289 17.8	12.4	N 9 15.5	13.6	57.7		
14	29 44.9	N23 23.6	303 49.3	12.5	N 9 01.8	13.7	57.7		
15	44 44.8	N23 23.7	318 20.8	12.5	N 8 48.1	13.7	57.8		
16	59 44.7	N23 23.7	332 52.2	12.5	N 8 34.3	13.8	57.8		
17	74 44.5	N23 23.8	347 23.7	12.5	N 8 20.5	13.8	57.8		
18	89 44.4	N23 23.9	1 55.2	12.5	N 8 06.6	13.9	57.8		
19	104 44.3	N23 23.9	16 26.7	12.5	N 7 52.6	13.9	57.9		
20	119 44.1	N23 24.0	30 58.1	12.5	N 7 38.6	14.0	57.9		
21	134 44.0	N23 24.0	45 29.6	12.5	N 7 24.6	14.1	57.9		
22	149 43.9	N23 24.1	60 01.1	12.5	N 7 10.5	14.1	58.0		
23	164 43.7	N23 24.1	74 32.6	12.5	N 6 56.3	14.2	58.0		
	S.D. 15.7	d 0.1	S.D.	15.3	15.5	15.7			

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 27.2	155 50.5	N23 30.5	139 50.3	N20 31.3	291 56.8	S11 35.2	310 46.9	S17 34.5
	1	281 29.7	170 49.7	N23 30.1	154 51.1	N20 30.9	306 59.2	S11 35.2	325 49.5	S17 34.6
	2	296 32.1	185 48.8	N23 29.7	169 52.0	N20 30.5	322 01.7	S11 35.2	340 52.1	S17 34.6
	3	311 34.6	200 48.0	N23 29.4	184 52.9	N20 30.2	337 04.1	S11 35.2	355 54.6	S17 34.6
	4	326 37.1	215 47.2	N23 29.0	199 53.7	N20 29.8	352 06.6	S11 35.2	10 57.2	S17 34.7
F	5	341 39.5	230 46.4	N23 28.6	214 54.6	N20 29.4	7 09.0	S11 35.2	25 59.8	S17 34.7
R										
I	6	356 42.0	245 45.5	N23 28.2	229 55.5	N20 29.0	22 11.4	S11 35.2	41 02.3	S17 34.7
D	7	11 44.5	260 44.7	N23 27.9	244 56.3	N20 28.7	37 13.9	S11 35.2	56 04.9	S17 34.8
A	8	26 46.9	275 43.9	N23 27.5	259 57.2	N20 28.3	52 16.3	S11 35.2	71 07.4	S17 34.8
Y	9	41 49.4	290 43.1	N23 27.1	274 58.1	N20 27.9	67 18.8	S11 35.2	86 10.0	S17 34.8
	10	56 51.8	305 42.2	N23 26.7	289 58.9	N20 27.5	82 21.2	S11 35.3	101 12.6	S17 34.9
	11	71 54.3	320 41.4	N23 26.4	304 59.8	N20 27.2	97 23.6	S11 35.3	116 15.1	S17 34.9
	12	86 56.8	335 40.6	N23 26.0	320 00.7	N20 26.8	112 26.1	S11 35.3	131 17.7	S17 34.9
	13	101 59.2	350 39.8	N23 25.6	335 01.5	N20 26.4	127 28.5	S11 35.3	146 20.3	S17 35.0
	14	117 01.7	5 38.9	N23 25.2	350 02.4	N20 26.0	142 31.0	S11 35.3	161 22.8	S17 35.0
	15	132 04.2	20 38.1	N23 24.8	5 03.3	N20 25.6	157 33.4	S11 35.3	176 25.4	S17 35.0
	16	147 06.6	35 37.3	N23 24.4	20 04.1	N20 25.3	172 35.9	S11 35.3	191 28.0	S17 35.1
	17	162 09.1	50 36.5	N23 24.1	35 05.0	N20 24.9	187 38.3	S11 35.3	206 30.5	S17 35.1
	18	177 11.6	65 35.6	N23 23.7	50 05.9	N20 24.5	202 40.8	S11 35.3	221 33.1	S17 35.1
	19	192 14.0	80 34.8	N23 23.3	65 06.7	N20 24.1	217 43.2	S11 35.3	236 35.6	S17 35.2
	20	207 16.5	95 34.0	N23 22.9	80 07.6	N20 23.7	232 45.7	S11 35.3	251 38.2	S17 35.2
	21	222 18.9	110 33.2	N23 22.5	95 08.5	N20 23.4	247 48.1	S11 35.3	266 40.8	S17 35.2
	22	237 21.4	125 32.4	N23 22.1	110 09.4	N20 23.0	262 50.5	S11 35.3	281 43.3	S17 35.3
	23	252 23.9	140 31.5	N23 21.7	125 10.2	N20 22.6	277 53.0	S11 35.3	296 45.9	S17 35.3
19	0	267 26.3	155 30.7	N23 21.3	140 11.1	N20 22.2	292 55.4	S11 35.3	311 48.5	S17 35.3
	1	282 28.8	170 29.9	N23 20.9	155 12.0	N20 21.8	307 57.9	S11 35.3	326 51.0	S17 35.4
	2	297 31.3	185 29.1	N23 20.5	170 12.8	N20 21.4	323 00.3	S11 35.3	341 53.6	S17 35.4
	3	312 33.7	200 28.3	N23 20.1	185 13.7	N20 21.1	338 02.8	S11 35.3	356 56.2	S17 35.4
	4	327 36.2	215 27.4	N23 19.7	200 14.6	N20 20.7	353 05.2	S11 35.4	11 58.7	S17 35.5
S	5	342 38.7	230 26.6	N23 19.3	215 15.4	N20 20.3	8 07.7	S11 35.4	27 01.3	S17 35.5
A										
T	6	357 41.1	245 25.8	N23 18.9	230 16.3	N20 19.9	23 10.1	S11 35.4	42 03.9	S17 35.5
U	7	12 43.6	260 25.0	N23 18.5	245 17.2	N20 19.5	38 12.6	S11 35.4	57 06.4	S17 35.6
R	8	27 46.1	275 24.2	N23 18.1	260 18.0	N20 19.2	53 15.0	S11 35.4	72 09.0	S17 35.6
D	9	42 48.5	290 23.3	N23 17.7	275 18.9	N20 18.8	68 17.5	S11 35.4	87 11.6	S17 35.7
A	10	57 51.0	305 22.5	N23 17.3	290 19.8	N20 18.4	83 19.9	S11 35.4	102 14.1	S17 35.7
Y	11	72 53.4	320 21.7	N23 16.9	305 20.7	N20 18.0	98 22.4	S11 35.4	117 16.7	S17 35.7
	12	87 55.9	335 20.9	N23 16.5	320 21.5	N20 17.6	113 24.8	S11 35.4	132 19.3	S17 35.8
	13	102 58.4	350 20.1	N23 16.1	335 22.4	N20 17.2	128 27.3	S11 35.4	147 21.8	S17 35.8
	14	118 00.8	5 19.3	N23 15.7	350 23.3	N20 16.8	143 29.7	S11 35.4	162 24.4	S17 35.8
	15	133 03.3	20 18.5	N23 15.2	5 24.1	N20 16.5	158 32.2	S11 35.4	177 27.0	S17 35.9
	16	148 05.8	35 17.6	N23 14.8	20 25.0	N20 16.1	173 34.6	S11 35.4	192 29.5	S17 35.9
	17	163 08.2	50 16.8	N23 14.4	35 25.9	N20 15.7	188 37.1	S11 35.4	207 32.1	S17 35.9
	18	178 10.7	65 16.0	N23 14.0	50 26.8	N20 15.3	203 39.5	S11 35.5	222 34.7	S17 36.0
	19	193 13.2	80 15.2	N23 13.6	65 27.6	N20 14.9	218 42.0	S11 35.5	237 37.2	S17 36.0
	20	208 15.6	95 14.4	N23 13.2	80 28.5	N20 14.5	233 44.5	S11 35.5	252 39.8	S17 36.0
	21	223 18.1	110 13.6	N23 12.7	95 29.4	N20 14.1	248 46.9	S11 35.5	267 42.4	S17 36.1
	22	238 20.6	125 12.8	N23 12.3	110 30.2	N20 13.8	263 49.4	S11 35.5	282 44.9	S17 36.1
	23	253 23.0	140 11.9	N23 11.9	125 31.1	N20 13.4	278 51.8	S11 35.5	297 47.5	S17 36.1
20	0	268 25.5	155 11.1	N23 11.5	140 32.0	N20 13.0	293 54.3	S11 35.5	312 50.1	S17 36.2
	1	283 27.9	170 10.3	N23 11.1	155 32.9	N20 12.6	308 56.7	S11 35.5	327 52.6	S17 36.2
	2	298 30.4	185 09.5	N23 10.6	170 33.7	N20 12.2	323 59.2	S11 35.5	342 55.2	S17 36.2
	3	313 32.9	200 08.7	N23 10.2	185 34.6	N20 11.8	339 01.6	S11 35.5	357 57.8	S17 36.3
	4	328 35.3	215 07.9	N23 09.8	200 35.5	N20 11.4	354 04.1	S11 35.5	13 00.3	S17 36.3
S	5	343 37.8	230 07.1	N23 09.4	215 36.3	N20 11.1	9 06.5	S11 35.6	28 02.9	S17 36.4
U										
N	6	358 40.3	245 06.3	N23 08.9	230 37.2	N20 10.7	24 09.0	S11 35.6	43 05.5	S17 36.4
D	7	13 42.7	260 05.5	N23 08.5	245 38.1	N20 10.3	39 11.5	S11 35.6	58 08.1	S17 36.4
A	8	28 45.2	275 04.7	N23 08.1	260 39.0	N20 09.9	54 13.9	S11 35.6	73 10.6	S17 36.5
Y	9	43 47.7	290 03.9	N23 07.6	275 39.8	N20 09.5	69 16.4	S11 35.6	88 13.2	S17 36.5
	10	58 50.1	305 03.1	N23 07.2	290 40.7	N20 09.1	84 18.8	S11 35.6	103 15.8	S17 36.5
	11	73 52.6	320 02.2	N23 06.8	305 41.6	N20 08.7	99 21.3	S11 35.6	118 18.3	S17 36.6
	12	88 55.0	335 01.4	N23 06.3	320 42.5	N20 08.3	114 23.8	S11 35.6	133 20.9	S17 36.6
	13	103 57.5	350 00.6	N23 05.9	335 43.3	N20 07.9	129 26.2	S11 35.6	148 23.5	S17 36.6
	14	118 60.0	4 59.8	N23 05.4	350 44.2	N20 07.5	144 28.7	S11 35.6	163 26.0	S17 36.7
	15	134 02.4	19 59.0	N23 05.0	5 45.1	N20 07.2	159 31.1	S11 35.7	178 28.6	S17 36.7
	16	149 04.9	34 58.2	N23 04.6	20 45.9	N20 06.8	174 33.6	S11 35.7	193 31.2	S17 36.7
	17	164 07.4	49 57.4	N23 04.1	35 46.8	N20 06.4	189 36.1	S11 35.7	208 33.8	S17 36.8
	18	179 09.8	64 56.6	N23 03.7	50 47.7	N20 06.0	204 38.5	S11 35.7	223 36.3	S17 36.8
	19	194 12.3	79 55.8	N23 03.2	65 48.6	N20 05.6	219 41.0	S11 35.7	238 38.9	S17 36.9
	20	209 14.8	94 55.0	N23 02.8	80 49.4	N20 05.2	234 43.4	S11 35.7	253 41.5	S17 36.9
	21	224 17.2	109 54.2	N23 02.3	95 50.3	N20 04.8	249 45.9	S11 35.7	268 44.0	S17 36.9
	22	239 19.7	124 53.4	N23 01.9	110 51.2	N20 04.4	264 48.4	S11 35.7	283 46.6	S17 37.0
	23	254 22.2	139 52.6	N23 01.4	125 52.1	N20 04.0	279 50.8	S11 35.7	298 49.2	S17 37.0
			v -0.8	d 0.4	v 0.9	d 0.4	v 2.5	d 0.0	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	179 43.6	N23 24.2	89 04.1	12.5	N 6 42.1	14.2	58.0
	1	194 43.4	N23 24.3	103 35.5	12.5	N 6 27.9	14.3	58.1
	2	209 43.3	N23 24.3	118 07.0	12.5	N 6 13.6	14.3	58.1
	3	224 43.2	N23 24.4	132 38.5	12.5	N 5 59.2	14.3	58.1
	4	239 43.0	N23 24.4	147 09.9	12.5	N 5 44.9	14.4	58.2
F	5	254 42.9	N23 24.5	161 41.4	12.5	N 5 30.4	14.4	58.2
R								
I	6	269 42.8	N23 24.5	176 12.9	12.4	N 5 16.0	14.5	58.2
D	7	284 42.6	N23 24.6	190 44.3	12.4	N 5 01.4	14.5	58.3
A	8	299 42.5	N23 24.6	205 15.7	12.4	N 4 46.9	14.6	58.3
Y	9	314 42.4	N23 24.7	219 47.1	12.4	N 4 32.3	14.6	58.3
	10	329 42.2	N23 24.7	234 18.5	12.4	N 4 17.7	14.6	58.3
	11	344 42.1	N23 24.8	248 49.9	12.4	N 4 03.0	14.7	58.4
	12	359 42.0	N23 24.8	263 21.3	12.4	N 3 48.3	14.7	58.4
	13	14 41.8	N23 24.8	277 52.6	12.4	N 3 33.5	14.7	58.4
	14	29 41.7	N23 24.9	292 24.0	12.3	N 3 18.8	14.8	58.5
	15	44 41.5	N23 24.9	306 55.3	12.3	N 3 04.0	14.8	58.5
	16	59 41.4	N23 25.0	321 26.6	12.3	N 2 49.1	14.8	58.5
	17	74 41.3	N23 25.0	335 57.9	12.3	N 2 34.3	14.9	58.6
	18	89 41.1	N23 25.1	350 29.1	12.3	N 2 19.4	14.9	58.6
	19	104 41.0	N23 25.1	5 00.4	12.2	N 2 04.4	14.9	58.6
	20	119 40.9	N23 25.1	19 31.6	12.2	N 1 49.5	14.9	58.7
	21	134 40.7	N23 25.2	34 02.8	12.2	N 1 34.5	15.0	58.7
	22	149 40.6	N23 25.2	48 33.9	12.2	N 1 19.5	15.0	58.7
	23	164 40.5	N23 25.3	63 05.0	12.1	N 1 04.5	15.0	58.8
19	0	179 40.3	N23 25.3	77 36.1	12.1	N 0 49.5	15.0	58.8
	1	194 40.2	N23 25.3	92 07.2	12.1	N 0 34.4	15.1	58.8
	2	209 40.1	N23 25.4	106 38.3	12.0	N 0 19.3	15.1	58.9
	3	224 39.9	N23 25.4	121 09.3	12.0	N 0 04.2	15.1	58.9
	4	239 39.8	N23 25.4	135 40.2	12.0	S 0 10.9	15.1	58.9
S	5	254 39.6	N23 25.5	150 11.2	11.9	S 0 26.0	15.1	58.9
A								
T	6	269 39.5	N23 25.5	164 42.1	11.9	S 0 41.2	15.1	59.0
U	7	284 39.4	N23 25.5	179 12.9	11.9	S 0 56.4	15.2	59.0
R	8	299 39.2	N23 25.6	193 43.7	11.8	S 1 11.5	15.2	59.0
D	9	314 39.1	N23 25.6	208 14.5	11.8	S 1 26.7	15.2	59.1
A	10	329 39.0	N23 25.6	222 45.3	11.7	S 1 41.9	15.2	59.1
Y	11	344 38.8	N23 25.7	237 16.0	11.7	S 1 57.1	15.2	59.1
	12	359 38.7	N23 25.7	251 46.6	11.7	S 2 12.3	15.2	59.2
	13	14 38.6	N23 25.7	266 17.2	11.6	S 2 27.5	15.2	59.2
	14	29 38.4	N23 25.7	280 47.8	11.6	S 2 42.7	15.2	59.2
	15	44 38.3	N23 25.8	295 18.3	11.5	S 2 58.0	15.2	59.3
	16	59 38.1	N23 25.8	309 48.8	11.5	S 3 13.2	15.2	59.3
	17	74 38.0	N23 25.8	324 19.2	11.4	S 3 28.4	15.2	59.3
	18	89 37.9	N23 25.8	338 49.6	11.4	S 3 43.6	15.2	59.3
	19	104 37.7	N23 25.9	353 19.9	11.3	S 3 58.8	15.2	59.4
	20	119 37.6	N23 25.9	7 50.1	11.3	S 4 14.0	15.2	59.4
	21	134 37.5	N23 25.9	22 20.3	11.2	S 4 29.2	15.2	59.4
	22	149 37.3	N23 25.9	36 50.5	11.1	S 4 44.4	15.2	59.5
	23	164 37.2	N23 26.0	51 20.6	11.1	S 4 59.6	15.2	59.5
20	0	179 37.1	N23 26.0	65 50.6	11.0	S 5 14.8	15.2	59.5
	1	194 36.9	N23 26.0	80 20.6	11.0	S 5 29.9	15.2	59.5
	2	209 36.8	N23 26.0	94 50.5	10.9	S 5 45.1	15.1	59.6
	3	224 36.7	N23 26.0	109 20.3	10.8	S 6 00.2	15.1	59.6
	4	239 36.5	N23 26.0	123 50.1	10.8	S 6 15.3	15.1	59.6
S	5	254 36.4	N23 26.1	138 19.9	10.7	S 6 30.4	15.1	59.7
U								
N	6	269 36.2	N23 26.1	152 49.5	10.7	S 6 45.5	15.1	59.7
D	7	284 36.1	N23 26.1	167 19.1	10.6	S 7 00.6	15.1	59.7
A	8	299 36.0	N23 26.1	181 48.6	10.5	S 7 15.6	15.0	59.7
Y	9	314 35.8	N23 26.1	196 18.1	10.5	S 7 30.6	15.0	59.8
	10	329 35.7	N23 26.1	210 47.5	10.4	S 7 45.6	15.0	59.8
	11	344 35.6	N23 26.1	225 16.8	10.3	S 8 00.5	15.0	59.8
	12	359 35.4	N23 26.2	239 46.0	10.2	S 8 15.5	14.9	59.9
	13	14 35.3	N23 26.2	254 15.2	10.2	S 8 30.3	14.9	59.9
	14	29 35.2	N23 26.2	268 44.3	10.1	S 8 45.2	14.9	59.9
	15	44 35.0	N23 26.2	283 13.3	10.0	S 9 00.0	14.8	59.9
	16	59 34.9	N23 26.2	297 42.2	9.9	S 9 14.8	14.8	60.0
	17	74 34.8	N23 26.2	312 11.1	9.9	S 9 29.6	14.7	60.0
	18	89 34.6	N23 26.2	326 39.8	9.8	S 9 44.3	14.7	60.0
	19	104 34.5	N23 26.2	341 08.5	9.7	S 9 58.9	14.7	60.0
	20	119 34.3	N23 26.2	355 37.2	9.6	S10 13.5	14.6	60.1
	21	134 34.2	N23 26.2	10 05.7	9.5	S10 28.1	14.6	60.1
	22	149 34.1	N23 26.2	24 34.1	9.5	S10 42.6	14.5	60.1
	23	164 33.9	N23 26.2	39 02.5	9.4	S10 57.1	14.5	60.1
		S.D. 15.7	d 0.0	S.D.	15.9	16.1	16.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.3	S40 13.1
Achernar	335 22.7	S57 07.5
Acrux	173 03.2	S63 13.2
Adhara	255 08.5	S29 00.1
Albireo	67 06.0	N28 00.2
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.4	N55 51.0
Alkaid	152 54.1	N49 12.7
Al Na-ir	27 36.4	S46 51.3
Alnilam	275 41.0	S 1 11.3
Alphard	217 50.8	S 8 45.1
Alphecca	126 05.9	N26 38.7
Alpheratz	357 37.8	N29 12.3
Altair	62 02.5	N 8 55.4
Ankaa	353 10.1	S42 11.3
Antares	112 19.1	S26 28.8
Arcturus	145 50.4	N19 04.4
Atria	107 15.4	S69 04.0
Avior	234 16.4	S59 34.8
Bellatrix	278 26.3	N 6 22.1
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.2	S52 42.5
Capella	280 26.7	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.4	N45 21.2
Denebola	182 27.9	N14 27.3
Diphda	348 50.3	S17 52.1
Dubhe	193 44.8	N61 38.5
Elnath	278 06.0	N28 37.4
Eltanin	90 43.0	N51 29.1
Enif	33 41.4	N 9 58.3
Fomalhaut	15 17.6	S29 30.5
Gacrux	171 54.7	S57 14.2
Gienah	175 46.5	S17 39.6
Hadar	148 39.8	S60 28.7
Hamal	327 54.7	N23 33.6
Kaus Austr.	83 36.0	S34 22.4
Kochab	137 19.1	N74 04.3
Markab	13 32.7	N15 19.0
Menkar	314 09.4	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.3	S69 48.5
Mirfak	308 32.8	N49 56.0
Nunki	75 51.0	S26 16.1
Peacock	53 09.8	S56 39.8
Polaris	317 35.0	N89 20.1
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 00.9	N12 32.7
Regulus	207 37.7	N11 51.9
Rigel	281 07.0	S 8 10.7
Rigil Kent	139 43.9	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.4	N56 38.9
Shaula	96 13.9	S37 07.1
Sirius	258 29.2	S16 44.8
Spica	158 25.2	S11 16.4
Suhail	222 48.7	S43 31.3
Vega	80 34.8	N38 48.2
Zuben-ubi	136 59.8	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
21	0	269 24.6	154 51.8	N23 01.0	140 52.9	N20 03.6	294 53.3	S11 35.8	313 51.8	S17 37.0
	1	284 27.1	169 51.0	N23 00.5	155 53.8	N20 03.2	309 55.7	S11 35.8	328 54.3	S17 37.1
	2	299 29.5	184 50.2	N23 00.1	170 54.7	N20 02.8	324 58.2	S11 35.8	343 56.9	S17 37.1
	3	314 32.0	199 49.4	N22 59.6	185 55.6	N20 02.5	340 00.7	S11 35.8	358 59.5	S17 37.1
	4	329 34.5	214 48.6	N22 59.2	200 56.4	N20 02.1	355 03.1	S11 35.8	14 02.0	S17 37.2
M	5	344 36.9	229 47.8	N22 58.7	215 57.3	N20 01.7	10 05.6	S11 35.8	29 04.6	S17 37.2
O										
N	6	359 39.4	244 47.0	N22 58.3	230 58.2	N20 01.3	25 08.1	S11 35.8	44 07.2	S17 37.3
D	7	14 41.9	259 46.2	N22 57.8	245 59.1	N20 00.9	40 10.5	S11 35.8	59 09.8	S17 37.3
A	8	29 44.3	274 45.4	N22 57.3	260 59.9	N20 00.5	55 13.0	S11 35.9	74 12.3	S17 37.3
Y	9	44 46.8	289 44.6	N22 56.9	276 00.8	N20 00.1	70 15.5	S11 35.9	89 14.9	S17 37.4
	10	59 49.3	304 43.8	N22 56.4	291 01.7	N19 59.7	85 17.9	S11 35.9	104 17.5	S17 37.4
	11	74 51.7	319 43.0	N22 56.0	306 02.6	N19 59.3	100 20.4	S11 35.9	119 20.1	S17 37.4
	12	89 54.2	334 42.2	N22 55.5	321 03.4	N19 58.9	115 22.9	S11 35.9	134 22.6	S17 37.5
	13	104 56.7	349 41.4	N22 55.0	336 04.3	N19 58.5	130 25.3	S11 35.9	149 25.2	S17 37.5
	14	119 59.1	4 40.6	N22 54.6	351 05.2	N19 58.1	145 27.8	S11 35.9	164 27.8	S17 37.5
	15	135 01.6	19 39.8	N22 54.1	6 06.1	N19 57.7	160 30.3	S11 35.9	179 30.3	S17 37.6
	16	150 04.0	34 39.0	N22 53.6	21 06.9	N19 57.3	175 32.7	S11 36.0	194 32.9	S17 37.6
	17	165 06.5	49 38.2	N22 53.1	36 07.8	N19 56.9	190 35.2	S11 36.0	209 35.5	S17 37.7
	18	180 09.0	64 37.5	N22 52.7	51 08.7	N19 56.5	205 37.7	S11 36.0	224 38.1	S17 37.7
	19	195 11.4	79 36.7	N22 52.2	66 09.6	N19 56.1	220 40.1	S11 36.0	239 40.6	S17 37.7
	20	210 13.9	94 35.9	N22 51.7	81 10.4	N19 55.7	235 42.6	S11 36.0	254 43.2	S17 37.8
	21	225 16.4	109 35.1	N22 51.3	96 11.3	N19 55.3	250 45.1	S11 36.0	269 45.8	S17 37.8
	22	240 18.8	124 34.3	N22 50.8	111 12.2	N19 54.9	265 47.5	S11 36.0	284 48.4	S17 37.8
	23	255 21.3	139 33.5	N22 50.3	126 13.1	N19 54.5	280 50.0	S11 36.1	299 50.9	S17 37.9
22	0	270 23.8	154 32.7	N22 49.8	141 14.0	N19 54.1	295 52.5	S11 36.1	314 53.5	S17 37.9
	1	285 26.2	169 31.9	N22 49.3	156 14.8	N19 53.7	310 54.9	S11 36.1	329 56.1	S17 38.0
	2	300 28.7	184 31.1	N22 48.9	171 15.7	N19 53.3	325 57.4	S11 36.1	344 58.7	S17 38.0
	3	315 31.2	199 30.3	N22 48.4	186 16.6	N19 52.9	340 59.9	S11 36.1	0 01.2	S17 38.0
	4	330 33.6	214 29.5	N22 47.9	201 17.5	N19 52.5	356 02.4	S11 36.1	15 03.8	S17 38.1
T	5	345 36.1	229 28.8	N22 47.4	216 18.3	N19 52.1	11 04.8	S11 36.2	30 06.4	S17 38.1
U										
E	6	0 38.5	244 28.0	N22 46.9	231 19.2	N19 51.7	26 07.3	S11 36.2	45 09.0	S17 38.1
S	7	15 41.0	259 27.2	N22 46.4	246 20.1	N19 51.4	41 09.8	S11 36.2	60 11.5	S17 38.2
D	8	30 43.5	274 26.4	N22 46.0	261 21.0	N19 51.0	56 12.2	S11 36.2	75 14.1	S17 38.2
A	9	45 45.9	289 25.6	N22 45.5	276 21.9	N19 50.6	71 14.7	S11 36.2	90 16.7	S17 38.3
Y	10	60 48.4	304 24.8	N22 45.0	291 22.7	N19 50.2	86 17.2	S11 36.2	105 19.3	S17 38.3
	11	75 50.9	319 24.0	N22 44.5	306 23.6	N19 49.7	101 19.7	S11 36.2	120 21.9	S17 38.3
	12	90 53.3	334 23.2	N22 44.0	321 24.5	N19 49.3	116 22.1	S11 36.3	135 24.4	S17 38.4
	13	105 55.8	349 22.5	N22 43.5	336 25.4	N19 48.9	131 24.6	S11 36.3	150 27.0	S17 38.4
	14	120 58.3	4 21.7	N22 43.0	351 26.2	N19 48.5	146 27.1	S11 36.3	165 29.6	S17 38.4
	15	136 00.7	19 20.9	N22 42.5	6 27.1	N19 48.1	161 29.6	S11 36.3	180 32.2	S17 38.5
	16	151 03.2	34 20.1	N22 42.0	21 28.0	N19 47.7	176 32.0	S11 36.3	195 34.7	S17 38.5
	17	166 05.6	49 19.3	N22 41.5	36 28.9	N19 47.3	191 34.5	S11 36.3	210 37.3	S17 38.6
	18	181 08.1	64 18.5	N22 41.0	51 29.8	N19 46.9	206 37.0	S11 36.4	225 39.9	S17 38.6
	19	196 10.6	79 17.8	N22 40.5	66 30.6	N19 46.5	221 39.5	S11 36.4	240 42.5	S17 38.6
	20	211 13.0	94 17.0	N22 40.0	81 31.5	N19 46.1	236 41.9	S11 36.4	255 45.0	S17 38.7
	21	226 15.5	109 16.2	N22 39.5	96 32.4	N19 45.7	251 44.4	S11 36.4	270 47.6	S17 38.7
	22	241 18.0	124 15.4	N22 39.0	111 33.3	N19 45.3	266 46.9	S11 36.4	285 50.2	S17 38.7
	23	256 20.4	139 14.6	N22 38.5	126 34.2	N19 44.9	281 49.4	S11 36.4	300 52.8	S17 38.8
23	0	271 22.9	154 13.9	N22 38.0	141 35.0	N19 44.5	296 51.9	S11 36.5	315 55.4	S17 38.8
	1	286 25.4	169 13.1	N22 37.5	156 35.9	N19 44.1	311 54.3	S11 36.5	330 57.9	S17 38.9
	2	301 27.8	184 12.3	N22 37.0	171 36.8	N19 43.7	326 56.8	S11 36.5	346 00.5	S17 38.9
	3	316 30.3	199 11.5	N22 36.5	186 37.7	N19 43.3	341 59.3	S11 36.5	1 03.1	S17 38.9
	4	331 32.8	214 10.7	N22 36.0	201 38.6	N19 42.9	357 01.8	S11 36.5	16 05.7	S17 39.0
W	5	346 35.2	229 10.0	N22 35.5	216 39.4	N19 42.5	12 04.2	S11 36.6	31 08.3	S17 39.0
E										
D	6	1 37.7	244 09.2	N22 35.0	231 40.3	N19 42.1	27 06.7	S11 36.6	46 10.8	S17 39.0
N	7	16 40.1	259 08.4	N22 34.5	246 41.2	N19 41.7	42 09.2	S11 36.6	61 13.4	S17 39.1
E	8	31 42.6	274 07.6	N22 33.9	261 42.1	N19 41.3	57 11.7	S11 36.6	76 16.0	S17 39.1
S	9	46 45.1	289 06.9	N22 33.4	276 43.0	N19 40.9	72 14.2	S11 36.6	91 18.6	S17 39.2
D	10	61 47.5	304 06.1	N22 32.9	291 43.8	N19 40.5	87 16.7	S11 36.6	106 21.2	S17 39.2
A	11	76 50.0	319 05.3	N22 32.4	306 44.7	N19 40.1	102 19.1	S11 36.7	121 23.7	S17 39.2
Y										
	12	91 52.5	334 04.5	N22 31.9	321 45.6	N19 39.7	117 21.6	S11 36.7	136 26.3	S17 39.3
	13	106 54.9	349 03.8	N22 31.4	336 46.5	N19 39.3	132 24.1	S11 36.7	151 28.9	S17 39.3
	14	121 57.4	4 03.0	N22 30.8	351 47.4	N19 38.9	147 26.6	S11 36.7	166 31.5	S17 39.4
	15	136 59.9	19 02.2	N22 30.3	6 48.2	N19 38.4	162 29.1	S11 36.7	181 34.1	S17 39.4
	16	152 02.3	34 01.4	N22 29.8	21 49.1	N19 38.0	177 31.5	S11 36.8	196 36.6	S17 39.4
	17	167 04.8	49 00.7	N22 29.3	36 50.0	N19 37.6	192 34.0	S11 36.8	211 39.2	S17 39.5
	18	182 07.3	63 59.9	N22 28.7	51 50.9	N19 37.2	207 36.5	S11 36.8	226 41.8	S17 39.5
	19	197 09.7	78 59.1	N22 28.2	66 51.8	N19 36.8	222 39.0	S11 36.8	241 44.4	S17 39.5
	20	212 12.2	93 58.3	N22 27.7	81 52.7	N19 36.4	237 41.5	S11 36.8	256 47.0	S17 39.6
	21	227 14.6	108 57.6	N22 27.2	96 53.5	N19 36.0	252 44.0	S11 36.9	271 49.5	S17 39.6
	22	242 17.1	123 56.8	N22 26.6	111 54.4	N19 35.6	267 46.4	S11 36.9	286 52.1	S17 39.7
	23	257 19.6	138 56.0	N22 26.1	126 55.3	N19 35.2	282 48.9	S11 36.9	301 54.7	S17 39.7
			v -0.8	d 0.5	v 0.9	d 0.4	v 2.5	d 0.0	v 2.6	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
21 0	179 33.8	N23 26.2	53 30.8	9.3	S11 11.6	14.4	60.2	Acamar	315 14.3	S40 13.1
1	194 33.7	N23 26.2	67 59.0	9.2	S11 25.9	14.4	60.2	Achernar	335 22.7	S57 07.5
2	209 33.5	N23 26.2	82 27.1	9.1	S11 40.3	14.3	60.2	Acrux	173 03.2	S63 13.2
3	224 33.4	N23 26.2	96 55.1	9.0	S11 54.5	14.3	60.2	Adhara	255 08.5	S29 00.1
4	239 33.3	N23 26.2	111 23.0	8.9	S12 08.7	14.2	60.3	Albireo	67 06.0	N28 00.2
M 5	254 33.1	N23 26.2	125 50.9	8.8	S12 22.9	14.1	60.3			
O								Aldebaran	290 43.3	N16 33.0
N 6	269 33.0	N23 26.2	140 18.6	8.7	S12 37.0	14.1	60.3	Alioth	166 15.4	N55 51.0
D 7	284 32.9	N23 26.2	154 46.3	8.7	S12 51.0	14.0	60.3	Alkaid	152 54.1	N49 12.7
A 8	299 32.7	N23 26.2	169 13.9	8.6	S13 04.9	14.0	60.3	Al Na-ir	27 36.3	S46 51.3
Y 9	314 32.6	N23 26.2	183 41.3	8.5	S13 18.8	13.9	60.4	Alnilam	275 41.0	S 1 11.3
10	329 32.5	N23 26.2	198 08.7	8.4	S13 32.7	13.8	60.4			
11	344 32.3	N23 26.2	212 36.0	8.3	S13 46.4	13.7	60.4	Alphard	217 50.8	S 8 45.1
								Alphecca	126 05.9	N26 38.7
12	359 32.2	N23 26.2	227 03.2	8.2	S14 00.1	13.7	60.4	Alpheratz	357 37.8	N29 12.3
13	14 32.1	N23 26.2	241 30.3	8.1	S14 13.7	13.6	60.4	Altair	62 02.5	N 8 55.5
14	29 31.9	N23 26.2	255 57.3	8.0	S14 27.2	13.5	60.5	Ankaa	353 10.1	S42 11.3
15	44 31.8	N23 26.2	270 24.2	7.9	S14 40.6	13.4	60.5			
16	59 31.6	N23 26.2	284 51.0	7.8	S14 54.0	13.4	60.5	Antares	112 19.1	S26 28.8
17	74 31.5	N23 26.2	299 17.7	7.7	S15 07.3	13.3	60.5	Arcturus	145 50.4	N19 04.4
								Atria	107 15.4	S69 04.0
18	89 31.4	N23 26.2	313 44.3	7.6	S15 20.5	13.2	60.5	Avior	234 16.4	S59 34.8
19	104 31.2	N23 26.2	328 10.8	7.5	S15 33.6	13.1	60.6	Bellatrix	278 26.3	N 6 22.1
20	119 31.1	N23 26.1	342 37.2	7.4	S15 46.6	13.0	60.6			
21	134 31.0	N23 26.1	357 03.5	7.3	S15 59.5	12.9	60.6	Betelgeuse	270 55.6	N 7 24.6
22	149 30.8	N23 26.1	11 29.7	7.2	S16 12.4	12.8	60.6	Canopus	263 54.2	S52 42.4
23	164 30.7	N23 26.1	25 55.8	7.1	S16 25.1	12.7	60.6	Capella	280 26.7	N46 01.1
22 0	179 30.6	N23 26.1	40 21.8	7.0	S16 37.7	12.6	60.6	Castor	246 01.1	N31 50.6
1	194 30.4	N23 26.1	54 47.7	6.9	S16 50.3	12.5	60.7	Deneb	49 27.4	N45 21.2
2	209 30.3	N23 26.1	69 13.5	6.8	S17 02.7	12.4	60.7			
3	224 30.2	N23 26.0	83 39.2	6.7	S17 15.1	12.3	60.7	Denebola	182 27.9	N14 27.3
4	239 30.0	N23 26.0	98 04.8	6.6	S17 27.3	12.2	60.7	Diphda	348 50.3	S17 52.1
T 5	254 29.9	N23 26.0	112 30.3	6.5	S17 39.4	12.1	60.7	Dubhe	193 44.8	N61 38.5
U								Elnath	278 06.0	N28 37.4
E 6	269 29.8	N23 26.0	126 55.7	6.4	S17 51.4	12.0	60.7	Eltanin	90 43.0	N51 29.1
S 7	284 29.6	N23 26.0	141 21.0	6.3	S18 03.3	11.9	60.7	Enif	33 41.4	N 9 58.3
D 8	299 29.5	N23 25.9	155 46.2	6.2	S18 15.1	11.8	60.8	Fomalhaut	15 17.6	S29 30.4
A 9	314 29.4	N23 25.9	170 11.3	6.1	S18 26.8	11.7	60.8	Gacrux	171 54.7	S57 14.2
Y 10	329 29.2	N23 25.9	184 36.3	6.0	S18 38.4	11.6	60.8	Gienah	175 46.5	S17 39.6
11	344 29.1	N23 25.9	199 01.2	5.9	S18 49.8	11.4	60.8	Hadar	148 39.8	S60 28.7
12	359 29.0	N23 25.9	213 25.9	5.8	S19 01.1	11.3	60.8	Hamal	327 54.7	N23 33.7
13	14 28.8	N23 25.8	227 50.6	5.7	S19 12.3	11.2	60.8	Kaus Austr.	83 36.0	S34 22.4
14	29 28.7	N23 25.8	242 15.2	5.6	S19 23.4	11.1	60.8	Kochab	137 19.2	N74 04.4
15	44 28.5	N23 25.8	256 39.7	5.5	S19 34.3	10.9	60.8	Markab	13 32.7	N15 19.0
16	59 28.4	N23 25.8	271 04.1	5.4	S19 45.2	10.8	60.8	Menkar	314 09.4	N 4 10.3
17	74 28.3	N23 25.7	285 28.4	5.3	S19 55.8	10.7	60.8			
								Menkent	148 00.8	S36 28.6
18	89 28.1	N23 25.7	299 52.6	5.2	S20 06.4	10.6	60.9	Miaplacidus	221 39.3	S69 48.5
19	104 28.0	N23 25.7	314 16.7	5.1	S20 16.8	10.4	60.9	Mirfak	308 32.8	N49 56.0
20	119 27.9	N23 25.7	328 40.6	5.0	S20 27.1	10.3	60.9	Nunki	75 51.0	S26 16.1
21	134 27.7	N23 25.6	343 04.5	4.9	S20 37.2	10.1	60.9	Peacock	53 09.8	S56 39.8
22	149 27.6	N23 25.6	357 28.3	4.8	S20 47.2	10.0	60.9			
23	164 27.5	N23 25.6	11 52.1	4.7	S20 57.1	9.9	60.9	Polaris	317 33.8	N89 20.1
23 0	179 27.3	N23 25.5	26 15.7	4.6	S21 06.8	9.7	60.9	Pollux	243 21.2	N27 58.5
1	194 27.2	N23 25.5	40 39.2	4.5	S21 16.4	9.6	60.9	Procyon	244 54.2	N 5 10.2
2	209 27.1	N23 25.5	55 02.6	4.4	S21 25.8	9.4	60.9	Rasalhague	96 00.9	N12 32.7
3	224 26.9	N23 25.4	69 26.0	4.3	S21 35.1	9.3	60.9	Regulus	207 37.7	N11 51.9
4	239 26.8	N23 25.4	83 49.2	4.3	S21 44.2	9.1	60.9			
W 5	254 26.7	N23 25.4	98 12.4	4.2	S21 53.2	9.0	60.9	Rigel	281 07.0	S 8 10.6
E								Rigil Kent	139 43.9	S60 55.6
D 6	269 26.5	N23 25.3	112 35.5	4.1	S22 02.0	8.8	60.9	Sabik	102 05.8	S15 45.1
N 7	284 26.4	N23 25.3	126 58.5	4.0	S22 10.6	8.7	60.9	Schedar	349 34.3	N56 38.9
E 8	299 26.3	N23 25.3	141 21.4	3.9	S22 19.1	8.5	60.9	Shaula	96 13.9	S37 07.1
S 9	314 26.1	N23 25.2	155 44.2	3.8	S22 27.5	8.3	60.9	Sirius	258 29.2	S16 44.7
D 10	329 26.0	N23 25.2	170 06.9	3.7	S22 35.6	8.2	60.9	Spica	158 25.2	S11 16.3
A 11	344 25.9	N23 25.1	184 29.6	3.7	S22 43.6	8.0	60.9	Suhail	222 48.7	S43 31.2
Y								Vega	80 34.7	N38 48.2
12	359 25.7	N23 25.1	198 52.2	3.6	S22 51.5	7.8	60.9	Zuben-ubi	136 59.8	S16 07.8
13	14 25.6	N23 25.1	213 14.7	3.5	S22 59.2	7.7	60.9			
14	29 25.5	N23 25.0	227 37.1	3.4	S23 06.7	7.5	60.9			
15	44 25.3	N23 25.0	241 59.5	3.4	S23 14.0	7.3	60.9			
16	59 25.2	N23 24.9	256 21.8	3.3	S23 21.2	7.2	60.9			
17	74 25.1	N23 24.9	270 44.0	3.2	S23 28.2	7.0	60.9			
18	89 24.9	N23 24.8	285 06.2	3.2	S23 35.0	6.8	60.9			
19	104 24.8	N23 24.8	299 28.3	3.1	S23 41.7	6.7	60.9			
20	119 24.7	N23 24.7	313 50.3	3.0	S23 48.2	6.5	60.9			
21	134 24.5	N23 24.7	328 12.2	3.0	S23 54.5	6.3	60.9			
22	149 24.4	N23 24.7	342 34.2	2.9	S24 00.6	6.1	60.9			
23	164 24.3	N23 24.6	356 56.0	2.9	S24 06.6	5.9	60.9			
	S.D. 15.7	d 0.0	S.D.	16.5	16.6	16.6				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
24	0	272 22.0	153 55.3	N22 25.6	141 56.2	N19 34.8	297 51.4	S11 36.9	316 57.3	S17 39.7
	1	287 24.5	168 54.5	N22 25.0	156 57.1	N19 34.4	312 53.9	S11 36.9	331 59.9	S17 39.8
	2	302 27.0	183 53.7	N22 24.5	171 57.9	N19 34.0	327 56.4	S11 37.0	347 02.4	S17 39.8
	3	317 29.4	198 53.0	N22 24.0	186 58.8	N19 33.5	342 58.9	S11 37.0	2 05.0	S17 39.9
	4	332 31.9	213 52.2	N22 23.4	201 59.7	N19 33.1	358 01.4	S11 37.0	17 07.6	S17 39.9
T	5	347 34.4	228 51.4	N22 22.9	217 00.6	N19 32.7	13 03.8	S11 37.0	32 10.2	S17 39.9
H										
U	6	2 36.8	243 50.7	N22 22.4	232 01.5	N19 32.3	28 06.3	S11 37.0	47 12.8	S17 40.0
R	7	17 39.3	258 49.9	N22 21.8	247 02.4	N19 31.9	43 08.8	S11 37.1	62 15.4	S17 40.0
S	8	32 41.8	273 49.1	N22 21.3	262 03.2	N19 31.5	58 11.3	S11 37.1	77 17.9	S17 40.1
D	9	47 44.2	288 48.4	N22 20.7	277 04.1	N19 31.1	73 13.8	S11 37.1	92 20.5	S17 40.1
A	10	62 46.7	303 47.6	N22 20.2	292 05.0	N19 30.7	88 16.3	S11 37.1	107 23.1	S17 40.1
Y	11	77 49.1	318 46.8	N22 19.6	307 05.9	N19 30.3	103 18.8	S11 37.2	122 25.7	S17 40.2
	12	92 51.6	333 46.1	N22 19.1	322 06.8	N19 29.8	118 21.3	S11 37.2	137 28.3	S17 40.2
	13	107 54.1	348 45.3	N22 18.6	337 07.7	N19 29.4	133 23.8	S11 37.2	152 30.9	S17 40.2
	14	122 56.5	3 44.6	N22 18.0	352 08.5	N19 29.0	148 26.2	S11 37.2	167 33.4	S17 40.3
	15	137 59.0	18 43.8	N22 17.5	7 09.4	N19 28.6	163 28.7	S11 37.2	182 36.0	S17 40.3
	16	153 01.5	33 43.0	N22 16.9	22 10.3	N19 28.2	178 31.2	S11 37.3	197 38.6	S17 40.4
	17	168 03.9	48 42.3	N22 16.4	37 11.2	N19 27.8	193 33.7	S11 37.3	212 41.2	S17 40.4
	18	183 06.4	63 41.5	N22 15.8	52 12.1	N19 27.4	208 36.2	S11 37.3	227 43.8	S17 40.4
	19	198 08.9	78 40.7	N22 15.3	67 13.0	N19 27.0	223 38.7	S11 37.3	242 46.4	S17 40.5
	20	213 11.3	93 40.0	N22 14.7	82 13.9	N19 26.5	238 41.2	S11 37.4	257 48.9	S17 40.5
	21	228 13.8	108 39.2	N22 14.1	97 14.7	N19 26.1	253 43.7	S11 37.4	272 51.5	S17 40.6
	22	243 16.3	123 38.5	N22 13.6	112 15.6	N19 25.7	268 46.2	S11 37.4	287 54.1	S17 40.6
	23	258 18.7	138 37.7	N22 13.0	127 16.5	N19 25.3	283 48.7	S11 37.4	302 56.7	S17 40.6
25	0	273 21.2	153 37.0	N22 12.5	142 17.4	N19 24.9	298 51.2	S11 37.4	317 59.3	S17 40.7
	1	288 23.6	168 36.2	N22 11.9	157 18.3	N19 24.5	313 53.7	S11 37.5	333 01.9	S17 40.7
	2	303 26.1	183 35.4	N22 11.4	172 19.2	N19 24.1	328 56.1	S11 37.5	348 04.4	S17 40.8
	3	318 28.6	198 34.7	N22 10.8	187 20.0	N19 23.7	343 58.6	S11 37.5	3 07.0	S17 40.8
	4	333 31.0	213 33.9	N22 10.2	202 20.9	N19 23.2	359 01.1	S11 37.5	18 09.6	S17 40.8
F	5	348 33.5	228 33.2	N22 09.7	217 21.8	N19 22.8	14 03.6	S11 37.6	33 12.2	S17 40.9
R										
I	6	3 36.0	243 32.4	N22 09.1	232 22.7	N19 22.4	29 06.1	S11 37.6	48 14.8	S17 40.9
D	7	18 38.4	258 31.7	N22 08.5	247 23.6	N19 22.0	44 08.6	S11 37.6	63 17.4	S17 41.0
A	8	33 40.9	273 30.9	N22 08.0	262 24.5	N19 21.6	59 11.1	S11 37.6	78 20.0	S17 41.0
Y	9	48 43.4	288 30.2	N22 07.4	277 25.4	N19 21.2	74 13.6	S11 37.7	93 22.5	S17 41.0
	10	63 45.8	303 29.4	N22 06.8	292 26.2	N19 20.7	89 16.1	S11 37.7	108 25.1	S17 41.1
	11	78 48.3	318 28.7	N22 06.3	307 27.1	N19 20.3	104 18.6	S11 37.7	123 27.7	S17 41.1
	12	93 50.8	333 27.9	N22 05.7	322 28.0	N19 19.9	119 21.1	S11 37.7	138 30.3	S17 41.2
	13	108 53.2	348 27.2	N22 05.1	337 28.9	N19 19.5	134 23.6	S11 37.8	153 32.9	S17 41.2
	14	123 55.7	3 26.4	N22 04.6	352 29.8	N19 19.1	149 26.1	S11 37.8	168 35.5	S17 41.2
	15	138 58.1	18 25.7	N22 04.0	7 30.7	N19 18.7	164 28.6	S11 37.8	183 38.1	S17 41.3
	16	154 00.6	33 24.9	N22 03.4	22 31.6	N19 18.2	179 31.1	S11 37.8	198 40.6	S17 41.3
	17	169 03.1	48 24.2	N22 02.8	37 32.5	N19 17.8	194 33.6	S11 37.9	213 43.2	S17 41.4
	18	184 05.5	63 23.4	N22 02.3	52 33.3	N19 17.4	209 36.1	S11 37.9	228 45.8	S17 41.4
	19	199 08.0	78 22.7	N22 01.7	67 34.2	N19 17.0	224 38.6	S11 37.9	243 48.4	S17 41.4
	20	214 10.5	93 21.9	N22 01.1	82 35.1	N19 16.6	239 41.1	S11 37.9	258 51.0	S17 41.5
	21	229 12.9	108 21.2	N22 00.5	97 36.0	N19 16.1	254 43.6	S11 38.0	273 53.6	S17 41.5
	22	244 15.4	123 20.4	N21 59.9	112 36.9	N19 15.7	269 46.1	S11 38.0	288 56.2	S17 41.6
	23	259 17.9	138 19.7	N21 59.3	127 37.8	N19 15.3	284 48.6	S11 38.0	303 58.8	S17 41.6
26	0	274 20.3	153 18.9	N21 58.8	142 38.7	N19 14.9	299 51.1	S11 38.0	319 01.4	S17 41.6
	1	289 22.8	168 18.2	N21 58.2	157 39.6	N19 14.5	314 53.6	S11 38.1	334 03.9	S17 41.7
	2	304 25.3	183 17.4	N21 57.6	172 40.4	N19 14.1	329 56.1	S11 38.1	349 06.5	S17 41.7
	3	319 27.7	198 16.7	N21 57.0	187 41.3	N19 13.6	344 58.6	S11 38.1	4 09.1	S17 41.8
	4	334 30.2	213 15.9	N21 56.4	202 42.2	N19 13.2	0 01.1	S11 38.1	19 11.7	S17 41.8
S	5	349 32.6	228 15.2	N21 55.8	217 43.1	N19 12.8	15 03.6	S11 38.2	34 14.3	S17 41.8
A										
T	6	4 35.1	243 14.5	N21 55.2	232 44.0	N19 12.4	30 06.1	S11 38.2	49 16.9	S17 41.9
U	7	19 37.6	258 13.7	N21 54.6	247 44.9	N19 11.9	45 08.6	S11 38.2	64 19.5	S17 41.9
R	8	34 40.0	273 13.0	N21 54.1	262 45.8	N19 11.5	60 11.1	S11 38.3	79 22.1	S17 42.0
D	9	49 42.5	288 12.2	N21 53.5	277 46.7	N19 11.1	75 13.6	S11 38.3	94 24.6	S17 42.0
A	10	64 45.0	303 11.5	N21 52.9	292 47.5	N19 10.7	90 16.1	S11 38.3	109 27.2	S17 42.1
Y	11	79 47.4	318 10.8	N21 52.3	307 48.4	N19 10.3	105 18.6	S11 38.3	124 29.8	S17 42.1
	12	94 49.9	333 10.0	N21 51.7	322 49.3	N19 09.8	120 21.1	S11 38.4	139 32.4	S17 42.1
	13	109 52.4	348 09.3	N21 51.1	337 50.2	N19 09.4	135 23.6	S11 38.4	154 35.0	S17 42.2
	14	124 54.8	3 08.5	N21 50.5	352 51.1	N19 09.0	150 26.1	S11 38.4	169 37.6	S17 42.2
	15	139 57.3	18 07.8	N21 49.9	7 52.0	N19 08.6	165 28.6	S11 38.4	184 40.2	S17 42.3
	16	154 59.7	33 07.1	N21 49.3	22 52.9	N19 08.1	180 31.1	S11 38.5	199 42.8	S17 42.3
	17	170 02.2	48 06.3	N21 48.7	37 53.8	N19 07.7	195 33.6	S11 38.5	214 45.4	S17 42.3
	18	185 04.7	63 05.6	N21 48.1	52 54.7	N19 07.3	210 36.2	S11 38.5	229 48.0	S17 42.4
	19	200 07.1	78 04.8	N21 47.5	67 55.6	N19 06.9	225 38.7	S11 38.6	244 50.5	S17 42.4
	20	215 09.6	93 04.1	N21 46.9	82 56.4	N19 06.5	240 41.2	S11 38.6	259 53.1	S17 42.5
	21	230 12.1	108 03.4	N21 46.3	97 57.3	N19 06.0	255 43.7	S11 38.6	274 55.7	S17 42.5
	22	245 14.5	123 02.6	N21 45.7	112 58.2	N19 05.6	270 46.2	S11 38.6	289 58.3	S17 42.5
	23	260 17.0	138 01.9	N21 45.0	127 59.1	N19 05.2	285 48.7	S11 38.7	305 00.9	S17 42.6
			v -0.8	d 0.6	v 0.9	d 0.4	v 2.5	d 0.0	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	179 24.1	N23 24.6	11 17.8	2.8	S24 12.3	5.8	60.9
	1	194 24.0	N23 24.5	25 39.6	2.7	S24 17.9	5.6	60.9
	2	209 23.9	N23 24.5	40 01.3	2.7	S24 23.3	5.4	60.9
	3	224 23.7	N23 24.4	54 22.9	2.7	S24 28.5	5.2	60.8
	4	239 23.6	N23 24.4	68 44.5	2.6	S24 33.6	5.0	60.8
T	5	254 23.5	N23 24.3	83 06.1	2.6	S24 38.4	4.8	60.8
H								
U	6	269 23.3	N23 24.2	97 27.6	2.5	S24 43.1	4.7	60.8
R	7	284 23.2	N23 24.2	111 49.1	2.5	S24 47.6	4.5	60.8
S	8	299 23.1	N23 24.1	126 10.5	2.5	S24 51.8	4.3	60.8
D	9	314 22.9	N23 24.1	140 32.0	2.4	S24 55.9	4.1	60.8
A	10	329 22.8	N23 24.0	154 53.3	2.4	S24 59.9	3.9	60.8
Y	11	344 22.7	N23 24.0	169 14.7	2.4	S25 03.6	3.7	60.8
	12	359 22.5	N23 23.9	183 36.1	2.3	S25 07.1	3.5	60.7
	13	14 22.4	N23 23.9	197 57.4	2.3	S25 10.4	3.3	60.7
	14	29 22.3	N23 23.8	212 18.7	2.3	S25 13.6	3.1	60.7
	15	44 22.1	N23 23.7	226 40.0	2.3	S25 16.5	3.0	60.7
	16	59 22.0	N23 23.7	241 01.2	2.3	S25 19.3	2.8	60.7
	17	74 21.9	N23 23.6	255 22.5	2.3	S25 21.9	2.6	60.7
	18	89 21.7	N23 23.6	269 43.7	2.3	S25 24.3	2.4	60.7
	19	104 21.6	N23 23.5	284 05.0	2.3	S25 26.4	2.2	60.6
	20	119 21.5	N23 23.4	298 26.2	2.3	S25 28.4	2.0	60.6
	21	134 21.4	N23 23.4	312 47.5	2.3	S25 30.2	1.8	60.6
	22	149 21.2	N23 23.3	327 08.8	2.3	S25 31.9	1.6	60.6
	23	164 21.1	N23 23.2	341 30.0	2.3	S25 33.3	1.4	60.6
25	0	179 21.0	N23 23.2	355 51.3	2.3	S25 34.5	1.2	60.6
	1	194 20.8	N23 23.1	10 12.6	2.3	S25 35.5	1.0	60.5
	2	209 20.7	N23 23.0	24 33.9	2.3	S25 36.4	0.8	60.5
	3	224 20.6	N23 23.0	38 55.2	2.3	S25 37.0	0.6	60.5
	4	239 20.4	N23 22.9	53 16.6	2.3	S25 37.4	0.5	60.5
F	5	254 20.3	N23 22.8	67 37.9	2.4	S25 37.7	0.3	60.5
R								
I	6	269 20.2	N23 22.8	81 59.3	2.4	S25 37.8	0.1	60.4
D	7	284 20.0	N23 22.7	96 20.7	2.4	S25 37.6	0.1	60.4
A	8	299 19.9	N23 22.6	110 42.2	2.5	S25 37.3	0.3	60.4
Y	9	314 19.8	N23 22.5	125 03.7	2.5	S25 36.8	0.5	60.4
	10	329 19.6	N23 22.5	139 25.2	2.5	S25 36.1	0.7	60.3
	11	344 19.5	N23 22.4	153 46.8	2.6	S25 35.2	0.9	60.3
	12	359 19.4	N23 22.3	168 08.4	2.6	S25 34.2	1.1	60.3
	13	14 19.2	N23 22.2	182 30.1	2.7	S25 32.9	1.3	60.3
	14	29 19.1	N23 22.2	196 51.8	2.7	S25 31.5	1.4	60.2
	15	44 19.0	N23 22.1	211 13.6	2.8	S25 29.8	1.6	60.2
	16	59 18.9	N23 22.0	225 35.4	2.8	S25 28.0	1.8	60.2
	17	74 18.7	N23 21.9	239 57.3	2.9	S25 26.0	2.0	60.2
	18	89 18.6	N23 21.9	254 19.2	2.9	S25 23.8	2.2	60.1
	19	104 18.5	N23 21.8	268 41.2	3.0	S25 21.4	2.4	60.1
	20	119 18.3	N23 21.7	283 03.3	3.1	S25 18.9	2.6	60.1
	21	134 18.2	N23 21.6	297 25.4	3.1	S25 16.1	2.7	60.1
	22	149 18.1	N23 21.5	311 47.6	3.2	S25 13.2	2.9	60.0
	23	164 17.9	N23 21.5	326 09.9	3.3	S25 10.1	3.1	60.0
26	0	179 17.8	N23 21.4	340 32.2	3.4	S25 06.9	3.3	60.0
	1	194 17.7	N23 21.3	354 54.6	3.4	S25 03.4	3.4	60.0
	2	209 17.5	N23 21.2	9 17.2	3.5	S24 59.8	3.6	59.9
	3	224 17.4	N23 21.1	23 39.7	3.6	S24 56.0	3.8	59.9
	4	239 17.3	N23 21.0	38 02.4	3.7	S24 52.0	4.0	59.9
S	5	254 17.2	N23 20.9	52 25.2	3.8	S24 47.9	4.1	59.8
A								
T	6	269 17.0	N23 20.9	66 48.0	3.8	S24 43.6	4.3	59.8
U	7	284 16.9	N23 20.8	81 10.9	3.9	S24 39.1	4.5	59.8
R	8	299 16.8	N23 20.7	95 33.9	4.0	S24 34.4	4.6	59.7
D	9	314 16.6	N23 20.6	109 57.0	4.1	S24 29.6	4.8	59.7
A	10	329 16.5	N23 20.5	124 20.3	4.2	S24 24.7	5.0	59.7
Y	11	344 16.4	N23 20.4	138 43.6	4.3	S24 19.5	5.1	59.6
	12	359 16.2	N23 20.3	153 07.0	4.4	S24 14.2	5.3	59.6
	13	14 16.1	N23 20.2	167 30.4	4.5	S24 08.8	5.5	59.6
	14	29 16.0	N23 20.1	181 54.0	4.6	S24 03.1	5.6	59.5
	15	44 15.9	N23 20.0	196 17.7	4.7	S23 57.4	5.8	59.5
	16	59 15.7	N23 19.9	210 41.6	4.8	S23 51.4	5.9	59.5
	17	74 15.6	N23 19.9	225 05.5	4.9	S23 45.3	6.1	59.4
	18	89 15.5	N23 19.8	239 29.5	5.0	S23 39.1	6.2	59.4
	19	104 15.3	N23 19.7	253 53.6	5.1	S23 32.7	6.4	59.4
	20	119 15.2	N23 19.6	268 17.8	5.2	S23 26.2	6.5	59.3
	21	134 15.1	N23 19.5	282 42.2	5.3	S23 19.5	6.7	59.3
	22	149 15.0	N23 19.4	297 06.6	5.5	S23 12.7	6.8	59.3
	23	164 14.8	N23 19.3	311 31.2	5.6	S23 05.7	7.0	59.2
		S.D. 15.7	d 0.1	S.D.	16.6	16.4	16.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.3	S40 13.0
Achernar	335 22.6	S57 07.5
Acrux	173 03.2	S63 13.2
Adhara	255 08.5	S29 00.1
Albireo	67 06.0	N28 00.2
Aldebaran	290 43.3	N16 33.0
Alioth	166 15.5	N55 51.0
Alkaid	152 54.1	N49 12.7
Al Na-ir	27 36.3	S46 51.3
Alnilam	275 41.0	S 1 11.3
Alphard	217 50.8	S 8 45.1
Alphecca	126 05.9	N26 38.7
Alpheratz	357 37.7	N29 12.3
Altair	62 02.4	N 8 55.5
Ankaa	353 10.1	S42 11.3
Antares	112 19.1	S26 28.8
Arcturus	145 50.4	N19 04.4
Atria	107 15.4	S69 04.0
Avior	234 16.4	S59 34.8
Bellatrix	278 26.3	N 6 22.1
Betelgeuse	270 55.6	N 7 24.6
Canopus	263 54.2	S52 42.4
Capella	280 26.6	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.3	N45 21.2
Denebola	182 27.9	N14 27.3
Diphda	348 50.3	S17 52.1
Dubhe	193 44.9	N61 38.5
Elnath	278 05.9	N28 37.4
Eltanin	90 43.0	N51 29.2
Enif	33 41.4	N 9 58.3
Fomalhaut	15 17.6	S29 30.4
Gacrux	171 54.8	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 39.8	S60 28.7
Hamal	327 54.6	N23 33.7
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 19.2	N74 04.4
Markab	13 32.7	N15 19.1
Menkar	314 09.4	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.4	S69 48.5
Mirfak	308 32.8	N49 56.0
Nunki	75 51.0	S26 16.1
Peacock	53 09.7	S56 39.8
Polaris	317 32.6	N89 20.1
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 07.0	S 8 10.6
Rigil Kent	139 44.0	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.3	N56 38.9
Shaula	96 13.9	S37 07.1
Sirius	258 29.1	S16 44.7
Spica	158 25.2	S11 16.3
Suhail	222 48.7	S43 31.2
Vega	80 34.7	N38 48.2
Zuben-ubi	136 59.8	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
27	0	275 19.5	153 01.2	N21 44.4	143 00.0	N19 04.8	300 51.2	S11 38.7	320 03.5	S17 42.6
	1	290 21.9	168 00.4	N21 43.8	158 00.9	N19 04.3	315 53.7	S11 38.7	335 06.1	S17 42.7
	2	305 24.4	182 59.7	N21 43.2	173 01.8	N19 03.9	330 56.2	S11 38.8	350 08.7	S17 42.7
	3	320 26.9	197 59.0	N21 42.6	188 02.7	N19 03.5	345 58.7	S11 38.8	5 11.3	S17 42.8
	4	335 29.3	212 58.2	N21 42.0	203 03.6	N19 03.1	1 01.2	S11 38.8	20 13.9	S17 42.8
S	5	350 31.8	227 57.5	N21 41.4	218 04.5	N19 02.6	16 03.7	S11 38.8	35 16.5	S17 42.8
U										
N	6	5 34.2	242 56.8	N21 40.8	233 05.3	N19 02.2	31 06.3	S11 38.9	50 19.0	S17 42.9
D	7	20 36.7	257 56.1	N21 40.1	248 06.2	N19 01.8	46 08.8	S11 38.9	65 21.6	S17 42.9
A	8	35 39.2	272 55.3	N21 39.5	263 07.1	N19 01.4	61 11.3	S11 38.9	80 24.2	S17 43.0
Y	9	50 41.6	287 54.6	N21 38.9	278 08.0	N19 00.9	76 13.8	S11 39.0	95 26.8	S17 43.0
	10	65 44.1	302 53.9	N21 38.3	293 08.9	N19 00.5	91 16.3	S11 39.0	110 29.4	S17 43.0
	11	80 46.6	317 53.1	N21 37.7	308 09.8	N19 00.1	106 18.8	S11 39.0	125 32.0	S17 43.1
	12	95 49.0	332 52.4	N21 37.0	323 10.7	N18 59.6	121 21.3	S11 39.1	140 34.6	S17 43.1
	13	110 51.5	347 51.7	N21 36.4	338 11.6	N18 59.2	136 23.8	S11 39.1	155 37.2	S17 43.2
	14	125 54.0	2 51.0	N21 35.8	353 12.5	N18 58.8	151 26.3	S11 39.1	170 39.8	S17 43.2
	15	140 56.4	17 50.2	N21 35.2	8 13.4	N18 58.4	166 28.9	S11 39.2	185 42.4	S17 43.2
	16	155 58.9	32 49.5	N21 34.5	23 14.3	N18 57.9	181 31.4	S11 39.2	200 45.0	S17 43.3
	17	171 01.4	47 48.8	N21 33.9	38 15.2	N18 57.5	196 33.9	S11 39.2	215 47.6	S17 43.3
	18	186 03.8	62 48.1	N21 33.3	53 16.0	N18 57.1	211 36.4	S11 39.2	230 50.2	S17 43.4
	19	201 06.3	77 47.3	N21 32.7	68 16.9	N18 56.6	226 38.9	S11 39.3	245 52.7	S17 43.4
	20	216 08.7	92 46.6	N21 32.0	83 17.8	N18 56.2	241 41.4	S11 39.3	260 55.3	S17 43.5
	21	231 11.2	107 45.9	N21 31.4	98 18.7	N18 55.8	256 43.9	S11 39.3	275 57.9	S17 43.5
	22	246 13.7	122 45.2	N21 30.8	113 19.6	N18 55.4	271 46.5	S11 39.4	291 00.5	S17 43.5
	23	261 16.1	137 44.4	N21 30.1	128 20.5	N18 54.9	286 49.0	S11 39.4	306 03.1	S17 43.6
28	0	276 18.6	152 43.7	N21 29.5	143 21.4	N18 54.5	301 51.5	S11 39.4	321 05.7	S17 43.6
	1	291 21.1	167 43.0	N21 28.9	158 22.3	N18 54.1	316 54.0	S11 39.5	336 08.3	S17 43.7
	2	306 23.5	182 42.3	N21 28.2	173 23.2	N18 53.6	331 56.5	S11 39.5	351 10.9	S17 43.7
	3	321 26.0	197 41.6	N21 27.6	188 24.1	N18 53.2	346 59.0	S11 39.5	6 13.5	S17 43.8
	4	336 28.5	212 40.8	N21 27.0	203 25.0	N18 52.8	2 01.6	S11 39.6	21 16.1	S17 43.8
M	5	351 30.9	227 40.1	N21 26.3	218 25.9	N18 52.4	17 04.1	S11 39.6	36 18.7	S17 43.8
O										
N	6	6 33.4	242 39.4	N21 25.7	233 26.8	N18 51.9	32 06.6	S11 39.6	51 21.3	S17 43.9
D	7	21 35.9	257 38.7	N21 25.0	248 27.7	N18 51.5	47 09.1	S11 39.7	66 23.9	S17 43.9
A	8	36 38.3	272 38.0	N21 24.4	263 28.6	N18 51.1	62 11.6	S11 39.7	81 26.5	S17 44.0
Y	9	51 40.8	287 37.2	N21 23.7	278 29.4	N18 50.6	77 14.1	S11 39.7	96 29.1	S17 44.0
	10	66 43.2	302 36.5	N21 23.1	293 30.3	N18 50.2	92 16.7	S11 39.8	111 31.7	S17 44.0
	11	81 45.7	317 35.8	N21 22.5	308 31.2	N18 49.8	107 19.2	S11 39.8	126 34.3	S17 44.1
	12	96 48.2	332 35.1	N21 21.8	323 32.1	N18 49.3	122 21.7	S11 39.8	141 36.9	S17 44.1
	13	111 50.6	347 34.4	N21 21.2	338 33.0	N18 48.9	137 24.2	S11 39.9	156 39.4	S17 44.2
	14	126 53.1	2 33.7	N21 20.5	353 33.9	N18 48.5	152 26.7	S11 39.9	171 42.0	S17 44.2
	15	141 55.6	17 33.0	N21 19.9	8 34.8	N18 48.0	167 29.3	S11 39.9	186 44.6	S17 44.3
	16	156 58.0	32 32.2	N21 19.2	23 35.7	N18 47.6	182 31.8	S11 40.0	201 47.2	S17 44.3
	17	172 00.5	47 31.5	N21 18.6	38 36.6	N18 47.2	197 34.3	S11 40.0	216 49.8	S17 44.3
	18	187 03.0	62 30.8	N21 17.9	53 37.5	N18 46.7	212 36.8	S11 40.0	231 52.4	S17 44.4
	19	202 05.4	77 30.1	N21 17.2	68 38.4	N18 46.3	227 39.4	S11 40.1	246 55.0	S17 44.4
	20	217 07.9	92 29.4	N21 16.6	83 39.3	N18 45.9	242 41.9	S11 40.1	261 57.6	S17 44.5
	21	232 10.3	107 28.7	N21 15.9	98 40.2	N18 45.4	257 44.4	S11 40.1	277 00.2	S17 44.5
	22	247 12.8	122 28.0	N21 15.3	113 41.1	N18 45.0	272 46.9	S11 40.2	292 02.8	S17 44.6
	23	262 15.3	137 27.3	N21 14.6	128 42.0	N18 44.6	287 49.4	S11 40.2	307 05.4	S17 44.6
29	0	277 17.7	152 26.6	N21 14.0	143 42.9	N18 44.1	302 52.0	S11 40.2	322 08.0	S17 44.6
	1	292 20.2	167 25.9	N21 13.3	158 43.8	N18 43.7	317 54.5	S11 40.3	337 10.6	S17 44.7
	2	307 22.7	182 25.1	N21 12.6	173 44.7	N18 43.3	332 57.0	S11 40.3	352 13.2	S17 44.7
	3	322 25.1	197 24.4	N21 12.0	188 45.6	N18 42.8	347 59.5	S11 40.3	7 15.8	S17 44.8
	4	337 27.6	212 23.7	N21 11.3	203 46.4	N18 42.4	3 02.1	S11 40.4	22 18.4	S17 44.8
T	5	352 30.1	227 23.0	N21 10.7	218 47.3	N18 41.9	18 04.6	S11 40.4	37 21.0	S17 44.9
U										
E	6	7 32.5	242 22.3	N21 10.0	233 48.2	N18 41.5	33 07.1	S11 40.4	52 23.6	S17 44.9
S	7	22 35.0	257 21.6	N21 09.3	248 49.1	N18 41.1	48 09.6	S11 40.5	67 26.2	S17 44.9
D	8	37 37.5	272 20.9	N21 08.7	263 50.0	N18 40.6	63 12.2	S11 40.5	82 28.8	S17 45.0
A	9	52 39.9	287 20.2	N21 08.0	278 50.9	N18 40.2	78 14.7	S11 40.6	97 31.4	S17 45.0
Y	10	67 42.4	302 19.5	N21 07.3	293 51.8	N18 39.8	93 17.2	S11 40.6	112 34.0	S17 45.1
	11	82 44.8	317 18.8	N21 06.6	308 52.7	N18 39.3	108 19.7	S11 40.6	127 36.6	S17 45.1
	12	97 47.3	332 18.1	N21 06.0	323 53.6	N18 38.9	123 22.3	S11 40.7	142 39.2	S17 45.2
	13	112 49.8	347 17.4	N21 05.3	338 54.5	N18 38.5	138 24.8	S11 40.7	157 41.8	S17 45.2
	14	127 52.2	2 16.7	N21 04.6	353 55.4	N18 38.0	153 27.3	S11 40.7	172 44.4	S17 45.2
	15	142 54.7	17 16.0	N21 04.0	8 56.3	N18 37.6	168 29.9	S11 40.8	187 47.0	S17 45.3
	16	157 57.2	32 15.3	N21 03.3	23 57.2	N18 37.1	183 32.4	S11 40.8	202 49.6	S17 45.3
	17	172 59.6	47 14.6	N21 02.6	38 58.1	N18 36.7	198 34.9	S11 40.8	217 52.2	S17 45.4
	18	188 02.1	62 13.9	N21 01.9	53 59.0	N18 36.3	213 37.4	S11 40.9	232 54.8	S17 45.4
	19	203 04.6	77 13.2	N21 01.2	68 59.9	N18 35.8	228 40.0	S11 40.9	247 57.4	S17 45.5
	20	218 07.0	92 12.5	N21 00.6	84 00.8	N18 35.4	243 42.5	S11 41.0	262 60.0	S17 45.5
	21	233 09.5	107 11.8	N20 59.9	99 01.7	N18 34.9	258 45.0	S11 41.0	278 02.6	S17 45.6
	22	248 12.0	122 11.1	N20 59.2	114 02.6	N18 34.5	273 47.6	S11 41.0	293 05.2	S17 45.6
	23	263 14.4	137 10.4	N20 58.5	129 03.5	N18 34.1	288 50.1	S11 41.1	308 07.8	S17 45.6
			v -0.7	d 0.6	v 0.9	d 0.4	v 2.5	d 0.0	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 '
27	0	179 14.7	N23 19.2	325 55.9	5.7	S22 58.6	7.1	59.2
	1	194 14.6	N23 19.1	340 20.7	5.8	S22 51.3	7.3	59.2
	2	209 14.4	N23 19.0	354 45.6	5.9	S22 43.9	7.4	59.1
	3	224 14.3	N23 18.9	9 10.6	6.0	S22 36.4	7.5	59.1
	4	239 14.2	N23 18.8	23 35.7	6.1	S22 28.7	7.7	59.1
S	5	254 14.1	N23 18.7	38 01.0	6.3	S22 21.0	7.8	59.0
U								
N	6	269 13.9	N23 18.6	52 26.4	6.4	S22 13.0	7.9	59.0
D	7	284 13.8	N23 18.4	66 51.9	6.5	S22 05.0	8.1	59.0
A	8	299 13.7	N23 18.3	81 17.5	6.6	S21 56.8	8.2	58.9
Y	9	314 13.5	N23 18.2	95 43.2	6.7	S21 48.5	8.3	58.9
	10	329 13.4	N23 18.1	110 09.1	6.8	S21 40.0	8.4	58.8
	11	344 13.3	N23 18.0	124 35.0	7.0	S21 31.5	8.6	58.8
	12	359 13.2	N23 17.9	139 01.1	7.1	S21 22.8	8.7	58.8
	13	14 13.0	N23 17.8	153 27.3	7.2	S21 14.0	8.8	58.7
	14	29 12.9	N23 17.7	167 53.7	7.3	S21 05.1	8.9	58.7
	15	44 12.8	N23 17.6	182 20.1	7.5	S20 56.1	9.0	58.7
	16	59 12.6	N23 17.5	196 46.7	7.6	S20 46.9	9.1	58.6
	17	74 12.5	N23 17.4	211 13.4	7.7	S20 37.7	9.3	58.6
	18	89 12.4	N23 17.2	225 40.2	7.8	S20 28.3	9.4	58.5
	19	104 12.3	N23 17.1	240 07.1	7.9	S20 18.8	9.5	58.5
	20	119 12.1	N23 17.0	254 34.2	8.1	S20 09.3	9.6	58.5
	21	134 12.0	N23 16.9	269 01.4	8.2	S19 59.6	9.7	58.4
	22	149 11.9	N23 16.8	283 28.7	8.3	S19 49.8	9.8	58.4
	23	164 11.8	N23 16.7	297 56.1	8.4	S19 39.9	9.9	58.4
28	0	179 11.6	N23 16.6	312 23.6	8.5	S19 29.9	10.0	58.3
	1	194 11.5	N23 16.4	326 51.3	8.7	S19 19.9	10.1	58.3
	2	209 11.4	N23 16.3	341 19.1	8.8	S19 09.7	10.2	58.2
	3	224 11.2	N23 16.2	355 47.0	8.9	S18 59.4	10.3	58.2
	4	239 11.1	N23 16.1	10 15.0	9.0	S18 49.0	10.4	58.2
M	5	254 11.0	N23 16.0	24 43.1	9.1	S18 38.6	10.5	58.1
O								
N	6	269 10.9	N23 15.8	39 11.4	9.3	S18 28.0	10.5	58.1
D	7	284 10.7	N23 15.7	53 39.8	9.4	S18 17.4	10.6	58.1
A	8	299 10.6	N23 15.6	68 08.3	9.5	S18 06.7	10.7	58.0
Y	9	314 10.5	N23 15.5	82 36.9	9.6	S17 55.9	10.8	58.0
	10	329 10.4	N23 15.3	97 05.6	9.7	S17 45.0	10.9	57.9
	11	344 10.2	N23 15.2	111 34.5	9.8	S17 34.0	11.0	57.9
	12	359 10.1	N23 15.1	126 03.4	10.0	S17 23.0	11.0	57.9
	13	14 10.0	N23 15.0	140 32.5	10.1	S17 11.9	11.1	57.8
	14	29 09.9	N23 14.8	155 01.7	10.2	S17 00.7	11.2	57.8
	15	44 09.7	N23 14.7	169 31.0	10.3	S16 49.4	11.3	57.7
	16	59 09.6	N23 14.6	184 00.4	10.4	S16 38.1	11.3	57.7
	17	74 09.5	N23 14.5	198 29.9	10.5	S16 26.7	11.4	57.7
	18	89 09.3	N23 14.3	212 59.5	10.6	S16 15.2	11.5	57.6
	19	104 09.2	N23 14.2	227 29.3	10.7	S16 03.6	11.6	57.6
	20	119 09.1	N23 14.1	241 59.1	10.9	S15 52.0	11.6	57.6
	21	134 09.0	N23 13.9	256 29.1	11.0	S15 40.3	11.7	57.5
	22	149 08.8	N23 13.8	270 59.2	11.1	S15 28.6	11.7	57.5
	23	164 08.7	N23 13.7	285 29.3	11.2	S15 16.8	11.8	57.4
29	0	179 08.6	N23 13.5	299 59.6	11.3	S15 04.9	11.9	57.4
	1	194 08.5	N23 13.4	314 30.0	11.4	S14 53.0	11.9	57.4
	2	209 08.3	N23 13.3	329 00.5	11.5	S14 41.0	12.0	57.3
	3	224 08.2	N23 13.1	343 31.1	11.6	S14 29.0	12.0	57.3
	4	239 08.1	N23 13.0	358 01.8	11.7	S14 16.9	12.1	57.3
T	5	254 08.0	N23 12.9	12 32.6	11.8	S14 04.7	12.1	57.2
U								
E	6	269 07.8	N23 12.7	27 03.5	11.9	S13 52.5	12.2	57.2
S	7	284 07.7	N23 12.6	41 34.5	12.0	S13 40.3	12.3	57.1
D	8	299 07.6	N23 12.4	56 05.5	12.1	S13 28.0	12.3	57.1
A	9	314 07.5	N23 12.3	70 36.7	12.2	S13 15.6	12.3	57.1
Y	10	329 07.3	N23 12.2	85 08.0	12.3	S13 03.2	12.4	57.0
	11	344 07.2	N23 12.0	99 39.4	12.4	S12 50.8	12.4	57.0
	12	359 07.1	N23 11.9	114 10.9	12.5	S12 38.3	12.5	57.0
	13	14 07.0	N23 11.7	128 42.4	12.6	S12 25.8	12.5	56.9
	14	29 06.9	N23 11.6	143 14.1	12.7	S12 13.2	12.6	56.9
	15	44 06.7	N23 11.4	157 45.8	12.7	S12 00.6	12.6	56.8
	16	59 06.6	N23 11.3	172 17.7	12.8	S11 47.9	12.6	56.8
	17	74 06.5	N23 11.1	186 49.6	12.9	S11 35.3	12.7	56.8
	18	89 06.4	N23 11.0	201 21.6	13.0	S11 22.5	12.7	56.7
	19	104 06.2	N23 10.9	215 53.7	13.1	S11 09.8	12.8	56.7
	20	119 06.1	N23 10.7	230 25.9	13.2	S10 57.0	12.8	56.7
	21	134 06.0	N23 10.6	244 58.1	13.3	S10 44.2	12.8	56.6
	22	149 05.9	N23 10.4	259 30.5	13.3	S10 31.3	12.9	56.6
	23	164 05.7	N23 10.3	274 02.9	13.4	S10 18.4	12.9	56.6
		S.D. 15.7	d 0.1	S.D.	16.0	15.8	15.5	

Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.0
Achernar	335 22.6	S57 07.5
Acrux	173 03.2	S63 13.2
Adhara	255 08.5	S29 00.1
Albireo	67 06.0	N28 00.2
Aldebaran	290 43.2	N16 33.1
Alioth	166 15.5	N55 51.0
Alkaid	152 54.2	N49 12.7
Al Na-ir	27 36.3	S46 51.3
Alnilam	275 41.0	S 1 11.3
Alphard	217 50.8	S 8 45.1
Alphecca	126 05.9	N26 38.7
Alpheratz	357 37.7	N29 12.3
Altair	62 02.4	N 8 55.5
Ankaa	353 10.0	S42 11.3
Antares	112 19.0	S26 28.8
Arcturus	145 50.4	N19 04.4
Atria	107 15.4	S69 04.0
Avior	234 16.4	S59 34.8
Bellatrix	278 26.3	N 6 22.1
Betelgeuse	270 55.5	N 7 24.6
Canopus	263 54.2	S52 42.4
Capella	280 26.6	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.3	N45 21.2
Denebola	182 28.0	N14 27.3
Diphda	348 50.3	S17 52.1
Dubhe	193 44.9	N61 38.4
Elnath	278 05.9	N28 37.4
Eltanin	90 43.0	N51 29.2
Enif	33 41.3	N 9 58.3
Fomalhaut	15 17.6	S29 30.4
Gacrux	171 54.8	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 39.8	S60 28.7
Hamal	327 54.6	N23 33.7
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 19.3	N74 04.4
Markab	13 32.6	N15 19.1
Menkar	314 09.4	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.4	S69 48.5
Mirfak	308 32.7	N49 56.0
Nunki	75 51.0	S26 16.1
Peacock	53 09.7	S56 39.8
Polaris	317 31.5	N89 20.1
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 07.0	S 8 10.6
Rigil Kent	139 44.0	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.3	N56 38.9
Shaula	96 13.9	S37 07.1
Sirius	258 29.1	S16 44.7
Spica	158 25.2	S11 16.3
Suhail	222 48.7	S43 31.2
Vega	80 34.7	N38 48.2
Zuben-ubi	136 59.8	S16 07.8

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	278 16.9	152 09.7	N20 57.8	144 04.4	N18 33.6	303 52.6	S11 41.1	323 10.4	S17 45.7
	1	293 19.3	167 09.0	N20 57.2	159 05.3	N18 33.2	318 55.2	S11 41.1	338 13.0	S17 45.7
	2	308 21.8	182 08.3	N20 56.5	174 06.2	N18 32.7	333 57.7	S11 41.2	353 15.6	S17 45.8
	3	323 24.3	197 07.6	N20 55.8	189 07.1	N18 32.3	349 00.2	S11 41.2	8 18.2	S17 45.8
	4	338 26.7	212 06.9	N20 55.1	204 08.0	N18 31.9	4 02.8	S11 41.3	23 20.8	S17 45.9
W	5	353 29.2	227 06.2	N20 54.4	219 08.9	N18 31.4	19 05.3	S11 41.3	38 23.4	S17 45.9
E										
D	6	8 31.7	242 05.5	N20 53.7	234 09.8	N18 31.0	34 07.8	S11 41.3	53 26.0	S17 45.9
N	7	23 34.1	257 04.8	N20 53.0	249 10.7	N18 30.5	49 10.4	S11 41.4	68 28.6	S17 46.0
E	8	38 36.6	272 04.2	N20 52.3	264 11.6	N18 30.1	64 12.9	S11 41.4	83 31.2	S17 46.0
S	9	53 39.1	287 03.5	N20 51.6	279 12.5	N18 29.7	79 15.4	S11 41.4	98 33.8	S17 46.1
D	10	68 41.5	302 02.8	N20 51.0	294 13.4	N18 29.2	94 18.0	S11 41.5	113 36.4	S17 46.1
A	11	83 44.0	317 02.1	N20 50.3	309 14.3	N18 28.8	109 20.5	S11 41.5	128 39.0	S17 46.2
Y										
	12	98 46.5	332 01.4	N20 49.6	324 15.2	N18 28.3	124 23.0	S11 41.6	143 41.6	S17 46.2
	13	113 48.9	347 00.7	N20 48.9	339 16.1	N18 27.9	139 25.6	S11 41.6	158 44.2	S17 46.3
	14	128 51.4	2 00.0	N20 48.2	354 17.0	N18 27.4	154 28.1	S11 41.6	173 46.8	S17 46.3
	15	143 53.8	16 59.3	N20 47.5	9 17.9	N18 27.0	169 30.6	S11 41.7	188 49.4	S17 46.3
	16	158 56.3	31 58.6	N20 46.8	24 18.8	N18 26.6	184 33.2	S11 41.7	203 52.0	S17 46.4
	17	173 58.8	46 58.0	N20 46.1	39 19.7	N18 26.1	199 35.7	S11 41.8	218 54.6	S17 46.4
	18	189 01.2	61 57.3	N20 45.4	54 20.6	N18 25.7	214 38.2	S11 41.8	233 57.2	S17 46.5
	19	204 03.7	76 56.6	N20 44.7	69 21.5	N18 25.2	229 40.8	S11 41.8	248 59.8	S17 46.5
	20	219 06.2	91 55.9	N20 44.0	84 22.4	N18 24.8	244 43.3	S11 41.9	264 02.4	S17 46.6
	21	234 08.6	106 55.2	N20 43.3	99 23.3	N18 24.3	259 45.9	S11 41.9	279 05.0	S17 46.6
	22	249 11.1	121 54.5	N20 42.6	114 24.2	N18 23.9	274 48.4	S11 42.0	294 07.6	S17 46.6
	23	264 13.6	136 53.8	N20 41.8	129 25.1	N18 23.4	289 50.9	S11 42.0	309 10.2	S17 46.7
1	0	279 16.0	151 53.2	N20 41.1	144 26.0	N18 23.0	304 53.5	S11 42.0	324 12.8	S17 46.7
	1	294 18.5	166 52.5	N20 40.4	159 26.9	N18 22.6	319 56.0	S11 42.1	339 15.4	S17 46.8
	2	309 20.9	181 51.8	N20 39.7	174 27.8	N18 22.1	334 58.5	S11 42.1	354 18.0	S17 46.8
	3	324 23.4	196 51.1	N20 39.0	189 28.7	N18 21.7	350 01.1	S11 42.2	9 20.6	S17 46.9
	4	339 25.9	211 50.4	N20 38.3	204 29.6	N18 21.2	5 03.6	S11 42.2	24 23.2	S17 46.9
T	5	354 28.3	226 49.8	N20 37.6	219 30.5	N18 20.8	20 06.2	S11 42.2	39 25.8	S17 47.0
H										
U	6	9 30.8	241 49.1	N20 36.9	234 31.4	N18 20.3	35 08.7	S11 42.3	54 28.4	S17 47.0
R	7	24 33.3	256 48.4	N20 36.2	249 32.3	N18 19.9	50 11.2	S11 42.3	69 31.0	S17 47.0
S	8	39 35.7	271 47.7	N20 35.4	264 33.2	N18 19.4	65 13.8	S11 42.4	84 33.6	S17 47.1
D	9	54 38.2	286 47.0	N20 34.7	279 34.1	N18 19.0	80 16.3	S11 42.4	99 36.2	S17 47.1
A	10	69 40.7	301 46.4	N20 34.0	294 35.0	N18 18.5	95 18.9	S11 42.4	114 38.8	S17 47.2
Y	11	84 43.1	316 45.7	N20 33.3	309 35.9	N18 18.1	110 21.4	S11 42.5	129 41.4	S17 47.2
	12	99 45.6	331 45.0	N20 32.6	324 36.8	N18 17.6	125 24.0	S11 42.5	144 44.0	S17 47.3
	13	114 48.1	346 44.3	N20 31.9	339 37.7	N18 17.2	140 26.5	S11 42.6	159 46.6	S17 47.3
	14	129 50.5	1 43.7	N20 31.1	354 38.6	N18 16.7	155 29.0	S11 42.6	174 49.2	S17 47.4
	15	144 53.0	16 43.0	N20 30.4	9 39.5	N18 16.3	170 31.6	S11 42.7	189 51.9	S17 47.4
	16	159 55.4	31 42.3	N20 29.7	24 40.4	N18 15.9	185 34.1	S11 42.7	204 54.5	S17 47.4
	17	174 57.9	46 41.6	N20 29.0	39 41.3	N18 15.4	200 36.7	S11 42.7	219 57.1	S17 47.5
	18	190 00.4	61 41.0	N20 28.2	54 42.2	N18 15.0	215 39.2	S11 42.8	234 59.7	S17 47.5
	19	205 02.8	76 40.3	N20 27.5	69 43.1	N18 14.5	230 41.8	S11 42.8	250 02.3	S17 47.6
	20	220 05.3	91 39.6	N20 26.8	84 44.0	N18 14.1	245 44.3	S11 42.9	265 04.9	S17 47.6
	21	235 07.8	106 38.9	N20 26.1	99 44.9	N18 13.6	260 46.9	S11 42.9	280 07.5	S17 47.7
	22	250 10.2	121 38.3	N20 25.3	114 45.8	N18 13.2	275 49.4	S11 43.0	295 10.1	S17 47.7
	23	265 12.7	136 37.6	N20 24.6	129 46.7	N18 12.7	290 51.9	S11 43.0	310 12.7	S17 47.8
2	0	280 15.2	151 36.9	N20 23.9	144 47.6	N18 12.3	305 54.5	S11 43.0	325 15.3	S17 47.8
	1	295 17.6	166 36.3	N20 23.1	159 48.5	N18 11.8	320 57.0	S11 43.1	340 17.9	S17 47.9
	2	310 20.1	181 35.6	N20 22.4	174 49.4	N18 11.4	335 59.6	S11 43.1	355 20.5	S17 47.9
	3	325 22.5	196 34.9	N20 21.7	189 50.3	N18 10.9	351 02.1	S11 43.2	10 23.1	S17 47.9
	4	340 25.0	211 34.3	N20 20.9	204 51.2	N18 10.5	6 04.7	S11 43.2	25 25.7	S17 48.0
F	5	355 27.5	226 33.6	N20 20.2	219 52.1	N18 10.0	21 07.2	S11 43.3	40 28.3	S17 48.0
R										
I	6	10 29.9	241 32.9	N20 19.5	234 53.0	N18 09.6	36 09.8	S11 43.3	55 30.9	S17 48.1
D	7	25 32.4	256 32.3	N20 18.7	249 53.9	N18 09.1	51 12.3	S11 43.3	70 33.5	S17 48.1
A	8	40 34.9	271 31.6	N20 18.0	264 54.8	N18 08.6	66 14.9	S11 43.4	85 36.1	S17 48.2
Y	9	55 37.3	286 30.9	N20 17.2	279 55.7	N18 08.2	81 17.4	S11 43.4	100 38.8	S17 48.2
	10	70 39.8	301 30.3	N20 16.5	294 56.6	N18 07.7	96 20.0	S11 43.5	115 41.4	S17 48.3
	11	85 42.3	316 29.6	N20 15.8	309 57.6	N18 07.3	111 22.5	S11 43.5	130 44.0	S17 48.3
	12	100 44.7	331 28.9	N20 15.0	324 58.5	N18 06.8	126 25.1	S11 43.6	145 46.6	S17 48.3
	13	115 47.2	346 28.3	N20 14.3	339 59.4	N18 06.4	141 27.6	S11 43.6	160 49.2	S17 48.4
	14	130 49.7	1 27.6	N20 13.5	355 00.3	N18 05.9	156 30.2	S11 43.7	175 51.8	S17 48.4
	15	145 52.1	16 26.9	N20 12.8	10 01.2	N18 05.5	171 32.7	S11 43.7	190 54.4	S17 48.5
	16	160 54.6	31 26.3	N20 12.0	25 02.1	N18 05.0	186 35.3	S11 43.7	205 57.0	S17 48.5
	17	175 57.0	46 25.6	N20 11.3	40 03.0	N18 04.6	201 37.8	S11 43.8	220 59.6	S17 48.6
	18	190 59.5	61 25.0	N20 10.5	55 03.9	N18 04.1	216 40.4	S11 43.8	236 02.2	S17 48.6
	19	206 02.0	76 24.3	N20 09.8	70 04.8	N18 03.7	231 42.9	S11 43.9	251 04.8	S17 48.7
	20	221 04.4	91 23.6	N20 09.0	85 05.7	N18 03.2	246 45.5	S11 43.9	266 07.4	S17 48.7
	21	236 06.9	106 23.0	N20 08.3	100 06.6	N18 02.8	261 48.0	S11 44.0	281 10.0	S17 48.8
	22	251 09.4	121 22.3	N20 07.5	115 07.5	N18 02.3	276 50.6	S11 44.0	296 12.6	S17 48.8
	23	266 11.8	136 21.7	N20 06.8	130 08.4	N18 01.8	291 53.1	S11 44.1	311 15.3	S17 48.8
			v -0.7	d 0.7	v 0.9	d 0.4	v 2.5	d 0.0	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 '
30	0	179 05.6	N23 10.1	288 35.4	13.5	S10 05.5	12.9	56.5
	1	194 05.5	N23 10.0	303 08.0	13.6	S 9 52.6	12.9	56.5
	2	209 05.4	N23 09.8	317 40.6	13.7	S 9 39.6	13.0	56.5
	3	224 05.2	N23 09.6	332 13.4	13.7	S 9 26.6	13.0	56.4
	4	239 05.1	N23 09.5	346 46.2	13.8	S 9 13.6	13.0	56.4
W	5	254 05.0	N23 09.3	1 19.1	13.9	S 9 00.5	13.0	56.4
E								
D	6	269 04.9	N23 09.2	15 52.0	14.0	S 8 47.5	13.1	56.3
N	7	284 04.8	N23 09.0	30 25.0	14.0	S 8 34.4	13.1	56.3
E	8	299 04.6	N23 08.9	44 58.1	14.1	S 8 21.3	13.1	56.3
S	9	314 04.5	N23 08.7	59 31.3	14.2	S 8 08.1	13.1	56.2
D	10	329 04.4	N23 08.6	74 04.6	14.2	S 7 55.0	13.1	56.2
A	11	344 04.3	N23 08.4	88 37.9	14.3	S 7 41.8	13.2	56.2
Y								
	12	359 04.1	N23 08.2	103 11.2	14.4	S 7 28.6	13.2	56.1
	13	14 04.0	N23 08.1	117 44.7	14.4	S 7 15.4	13.2	56.1
	14	29 03.9	N23 07.9	132 18.2	14.5	S 7 02.2	13.2	56.1
	15	44 03.8	N23 07.8	146 51.7	14.6	S 6 49.0	13.2	56.0
	16	59 03.7	N23 07.6	161 25.3	14.6	S 6 35.7	13.2	56.0
	17	74 03.5	N23 07.4	175 59.0	14.7	S 6 22.5	13.3	56.0
	18	89 03.4	N23 07.3	190 32.8	14.7	S 6 09.2	13.3	55.9
	19	104 03.3	N23 07.1	205 06.5	14.8	S 5 56.0	13.3	55.9
	20	119 03.2	N23 06.9	219 40.4	14.9	S 5 42.7	13.3	55.9
	21	134 03.1	N23 06.8	234 14.3	14.9	S 5 29.4	13.3	55.8
	22	149 02.9	N23 06.6	248 48.3	15.0	S 5 16.1	13.3	55.8
	23	164 02.8	N23 06.4	263 22.3	15.0	S 5 02.8	13.3	55.8
1	0	179 02.7	N23 06.3	277 56.3	15.1	S 4 49.4	13.3	55.7
	1	194 02.6	N23 06.1	292 30.4	15.1	S 4 36.1	13.3	55.7
	2	209 02.4	N23 05.9	307 04.6	15.2	S 4 22.8	13.3	55.7
	3	224 02.3	N23 05.8	321 38.8	15.2	S 4 09.5	13.3	55.7
	4	239 02.2	N23 05.6	336 13.1	15.3	S 3 56.2	13.3	55.6
T	5	254 02.1	N23 05.4	350 47.4	15.3	S 3 42.8	13.3	55.6
H								
U	6	269 02.0	N23 05.2	5 21.7	15.3	S 3 29.5	13.3	55.6
R	7	284 01.8	N23 05.1	19 56.1	15.4	S 3 16.2	13.3	55.5
S	8	299 01.7	N23 04.9	34 30.5	15.4	S 3 02.8	13.3	55.5
D	9	314 01.6	N23 04.7	49 05.0	15.5	S 2 49.5	13.3	55.5
A	10	329 01.5	N23 04.6	63 39.5	15.5	S 2 36.2	13.3	55.5
Y	11	344 01.4	N23 04.4	78 14.0	15.5	S 2 22.8	13.3	55.4
	12	359 01.2	N23 04.2	92 48.6	15.6	S 2 09.5	13.3	55.4
	13	14 01.1	N23 04.0	107 23.2	15.6	S 1 56.2	13.3	55.4
	14	29 01.0	N23 03.8	121 57.9	15.7	S 1 42.9	13.3	55.4
	15	44 00.9	N23 03.7	136 32.6	15.7	S 1 29.6	13.3	55.3
	16	59 00.8	N23 03.5	151 07.3	15.7	S 1 16.3	13.3	55.3
	17	74 00.7	N23 03.3	165 42.0	15.7	S 1 03.0	13.3	55.3
	18	89 00.5	N23 03.1	180 16.8	15.8	S 0 49.7	13.3	55.2
	19	104 00.4	N23 02.9	194 51.6	15.8	S 0 36.5	13.3	55.2
	20	119 00.3	N23 02.8	209 26.4	15.8	S 0 23.2	13.3	55.2
	21	134 00.2	N23 02.6	224 01.3	15.9	S 0 09.9	13.3	55.2
	22	149 00.1	N23 02.4	238 36.2	15.9	N 0 03.3	13.2	55.1
	23	163 59.9	N23 02.2	253 11.1	15.9	N 0 16.5	13.2	55.1
2	0	178 59.8	N23 02.0	267 46.0	15.9	N 0 29.7	13.2	55.1
	1	193 59.7	N23 01.8	282 21.0	16.0	N 0 42.9	13.2	55.1
	2	208 59.6	N23 01.7	296 55.9	16.0	N 0 56.1	13.2	55.1
	3	223 59.5	N23 01.5	311 30.9	16.0	N 1 09.3	13.2	55.0
	4	238 59.4	N23 01.3	326 05.9	16.0	N 1 22.5	13.2	55.0
F	5	253 59.2	N23 01.1	340 41.0	16.0	N 1 35.6	13.1	55.0
R								
I	6	268 59.1	N23 00.9	355 16.0	16.0	N 1 48.7	13.1	55.0
D	7	283 59.0	N23 00.7	9 51.1	16.1	N 2 01.9	13.1	54.9
A	8	298 58.9	N23 00.5	24 26.2	16.1	N 2 14.9	13.1	54.9
Y	9	313 58.8	N23 00.3	39 01.2	16.1	N 2 28.0	13.1	54.9
	10	328 58.6	N23 00.1	53 36.3	16.1	N 2 41.1	13.1	54.9
	11	343 58.5	N22 60.0	68 11.4	16.1	N 2 54.1	13.0	54.9
	12	358 58.4	N22 59.8	82 46.6	16.1	N 3 07.1	13.0	54.8
	13	13 58.3	N22 59.6	97 21.7	16.1	N 3 20.1	13.0	54.8
	14	28 58.2	N22 59.4	111 56.8	16.1	N 3 33.1	13.0	54.8
	15	43 58.1	N22 59.2	126 32.0	16.1	N 3 46.0	12.9	54.8
	16	58 58.0	N22 59.0	141 07.1	16.1	N 3 59.0	12.9	54.8
	17	73 57.8	N22 58.8	155 42.3	16.1	N 4 11.9	12.9	54.7
	18	88 57.7	N22 58.6	170 17.4	16.2	N 4 24.7	12.9	54.7
	19	103 57.6	N22 58.4	184 52.6	16.2	N 4 37.6	12.9	54.7
	20	118 57.5	N22 58.2	199 27.7	16.2	N 4 50.4	12.8	54.7
	21	133 57.4	N22 58.0	214 02.9	16.2	N 5 03.2	12.8	54.7
	22	148 57.3	N22 57.8	228 38.0	16.2	N 5 16.0	12.8	54.6
	23	163 57.1	N22 57.6	243 13.2	16.2	N 5 28.7	12.7	54.6
		S.D. 15.7	d 0.2	S.D.	15.3	15.1	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.0
Achernar	335 22.6	S57 07.5
Acrux	173 03.3	S63 13.2
Adhara	255 08.5	S29 00.1
Albireo	67 06.0	N28 00.2
Aldebaran	290 43.2	N16 33.1
Alioth	166 15.5	N55 51.0
Alkaid	152 54.2	N49 12.7
Al Na-ir	27 36.2	S46 51.3
Alnilam	275 40.9	S 1 11.3
Alphard	217 50.8	S 8 45.1
Alphecca	126 05.9	N26 38.7
Alpheratz	357 37.7	N29 12.3
Altair	62 02.4	N 8 55.5
Ankaa	353 10.0	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.4	N19 04.4
Atria	107 15.4	S69 04.0
Avior	234 16.4	S59 34.8
Bellatrix	278 26.3	N 6 22.1
Betelgeuse	270 55.5	N 7 24.7
Canopus	263 54.2	S52 42.4
Capella	280 26.6	N46 01.1
Castor	246 01.1	N31 50.6
Deneb	49 27.3	N45 21.3
Denebola	182 28.0	N14 27.3
Diphda	348 50.2	S17 52.1
Dubhe	193 44.9	N61 38.4
Elnath	278 05.9	N28 37.4
Eltanin	90 43.0	N51 29.2
Enif	33 41.3	N 9 58.3
Fomalhaut	15 17.5	S29 30.4
Gacrux	171 54.8	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 39.8	S60 28.7
Hamal	327 54.6	N23 33.7
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 19.3	N74 04.4
Markab	13 32.6	N15 19.1
Menkar	314 09.3	N 4 10.3
Menkent	148 00.8	S36 28.6
Miaplacidus	221 39.4	S69 48.4
Mirfak	308 32.7	N49 56.0
Nunki	75 51.0	S26 16.1
Peacock	53 09.7	S56 39.9
Polaris	317 30.5	N89 20.1
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.2
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 07.0	S 8 10.6
Rigil Kent	139 44.0	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.2	N56 38.9
Shaula	96 13.9	S37 07.2
Sirius	258 29.1	S16 44.7
Spica	158 25.3	S11 16.3
Suhail	222 48.7	S43 31.2
Vega	80 34.7	N38 48.2
Zuben-ubi	136 59.8	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
3 0	281 14.3	151 21.0	N20 06.0	145 09.3	N18 01.4	306 55.7	S11 44.1	326 17.9	S17 48.9
1	296 16.8	166 20.4	N20 05.3	160 10.2	N18 00.9	321 58.2	S11 44.2	341 20.5	S17 48.9
2	311 19.2	181 19.7	N20 04.5	175 11.1	N18 00.5	337 00.8	S11 44.2	356 23.1	S17 49.0
3	326 21.7	196 19.1	N20 03.8	190 12.0	N18 00.0	352 03.4	S11 44.2	11 25.7	S17 49.0
4	341 24.2	211 18.4	N20 03.0	205 12.9	N17 59.6	7 05.9	S11 44.3	26 28.3	S17 49.1
S 5	356 26.6	226 17.7	N20 02.3	220 13.8	N17 59.1	22 08.5	S11 44.3	41 30.9	S17 49.1
A									
T 6	11 29.1	241 17.1	N20 01.5	235 14.8	N17 58.7	37 11.0	S11 44.4	56 33.5	S17 49.2
U 7	26 31.5	256 16.4	N20 00.7	250 15.7	N17 58.2	52 13.6	S11 44.4	71 36.1	S17 49.2
R 8	41 34.0	271 15.8	N19 60.0	265 16.6	N17 57.7	67 16.1	S11 44.5	86 38.7	S17 49.3
D 9	56 36.5	286 15.1	N19 59.2	280 17.5	N17 57.3	82 18.7	S11 44.5	101 41.3	S17 49.3
A 10	71 38.9	301 14.5	N19 58.4	295 18.4	N17 56.8	97 21.2	S11 44.6	116 43.9	S17 49.3
Y 11	86 41.4	316 13.8	N19 57.7	310 19.3	N17 56.4	112 23.8	S11 44.6	131 46.6	S17 49.4
12	101 43.9	331 13.2	N19 56.9	325 20.2	N17 55.9	127 26.4	S11 44.7	146 49.2	S17 49.4
13	116 46.3	346 12.5	N19 56.2	340 21.1	N17 55.5	142 28.9	S11 44.7	161 51.8	S17 49.5
14	131 48.8	1 11.9	N19 55.4	355 22.0	N17 55.0	157 31.5	S11 44.8	176 54.4	S17 49.5
15	146 51.3	16 11.2	N19 54.6	10 22.9	N17 54.5	172 34.0	S11 44.8	191 57.0	S17 49.6
16	161 53.7	31 10.6	N19 53.8	25 23.8	N17 54.1	187 36.6	S11 44.9	206 59.6	S17 49.6
17	176 56.2	46 09.9	N19 53.1	40 24.7	N17 53.6	202 39.2	S11 44.9	222 02.2	S17 49.7
18	191 58.6	61 09.3	N19 52.3	55 25.6	N17 53.2	217 41.7	S11 44.9	237 04.8	S17 49.7
19	207 01.1	76 08.6	N19 51.5	70 26.5	N17 52.7	232 44.3	S11 45.0	252 07.4	S17 49.8
20	222 03.6	91 08.0	N19 50.8	85 27.4	N17 52.3	247 46.8	S11 45.0	267 10.0	S17 49.8
21	237 06.0	106 07.4	N19 50.0	100 28.4	N17 51.8	262 49.4	S11 45.1	282 12.7	S17 49.9
22	252 08.5	121 06.7	N19 49.2	115 29.3	N17 51.3	277 52.0	S11 45.1	297 15.3	S17 49.9
23	267 11.0	136 06.1	N19 48.4	130 30.2	N17 50.9	292 54.5	S11 45.2	312 17.9	S17 49.9
4 0	282 13.4	151 05.4	N19 47.7	145 31.1	N17 50.4	307 57.1	S11 45.2	327 20.5	S17 50.0
1	297 15.9	166 04.8	N19 46.9	160 32.0	N17 50.0	322 59.6	S11 45.3	342 23.1	S17 50.0
2	312 18.4	181 04.1	N19 46.1	175 32.9	N17 49.5	338 02.2	S11 45.3	357 25.7	S17 50.1
3	327 20.8	196 03.5	N19 45.3	190 33.8	N17 49.0	353 04.8	S11 45.4	12 28.3	S17 50.1
4	342 23.3	211 02.9	N19 44.5	205 34.7	N17 48.6	8 07.3	S11 45.4	27 30.9	S17 50.2
S 5	357 25.8	226 02.2	N19 43.8	220 35.6	N17 48.1	23 09.9	S11 45.5	42 33.5	S17 50.2
U									
N 6	12 28.2	241 01.6	N19 43.0	235 36.5	N17 47.7	38 12.4	S11 45.5	57 36.2	S17 50.3
D 7	27 30.7	256 00.9	N19 42.2	250 37.4	N17 47.2	53 15.0	S11 45.6	72 38.8	S17 50.3
A 8	42 33.1	271 00.3	N19 41.4	265 38.3	N17 46.7	68 17.6	S11 45.6	87 41.4	S17 50.4
Y 9	57 35.6	285 59.7	N19 40.6	280 39.3	N17 46.3	83 20.1	S11 45.7	102 44.0	S17 50.4
10	72 38.1	300 59.0	N19 39.8	295 40.2	N17 45.8	98 22.7	S11 45.7	117 46.6	S17 50.5
11	87 40.5	315 58.4	N19 39.1	310 41.1	N17 45.3	113 25.3	S11 45.8	132 49.2	S17 50.5
12	102 43.0	330 57.8	N19 38.3	325 42.0	N17 44.9	128 27.8	S11 45.8	147 51.8	S17 50.6
13	117 45.5	345 57.1	N19 37.5	340 42.9	N17 44.4	143 30.4	S11 45.9	162 54.4	S17 50.6
14	132 47.9	0 56.5	N19 36.7	355 43.8	N17 44.0	158 33.0	S11 45.9	177 57.1	S17 50.6
15	147 50.4	15 55.8	N19 35.9	10 44.7	N17 43.5	173 35.5	S11 46.0	192 59.7	S17 50.7
16	162 52.9	30 55.2	N19 35.1	25 45.6	N17 43.0	188 38.1	S11 46.0	208 02.3	S17 50.7
17	177 55.3	45 54.6	N19 34.3	40 46.5	N17 42.6	203 40.7	S11 46.1	223 04.9	S17 50.8
18	192 57.8	60 53.9	N19 33.5	55 47.4	N17 42.1	218 43.2	S11 46.1	238 07.5	S17 50.8
19	208 00.3	75 53.3	N19 32.7	70 48.3	N17 41.6	233 45.8	S11 46.2	253 10.1	S17 50.9
20	223 02.7	90 52.7	N19 31.9	85 49.3	N17 41.2	248 48.4	S11 46.2	268 12.7	S17 50.9
21	238 05.2	105 52.0	N19 31.1	100 50.2	N17 40.7	263 50.9	S11 46.3	283 15.3	S17 51.0
22	253 07.6	120 51.4	N19 30.3	115 51.1	N17 40.2	278 53.5	S11 46.3	298 18.0	S17 51.0
23	268 10.1	135 50.8	N19 29.5	130 52.0	N17 39.8	293 56.1	S11 46.4	313 20.6	S17 51.1
5 0	283 12.6	150 50.2	N19 28.7	145 52.9	N17 39.3	308 58.6	S11 46.4	328 23.2	S17 51.1
1	298 15.0	165 49.5	N19 27.9	160 53.8	N17 38.9	324 01.2	S11 46.5	343 25.8	S17 51.2
2	313 17.5	180 48.9	N19 27.1	175 54.7	N17 38.4	339 03.8	S11 46.5	358 28.4	S17 51.2
3	328 20.0	195 48.3	N19 26.3	190 55.6	N17 37.9	354 06.3	S11 46.6	13 31.0	S17 51.3
4	343 22.4	210 47.6	N19 25.5	205 56.5	N17 37.5	9 08.9	S11 46.6	28 33.6	S17 51.3
M 5	358 24.9	225 47.0	N19 24.7	220 57.5	N17 37.0	24 11.5	S11 46.7	43 36.2	S17 51.3
O									
N 6	13 27.4	240 46.4	N19 23.9	235 58.4	N17 36.5	39 14.1	S11 46.7	58 38.9	S17 51.4
D 7	28 29.8	255 45.8	N19 23.1	250 59.3	N17 36.1	54 16.6	S11 46.8	73 41.5	S17 51.4
A 8	43 32.3	270 45.1	N19 22.3	266 00.2	N17 35.6	69 19.2	S11 46.9	88 44.1	S17 51.5
Y 9	58 34.8	285 44.5	N19 21.5	281 01.1	N17 35.1	84 21.8	S11 46.9	103 46.7	S17 51.5
10	73 37.2	300 43.9	N19 20.7	296 02.0	N17 34.7	99 24.3	S11 47.0	118 49.3	S17 51.6
11	88 39.7	315 43.3	N19 19.9	311 02.9	N17 34.2	114 26.9	S11 47.0	133 51.9	S17 51.6
12	103 42.1	330 42.6	N19 19.1	326 03.8	N17 33.7	129 29.5	S11 47.1	148 54.5	S17 51.7
13	118 44.6	345 42.0	N19 18.3	341 04.7	N17 33.3	144 32.1	S11 47.1	163 57.2	S17 51.7
14	133 47.1	0 41.4	N19 17.5	356 05.7	N17 32.8	159 34.6	S11 47.2	178 59.8	S17 51.8
15	148 49.5	15 40.8	N19 16.7	11 06.6	N17 32.3	174 37.2	S11 47.2	194 02.4	S17 51.8
16	163 52.0	30 40.2	N19 15.8	26 07.5	N17 31.9	189 39.8	S11 47.3	209 05.0	S17 51.9
17	178 54.5	45 39.5	N19 15.0	41 08.4	N17 31.4	204 42.4	S11 47.3	224 07.6	S17 51.9
18	193 56.9	60 38.9	N19 14.2	56 09.3	N17 30.9	219 44.9	S11 47.4	239 10.2	S17 52.0
19	208 59.4	75 38.3	N19 13.4	71 10.2	N17 30.5	234 47.5	S11 47.4	254 12.9	S17 52.0
20	224 01.9	90 37.7	N19 12.6	86 11.1	N17 30.0	249 50.1	S11 47.5	269 15.5	S17 52.1
21	239 04.3	105 37.1	N19 11.8	101 12.0	N17 29.5	264 52.7	S11 47.5	284 18.1	S17 52.1
22	254 06.8	120 36.4	N19 10.9	116 13.0	N17 29.0	279 55.2	S11 47.6	299 20.7	S17 52.1
23	269 09.2	135 35.8	N19 10.1	131 13.9	N17 28.6	294 57.8	S11 47.6	314 23.3	S17 52.2
		v -0.6	d 0.8	v 0.9	d 0.5	v 2.6	d 0.0	v 2.6	d 0.0

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
3 0	178 57.0	N22 57.4	257 48.3	16.1	N 5 41.5	12.7	54.6	Acamar	315 14.2 S40 13.0
1	193 56.9	N22 57.2	272 23.5	16.1	N 5 54.1	12.7	54.6	Achernar	335 22.5 S57 07.5
2	208 56.8	N22 57.0	286 58.6	16.1	N 6 06.8	12.7	54.6	Acrux	173 03.3 S63 13.2
3	223 56.7	N22 56.8	301 33.7	16.1	N 6 19.4	12.6	54.6	Adhara	255 08.5 S29 00.0
4	238 56.6	N22 56.6	316 08.9	16.1	N 6 32.0	12.6	54.5	Albireo	67 06.0 N28 00.3
S 5	253 56.4	N22 56.4	330 44.0	16.1	N 6 44.6	12.6	54.5		
A								Aldebaran	290 43.2 N16 33.1
T 6	268 56.3	N22 56.2	345 19.1	16.1	N 6 57.1	12.5	54.5	Alioth	166 15.5 N55 51.0
U 7	283 56.2	N22 56.0	359 54.2	16.1	N 7 09.6	12.5	54.5	Alkaid	152 54.2 N49 12.7
R 8	298 56.1	N22 55.8	14 29.3	16.1	N 7 22.1	12.5	54.5	Al Na-ir	27 36.2 S46 51.3
D 9	313 56.0	N22 55.5	29 04.4	16.1	N 7 34.5	12.4	54.5	Alnilam	275 40.9 S 1 11.3
A 10	328 55.9	N22 55.3	43 39.4	16.1	N 7 46.9	12.4	54.5		
Y 11	343 55.8	N22 55.1	58 14.5	16.0	N 7 59.3	12.4	54.4	Alphard	217 50.8 S 8 45.1
								Alphecca	126 05.9 N26 38.7
12	358 55.6	N22 54.9	72 49.5	16.0	N 8 11.6	12.3	54.4	Alpheratz	357 37.7 N29 12.3
13	13 55.5	N22 54.7	87 24.5	16.0	N 8 23.9	12.3	54.4	Altair	62 02.4 N 8 55.5
14	28 55.4	N22 54.5	101 59.5	16.0	N 8 36.2	12.3	54.4	Ankaa	353 10.0 S42 11.2
15	43 55.3	N22 54.3	116 34.5	16.0	N 8 48.4	12.2	54.4		
16	58 55.2	N22 54.1	131 09.5	16.0	N 9 00.6	12.2	54.4	Antares	112 19.1 S26 28.8
17	73 55.1	N22 53.9	145 44.4	15.9	N 9 12.7	12.1	54.4	Arcturus	145 50.4 N19 04.4
								Atria	107 15.4 S69 04.1
18	88 55.0	N22 53.6	160 19.3	15.9	N 9 24.8	12.1	54.4	Avior	234 16.4 S59 34.8
19	103 54.9	N22 53.4	174 54.2	15.9	N 9 36.9	12.1	54.3	Bellatrix	278 26.3 N 6 22.1
20	118 54.7	N22 53.2	189 29.1	15.9	N 9 48.9	12.0	54.3		
21	133 54.6	N22 53.0	204 04.0	15.9	N10 00.9	12.0	54.3	Betelgeuse	270 55.5 N 7 24.7
22	148 54.5	N22 52.8	218 38.8	15.8	N10 12.8	11.9	54.3	Canopus	263 54.2 S52 42.4
23	163 54.4	N22 52.6	233 13.6	15.8	N10 24.7	11.9	54.3	Capella	280 26.6 N46 01.1
4 0	178 54.3	N22 52.3	247 48.4	15.8	N10 36.5	11.8	54.3	Castor	246 01.1 N31 50.6
1	193 54.2	N22 52.1	262 23.1	15.7	N10 48.3	11.8	54.3	Deneb	49 27.3 N45 21.3
2	208 54.1	N22 51.9	276 57.8	15.7	N11 00.1	11.8	54.3		
3	223 54.0	N22 51.7	291 32.5	15.7	N11 11.8	11.7	54.3	Denebola	182 28.0 N14 27.3
4	238 53.8	N22 51.5	306 07.2	15.7	N11 23.5	11.7	54.2	Diphda	348 50.2 S17 52.1
S 5	253 53.7	N22 51.2	320 41.8	15.6	N11 35.1	11.6	54.2	Dubhe	193 44.9 N61 38.4
U								Elnath	278 05.9 N28 37.4
N 6	268 53.6	N22 51.0	335 16.4	15.6	N11 46.7	11.6	54.2	Eltanin	90 43.0 N51 29.2
D 7	283 53.5	N22 50.8	349 51.0	15.6	N11 58.2	11.5	54.2		
A 8	298 53.4	N22 50.6	4 25.5	15.5	N12 09.7	11.5	54.2	Enif	33 41.3 N 9 58.3
Y 9	313 53.3	N22 50.4	19 00.0	15.5	N12 21.1	11.4	54.2	Fomalhaut	15 17.5 S29 30.4
10	328 53.2	N22 50.1	33 34.5	15.5	N12 32.5	11.4	54.2	Gacrux	171 54.8 S57 14.2
11	343 53.1	N22 49.9	48 08.9	15.4	N12 43.8	11.3	54.2	Gienah	175 46.6 S17 39.6
								Hadar	148 39.9 S60 28.8
12	358 53.0	N22 49.7	62 43.3	15.4	N12 55.1	11.3	54.2		
13	13 52.8	N22 49.5	77 17.7	15.4	N13 06.3	11.2	54.2	Hamal	327 54.6 N23 33.7
14	28 52.7	N22 49.2	91 52.0	15.3	N13 17.5	11.2	54.2	Kaus Austr.	83 35.9 S34 22.5
15	43 52.6	N22 49.0	106 26.3	15.3	N13 28.6	11.1	54.2	Kochab	137 19.4 N74 04.4
16	58 52.5	N22 48.8	121 00.5	15.2	N13 39.7	11.1	54.2	Markab	13 32.6 N15 19.1
17	73 52.4	N22 48.5	135 34.7	15.2	N13 50.7	11.0	54.2	Menkar	314 09.3 N 4 10.4
								Menkent	148 00.9 S36 28.6
18	88 52.3	N22 48.3	150 08.9	15.2	N14 01.6	11.0	54.1	Miaplacidus	221 39.5 S69 48.4
19	103 52.2	N22 48.1	164 43.0	15.1	N14 12.5	10.9	54.1	Mirfak	308 32.7 N49 56.0
20	118 52.1	N22 47.8	179 17.1	15.1	N14 23.4	10.8	54.1	Nunki	75 50.9 S26 16.1
21	133 52.0	N22 47.6	193 51.1	15.0	N14 34.1	10.8	54.1	Peacock	53 09.7 S56 39.9
22	148 51.9	N22 47.4	208 25.1	15.0	N14 44.9	10.7	54.1		
23	163 51.7	N22 47.1	222 59.0	14.9	N14 55.5	10.7	54.1	Polaris	317 29.3 N89 20.1
5 0	178 51.6	N22 46.9	237 32.9	14.9	N15 06.1	10.6	54.1	Pollux	243 21.2 N27 58.5
1	193 51.5	N22 46.7	252 06.8	14.9	N15 16.7	10.5	54.1	Procyon	244 54.2 N 5 10.2
2	208 51.4	N22 46.4	266 40.6	14.8	N15 27.2	10.5	54.1	Rasalhague	96 00.9 N12 32.8
3	223 51.3	N22 46.2	281 14.4	14.8	N15 37.6	10.4	54.1	Regulus	207 37.7 N11 51.9
4	238 51.2	N22 46.0	295 48.1	14.7	N15 47.9	10.4	54.1		
M 5	253 51.1	N22 45.7	310 21.7	14.7	N15 58.2	10.3	54.1	Rigel	281 06.9 S 8 10.6
O								Rigil Kent	139 44.0 S60 55.6
N 6	268 51.0	N22 45.5	324 55.4	14.6	N16 08.5	10.2	54.1	Sabik	102 05.8 S15 45.1
D 7	283 50.9	N22 45.2	339 28.9	14.6	N16 18.6	10.2	54.1	Schedar	349 34.2 N56 38.9
A 8	298 50.8	N22 45.0	354 02.4	14.5	N16 28.7	10.1	54.1	Shaula	96 13.9 S37 07.2
Y 9	313 50.7	N22 44.8	8 35.9	14.5	N16 38.8	10.0	54.1	Sirius	258 29.1 S16 44.7
10	328 50.6	N22 44.5	23 09.3	14.4	N16 48.7	10.0	54.1	Spica	158 25.3 S11 16.3
11	343 50.4	N22 44.3	37 42.7	14.4	N16 58.6	9.9	54.1	Suhail	222 48.7 S43 31.2
								Vega	80 34.7 N38 48.2
12	358 50.3	N22 44.0	52 16.0	14.3	N17 08.5	9.8	54.1	Zuben-ubi	136 59.8 S16 07.8
13	13 50.2	N22 43.8	66 49.2	14.3	N17 18.2	9.8	54.1		
14	28 50.1	N22 43.6	81 22.4	14.2	N17 27.9	9.7	54.1		
15	43 50.0	N22 43.3	95 55.6	14.1	N17 37.5	9.6	54.1		
16	58 49.9	N22 43.1	110 28.7	14.1	N17 47.1	9.5	54.1		
17	73 49.8	N22 42.8	125 01.7	14.0	N17 56.6	9.5	54.1		
18	88 49.7	N22 42.6	139 34.7	14.0	N18 06.0	9.4	54.1		
19	103 49.6	N22 42.3	154 07.6	13.9	N18 15.3	9.3	54.1		
20	118 49.5	N22 42.1	168 40.5	13.9	N18 24.5	9.3	54.1		
21	133 49.4	N22 41.8	183 13.3	13.8	N18 33.7	9.2	54.1		
22	148 49.3	N22 41.6	197 46.1	13.8	N18 42.8	9.1	54.1		
23	163 49.2	N22 41.3	212 18.8	13.7	N18 51.8	9.0	54.1		
	S.D. 15.7	d 0.2	S.D.	14.8	14.8	14.7			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
6	0	284 11.7	150 35.2	N19 09.3	146 14.8	N17 28.1	310 00.4	S11 47.7	329 25.9	S17 52.2
	1	299 14.2	165 34.6	N19 08.5	161 15.7	N17 27.6	325 03.0	S11 47.8	344 28.5	S17 52.3
	2	314 16.6	180 34.0	N19 07.7	176 16.6	N17 27.2	340 05.5	S11 47.8	359 31.2	S17 52.3
	3	329 19.1	195 33.4	N19 06.8	191 17.5	N17 26.7	355 08.1	S11 47.9	14 33.8	S17 52.4
	4	344 21.6	210 32.8	N19 06.0	206 18.4	N17 26.2	10 10.7	S11 47.9	29 36.4	S17 52.4
T	5	359 24.0	225 32.1	N19 05.2	221 19.3	N17 25.8	25 13.3	S11 48.0	44 39.0	S17 52.5
U										
E	6	14 26.5	240 31.5	N19 04.4	236 20.3	N17 25.3	40 15.8	S11 48.0	59 41.6	S17 52.5
S	7	29 29.0	255 30.9	N19 03.5	251 21.2	N17 24.8	55 18.4	S11 48.1	74 44.2	S17 52.6
D	8	44 31.4	270 30.3	N19 02.7	266 22.1	N17 24.3	70 21.0	S11 48.1	89 46.9	S17 52.6
A	9	59 33.9	285 29.7	N19 01.9	281 23.0	N17 23.9	85 23.6	S11 48.2	104 49.5	S17 52.7
Y	10	74 36.4	300 29.1	N19 01.1	296 23.9	N17 23.4	100 26.2	S11 48.2	119 52.1	S17 52.7
	11	89 38.8	315 28.5	N19 00.2	311 24.8	N17 22.9	115 28.7	S11 48.3	134 54.7	S17 52.8
	12	104 41.3	330 27.9	N18 59.4	326 25.7	N17 22.5	130 31.3	S11 48.4	149 57.3	S17 52.8
	13	119 43.7	345 27.3	N18 58.6	341 26.7	N17 22.0	145 33.9	S11 48.4	164 59.9	S17 52.9
	14	134 46.2	0 26.7	N18 57.7	356 27.6	N17 21.5	160 36.5	S11 48.5	180 02.6	S17 52.9
	15	149 48.7	15 26.0	N18 56.9	11 28.5	N17 21.0	175 39.1	S11 48.5	195 05.2	S17 53.0
	16	164 51.1	30 25.4	N18 56.1	26 29.4	N17 20.6	190 41.6	S11 48.6	210 07.8	S17 53.0
	17	179 53.6	45 24.8	N18 55.2	41 30.3	N17 20.1	205 44.2	S11 48.6	225 10.4	S17 53.1
	18	194 56.1	60 24.2	N18 54.4	56 31.2	N17 19.6	220 46.8	S11 48.7	240 13.0	S17 53.1
	19	209 58.5	75 23.6	N18 53.6	71 32.1	N17 19.1	235 49.4	S11 48.8	255 15.7	S17 53.1
	20	225 01.0	90 23.0	N18 52.7	86 33.1	N17 18.7	250 52.0	S11 48.8	270 18.3	S17 53.2
	21	240 03.5	105 22.4	N18 51.9	101 34.0	N17 18.2	265 54.5	S11 48.9	285 20.9	S17 53.2
	22	255 05.9	120 21.8	N18 51.0	116 34.9	N17 17.7	280 57.1	S11 48.9	300 23.5	S17 53.3
	23	270 08.4	135 21.2	N18 50.2	131 35.8	N17 17.3	295 59.7	S11 49.0	315 26.1	S17 53.3
7	0	285 10.9	150 20.6	N18 49.4	146 36.7	N17 16.8	311 02.3	S11 49.0	330 28.7	S17 53.4
	1	300 13.3	165 20.0	N18 48.5	161 37.6	N17 16.3	326 04.9	S11 49.1	345 31.4	S17 53.4
	2	315 15.8	180 19.4	N18 47.7	176 38.5	N17 15.8	341 07.5	S11 49.1	0 34.0	S17 53.5
	3	330 18.2	195 18.8	N18 46.8	191 39.5	N17 15.4	356 10.1	S11 49.2	15 36.6	S17 53.5
	4	345 20.7	210 18.2	N18 46.0	206 40.4	N17 14.9	11 12.6	S11 49.3	30 39.2	S17 53.6
W	5	0 23.2	225 17.6	N18 45.1	221 41.3	N17 14.4	26 15.2	S11 49.3	45 41.8	S17 53.6
E										
D	6	15 25.6	240 17.0	N18 44.3	236 42.2	N17 13.9	41 17.8	S11 49.4	60 44.5	S17 53.7
N	7	30 28.1	255 16.4	N18 43.4	251 43.1	N17 13.5	56 20.4	S11 49.4	75 47.1	S17 53.7
E	8	45 30.6	270 15.8	N18 42.6	266 44.0	N17 13.0	71 23.0	S11 49.5	90 49.7	S17 53.8
S	9	60 33.0	285 15.2	N18 41.7	281 45.0	N17 12.5	86 25.6	S11 49.5	105 52.3	S17 53.8
D	10	75 35.5	300 14.6	N18 40.9	296 45.9	N17 12.0	101 28.1	S11 49.6	120 54.9	S17 53.9
A	11	90 38.0	315 14.0	N18 40.0	311 46.8	N17 11.6	116 30.7	S11 49.7	135 57.6	S17 53.9
Y										
	12	105 40.4	330 13.4	N18 39.2	326 47.7	N17 11.1	131 33.3	S11 49.7	151 00.2	S17 54.0
	13	120 42.9	345 12.8	N18 38.3	341 48.6	N17 10.6	146 35.9	S11 49.8	166 02.8	S17 54.0
	14	135 45.4	0 12.2	N18 37.5	356 49.5	N17 10.1	161 38.5	S11 49.8	181 05.4	S17 54.1
	15	150 47.8	15 11.6	N18 36.6	11 50.5	N17 09.6	176 41.1	S11 49.9	196 08.0	S17 54.1
	16	165 50.3	30 11.0	N18 35.8	26 51.4	N17 09.2	191 43.7	S11 50.0	211 10.7	S17 54.2
	17	180 52.7	45 10.5	N18 34.9	41 52.3	N17 08.7	206 46.3	S11 50.0	226 13.3	S17 54.2
	18	195 55.2	60 09.9	N18 34.1	56 53.2	N17 08.2	221 48.9	S11 50.1	241 15.9	S17 54.3
	19	210 57.7	75 09.3	N18 33.2	71 54.1	N17 07.7	236 51.4	S11 50.1	256 18.5	S17 54.3
	20	226 00.1	90 08.7	N18 32.3	86 55.0	N17 07.3	251 54.0	S11 50.2	271 21.1	S17 54.4
	21	241 02.6	105 08.1	N18 31.5	101 56.0	N17 06.8	266 56.6	S11 50.2	286 23.8	S17 54.4
	22	256 05.1	120 07.5	N18 30.6	116 56.9	N17 06.3	281 59.2	S11 50.3	301 26.4	S17 54.4
	23	271 07.5	135 06.9	N18 29.8	131 57.8	N17 05.8	297 01.8	S11 50.4	316 29.0	S17 54.5
8	0	286 10.0	150 06.3	N18 28.9	146 58.7	N17 05.3	312 04.4	S11 50.4	331 31.6	S17 54.5
	1	301 12.5	165 05.7	N18 28.0	161 59.6	N17 04.9	327 07.0	S11 50.5	346 34.2	S17 54.6
	2	316 14.9	180 05.1	N18 27.2	177 00.6	N17 04.4	342 09.6	S11 50.5	1 36.9	S17 54.6
	3	331 17.4	195 04.6	N18 26.3	192 01.5	N17 03.9	357 12.2	S11 50.6	16 39.5	S17 54.7
	4	346 19.9	210 04.0	N18 25.4	207 02.4	N17 03.4	12 14.8	S11 50.7	31 42.1	S17 54.7
T	5	1 22.3	225 03.4	N18 24.6	222 03.3	N17 02.9	27 17.4	S11 50.7	46 44.7	S17 54.8
H										
U	6	16 24.8	240 02.8	N18 23.7	237 04.2	N17 02.5	42 19.9	S11 50.8	61 47.3	S17 54.8
R	7	31 27.2	255 02.2	N18 22.8	252 05.1	N17 02.0	57 22.5	S11 50.8	76 50.0	S17 54.9
S	8	46 29.7	270 01.6	N18 22.0	267 06.1	N17 01.5	72 25.1	S11 50.9	91 52.6	S17 54.9
D	9	61 32.2	285 01.1	N18 21.1	282 07.0	N17 01.0	87 27.7	S11 51.0	106 55.2	S17 55.0
A	10	76 34.6	300 00.5	N18 20.2	297 07.9	N17 00.5	102 30.3	S11 51.0	121 57.8	S17 55.0
Y	11	91 37.1	314 59.9	N18 19.4	312 08.8	N17 00.1	117 32.9	S11 51.1	137 00.4	S17 55.1
	12	106 39.6	329 59.3	N18 18.5	327 09.7	N16 59.6	132 35.5	S11 51.1	152 03.1	S17 55.1
	13	121 42.0	344 58.7	N18 17.6	342 10.7	N16 59.1	147 38.1	S11 51.2	167 05.7	S17 55.2
	14	136 44.5	359 58.1	N18 16.7	357 11.6	N16 58.6	162 40.7	S11 51.3	182 08.3	S17 55.2
	15	151 47.0	14 57.6	N18 15.9	12 12.5	N16 58.1	177 43.3	S11 51.3	197 10.9	S17 55.3
	16	166 49.4	29 57.0	N18 15.0	27 13.4	N16 57.7	192 45.9	S11 51.4	212 13.6	S17 55.3
	17	181 51.9	44 56.4	N18 14.1	42 14.3	N16 57.2	207 48.5	S11 51.5	227 16.2	S17 55.4
	18	196 54.3	59 55.8	N18 13.2	57 15.2	N16 56.7	222 51.1	S11 51.5	242 18.8	S17 55.4
	19	211 56.8	74 55.2	N18 12.3	72 16.2	N16 56.2	237 53.7	S11 51.6	257 21.4	S17 55.5
	20	226 59.3	89 54.7	N18 11.5	87 17.1	N16 55.7	252 56.3	S11 51.6	272 24.0	S17 55.5
	21	242 01.7	104 54.1	N18 10.6	102 18.0	N16 55.2	267 58.9	S11 51.7	287 26.7	S17 55.6
	22	257 04.2	119 53.5	N18 09.7	117 18.9	N16 54.8	283 01.5	S11 51.8	302 29.3	S17 55.6
	23	272 06.7	134 52.9	N18 08.8	132 19.8	N16 54.3	298 04.1	S11 51.8	317 31.9	S17 55.7
			v -0.6	d 0.9	v 0.9	d 0.5	v 2.6	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
6	0	178 49.1	N22 41.1	226 51.4	13.6	N19 00.8	8.9	54.1
	1	193 49.0	N22 40.8	241 24.0	13.6	N19 09.7	8.9	54.1
	2	208 48.9	N22 40.6	255 56.5	13.5	N19 18.4	8.8	54.1
	3	223 48.7	N22 40.3	270 29.0	13.5	N19 27.2	8.7	54.1
	4	238 48.6	N22 40.1	285 01.4	13.4	N19 35.8	8.6	54.1
T	5	253 48.5	N22 39.8	299 33.7	13.3	N19 44.3	8.5	54.1
U								
E	6	268 48.4	N22 39.6	314 06.0	13.3	N19 52.8	8.5	54.1
S	7	283 48.3	N22 39.3	328 38.2	13.2	N20 01.2	8.4	54.1
D	8	298 48.2	N22 39.0	343 10.4	13.2	N20 09.5	8.3	54.1
A	9	313 48.1	N22 38.8	357 42.5	13.1	N20 17.7	8.2	54.1
Y	10	328 48.0	N22 38.5	12 14.5	13.0	N20 25.8	8.1	54.1
	11	343 47.9	N22 38.3	26 46.5	13.0	N20 33.9	8.0	54.1
	12	358 47.8	N22 38.0	41 18.5	12.9	N20 41.8	8.0	54.1
	13	13 47.7	N22 37.7	55 50.3	12.9	N20 49.7	7.9	54.2
	14	28 47.6	N22 37.5	70 22.1	12.8	N20 57.4	7.8	54.2
	15	43 47.5	N22 37.2	84 53.9	12.7	N21 05.1	7.7	54.2
	16	58 47.4	N22 37.0	99 25.5	12.7	N21 12.7	7.6	54.2
	17	73 47.3	N22 36.7	113 57.2	12.6	N21 20.2	7.5	54.2
	18	88 47.2	N22 36.4	128 28.7	12.6	N21 27.6	7.4	54.2
	19	103 47.1	N22 36.2	143 00.2	12.5	N21 35.0	7.3	54.2
	20	118 47.0	N22 35.9	157 31.6	12.4	N21 42.2	7.2	54.2
	21	133 46.9	N22 35.6	172 03.0	12.4	N21 49.3	7.1	54.2
	22	148 46.8	N22 35.4	186 34.3	12.3	N21 56.4	7.0	54.2
	23	163 46.7	N22 35.1	201 05.6	12.2	N22 03.3	6.9	54.2
7	0	178 46.6	N22 34.8	215 36.8	12.2	N22 10.2	6.8	54.2
	1	193 46.5	N22 34.6	230 07.9	12.1	N22 16.9	6.7	54.2
	2	208 46.4	N22 34.3	244 38.9	12.1	N22 23.5	6.6	54.2
	3	223 46.3	N22 34.0	259 09.9	12.0	N22 30.1	6.5	54.2
	4	238 46.2	N22 33.8	273 40.9	11.9	N22 36.5	6.4	54.3
W	5	253 46.1	N22 33.5	288 11.8	11.9	N22 42.9	6.3	54.3
E								
D	6	268 46.0	N22 33.2	302 42.6	11.8	N22 49.1	6.2	54.3
N	7	283 45.9	N22 33.0	317 13.3	11.8	N22 55.3	6.1	54.3
E	8	298 45.8	N22 32.7	331 44.1	11.7	N23 01.3	6.0	54.3
S	9	313 45.7	N22 32.4	346 14.7	11.6	N23 07.3	5.9	54.3
D	10	328 45.6	N22 32.1	0 45.3	11.6	N23 13.1	5.8	54.3
A	11	343 45.5	N22 31.9	15 15.8	11.5	N23 18.8	5.7	54.3
Y								
	12	358 45.4	N22 31.6	29 46.3	11.5	N23 24.5	5.6	54.3
	13	13 45.3	N22 31.3	44 16.7	11.4	N23 30.0	5.5	54.3
	14	28 45.2	N22 31.0	58 47.0	11.3	N23 35.4	5.4	54.3
	15	43 45.1	N22 30.7	73 17.3	11.3	N23 40.7	5.3	54.3
	16	58 45.0	N22 30.5	87 47.5	11.2	N23 45.9	5.2	54.4
	17	73 44.9	N22 30.2	102 17.7	11.2	N23 51.0	5.1	54.4
	18	88 44.8	N22 29.9	116 47.8	11.1	N23 55.9	5.0	54.4
	19	103 44.7	N22 29.6	131 17.9	11.1	N24 00.8	4.9	54.4
	20	118 44.6	N22 29.4	145 47.9	11.0	N24 05.5	4.7	54.4
	21	133 44.5	N22 29.1	160 17.9	11.0	N24 10.2	4.6	54.4
	22	148 44.4	N22 28.8	174 47.8	10.9	N24 14.7	4.5	54.4
	23	163 44.3	N22 28.5	189 17.6	10.8	N24 19.1	4.4	54.4
8	0	178 44.2	N22 28.2	203 47.4	10.8	N24 23.4	4.3	54.4
	1	193 44.1	N22 27.9	218 17.2	10.7	N24 27.6	4.2	54.5
	2	208 44.0	N22 27.7	232 46.9	10.7	N24 31.7	4.1	54.5
	3	223 43.9	N22 27.4	247 16.5	10.6	N24 35.6	3.9	54.5
	4	238 43.8	N22 27.1	261 46.1	10.6	N24 39.4	3.8	54.5
T	5	253 43.7	N22 26.8	276 15.6	10.5	N24 43.1	3.7	54.5
H								
U	6	268 43.6	N22 26.5	290 45.1	10.5	N24 46.7	3.6	54.5
R	7	283 43.5	N22 26.2	305 14.6	10.4	N24 50.2	3.5	54.5
S	8	298 43.4	N22 25.9	319 44.0	10.4	N24 53.6	3.4	54.5
D	9	313 43.3	N22 25.6	334 13.3	10.4	N24 56.8	3.2	54.6
A	10	328 43.2	N22 25.3	348 42.6	10.3	N24 59.9	3.1	54.6
Y	11	343 43.1	N22 25.1	3 11.9	10.3	N25 02.9	3.0	54.6
	12	358 43.0	N22 24.8	17 41.1	10.2	N25 05.8	2.9	54.6
	13	13 42.9	N22 24.5	32 10.3	10.2	N25 08.5	2.7	54.6
	14	28 42.8	N22 24.2	46 39.4	10.1	N25 11.2	2.6	54.6
	15	43 42.7	N22 23.9	61 08.5	10.1	N25 13.7	2.5	54.6
	16	58 42.6	N22 23.6	75 37.5	10.0	N25 16.1	2.4	54.6
	17	73 42.5	N22 23.3	90 06.6	10.0	N25 18.3	2.3	54.7
	18	88 42.4	N22 23.0	104 35.5	10.0	N25 20.4	2.1	54.7
	19	103 42.4	N22 22.7	119 04.5	9.9	N25 22.4	2.0	54.7
	20	118 42.3	N22 22.4	133 33.4	9.9	N25 24.3	1.9	54.7
	21	133 42.2	N22 22.1	148 02.2	9.9	N25 26.1	1.8	54.7
	22	148 42.1	N22 21.8	162 31.1	9.8	N25 27.7	1.6	54.7
	23	163 42.0	N22 21.5	176 59.8	9.8	N25 29.2	1.5	54.7
		S.D. 15.7	d 0.3	S.D. 14.8		14.8	14.9	

Name	SHA	Dec
Acamar	315 14.2	S40 13.0
Achernar	335 22.5	S57 07.4
Acrux	173 03.3	S63 13.2
Adhara	255 08.5	S29 00.0
Albireo	67 06.0	N28 00.3
Aldebaran	290 43.2	N16 33.1
Alioth	166 15.5	N55 51.0
Alkaid	152 54.2	N49 12.7
Al Na-ir	27 36.2	S46 51.3
Alnilam	275 40.9	S 1 11.3
Alphard	217 50.8	S 8 45.1
Alphecca	126 05.9	N26 38.8
Alpheratz	357 37.6	N29 12.4
Altair	62 02.4	N 8 55.5
Ankaa	353 09.9	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.4	N19 04.5
Atria	107 15.4	S69 04.1
Avior	234 16.4	S59 34.8
Bellatrix	278 26.3	N 6 22.1
Betelgeuse	270 55.5	N 7 24.7
Canopus	263 54.2	S52 42.4
Capella	280 26.6	N46 01.0
Castor	246 01.1	N31 50.5
Deneb	49 27.3	N45 21.3
Denebola	182 28.0	N14 27.3
Diphda	348 50.2	S17 52.1
Dubhe	193 44.9	N61 38.4
Elnath	278 05.9	N28 37.4
Eltanin	90 43.0	N51 29.2
Enif	33 41.3	N 9 58.3
Fomalhaut	15 17.5	S29 30.4
Gacrux	171 54.8	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 39.9	S60 28.8
Hamal	327 54.5	N23 33.7
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.4	N74 04.4
Markab	13 32.6	N15 19.1
Menkar	314 09.3	N 4 10.4
Menkent	148 00.9	S36 28.6
Miaplacidus	221 39.5	S69 48.4
Mirfak	308 32.7	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.6	S56 39.9
Polaris	317 27.9	N89 20.1
Pollux	243 21.2	N27 58.5
Procyon	244 54.2	N 5 10.3
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 06.9	S 8 10.6
Rigil Kent	139 44.0	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.2	N56 38.9
Shaula	96 13.9	S37 07.2
Sirius	258 29.1	S16 44.7
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.2
Vega	80 34.7	N38 48.3
Zuben-ubi	136 59.8	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
9 0	287 09.1	149 52.4	N18 07.9	147 20.8	N16 53.8	313 06.7	S11 51.9	332 34.5	S17 55.7
1	302 11.6	164 51.8	N18 07.1	162 21.7	N16 53.3	328 09.3	S11 51.9	347 37.2	S17 55.8
2	317 14.1	179 51.2	N18 06.2	177 22.6	N16 52.8	343 11.9	S11 52.0	2 39.8	S17 55.8
3	332 16.5	194 50.6	N18 05.3	192 23.5	N16 52.3	358 14.5	S11 52.1	17 42.4	S17 55.9
4	347 19.0	209 50.1	N18 04.4	207 24.5	N16 51.9	13 17.1	S11 52.1	32 45.0	S17 55.9
F 5	2 21.5	224 49.5	N18 03.5	222 25.4	N16 51.4	28 19.7	S11 52.2	47 47.7	S17 56.0
R									
I 6	17 23.9	239 48.9	N18 02.6	237 26.3	N16 50.9	43 22.3	S11 52.3	62 50.3	S17 56.0
D 7	32 26.4	254 48.4	N18 01.7	252 27.2	N16 50.4	58 24.9	S11 52.3	77 52.9	S17 56.1
A 8	47 28.8	269 47.8	N18 00.9	267 28.1	N16 49.9	73 27.5	S11 52.4	92 55.5	S17 56.1
Y 9	62 31.3	284 47.2	N17 60.0	282 29.1	N16 49.4	88 30.1	S11 52.4	107 58.2	S17 56.2
10	77 33.8	299 46.7	N17 59.1	297 30.0	N16 48.9	103 32.7	S11 52.5	123 00.8	S17 56.2
11	92 36.2	314 46.1	N17 58.2	312 30.9	N16 48.5	118 35.3	S11 52.6	138 03.4	S17 56.3
12	107 38.7	329 45.5	N17 57.3	327 31.8	N16 48.0	133 37.9	S11 52.6	153 06.0	S17 56.3
13	122 41.2	344 45.0	N17 56.4	342 32.7	N16 47.5	148 40.5	S11 52.7	168 08.6	S17 56.4
14	137 43.6	359 44.4	N17 55.5	357 33.7	N16 47.0	163 43.1	S11 52.8	183 11.3	S17 56.4
15	152 46.1	14 43.8	N17 54.6	12 34.6	N16 46.5	178 45.7	S11 52.8	198 13.9	S17 56.5
16	167 48.6	29 43.3	N17 53.7	27 35.5	N16 46.0	193 48.3	S11 52.9	213 16.5	S17 56.5
17	182 51.0	44 42.7	N17 52.8	42 36.4	N16 45.5	208 50.9	S11 53.0	228 19.1	S17 56.6
18	197 53.5	59 42.1	N17 51.9	57 37.3	N16 45.1	223 53.5	S11 53.0	243 21.8	S17 56.6
19	212 56.0	74 41.6	N17 51.0	72 38.3	N16 44.6	238 56.1	S11 53.1	258 24.4	S17 56.7
20	227 58.4	89 41.0	N17 50.1	87 39.2	N16 44.1	253 58.7	S11 53.1	273 27.0	S17 56.7
21	243 00.9	104 40.4	N17 49.2	102 40.1	N16 43.6	269 01.3	S11 53.2	288 29.6	S17 56.8
22	258 03.3	119 39.9	N17 48.3	117 41.0	N16 43.1	284 03.9	S11 53.3	303 32.3	S17 56.8
23	273 05.8	134 39.3	N17 47.4	132 42.0	N16 42.6	299 06.5	S11 53.3	318 34.9	S17 56.9
10 0	288 08.3	149 38.8	N17 46.5	147 42.9	N16 42.1	314 09.1	S11 53.4	333 37.5	S17 56.9
1	303 10.7	164 38.2	N17 45.6	162 43.8	N16 41.6	329 11.7	S11 53.5	348 40.1	S17 57.0
2	318 13.2	179 37.6	N17 44.7	177 44.7	N16 41.2	344 14.3	S11 53.5	3 42.8	S17 57.0
3	333 15.7	194 37.1	N17 43.8	192 45.7	N16 40.7	359 16.9	S11 53.6	18 45.4	S17 57.1
4	348 18.1	209 36.5	N17 42.9	207 46.6	N16 40.2	14 19.5	S11 53.7	33 48.0	S17 57.1
S 5	3 20.6	224 36.0	N17 42.0	222 47.5	N16 39.7	29 22.1	S11 53.7	48 50.6	S17 57.2
A									
T 6	18 23.1	239 35.4	N17 41.1	237 48.4	N16 39.2	44 24.7	S11 53.8	63 53.3	S17 57.2
U 7	33 25.5	254 34.8	N17 40.2	252 49.3	N16 38.7	59 27.3	S11 53.9	78 55.9	S17 57.2
R 8	48 28.0	269 34.3	N17 39.3	267 50.3	N16 38.2	74 30.0	S11 53.9	93 58.5	S17 57.3
D 9	63 30.5	284 33.7	N17 38.4	282 51.2	N16 37.7	89 32.6	S11 54.0	109 01.1	S17 57.3
A 10	78 32.9	299 33.2	N17 37.4	297 52.1	N16 37.2	104 35.2	S11 54.1	124 03.8	S17 57.4
Y 11	93 35.4	314 32.6	N17 36.5	312 53.0	N16 36.8	119 37.8	S11 54.1	139 06.4	S17 57.4
12	108 37.8	329 32.1	N17 35.6	327 54.0	N16 36.3	134 40.4	S11 54.2	154 09.0	S17 57.5
13	123 40.3	344 31.5	N17 34.7	342 54.9	N16 35.8	149 43.0	S11 54.2	169 11.7	S17 57.5
14	138 42.8	359 31.0	N17 33.8	357 55.8	N16 35.3	164 45.6	S11 54.3	184 14.3	S17 57.6
15	153 45.2	14 30.4	N17 32.9	12 56.7	N16 34.8	179 48.2	S11 54.4	199 16.9	S17 57.6
16	168 47.7	29 29.9	N17 32.0	27 57.7	N16 34.3	194 50.8	S11 54.4	214 19.5	S17 57.7
17	183 50.2	44 29.3	N17 31.1	42 58.6	N16 33.8	209 53.4	S11 54.5	229 22.2	S17 57.7
18	198 52.6	59 28.8	N17 30.1	57 59.5	N16 33.3	224 56.0	S11 54.6	244 24.8	S17 57.8
19	213 55.1	74 28.2	N17 29.2	73 00.4	N16 32.8	239 58.7	S11 54.6	259 27.4	S17 57.8
20	228 57.6	89 27.7	N17 28.3	88 01.4	N16 32.3	255 01.3	S11 54.7	274 30.0	S17 57.9
21	244 00.0	104 27.1	N17 27.4	103 02.3	N16 31.8	270 03.9	S11 54.8	289 32.7	S17 57.9
22	259 02.5	119 26.6	N17 26.5	118 03.2	N16 31.4	285 06.5	S11 54.8	304 35.3	S17 58.0
23	274 05.0	134 26.0	N17 25.5	133 04.1	N16 30.9	300 09.1	S11 54.9	319 37.9	S17 58.0
11 0	289 07.4	149 25.5	N17 24.6	148 05.1	N16 30.4	315 11.7	S11 55.0	334 40.5	S17 58.1
1	304 09.9	164 24.9	N17 23.7	163 06.0	N16 29.9	330 14.3	S11 55.0	349 43.2	S17 58.1
2	319 12.3	179 24.4	N17 22.8	178 06.9	N16 29.4	345 16.9	S11 55.1	4 45.8	S17 58.2
3	334 14.8	194 23.8	N17 21.8	193 07.8	N16 28.9	0 19.6	S11 55.2	19 48.4	S17 58.2
4	349 17.3	209 23.3	N17 20.9	208 08.8	N16 28.4	15 22.2	S11 55.3	34 51.1	S17 58.3
S 5	4 19.7	224 22.7	N17 20.0	223 09.7	N16 27.9	30 24.8	S11 55.3	49 53.7	S17 58.3
U									
N 6	19 22.2	239 22.2	N17 19.1	238 10.6	N16 27.4	45 27.4	S11 55.4	64 56.3	S17 58.4
D 7	34 24.7	254 21.6	N17 18.1	253 11.5	N16 26.9	60 30.0	S11 55.5	79 58.9	S17 58.4
A 8	49 27.1	269 21.1	N17 17.2	268 12.5	N16 26.4	75 32.6	S11 55.5	95 01.6	S17 58.5
Y 9	64 29.6	284 20.6	N17 16.3	283 13.4	N16 25.9	90 35.2	S11 55.6	110 04.2	S17 58.6
10	79 32.1	299 20.0	N17 15.4	298 14.3	N16 25.4	105 37.9	S11 55.7	125 06.8	S17 58.6
11	94 34.5	314 19.5	N17 14.4	313 15.2	N16 24.9	120 40.5	S11 55.7	140 09.5	S17 58.7
12	109 37.0	329 18.9	N17 13.5	328 16.2	N16 24.4	135 43.1	S11 55.8	155 12.1	S17 58.7
13	124 39.5	344 18.4	N17 12.6	343 17.1	N16 23.9	150 45.7	S11 55.9	170 14.7	S17 58.8
14	139 41.9	359 17.9	N17 11.6	358 18.0	N16 23.5	165 48.3	S11 55.9	185 17.3	S17 58.8
15	154 44.4	14 17.3	N17 10.7	13 18.9	N16 23.0	180 50.9	S11 56.0	200 20.0	S17 58.9
16	169 46.8	29 16.8	N17 09.8	28 19.9	N16 22.5	195 53.6	S11 56.1	215 22.6	S17 58.9
17	184 49.3	44 16.2	N17 08.8	43 20.8	N16 22.0	210 56.2	S11 56.1	230 25.2	S17 59.0
18	199 51.8	59 15.7	N17 07.9	58 21.7	N16 21.5	225 58.8	S11 56.2	245 27.9	S17 59.0
19	214 54.2	74 15.2	N17 07.0	73 22.6	N16 21.0	241 01.4	S11 56.3	260 30.5	S17 59.1
20	229 56.7	89 14.6	N17 06.0	88 23.6	N16 20.5	256 04.0	S11 56.3	275 33.1	S17 59.1
21	244 59.2	104 14.1	N17 05.1	103 24.5	N16 20.0	271 06.6	S11 56.4	290 35.7	S17 59.2
22	260 01.6	119 13.6	N17 04.1	118 25.4	N16 19.5	286 09.3	S11 56.5	305 38.4	S17 59.2
23	275 04.1	134 13.0	N17 03.2	133 26.4	N16 19.0	301 11.9	S11 56.6	320 41.0	S17 59.3
		v -0.6	d 0.9	v 0.9	d 0.5	v 2.6	d 0.1	v 2.6	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
		° '	° '	° '	'	° '	'	'
9	0	178 41.9	N22 21.2	191 28.6	9.8	N25 30.6	1.4	54.8
	1	193 41.8	N22 20.9	205 57.3	9.7	N25 31.8	1.2	54.8
	2	208 41.7	N22 20.6	220 26.0	9.7	N25 32.9	1.1	54.8
	3	223 41.6	N22 20.3	234 54.7	9.7	N25 33.9	1.0	54.8
	4	238 41.5	N22 20.0	249 23.4	9.6	N25 34.8	0.9	54.8
F	5	253 41.4	N22 19.7	263 52.0	9.6	N25 35.5	0.7	54.8
R								
I	6	268 41.3	N22 19.4	278 20.6	9.6	N25 36.1	0.6	54.8
D	7	283 41.2	N22 19.1	292 49.1	9.6	N25 36.5	0.5	54.9
A	8	298 41.1	N22 18.8	307 17.7	9.5	N25 36.9	0.3	54.9
Y	9	313 41.0	N22 18.5	321 46.2	9.5	N25 37.1	0.2	54.9
	10	328 41.0	N22 18.2	336 14.7	9.5	N25 37.2	0.1	54.9
	11	343 40.9	N22 17.9	350 43.2	9.5	N25 37.1	0.1	54.9
	12	358 40.8	N22 17.6	5 11.6	9.5	N25 36.9	0.2	54.9
	13	13 40.7	N22 17.3	19 40.1	9.4	N25 36.6	0.3	55.0
	14	28 40.6	N22 16.9	34 08.5	9.4	N25 36.1	0.5	55.0
	15	43 40.5	N22 16.6	48 36.9	9.4	N25 35.6	0.6	55.0
	16	58 40.4	N22 16.3	63 05.3	9.4	N25 34.8	0.7	55.0
	17	73 40.3	N22 16.0	77 33.7	9.4	N25 34.0	0.8	55.0
	18	88 40.2	N22 15.7	92 02.0	9.4	N25 33.0	1.0	55.0
	19	103 40.1	N22 15.4	106 30.4	9.4	N25 31.9	1.1	55.1
	20	118 40.0	N22 15.1	120 58.7	9.3	N25 30.6	1.2	55.1
	21	133 40.0	N22 14.8	135 27.1	9.3	N25 29.3	1.4	55.1
	22	148 39.9	N22 14.4	149 55.4	9.3	N25 27.8	1.5	55.1
	23	163 39.8	N22 14.1	164 23.7	9.3	N25 26.1	1.6	55.1
10	0	178 39.7	N22 13.8	178 52.1	9.3	N25 24.3	1.8	55.1
	1	193 39.6	N22 13.5	193 20.4	9.3	N25 22.4	1.9	55.2
	2	208 39.5	N22 13.2	207 48.7	9.3	N25 20.4	2.0	55.2
	3	223 39.4	N22 12.9	222 17.0	9.3	N25 18.2	2.2	55.2
	4	238 39.3	N22 12.5	236 45.3	9.3	N25 15.9	2.3	55.2
S	5	253 39.2	N22 12.2	251 13.6	9.3	N25 13.5	2.4	55.2
A								
T	6	268 39.2	N22 11.9	265 41.9	9.3	N25 10.9	2.6	55.2
U	7	283 39.1	N22 11.6	280 10.3	9.3	N25 08.2	2.7	55.3
R	8	298 39.0	N22 11.3	294 38.6	9.3	N25 05.3	2.8	55.3
D	9	313 38.9	N22 10.9	309 06.9	9.3	N25 02.4	3.0	55.3
A	10	328 38.8	N22 10.6	323 35.2	9.3	N24 59.3	3.1	55.3
Y	11	343 38.7	N22 10.3	338 03.6	9.3	N24 56.0	3.2	55.3
	12	358 38.6	N22 10.0	352 31.9	9.4	N24 52.6	3.4	55.3
	13	13 38.5	N22 09.6	7 00.3	9.4	N24 49.1	3.5	55.4
	14	28 38.5	N22 09.3	21 28.7	9.4	N24 45.5	3.6	55.4
	15	43 38.4	N22 09.0	35 57.1	9.4	N24 41.8	3.8	55.4
	16	58 38.3	N22 08.7	50 25.5	9.4	N24 37.9	3.9	55.4
	17	73 38.2	N22 08.3	64 53.9	9.4	N24 33.8	4.0	55.4
	18	88 38.1	N22 08.0	79 22.3	9.4	N24 29.7	4.2	55.5
	19	103 38.0	N22 07.7	93 50.7	9.4	N24 25.4	4.3	55.5
	20	118 37.9	N22 07.4	108 19.2	9.5	N24 21.0	4.4	55.5
	21	133 37.9	N22 07.0	122 47.7	9.5	N24 16.4	4.5	55.5
	22	148 37.8	N22 06.7	137 16.2	9.5	N24 11.8	4.7	55.5
	23	163 37.7	N22 06.4	151 44.7	9.5	N24 07.0	4.8	55.6
11	0	178 37.6	N22 06.0	166 13.2	9.5	N24 02.0	4.9	55.6
	1	193 37.5	N22 05.7	180 41.8	9.6	N23 57.0	5.1	55.6
	2	208 37.4	N22 05.4	195 10.4	9.6	N23 51.8	5.2	55.6
	3	223 37.3	N22 05.0	209 39.0	9.6	N23 46.5	5.3	55.6
	4	238 37.3	N22 04.7	224 07.6	9.6	N23 41.0	5.4	55.6
S	5	253 37.2	N22 04.4	238 36.3	9.7	N23 35.5	5.6	55.7
U								
N	6	268 37.1	N22 04.0	253 05.0	9.7	N23 29.8	5.7	55.7
D	7	283 37.0	N22 03.7	267 33.7	9.7	N23 24.0	5.8	55.7
A	8	298 36.9	N22 03.4	282 02.4	9.7	N23 18.0	5.9	55.7
Y	9	313 36.8	N22 03.0	296 31.2	9.8	N23 12.0	6.1	55.7
	10	328 36.8	N22 02.7	310 60.0	9.8	N23 05.8	6.2	55.8
	11	343 36.7	N22 02.3	325 28.8	9.8	N22 59.5	6.3	55.8
	12	358 36.6	N22 02.0	339 57.7	9.9	N22 53.0	6.4	55.8
	13	13 36.5	N22 01.7	354 26.6	9.9	N22 46.5	6.6	55.8
	14	28 36.4	N22 01.3	8 55.5	9.9	N22 39.8	6.7	55.8
	15	43 36.3	N22 01.0	23 24.4	10.0	N22 33.0	6.8	55.9
	16	58 36.3	N22 00.6	37 53.4	10.0	N22 26.1	6.9	55.9
	17	73 36.2	N22 00.3	52 22.5	10.0	N22 19.0	7.0	55.9
	18	88 36.1	N21 60.0	66 51.5	10.1	N22 11.9	7.2	55.9
	19	103 36.0	N21 59.6	81 20.6	10.1	N22 04.6	7.3	55.9
	20	118 35.9	N21 59.3	95 49.7	10.1	N21 57.2	7.4	56.0
	21	133 35.9	N21 58.9	110 18.9	10.2	N21 49.7	7.5	56.0
	22	148 35.8	N21 58.6	124 48.1	10.2	N21 42.1	7.6	56.0
	23	163 35.7	N21 58.2	139 17.3	10.2	N21 34.3	7.7	56.0
		S.D. 15.7	d 0.3	S.D.	15.0	15.1	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.2	S40 13.0
Achernar	335 22.5	S57 07.4
Acrux	173 03.3	S63 13.2
Adhara	255 08.5	S29 00.0
Albireo	67 06.0	N28 00.3
Aldebaran	290 43.2	N16 33.1
Alioth	166 15.6	N55 51.0
Alkaid	152 54.2	N49 12.7
Al Na-ir	27 36.1	S46 51.3
Alnilam	275 40.9	S 1 11.3
Alphard	217 50.8	S 8 45.1
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.6	N29 12.4
Altair	62 02.4	N 8 55.5
Ankaa	353 09.9	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.4	N19 04.5
Atria	107 15.4	S69 04.1
Avior	234 16.4	S59 34.7
Bellatrix	278 26.2	N 6 22.1
Betelgeuse	270 55.5	N 7 24.7
Canopus	263 54.2	S52 42.3
Capella	280 26.5	N46 01.0
Castor	246 01.1	N31 50.5
Deneb	49 27.3	N45 21.3
Denebola	182 28.0	N14 27.3
Diphda	348 50.2	S17 52.0
Dubhe	193 45.0	N61 38.4
Elnath	278 05.9	N28 37.4
Eltanin	90 43.0	N51 29.2
Enif	33 41.3	N 9 58.4
Fomalhaut	15 17.5	S29 30.4
Gacrux	171 54.9	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 39.9	S60 28.8
Hamal	327 54.5	N23 33.7
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.5	N74 04.4
Markab	13 32.5	N15 19.1
Menkar	314 09.3	N 4 10.4
Menkent	148 00.9	S36 28.7
Miaplacidus	221 39.5	S69 48.4
Mirfak	308 32.6	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.6	S56 39.9
Polaris	317 26.7	N89 20.1
Pollux	243 21.2	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 06.9	S 8 10.6
Rigil Kent	139 44.0	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.1	N56 38.9
Shaula	96 13.8	S37 07.2
Sirius	258 29.1	S16 44.7
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.2
Vega	80 34.7	N38 48.3
Zuben-ubi	136 59.8	S16 07.8

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	290 06.6	149 12.5	N17 02.3	148 27.3	N16 18.5	316 14.5	S11 56.6	335 43.6	S17 59.3
	1	305 09.0	164 12.0	N17 01.3	163 28.2	N16 18.0	331 17.1	S11 56.7	350 46.3	S17 59.4
	2	320 11.5	179 11.4	N17 00.4	178 29.1	N16 17.5	346 19.7	S11 56.8	5 48.9	S17 59.4
	3	335 13.9	194 10.9	N16 59.4	193 30.1	N16 17.0	1 22.4	S11 56.8	20 51.5	S17 59.5
	4	350 16.4	209 10.4	N16 58.5	208 31.0	N16 16.5	16 25.0	S11 56.9	35 54.1	S17 59.5
M	5	5 18.9	224 09.8	N16 57.5	223 31.9	N16 16.0	31 27.6	S11 57.0	50 56.8	S17 59.6
O										
N	6	20 21.3	239 09.3	N16 56.6	238 32.8	N16 15.5	46 30.2	S11 57.0	65 59.4	S17 59.6
D	7	35 23.8	254 08.8	N16 55.7	253 33.8	N16 15.0	61 32.8	S11 57.1	81 02.0	S17 59.7
A	8	50 26.3	269 08.3	N16 54.7	268 34.7	N16 14.5	76 35.5	S11 57.2	96 04.7	S17 59.7
Y	9	65 28.7	284 07.7	N16 53.8	283 35.6	N16 14.0	91 38.1	S11 57.3	111 07.3	S17 59.8
	10	80 31.2	299 07.2	N16 52.8	298 36.6	N16 13.5	106 40.7	S11 57.3	126 09.9	S17 59.8
	11	95 33.7	314 06.7	N16 51.9	313 37.5	N16 13.0	121 43.3	S11 57.4	141 12.6	S17 59.9
	12	110 36.1	329 06.1	N16 50.9	328 38.4	N16 12.5	136 46.0	S11 57.5	156 15.2	S17 59.9
	13	125 38.6	344 05.6	N16 50.0	343 39.3	N16 12.0	151 48.6	S11 57.5	171 17.8	S17 60.0
	14	140 41.1	359 05.1	N16 49.0	358 40.3	N16 11.5	166 51.2	S11 57.6	186 20.4	S18 00.0
	15	155 43.5	14 04.6	N16 48.1	13 41.2	N16 11.0	181 53.8	S11 57.7	201 23.1	S18 00.1
	16	170 46.0	29 04.0	N16 47.1	28 42.1	N16 10.5	196 56.4	S11 57.7	216 25.7	S18 00.1
	17	185 48.4	44 03.5	N16 46.2	43 43.1	N16 10.0	211 59.1	S11 57.8	231 28.3	S18 00.2
	18	200 50.9	59 03.0	N16 45.2	58 44.0	N16 09.5	227 01.7	S11 57.9	246 31.0	S18 00.2
	19	215 53.4	74 02.5	N16 44.2	73 44.9	N16 09.0	242 04.3	S11 58.0	261 33.6	S18 00.3
	20	230 55.8	89 02.0	N16 43.3	88 45.8	N16 08.5	257 06.9	S11 58.0	276 36.2	S18 00.3
	21	245 58.3	104 01.4	N16 42.3	103 46.8	N16 08.0	272 09.6	S11 58.1	291 38.9	S18 00.4
	22	261 00.8	119 00.9	N16 41.4	118 47.7	N16 07.5	287 12.2	S11 58.2	306 41.5	S18 00.4
	23	276 03.2	134 00.4	N16 40.4	133 48.6	N16 07.0	302 14.8	S11 58.3	321 44.1	S18 00.5
13	0	291 05.7	148 59.9	N16 39.5	148 49.6	N16 06.5	317 17.4	S11 58.3	336 46.8	S18 00.5
	1	306 08.2	163 59.4	N16 38.5	163 50.5	N16 06.0	332 20.1	S11 58.4	351 49.4	S18 00.6
	2	321 10.6	178 58.8	N16 37.5	178 51.4	N16 05.5	347 22.7	S11 58.5	6 52.0	S18 00.6
	3	336 13.1	193 58.3	N16 36.6	193 52.4	N16 05.0	2 25.3	S11 58.5	21 54.7	S18 00.7
	4	351 15.6	208 57.8	N16 35.6	208 53.3	N16 04.5	17 28.0	S11 58.6	36 57.3	S18 00.7
T	5	6 18.0	223 57.3	N16 34.7	223 54.2	N16 04.0	32 30.6	S11 58.7	51 59.9	S18 00.8
U										
E	6	21 20.5	238 56.8	N16 33.7	238 55.1	N16 03.5	47 33.2	S11 58.8	67 02.5	S18 00.8
S	7	36 22.9	253 56.3	N16 32.7	253 56.1	N16 03.0	62 35.8	S11 58.8	82 05.2	S18 00.9
D	8	51 25.4	268 55.7	N16 31.8	268 57.0	N16 02.5	77 38.5	S11 58.9	97 07.8	S18 00.9
A	9	66 27.9	283 55.2	N16 30.8	283 57.9	N16 02.0	92 41.1	S11 59.0	112 10.4	S18 01.0
Y	10	81 30.3	298 54.7	N16 29.8	298 58.9	N16 01.5	107 43.7	S11 59.0	127 13.1	S18 01.0
	11	96 32.8	313 54.2	N16 28.9	313 59.8	N16 01.0	122 46.4	S11 59.1	142 15.7	S18 01.1
	12	111 35.3	328 53.7	N16 27.9	329 00.7	N16 00.5	137 49.0	S11 59.2	157 18.3	S18 01.1
	13	126 37.7	343 53.2	N16 26.9	344 01.7	N15 60.0	152 51.6	S11 59.3	172 21.0	S18 01.2
	14	141 40.2	358 52.7	N16 26.0	359 02.6	N15 59.5	167 54.2	S11 59.3	187 23.6	S18 01.2
	15	156 42.7	13 52.2	N16 25.0	14 03.5	N15 59.0	182 56.9	S11 59.4	202 26.2	S18 01.3
	16	171 45.1	28 51.6	N16 24.0	29 04.5	N15 58.5	197 59.5	S11 59.5	217 28.9	S18 01.3
	17	186 47.6	43 51.1	N16 23.1	44 05.4	N15 58.0	213 02.1	S11 59.6	232 31.5	S18 01.4
	18	201 50.0	58 50.6	N16 22.1	59 06.3	N15 57.5	228 04.8	S11 59.6	247 34.1	S18 01.4
	19	216 52.5	73 50.1	N16 21.1	74 07.3	N15 57.0	243 07.4	S11 59.7	262 36.8	S18 01.5
	20	231 55.0	88 49.6	N16 20.1	89 08.2	N15 56.5	258 10.0	S11 59.8	277 39.4	S18 01.5
	21	246 57.4	103 49.1	N16 19.2	104 09.1	N15 56.0	273 12.7	S11 59.9	292 42.0	S18 01.6
	22	261 59.9	118 48.6	N16 18.2	119 10.0	N15 55.4	288 15.3	S11 59.9	307 44.7	S18 01.7
	23	277 02.4	133 48.1	N16 17.2	134 11.0	N15 54.9	303 17.9	S12 00.0	322 47.3	S18 01.7
14	0	292 04.8	148 47.6	N16 16.2	149 11.9	N15 54.4	318 20.6	S12 00.1	337 49.9	S18 01.8
	1	307 07.3	163 47.1	N16 15.3	164 12.8	N15 53.9	333 23.2	S12 00.2	352 52.6	S18 01.8
	2	322 09.8	178 46.6	N16 14.3	179 13.8	N15 53.4	348 25.8	S12 00.2	7 55.2	S18 01.9
	3	337 12.2	193 46.1	N16 13.3	194 14.7	N15 52.9	3 28.5	S12 00.3	22 57.8	S18 01.9
	4	352 14.7	208 45.6	N16 12.3	209 15.6	N15 52.4	18 31.1	S12 00.4	38 00.5	S18 02.0
W	5	7 17.2	223 45.1	N16 11.3	224 16.6	N15 51.9	33 33.7	S12 00.5	53 03.1	S18 02.0
E										
D	6	22 19.6	238 44.6	N16 10.4	239 17.5	N15 51.4	48 36.4	S12 00.5	68 05.7	S18 02.1
N	7	37 22.1	253 44.1	N16 09.4	254 18.4	N15 50.9	63 39.0	S12 00.6	83 08.4	S18 02.1
E	8	52 24.5	268 43.6	N16 08.4	269 19.4	N15 50.4	78 41.6	S12 00.7	98 11.0	S18 02.2
S	9	67 27.0	283 43.1	N16 07.4	284 20.3	N15 49.9	93 44.3	S12 00.8	113 13.6	S18 02.2
D	10	82 29.5	298 42.6	N16 06.4	299 21.2	N15 49.4	108 46.9	S12 00.8	128 16.3	S18 02.3
A	11	97 31.9	313 42.1	N16 05.4	314 22.2	N15 48.9	123 49.5	S12 00.9	143 18.9	S18 02.3
Y										
	12	112 34.4	328 41.6	N16 04.5	329 23.1	N15 48.4	138 52.2	S12 01.0	158 21.5	S18 02.4
	13	127 36.9	343 41.1	N16 03.5	344 24.0	N15 47.8	153 54.8	S12 01.1	173 24.2	S18 02.4
	14	142 39.3	358 40.6	N16 02.5	359 25.0	N15 47.3	168 57.5	S12 01.1	188 26.8	S18 02.5
	15	157 41.8	13 40.1	N16 01.5	14 25.9	N15 46.8	184 00.1	S12 01.2	203 29.4	S18 02.5
	16	172 44.3	28 39.6	N16 00.5	29 26.8	N15 46.3	199 02.7	S12 01.3	218 32.1	S18 02.6
	17	187 46.7	43 39.1	N15 59.5	44 27.8	N15 45.8	214 05.4	S12 01.4	233 34.7	S18 02.6
	18	202 49.2	58 38.6	N15 58.5	59 28.7	N15 45.3	229 08.0	S12 01.4	248 37.3	S18 02.7
	19	217 51.7	73 38.1	N15 57.5	74 29.6	N15 44.8	244 10.6	S12 01.5	263 40.0	S18 02.7
	20	232 54.1	88 37.6	N15 56.6	89 30.6	N15 44.3	259 13.3	S12 01.6	278 42.6	S18 02.8
	21	247 56.6	103 37.1	N15 55.6	104 31.5	N15 43.8	274 15.9	S12 01.7	293 45.2	S18 02.8
	22	262 59.0	118 36.6	N15 54.6	119 32.4	N15 43.3	289 18.6	S12 01.7	308 47.9	S18 02.9
	23	278 01.5	133 36.1	N15 53.6	134 33.4	N15 42.8	304 21.2	S12 01.8	323 50.5	S18 02.9
			v -0.5	d 1.0	v 0.9	d 0.5	v 2.6	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
12 0	178 35.6	N21 57.9	153 46.6	10.3	N21 26.5	7.9	56.0	Acamar	315 14.1	S40 13.0
1	193 35.5	N21 57.5	168 15.9	10.3	N21 18.5	8.0	56.1	Achernar	335 22.4	S57 07.4
2	208 35.5	N21 57.2	182 45.3	10.4	N21 10.4	8.1	56.1	Acrux	173 03.4	S63 13.2
3	223 35.4	N21 56.8	197 14.7	10.4	N21 02.2	8.2	56.1	Adhara	255 08.5	S29 00.0
4	238 35.3	N21 56.5	211 44.1	10.4	N20 53.9	8.3	56.1	Albireo	67 06.0	N28 00.3
M 5	253 35.2	N21 56.1	226 13.6	10.5	N20 45.5	8.4	56.1			
O								Aldebaran	290 43.1	N16 33.1
N 6	268 35.1	N21 55.8	240 43.1	10.5	N20 36.9	8.5	56.2	Alioth	166 15.6	N55 51.0
D 7	283 35.1	N21 55.4	255 12.7	10.6	N20 28.3	8.6	56.2	Alkaid	152 54.2	N49 12.7
A 8	298 35.0	N21 55.1	269 42.2	10.6	N20 19.5	8.8	56.2	Al Na-ir	27 36.1	S46 51.3
Y 9	313 34.9	N21 54.7	284 11.9	10.6	N20 10.7	8.9	56.2	Alnilam	275 40.9	S 1 11.3
10	328 34.8	N21 54.4	298 41.5	10.7	N20 01.7	9.0	56.2			
11	343 34.8	N21 54.0	313 11.3	10.7	N19 52.6	9.1	56.3	Alphard	217 50.8	S 8 45.0
								Alphecca	126 06.0	N26 38.8
12	358 34.7	N21 53.7	327 41.0	10.8	N19 43.5	9.2	56.3	Alpheratz	357 37.6	N29 12.4
13	13 34.6	N21 53.3	342 10.8	10.8	N19 34.2	9.3	56.3	Altair	62 02.4	N 8 55.5
14	28 34.5	N21 52.9	356 40.7	10.8	N19 24.8	9.4	56.3	Ankaa	353 09.9	S42 11.2
15	43 34.4	N21 52.6	11 10.5	10.9	N19 15.3	9.5	56.3			
16	58 34.4	N21 52.2	25 40.5	10.9	N19 05.7	9.6	56.4	Antares	112 19.1	S26 28.8
17	73 34.3	N21 51.9	40 10.4	11.0	N18 56.0	9.7	56.4	Arcturus	145 50.4	N19 04.5
								Atria	107 15.4	S69 04.1
18	88 34.2	N21 51.5	54 40.4	11.0	N18 46.2	9.8	56.4	Avior	234 16.5	S59 34.7
19	103 34.1	N21 51.2	69 10.5	11.0	N18 36.3	9.9	56.4	Bellatrix	278 26.2	N 6 22.1
20	118 34.1	N21 50.8	83 40.6	11.1	N18 26.3	10.0	56.5			
21	133 34.0	N21 50.4	98 10.7	11.1	N18 16.2	10.1	56.5	Betelgeuse	270 55.5	N 7 24.7
22	148 33.9	N21 50.1	112 40.8	11.2	N18 06.0	10.2	56.5	Canopus	263 54.2	S52 42.3
23	163 33.8	N21 49.7	127 11.1	11.2	N17 55.7	10.3	56.5	Capella	280 26.5	N46 01.0
13 0	178 33.8	N21 49.3	141 41.3	11.3	N17 45.3	10.4	56.5	Castor	246 01.1	N31 50.5
1	193 33.7	N21 49.0	156 11.6	11.3	N17 34.8	10.5	56.6	Deneb	49 27.2	N45 21.3
2	208 33.6	N21 48.6	170 41.9	11.3	N17 24.3	10.6	56.6			
3	223 33.5	N21 48.2	185 12.3	11.4	N17 13.6	10.7	56.6	Denebola	182 28.0	N14 27.3
4	238 33.5	N21 47.9	199 42.7	11.4	N17 02.8	10.8	56.6	Diphda	348 50.1	S17 52.0
T 5	253 33.4	N21 47.5	214 13.2	11.5	N16 52.0	10.9	56.6	Dubhe	193 45.0	N61 38.4
U								Elnath	278 05.8	N28 37.4
E 6	268 33.3	N21 47.1	228 43.7	11.5	N16 41.0	10.9	56.7	Eltanin	90 43.0	N51 29.3
S 7	283 33.2	N21 46.8	243 14.2	11.5	N16 30.0	11.0	56.7	Enif	33 41.2	N 9 58.4
D 8	298 33.2	N21 46.4	257 44.8	11.6	N16 18.9	11.1	56.7	Fomalhaut	15 17.4	S29 30.4
A 9	313 33.1	N21 46.0	272 15.4	11.6	N16 07.7	11.2	56.7	Gacrux	171 54.9	S57 14.2
Y 10	328 33.0	N21 45.7	286 46.0	11.7	N15 56.4	11.3	56.8	Gienah	175 46.6	S17 39.6
11	343 33.0	N21 45.3	301 16.7	11.7	N15 45.0	11.4	56.8	Hadar	148 39.9	S60 28.8
12	358 32.9	N21 44.9	315 47.5	11.7	N15 33.5	11.5	56.8	Hamal	327 54.5	N23 33.7
13	13 32.8	N21 44.6	330 18.2	11.8	N15 22.0	11.5	56.8	Kaus Austr.	83 35.9	S34 22.5
14	28 32.7	N21 44.2	344 49.0	11.8	N15 10.4	11.6	56.8	Kochab	137 19.5	N74 04.4
15	43 32.7	N21 43.8	359 19.9	11.8	N14 58.6	11.7	56.9	Markab	13 32.5	N15 19.1
16	58 32.6	N21 43.4	13 50.7	11.9	N14 46.9	11.8	56.9	Menkar	314 09.2	N 4 10.4
17	73 32.5	N21 43.1	28 21.6	11.9	N14 35.0	11.9	56.9			
								Menkent	148 00.9	S36 28.7
18	88 32.5	N21 42.7	42 52.6	11.9	N14 23.0	12.0	56.9	Miaplacidus	221 39.5	S69 48.4
19	103 32.4	N21 42.3	57 23.6	12.0	N14 11.0	12.0	56.9	Mirfak	308 32.6	N49 56.0
20	118 32.3	N21 41.9	71 54.6	12.0	N13 58.9	12.1	57.0	Nunki	75 50.9	S26 16.1
21	133 32.2	N21 41.6	86 25.6	12.0	N13 46.7	12.2	57.0	Peacock	53 09.6	S56 39.9
22	148 32.2	N21 41.2	100 56.7	12.1	N13 34.5	12.3	57.0			
23	163 32.1	N21 40.8	115 27.8	12.1	N13 22.1	12.3	57.0	Polaris	317 25.6	N89 20.1
14 0	178 32.0	N21 40.4	129 59.0	12.1	N13 09.7	12.4	57.1	Pollux	243 21.2	N27 58.5
1	193 32.0	N21 40.1	144 30.1	12.2	N12 57.2	12.5	57.1	Procyon	244 54.1	N 5 10.3
2	208 31.9	N21 39.7	159 01.4	12.2	N12 44.7	12.5	57.1	Rasalhague	96 00.9	N12 32.8
3	223 31.8	N21 39.3	173 32.6	12.2	N12 32.1	12.6	57.1	Regulus	207 37.7	N11 51.9
4	238 31.8	N21 38.9	188 03.9	12.3	N12 19.4	12.7	57.1			
W 5	253 31.7	N21 38.5	202 35.2	12.3	N12 06.6	12.8	57.2	Rigel	281 06.9	S 8 10.6
E								Rigil Kent	139 44.1	S60 55.6
D 6	268 31.6	N21 38.1	217 06.5	12.3	N11 53.8	12.8	57.2	Sabik	102 05.8	S15 45.1
N 7	283 31.5	N21 37.8	231 37.8	12.4	N11 40.9	12.9	57.2	Schedar	349 34.1	N56 39.0
E 8	298 31.5	N21 37.4	246 09.2	12.4	N11 28.0	13.0	57.2	Shaula	96 13.8	S37 07.2
S 9	313 31.4	N21 37.0	260 40.6	12.4	N11 14.9	13.0	57.3	Sirius	258 29.1	S16 44.7
D 10	328 31.3	N21 36.6	275 12.0	12.4	N11 01.9	13.1	57.3	Spica	158 25.3	S11 16.3
A 11	343 31.3	N21 36.2	289 43.5	12.5	N10 48.7	13.1	57.3	Suhail	222 48.8	S43 31.2
Y								Vega	80 34.7	N38 48.3
12	358 31.2	N21 35.8	304 15.0	12.5	N10 35.5	13.2	57.3	Zuben-ubi	136 59.8	S16 07.8
13	13 31.1	N21 35.5	318 46.5	12.5	N10 22.3	13.3	57.3			
14	28 31.1	N21 35.1	333 18.0	12.5	N10 08.9	13.3	57.4			
15	43 31.0	N21 34.7	347 49.5	12.5	N 9 55.5	13.4	57.4			
16	58 30.9	N21 34.3	2 21.1	12.6	N 9 42.1	13.4	57.4			
17	73 30.9	N21 33.9	16 52.7	12.6	N 9 28.6	13.5	57.4			
18	88 30.8	N21 33.5	31 24.3	12.6	N 9 15.1	13.5	57.5			
19	103 30.7	N21 33.1	45 55.9	12.6	N 9 01.5	13.6	57.5			
20	118 30.7	N21 32.7	60 27.5	12.6	N 8 47.8	13.7	57.5			
21	133 30.6	N21 32.3	74 59.2	12.7	N 8 34.1	13.7	57.5			
22	148 30.5	N21 31.9	89 30.9	12.7	N 8 20.4	13.8	57.5			
23	163 30.5	N21 31.5	104 02.5	12.7	N 8 06.5	13.8	57.6			
	S.D. 15.7	d 0.4	S.D.	15.3	15.5	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
		° '	° '	° '	° '	° '	° '	° '	° '	° '
15	0	293 04.0	148 35.6	N15 52.6	149 34.3	N15 42.3	319 23.8	S12 01.9	338 53.2	S18 03.0
	1	308 06.4	163 35.1	N15 51.6	164 35.2	N15 41.7	334 26.5	S12 02.0	353 55.8	S18 03.0
	2	323 08.9	178 34.6	N15 50.6	179 36.2	N15 41.2	349 29.1	S12 02.1	8 58.4	S18 03.1
	3	338 11.4	193 34.1	N15 49.6	194 37.1	N15 40.7	4 31.8	S12 02.1	24 01.1	S18 03.1
	4	353 13.8	208 33.6	N15 48.6	209 38.0	N15 40.2	19 34.4	S12 02.2	39 03.7	S18 03.2
T	5	8 16.3	223 33.2	N15 47.6	224 39.0	N15 39.7	34 37.0	S12 02.3	54 06.3	S18 03.3
H										
U	6	23 18.8	238 32.7	N15 46.6	239 39.9	N15 39.2	49 39.7	S12 02.4	69 09.0	S18 03.3
R	7	38 21.2	253 32.2	N15 45.6	254 40.9	N15 38.7	64 42.3	S12 02.4	84 11.6	S18 03.4
S	8	53 23.7	268 31.7	N15 44.6	269 41.8	N15 38.2	79 45.0	S12 02.5	99 14.2	S18 03.4
D	9	68 26.1	283 31.2	N15 43.6	284 42.7	N15 37.7	94 47.6	S12 02.6	114 16.9	S18 03.5
A	10	83 28.6	298 30.7	N15 42.6	299 43.7	N15 37.1	109 50.3	S12 02.7	129 19.5	S18 03.5
Y	11	98 31.1	313 30.2	N15 41.6	314 44.6	N15 36.6	124 52.9	S12 02.8	144 22.1	S18 03.6
	12	113 33.5	328 29.7	N15 40.6	329 45.5	N15 36.1	139 55.5	S12 02.8	159 24.8	S18 03.6
	13	128 36.0	343 29.3	N15 39.6	344 46.5	N15 35.6	154 58.2	S12 02.9	174 27.4	S18 03.7
	14	143 38.5	358 28.8	N15 38.6	359 47.4	N15 35.1	170 00.8	S12 03.0	189 30.0	S18 03.7
	15	158 40.9	13 28.3	N15 37.6	14 48.3	N15 34.6	185 03.5	S12 03.1	204 32.7	S18 03.8
	16	173 43.4	28 27.8	N15 36.6	29 49.3	N15 34.1	200 06.1	S12 03.1	219 35.3	S18 03.8
	17	188 45.9	43 27.3	N15 35.6	44 50.2	N15 33.6	215 08.8	S12 03.2	234 38.0	S18 03.9
	18	203 48.3	58 26.8	N15 34.6	59 51.1	N15 33.0	230 11.4	S12 03.3	249 40.6	S18 03.9
	19	218 50.8	73 26.4	N15 33.6	74 52.1	N15 32.5	245 14.0	S12 03.4	264 43.2	S18 04.0
	20	233 53.3	88 25.9	N15 32.6	89 53.0	N15 32.0	260 16.7	S12 03.5	279 45.9	S18 04.0
	21	248 55.7	103 25.4	N15 31.5	104 54.0	N15 31.5	275 19.3	S12 03.5	294 48.5	S18 04.1
	22	263 58.2	118 24.9	N15 30.5	119 54.9	N15 31.0	290 22.0	S12 03.6	309 51.1	S18 04.1
	23	279 00.6	133 24.4	N15 29.5	134 55.8	N15 30.5	305 24.6	S12 03.7	324 53.8	S18 04.2
16	0	294 03.1	148 24.0	N15 28.5	149 56.8	N15 30.0	320 27.3	S12 03.8	339 56.4	S18 04.2
	1	309 05.6	163 23.5	N15 27.5	164 57.7	N15 29.5	335 29.9	S12 03.9	354 59.0	S18 04.3
	2	324 08.0	178 23.0	N15 26.5	179 58.6	N15 28.9	350 32.6	S12 03.9	10 01.7	S18 04.3
	3	339 10.5	193 22.5	N15 25.5	194 59.6	N15 28.4	5 35.2	S12 04.0	25 04.3	S18 04.4
	4	354 13.0	208 22.1	N15 24.5	210 00.5	N15 27.9	20 37.9	S12 04.1	40 07.0	S18 04.4
F	5	9 15.4	223 21.6	N15 23.5	225 01.5	N15 27.4	35 40.5	S12 04.2	55 09.6	S18 04.5
R										
I	6	24 17.9	238 21.1	N15 22.4	240 02.4	N15 26.9	50 43.2	S12 04.2	70 12.2	S18 04.5
D	7	39 20.4	253 20.6	N15 21.4	255 03.3	N15 26.4	65 45.8	S12 04.3	85 14.9	S18 04.6
A	8	54 22.8	268 20.1	N15 20.4	270 04.3	N15 25.8	80 48.5	S12 04.4	100 17.5	S18 04.7
Y	9	69 25.3	283 19.7	N15 19.4	285 05.2	N15 25.3	95 51.1	S12 04.5	115 20.1	S18 04.7
	10	84 27.8	298 19.2	N15 18.4	300 06.1	N15 24.8	110 53.8	S12 04.6	130 22.8	S18 04.8
	11	99 30.2	313 18.7	N15 17.4	315 07.1	N15 24.3	125 56.4	S12 04.6	145 25.4	S18 04.8
	12	114 32.7	328 18.3	N15 16.3	330 08.0	N15 23.8	140 59.1	S12 04.7	160 28.1	S18 04.9
	13	129 35.1	343 17.8	N15 15.3	345 09.0	N15 23.3	156 01.7	S12 04.8	175 30.7	S18 04.9
	14	144 37.6	358 17.3	N15 14.3	0 09.9	N15 22.8	171 04.4	S12 04.9	190 33.3	S18 05.0
	15	159 40.1	13 16.8	N15 13.3	15 10.8	N15 22.2	186 07.0	S12 05.0	205 36.0	S18 05.0
	16	174 42.5	28 16.4	N15 12.3	30 11.8	N15 21.7	201 09.7	S12 05.1	220 38.6	S18 05.1
	17	189 45.0	43 15.9	N15 11.2	45 12.7	N15 21.2	216 12.3	S12 05.1	235 41.2	S18 05.1
	18	204 47.5	58 15.4	N15 10.2	60 13.6	N15 20.7	231 15.0	S12 05.2	250 43.9	S18 05.2
	19	219 49.9	73 15.0	N15 09.2	75 14.6	N15 20.2	246 17.6	S12 05.3	265 46.5	S18 05.2
	20	234 52.4	88 14.5	N15 08.2	90 15.5	N15 19.7	261 20.3	S12 05.4	280 49.2	S18 05.3
	21	249 54.9	103 14.0	N15 07.1	105 16.5	N15 19.1	276 22.9	S12 05.5	295 51.8	S18 05.3
	22	264 57.3	118 13.6	N15 06.1	120 17.4	N15 18.6	291 25.6	S12 05.5	310 54.4	S18 05.4
	23	279 59.8	133 13.1	N15 05.1	135 18.3	N15 18.1	306 28.2	S12 05.6	325 57.1	S18 05.4
17	0	295 02.2	148 12.6	N15 04.1	150 19.3	N15 17.6	321 30.9	S12 05.7	340 59.7	S18 05.5
	1	310 04.7	163 12.2	N15 03.0	165 20.2	N15 17.1	336 33.5	S12 05.8	356 02.3	S18 05.5
	2	325 07.2	178 11.7	N15 02.0	180 21.2	N15 16.5	351 36.2	S12 05.9	11 05.0	S18 05.6
	3	340 09.6	193 11.2	N15 01.0	195 22.1	N15 16.0	6 38.8	S12 05.9	26 07.6	S18 05.6
	4	355 12.1	208 10.8	N14 60.0	210 23.0	N15 15.5	21 41.5	S12 06.0	41 10.3	S18 05.7
S	5	10 14.6	223 10.3	N14 58.9	225 24.0	N15 15.0	36 44.1	S12 06.1	56 12.9	S18 05.8
A										
T	6	25 17.0	238 09.9	N14 57.9	240 24.9	N15 14.5	51 46.8	S12 06.2	71 15.5	S18 05.8
U	7	40 19.5	253 09.4	N14 56.9	255 25.9	N15 13.9	66 49.4	S12 06.3	86 18.2	S18 05.9
R	8	55 22.0	268 08.9	N14 55.8	270 26.8	N15 13.4	81 52.1	S12 06.4	101 20.8	S18 05.9
D	9	70 24.4	283 08.5	N14 54.8	285 27.7	N15 12.9	96 54.8	S12 06.4	116 23.5	S18 06.0
A	10	85 26.9	298 08.0	N14 53.8	300 28.7	N15 12.4	111 57.4	S12 06.5	131 26.1	S18 06.0
Y	11	100 29.4	313 07.6	N14 52.7	315 29.6	N15 11.9	127 00.1	S12 06.6	146 28.7	S18 06.1
	12	115 31.8	328 07.1	N14 51.7	330 30.6	N15 11.4	142 02.7	S12 06.7	161 31.4	S18 06.1
	13	130 34.3	343 06.6	N14 50.7	345 31.5	N15 10.8	157 05.4	S12 06.8	176 34.0	S18 06.2
	14	145 36.7	358 06.2	N14 49.6	0 32.4	N15 10.3	172 08.0	S12 06.8	191 36.7	S18 06.2
	15	160 39.2	13 05.7	N14 48.6	15 33.4	N15 09.8	187 10.7	S12 06.9	206 39.3	S18 06.3
	16	175 41.7	28 05.3	N14 47.5	30 34.3	N15 09.3	202 13.4	S12 07.0	221 41.9	S18 06.3
	17	190 44.1	43 04.8	N14 46.5	45 35.3	N15 08.7	217 16.0	S12 07.1	236 44.6	S18 06.4
	18	205 46.6	58 04.4	N14 45.5	60 36.2	N15 08.2	232 18.7	S12 07.2	251 47.2	S18 06.4
	19	220 49.1	73 03.9	N14 44.4	75 37.1	N15 07.7	247 21.3	S12 07.3	266 49.9	S18 06.5
	20	235 51.5	88 03.4	N14 43.4	90 38.1	N15 07.2	262 24.0	S12 07.3	281 52.5	S18 06.5
	21	250 54.0	103 03.0	N14 42.3	105 39.0	N15 06.7	277 26.6	S12 07.4	296 55.1	S18 06.6
	22	265 56.5	118 02.5	N14 41.3	120 40.0	N15 06.1	292 29.3	S12 07.5	311 57.8	S18 06.6
	23	280 58.9	133 02.1	N14 40.3	135 40.9	N15 05.6	307 32.0	S12 07.6	327 00.4	S18 06.7
			v -0.5	d 1.0	v 0.9	d 0.5	v 2.6	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
	° '	° '	° '	'	° '	'	'		° ' ° '
15 0	178 30.4	N21 31.2	118 34.2	12.7	N 7 52.7	13.9	57.6	Acamar	315 14.1 S40 12.9
1	193 30.4	N21 30.8	133 05.9	12.7	N 7 38.8	13.9	57.6	Achernar	335 22.4 S57 07.4
2	208 30.3	N21 30.4	147 37.7	12.7	N 7 24.8	13.9	57.6	Acrux	173 03.4 S63 13.2
3	223 30.2	N21 30.0	162 09.4	12.7	N 7 10.8	14.0	57.7	Adhara	255 08.5 S28 60.0
4	238 30.2	N21 29.6	176 41.1	12.7	N 6 56.8	14.0	57.7	Albireo	67 06.0 N28 00.3
T 5	253 30.1	N21 29.2	191 12.9	12.7	N 6 42.7	14.1	57.7		
H								Aldebaran	290 43.1 N16 33.1
U 6	268 30.0	N21 28.8	205 44.6	12.8	N 6 28.6	14.1	57.7	Alioth	166 15.6 N55 51.0
R 7	283 30.0	N21 28.4	220 16.4	12.8	N 6 14.4	14.2	57.7	Alkaid	152 54.3 N49 12.7
S 8	298 29.9	N21 28.0	234 48.1	12.8	N 6 00.2	14.2	57.8	Al Na-ir	27 36.1 S46 51.3
D 9	313 29.8	N21 27.6	249 19.9	12.8	N 5 46.0	14.2	57.8	Alnilam	275 40.9 S 1 11.3
A 10	328 29.8	N21 27.2	263 51.7	12.8	N 5 31.7	14.3	57.8		
Y 11	343 29.7	N21 26.8	278 23.5	12.8	N 5 17.4	14.3	57.8	Alphard	217 50.8 S 8 45.0
								Alphecca	126 06.0 N26 38.8
12	358 29.7	N21 26.4	292 55.2	12.8	N 5 03.0	14.4	57.9	Alpheratz	357 37.6 N29 12.4
13	13 29.6	N21 26.0	307 27.0	12.8	N 4 48.6	14.4	57.9	Altair	62 02.4 N 8 55.5
14	28 29.5	N21 25.6	321 58.8	12.8	N 4 34.2	14.4	57.9	Ankaa	353 09.8 S42 11.2
15	43 29.5	N21 25.2	336 30.6	12.8	N 4 19.8	14.5	57.9		
16	58 29.4	N21 24.8	351 02.4	12.8	N 4 05.3	14.5	58.0	Antares	112 19.1 S26 28.8
17	73 29.4	N21 24.4	5 34.1	12.8	N 3 50.7	14.5	58.0	Arcturus	145 50.5 N19 04.5
								Atria	107 15.4 S69 04.1
18	88 29.3	N21 24.0	20 05.9	12.8	N 3 36.2	14.5	58.0	Avior	234 16.5 S59 34.7
19	103 29.2	N21 23.5	34 37.6	12.8	N 3 21.6	14.6	58.0	Bellatrix	278 26.2 N 6 22.1
20	118 29.2	N21 23.1	49 09.4	12.8	N 3 07.0	14.6	58.0		
21	133 29.1	N21 22.7	63 41.1	12.7	N 2 52.4	14.6	58.1	Betelgeuse	270 55.5 N 7 24.7
22	148 29.1	N21 22.3	78 12.9	12.7	N 2 37.7	14.7	58.1	Canopus	263 54.2 S52 42.3
23	163 29.0	N21 21.9	92 44.6	12.7	N 2 23.1	14.7	58.1	Capella	280 26.5 N46 01.0
16 0	178 28.9	N21 21.5	107 16.3	12.7	N 2 08.4	14.7	58.1	Castor	246 01.1 N31 50.5
1	193 28.9	N21 21.1	121 48.0	12.7	N 1 53.7	14.7	58.2	Deneb	49 27.2 N45 21.3
2	208 28.8	N21 20.7	136 19.7	12.7	N 1 38.9	14.7	58.2		
3	223 28.8	N21 20.3	150 51.4	12.7	N 1 24.2	14.8	58.2	Denebola	182 28.0 N14 27.3
4	238 28.7	N21 19.9	165 23.0	12.7	N 1 09.4	14.8	58.2	Diphda	348 50.1 S17 52.0
F 5	253 28.6	N21 19.5	179 54.6	12.6	N 0 54.6	14.8	58.2	Dubhe	193 45.0 N61 38.4
R								Elnath	278 05.8 N28 37.4
I 6	268 28.6	N21 19.0	194 26.3	12.6	N 0 39.8	14.8	58.3	Eltanin	90 43.0 N51 29.3
D 7	283 28.5	N21 18.6	208 57.9	12.6	N 0 25.0	14.8	58.3		
A 8	298 28.5	N21 18.2	223 29.4	12.6	N 0 10.1	14.8	58.3	Enif	33 41.2 N 9 58.4
Y 9	313 28.4	N21 17.8	238 01.0	12.6	S 0 04.7	14.8	58.3	Fomalhaut	15 17.4 S29 30.4
10	328 28.4	N21 17.4	252 32.5	12.5	S 0 19.6	14.9	58.4	Gacrux	171 54.9 S57 14.2
11	343 28.3	N21 17.0	267 04.0	12.5	S 0 34.4	14.9	58.4	Gienah	175 46.6 S17 39.6
								Hadar	148 39.9 S60 28.8
12	358 28.3	N21 16.5	281 35.5	12.5	S 0 49.3	14.9	58.4		
13	13 28.2	N21 16.1	296 07.0	12.5	S 1 04.2	14.9	58.4	Hamal	327 54.5 N23 33.7
14	28 28.1	N21 15.7	310 38.4	12.4	S 1 19.1	14.9	58.4	Kaus Austr.	83 35.9 S34 22.5
15	43 28.1	N21 15.3	325 09.8	12.4	S 1 34.0	14.9	58.5	Kochab	137 19.6 N74 04.4
16	58 28.0	N21 14.9	339 41.2	12.4	S 1 48.9	14.9	58.5	Markab	13 32.5 N15 19.1
17	73 28.0	N21 14.5	354 12.5	12.3	S 2 03.8	14.9	58.5	Menkar	314 09.2 N 4 10.4
								Menkent	148 00.9 S36 28.7
18	88 27.9	N21 14.0	8 43.8	12.3	S 2 18.7	14.9	58.5	Miaplacidus	221 39.6 S69 48.4
19	103 27.9	N21 13.6	23 15.1	12.3	S 2 33.6	14.9	58.6	Mirfak	308 32.6 N49 56.0
20	118 27.8	N21 13.2	37 46.3	12.2	S 2 48.5	14.9	58.6	Nunki	75 50.9 S26 16.1
21	133 27.8	N21 12.8	52 17.5	12.2	S 3 03.4	14.9	58.6	Peacock	53 09.6 S56 39.9
22	148 27.7	N21 12.3	66 48.7	12.2	S 3 18.3	14.9	58.6		
23	163 27.7	N21 11.9	81 19.8	12.1	S 3 33.1	14.9	58.6	Polaris	317 24.5 N89 20.1
17 0	178 27.6	N21 11.5	95 50.9	12.1	S 3 48.0	14.9	58.7	Pollux	243 21.2 N27 58.5
1	193 27.5	N21 11.1	110 21.9	12.0	S 4 02.9	14.9	58.7	Procyon	244 54.1 N 5 10.3
2	208 27.5	N21 10.6	124 52.9	12.0	S 4 17.7	14.9	58.7	Rasalhague	96 00.9 N12 32.8
3	223 27.4	N21 10.2	139 23.9	12.0	S 4 32.6	14.8	58.7	Regulus	207 37.7 N11 51.9
4	238 27.4	N21 09.8	153 54.8	11.9	S 4 47.4	14.8	58.8		
S 5	253 27.3	N21 09.4	168 25.6	11.9	S 5 02.3	14.8	58.8	Rigel	281 06.9 S 8 10.6
A								Rigil Kent	139 44.1 S60 55.6
T 6	268 27.3	N21 08.9	182 56.5	11.8	S 5 17.1	14.8	58.8	Sabik	102 05.8 S15 45.1
U 7	283 27.2	N21 08.5	197 27.2	11.8	S 5 31.9	14.8	58.8	Schedar	349 34.1 N56 39.0
R 8	298 27.2	N21 08.1	211 58.0	11.7	S 5 46.6	14.8	58.8	Shaula	96 13.8 S37 07.2
D 9	313 27.1	N21 07.7	226 28.6	11.7	S 6 01.4	14.8	58.9	Sirius	258 29.1 S16 44.7
A 10	328 27.1	N21 07.2	240 59.2	11.6	S 6 16.1	14.7	58.9	Spica	158 25.3 S11 16.3
Y 11	343 27.0	N21 06.8	255 29.8	11.6	S 6 30.9	14.7	58.9	Suhail	222 48.8 S43 31.2
								Vega	80 34.7 N38 48.3
12	358 27.0	N21 06.4	270 00.3	11.5	S 6 45.5	14.7	58.9	Zuben-ubi	136 59.8 S16 07.8
13	13 26.9	N21 05.9	284 30.8	11.5	S 7 00.2	14.7	59.0		
14	28 26.9	N21 05.5	299 01.2	11.4	S 7 14.9	14.6	59.0		
15	43 26.8	N21 05.1	313 31.5	11.3	S 7 29.5	14.6	59.0		
16	58 26.8	N21 04.6	328 01.8	11.3	S 7 44.1	14.6	59.0		
17	73 26.7	N21 04.2	342 32.0	11.2	S 7 58.6	14.6	59.0		
18	88 26.7	N21 03.8	357 02.2	11.2	S 8 13.2	14.5	59.1		
19	103 26.6	N21 03.3	11 32.3	11.1	S 8 27.6	14.5	59.1		
20	118 26.6	N21 02.9	26 02.3	11.0	S 8 42.1	14.5	59.1		
21	133 26.5	N21 02.4	40 32.3	11.0	S 8 56.5	14.4	59.1		
22	148 26.5	N21 02.0	55 02.2	10.9	S 9 10.9	14.4	59.1		
23	163 26.4	N21 01.6	69 32.0	10.8	S 9 25.3	14.3	59.2		
	S.D. 15.7	d 0.4	S.D.	15.8	15.9	16.1			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
18	0	296 01.4	148 01.6	N14 39.2	150 41.8	N15 05.1	322 34.6	S12 07.7	342 03.0	S18 06.8
	1	311 03.9	163 01.2	N14 38.2	165 42.8	N15 04.6	337 37.3	S12 07.8	357 05.7	S18 06.8
	2	326 06.3	178 00.7	N14 37.1	180 43.7	N15 04.1	352 39.9	S12 07.8	12 08.3	S18 06.9
	3	341 08.8	193 00.3	N14 36.1	195 44.7	N15 03.5	7 42.6	S12 07.9	27 11.0	S18 06.9
	4	356 11.2	207 59.8	N14 35.0	210 45.6	N15 03.0	22 45.3	S12 08.0	42 13.6	S18 07.0
S	5	11 13.7	222 59.4	N14 34.0	225 46.6	N15 02.5	37 47.9	S12 08.1	57 16.2	S18 07.0
U										
N	6	26 16.2	237 58.9	N14 33.0	240 47.5	N15 02.0	52 50.6	S12 08.2	72 18.9	S18 07.1
D	7	41 18.6	252 58.5	N14 31.9	255 48.4	N15 01.4	67 53.2	S12 08.3	87 21.5	S18 07.1
A	8	56 21.1	267 58.0	N14 30.9	270 49.4	N15 00.9	82 55.9	S12 08.4	102 24.2	S18 07.2
Y	9	71 23.6	282 57.6	N14 29.8	285 50.3	N15 00.4	97 58.6	S12 08.4	117 26.8	S18 07.2
	10	86 26.0	297 57.1	N14 28.8	300 51.3	N14 59.9	113 01.2	S12 08.5	132 29.4	S18 07.3
	11	101 28.5	312 56.7	N14 27.7	315 52.2	N14 59.3	128 03.9	S12 08.6	147 32.1	S18 07.3
	12	116 31.0	327 56.2	N14 26.7	330 53.2	N14 58.8	143 06.5	S12 08.7	162 34.7	S18 07.4
	13	131 33.4	342 55.8	N14 25.6	345 54.1	N14 58.3	158 09.2	S12 08.8	177 37.4	S18 07.4
	14	146 35.9	357 55.4	N14 24.6	0 55.0	N14 57.8	173 11.9	S12 08.9	192 40.0	S18 07.5
	15	161 38.3	12 54.9	N14 23.5	15 56.0	N14 57.2	188 14.5	S12 08.9	207 42.7	S18 07.5
	16	176 40.8	27 54.5	N14 22.5	30 56.9	N14 56.7	203 17.2	S12 09.0	222 45.3	S18 07.6
	17	191 43.3	42 54.0	N14 21.4	45 57.9	N14 56.2	218 19.9	S12 09.1	237 47.9	S18 07.6
	18	206 45.7	57 53.6	N14 20.3	60 58.8	N14 55.7	233 22.5	S12 09.2	252 50.6	S18 07.7
	19	221 48.2	72 53.1	N14 19.3	75 59.8	N14 55.1	248 25.2	S12 09.3	267 53.2	S18 07.8
	20	236 50.7	87 52.7	N14 18.2	91 00.7	N14 54.6	263 27.9	S12 09.4	282 55.9	S18 07.8
	21	251 53.1	102 52.3	N14 17.2	106 01.6	N14 54.1	278 30.5	S12 09.5	297 58.5	S18 07.9
	22	266 55.6	117 51.8	N14 16.1	121 02.6	N14 53.6	293 33.2	S12 09.5	313 01.1	S18 07.9
	23	281 58.1	132 51.4	N14 15.1	136 03.5	N14 53.0	308 35.8	S12 09.6	328 03.8	S18 08.0
19	0	297 00.5	147 50.9	N14 14.0	151 04.5	N14 52.5	323 38.5	S12 09.7	343 06.4	S18 08.0
	1	312 03.0	162 50.5	N14 13.0	166 05.4	N14 52.0	338 41.2	S12 09.8	358 09.1	S18 08.1
	2	327 05.5	177 50.1	N14 11.9	181 06.4	N14 51.5	353 43.8	S12 09.9	13 11.7	S18 08.1
	3	342 07.9	192 49.6	N14 10.8	196 07.3	N14 50.9	8 46.5	S12 10.0	28 14.3	S18 08.2
	4	357 10.4	207 49.2	N14 09.8	211 08.2	N14 50.4	23 49.2	S12 10.1	43 17.0	S18 08.2
M	5	12 12.8	222 48.7	N14 08.7	226 09.2	N14 49.9	38 51.8	S12 10.1	58 19.6	S18 08.3
O										
N	6	27 15.3	237 48.3	N14 07.7	241 10.1	N14 49.4	53 54.5	S12 10.2	73 22.3	S18 08.3
D	7	42 17.8	252 47.9	N14 06.6	256 11.1	N14 48.8	68 57.2	S12 10.3	88 24.9	S18 08.4
A	8	57 20.2	267 47.4	N14 05.5	271 12.0	N14 48.3	83 59.8	S12 10.4	103 27.6	S18 08.4
Y	9	72 22.7	282 47.0	N14 04.5	286 13.0	N14 47.8	99 02.5	S12 10.5	118 30.2	S18 08.5
	10	87 25.2	297 46.6	N14 03.4	301 13.9	N14 47.2	114 05.2	S12 10.6	133 32.8	S18 08.5
	11	102 27.6	312 46.1	N14 02.3	316 14.9	N14 46.7	129 07.9	S12 10.7	148 35.5	S18 08.6
	12	117 30.1	327 45.7	N14 01.3	331 15.8	N14 46.2	144 10.5	S12 10.7	163 38.1	S18 08.7
	13	132 32.6	342 45.3	N14 00.2	346 16.8	N14 45.7	159 13.2	S12 10.8	178 40.8	S18 08.7
	14	147 35.0	357 44.8	N13 59.1	1 17.7	N14 45.1	174 15.9	S12 10.9	193 43.4	S18 08.8
	15	162 37.5	12 44.4	N13 58.1	16 18.6	N14 44.6	189 18.5	S12 11.0	208 46.0	S18 08.8
	16	177 40.0	27 44.0	N13 57.0	31 19.6	N14 44.1	204 21.2	S12 11.1	223 48.7	S18 08.9
	17	192 42.4	42 43.6	N13 55.9	46 20.5	N14 43.5	219 23.9	S12 11.2	238 51.3	S18 08.9
	18	207 44.9	57 43.1	N13 54.9	61 21.5	N14 43.0	234 26.5	S12 11.3	253 54.0	S18 09.0
	19	222 47.3	72 42.7	N13 53.8	76 22.4	N14 42.5	249 29.2	S12 11.4	268 56.6	S18 09.0
	20	237 49.8	87 42.3	N13 52.7	91 23.4	N14 42.0	264 31.9	S12 11.4	283 59.3	S18 09.1
	21	252 52.3	102 41.8	N13 51.7	106 24.3	N14 41.4	279 34.5	S12 11.5	299 01.9	S18 09.1
	22	267 54.7	117 41.4	N13 50.6	121 25.3	N14 40.9	294 37.2	S12 11.6	314 04.5	S18 09.2
	23	282 57.2	132 41.0	N13 49.5	136 26.2	N14 40.4	309 39.9	S12 11.7	329 07.2	S18 09.2
20	0	297 59.7	147 40.6	N13 48.4	151 27.2	N14 39.8	324 42.6	S12 11.8	344 09.8	S18 09.3
	1	313 02.1	162 40.1	N13 47.4	166 28.1	N14 39.3	339 45.2	S12 11.9	359 12.5	S18 09.3
	2	328 04.6	177 39.7	N13 46.3	181 29.0	N14 38.8	354 47.9	S12 12.0	14 15.1	S18 09.4
	3	343 07.1	192 39.3	N13 45.2	196 30.0	N14 38.3	9 50.6	S12 12.1	29 17.8	S18 09.4
	4	358 09.5	207 38.9	N13 44.1	211 30.9	N14 37.7	24 53.3	S12 12.1	44 20.4	S18 09.5
T	5	13 12.0	222 38.4	N13 43.1	226 31.9	N14 37.2	39 55.9	S12 12.2	59 23.0	S18 09.6
U										
E	6	28 14.5	237 38.0	N13 42.0	241 32.8	N14 36.7	54 58.6	S12 12.3	74 25.7	S18 09.6
S	7	43 16.9	252 37.6	N13 40.9	256 33.8	N14 36.1	70 01.3	S12 12.4	89 28.3	S18 09.7
D	8	58 19.4	267 37.2	N13 39.8	271 34.7	N14 35.6	85 03.9	S12 12.5	104 31.0	S18 09.7
A	9	73 21.8	282 36.7	N13 38.8	286 35.7	N14 35.1	100 06.6	S12 12.6	119 33.6	S18 09.8
Y	10	88 24.3	297 36.3	N13 37.7	301 36.6	N14 34.5	115 09.3	S12 12.7	134 36.3	S18 09.8
	11	103 26.8	312 35.9	N13 36.6	316 37.6	N14 34.0	130 12.0	S12 12.8	149 38.9	S18 09.9
	12	118 29.2	327 35.5	N13 35.5	331 38.5	N14 33.5	145 14.6	S12 12.9	164 41.5	S18 09.9
	13	133 31.7	342 35.1	N13 34.4	346 39.5	N14 32.9	160 17.3	S12 12.9	179 44.2	S18 10.0
	14	148 34.2	357 34.6	N13 33.4	1 40.4	N14 32.4	175 20.0	S12 13.0	194 46.8	S18 10.0
	15	163 36.6	12 34.2	N13 32.3	16 41.4	N14 31.9	190 22.7	S12 13.1	209 49.5	S18 10.1
	16	178 39.1	27 33.8	N13 31.2	31 42.3	N14 31.3	205 25.3	S12 13.2	224 52.1	S18 10.1
	17	193 41.6	42 33.4	N13 30.1	46 43.2	N14 30.8	220 28.0	S12 13.3	239 54.8	S18 10.2
	18	208 44.0	57 33.0	N13 29.0	61 44.2	N14 30.3	235 30.7	S12 13.4	254 57.4	S18 10.2
	19	223 46.5	72 32.6	N13 27.9	76 45.1	N14 29.7	250 33.4	S12 13.5	270 00.0	S18 10.3
	20	238 48.9	87 32.1	N13 26.9	91 46.1	N14 29.2	265 36.0	S12 13.6	285 02.7	S18 10.4
	21	253 51.4	102 31.7	N13 25.8	106 47.0	N14 28.7	280 38.7	S12 13.7	300 05.3	S18 10.4
	22	268 53.9	117 31.3	N13 24.7	121 48.0	N14 28.1	295 41.4	S12 13.7	315 08.0	S18 10.5
	23	283 56.3	132 30.9	N13 23.6	136 48.9	N14 27.6	310 44.1	S12 13.8	330 10.6	S18 10.5
			v -0.4	d 1.1	v 0.9	d 0.5	v 2.7	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 '
18	0	178 26.4	N21 01.1	84 01.8	10.8	S 9 39.6	14.3	59.2
	1	193 26.3	N21 00.7	98 31.5	10.7	S 9 53.8	14.3	59.2
	2	208 26.3	N21 00.3	113 01.1	10.6	S10 08.1	14.2	59.2
	3	223 26.2	N20 59.8	127 30.7	10.6	S10 22.2	14.2	59.2
	4	238 26.2	N20 59.4	142 00.1	10.5	S10 36.4	14.1	59.3
S	5	253 26.2	N20 58.9	156 29.6	10.4	S10 50.5	14.1	59.3
U								
N	6	268 26.1	N20 58.5	170 58.9	10.3	S11 04.5	14.0	59.3
D	7	283 26.1	N20 58.0	185 28.2	10.3	S11 18.5	14.0	59.3
A	8	298 26.0	N20 57.6	199 57.3	10.2	S11 32.4	13.9	59.3
Y	9	313 26.0	N20 57.2	214 26.4	10.1	S11 46.3	13.9	59.4
	10	328 25.9	N20 56.7	228 55.5	10.0	S12 00.1	13.8	59.4
	11	343 25.9	N20 56.3	243 24.4	10.0	S12 13.9	13.8	59.4
	12	358 25.8	N20 55.8	257 53.3	9.9	S12 27.6	13.7	59.4
	13	13 25.8	N20 55.4	272 22.1	9.8	S12 41.2	13.6	59.4
	14	28 25.8	N20 54.9	286 50.8	9.7	S12 54.8	13.6	59.4
	15	43 25.7	N20 54.5	301 19.4	9.6	S13 08.3	13.5	59.5
	16	58 25.7	N20 54.0	315 48.0	9.5	S13 21.8	13.5	59.5
	17	73 25.6	N20 53.6	330 16.4	9.5	S13 35.2	13.4	59.5
	18	88 25.6	N20 53.1	344 44.8	9.4	S13 48.5	13.3	59.5
	19	103 25.5	N20 52.7	359 13.1	9.3	S14 01.8	13.2	59.5
	20	118 25.5	N20 52.2	13 41.3	9.2	S14 14.9	13.2	59.6
	21	133 25.4	N20 51.8	28 09.4	9.1	S14 28.0	13.1	59.6
	22	148 25.4	N20 51.3	42 37.4	9.0	S14 41.1	13.0	59.6
	23	163 25.4	N20 50.9	57 05.3	8.9	S14 54.0	13.0	59.6
19	0	178 25.3	N20 50.4	71 33.1	8.8	S15 06.9	12.9	59.6
	1	193 25.3	N20 50.0	86 00.9	8.7	S15 19.7	12.8	59.6
	2	208 25.2	N20 49.5	100 28.6	8.7	S15 32.4	12.7	59.7
	3	223 25.2	N20 49.0	114 56.1	8.6	S15 45.0	12.6	59.7
	4	238 25.2	N20 48.6	129 23.6	8.5	S15 57.6	12.5	59.7
M	5	253 25.1	N20 48.1	143 51.0	8.4	S16 10.0	12.5	59.7
O								
N	6	268 25.1	N20 47.7	158 18.3	8.3	S16 22.4	12.4	59.7
D	7	283 25.0	N20 47.2	172 45.4	8.2	S16 34.7	12.3	59.7
A	8	298 25.0	N20 46.8	187 12.5	8.1	S16 46.8	12.2	59.7
Y	9	313 25.0	N20 46.3	201 39.5	8.0	S16 58.9	12.1	59.8
	10	328 24.9	N20 45.8	216 06.5	7.9	S17 10.9	12.0	59.8
	11	343 24.9	N20 45.4	230 33.3	7.8	S17 22.8	11.9	59.8
	12	358 24.8	N20 44.9	244 60.0	7.7	S17 34.6	11.8	59.8
	13	13 24.8	N20 44.5	259 26.6	7.6	S17 46.3	11.7	59.8
	14	28 24.8	N20 44.0	273 53.1	7.5	S17 57.9	11.6	59.8
	15	43 24.7	N20 43.5	288 19.5	7.4	S18 09.4	11.5	59.8
	16	58 24.7	N20 43.1	302 45.9	7.3	S18 20.7	11.4	59.9
	17	73 24.7	N20 42.6	317 12.1	7.2	S18 32.0	11.3	59.9
	18	88 24.6	N20 42.1	331 38.2	7.1	S18 43.2	11.2	59.9
	19	103 24.6	N20 41.7	346 04.3	7.0	S18 54.2	11.0	59.9
	20	118 24.5	N20 41.2	0 30.2	6.9	S19 05.2	10.9	59.9
	21	133 24.5	N20 40.7	14 56.1	6.8	S19 16.0	10.8	59.9
	22	148 24.5	N20 40.3	29 21.8	6.7	S19 26.7	10.7	59.9
	23	163 24.4	N20 39.8	43 47.5	6.6	S19 37.3	10.6	59.9
20	0	178 24.4	N20 39.3	58 13.0	6.6	S19 47.7	10.5	60.0
	1	193 24.4	N20 38.9	72 38.5	6.5	S19 58.1	10.3	60.0
	2	208 24.3	N20 38.4	87 03.8	6.4	S20 08.3	10.2	60.0
	3	223 24.3	N20 37.9	101 29.1	6.3	S20 18.4	10.1	60.0
	4	238 24.3	N20 37.5	115 54.2	6.2	S20 28.3	10.0	60.0
T	5	253 24.2	N20 37.0	130 19.3	6.1	S20 38.2	9.8	60.0
U								
E	6	268 24.2	N20 36.5	144 44.3	6.0	S20 47.9	9.7	60.0
S	7	283 24.2	N20 36.0	159 09.2	5.9	S20 57.4	9.6	60.0
D	8	298 24.1	N20 35.6	173 34.0	5.8	S21 06.9	9.4	60.0
A	9	313 24.1	N20 35.1	187 58.7	5.7	S21 16.2	9.3	60.0
Y	10	328 24.1	N20 34.6	202 23.3	5.6	S21 25.3	9.2	60.1
	11	343 24.0	N20 34.1	216 47.8	5.5	S21 34.3	9.0	60.1
	12	358 24.0	N20 33.7	231 12.2	5.4	S21 43.2	8.9	60.1
	13	13 24.0	N20 33.2	245 36.5	5.3	S21 52.0	8.7	60.1
	14	28 23.9	N20 32.7	260 00.8	5.2	S22 00.6	8.6	60.1
	15	43 23.9	N20 32.2	274 24.9	5.2	S22 09.0	8.4	60.1
	16	58 23.9	N20 31.8	288 49.0	5.1	S22 17.3	8.3	60.1
	17	73 23.8	N20 31.3	303 13.0	5.0	S22 25.5	8.2	60.1
	18	88 23.8	N20 30.8	317 36.9	4.9	S22 33.5	8.0	60.1
	19	103 23.8	N20 30.3	332 00.7	4.8	S22 41.3	7.9	60.1
	20	118 23.7	N20 29.8	346 24.4	4.7	S22 49.0	7.7	60.1
	21	133 23.7	N20 29.4	0 48.1	4.6	S22 56.6	7.5	60.1
	22	148 23.7	N20 28.9	15 11.6	4.6	S23 04.0	7.4	60.1
	23	163 23.6	N20 28.4	29 35.1	4.5	S23 11.2	7.2	60.1
		S.D. 15.7	d 0.5	S.D. 16.2		16.3	16.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.1	S40 12.9
Achernar	335 22.4	S57 07.4
Acrux	173 03.4	S63 13.2
Adhara	255 08.5	S28 60.0
Albireo	67 05.9	N28 00.3
Aldebaran	290 43.1	N16 33.1
Alioth	166 15.6	N55 51.0
Alkaid	152 54.3	N49 12.7
Al Na-ir	27 36.1	S46 51.3
Alnilam	275 40.9	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.5	N29 12.4
Altair	62 02.4	N 8 55.5
Ankaa	353 09.8	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.5	N19 04.5
Atria	107 15.5	S69 04.1
Avior	234 16.5	S59 34.7
Bellatrix	278 26.2	N 6 22.2
Betelgeuse	270 55.5	N 7 24.7
Canopus	263 54.1	S52 42.3
Capella	280 26.5	N46 01.0
Castor	246 01.1	N31 50.5
Deneb	49 27.2	N45 21.4
Denebola	182 28.0	N14 27.3
Diphda	348 50.1	S17 52.0
Dubhe	193 45.0	N61 38.4
Elnath	278 05.8	N28 37.4
Eltanin	90 43.0	N51 29.3
Enif	33 41.2	N 9 58.4
Fomalhaut	15 17.4	S29 30.4
Gacrux	171 54.9	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 40.0	S60 28.8
Hamal	327 54.4	N23 33.7
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.6	N74 04.4
Markab	13 32.5	N15 19.1
Menkar	314 09.2	N 4 10.4
Menkent	148 00.9	S36 28.6
Miaplacidus	221 39.6	S69 48.4
Mirfak	308 32.5	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.6	S56 39.9
Polaris	317 23.1	N89 20.1
Pollux	243 21.2	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 06.9	S 8 10.6
Rigil Kent	139 44.1	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.0	N56 39.0
Shaula	96 13.9	S37 07.2
Sirius	258 29.1	S16 44.7
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.1
Vega	80 34.7	N38 48.3
Zuben-ubi	136 59.8	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
21	0	298 58.8	147 30.5	N13 22.5	151 49.9	N14 27.1	325 46.8	S12 13.9	345 13.3	S18 10.6
	1	314 01.3	162 30.1	N13 21.4	166 50.8	N14 26.5	340 49.4	S12 14.0	0 15.9	S18 10.6
	2	329 03.7	177 29.7	N13 20.3	181 51.8	N14 26.0	355 52.1	S12 14.1	15 18.5	S18 10.7
	3	344 06.2	192 29.2	N13 19.3	196 52.7	N14 25.5	10 54.8	S12 14.2	30 21.2	S18 10.7
	4	359 08.7	207 28.8	N13 18.2	211 53.7	N14 24.9	25 57.5	S12 14.3	45 23.8	S18 10.8
W	5	14 11.1	222 28.4	N13 17.1	226 54.6	N14 24.4	41 00.1	S12 14.4	60 26.5	S18 10.8
E										
D	6	29 13.6	237 28.0	N13 16.0	241 55.6	N14 23.9	56 02.8	S12 14.5	75 29.1	S18 10.9
N	7	44 16.1	252 27.6	N13 14.9	256 56.5	N14 23.3	71 05.5	S12 14.6	90 31.8	S18 10.9
E	8	59 18.5	267 27.2	N13 13.8	271 57.5	N14 22.8	86 08.2	S12 14.6	105 34.4	S18 11.0
S	9	74 21.0	282 26.8	N13 12.7	286 58.4	N14 22.3	101 10.9	S12 14.7	120 37.1	S18 11.0
D	10	89 23.4	297 26.4	N13 11.6	301 59.4	N14 21.7	116 13.5	S12 14.8	135 39.7	S18 11.1
A	11	104 25.9	312 26.0	N13 10.5	317 00.3	N14 21.2	131 16.2	S12 14.9	150 42.3	S18 11.2
Y										
	12	119 28.4	327 25.6	N13 09.4	332 01.3	N14 20.7	146 18.9	S12 15.0	165 45.0	S18 11.2
	13	134 30.8	342 25.1	N13 08.3	347 02.2	N14 20.1	161 21.6	S12 15.1	180 47.6	S18 11.3
	14	149 33.3	357 24.7	N13 07.2	2 03.2	N14 19.6	176 24.3	S12 15.2	195 50.3	S18 11.3
	15	164 35.8	12 24.3	N13 06.2	17 04.1	N14 19.0	191 26.9	S12 15.3	210 52.9	S18 11.4
	16	179 38.2	27 23.9	N13 05.1	32 05.1	N14 18.5	206 29.6	S12 15.4	225 55.6	S18 11.4
	17	194 40.7	42 23.5	N13 04.0	47 06.0	N14 18.0	221 32.3	S12 15.5	240 58.2	S18 11.5
	18	209 43.2	57 23.1	N13 02.9	62 07.0	N14 17.4	236 35.0	S12 15.6	256 00.9	S18 11.5
	19	224 45.6	72 22.7	N13 01.8	77 07.9	N14 16.9	251 37.7	S12 15.6	271 03.5	S18 11.6
	20	239 48.1	87 22.3	N13 00.7	92 08.9	N14 16.4	266 40.4	S12 15.7	286 06.1	S18 11.6
	21	254 50.6	102 21.9	N12 59.6	107 09.8	N14 15.8	281 43.0	S12 15.8	301 08.8	S18 11.7
	22	269 53.0	117 21.5	N12 58.5	122 10.8	N14 15.3	296 45.7	S12 15.9	316 11.4	S18 11.7
	23	284 55.5	132 21.1	N12 57.4	137 11.7	N14 14.8	311 48.4	S12 16.0	331 14.1	S18 11.8
22	0	299 57.9	147 20.7	N12 56.3	152 12.7	N14 14.2	326 51.1	S12 16.1	346 16.7	S18 11.8
	1	315 00.4	162 20.3	N12 55.2	167 13.6	N14 13.7	341 53.8	S12 16.2	1 19.4	S18 11.9
	2	330 02.9	177 19.9	N12 54.1	182 14.6	N14 13.1	356 56.5	S12 16.3	16 22.0	S18 12.0
	3	345 05.3	192 19.5	N12 53.0	197 15.5	N14 12.6	11 59.1	S12 16.4	31 24.7	S18 12.0
	4	0 07.8	207 19.1	N12 51.9	212 16.5	N14 12.1	27 01.8	S12 16.5	46 27.3	S18 12.1
T	5	15 10.3	222 18.7	N12 50.8	227 17.4	N14 11.5	42 04.5	S12 16.6	61 29.9	S18 12.1
H										
U	6	30 12.7	237 18.3	N12 49.7	242 18.4	N14 11.0	57 07.2	S12 16.7	76 32.6	S18 12.2
R	7	45 15.2	252 17.9	N12 48.5	257 19.3	N14 10.4	72 09.9	S12 16.7	91 35.2	S18 12.2
S	8	60 17.7	267 17.5	N12 47.4	272 20.3	N14 09.9	87 12.6	S12 16.8	106 37.9	S18 12.3
D	9	75 20.1	282 17.1	N12 46.3	287 21.2	N14 09.4	102 15.3	S12 16.9	121 40.5	S18 12.3
A	10	90 22.6	297 16.7	N12 45.2	302 22.2	N14 08.8	117 17.9	S12 17.0	136 43.2	S18 12.4
Y	11	105 25.1	312 16.3	N12 44.1	317 23.1	N14 08.3	132 20.6	S12 17.1	151 45.8	S18 12.4
	12	120 27.5	327 15.9	N12 43.0	332 24.1	N14 07.8	147 23.3	S12 17.2	166 48.5	S18 12.5
	13	135 30.0	342 15.5	N12 41.9	347 25.0	N14 07.2	162 26.0	S12 17.3	181 51.1	S18 12.5
	14	150 32.4	357 15.1	N12 40.8	2 26.0	N14 06.7	177 28.7	S12 17.4	196 53.8	S18 12.6
	15	165 34.9	12 14.7	N12 39.7	17 26.9	N14 06.1	192 31.4	S12 17.5	211 56.4	S18 12.7
	16	180 37.4	27 14.3	N12 38.6	32 27.9	N14 05.6	207 34.1	S12 17.6	226 59.0	S18 12.7
	17	195 39.8	42 14.0	N12 37.5	47 28.8	N14 05.1	222 36.7	S12 17.7	242 01.7	S18 12.8
	18	210 42.3	57 13.6	N12 36.4	62 29.8	N14 04.5	237 39.4	S12 17.8	257 04.3	S18 12.8
	19	225 44.8	72 13.2	N12 35.3	77 30.7	N14 04.0	252 42.1	S12 17.9	272 07.0	S18 12.9
	20	240 47.2	87 12.8	N12 34.1	92 31.7	N14 03.4	267 44.8	S12 18.0	287 09.6	S18 12.9
	21	255 49.7	102 12.4	N12 33.0	107 32.7	N14 02.9	282 47.5	S12 18.0	302 12.3	S18 13.0
	22	270 52.2	117 12.0	N12 31.9	122 33.6	N14 02.3	297 50.2	S12 18.1	317 14.9	S18 13.0
	23	285 54.6	132 11.6	N12 30.8	137 34.6	N14 01.8	312 52.9	S12 18.2	332 17.6	S18 13.1
23	0	300 57.1	147 11.2	N12 29.7	152 35.5	N14 01.3	327 55.6	S12 18.3	347 20.2	S18 13.1
	1	315 59.6	162 10.8	N12 28.6	167 36.5	N14 00.7	342 58.3	S12 18.4	2 22.9	S18 13.2
	2	331 02.0	177 10.4	N12 27.5	182 37.4	N14 00.2	358 00.9	S12 18.5	17 25.5	S18 13.2
	3	346 04.5	192 10.1	N12 26.3	197 38.4	N13 59.6	13 03.6	S12 18.6	32 28.2	S18 13.3
	4	1 06.9	207 09.7	N12 25.2	212 39.3	N13 59.1	28 06.3	S12 18.7	47 30.8	S18 13.3
F	5	16 09.4	222 09.3	N12 24.1	227 40.3	N13 58.6	43 09.0	S12 18.8	62 33.4	S18 13.4
R										
I	6	31 11.9	237 08.9	N12 23.0	242 41.2	N13 58.0	58 11.7	S12 18.9	77 36.1	S18 13.5
D	7	46 14.3	252 08.5	N12 21.9	257 42.2	N13 57.5	73 14.4	S12 19.0	92 38.7	S18 13.5
A	8	61 16.8	267 08.1	N12 20.8	272 43.1	N13 56.9	88 17.1	S12 19.1	107 41.4	S18 13.6
Y	9	76 19.3	282 07.7	N12 19.6	287 44.1	N13 56.4	103 19.8	S12 19.2	122 44.0	S18 13.6
	10	91 21.7	297 07.3	N12 18.5	302 45.0	N13 55.8	118 22.5	S12 19.3	137 46.7	S18 13.7
	11	106 24.2	312 07.0	N12 17.4	317 46.0	N13 55.3	133 25.2	S12 19.4	152 49.3	S18 13.7
	12	121 26.7	327 06.6	N12 16.3	332 47.0	N13 54.8	148 27.9	S12 19.5	167 52.0	S18 13.8
	13	136 29.1	342 06.2	N12 15.2	347 47.9	N13 54.2	163 30.5	S12 19.6	182 54.6	S18 13.8
	14	151 31.6	357 05.8	N12 14.0	2 48.9	N13 53.7	178 33.2	S12 19.6	197 57.3	S18 13.9
	15	166 34.0	12 05.4	N12 12.9	17 49.8	N13 53.1	193 35.9	S12 19.7	212 59.9	S18 13.9
	16	181 36.5	27 05.1	N12 11.8	32 50.8	N13 52.6	208 38.6	S12 19.8	228 02.6	S18 14.0
	17	196 39.0	42 04.7	N12 10.7	47 51.7	N13 52.0	223 41.3	S12 19.9	243 05.2	S18 14.0
	18	211 41.4	57 04.3	N12 09.6	62 52.7	N13 51.5	238 44.0	S12 20.0	258 07.8	S18 14.1
	19	226 43.9	72 03.9	N12 08.4	77 53.6	N13 50.9	253 46.7	S12 20.1	273 10.5	S18 14.2
	20	241 46.4	87 03.5	N12 07.3	92 54.6	N13 50.4	268 49.4	S12 20.2	288 13.1	S18 14.2
	21	256 48.8	102 03.2	N12 06.2	107 55.5	N13 49.9	283 52.1	S12 20.3	303 15.8	S18 14.3
	22	271 51.3	117 02.8	N12 05.1	122 56.5	N13 49.3	298 54.8	S12 20.4	318 18.4	S18 14.3
	23	286 53.8	132 02.4	N12 03.9	137 57.4	N13 48.8	313 57.5	S12 20.5	333 21.1	S18 14.4
			v -0.4	d 1.1	v 1.0	d 0.5	v 2.7	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 '
21	0	178 23.6	N20 27.9	43 58.5	4.4	S23 18.3	7.1	60.1
	1	193 23.6	N20 27.4	58 21.9	4.3	S23 25.2	6.9	60.1
	2	208 23.6	N20 27.0	72 45.1	4.3	S23 31.9	6.7	60.1
	3	223 23.5	N20 26.5	87 08.3	4.2	S23 38.5	6.6	60.1
	4	238 23.5	N20 26.0	101 31.4	4.1	S23 44.9	6.4	60.1
W	5	253 23.5	N20 25.5	115 54.5	4.0	S23 51.2	6.3	60.1
E								
D	6	268 23.4	N20 25.0	130 17.4	4.0	S23 57.3	6.1	60.2
N	7	283 23.4	N20 24.5	144 40.4	3.9	S24 03.2	5.9	60.2
E	8	298 23.4	N20 24.0	159 03.2	3.8	S24 08.9	5.8	60.2
S	9	313 23.4	N20 23.5	173 26.0	3.8	S24 14.5	5.6	60.2
D	10	328 23.3	N20 23.1	187 48.7	3.7	S24 19.9	5.4	60.2
A	11	343 23.3	N20 22.6	202 11.4	3.7	S24 25.2	5.2	60.2
Y								
	12	358 23.3	N20 22.1	216 34.0	3.6	S24 30.2	5.1	60.2
	13	13 23.3	N20 21.6	230 56.6	3.6	S24 35.1	4.9	60.2
	14	28 23.2	N20 21.1	245 19.1	3.5	S24 39.8	4.7	60.2
	15	43 23.2	N20 20.6	259 41.5	3.5	S24 44.4	4.5	60.2
	16	58 23.2	N20 20.1	274 03.9	3.4	S24 48.7	4.4	60.1
	17	73 23.2	N20 19.6	288 26.3	3.4	S24 52.9	4.2	60.1
	18	88 23.1	N20 19.1	302 48.6	3.3	S24 56.9	4.0	60.1
	19	103 23.1	N20 18.6	317 10.9	3.3	S25 00.7	3.8	60.1
	20	118 23.1	N20 18.1	331 33.1	3.2	S25 04.4	3.6	60.1
	21	133 23.1	N20 17.6	345 55.3	3.2	S25 07.8	3.5	60.1
	22	148 23.0	N20 17.2	0 17.5	3.2	S25 11.1	3.3	60.1
	23	163 23.0	N20 16.7	14 39.6	3.1	S25 14.2	3.1	60.1
22	0	178 23.0	N20 16.2	29 01.7	3.1	S25 17.1	2.9	60.1
	1	193 23.0	N20 15.7	43 23.8	3.1	S25 19.8	2.7	60.1
	2	208 22.9	N20 15.2	57 45.8	3.1	S25 22.4	2.5	60.1
	3	223 22.9	N20 14.7	72 07.9	3.0	S25 24.7	2.4	60.1
	4	238 22.9	N20 14.2	86 29.9	3.0	S25 26.9	2.2	60.1
T	5	253 22.9	N20 13.7	100 51.9	3.0	S25 28.9	2.0	60.1
H								
U	6	268 22.9	N20 13.2	115 13.8	3.0	S25 30.7	1.8	60.1
R	7	283 22.8	N20 12.7	129 35.8	3.0	S25 32.3	1.6	60.1
S	8	298 22.8	N20 12.2	143 57.8	3.0	S25 33.7	1.4	60.1
D	9	313 22.8	N20 11.7	158 19.7	3.0	S25 35.0	1.2	60.1
A	10	328 22.8	N20 11.2	172 41.7	2.9	S25 36.0	1.1	60.1
Y	11	343 22.7	N20 10.7	187 03.6	2.9	S25 36.9	0.9	60.0
	12	358 22.7	N20 10.2	201 25.6	3.0	S25 37.6	0.7	60.0
	13	13 22.7	N20 09.6	215 47.5	3.0	S25 38.1	0.5	60.0
	14	28 22.7	N20 09.1	230 09.5	3.0	S25 38.4	0.3	60.0
	15	43 22.7	N20 08.6	244 31.5	3.0	S25 38.5	0.1	60.0
	16	58 22.6	N20 08.1	258 53.4	3.0	S25 38.5	0.1	60.0
	17	73 22.6	N20 07.6	273 15.4	3.0	S25 38.2	0.2	60.0
	18	88 22.6	N20 07.1	287 37.5	3.0	S25 37.8	0.4	60.0
	19	103 22.6	N20 06.6	301 59.5	3.0	S25 37.2	0.6	60.0
	20	118 22.6	N20 06.1	316 21.5	3.1	S25 36.4	0.8	59.9
	21	133 22.5	N20 05.6	330 43.6	3.1	S25 35.4	1.0	59.9
	22	148 22.5	N20 05.1	345 05.7	3.1	S25 34.2	1.2	59.9
	23	163 22.5	N20 04.6	359 27.9	3.1	S25 32.8	1.4	59.9
23	0	178 22.5	N20 04.1	13 50.1	3.2	S25 31.3	1.5	59.9
	1	193 22.5	N20 03.6	28 12.3	3.2	S25 29.6	1.7	59.9
	2	208 22.5	N20 03.0	42 34.5	3.3	S25 27.7	1.9	59.9
	3	223 22.4	N20 02.5	56 56.8	3.3	S25 25.6	2.1	59.8
	4	238 22.4	N20 02.0	71 19.2	3.3	S25 23.3	2.3	59.8
F	5	253 22.4	N20 01.5	85 41.5	3.4	S25 20.9	2.5	59.8
R								
I	6	268 22.4	N20 01.0	100 04.0	3.4	S25 18.2	2.6	59.8
D	7	283 22.4	N20 00.5	114 26.5	3.5	S25 15.4	2.8	59.8
A	8	298 22.4	N19 60.0	128 49.0	3.5	S25 12.4	3.0	59.8
Y	9	313 22.4	N19 59.4	143 11.6	3.6	S25 09.3	3.2	59.7
	10	328 22.3	N19 58.9	157 34.2	3.6	S25 05.9	3.3	59.7
	11	343 22.3	N19 58.4	171 56.9	3.7	S25 02.4	3.5	59.7
	12	358 22.3	N19 57.9	186 19.7	3.8	S24 58.7	3.7	59.7
	13	13 22.3	N19 57.4	200 42.5	3.8	S24 54.8	3.9	59.7
	14	28 22.3	N19 56.8	215 05.4	3.9	S24 50.8	4.0	59.7
	15	43 22.3	N19 56.3	229 28.4	4.0	S24 46.6	4.2	59.6
	16	58 22.3	N19 55.8	243 51.5	4.0	S24 42.2	4.4	59.6
	17	73 22.2	N19 55.3	258 14.6	4.1	S24 37.7	4.5	59.6
	18	88 22.2	N19 54.8	272 37.8	4.2	S24 33.0	4.7	59.6
	19	103 22.2	N19 54.2	287 01.0	4.3	S24 28.1	4.9	59.6
	20	118 22.2	N19 53.7	301 24.4	4.3	S24 23.0	5.0	59.5
	21	133 22.2	N19 53.2	315 47.8	4.4	S24 17.8	5.2	59.5
	22	148 22.2	N19 52.7	330 11.3	4.5	S24 12.5	5.4	59.5
	23	163 22.2	N19 52.2	344 34.9	4.6	S24 06.9	5.5	59.5
		S.D. 15.7	d 0.5	S.D. 16.4		16.4	16.3	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.0	S40 12.9
Achernar	335 22.3	S57 07.4
Acrux	173 03.4	S63 13.2
Adhara	255 08.4	S28 60.0
Albireo	67 05.9	N28 00.3
Aldebaran	290 43.1	N16 33.1
Alioth	166 15.6	N55 51.0
Alkaid	152 54.3	N49 12.7
Al Na-ir	27 36.1	S46 51.3
Alnilam	275 40.8	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.5	N29 12.4
Altair	62 02.4	N 8 55.5
Ankaa	353 09.8	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.5	N19 04.5
Atria	107 15.5	S69 04.1
Avior	234 16.5	S59 34.7
Bellatrix	278 26.2	N 6 22.2
Betelgeuse	270 55.4	N 7 24.7
Canopus	263 54.1	S52 42.3
Capella	280 26.4	N46 01.0
Castor	246 01.0	N31 50.5
Deneb	49 27.2	N45 21.4
Denebola	182 28.0	N14 27.3
Diphda	348 50.1	S17 52.0
Dubhe	193 45.0	N61 38.4
Elnath	278 05.8	N28 37.4
Eltanin	90 43.1	N51 29.3
Enif	33 41.2	N 9 58.4
Fomalhaut	15 17.4	S29 30.4
Gacrux	171 54.9	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 40.0	S60 28.8
Hamal	327 54.4	N23 33.7
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.7	N74 04.4
Markab	13 32.5	N15 19.2
Menkar	314 09.2	N 4 10.4
Menkent	148 00.9	S36 28.6
Miaplacidus	221 39.6	S69 48.3
Mirfak	308 32.5	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.5	S56 39.9
Polaris	317 21.7	N89 20.1
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 06.8	S 8 10.5
Rigil Kent	139 44.1	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 34.0	N56 39.0
Shaula	96 13.8	S37 07.2
Sirius	258 29.1	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.1
Vega	80 34.7	N38 48.3
Zuben-ubi	136 59.8	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
24	0	301 56.2	147 02.0	N12 02.8	152 58.4	N13 48.2	329 00.2	S12 20.6	348 23.7	S18 14.4
	1	316 58.7	162 01.6	N12 01.7	167 59.4	N13 47.7	344 02.9	S12 20.7	3 26.4	S18 14.5
	2	332 01.2	177 01.3	N12 00.5	183 00.3	N13 47.1	359 05.6	S12 20.8	18 29.0	S18 14.5
	3	347 03.6	192 00.9	N11 59.4	198 01.3	N13 46.6	14 08.3	S12 20.9	33 31.7	S18 14.6
	4	2 06.1	207 00.5	N11 58.3	213 02.2	N13 46.0	29 11.0	S12 21.0	48 34.3	S18 14.6
S	5	17 08.5	222 00.1	N11 57.2	228 03.2	N13 45.5	44 13.7	S12 21.1	63 37.0	S18 14.7
A										
T	6	32 11.0	236 59.8	N11 56.0	243 04.1	N13 45.0	59 16.4	S12 21.2	78 39.6	S18 14.7
U	7	47 13.5	251 59.4	N11 54.9	258 05.1	N13 44.4	74 19.0	S12 21.3	93 42.3	S18 14.8
R	8	62 15.9	266 59.0	N11 53.8	273 06.0	N13 43.9	89 21.7	S12 21.4	108 44.9	S18 14.9
D	9	77 18.4	281 58.6	N11 52.6	288 07.0	N13 43.3	104 24.4	S12 21.5	123 47.6	S18 14.9
A	10	92 20.9	296 58.3	N11 51.5	303 08.0	N13 42.8	119 27.1	S12 21.6	138 50.2	S18 15.0
Y	11	107 23.3	311 57.9	N11 50.4	318 08.9	N13 42.2	134 29.8	S12 21.7	153 52.8	S18 15.0
	12	122 25.8	326 57.5	N11 49.2	333 09.9	N13 41.7	149 32.5	S12 21.7	168 55.5	S18 15.1
	13	137 28.3	341 57.2	N11 48.1	348 10.8	N13 41.1	164 35.2	S12 21.8	183 58.1	S18 15.1
	14	152 30.7	356 56.8	N11 47.0	3 11.8	N13 40.6	179 37.9	S12 21.9	199 00.8	S18 15.2
	15	167 33.2	11 56.4	N11 45.8	18 12.7	N13 40.0	194 40.6	S12 22.0	214 03.4	S18 15.2
	16	182 35.7	26 56.0	N11 44.7	33 13.7	N13 39.5	209 43.3	S12 22.1	229 06.1	S18 15.3
	17	197 38.1	41 55.7	N11 43.6	48 14.6	N13 38.9	224 46.0	S12 22.2	244 08.7	S18 15.3
	18	212 40.6	56 55.3	N11 42.4	63 15.6	N13 38.4	239 48.7	S12 22.3	259 11.4	S18 15.4
	19	227 43.0	71 54.9	N11 41.3	78 16.6	N13 37.8	254 51.4	S12 22.4	274 14.0	S18 15.4
	20	242 45.5	86 54.6	N11 40.2	93 17.5	N13 37.3	269 54.1	S12 22.5	289 16.7	S18 15.5
	21	257 48.0	101 54.2	N11 39.0	108 18.5	N13 36.7	284 56.8	S12 22.6	304 19.3	S18 15.6
	22	272 50.4	116 53.8	N11 37.9	123 19.4	N13 36.2	299 59.5	S12 22.7	319 22.0	S18 15.6
	23	287 52.9	131 53.5	N11 36.8	138 20.4	N13 35.6	315 02.2	S12 22.8	334 24.6	S18 15.7
25	0	302 55.4	146 53.1	N11 35.6	153 21.3	N13 35.1	330 04.9	S12 22.9	349 27.3	S18 15.7
	1	317 57.8	161 52.7	N11 34.5	168 22.3	N13 34.5	345 07.6	S12 23.0	4 29.9	S18 15.8
	2	333 00.3	176 52.4	N11 33.3	183 23.3	N13 34.0	0 10.3	S12 23.1	19 32.6	S18 15.8
	3	348 02.8	191 52.0	N11 32.2	198 24.2	N13 33.4	15 13.0	S12 23.2	34 35.2	S18 15.9
	4	3 05.2	206 51.6	N11 31.1	213 25.2	N13 32.9	30 15.7	S12 23.3	49 37.9	S18 15.9
S	5	18 07.7	221 51.3	N11 29.9	228 26.1	N13 32.4	45 18.4	S12 23.4	64 40.5	S18 16.0
U										
N	6	33 10.2	236 50.9	N11 28.8	243 27.1	N13 31.8	60 21.1	S12 23.5	79 43.2	S18 16.0
D	7	48 12.6	251 50.6	N11 27.6	258 28.0	N13 31.3	75 23.8	S12 23.6	94 45.8	S18 16.1
A	8	63 15.1	266 50.2	N11 26.5	273 29.0	N13 30.7	90 26.5	S12 23.7	109 48.5	S18 16.1
Y	9	78 17.5	281 49.8	N11 25.3	288 30.0	N13 30.2	105 29.2	S12 23.8	124 51.1	S18 16.2
	10	93 20.0	296 49.5	N11 24.2	303 30.9	N13 29.6	120 31.9	S12 23.9	139 53.7	S18 16.3
	11	108 22.5	311 49.1	N11 23.1	318 31.9	N13 29.1	135 34.6	S12 24.0	154 56.4	S18 16.3
	12	123 24.9	326 48.7	N11 21.9	333 32.8	N13 28.5	150 37.3	S12 24.1	169 59.0	S18 16.4
	13	138 27.4	341 48.4	N11 20.8	348 33.8	N13 27.9	165 40.0	S12 24.2	185 01.7	S18 16.4
	14	153 29.9	356 48.0	N11 19.6	3 34.7	N13 27.4	180 42.8	S12 24.3	200 04.3	S18 16.5
	15	168 32.3	11 47.7	N11 18.5	18 35.7	N13 26.8	195 45.5	S12 24.4	215 07.0	S18 16.5
	16	183 34.8	26 47.3	N11 17.3	33 36.7	N13 26.3	210 48.2	S12 24.5	230 09.6	S18 16.6
	17	198 37.3	41 47.0	N11 16.2	48 37.6	N13 25.7	225 50.9	S12 24.6	245 12.3	S18 16.6
	18	213 39.7	56 46.6	N11 15.0	63 38.6	N13 25.2	240 53.6	S12 24.7	260 14.9	S18 16.7
	19	228 42.2	71 46.2	N11 13.9	78 39.5	N13 24.6	255 56.3	S12 24.8	275 17.6	S18 16.7
	20	243 44.7	86 45.9	N11 12.7	93 40.5	N13 24.1	270 59.0	S12 24.9	290 20.2	S18 16.8
	21	258 47.1	101 45.5	N11 11.6	108 41.5	N13 23.5	286 01.7	S12 25.0	305 22.9	S18 16.8
	22	273 49.6	116 45.2	N11 10.4	123 42.4	N13 23.0	301 04.4	S12 25.1	320 25.5	S18 16.9
	23	288 52.0	131 44.8	N11 09.3	138 43.4	N13 22.4	316 07.1	S12 25.2	335 28.2	S18 17.0
26	0	303 54.5	146 44.5	N11 08.1	153 44.3	N13 21.9	331 09.8	S12 25.3	350 30.8	S18 17.0
	1	318 57.0	161 44.1	N11 07.0	168 45.3	N13 21.3	346 12.5	S12 25.4	5 33.5	S18 17.1
	2	333 59.4	176 43.7	N11 05.8	183 46.2	N13 20.8	1 15.2	S12 25.5	20 36.1	S18 17.1
	3	349 01.9	191 43.4	N11 04.7	198 47.2	N13 20.2	16 17.9	S12 25.6	35 38.8	S18 17.2
	4	4 04.4	206 43.0	N11 03.5	213 48.2	N13 19.7	31 20.6	S12 25.7	50 41.4	S18 17.2
M	5	19 06.8	221 42.7	N11 02.4	228 49.1	N13 19.1	46 23.3	S12 25.8	65 44.1	S18 17.3
O										
N	6	34 09.3	236 42.3	N11 01.2	243 50.1	N13 18.6	61 26.0	S12 25.9	80 46.7	S18 17.3
D	7	49 11.8	251 42.0	N11 00.1	258 51.0	N13 18.0	76 28.7	S12 26.0	95 49.4	S18 17.4
A	8	64 14.2	266 41.6	N10 58.9	273 52.0	N13 17.5	91 31.5	S12 26.1	110 52.0	S18 17.4
Y	9	79 16.7	281 41.3	N10 57.8	288 53.0	N13 16.9	106 34.2	S12 26.2	125 54.7	S18 17.5
	10	94 19.1	296 40.9	N10 56.6	303 53.9	N13 16.4	121 36.9	S12 26.3	140 57.3	S18 17.6
	11	109 21.6	311 40.6	N10 55.5	318 54.9	N13 15.8	136 39.6	S12 26.4	155 60.0	S18 17.6
	12	124 24.1	326 40.2	N10 54.3	333 55.8	N13 15.2	151 42.3	S12 26.5	171 02.6	S18 17.7
	13	139 26.5	341 39.9	N10 53.1	348 56.8	N13 14.7	166 45.0	S12 26.6	186 05.3	S18 17.7
	14	154 29.0	356 39.5	N10 52.0	3 57.8	N13 14.1	181 47.7	S12 26.7	201 07.9	S18 17.8
	15	169 31.5	11 39.2	N10 50.8	18 58.7	N13 13.6	196 50.4	S12 26.8	216 10.6	S18 17.8
	16	184 33.9	26 38.8	N10 49.7	33 59.7	N13 13.0	211 53.1	S12 26.9	231 13.2	S18 17.9
	17	199 36.4	41 38.5	N10 48.5	49 00.6	N13 12.5	226 55.8	S12 27.0	246 15.9	S18 17.9
	18	214 38.9	56 38.1	N10 47.4	64 01.6	N13 11.9	241 58.5	S12 27.1	261 18.5	S18 18.0
	19	229 41.3	71 37.8	N10 46.2	79 02.6	N13 11.4	257 01.3	S12 27.2	276 21.2	S18 18.0
	20	244 43.8	86 37.5	N10 45.0	94 03.5	N13 10.8	272 04.0	S12 27.3	291 23.8	S18 18.1
	21	259 46.3	101 37.1	N10 43.9	109 04.5	N13 10.3	287 06.7	S12 27.4	306 26.5	S18 18.1
	22	274 48.7	116 36.8	N10 42.7	124 05.4	N13 09.7	302 09.4	S12 27.5	321 29.1	S18 18.2
	23	289 51.2	131 36.4	N10 41.6	139 06.4	N13 09.1	317 12.1	S12 27.6	336 31.8	S18 18.3
			v -0.4	d 1.1	v 1.0	d 0.6	v 2.7	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 '
24	0	178 22.2	N19 51.6	358 58.6	4.7	S24 01.2	5.7	59.5
	1	193 22.1	N19 51.1	13 22.3	4.8	S23 55.4	5.9	59.4
	2	208 22.1	N19 50.6	27 46.2	4.8	S23 49.4	6.0	59.4
	3	223 22.1	N19 50.1	42 10.1	4.9	S23 43.2	6.2	59.4
	4	238 22.1	N19 49.5	56 34.1	5.0	S23 36.9	6.3	59.4
S	5	253 22.1	N19 49.0	70 58.3	5.1	S23 30.4	6.5	59.3
A								
T	6	268 22.1	N19 48.5	85 22.5	5.2	S23 23.8	6.6	59.3
U	7	283 22.1	N19 47.9	99 46.8	5.3	S23 17.0	6.8	59.3
R	8	298 22.1	N19 47.4	114 11.2	5.4	S23 10.1	6.9	59.3
D	9	313 22.1	N19 46.9	128 35.7	5.5	S23 03.1	7.1	59.2
A	10	328 22.1	N19 46.4	143 00.3	5.6	S22 55.9	7.2	59.2
Y	11	343 22.0	N19 45.8	157 25.0	5.7	S22 48.5	7.4	59.2
	12	358 22.0	N19 45.3	171 49.9	5.8	S22 41.0	7.5	59.2
	13	13 22.0	N19 44.8	186 14.8	5.9	S22 33.4	7.6	59.1
	14	28 22.0	N19 44.2	200 39.8	6.0	S22 25.6	7.8	59.1
	15	43 22.0	N19 43.7	215 04.9	6.1	S22 17.7	7.9	59.1
	16	58 22.0	N19 43.2	229 30.1	6.2	S22 09.7	8.0	59.1
	17	73 22.0	N19 42.6	243 55.5	6.3	S22 01.5	8.2	59.0
	18	88 22.0	N19 42.1	258 20.9	6.4	S21 53.2	8.3	59.0
	19	103 22.0	N19 41.6	272 46.5	6.5	S21 44.7	8.4	59.0
	20	118 22.0	N19 41.0	287 12.1	6.7	S21 36.2	8.6	58.9
	21	133 22.0	N19 40.5	301 37.9	6.8	S21 27.5	8.7	58.9
	22	148 22.0	N19 39.9	316 03.8	6.9	S21 18.7	8.8	58.9
	23	163 22.0	N19 39.4	330 29.7	7.0	S21 09.7	8.9	58.9
25	0	178 22.0	N19 38.9	344 55.8	7.1	S21 00.7	9.1	58.8
	1	193 22.0	N19 38.3	359 22.1	7.2	S20 51.5	9.2	58.8
	2	208 22.0	N19 37.8	13 48.4	7.3	S20 42.2	9.3	58.8
	3	223 21.9	N19 37.2	28 14.8	7.4	S20 32.8	9.4	58.7
	4	238 21.9	N19 36.7	42 41.3	7.5	S20 23.2	9.5	58.7
S	5	253 21.9	N19 36.2	57 08.0	7.7	S20 13.6	9.6	58.7
U								
N	6	268 21.9	N19 35.6	71 34.8	7.8	S20 03.8	9.8	58.7
D	7	283 21.9	N19 35.1	86 01.6	7.9	S19 54.0	9.9	58.6
A	8	298 21.9	N19 34.5	100 28.6	8.0	S19 44.0	10.0	58.6
Y	9	313 21.9	N19 34.0	114 55.7	8.1	S19 33.9	10.1	58.6
	10	328 21.9	N19 33.5	129 22.9	8.2	S19 23.7	10.2	58.5
	11	343 21.9	N19 32.9	143 50.3	8.3	S19 13.5	10.3	58.5
	12	358 21.9	N19 32.4	158 17.7	8.4	S19 03.1	10.4	58.5
	13	13 21.9	N19 31.8	172 45.3	8.6	S18 52.6	10.5	58.4
	14	28 21.9	N19 31.3	187 12.9	8.7	S18 42.0	10.6	58.4
	15	43 21.9	N19 30.7	201 40.7	8.8	S18 31.4	10.7	58.4
	16	58 21.9	N19 30.2	216 08.6	8.9	S18 20.6	10.8	58.3
	17	73 21.9	N19 29.6	230 36.6	9.0	S18 09.7	10.9	58.3
	18	88 21.9	N19 29.1	245 04.7	9.1	S17 58.8	10.9	58.3
	19	103 21.9	N19 28.5	259 32.9	9.2	S17 47.8	11.0	58.2
	20	118 21.9	N19 28.0	274 01.2	9.3	S17 36.6	11.1	58.2
	21	133 21.9	N19 27.4	288 29.7	9.4	S17 25.4	11.2	58.2
	22	148 21.9	N19 26.9	302 58.2	9.5	S17 14.1	11.3	58.2
	23	163 21.9	N19 26.3	317 26.9	9.7	S17 02.8	11.4	58.1
26	0	178 21.9	N19 25.8	331 55.6	9.8	S16 51.3	11.4	58.1
	1	193 21.9	N19 25.2	346 24.5	9.9	S16 39.8	11.5	58.1
	2	208 21.9	N19 24.7	0 53.5	10.0	S16 28.2	11.6	58.0
	3	223 21.9	N19 24.1	15 22.6	10.1	S16 16.5	11.7	58.0
	4	238 21.9	N19 23.6	29 51.8	10.2	S16 04.8	11.8	58.0
M	5	253 21.9	N19 23.0	44 21.1	10.3	S15 52.9	11.8	57.9
O								
N	6	268 21.9	N19 22.5	58 50.5	10.4	S15 41.0	11.9	57.9
D	7	283 21.9	N19 21.9	73 20.0	10.5	S15 29.1	12.0	57.9
A	8	298 21.9	N19 21.3	87 49.6	10.6	S15 17.1	12.0	57.8
Y	9	313 21.9	N19 20.8	102 19.3	10.7	S15 05.0	12.1	57.8
	10	328 21.9	N19 20.2	116 49.2	10.8	S14 52.8	12.2	57.8
	11	343 21.9	N19 19.7	131 19.1	10.9	S14 40.6	12.2	57.7
	12	358 21.9	N19 19.1	145 49.1	11.0	S14 28.3	12.3	57.7
	13	13 21.9	N19 18.6	160 19.2	11.1	S14 16.0	12.3	57.7
	14	28 22.0	N19 18.0	174 49.4	11.2	S14 03.6	12.4	57.6
	15	43 22.0	N19 17.4	189 19.7	11.3	S13 51.1	12.5	57.6
	16	58 22.0	N19 16.9	203 50.2	11.4	S13 38.6	12.5	57.6
	17	73 22.0	N19 16.3	218 20.7	11.5	S13 26.0	12.6	57.5
	18	88 22.0	N19 15.8	232 51.3	11.6	S13 13.4	12.6	57.5
	19	103 22.0	N19 15.2	247 22.0	11.7	S13 00.8	12.7	57.5
	20	118 22.0	N19 14.6	261 52.8	11.8	S12 48.1	12.7	57.4
	21	133 22.0	N19 14.1	276 23.7	11.9	S12 35.3	12.8	57.4
	22	148 22.0	N19 13.5	290 54.6	12.0	S12 22.5	12.8	57.4
	23	163 22.0	N19 12.9	305 25.7	12.1	S12 09.6	12.8	57.3
		S.D. 15.7	d 0.5	S.D.	16.1		15.9	15.7

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.0	S40 12.9
Achernar	335 22.3	S57 07.4
Acrux	173 03.5	S63 13.2
Adhara	255 08.4	S28 60.0
Albireo	67 05.9	N28 00.3
Aldebaran	290 43.1	N16 33.1
Alioth	166 15.7	N55 51.0
Alkaid	152 54.3	N49 12.7
Al Na-ir	27 36.0	S46 51.3
Alnilam	275 40.8	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.5	N29 12.4
Altair	62 02.3	N 8 55.6
Ankaa	353 09.8	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.5	N19 04.5
Atria	107 15.5	S69 04.1
Avior	234 16.5	S59 34.7
Bellatrix	278 26.2	N 6 22.2
Betelgeuse	270 55.4	N 7 24.7
Canopus	263 54.1	S52 42.3
Capella	280 26.4	N46 01.0
Castor	246 01.0	N31 50.5
Deneb	49 27.2	N45 21.4
Denebola	182 28.0	N14 27.3
Diphda	348 50.0	S17 52.0
Dubhe	193 45.0	N61 38.4
Elnath	278 05.7	N28 37.4
Eltanin	90 43.1	N51 29.3
Enif	33 41.2	N 9 58.4
Fomalhaut	15 17.3	S29 30.4
Gacrux	171 55.0	S57 14.2
Gienah	175 46.6	S17 39.6
Hadar	148 40.0	S60 28.8
Hamal	327 54.4	N23 33.7
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.7	N74 04.4
Markab	13 32.4	N15 19.2
Menkar	314 09.2	N 4 10.4
Menkent	148 00.9	S36 28.6
Miaplacidus	221 39.6	S69 48.3
Mirfak	308 32.5	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.5	S56 39.9
Polaris	317 20.5	N89 20.1
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 06.8	S 8 10.5
Rigil Kent	139 44.2	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 33.9	N56 39.0
Shaula	96 13.8	S37 07.2
Sirius	258 29.0	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.1
Vega	80 34.7	N38 48.3
Zuben-ubi	136 59.8	S16 07.8

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 53.6	146 36.1	N10 40.4	154 07.4	N13 08.6	332 14.8	S12 27.7	351 34.4	S18 18.3
	1	319 56.1	161 35.7	N10 39.2	169 08.3	N13 08.0	347 17.5	S12 27.8	6 37.1	S18 18.4
	2	334 58.6	176 35.4	N10 38.1	184 09.3	N13 07.5	2 20.2	S12 27.9	21 39.7	S18 18.4
	3	350 01.0	191 35.0	N10 36.9	199 10.2	N13 06.9	17 22.9	S12 28.0	36 42.4	S18 18.5
	4	5 03.5	206 34.7	N10 35.7	214 11.2	N13 06.4	32 25.6	S12 28.1	51 45.0	S18 18.5
T	5	20 06.0	221 34.4	N10 34.6	229 12.2	N13 05.8	47 28.4	S12 28.2	66 47.7	S18 18.6
U										
E	6	35 08.4	236 34.0	N10 33.4	244 13.1	N13 05.2	62 31.1	S12 28.3	81 50.3	S18 18.6
S	7	50 10.9	251 33.7	N10 32.2	259 14.1	N13 04.7	77 33.8	S12 28.4	96 52.9	S18 18.7
D	8	65 13.4	266 33.3	N10 31.1	274 15.0	N13 04.1	92 36.5	S12 28.5	111 55.6	S18 18.7
A	9	80 15.8	281 33.0	N10 29.9	289 16.0	N13 03.6	107 39.2	S12 28.6	126 58.2	S18 18.8
Y	10	95 18.3	296 32.7	N10 28.8	304 17.0	N13 03.0	122 41.9	S12 28.7	142 00.9	S18 18.8
	11	110 20.8	311 32.3	N10 27.6	319 17.9	N13 02.5	137 44.6	S12 28.8	157 03.5	S18 18.9
	12	125 23.2	326 32.0	N10 26.4	334 18.9	N13 01.9	152 47.4	S12 28.9	172 06.2	S18 19.0
	13	140 25.7	341 31.6	N10 25.3	349 19.9	N13 01.3	167 50.1	S12 29.0	187 08.8	S18 19.0
	14	155 28.1	356 31.3	N10 24.1	4 20.8	N13 00.8	182 52.8	S12 29.1	202 11.5	S18 19.1
	15	170 30.6	11 31.0	N10 22.9	19 21.8	N13 00.2	197 55.5	S12 29.2	217 14.1	S18 19.1
	16	185 33.1	26 30.6	N10 21.7	34 22.7	N12 59.7	212 58.2	S12 29.3	232 16.8	S18 19.2
	17	200 35.5	41 30.3	N10 20.6	49 23.7	N12 59.1	228 00.9	S12 29.4	247 19.4	S18 19.2
	18	215 38.0	56 30.0	N10 19.4	64 24.7	N12 58.6	243 03.6	S12 29.5	262 22.1	S18 19.3
	19	230 40.5	71 29.6	N10 18.2	79 25.6	N12 58.0	258 06.4	S12 29.6	277 24.7	S18 19.3
	20	245 42.9	86 29.3	N10 17.1	94 26.6	N12 57.4	273 09.1	S12 29.7	292 27.4	S18 19.4
	21	260 45.4	101 29.0	N10 15.9	109 27.6	N12 56.9	288 11.8	S12 29.8	307 30.0	S18 19.4
	22	275 47.9	116 28.6	N10 14.7	124 28.5	N12 56.3	303 14.5	S12 29.9	322 32.7	S18 19.5
	23	290 50.3	131 28.3	N10 13.6	139 29.5	N12 55.8	318 17.2	S12 30.0	337 35.3	S18 19.6
28	0	305 52.8	146 28.0	N10 12.4	154 30.4	N12 55.2	333 19.9	S12 30.1	352 38.0	S18 19.6
	1	320 55.2	161 27.6	N10 11.2	169 31.4	N12 54.6	348 22.6	S12 30.2	7 40.6	S18 19.7
	2	335 57.7	176 27.3	N10 10.0	184 32.4	N12 54.1	3 25.4	S12 30.3	22 43.3	S18 19.7
	3	351 00.2	191 27.0	N10 08.9	199 33.3	N12 53.5	18 28.1	S12 30.4	37 45.9	S18 19.8
	4	6 02.6	206 26.6	N10 07.7	214 34.3	N12 53.0	33 30.8	S12 30.5	52 48.6	S18 19.8
W	5	21 05.1	221 26.3	N10 06.5	229 35.3	N12 52.4	48 33.5	S12 30.6	67 51.2	S18 19.9
E										
D	6	36 07.6	236 26.0	N10 05.3	244 36.2	N12 51.8	63 36.2	S12 30.7	82 53.9	S18 19.9
N	7	51 10.0	251 25.6	N10 04.2	259 37.2	N12 51.3	78 38.9	S12 30.8	97 56.5	S18 20.0
E	8	66 12.5	266 25.3	N10 03.0	274 38.1	N12 50.7	93 41.7	S12 30.9	112 59.2	S18 20.0
S	9	81 15.0	281 25.0	N10 01.8	289 39.1	N12 50.2	108 44.4	S12 31.0	128 01.8	S18 20.1
D	10	96 17.4	296 24.6	N10 00.6	304 40.1	N12 49.6	123 47.1	S12 31.1	143 04.5	S18 20.1
A	11	111 19.9	311 24.3	N 9 59.5	319 41.0	N12 49.0	138 49.8	S12 31.2	158 07.1	S18 20.2
Y										
	12	126 22.4	326 24.0	N 9 58.3	334 42.0	N12 48.5	153 52.5	S12 31.3	173 09.8	S18 20.3
	13	141 24.8	341 23.7	N 9 57.1	349 43.0	N12 47.9	168 55.3	S12 31.4	188 12.5	S18 20.3
	14	156 27.3	356 23.3	N 9 55.9	4 43.9	N12 47.4	183 58.0	S12 31.5	203 15.1	S18 20.4
	15	171 29.7	11 23.0	N 9 54.7	19 44.9	N12 46.8	199 00.7	S12 31.6	218 17.8	S18 20.4
	16	186 32.2	26 22.7	N 9 53.6	34 45.9	N12 46.2	214 03.4	S12 31.7	233 20.4	S18 20.5
	17	201 34.7	41 22.4	N 9 52.4	49 46.8	N12 45.7	229 06.1	S12 31.9	248 23.1	S18 20.5
	18	216 37.1	56 22.0	N 9 51.2	64 47.8	N12 45.1	244 08.9	S12 32.0	263 25.7	S18 20.6
	19	231 39.6	71 21.7	N 9 50.0	79 48.7	N12 44.5	259 11.6	S12 32.1	278 28.4	S18 20.6
	20	246 42.1	86 21.4	N 9 48.8	94 49.7	N12 44.0	274 14.3	S12 32.2	293 31.0	S18 20.7
	21	261 44.5	101 21.1	N 9 47.7	109 50.7	N12 43.4	289 17.0	S12 32.3	308 33.7	S18 20.7
	22	276 47.0	116 20.7	N 9 46.5	124 51.6	N12 42.9	304 19.7	S12 32.4	323 36.3	S18 20.8
	23	291 49.5	131 20.4	N 9 45.3	139 52.6	N12 42.3	319 22.5	S12 32.5	338 39.0	S18 20.8
29	0	306 51.9	146 20.1	N 9 44.1	154 53.6	N12 41.7	334 25.2	S12 32.6	353 41.6	S18 20.9
	1	321 54.4	161 19.8	N 9 42.9	169 54.5	N12 41.2	349 27.9	S12 32.7	8 44.3	S18 21.0
	2	336 56.8	176 19.4	N 9 41.7	184 55.5	N12 40.6	4 30.6	S12 32.8	23 46.9	S18 21.0
	3	351 59.3	191 19.1	N 9 40.6	199 56.5	N12 40.0	19 33.3	S12 32.9	38 49.6	S18 21.1
	4	7 01.8	206 18.8	N 9 39.4	214 57.4	N12 39.5	34 36.1	S12 33.0	53 52.2	S18 21.1
T	5	22 04.2	221 18.5	N 9 38.2	229 58.4	N12 38.9	49 38.8	S12 33.1	68 54.9	S18 21.2
H										
U	6	37 06.7	236 18.1	N 9 37.0	244 59.3	N12 38.4	64 41.5	S12 33.2	83 57.5	S18 21.2
R	7	52 09.2	251 17.8	N 9 35.8	260 00.3	N12 37.8	79 44.2	S12 33.3	99 00.2	S18 21.3
S	8	67 11.6	266 17.5	N 9 34.6	275 01.3	N12 37.2	94 47.0	S12 33.4	114 02.8	S18 21.3
D	9	82 14.1	281 17.2	N 9 33.4	290 02.2	N12 36.7	109 49.7	S12 33.5	129 05.5	S18 21.4
A	10	97 16.6	296 16.9	N 9 32.3	305 03.2	N12 36.1	124 52.4	S12 33.6	144 08.1	S18 21.4
Y	11	112 19.0	311 16.6	N 9 31.1	320 04.2	N12 35.5	139 55.1	S12 33.7	159 10.8	S18 21.5
	12	127 21.5	326 16.2	N 9 29.9	335 05.1	N12 35.0	154 57.8	S12 33.8	174 13.4	S18 21.6
	13	142 24.0	341 15.9	N 9 28.7	350 06.1	N12 34.4	170 00.6	S12 33.9	189 16.1	S18 21.6
	14	157 26.4	356 15.6	N 9 27.5	5 07.1	N12 33.8	185 03.3	S12 34.0	204 18.7	S18 21.7
	15	172 28.9	11 15.3	N 9 26.3	20 08.0	N12 33.3	200 06.0	S12 34.1	219 21.4	S18 21.7
	16	187 31.3	26 15.0	N 9 25.1	35 09.0	N12 32.7	215 08.7	S12 34.2	234 24.0	S18 21.8
	17	202 33.8	41 14.6	N 9 23.9	50 10.0	N12 32.1	230 11.5	S12 34.4	249 26.7	S18 21.8
	18	217 36.3	56 14.3	N 9 22.8	65 10.9	N12 31.6	245 14.2	S12 34.5	264 29.3	S18 21.9
	19	232 38.7	71 14.0	N 9 21.6	80 11.9	N12 31.0	260 16.9	S12 34.6	279 32.0	S18 21.9
	20	247 41.2	86 13.7	N 9 20.4	95 12.9	N12 30.4	275 19.6	S12 34.7	294 34.6	S18 22.0
	21	262 43.7	101 13.4	N 9 19.2	110 13.8	N12 29.9	290 22.4	S12 34.8	309 37.3	S18 22.0
	22	277 46.1	116 13.1	N 9 18.0	125 14.8	N12 29.3	305 25.1	S12 34.9	324 39.9	S18 22.1
	23	292 48.6	131 12.8	N 9 16.8	140 15.8	N12 28.7	320 27.8	S12 35.0	339 42.6	S18 22.1
			v -0.3	d 1.2	v 1.0	d 0.6	v 2.7	d 0.1	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 '
27	0	178 22.0	N19 12.4	319 56.9	12.2	S11 56.8	12.9	57.3
	1	193 22.0	N19 11.8	334 28.1	12.2	S11 43.8	12.9	57.3
	2	208 22.0	N19 11.2	348 59.5	12.3	S11 30.8	13.0	57.2
	3	223 22.0	N19 10.7	3 30.9	12.4	S11 17.8	13.0	57.2
	4	238 22.0	N19 10.1	18 02.4	12.5	S11 04.8	13.1	57.2
T	5	253 22.1	N19 09.5	32 34.0	12.6	S10 51.7	13.1	57.1
U								
E	6	268 22.1	N19 09.0	47 05.7	12.7	S10 38.6	13.1	57.1
S	7	283 22.1	N19 08.4	61 37.4	12.8	S10 25.4	13.2	57.0
D	8	298 22.1	N19 07.8	76 09.3	12.8	S10 12.2	13.2	57.0
A	9	313 22.1	N19 07.3	90 41.2	12.9	S 9 59.0	13.2	57.0
Y	10	328 22.1	N19 06.7	105 13.2	13.0	S 9 45.8	13.2	56.9
	11	343 22.1	N19 06.1	119 45.3	13.1	S 9 32.5	13.3	56.9
	12	358 22.1	N19 05.5	134 17.4	13.2	S 9 19.2	13.3	56.9
	13	13 22.1	N19 05.0	148 49.7	13.2	S 9 05.9	13.3	56.8
	14	28 22.1	N19 04.4	163 22.0	13.3	S 8 52.5	13.4	56.8
	15	43 22.1	N19 03.8	177 54.4	13.4	S 8 39.1	13.4	56.8
	16	58 22.2	N19 03.3	192 26.8	13.5	S 8 25.7	13.4	56.8
	17	73 22.2	N19 02.7	206 59.3	13.5	S 8 12.3	13.4	56.7
	18	88 22.2	N19 02.1	221 31.9	13.6	S 7 58.8	13.4	56.7
	19	103 22.2	N19 01.5	236 04.6	13.7	S 7 45.4	13.5	56.7
	20	118 22.2	N19 01.0	250 37.3	13.7	S 7 31.9	13.5	56.6
	21	133 22.2	N19 00.4	265 10.2	13.8	S 7 18.4	13.5	56.6
	22	148 22.2	N18 59.8	279 43.0	13.9	S 7 04.9	13.5	56.6
	23	163 22.2	N18 59.2	294 16.0	13.9	S 6 51.3	13.5	56.5
28	0	178 22.3	N18 58.6	308 49.0	14.0	S 6 37.8	13.5	56.5
	1	193 22.3	N18 58.1	323 22.0	14.1	S 6 24.2	13.6	56.5
	2	208 22.3	N18 57.5	337 55.1	14.1	S 6 10.7	13.6	56.4
	3	223 22.3	N18 56.9	352 28.3	14.2	S 5 57.1	13.6	56.4
	4	238 22.3	N18 56.3	7 01.6	14.2	S 5 43.5	13.6	56.4
W	5	253 22.3	N18 55.7	21 34.9	14.3	S 5 29.9	13.6	56.3
E								
D	6	268 22.3	N18 55.2	36 08.2	14.4	S 5 16.3	13.6	56.3
N	7	283 22.4	N18 54.6	50 41.7	14.4	S 5 02.7	13.6	56.3
E	8	298 22.4	N18 54.0	65 15.1	14.5	S 4 49.1	13.6	56.2
S	9	313 22.4	N18 53.4	79 48.6	14.5	S 4 35.5	13.6	56.2
D	10	328 22.4	N18 52.8	94 22.2	14.6	S 4 21.8	13.6	56.2
A	11	343 22.4	N18 52.3	108 55.8	14.6	S 4 08.2	13.6	56.1
Y								
	12	358 22.4	N18 51.7	123 29.5	14.7	S 3 54.6	13.6	56.1
	13	13 22.5	N18 51.1	138 03.3	14.7	S 3 41.0	13.6	56.1
	14	28 22.5	N18 50.5	152 37.0	14.8	S 3 27.3	13.6	56.1
	15	43 22.5	N18 49.9	167 10.9	14.8	S 3 13.7	13.6	56.0
	16	58 22.5	N18 49.3	181 44.7	14.9	S 3 00.1	13.6	56.0
	17	73 22.5	N18 48.7	196 18.6	14.9	S 2 46.4	13.6	56.0
	18	88 22.5	N18 48.1	210 52.6	15.0	S 2 32.8	13.6	55.9
	19	103 22.6	N18 47.6	225 26.6	15.0	S 2 19.2	13.6	55.9
	20	118 22.6	N18 47.0	240 00.6	15.0	S 2 05.6	13.6	55.9
	21	133 22.6	N18 46.4	254 34.7	15.1	S 1 52.0	13.6	55.8
	22	148 22.6	N18 45.8	269 08.8	15.1	S 1 38.4	13.6	55.8
	23	163 22.6	N18 45.2	283 43.0	15.2	S 1 24.8	13.6	55.8
29	0	178 22.6	N18 44.6	298 17.2	15.2	S 1 11.2	13.6	55.8
	1	193 22.7	N18 44.0	312 51.4	15.2	S 0 57.7	13.6	55.7
	2	208 22.7	N18 43.4	327 25.6	15.3	S 0 44.1	13.6	55.7
	3	223 22.7	N18 42.8	341 59.9	15.3	S 0 30.6	13.5	55.7
	4	238 22.7	N18 42.2	356 34.3	15.3	S 0 17.0	13.5	55.6
T	5	253 22.8	N18 41.6	11 08.6	15.4	S 0 03.5	13.5	55.6
H								
U	6	268 22.8	N18 41.1	25 43.0	15.4	N 0 10.0	13.5	55.6
R	7	283 22.8	N18 40.5	40 17.4	15.4	N 0 23.5	13.5	55.6
S	8	298 22.8	N18 39.9	54 51.9	15.4	N 0 37.0	13.5	55.5
D	9	313 22.8	N18 39.3	69 26.3	15.5	N 0 50.4	13.5	55.5
A	10	328 22.9	N18 38.7	84 00.8	15.5	N 1 03.9	13.4	55.5
Y	11	343 22.9	N18 38.1	98 35.3	15.5	N 1 17.3	13.4	55.5
	12	358 22.9	N18 37.5	113 09.9	15.5	N 1 30.7	13.4	55.4
	13	13 22.9	N18 36.9	127 44.4	15.6	N 1 44.1	13.4	55.4
	14	28 22.9	N18 36.3	142 19.0	15.6	N 1 57.5	13.4	55.4
	15	43 23.0	N18 35.7	156 53.6	15.6	N 2 10.8	13.4	55.4
	16	58 23.0	N18 35.1	171 28.2	15.6	N 2 24.2	13.3	55.3
	17	73 23.0	N18 34.5	186 02.9	15.6	N 2 37.5	13.3	55.3
	18	88 23.0	N18 33.9	200 37.5	15.7	N 2 50.8	13.3	55.3
	19	103 23.1	N18 33.3	215 12.2	15.7	N 3 04.0	13.3	55.3
	20	118 23.1	N18 32.7	229 46.9	15.7	N 3 17.3	13.2	55.2
	21	133 23.1	N18 32.1	244 21.6	15.7	N 3 30.5	13.2	55.2
	22	148 23.1	N18 31.5	258 56.3	15.7	N 3 43.7	13.2	55.2
	23	163 23.2	N18 30.9	273 31.0	15.7	N 3 56.8	13.2	55.2
		S.D. 15.8	d 0.6	S.D.	15.5	15.3	15.1	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.0	S40 12.9
Achernar	335 22.2	S57 07.4
Acrux	173 03.5	S63 13.2
Adhara	255 08.4	S28 59.9
Albireo	67 05.9	N28 00.4
Aldebaran	290 43.0	N16 33.1
Alioth	166 15.7	N55 51.0
Alkaid	152 54.3	N49 12.7
Al Na-ir	27 36.0	S46 51.3
Alnilam	275 40.8	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.5	N29 12.4
Altair	62 02.3	N 8 55.6
Ankaa	353 09.7	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.5	N19 04.5
Atria	107 15.5	S69 04.1
Avior	234 16.5	S59 34.6
Bellatrix	278 26.1	N 6 22.2
Betelgeuse	270 55.4	N 7 24.7
Canopus	263 54.1	S52 42.2
Capella	280 26.4	N46 01.0
Castor	246 01.0	N31 50.5
Deneb	49 27.2	N45 21.4
Denebola	182 28.0	N14 27.3
Diphda	348 50.0	S17 52.0
Dubhe	193 45.0	N61 38.4
Elnath	278 05.7	N28 37.4
Eltanin	90 43.1	N51 29.3
Enif	33 41.2	N 9 58.4
Fomalhaut	15 17.3	S29 30.4
Gacrux	171 55.0	S57 14.1
Gienah	175 46.6	S17 39.6
Hadar	148 40.0	S60 28.8
Hamal	327 54.4	N23 33.8
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.8	N74 04.4
Markab	13 32.4	N15 19.2
Menkar	314 09.1	N 4 10.4
Menkent	148 00.9	S36 28.6
Miaplacidus	221 39.6	S69 48.3
Mirfak	308 32.4	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.5	S56 39.9
Polaris	317 19.4	N89 20.1
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 06.8	S 8 10.5
Rigil Kent	139 44.2	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 33.9	N56 39.0
Shaula	96 13.9	S37 07.2
Sirius	258 29.0	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.1
Vega	80 34.7	N38 48.3
Zuben-ubi	136 59.8	S16 07.8

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	307 51.1	146 12.4	N 9 15.6	155 16.7	N12 28.2	335 30.5	S12 35.1	354 45.2	S18 22.2
	1	322 53.5	161 12.1	N 9 14.4	170 17.7	N12 27.6	350 33.3	S12 35.2	9 47.9	S18 22.3
	2	337 56.0	176 11.8	N 9 13.2	185 18.7	N12 27.1	5 36.0	S12 35.3	24 50.5	S18 22.3
	3	352 58.5	191 11.5	N 9 12.0	200 19.6	N12 26.5	20 38.7	S12 35.4	39 53.2	S18 22.4
	4	8 00.9	206 11.2	N 9 10.8	215 20.6	N12 25.9	35 41.4	S12 35.5	54 55.8	S18 22.4
F	5	23 03.4	221 10.9	N 9 09.6	230 21.6	N12 25.4	50 44.2	S12 35.6	69 58.5	S18 22.5
R										
I	6	38 05.8	236 10.6	N 9 08.4	245 22.5	N12 24.8	65 46.9	S12 35.7	85 01.1	S18 22.5
D	7	53 08.3	251 10.3	N 9 07.2	260 23.5	N12 24.2	80 49.6	S12 35.8	100 03.8	S18 22.6
A	8	68 10.8	266 10.0	N 9 06.0	275 24.5	N12 23.6	95 52.4	S12 35.9	115 06.4	S18 22.6
Y	9	83 13.2	281 09.6	N 9 04.9	290 25.4	N12 23.1	110 55.1	S12 36.0	130 09.1	S18 22.7
	10	98 15.7	296 09.3	N 9 03.7	305 26.4	N12 22.5	125 57.8	S12 36.1	145 11.7	S18 22.7
	11	113 18.2	311 09.0	N 9 02.5	320 27.4	N12 21.9	141 00.5	S12 36.2	160 14.4	S18 22.8
	12	128 20.6	326 08.7	N 9 01.3	335 28.3	N12 21.4	156 03.3	S12 36.4	175 17.0	S18 22.8
	13	143 23.1	341 08.4	N 9 00.1	350 29.3	N12 20.8	171 06.0	S12 36.5	190 19.7	S18 22.9
	14	158 25.6	356 08.1	N 8 58.9	5 30.3	N12 20.2	186 08.7	S12 36.6	205 22.3	S18 23.0
	15	173 28.0	11 07.8	N 8 57.7	20 31.2	N12 19.7	201 11.5	S12 36.7	220 25.0	S18 23.0
	16	188 30.5	26 07.5	N 8 56.5	35 32.2	N12 19.1	216 14.2	S12 36.8	235 27.6	S18 23.1
	17	203 32.9	41 07.2	N 8 55.3	50 33.2	N12 18.5	231 16.9	S12 36.9	250 30.3	S18 23.1
	18	218 35.4	56 06.9	N 8 54.1	65 34.1	N12 18.0	246 19.6	S12 37.0	265 32.9	S18 23.2
	19	233 37.9	71 06.6	N 8 52.9	80 35.1	N12 17.4	261 22.4	S12 37.1	280 35.6	S18 23.2
	20	248 40.3	86 06.3	N 8 51.7	95 36.1	N12 16.8	276 25.1	S12 37.2	295 38.3	S18 23.3
	21	263 42.8	101 06.0	N 8 50.5	110 37.0	N12 16.3	291 27.8	S12 37.3	310 40.9	S18 23.3
	22	278 45.3	116 05.7	N 8 49.3	125 38.0	N12 15.7	306 30.6	S12 37.4	325 43.6	S18 23.4
	23	293 47.7	131 05.3	N 8 48.1	140 39.0	N12 15.1	321 33.3	S12 37.5	340 46.2	S18 23.4
31	0	308 50.2	146 05.0	N 8 46.9	155 39.9	N12 14.6	336 36.0	S12 37.6	355 48.9	S18 23.5
	1	323 52.7	161 04.7	N 8 45.7	170 40.9	N12 14.0	351 38.7	S12 37.7	10 51.5	S18 23.5
	2	338 55.1	176 04.4	N 8 44.5	185 41.9	N12 13.4	6 41.5	S12 37.8	25 54.2	S18 23.6
	3	353 57.6	191 04.1	N 8 43.3	200 42.8	N12 12.8	21 44.2	S12 38.0	40 56.8	S18 23.7
	4	9 00.1	206 03.8	N 8 42.1	215 43.8	N12 12.3	36 46.9	S12 38.1	55 59.5	S18 23.7
S	5	24 02.5	221 03.5	N 8 40.8	230 44.8	N12 11.7	51 49.7	S12 38.2	71 02.1	S18 23.8
A										
T	6	39 05.0	236 03.2	N 8 39.6	245 45.7	N12 11.1	66 52.4	S12 38.3	86 04.8	S18 23.8
U	7	54 07.4	251 02.9	N 8 38.4	260 46.7	N12 10.6	81 55.1	S12 38.4	101 07.4	S18 23.9
R	8	69 09.9	266 02.6	N 8 37.2	275 47.7	N12 10.0	96 57.9	S12 38.5	116 10.1	S18 23.9
D	9	84 12.4	281 02.3	N 8 36.0	290 48.6	N12 09.4	112 00.6	S12 38.6	131 12.7	S18 24.0
A	10	99 14.8	296 02.0	N 8 34.8	305 49.6	N12 08.9	127 03.3	S12 38.7	146 15.4	S18 24.0
Y	11	114 17.3	311 01.7	N 8 33.6	320 50.6	N12 08.3	142 06.1	S12 38.8	161 18.0	S18 24.1
	12	129 19.8	326 01.4	N 8 32.4	335 51.6	N12 07.7	157 08.8	S12 38.9	176 20.7	S18 24.1
	13	144 22.2	341 01.1	N 8 31.2	350 52.5	N12 07.1	172 11.5	S12 39.0	191 23.3	S18 24.2
	14	159 24.7	356 00.8	N 8 30.0	5 53.5	N12 06.6	187 14.3	S12 39.1	206 26.0	S18 24.2
	15	174 27.2	11 00.5	N 8 28.8	20 54.5	N12 06.0	202 17.0	S12 39.2	221 28.6	S18 24.3
	16	189 29.6	26 00.2	N 8 27.6	35 55.4	N12 05.4	217 19.7	S12 39.3	236 31.3	S18 24.4
	17	204 32.1	40 59.9	N 8 26.4	50 56.4	N12 04.9	232 22.5	S12 39.5	251 33.9	S18 24.4
	18	219 34.6	55 59.6	N 8 25.2	65 57.4	N12 04.3	247 25.2	S12 39.6	266 36.6	S18 24.5
	19	234 37.0	70 59.3	N 8 24.0	80 58.3	N12 03.7	262 27.9	S12 39.7	281 39.2	S18 24.5
	20	249 39.5	85 59.0	N 8 22.7	95 59.3	N12 03.1	277 30.7	S12 39.8	296 41.9	S18 24.6
	21	264 41.9	100 58.8	N 8 21.5	111 00.3	N12 02.6	292 33.4	S12 39.9	311 44.5	S18 24.6
	22	279 44.4	115 58.5	N 8 20.3	126 01.2	N12 02.0	307 36.1	S12 40.0	326 47.2	S18 24.7
	23	294 46.9	130 58.2	N 8 19.1	141 02.2	N12 01.4	322 38.9	S12 40.1	341 49.8	S18 24.7
1	0	309 49.3	145 57.9	N 8 17.9	156 03.2	N12 00.8	337 41.6	S12 40.2	356 52.5	S18 24.8
	1	324 51.8	160 57.6	N 8 16.7	171 04.1	N12 00.3	352 44.3	S12 40.3	11 55.1	S18 24.8
	2	339 54.3	175 57.3	N 8 15.5	186 05.1	N11 59.7	7 47.1	S12 40.4	26 57.8	S18 24.9
	3	354 56.7	190 57.0	N 8 14.3	201 06.1	N11 59.1	22 49.8	S12 40.5	42 00.4	S18 24.9
	4	9 59.2	205 56.7	N 8 13.1	216 07.1	N11 58.6	37 52.5	S12 40.6	57 03.1	S18 25.0
S	5	25 01.7	220 56.4	N 8 11.8	231 08.0	N11 58.0	52 55.3	S12 40.7	72 05.8	S18 25.1
U										
N	6	40 04.1	235 56.1	N 8 10.6	246 09.0	N11 57.4	67 58.0	S12 40.9	87 08.4	S18 25.1
D	7	55 06.6	250 55.8	N 8 09.4	261 10.0	N11 56.8	83 00.8	S12 41.0	102 11.1	S18 25.2
A	8	70 09.0	265 55.5	N 8 08.2	276 10.9	N11 56.3	98 03.5	S12 41.1	117 13.7	S18 25.2
Y	9	85 11.5	280 55.2	N 8 07.0	291 11.9	N11 55.7	113 06.2	S12 41.2	132 16.4	S18 25.3
	10	100 14.0	295 54.9	N 8 05.8	306 12.9	N11 55.1	128 09.0	S12 41.3	147 19.0	S18 25.3
	11	115 16.4	310 54.6	N 8 04.6	321 13.8	N11 54.5	143 11.7	S12 41.4	162 21.7	S18 25.4
	12	130 18.9	325 54.4	N 8 03.3	336 14.8	N11 54.0	158 14.4	S12 41.5	177 24.3	S18 25.4
	13	145 21.4	340 54.1	N 8 02.1	351 15.8	N11 53.4	173 17.2	S12 41.6	192 27.0	S18 25.5
	14	160 23.8	355 53.8	N 8 00.9	6 16.8	N11 52.8	188 19.9	S12 41.7	207 29.6	S18 25.5
	15	175 26.3	10 53.5	N 7 59.7	21 17.7	N11 52.2	203 22.6	S12 41.8	222 32.3	S18 25.6
	16	190 28.8	25 53.2	N 7 58.5	36 18.7	N11 51.7	218 25.4	S12 41.9	237 34.9	S18 25.6
	17	205 31.2	40 52.9	N 7 57.3	51 19.7	N11 51.1	233 28.1	S12 42.0	252 37.6	S18 25.7
	18	220 33.7	55 52.6	N 7 56.0	66 20.6	N11 50.5	248 30.9	S12 42.2	267 40.2	S18 25.8
	19	235 36.2	70 52.3	N 7 54.8	81 21.6	N11 49.9	263 33.6	S12 42.3	282 42.9	S18 25.8
	20	250 38.6	85 52.0	N 7 53.6	96 22.6	N11 49.4	278 36.3	S12 42.4	297 45.5	S18 25.9
	21	265 41.1	100 51.8	N 7 52.4	111 23.5	N11 48.8	293 39.1	S12 42.5	312 48.2	S18 25.9
	22	280 43.5	115 51.5	N 7 51.2	126 24.5	N11 48.2	308 41.8	S12 42.6	327 50.8	S18 26.0
	23	295 46.0	130 51.2	N 7 50.0	141 25.5	N11 47.6	323 44.6	S12 42.7	342 53.5	S18 26.0
			v -0.3	d 1.2	v 1.0	d 0.6	v 2.7	d 0.1	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 '
30	0	178 23.2	N18 30.3	288 05.7	15.7	N 4 09.9	13.1	55.1
	1	193 23.2	N18 29.7	302 40.5	15.7	N 4 23.1	13.1	55.1
	2	208 23.2	N18 29.1	317 15.2	15.7	N 4 36.1	13.1	55.1
	3	223 23.3	N18 28.4	331 50.0	15.8	N 4 49.2	13.0	55.1
	4	238 23.3	N18 27.8	346 24.7	15.8	N 5 02.2	13.0	55.1
F	5	253 23.3	N18 27.2	0 59.5	15.8	N 5 15.2	13.0	55.0
R								
I	6	268 23.3	N18 26.6	15 34.3	15.8	N 5 28.1	13.0	55.0
D	7	283 23.4	N18 26.0	30 09.0	15.8	N 5 41.1	12.9	55.0
A	8	298 23.4	N18 25.4	44 43.8	15.8	N 5 54.0	12.9	55.0
Y	9	313 23.4	N18 24.8	59 18.6	15.8	N 6 06.8	12.9	55.0
	10	328 23.5	N18 24.2	73 53.4	15.8	N 6 19.7	12.8	54.9
	11	343 23.5	N18 23.6	88 28.1	15.8	N 6 32.5	12.8	54.9
	12	358 23.5	N18 23.0	103 02.9	15.8	N 6 45.2	12.8	54.9
	13	13 23.5	N18 22.4	117 37.7	15.8	N 6 57.9	12.7	54.9
	14	28 23.6	N18 21.8	132 12.4	15.8	N 7 10.6	12.7	54.9
	15	43 23.6	N18 21.1	146 47.2	15.8	N 7 23.3	12.6	54.8
	16	58 23.6	N18 20.5	161 21.9	15.7	N 7 35.9	12.6	54.8
	17	73 23.7	N18 19.9	175 56.7	15.7	N 7 48.5	12.6	54.8
	18	88 23.7	N18 19.3	190 31.4	15.7	N 8 01.0	12.5	54.8
	19	103 23.7	N18 18.7	205 06.1	15.7	N 8 13.5	12.5	54.8
	20	118 23.8	N18 18.1	219 40.8	15.7	N 8 25.9	12.5	54.7
	21	133 23.8	N18 17.5	234 15.5	15.7	N 8 38.4	12.4	54.7
	22	148 23.8	N18 16.8	248 50.2	15.7	N 8 50.7	12.4	54.7
	23	163 23.8	N18 16.2	263 24.9	15.7	N 9 03.1	12.3	54.7
31	0	178 23.9	N18 15.6	277 59.5	15.7	N 9 15.4	12.3	54.7
	1	193 23.9	N18 15.0	292 34.2	15.6	N 9 27.6	12.2	54.7
	2	208 23.9	N18 14.4	307 08.8	15.6	N 9 39.8	12.2	54.6
	3	223 24.0	N18 13.8	321 43.4	15.6	N 9 52.0	12.2	54.6
	4	238 24.0	N18 13.1	336 18.0	15.6	N10 04.1	12.1	54.6
S	5	253 24.0	N18 12.5	350 52.6	15.6	N10 16.1	12.1	54.6
A								
T	6	268 24.1	N18 11.9	5 27.2	15.6	N10 28.2	12.0	54.6
U	7	283 24.1	N18 11.3	20 01.7	15.5	N10 40.1	12.0	54.6
R	8	298 24.1	N18 10.7	34 36.2	15.5	N10 52.1	11.9	54.6
D	9	313 24.2	N18 10.0	49 10.7	15.5	N11 03.9	11.9	54.5
A	10	328 24.2	N18 09.4	63 45.2	15.5	N11 15.8	11.8	54.5
Y	11	343 24.2	N18 08.8	78 19.6	15.4	N11 27.5	11.8	54.5
	12	358 24.3	N18 08.2	92 54.0	15.4	N11 39.3	11.7	54.5
	13	13 24.3	N18 07.5	107 28.4	15.4	N11 51.0	11.7	54.5
	14	28 24.3	N18 06.9	122 02.8	15.4	N12 02.6	11.6	54.5
	15	43 24.4	N18 06.3	136 37.1	15.3	N12 14.2	11.6	54.5
	16	58 24.4	N18 05.7	151 11.4	15.3	N12 25.7	11.5	54.4
	17	73 24.5	N18 05.1	165 45.7	15.3	N12 37.1	11.5	54.4
	18	88 24.5	N18 04.4	180 19.9	15.2	N12 48.6	11.4	54.4
	19	103 24.5	N18 03.8	194 54.2	15.2	N12 59.9	11.4	54.4
	20	118 24.6	N18 03.2	209 28.3	15.2	N13 11.2	11.3	54.4
	21	133 24.6	N18 02.5	224 02.5	15.2	N13 22.5	11.2	54.4
	22	148 24.6	N18 01.9	238 36.6	15.1	N13 33.7	11.2	54.4
	23	163 24.7	N18 01.3	253 10.7	15.1	N13 44.8	11.1	54.4
1	0	178 24.7	N18 00.7	267 44.7	15.0	N13 55.9	11.1	54.4
	1	193 24.8	N18 00.0	282 18.7	15.0	N14 06.9	11.0	54.4
	2	208 24.8	N17 59.4	296 52.7	15.0	N14 17.9	11.0	54.3
	3	223 24.8	N17 58.8	311 26.7	14.9	N14 28.7	10.9	54.3
	4	238 24.9	N17 58.1	326 00.6	14.9	N14 39.6	10.8	54.3
S	5	253 24.9	N17 57.5	340 34.4	14.9	N14 50.4	10.8	54.3
U								
N	6	268 24.9	N17 56.9	355 08.2	14.8	N15 01.1	10.7	54.3
D	7	283 25.0	N17 56.2	9 42.0	14.8	N15 11.7	10.7	54.3
A	8	298 25.0	N17 55.6	24 15.8	14.7	N15 22.3	10.6	54.3
Y	9	313 25.1	N17 55.0	38 49.5	14.7	N15 32.8	10.5	54.3
	10	328 25.1	N17 54.3	53 23.1	14.7	N15 43.3	10.5	54.3
	11	343 25.1	N17 53.7	67 56.7	14.6	N15 53.7	10.4	54.3
	12	358 25.2	N17 53.1	82 30.3	14.6	N16 04.0	10.3	54.3
	13	13 25.2	N17 52.4	97 03.8	14.5	N16 14.3	10.3	54.3
	14	28 25.3	N17 51.8	111 37.3	14.5	N16 24.5	10.2	54.3
	15	43 25.3	N17 51.2	126 10.7	14.4	N16 34.6	10.1	54.3
	16	58 25.4	N17 50.5	140 44.1	14.4	N16 44.7	10.1	54.3
	17	73 25.4	N17 49.9	155 17.4	14.3	N16 54.7	10.0	54.3
	18	88 25.4	N17 49.3	169 50.7	14.3	N17 04.6	9.9	54.2
	19	103 25.5	N17 48.6	184 24.0	14.2	N17 14.4	9.8	54.2
	20	118 25.5	N17 48.0	198 57.1	14.2	N17 24.2	9.8	54.2
	21	133 25.6	N17 47.3	213 30.3	14.1	N17 33.9	9.7	54.2
	22	148 25.6	N17 46.7	228 03.4	14.1	N17 43.5	9.6	54.2
	23	163 25.7	N17 46.1	242 36.4	14.0	N17 53.1	9.6	54.2
		S.D. 15.8	d 0.6	S.D.	15.0	14.8	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 14.0	S40 12.9
Achernar	335 22.2	S57 07.4
Acrux	173 03.5	S63 13.2
Adhara	255 08.4	S28 59.9
Albireo	67 05.9	N28 00.4
Aldebaran	290 43.0	N16 33.1
Alioth	166 15.7	N55 51.0
Alkaid	152 54.4	N49 12.7
Al Na-ir	27 36.0	S46 51.3
Alnilam	275 40.8	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.4	N29 12.5
Altair	62 02.3	N 8 55.6
Ankaa	353 09.7	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.5	N19 04.5
Atria	107 15.5	S69 04.2
Avior	234 16.5	S59 34.6
Bellatrix	278 26.1	N 6 22.2
Betelgeuse	270 55.4	N 7 24.7
Canopus	263 54.1	S52 42.2
Capella	280 26.4	N46 01.0
Castor	246 01.0	N31 50.5
Deneb	49 27.2	N45 21.4
Denebola	182 28.0	N14 27.3
Diphda	348 50.0	S17 52.0
Dubhe	193 45.0	N61 38.4
Elnath	278 05.7	N28 37.4
Eltanin	90 43.1	N51 29.3
Enif	33 41.2	N 9 58.4
Fomalhaut	15 17.3	S29 30.4
Gacrux	171 55.0	S57 14.1
Gienah	175 46.6	S17 39.6
Hadar	148 40.1	S60 28.8
Hamal	327 54.3	N23 33.8
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.8	N74 04.4
Markab	13 32.4	N15 19.2
Menkar	314 09.1	N 4 10.4
Menkent	148 01.0	S36 28.6
Miaplacidus	221 39.6	S69 48.3
Mirfak	308 32.4	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.5	S56 39.9
Polaris	317 18.2	N89 20.1
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.8
Regulus	207 37.7	N11 51.9
Rigel	281 06.8	S 8 10.5
Rigil Kent	139 44.2	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 33.9	N56 39.0
Shaula	96 13.9	S37 07.2
Sirius	258 29.0	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.1
Vega	80 34.7	N38 48.4
Zuben-ubi	136 59.8	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
2 0	310 48.5	145 50.9	N 7 48.7	156 26.5	N11 47.1	338 47.3	S12 42.8	357 56.1	S18 26.1
1	325 50.9	160 50.6	N 7 47.5	171 27.4	N11 46.5	353 50.0	S12 42.9	12 58.8	S18 26.1
2	340 53.4	175 50.3	N 7 46.3	186 28.4	N11 45.9	8 52.8	S12 43.0	28 01.4	S18 26.2
3	355 55.9	190 50.0	N 7 45.1	201 29.4	N11 45.3	23 55.5	S12 43.1	43 04.1	S18 26.2
4	10 58.3	205 49.8	N 7 43.9	216 30.3	N11 44.8	38 58.3	S12 43.2	58 06.7	S18 26.3
M 5	26 00.8	220 49.5	N 7 42.6	231 31.3	N11 44.2	54 01.0	S12 43.4	73 09.4	S18 26.3
O									
N 6	41 03.3	235 49.2	N 7 41.4	246 32.3	N11 43.6	69 03.7	S12 43.5	88 12.0	S18 26.4
D 7	56 05.7	250 48.9	N 7 40.2	261 33.3	N11 43.0	84 06.5	S12 43.6	103 14.7	S18 26.5
A 8	71 08.2	265 48.6	N 7 39.0	276 34.2	N11 42.4	99 09.2	S12 43.7	118 17.4	S18 26.5
Y 9	86 10.7	280 48.3	N 7 37.7	291 35.2	N11 41.9	114 12.0	S12 43.8	133 20.0	S18 26.6
10	101 13.1	295 48.1	N 7 36.5	306 36.2	N11 41.3	129 14.7	S12 43.9	148 22.7	S18 26.6
11	116 15.6	310 47.8	N 7 35.3	321 37.1	N11 40.7	144 17.4	S12 44.0	163 25.3	S18 26.7
12	131 18.0	325 47.5	N 7 34.1	336 38.1	N11 40.1	159 20.2	S12 44.1	178 28.0	S18 26.7
13	146 20.5	340 47.2	N 7 32.9	351 39.1	N11 39.6	174 22.9	S12 44.2	193 30.6	S18 26.8
14	161 23.0	355 46.9	N 7 31.6	6 40.1	N11 39.0	189 25.7	S12 44.3	208 33.3	S18 26.8
15	176 25.4	10 46.7	N 7 30.4	21 41.0	N11 38.4	204 28.4	S12 44.5	223 35.9	S18 26.9
16	191 27.9	25 46.4	N 7 29.2	36 42.0	N11 37.8	219 31.1	S12 44.6	238 38.6	S18 26.9
17	206 30.4	40 46.1	N 7 28.0	51 43.0	N11 37.2	234 33.9	S12 44.7	253 41.2	S18 27.0
18	221 32.8	55 45.8	N 7 26.7	66 43.9	N11 36.7	249 36.6	S12 44.8	268 43.9	S18 27.0
19	236 35.3	70 45.5	N 7 25.5	81 44.9	N11 36.1	264 39.4	S12 44.9	283 46.5	S18 27.1
20	251 37.8	85 45.3	N 7 24.3	96 45.9	N11 35.5	279 42.1	S12 45.0	298 49.2	S18 27.2
21	266 40.2	100 45.0	N 7 23.1	111 46.9	N11 34.9	294 44.9	S12 45.1	313 51.8	S18 27.2
22	281 42.7	115 44.7	N 7 21.8	126 47.8	N11 34.3	309 47.6	S12 45.2	328 54.5	S18 27.3
23	296 45.1	130 44.4	N 7 20.6	141 48.8	N11 33.8	324 50.3	S12 45.3	343 57.1	S18 27.3
3 0	311 47.6	145 44.1	N 7 19.4	156 49.8	N11 33.2	339 53.1	S12 45.4	358 59.8	S18 27.4
1	326 50.1	160 43.9	N 7 18.1	171 50.8	N11 32.6	354 55.8	S12 45.6	14 02.4	S18 27.4
2	341 52.5	175 43.6	N 7 16.9	186 51.7	N11 32.0	9 58.6	S12 45.7	29 05.1	S18 27.5
3	356 55.0	190 43.3	N 7 15.7	201 52.7	N11 31.5	25 01.3	S12 45.8	44 07.7	S18 27.5
4	11 57.5	205 43.0	N 7 14.5	216 53.7	N11 30.9	40 04.1	S12 45.9	59 10.4	S18 27.6
T 5	26 59.9	220 42.8	N 7 13.2	231 54.6	N11 30.3	55 06.8	S12 46.0	74 13.0	S18 27.6
U									
E 6	42 02.4	235 42.5	N 7 12.0	246 55.6	N11 29.7	70 09.5	S12 46.1	89 15.7	S18 27.7
S 7	57 04.9	250 42.2	N 7 10.8	261 56.6	N11 29.1	85 12.3	S12 46.2	104 18.3	S18 27.7
D 8	72 07.3	265 41.9	N 7 09.5	276 57.6	N11 28.6	100 15.0	S12 46.3	119 21.0	S18 27.8
A 9	87 09.8	280 41.7	N 7 08.3	291 58.5	N11 28.0	115 17.8	S12 46.4	134 23.6	S18 27.9
Y 10	102 12.3	295 41.4	N 7 07.1	306 59.5	N11 27.4	130 20.5	S12 46.6	149 26.3	S18 27.9
11	117 14.7	310 41.1	N 7 05.9	322 00.5	N11 26.8	145 23.3	S12 46.7	164 29.0	S18 28.0
12	132 17.2	325 40.8	N 7 04.6	337 01.5	N11 26.2	160 26.0	S12 46.8	179 31.6	S18 28.0
13	147 19.6	340 40.6	N 7 03.4	352 02.4	N11 25.7	175 28.8	S12 46.9	194 34.3	S18 28.1
14	162 22.1	355 40.3	N 7 02.2	7 03.4	N11 25.1	190 31.5	S12 47.0	209 36.9	S18 28.1
15	177 24.6	10 40.0	N 7 00.9	22 04.4	N11 24.5	205 34.2	S12 47.1	224 39.6	S18 28.2
16	192 27.0	25 39.8	N 6 59.7	37 05.4	N11 23.9	220 37.0	S12 47.2	239 42.2	S18 28.2
17	207 29.5	40 39.5	N 6 58.5	52 06.3	N11 23.3	235 39.7	S12 47.3	254 44.9	S18 28.3
18	222 32.0	55 39.2	N 6 57.2	67 07.3	N11 22.7	250 42.5	S12 47.4	269 47.5	S18 28.3
19	237 34.4	70 38.9	N 6 56.0	82 08.3	N11 22.2	265 45.2	S12 47.6	284 50.2	S18 28.4
20	252 36.9	85 38.7	N 6 54.8	97 09.2	N11 21.6	280 48.0	S12 47.7	299 52.8	S18 28.4
21	267 39.4	100 38.4	N 6 53.5	112 10.2	N11 21.0	295 50.7	S12 47.8	314 55.5	S18 28.5
22	282 41.8	115 38.1	N 6 52.3	127 11.2	N11 20.4	310 53.5	S12 47.9	329 58.1	S18 28.5
23	297 44.3	130 37.9	N 6 51.1	142 12.2	N11 19.8	325 56.2	S12 48.0	345 00.8	S18 28.6
4 0	312 46.8	145 37.6	N 6 49.8	157 13.1	N11 19.3	340 59.0	S12 48.1	0 03.4	S18 28.7
1	327 49.2	160 37.3	N 6 48.6	172 14.1	N11 18.7	356 01.7	S12 48.2	15 06.1	S18 28.7
2	342 51.7	175 37.1	N 6 47.4	187 15.1	N11 18.1	11 04.5	S12 48.3	30 08.7	S18 28.8
3	357 54.1	190 36.8	N 6 46.1	202 16.1	N11 17.5	26 07.2	S12 48.4	45 11.4	S18 28.8
4	12 56.6	205 36.5	N 6 44.9	217 17.0	N11 16.9	41 10.0	S12 48.6	60 14.0	S18 28.9
W 5	27 59.1	220 36.2	N 6 43.7	232 18.0	N11 16.3	56 12.7	S12 48.7	75 16.7	S18 28.9
E									
D 6	43 01.5	235 36.0	N 6 42.4	247 19.0	N11 15.8	71 15.5	S12 48.8	90 19.3	S18 29.0
N 7	58 04.0	250 35.7	N 6 41.2	262 20.0	N11 15.2	86 18.2	S12 48.9	105 22.0	S18 29.0
E 8	73 06.5	265 35.4	N 6 39.9	277 20.9	N11 14.6	101 20.9	S12 49.0	120 24.6	S18 29.1
S 9	88 08.9	280 35.2	N 6 38.7	292 21.9	N11 14.0	116 23.7	S12 49.1	135 27.3	S18 29.1
D 10	103 11.4	295 34.9	N 6 37.5	307 22.9	N11 13.4	131 26.4	S12 49.2	150 29.9	S18 29.2
A 11	118 13.9	310 34.6	N 6 36.2	322 23.9	N11 12.8	146 29.2	S12 49.3	165 32.6	S18 29.2
Y									
12	133 16.3	325 34.4	N 6 35.0	337 24.8	N11 12.3	161 31.9	S12 49.4	180 35.2	S18 29.3
13	148 18.8	340 34.1	N 6 33.8	352 25.8	N11 11.7	176 34.7	S12 49.6	195 37.9	S18 29.3
14	163 21.3	355 33.9	N 6 32.5	7 26.8	N11 11.1	191 37.4	S12 49.7	210 40.6	S18 29.4
15	178 23.7	10 33.6	N 6 31.3	22 27.8	N11 10.5	206 40.2	S12 49.8	225 43.2	S18 29.5
16	193 26.2	25 33.3	N 6 30.0	37 28.7	N11 09.9	221 42.9	S12 49.9	240 45.9	S18 29.5
17	208 28.6	40 33.1	N 6 28.8	52 29.7	N11 09.3	236 45.7	S12 50.0	255 48.5	S18 29.6
18	223 31.1	55 32.8	N 6 27.6	67 30.7	N11 08.7	251 48.4	S12 50.1	270 51.2	S18 29.6
19	238 33.6	70 32.5	N 6 26.3	82 31.7	N11 08.2	266 51.2	S12 50.2	285 53.8	S18 29.7
20	253 36.0	85 32.3	N 6 25.1	97 32.6	N11 07.6	281 53.9	S12 50.3	300 56.5	S18 29.7
21	268 38.5	100 32.0	N 6 23.8	112 33.6	N11 07.0	296 56.7	S12 50.5	315 59.1	S18 29.8
22	283 41.0	115 31.7	N 6 22.6	127 34.6	N11 06.4	311 59.4	S12 50.6	331 01.8	S18 29.8
23	298 43.4	130 31.5	N 6 21.4	142 35.6	N11 05.8	327 02.2	S12 50.7	346 04.4	S18 29.9
		v -0.3	d 1.2	v 1.0	d 0.6	v 2.7	d 0.1	v -897.3	d 0.1

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
2	0	178 25.7	N17 45.4	257 09.4	14.0	N18 02.6	9.5	54.2
	1	193 25.7	N17 44.8	271 42.3	13.9	N18 12.0	9.4	54.2
	2	208 25.8	N17 44.1	286 15.2	13.9	N18 21.3	9.3	54.2
	3	223 25.8	N17 43.5	300 48.1	13.8	N18 30.6	9.3	54.2
	4	238 25.9	N17 42.8	315 20.8	13.8	N18 39.8	9.2	54.2
M	5	253 25.9	N17 42.2	329 53.6	13.7	N18 48.9	9.1	54.2
O								
N	6	268 26.0	N17 41.6	344 26.2	13.7	N18 57.9	9.0	54.2
D	7	283 26.0	N17 40.9	358 58.8	13.6	N19 06.8	8.9	54.2
A	8	298 26.1	N17 40.3	13 31.4	13.6	N19 15.7	8.9	54.2
Y	9	313 26.1	N17 39.6	28 03.9	13.5	N19 24.5	8.8	54.2
	10	328 26.1	N17 39.0	42 36.4	13.4	N19 33.2	8.7	54.2
	11	343 26.2	N17 38.3	57 08.8	13.4	N19 41.8	8.6	54.2
	12	358 26.2	N17 37.7	71 41.1	13.3	N19 50.3	8.5	54.2
	13	13 26.3	N17 37.0	86 13.4	13.3	N19 58.8	8.5	54.2
	14	28 26.3	N17 36.4	100 45.6	13.2	N20 07.1	8.4	54.2
	15	43 26.4	N17 35.7	115 17.8	13.2	N20 15.4	8.3	54.2
	16	58 26.4	N17 35.1	129 49.9	13.1	N20 23.6	8.2	54.2
	17	73 26.5	N17 34.4	144 21.9	13.0	N20 31.7	8.1	54.2
	18	88 26.5	N17 33.8	158 53.9	13.0	N20 39.8	8.0	54.2
	19	103 26.6	N17 33.1	173 25.8	12.9	N20 47.7	7.9	54.2
	20	118 26.6	N17 32.5	187 57.7	12.9	N20 55.5	7.8	54.2
	21	133 26.7	N17 31.8	202 29.5	12.8	N21 03.3	7.8	54.2
	22	148 26.7	N17 31.2	217 01.3	12.8	N21 11.0	7.7	54.2
	23	163 26.8	N17 30.5	231 33.0	12.7	N21 18.5	7.6	54.3
3	0	178 26.8	N17 29.9	246 04.6	12.6	N21 26.0	7.5	54.3
	1	193 26.9	N17 29.2	260 36.2	12.6	N21 33.4	7.4	54.3
	2	208 26.9	N17 28.6	275 07.7	12.5	N21 40.7	7.3	54.3
	3	223 27.0	N17 27.9	289 39.2	12.5	N21 47.9	7.2	54.3
	4	238 27.0	N17 27.3	304 10.6	12.4	N21 55.0	7.1	54.3
T	5	253 27.1	N17 26.6	318 41.9	12.3	N22 02.0	7.0	54.3
U								
E	6	268 27.1	N17 25.9	333 13.2	12.3	N22 08.9	6.9	54.3
S	7	283 27.2	N17 25.3	347 44.4	12.2	N22 15.8	6.8	54.3
D	8	298 27.2	N17 24.6	2 15.5	12.2	N22 22.5	6.7	54.3
A	9	313 27.3	N17 24.0	16 46.6	12.1	N22 29.1	6.6	54.3
Y	10	328 27.3	N17 23.3	31 17.7	12.0	N22 35.6	6.5	54.3
	11	343 27.4	N17 22.7	45 48.7	12.0	N22 42.0	6.4	54.3
	12	358 27.4	N17 22.0	60 19.6	11.9	N22 48.4	6.3	54.3
	13	13 27.5	N17 21.3	74 50.4	11.9	N22 54.6	6.2	54.3
	14	28 27.6	N17 20.7	89 21.2	11.8	N23 00.7	6.1	54.3
	15	43 27.6	N17 20.0	103 52.0	11.7	N23 06.7	6.0	54.4
	16	58 27.7	N17 19.4	118 22.6	11.7	N23 12.6	5.9	54.4
	17	73 27.7	N17 18.7	132 53.3	11.6	N23 18.4	5.8	54.4
	18	88 27.8	N17 18.0	147 23.8	11.6	N23 24.1	5.7	54.4
	19	103 27.8	N17 17.4	161 54.3	11.5	N23 29.7	5.6	54.4
	20	118 27.9	N17 16.7	176 24.8	11.4	N23 35.2	5.5	54.4
	21	133 27.9	N17 16.0	190 55.1	11.4	N23 40.6	5.4	54.4
	22	148 28.0	N17 15.4	205 25.5	11.3	N23 45.9	5.3	54.4
	23	163 28.0	N17 14.7	219 55.7	11.3	N23 51.0	5.2	54.4
4	0	178 28.1	N17 14.1	234 26.0	11.2	N23 56.1	5.1	54.4
	1	193 28.2	N17 13.4	248 56.1	11.2	N24 01.0	4.9	54.5
	2	208 28.2	N17 12.7	263 26.2	11.1	N24 05.9	4.8	54.5
	3	223 28.3	N17 12.1	277 56.2	11.0	N24 10.6	4.7	54.5
	4	238 28.3	N17 11.4	292 26.2	11.0	N24 15.2	4.6	54.5
W	5	253 28.4	N17 10.7	306 56.2	10.9	N24 19.7	4.5	54.5
E								
D	6	268 28.4	N17 10.1	321 26.0	10.9	N24 24.1	4.4	54.5
N	7	283 28.5	N17 09.4	335 55.9	10.8	N24 28.4	4.3	54.5
E	8	298 28.6	N17 08.7	350 25.6	10.8	N24 32.5	4.2	54.5
S	9	313 28.6	N17 08.1	4 55.3	10.7	N24 36.5	4.0	54.5
D	10	328 28.7	N17 07.4	19 25.0	10.7	N24 40.5	3.9	54.6
A	11	343 28.7	N17 06.7	33 54.6	10.6	N24 44.3	3.8	54.6
Y								
	12	358 28.8	N17 06.0	48 24.2	10.6	N24 48.0	3.7	54.6
	13	13 28.9	N17 05.4	62 53.7	10.5	N24 51.5	3.6	54.6
	14	28 28.9	N17 04.7	77 23.1	10.5	N24 55.0	3.4	54.6
	15	43 29.0	N17 04.0	91 52.6	10.4	N24 58.3	3.3	54.6
	16	58 29.0	N17 03.4	106 21.9	10.4	N25 01.5	3.2	54.6
	17	73 29.1	N17 02.7	120 51.2	10.3	N25 04.6	3.1	54.7
	18	88 29.2	N17 02.0	135 20.5	10.3	N25 07.6	3.0	54.7
	19	103 29.2	N17 01.3	149 49.7	10.2	N25 10.4	2.8	54.7
	20	118 29.3	N17 00.7	164 18.9	10.2	N25 13.1	2.7	54.7
	21	133 29.3	N16 60.0	178 48.0	10.1	N25 15.7	2.6	54.7
	22	148 29.4	N16 59.3	193 17.1	10.1	N25 18.2	2.5	54.7
	23	163 29.5	N16 58.6	207 46.1	10.0	N25 20.6	2.4	54.7
		S.D. 15.8	d 0.7	S.D. 14.8		14.8	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.9	S40 12.9
Achernar	335 22.2	S57 07.4
Acrux	173 03.6	S63 13.2
Adhara	255 08.4	S28 59.9
Albireo	67 05.9	N28 00.4
Aldebaran	290 43.0	N16 33.1
Alioth	166 15.7	N55 51.0
Alkaid	152 54.4	N49 12.7
Al Na-ir	27 36.0	S46 51.3
Alnilam	275 40.8	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.4	N29 12.5
Altair	62 02.3	N 8 55.6
Ankaa	353 09.7	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.5	N19 04.5
Atria	107 15.6	S69 04.2
Avior	234 16.5	S59 34.6
Bellatrix	278 26.1	N 6 22.2
Betelgeuse	270 55.4	N 7 24.7
Canopus	263 54.1	S52 42.2
Capella	280 26.3	N46 01.0
Castor	246 01.0	N31 50.5
Deneb	49 27.2	N45 21.4
Denebola	182 28.0	N14 27.3
Diphda	348 50.0	S17 52.0
Dubhe	193 45.1	N61 38.3
Elnath	278 05.7	N28 37.4
Eltanin	90 43.1	N51 29.3
Enif	33 41.2	N 9 58.4
Fomalhaut	15 17.3	S29 30.4
Gacrux	171 55.0	S57 14.1
Gienah	175 46.7	S17 39.6
Hadar	148 40.1	S60 28.8
Hamal	327 54.3	N23 33.8
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 19.9	N74 04.4
Markab	13 32.4	N15 19.2
Menkar	314 09.1	N 4 10.4
Menkent	148 01.0	S36 28.6
Miaplacidus	221 39.6	S69 48.3
Mirfak	308 32.4	N49 56.0
Nunki	75 50.9	S26 16.1
Peacock	53 09.5	S56 39.9
Polaris	317 16.8	N89 20.1
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.8	S 8 10.5
Rigil Kent	139 44.2	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 33.9	N56 39.0
Shaula	96 13.9	S37 07.2
Sirius	258 29.0	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.8	S43 31.1
Vega	80 34.7	N38 48.4
Zuben-ubi	136 59.9	S16 07.8

G.M.T	ARIES	VENUS	MARS	JUPITER	SATURN
d h	GHA	GHA Dec	GHA Dec	GHA Dec	GHA Dec
5 0	313 45.9	145 31.2 N 6 20.1	157 36.5 N11 05.2	342 04.9 S12 50.8	1 07.1 S18 29.9
1	328 48.4	160 31.0 N 6 18.9	172 37.5 N11 04.7	357 07.7 S12 50.9	16 09.7 S18 30.0
2	343 50.8	175 30.7 N 6 17.6	187 38.5 N11 04.1	12 10.4 S12 51.0	31 12.4 S18 30.0
3	358 53.3	190 30.4 N 6 16.4	202 39.5 N11 03.5	27 13.2 S12 51.1	46 15.0 S18 30.1
4	13 55.8	205 30.2 N 6 15.1	217 40.4 N11 02.9	42 15.9 S12 51.2	61 17.7 S18 30.1
T 5	28 58.2	220 29.9 N 6 13.9	232 41.4 N11 02.3	57 18.7 S12 51.4	76 20.3 S18 30.2
H					
U 6	44 00.7	235 29.7 N 6 12.7	247 42.4 N11 01.7	72 21.5 S12 51.5	91 23.0 S18 30.3
R 7	59 03.1	250 29.4 N 6 11.4	262 43.4 N11 01.1	87 24.2 S12 51.6	106 25.6 S18 30.3
S 8	74 05.6	265 29.1 N 6 10.2	277 44.3 N11 00.6	102 27.0 S12 51.7	121 28.3 S18 30.4
D 9	89 08.1	280 28.9 N 6 08.9	292 45.3 N10 60.0	117 29.7 S12 51.8	136 30.9 S18 30.4
A 10	104 10.5	295 28.6 N 6 07.7	307 46.3 N10 59.4	132 32.5 S12 51.9	151 33.6 S18 30.5
Y 11	119 13.0	310 28.4 N 6 06.4	322 47.3 N10 58.8	147 35.2 S12 52.0	166 36.2 S18 30.5
12	134 15.5	325 28.1 N 6 05.2	337 48.2 N10 58.2	162 38.0 S12 52.1	181 38.9 S18 30.6
13	149 17.9	340 27.8 N 6 03.9	352 49.2 N10 57.6	177 40.7 S12 52.3	196 41.5 S18 30.6
14	164 20.4	355 27.6 N 6 02.7	7 50.2 N10 57.0	192 43.5 S12 52.4	211 44.2 S18 30.7
15	179 22.9	10 27.3 N 6 01.5	22 51.2 N10 56.4	207 46.2 S12 52.5	226 46.8 S18 30.7
16	194 25.3	25 27.1 N 6 00.2	37 52.2 N10 55.9	222 49.0 S12 52.6	241 49.5 S18 30.8
17	209 27.8	40 26.8 N 5 59.0	52 53.1 N10 55.3	237 51.7 S12 52.7	256 52.1 S18 30.8
18	224 30.2	55 26.6 N 5 57.7	67 54.1 N10 54.7	252 54.5 S12 52.8	271 54.8 S18 30.9
19	239 32.7	70 26.3 N 5 56.5	82 55.1 N10 54.1	267 57.2 S12 52.9	286 57.5 S18 30.9
20	254 35.2	85 26.1 N 5 55.2	97 56.1 N10 53.5	282 60.0 S12 53.0	302 00.1 S18 31.0
21	269 37.6	100 25.8 N 5 54.0	112 57.0 N10 52.9	298 02.7 S12 53.2	317 02.8 S18 31.1
22	284 40.1	115 25.5 N 5 52.7	127 58.0 N10 52.3	313 05.5 S12 53.3	332 05.4 S18 31.1
23	299 42.6	130 25.3 N 5 51.5	142 59.0 N10 51.7	328 08.2 S12 53.4	347 08.1 S18 31.2
6 0	314 45.0	145 25.0 N 5 50.2	157 60.0 N10 51.2	343 11.0 S12 53.5	2 10.7 S18 31.2
1	329 47.5	160 24.8 N 5 49.0	173 00.9 N10 50.6	358 13.8 S12 53.6	17 13.4 S18 31.3
2	344 50.0	175 24.5 N 5 47.7	188 01.9 N10 50.0	13 16.5 S12 53.7	32 16.0 S18 31.3
3	359 52.4	190 24.3 N 5 46.5	203 02.9 N10 49.4	28 19.3 S12 53.8	47 18.7 S18 31.4
4	14 54.9	205 24.0 N 5 45.2	218 03.9 N10 48.8	43 22.0 S12 54.0	62 21.3 S18 31.4
F 5	29 57.4	220 23.8 N 5 44.0	233 04.9 N10 48.2	58 24.8 S12 54.1	77 24.0 S18 31.5
R					
I 6	44 59.8	235 23.5 N 5 42.7	248 05.8 N10 47.6	73 27.5 S12 54.2	92 26.6 S18 31.5
D 7	60 02.3	250 23.3 N 5 41.5	263 06.8 N10 47.0	88 30.3 S12 54.3	107 29.3 S18 31.6
A 8	75 04.7	265 23.0 N 5 40.2	278 07.8 N10 46.4	103 33.0 S12 54.4	122 31.9 S18 31.6
Y 9	90 07.2	280 22.8 N 5 39.0	293 08.8 N10 45.9	118 35.8 S12 54.5	137 34.6 S18 31.7
10	105 09.7	295 22.5 N 5 37.7	308 09.7 N10 45.3	133 38.6 S12 54.6	152 37.2 S18 31.7
11	120 12.1	310 22.3 N 5 36.5	323 10.7 N10 44.7	148 41.3 S12 54.8	167 39.9 S18 31.8
12	135 14.6	325 22.0 N 5 35.2	338 11.7 N10 44.1	163 44.1 S12 54.9	182 42.5 S18 31.8
13	150 17.1	340 21.8 N 5 34.0	353 12.7 N10 43.5	178 46.8 S12 55.0	197 45.2 S18 31.9
14	165 19.5	355 21.5 N 5 32.7	8 13.6 N10 42.9	193 49.6 S12 55.1	212 47.8 S18 32.0
15	180 22.0	10 21.3 N 5 31.5	23 14.6 N10 42.3	208 52.3 S12 55.2	227 50.5 S18 32.0
16	195 24.5	25 21.0 N 5 30.2	38 15.6 N10 41.7	223 55.1 S12 55.3	242 53.1 S18 32.1
17	210 26.9	40 20.8 N 5 29.0	53 16.6 N10 41.1	238 57.8 S12 55.4	257 55.8 S18 32.1
18	225 29.4	55 20.5 N 5 27.7	68 17.6 N10 40.5	254 00.6 S12 55.5	272 58.4 S18 32.2
19	240 31.9	70 20.3 N 5 26.5	83 18.5 N10 40.0	269 03.4 S12 55.7	288 01.1 S18 32.2
20	255 34.3	85 20.0 N 5 25.2	98 19.5 N10 39.4	284 06.1 S12 55.8	303 03.7 S18 32.3
21	270 36.8	100 19.8 N 5 24.0	113 20.5 N10 38.8	299 08.9 S12 55.9	318 06.4 S18 32.3
22	285 39.2	115 19.5 N 5 22.7	128 21.5 N10 38.2	314 11.6 S12 56.0	333 09.0 S18 32.4
23	300 41.7	130 19.3 N 5 21.5	143 22.4 N10 37.6	329 14.4 S12 56.1	348 11.7 S18 32.4
7 0	315 44.2	145 19.0 N 5 20.2	158 23.4 N10 37.0	344 17.1 S12 56.2	3 14.3 S18 32.5
1	330 46.6	160 18.8 N 5 18.9	173 24.4 N10 36.4	359 19.9 S12 56.3	18 17.0 S18 32.5
2	345 49.1	175 18.5 N 5 17.7	188 25.4 N10 35.8	14 22.7 S12 56.5	33 19.6 S18 32.6
3	0 51.6	190 18.3 N 5 16.4	203 26.4 N10 35.2	29 25.4 S12 56.6	48 22.3 S18 32.6
4	15 54.0	205 18.0 N 5 15.2	218 27.3 N10 34.6	44 28.2 S12 56.7	63 24.9 S18 32.7
S 5	30 56.5	220 17.8 N 5 13.9	233 28.3 N10 34.0	59 30.9 S12 56.8	78 27.6 S18 32.7
A					
T 6	45 59.0	235 17.5 N 5 12.7	248 29.3 N10 33.4	74 33.7 S12 56.9	93 30.3 S18 32.8
U 7	61 01.4	250 17.3 N 5 11.4	263 30.3 N10 32.9	89 36.5 S12 57.0	108 32.9 S18 32.9
R 8	76 03.9	265 17.1 N 5 10.2	278 31.3 N10 32.3	104 39.2 S12 57.1	123 35.6 S18 32.9
D 9	91 06.4	280 16.8 N 5 08.9	293 32.2 N10 31.7	119 42.0 S12 57.3	138 38.2 S18 33.0
A 10	106 08.8	295 16.6 N 5 07.6	308 33.2 N10 31.1	134 44.7 S12 57.4	153 40.9 S18 33.0
Y 11	121 11.3	310 16.3 N 5 06.4	323 34.2 N10 30.5	149 47.5 S12 57.5	168 43.5 S18 33.1
12	136 13.7	325 16.1 N 5 05.1	338 35.2 N10 29.9	164 50.2 S12 57.6	183 46.2 S18 33.1
13	151 16.2	340 15.8 N 5 03.9	353 36.1 N10 29.3	179 53.0 S12 57.7	198 48.8 S18 33.2
14	166 18.7	355 15.6 N 5 02.6	8 37.1 N10 28.7	194 55.8 S12 57.8	213 51.5 S18 33.2
15	181 21.1	10 15.3 N 5 01.4	23 38.1 N10 28.1	209 58.5 S12 57.9	228 54.1 S18 33.3
16	196 23.6	25 15.1 N 5 00.1	38 39.1 N10 27.5	225 01.3 S12 58.1	243 56.8 S18 33.3
17	211 26.1	40 14.9 N 4 58.8	53 40.1 N10 26.9	240 04.0 S12 58.2	258 59.4 S18 33.4
18	226 28.5	55 14.6 N 4 57.6	68 41.0 N10 26.3	255 06.8 S12 58.3	274 02.1 S18 33.4
19	241 31.0	70 14.4 N 4 56.3	83 42.0 N10 25.7	270 09.6 S12 58.4	289 04.7 S18 33.5
20	256 33.5	85 14.1 N 4 55.1	98 43.0 N10 25.1	285 12.3 S12 58.5	304 07.4 S18 33.5
21	271 35.9	100 13.9 N 4 53.8	113 44.0 N10 24.6	300 15.1 S12 58.6	319 10.0 S18 33.6
22	286 38.4	115 13.6 N 4 52.5	128 45.0 N10 24.0	315 17.8 S12 58.8	334 12.7 S18 33.6
23	301 40.9	130 13.4 N 4 51.3	143 45.9 N10 23.4	330 20.6 S12 58.9	349 15.3 S18 33.7
		v -0.3 d 1.3	v 1.0 d 0.6	v 2.8 d 0.1	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 '
5	0	178 29.5	N16 58.0	222 15.1	10.0	N25 22.8	2.2	54.8
	1	193 29.6	N16 57.3	236 44.1	10.0	N25 24.9	2.1	54.8
	2	208 29.7	N16 56.6	251 13.0	9.9	N25 26.9	2.0	54.8
	3	223 29.7	N16 55.9	265 41.8	9.9	N25 28.7	1.9	54.8
	4	238 29.8	N16 55.2	280 10.7	9.8	N25 30.4	1.7	54.8
T	5	253 29.8	N16 54.6	294 39.5	9.8	N25 32.0	1.6	54.8
H								
U	6	268 29.9	N16 53.9	309 08.2	9.8	N25 33.5	1.5	54.9
R	7	283 30.0	N16 53.2	323 36.9	9.7	N25 34.8	1.3	54.9
S	8	298 30.0	N16 52.5	338 05.6	9.7	N25 36.1	1.2	54.9
D	9	313 30.1	N16 51.8	352 34.3	9.6	N25 37.1	1.1	54.9
A	10	328 30.2	N16 51.2	7 02.9	9.6	N25 38.1	1.0	54.9
Y	11	343 30.2	N16 50.5	21 31.5	9.6	N25 38.9	0.8	54.9
	12	358 30.3	N16 49.8	36 00.0	9.6	N25 39.6	0.7	55.0
	13	13 30.4	N16 49.1	50 28.6	9.5	N25 40.2	0.6	55.0
	14	28 30.4	N16 48.4	64 57.0	9.5	N25 40.6	0.4	55.0
	15	43 30.5	N16 47.8	79 25.5	9.5	N25 40.9	0.3	55.0
	16	58 30.6	N16 47.1	93 53.9	9.4	N25 41.1	0.2	55.0
	17	73 30.6	N16 46.4	108 22.4	9.4	N25 41.1	0.0	55.0
	18	88 30.7	N16 45.7	122 50.7	9.4	N25 41.0	0.1	55.1
	19	103 30.8	N16 45.0	137 19.1	9.4	N25 40.8	0.2	55.1
	20	118 30.8	N16 44.3	151 47.4	9.3	N25 40.4	0.4	55.1
	21	133 30.9	N16 43.6	166 15.8	9.3	N25 39.9	0.5	55.1
	22	148 31.0	N16 43.0	180 44.0	9.3	N25 39.3	0.6	55.1
	23	163 31.0	N16 42.3	195 12.3	9.3	N25 38.5	0.8	55.2
6	0	178 31.1	N16 41.6	209 40.6	9.3	N25 37.7	0.9	55.2
	1	193 31.2	N16 40.9	224 08.8	9.2	N25 36.6	1.0	55.2
	2	208 31.2	N16 40.2	238 37.0	9.2	N25 35.5	1.2	55.2
	3	223 31.3	N16 39.5	253 05.3	9.2	N25 34.2	1.3	55.2
	4	238 31.4	N16 38.8	267 33.4	9.2	N25 32.7	1.4	55.3
F	5	253 31.4	N16 38.1	282 01.6	9.2	N25 31.2	1.6	55.3
R								
I	6	268 31.5	N16 37.4	296 29.8	9.2	N25 29.5	1.7	55.3
D	7	283 31.6	N16 36.8	310 58.0	9.2	N25 27.6	1.8	55.3
A	8	298 31.7	N16 36.1	325 26.1	9.1	N25 25.7	2.0	55.3
Y	9	313 31.7	N16 35.4	339 54.2	9.1	N25 23.6	2.1	55.4
	10	328 31.8	N16 34.7	354 22.4	9.1	N25 21.3	2.2	55.4
	11	343 31.9	N16 34.0	8 50.5	9.1	N25 18.9	2.4	55.4
	12	358 31.9	N16 33.3	23 18.6	9.1	N25 16.4	2.5	55.4
	13	13 32.0	N16 32.6	37 46.8	9.1	N25 13.8	2.6	55.4
	14	28 32.1	N16 31.9	52 14.9	9.1	N25 11.0	2.8	55.5
	15	43 32.2	N16 31.2	66 43.0	9.1	N25 08.1	2.9	55.5
	16	58 32.2	N16 30.5	81 11.1	9.1	N25 05.1	3.0	55.5
	17	73 32.3	N16 29.8	95 39.2	9.1	N25 01.9	3.2	55.5
	18	88 32.4	N16 29.1	110 07.3	9.1	N24 58.6	3.3	55.6
	19	103 32.4	N16 28.4	124 35.5	9.1	N24 55.1	3.5	55.6
	20	118 32.5	N16 27.7	139 03.6	9.1	N24 51.5	3.6	55.6
	21	133 32.6	N16 27.0	153 31.7	9.1	N24 47.8	3.7	55.6
	22	148 32.7	N16 26.3	167 59.9	9.1	N24 43.9	3.9	55.6
	23	163 32.7	N16 25.6	182 28.0	9.1	N24 39.9	4.0	55.7
7	0	178 32.8	N16 24.9	196 56.2	9.2	N24 35.8	4.1	55.7
	1	193 32.9	N16 24.2	211 24.3	9.2	N24 31.6	4.3	55.7
	2	208 33.0	N16 23.5	225 52.5	9.2	N24 27.2	4.4	55.7
	3	223 33.0	N16 22.8	240 20.7	9.2	N24 22.7	4.5	55.7
	4	238 33.1	N16 22.1	254 48.9	9.2	N24 18.0	4.7	55.8
S	5	253 33.2	N16 21.4	269 17.1	9.2	N24 13.2	4.8	55.8
A								
T	6	268 33.3	N16 20.7	283 45.3	9.2	N24 08.3	4.9	55.8
U	7	283 33.3	N16 20.0	298 13.6	9.2	N24 03.2	5.1	55.8
R	8	298 33.4	N16 19.3	312 41.8	9.3	N23 58.1	5.2	55.9
D	9	313 33.5	N16 18.6	327 10.1	9.3	N23 52.7	5.3	55.9
A	10	328 33.6	N16 17.9	341 38.4	9.3	N23 47.3	5.4	55.9
Y	11	343 33.7	N16 17.2	356 06.7	9.3	N23 41.7	5.6	55.9
	12	358 33.7	N16 16.5	10 35.0	9.3	N23 36.0	5.7	55.9
	13	13 33.8	N16 15.8	25 03.4	9.4	N23 30.2	5.8	56.0
	14	28 33.9	N16 15.1	39 31.8	9.4	N23 24.2	6.0	56.0
	15	43 34.0	N16 14.4	54 00.2	9.4	N23 18.1	6.1	56.0
	16	58 34.0	N16 13.7	68 28.6	9.4	N23 11.9	6.2	56.0
	17	73 34.1	N16 13.0	82 57.1	9.5	N23 05.6	6.3	56.1
	18	88 34.2	N16 12.3	97 25.5	9.5	N22 59.1	6.5	56.1
	19	103 34.3	N16 11.6	111 54.0	9.5	N22 52.5	6.6	56.1
	20	118 34.4	N16 10.9	126 22.6	9.5	N22 45.8	6.7	56.1
	21	133 34.4	N16 10.1	140 51.1	9.6	N22 38.9	6.9	56.2
	22	148 34.5	N16 09.4	155 19.7	9.6	N22 31.9	7.0	56.2
	23	163 34.6	N16 08.7	169 48.3	9.6	N22 24.8	7.1	56.2
		S.D. 15.8	d 0.7	S.D. 15.0		15.1	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.9	S40 12.9
Achernar	335 22.1	S57 07.4
Acrux	173 03.6	S63 13.2
Adhara	255 08.4	S28 59.9
Albireo	67 05.9	N28 00.4
Aldebaran	290 43.0	N16 33.1
Alioth	166 15.7	N55 51.0
Alkaid	152 54.4	N49 12.7
Al Na-ir	27 36.0	S46 51.3
Alnilam	275 40.7	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.0	N26 38.8
Alpheratz	357 37.4	N29 12.5
Altair	62 02.3	N 8 55.6
Ankaa	353 09.7	S42 11.2
Antares	112 19.1	S26 28.8
Arcturus	145 50.5	N19 04.5
Atria	107 15.6	S69 04.2
Avior	234 16.4	S59 34.6
Bellatrix	278 26.1	N 6 22.2
Betelgeuse	270 55.3	N 7 24.7
Canopus	263 54.0	S52 42.2
Capella	280 26.3	N46 01.0
Castor	246 01.0	N31 50.5
Deneb	49 27.2	N45 21.5
Denebola	182 28.0	N14 27.3
Diphda	348 50.0	S17 52.0
Dubhe	193 45.1	N61 38.3
Elnath	278 05.7	N28 37.4
Eltanin	90 43.1	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.3	S29 30.4
Gacrux	171 55.0	S57 14.1
Gienah	175 46.7	S17 39.6
Hadar	148 40.1	S60 28.8
Hamal	327 54.3	N23 33.8
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 20.0	N74 04.4
Markab	13 32.4	N15 19.2
Menkar	314 09.1	N 4 10.5
Menkent	148 01.0	S36 28.6
Miaplacidus	221 39.6	S69 48.3
Mirfak	308 32.3	N49 56.0
Nunki	75 50.9	S26 16.2
Peacock	53 09.5	S56 40.0
Polaris	317 15.5	N89 20.1
Pollux	243 21.1	N27 58.5
Procyon	244 54.1	N 5 10.3
Rasalhague	96 00.9	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.7	S 8 10.5
Rigil Kent	139 44.3	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 33.8	N56 39.0
Shaula	96 13.9	S37 07.2
Sirius	258 29.0	S16 44.6
Spica	158 25.4	S11 16.3
Suhail	222 48.8	S43 31.1
Vega	80 34.7	N38 48.4
Zuben-ubi	136 59.9	S16 07.8

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 43.3	145 13.2	N 4 50.0	158 46.9	N10 22.8	345 23.4	S12 59.0	4 18.0	S18 33.7
	1	331 45.8	160 12.9	N 4 48.8	173 47.9	N10 22.2	0 26.1	S12 59.1	19 20.6	S18 33.8
	2	346 48.2	175 12.7	N 4 47.5	188 48.9	N10 21.6	15 28.9	S12 59.2	34 23.3	S18 33.9
	3	1 50.7	190 12.4	N 4 46.2	203 49.9	N10 21.0	30 31.6	S12 59.3	49 25.9	S18 33.9
	4	16 53.2	205 12.2	N 4 45.0	218 50.8	N10 20.4	45 34.4	S12 59.4	64 28.6	S18 34.0
S	5	31 55.6	220 12.0	N 4 43.7	233 51.8	N10 19.8	60 37.2	S12 59.6	79 31.2	S18 34.0
U										
N	6	46 58.1	235 11.7	N 4 42.5	248 52.8	N10 19.2	75 39.9	S12 59.7	94 33.9	S18 34.1
D	7	62 00.6	250 11.5	N 4 41.2	263 53.8	N10 18.6	90 42.7	S12 59.8	109 36.5	S18 34.1
A	8	77 03.0	265 11.3	N 4 39.9	278 54.8	N10 18.0	105 45.5	S12 59.9	124 39.2	S18 34.2
Y	9	92 05.5	280 11.0	N 4 38.7	293 55.7	N10 17.4	120 48.2	S13 00.0	139 41.8	S18 34.2
	10	107 08.0	295 10.8	N 4 37.4	308 56.7	N10 16.8	135 51.0	S13 00.1	154 44.5	S18 34.3
	11	122 10.4	310 10.5	N 4 36.2	323 57.7	N10 16.2	150 53.7	S13 00.2	169 47.1	S18 34.3
	12	137 12.9	325 10.3	N 4 34.9	338 58.7	N10 15.6	165 56.5	S13 00.4	184 49.8	S18 34.4
	13	152 15.3	340 10.1	N 4 33.6	353 59.7	N10 15.0	180 59.3	S13 00.5	199 52.4	S18 34.4
	14	167 17.8	355 09.8	N 4 32.4	9 00.6	N10 14.4	196 02.0	S13 00.6	214 55.1	S18 34.5
	15	182 20.3	10 09.6	N 4 31.1	24 01.6	N10 13.8	211 04.8	S13 00.7	229 57.7	S18 34.5
	16	197 22.7	25 09.4	N 4 29.8	39 02.6	N10 13.2	226 07.5	S13 00.8	245 00.4	S18 34.6
	17	212 25.2	40 09.1	N 4 28.6	54 03.6	N10 12.7	241 10.3	S13 00.9	260 03.0	S18 34.6
	18	227 27.7	55 08.9	N 4 27.3	69 04.6	N10 12.1	256 13.1	S13 01.1	275 05.7	S18 34.7
	19	242 30.1	70 08.6	N 4 26.1	84 05.5	N10 11.5	271 15.8	S13 01.2	290 08.3	S18 34.7
	20	257 32.6	85 08.4	N 4 24.8	99 06.5	N10 10.9	286 18.6	S13 01.3	305 11.0	S18 34.8
	21	272 35.1	100 08.2	N 4 23.5	114 07.5	N10 10.3	301 21.4	S13 01.4	320 13.6	S18 34.8
	22	287 37.5	115 07.9	N 4 22.3	129 08.5	N10 09.7	316 24.1	S13 01.5	335 16.3	S18 34.9
	23	302 40.0	130 07.7	N 4 21.0	144 09.5	N10 09.1	331 26.9	S13 01.6	350 18.9	S18 35.0
9	0	317 42.5	145 07.5	N 4 19.7	159 10.4	N10 08.5	346 29.7	S13 01.7	5 21.6	S18 35.0
	1	332 44.9	160 07.2	N 4 18.5	174 11.4	N10 07.9	1 32.4	S13 01.9	20 24.2	S18 35.1
	2	347 47.4	175 07.0	N 4 17.2	189 12.4	N10 07.3	16 35.2	S13 02.0	35 26.9	S18 35.1
	3	2 49.8	190 06.8	N 4 15.9	204 13.4	N10 06.7	31 37.9	S13 02.1	50 29.5	S18 35.2
	4	17 52.3	205 06.5	N 4 14.7	219 14.4	N10 06.1	46 40.7	S13 02.2	65 32.2	S18 35.2
M	5	32 54.8	220 06.3	N 4 13.4	234 15.4	N10 05.5	61 43.5	S13 02.3	80 34.8	S18 35.3
O										
N	6	47 57.2	235 06.1	N 4 12.1	249 16.3	N10 04.9	76 46.2	S13 02.4	95 37.5	S18 35.3
D	7	62 59.7	250 05.8	N 4 10.9	264 17.3	N10 04.3	91 49.0	S13 02.6	110 40.1	S18 35.4
A	8	78 02.2	265 05.6	N 4 09.6	279 18.3	N10 03.7	106 51.8	S13 02.7	125 42.8	S18 35.4
Y	9	93 04.6	280 05.4	N 4 08.3	294 19.3	N10 03.1	121 54.5	S13 02.8	140 45.4	S18 35.5
	10	108 07.1	295 05.1	N 4 07.1	309 20.3	N10 02.5	136 57.3	S13 02.9	155 48.1	S18 35.5
	11	123 09.6	310 04.9	N 4 05.8	324 21.2	N10 01.9	152 00.1	S13 03.0	170 50.7	S18 35.6
	12	138 12.0	325 04.7	N 4 04.5	339 22.2	N10 01.3	167 02.8	S13 03.1	185 53.4	S18 35.6
	13	153 14.5	340 04.4	N 4 03.3	354 23.2	N10 00.7	182 05.6	S13 03.3	200 56.0	S18 35.7
	14	168 17.0	355 04.2	N 4 02.0	9 24.2	N10 00.1	197 08.4	S13 03.4	215 58.7	S18 35.7
	15	183 19.4	10 04.0	N 4 00.7	24 25.2	N 9 59.5	212 11.1	S13 03.5	231 01.3	S18 35.8
	16	198 21.9	25 03.8	N 3 59.5	39 26.1	N 9 58.9	227 13.9	S13 03.6	246 04.0	S18 35.8
	17	213 24.3	40 03.5	N 3 58.2	54 27.1	N 9 58.3	242 16.6	S13 03.7	261 06.6	S18 35.9
	18	228 26.8	55 03.3	N 3 56.9	69 28.1	N 9 57.7	257 19.4	S13 03.8	276 09.3	S18 35.9
	19	243 29.3	70 03.1	N 3 55.7	84 29.1	N 9 57.1	272 22.2	S13 03.9	291 11.9	S18 36.0
	20	258 31.7	85 02.8	N 3 54.4	99 30.1	N 9 56.5	287 24.9	S13 04.1	306 14.6	S18 36.0
	21	273 34.2	100 02.6	N 3 53.1	114 31.1	N 9 55.9	302 27.7	S13 04.2	321 17.2	S18 36.1
	22	288 36.7	115 02.4	N 3 51.9	129 32.0	N 9 55.3	317 30.5	S13 04.3	336 19.9	S18 36.2
	23	303 39.1	130 02.2	N 3 50.6	144 33.0	N 9 54.7	332 33.2	S13 04.4	351 22.5	S18 36.2
10	0	318 41.6	145 01.9	N 3 49.3	159 34.0	N 9 54.1	347 36.0	S13 04.5	6 25.2	S18 36.3
	1	333 44.1	160 01.7	N 3 48.0	174 35.0	N 9 53.5	2 38.8	S13 04.6	21 27.8	S18 36.3
	2	348 46.5	175 01.5	N 3 46.8	189 36.0	N 9 52.9	17 41.5	S13 04.8	36 30.5	S18 36.4
	3	3 49.0	190 01.2	N 3 45.5	204 37.0	N 9 52.3	32 44.3	S13 04.9	51 33.1	S18 36.4
	4	18 51.4	205 01.0	N 3 44.2	219 37.9	N 9 51.7	47 47.1	S13 05.0	66 35.8	S18 36.5
T	5	33 53.9	220 00.8	N 3 43.0	234 38.9	N 9 51.1	62 49.8	S13 05.1	81 38.4	S18 36.5
U										
E	6	48 56.4	235 00.6	N 3 41.7	249 39.9	N 9 50.5	77 52.6	S13 05.2	96 41.1	S18 36.6
S	7	63 58.8	250 00.3	N 3 40.4	264 40.9	N 9 49.9	92 55.4	S13 05.3	111 43.7	S18 36.6
D	8	79 01.3	265 00.1	N 3 39.2	279 41.9	N 9 49.3	107 58.1	S13 05.5	126 46.4	S18 36.7
A	9	94 03.8	279 59.9	N 3 37.9	294 42.8	N 9 48.7	123 00.9	S13 05.6	141 49.0	S18 36.7
Y	10	109 06.2	294 59.6	N 3 36.6	309 43.8	N 9 48.1	138 03.7	S13 05.7	156 51.7	S18 36.8
	11	124 08.7	309 59.4	N 3 35.3	324 44.8	N 9 47.5	153 06.4	S13 05.8	171 54.3	S18 36.8
	12	139 11.2	324 59.2	N 3 34.1	339 45.8	N 9 46.9	168 09.2	S13 05.9	186 57.0	S18 36.9
	13	154 13.6	339 59.0	N 3 32.8	354 46.8	N 9 46.3	183 12.0	S13 06.0	201 59.6	S18 36.9
	14	169 16.1	354 58.7	N 3 31.5	9 47.8	N 9 45.7	198 14.7	S13 06.2	217 02.3	S18 37.0
	15	184 18.6	9 58.5	N 3 30.3	24 48.7	N 9 45.1	213 17.5	S13 06.3	232 04.9	S18 37.0
	16	199 21.0	24 58.3	N 3 29.0	39 49.7	N 9 44.5	228 20.3	S13 06.4	247 07.6	S18 37.1
	17	214 23.5	39 58.1	N 3 27.7	54 50.7	N 9 43.9	243 23.0	S13 06.5	262 10.2	S18 37.1
	18	229 25.9	54 57.8	N 3 26.4	69 51.7	N 9 43.3	258 25.8	S13 06.6	277 12.9	S18 37.2
	19	244 28.4	69 57.6	N 3 25.2	84 52.7	N 9 42.7	273 28.6	S13 06.7	292 15.5	S18 37.2
	20	259 30.9	84 57.4	N 3 23.9	99 53.7	N 9 42.1	288 31.3	S13 06.9	307 18.2	S18 37.3
	21	274 33.3	99 57.2	N 3 22.6	114 54.6	N 9 41.5	303 34.1	S13 07.0	322 20.8	S18 37.3
	22	289 35.8	114 57.0	N 3 21.3	129 55.6	N 9 40.9	318 36.9	S13 07.1	337 23.5	S18 37.4
	23	304 38.3	129 56.7	N 3 20.1	144 56.6	N 9 40.3	333 39.7	S13 07.2	352 26.1	S18 37.5
			v -0.2	d 1.3	v 1.0	d 0.6	v 2.8	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
8 0	178 34.7	N16 08.0	184 17.0	9.6	N22 17.6	7.2	56.2	Acamar	315 13.9 S40 12.9
1	193 34.8	N16 07.3	198 45.7	9.7	N22 10.2	7.3	56.2	Achernar	335 22.1 S57 07.4
2	208 34.8	N16 06.6	213 14.4	9.7	N22 02.8	7.5	56.3	Acrux	173 03.6 S63 13.2
3	223 34.9	N16 05.9	227 43.1	9.7	N21 55.2	7.6	56.3	Adhara	255 08.4 S28 59.9
4	238 35.0	N16 05.2	242 11.9	9.8	N21 47.5	7.7	56.3	Albireo	67 05.9 N28 00.4
S 5	253 35.1	N16 04.5	256 40.7	9.8	N21 39.6	7.8	56.3		
U								Aldebaran	290 42.9 N16 33.1
N 6	268 35.2	N16 03.8	271 09.5	9.8	N21 31.7	8.0	56.4	Alioth	166 15.7 N55 51.0
D 7	283 35.3	N16 03.0	285 38.4	9.9	N21 23.6	8.1	56.4	Alkaid	152 54.4 N49 12.7
A 8	298 35.3	N16 02.3	300 07.3	9.9	N21 15.4	8.2	56.4	Al Na-ir	27 35.9 S46 51.3
Y 9	313 35.4	N16 01.6	314 36.3	9.9	N21 07.1	8.3	56.4	Alnilam	275 40.7 S 1 11.2
10	328 35.5	N16 00.9	329 05.2	10.0	N20 58.7	8.4	56.5		
11	343 35.6	N16 00.2	343 34.2	10.0	N20 50.1	8.5	56.5	Alphard	217 50.8 S 8 45.0
								Alphecca	126 06.1 N26 38.8
12	358 35.7	N15 59.5	358 03.3	10.1	N20 41.5	8.7	56.5	Alpheratz	357 37.4 N29 12.5
13	13 35.8	N15 58.8	12 32.4	10.1	N20 32.7	8.8	56.5	Altair	62 02.3 N 8 55.6
14	28 35.8	N15 58.0	27 01.5	10.1	N20 23.8	8.9	56.5	Ankaa	353 09.6 S42 11.2
15	43 35.9	N15 57.3	41 30.7	10.2	N20 14.8	9.0	56.6		
16	58 36.0	N15 56.6	55 59.9	10.2	N20 05.7	9.1	56.6	Antares	112 19.1 S26 28.8
17	73 36.1	N15 55.9	70 29.1	10.2	N19 56.5	9.2	56.6	Arcturus	145 50.5 N19 04.5
								Atria	107 15.6 S69 04.2
18	88 36.2	N15 55.2	84 58.4	10.3	N19 47.1	9.3	56.6	Avior	234 16.4 S59 34.6
19	103 36.3	N15 54.4	99 27.7	10.3	N19 37.7	9.4	56.7	Bellatrix	278 26.1 N 6 22.2
20	118 36.4	N15 53.7	113 57.1	10.4	N19 28.1	9.6	56.7		
21	133 36.4	N15 53.0	128 26.5	10.4	N19 18.5	9.7	56.7	Betelgeuse	270 55.3 N 7 24.7
22	148 36.5	N15 52.3	142 55.9	10.4	N19 08.7	9.8	56.7	Canopus	263 54.0 S52 42.2
23	163 36.6	N15 51.6	157 25.4	10.5	N18 58.8	9.9	56.7	Capella	280 26.3 N46 01.0
9 0	178 36.7	N15 50.9	171 54.9	10.5	N18 48.8	10.0	56.8	Castor	246 01.0 N31 50.5
1	193 36.8	N15 50.1	186 24.4	10.6	N18 38.7	10.1	56.8	Deneb	49 27.2 N45 21.5
2	208 36.9	N15 49.4	200 54.0	10.6	N18 28.6	10.2	56.8		
3	223 37.0	N15 48.7	215 23.7	10.6	N18 18.3	10.3	56.8	Denebola	182 28.0 N14 27.3
4	238 37.0	N15 48.0	229 53.3	10.7	N18 07.9	10.4	56.9	Diphda	348 49.9 S17 52.0
M 5	253 37.1	N15 47.2	244 23.1	10.7	N17 57.4	10.5	56.9	Dubhe	193 45.1 N61 38.3
O								Elnath	278 05.6 N28 37.4
N 6	268 37.2	N15 46.5	258 52.8	10.8	N17 46.8	10.6	56.9	Eltanin	90 43.1 N51 29.4
D 7	283 37.3	N15 45.8	273 22.6	10.8	N17 36.1	10.7	56.9		
A 8	298 37.4	N15 45.1	287 52.4	10.8	N17 25.3	10.8	57.0	Enif	33 41.1 N 9 58.5
Y 9	313 37.5	N15 44.3	302 22.3	10.9	N17 14.4	10.9	57.0	Fomalhaut	15 17.3 S29 30.4
10	328 37.6	N15 43.6	316 52.2	10.9	N17 03.4	11.0	57.0	Gacrux	171 55.1 S57 14.1
11	343 37.7	N15 42.9	331 22.2	11.0	N16 52.3	11.1	57.0	Gienah	175 46.7 S17 39.6
								Hadar	148 40.1 S60 28.8
12	358 37.8	N15 42.2	345 52.2	11.0	N16 41.2	11.2	57.0		
13	13 37.8	N15 41.4	0 22.2	11.0	N16 29.9	11.3	57.1	Hamal	327 54.3 N23 33.8
14	28 37.9	N15 40.7	14 52.3	11.1	N16 18.5	11.4	57.1	Kaus Austr.	83 35.9 S34 22.5
15	43 38.0	N15 40.0	29 22.4	11.1	N16 07.1	11.4	57.1	Kochab	137 20.0 N74 04.4
16	58 38.1	N15 39.3	43 52.5	11.1	N15 55.5	11.5	57.1	Markab	13 32.4 N15 19.2
17	73 38.2	N15 38.5	58 22.7	11.2	N15 43.9	11.6	57.2	Menkar	314 09.0 N 4 10.5
								Menkent	148 01.0 S36 28.6
18	88 38.3	N15 37.8	72 52.9	11.2	N15 32.2	11.7	57.2	Miaplacidus	221 39.6 S69 48.3
19	103 38.4	N15 37.1	87 23.2	11.3	N15 20.4	11.8	57.2	Mirfak	308 32.3 N49 56.0
20	118 38.5	N15 36.3	101 53.5	11.3	N15 08.5	11.9	57.2	Nunki	75 50.9 S26 16.2
21	133 38.6	N15 35.6	116 23.8	11.3	N14 56.5	12.0	57.2	Peacock	53 09.5 S56 40.0
22	148 38.7	N15 34.9	130 54.2	11.4	N14 44.5	12.1	57.3		
23	163 38.8	N15 34.2	145 24.6	11.4	N14 32.3	12.1	57.3	Polaris	317 14.4 N89 20.2
10 0	178 38.9	N15 33.4	159 55.1	11.4	N14 20.1	12.2	57.3	Pollux	243 21.1 N27 58.5
1	193 38.9	N15 32.7	174 25.6	11.5	N14 07.8	12.3	57.3	Procyon	244 54.0 N 5 10.3
2	208 39.0	N15 32.0	188 56.1	11.5	N13 55.4	12.4	57.3	Rasalhague	96 01.0 N12 32.9
3	223 39.1	N15 31.2	203 26.7	11.6	N13 43.0	12.5	57.4	Regulus	207 37.7 N11 51.9
4	238 39.2	N15 30.5	217 57.2	11.6	N13 30.4	12.5	57.4		
T 5	253 39.3	N15 29.8	232 27.9	11.6	N13 17.8	12.6	57.4	Rigel	281 06.7 S 8 10.5
U								Rigil Kent	139 44.3 S60 55.6
E 6	268 39.4	N15 29.0	246 58.5	11.7	N13 05.1	12.7	57.4	Sabik	102 05.8 S15 45.1
S 7	283 39.5	N15 28.3	261 29.2	11.7	N12 52.4	12.8	57.5	Schedar	349 33.8 N56 39.1
D 8	298 39.6	N15 27.6	275 60.0	11.7	N12 39.5	12.8	57.5	Shaula	96 13.9 S37 07.2
A 9	313 39.7	N15 26.8	290 30.7	11.8	N12 26.6	12.9	57.5		
Y 10	328 39.8	N15 26.1	305 01.5	11.8	N12 13.7	13.0	57.5	Sirius	258 29.0 S16 44.6
11	343 39.9	N15 25.4	319 32.3	11.8	N12 00.6	13.0	57.5	Spica	158 25.4 S11 16.3
								Suhail	222 48.8 S43 31.0
12	358 40.0	N15 24.6	334 03.2	11.9	N11 47.5	13.1	57.6	Vega	80 34.8 N38 48.4
13	13 40.1	N15 23.9	348 34.1	11.9	N11 34.3	13.2	57.6	Zuben-ubi	136 59.9 S16 07.8
14	28 40.2	N15 23.1	3 05.0	11.9	N11 21.1	13.2	57.6		
15	43 40.3	N15 22.4	17 35.9	11.9	N11 07.8	13.3	57.6		
16	58 40.4	N15 21.7	32 06.9	12.0	N10 54.4	13.4	57.6		
17	73 40.5	N15 20.9	46 37.9	12.0	N10 41.0	13.4	57.7		
18	88 40.6	N15 20.2	61 08.9	12.0	N10 27.5	13.5	57.7		
19	103 40.7	N15 19.5	75 39.9	12.0	N10 13.9	13.6	57.7		
20	118 40.8	N15 18.7	90 11.0	12.1	N10 00.3	13.6	57.7		
21	133 40.9	N15 18.0	104 42.1	12.1	N 9 46.6	13.7	57.7		
22	148 41.0	N15 17.2	119 13.2	12.1	N 9 32.9	13.7	57.8		
23	163 41.1	N15 16.5	133 44.4	12.1	N 9 19.1	13.8	57.8		
	S.D. 15.8	d 0.7	S.D.	15.4	15.5	15.7			

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
11	0	319 40.7	144 56.5	N 3 18.8	159 57.6	N 9 39.7	348 42.4	S13 07.3	7 28.8	S18 37.5
	1	334 43.2	159 56.3	N 3 17.5	174 58.6	N 9 39.1	3 45.2	S13 07.4	22 31.4	S18 37.6
	2	349 45.7	174 56.1	N 3 16.3	189 59.6	N 9 38.5	18 48.0	S13 07.6	37 34.1	S18 37.6
	3	4 48.1	189 55.8	N 3 15.0	205 00.5	N 9 37.9	33 50.7	S13 07.7	52 36.7	S18 37.7
	4	19 50.6	204 55.6	N 3 13.7	220 01.5	N 9 37.3	48 53.5	S13 07.8	67 39.4	S18 37.7
W	5	34 53.0	219 55.4	N 3 12.4	235 02.5	N 9 36.7	63 56.3	S13 07.9	82 42.0	S18 37.8
E										
D	6	49 55.5	234 55.2	N 3 11.2	250 03.5	N 9 36.1	78 59.0	S13 08.0	97 44.7	S18 37.8
N	7	64 58.0	249 55.0	N 3 09.9	265 04.5	N 9 35.5	94 01.8	S13 08.1	112 47.3	S18 37.9
E	8	80 00.4	264 54.7	N 3 08.6	280 05.5	N 9 34.9	109 04.6	S13 08.3	127 50.0	S18 37.9
S	9	95 02.9	279 54.5	N 3 07.3	295 06.4	N 9 34.3	124 07.3	S13 08.4	142 52.6	S18 38.0
D	10	110 05.4	294 54.3	N 3 06.1	310 07.4	N 9 33.7	139 10.1	S13 08.5	157 55.2	S18 38.0
A	11	125 07.8	309 54.1	N 3 04.8	325 08.4	N 9 33.1	154 12.9	S13 08.6	172 57.9	S18 38.1
Y										
	12	140 10.3	324 53.9	N 3 03.5	340 09.4	N 9 32.5	169 15.6	S13 08.7	188 00.5	S18 38.1
	13	155 12.8	339 53.6	N 3 02.2	355 10.4	N 9 31.8	184 18.4	S13 08.8	203 03.2	S18 38.2
	14	170 15.2	354 53.4	N 3 01.0	10 11.4	N 9 31.2	199 21.2	S13 09.0	218 05.8	S18 38.2
	15	185 17.7	9 53.2	N 2 59.7	25 12.3	N 9 30.6	214 24.0	S13 09.1	233 08.5	S18 38.3
	16	200 20.2	24 53.0	N 2 58.4	40 13.3	N 9 30.0	229 26.7	S13 09.2	248 11.1	S18 38.3
	17	215 22.6	39 52.8	N 2 57.1	55 14.3	N 9 29.4	244 29.5	S13 09.3	263 13.8	S18 38.4
	18	230 25.1	54 52.5	N 2 55.9	70 15.3	N 9 28.8	259 32.3	S13 09.4	278 16.4	S18 38.4
	19	245 27.5	69 52.3	N 2 54.6	85 16.3	N 9 28.2	274 35.0	S13 09.5	293 19.1	S18 38.5
	20	260 30.0	84 52.1	N 2 53.3	100 17.3	N 9 27.6	289 37.8	S13 09.7	308 21.7	S18 38.5
	21	275 32.5	99 51.9	N 2 52.0	115 18.3	N 9 27.0	304 40.6	S13 09.8	323 24.4	S18 38.6
	22	290 34.9	114 51.7	N 2 50.7	130 19.2	N 9 26.4	319 43.3	S13 09.9	338 27.0	S18 38.6
	23	305 37.4	129 51.4	N 2 49.5	145 20.2	N 9 25.8	334 46.1	S13 10.0	353 29.7	S18 38.7
12	0	320 39.9	144 51.2	N 2 48.2	160 21.2	N 9 25.2	349 48.9	S13 10.1	8 32.3	S18 38.7
	1	335 42.3	159 51.0	N 2 46.9	175 22.2	N 9 24.6	4 51.7	S13 10.2	23 35.0	S18 38.8
	2	350 44.8	174 50.8	N 2 45.6	190 23.2	N 9 24.0	19 54.4	S13 10.4	38 37.6	S18 38.8
	3	5 47.3	189 50.6	N 2 44.4	205 24.2	N 9 23.4	34 57.2	S13 10.5	53 40.3	S18 38.9
	4	20 49.7	204 50.4	N 2 43.1	220 25.1	N 9 22.8	49 60.0	S13 10.6	68 42.9	S18 38.9
T	5	35 52.2	219 50.1	N 2 41.8	235 26.1	N 9 22.2	65 02.7	S13 10.7	83 45.6	S18 39.0
H										
U	6	50 54.7	234 49.9	N 2 40.5	250 27.1	N 9 21.6	80 05.5	S13 10.8	98 48.2	S18 39.0
R	7	65 57.1	249 49.7	N 2 39.2	265 28.1	N 9 21.0	95 08.3	S13 10.9	113 50.9	S18 39.1
S	8	80 59.6	264 49.5	N 2 38.0	280 29.1	N 9 20.4	110 11.1	S13 11.1	128 53.5	S18 39.1
D	9	96 02.0	279 49.3	N 2 36.7	295 30.1	N 9 19.8	125 13.8	S13 11.2	143 56.2	S18 39.2
A	10	111 04.5	294 49.1	N 2 35.4	310 31.1	N 9 19.1	140 16.6	S13 11.3	158 58.8	S18 39.2
Y	11	126 07.0	309 48.8	N 2 34.1	325 32.0	N 9 18.5	155 19.4	S13 11.4	174 01.5	S18 39.3
	12	141 09.4	324 48.6	N 2 32.9	340 33.0	N 9 17.9	170 22.1	S13 11.5	189 04.1	S18 39.4
	13	156 11.9	339 48.4	N 2 31.6	355 34.0	N 9 17.3	185 24.9	S13 11.7	204 06.7	S18 39.4
	14	171 14.4	354 48.2	N 2 30.3	10 35.0	N 9 16.7	200 27.7	S13 11.8	219 09.4	S18 39.5
	15	186 16.8	9 48.0	N 2 29.0	25 36.0	N 9 16.1	215 30.5	S13 11.9	234 12.0	S18 39.5
	16	201 19.3	24 47.8	N 2 27.7	40 37.0	N 9 15.5	230 33.2	S13 12.0	249 14.7	S18 39.6
	17	216 21.8	39 47.6	N 2 26.5	55 38.0	N 9 14.9	245 36.0	S13 12.1	264 17.3	S18 39.6
	18	231 24.2	54 47.3	N 2 25.2	70 38.9	N 9 14.3	260 38.8	S13 12.2	279 20.0	S18 39.7
	19	246 26.7	69 47.1	N 2 23.9	85 39.9	N 9 13.7	275 41.5	S13 12.4	294 22.6	S18 39.7
	20	261 29.1	84 46.9	N 2 22.6	100 40.9	N 9 13.1	290 44.3	S13 12.5	309 25.3	S18 39.8
	21	276 31.6	99 46.7	N 2 21.3	115 41.9	N 9 12.5	305 47.1	S13 12.6	324 27.9	S18 39.8
	22	291 34.1	114 46.5	N 2 20.1	130 42.9	N 9 11.9	320 49.9	S13 12.7	339 30.6	S18 39.9
	23	306 36.5	129 46.3	N 2 18.8	145 43.9	N 9 11.3	335 52.6	S13 12.8	354 33.2	S18 39.9
13	0	321 39.0	144 46.1	N 2 17.5	160 44.9	N 9 10.6	350 55.4	S13 12.9	9 35.9	S18 40.0
	1	336 41.5	159 45.8	N 2 16.2	175 45.8	N 9 10.0	5 58.2	S13 13.1	24 38.5	S18 40.0
	2	351 43.9	174 45.6	N 2 14.9	190 46.8	N 9 09.4	21 00.9	S13 13.2	39 41.2	S18 40.1
	3	6 46.4	189 45.4	N 2 13.7	205 47.8	N 9 08.8	36 03.7	S13 13.3	54 43.8	S18 40.1
	4	21 48.9	204 45.2	N 2 12.4	220 48.8	N 9 08.2	51 06.5	S13 13.4	69 46.5	S18 40.2
F	5	36 51.3	219 45.0	N 2 11.1	235 49.8	N 9 07.6	66 09.3	S13 13.5	84 49.1	S18 40.2
R										
I	6	51 53.8	234 44.8	N 2 09.8	250 50.8	N 9 07.0	81 12.0	S13 13.6	99 51.7	S18 40.3
D	7	66 56.3	249 44.6	N 2 08.5	265 51.8	N 9 06.4	96 14.8	S13 13.8	114 54.4	S18 40.3
A	8	81 58.7	264 44.4	N 2 07.3	280 52.7	N 9 05.8	111 17.6	S13 13.9	129 57.0	S18 40.4
Y	9	97 01.2	279 44.2	N 2 06.0	295 53.7	N 9 05.2	126 20.4	S13 14.0	144 59.7	S18 40.4
	10	112 03.6	294 43.9	N 2 04.7	310 54.7	N 9 04.6	141 23.1	S13 14.1	160 02.3	S18 40.5
	11	127 06.1	309 43.7	N 2 03.4	325 55.7	N 9 04.0	156 25.9	S13 14.2	175 05.0	S18 40.5
	12	142 08.6	324 43.5	N 2 02.1	340 56.7	N 9 03.4	171 28.7	S13 14.3	190 07.6	S18 40.6
	13	157 11.0	339 43.3	N 2 00.8	355 57.7	N 9 02.7	186 31.5	S13 14.5	205 10.3	S18 40.6
	14	172 13.5	354 43.1	N 1 59.6	10 58.7	N 9 02.1	201 34.2	S13 14.6	220 12.9	S18 40.7
	15	187 16.0	9 42.9	N 1 58.3	25 59.6	N 9 01.5	216 37.0	S13 14.7	235 15.6	S18 40.7
	16	202 18.4	24 42.7	N 1 57.0	41 00.6	N 9 00.9	231 39.8	S13 14.8	250 18.2	S18 40.8
	17	217 20.9	39 42.5	N 1 55.7	56 01.6	N 9 00.3	246 42.5	S13 14.9	265 20.9	S18 40.8
	18	232 23.4	54 42.3	N 1 54.4	71 02.6	N 8 59.7	261 45.3	S13 15.1	280 23.5	S18 40.9
	19	247 25.8	69 42.1	N 1 53.2	86 03.6	N 8 59.1	276 48.1	S13 15.2	295 26.2	S18 40.9
	20	262 28.3	84 41.8	N 1 51.9	101 04.6	N 8 58.5	291 50.9	S13 15.3	310 28.8	S18 41.0
	21	277 30.8	99 41.6	N 1 50.6	116 05.6	N 8 57.9	306 53.6	S13 15.4	325 31.4	S18 41.0
	22	292 33.2	114 41.4	N 1 49.3	131 06.5	N 8 57.3	321 56.4	S13 15.5	340 34.1	S18 41.1
	23	307 35.7	129 41.2	N 1 48.0	146 07.5	N 8 56.6	336 59.2	S13 15.6	355 36.7	S18 41.1
			v -0.2	d 1.3	v 1.0	d 0.6	v 2.8	d 0.1	v 2.6	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
11 0	178 41.2	N15 15.8	148 15.6	12.2 N	9 05.3	13.8	57.8	Acamar	315 13.9 S40 12.9
1	193 41.3	N15 15.0	162 46.7	12.2 N	8 51.4	13.9	57.8	Achernar	335 22.1 S57 07.4
2	208 41.4	N15 14.3	177 18.0	12.2 N	8 37.4	13.9	57.8	Acrux	173 03.6 S63 13.2
3	223 41.5	N15 13.5	191 49.2	12.2 N	8 23.4	14.0	57.8	Adhara	255 08.3 S28 59.9
4	238 41.6	N15 12.8	206 20.4	12.3 N	8 09.4	14.0	57.9	Albireo	67 06.0 N28 00.4
W 5	253 41.7	N15 12.0	220 51.7	12.3 N	7 55.3	14.1	57.9		
E								Aldebaran	290 42.9 N16 33.1
D 6	268 41.8	N15 11.3	235 23.0	12.3 N	7 41.1	14.1	57.9	Alioth	166 15.8 N55 51.0
N 7	283 41.9	N15 10.6	249 54.3	12.3 N	7 26.9	14.2	57.9	Alkaid	152 54.4 N49 12.7
E 8	298 42.0	N15 09.8	264 25.6	12.3 N	7 12.7	14.2	57.9	Al Na-ir	27 35.9 S46 51.3
S 9	313 42.1	N15 09.1	278 57.0	12.3 N	6 58.4	14.3	58.0	Alnilam	275 40.7 S 1 11.2
D 10	328 42.2	N15 08.3	293 28.3	12.3 N	6 44.1	14.3	58.0		
A 11	343 42.3	N15 07.6	307 59.7	12.4 N	6 29.8	14.4	58.0	Alphard	217 50.8 S 8 45.0
Y								Alphecca	126 06.1 N26 38.8
12	358 42.4	N15 06.8	322 31.0	12.4 N	6 15.4	14.4	58.0	Alpheratz	357 37.4 N29 12.5
13	13 42.5	N15 06.1	337 02.4	12.4 N	6 00.9	14.4	58.0	Altair	62 02.3 N 8 55.6
14	28 42.6	N15 05.3	351 33.8	12.4 N	5 46.4	14.5	58.1	Ankaa	353 09.6 S42 11.2
15	43 42.7	N15 04.6	6 05.2	12.4 N	5 31.9	14.5	58.1		
16	58 42.8	N15 03.8	20 36.6	12.4 N	5 17.4	14.5	58.1	Antares	112 19.1 S26 28.8
17	73 42.9	N15 03.1	35 08.1	12.4 N	5 02.8	14.6	58.1	Arcturus	145 50.6 N19 04.5
								Atria	107 15.7 S69 04.2
18	88 43.0	N15 02.3	49 39.5	12.4 N	4 48.2	14.6	58.1	Avior	234 16.4 S59 34.6
19	103 43.1	N15 01.6	64 10.9	12.4 N	4 33.6	14.6	58.1	Bellatrix	278 26.0 N 6 22.2
20	118 43.2	N15 00.8	78 42.4	12.4 N	4 18.9	14.7	58.2		
21	133 43.3	N15 00.1	93 13.8	12.4 N	4 04.2	14.7	58.2	Betelgeuse	270 55.3 N 7 24.7
22	148 43.4	N14 59.3	107 45.3	12.4 N	3 49.4	14.7	58.2	Canopus	263 54.0 S52 42.2
23	163 43.5	N14 58.6	122 16.7	12.5 N	3 34.7	14.8	58.2	Capella	280 26.2 N46 01.0
12 0	178 43.6	N14 57.8	136 48.2	12.4 N	3 19.9	14.8	58.2	Castor	246 00.9 N31 50.5
1	193 43.7	N14 57.1	151 19.6	12.5 N	3 05.1	14.8	58.2	Deneb	49 27.2 N45 21.5
2	208 43.8	N14 56.3	165 51.1	12.5 N	2 50.3	14.8	58.3		
3	223 43.9	N14 55.6	180 22.5	12.4 N	2 35.4	14.9	58.3	Denebola	182 28.0 N14 27.3
4	238 44.0	N14 54.8	194 54.0	12.4 N	2 20.5	14.9	58.3	Diphda	348 49.9 S17 52.0
T 5	253 44.1	N14 54.1	209 25.4	12.4 N	2 05.7	14.9	58.3	Dubhe	193 45.1 N61 38.3
H								Elnath	278 05.6 N28 37.4
U 6	268 44.2	N14 53.3	223 56.8	12.4 N	1 50.7	14.9	58.3	Eltanin	90 43.2 N51 29.4
R 7	283 44.3	N14 52.6	238 28.3	12.4 N	1 35.8	14.9	58.3		
S 8	298 44.5	N14 51.8	252 59.7	12.4 N	1 20.9	14.9	58.4	Enif	33 41.1 N 9 58.5
D 9	313 44.6	N14 51.1	267 31.1	12.4 N	1 05.9	15.0	58.4	Fomalhaut	15 17.2 S29 30.4
A 10	328 44.7	N14 50.3	282 02.5	12.4 N	0 51.0	15.0	58.4	Gacrux	171 55.1 S57 14.1
Y 11	343 44.8	N14 49.5	296 33.9	12.4 N	0 36.0	15.0	58.4	Gienah	175 46.7 S17 39.6
								Hadar	148 40.2 S60 28.8
12	358 44.9	N14 48.8	311 05.3	12.4 N	0 21.0	15.0	58.4		
13	13 45.0	N14 48.0	325 36.7	12.4 N	0 06.0	15.0	58.4	Hamal	327 54.2 N23 33.8
14	28 45.1	N14 47.3	340 08.0	12.4 S	0 09.0	15.0	58.4	Kaus Austr.	83 35.9 S34 22.5
15	43 45.2	N14 46.5	354 39.4	12.3 S	0 24.0	15.0	58.5	Kochab	137 20.1 N74 04.4
16	58 45.3	N14 45.8	9 10.7	12.3 S	0 39.0	15.0	58.5	Markab	13 32.4 N15 19.2
17	73 45.4	N14 45.0	23 42.0	12.3 S	0 54.1	15.0	58.5	Menkar	314 09.0 N 4 10.5
								Menkent	148 01.0 S36 28.6
18	88 45.5	N14 44.2	38 13.3	12.3 S	1 09.1	15.0	58.5	Miaplacidus	221 39.6 S69 48.2
19	103 45.6	N14 43.5	52 44.6	12.3 S	1 24.1	15.0	58.5	Mirfak	308 32.3 N49 56.0
20	118 45.8	N14 42.7	67 15.8	12.3 S	1 39.1	15.0	58.5	Nunki	75 50.9 S26 16.2
21	133 45.9	N14 42.0	81 47.1	12.2 S	1 54.1	15.0	58.6	Peacock	53 09.5 S56 40.0
22	148 46.0	N14 41.2	96 18.3	12.2 S	2 09.2	15.0	58.6		
23	163 46.1	N14 40.4	110 49.5	12.2 S	2 24.2	15.0	58.6	Polaris	317 13.3 N89 20.2
13 0	178 46.2	N14 39.7	125 20.6	12.2 S	2 39.2	15.0	58.6	Pollux	243 21.0 N27 58.5
1	193 46.3	N14 38.9	139 51.8	12.1 S	2 54.2	15.0	58.6	Procyon	244 54.0 N 5 10.3
2	208 46.4	N14 38.2	154 22.9	12.1 S	3 09.2	15.0	58.6	Rasalhague	96 01.0 N12 32.9
3	223 46.5	N14 37.4	168 54.0	12.1 S	3 24.2	15.0	58.6	Regulus	207 37.7 N11 51.9
4	238 46.6	N14 36.6	183 25.0	12.1 S	3 39.1	15.0	58.7	Rigel	281 06.7 S 8 10.5
F 5	253 46.8	N14 35.9	197 56.0	12.0 S	3 54.1	15.0	58.7	Rigil Kent	139 44.3 S60 55.6
R								Sabik	102 05.8 S15 45.1
I 6	268 46.9	N14 35.1	212 27.0	12.0 S	4 09.0	14.9	58.7	Schedar	349 33.8 N56 39.1
D 7	283 47.0	N14 34.3	226 58.0	12.0 S	4 24.0	14.9	58.7	Shaula	96 13.9 S37 07.2
A 8	298 47.1	N14 33.6	241 28.9	11.9 S	4 38.9	14.9	58.7		
Y 9	313 47.2	N14 32.8	255 59.8	11.9 S	4 53.8	14.9	58.7	Sirius	258 29.0 S16 44.6
10	328 47.3	N14 32.0	270 30.7	11.9 S	5 08.7	14.9	58.7	Spica	158 25.4 S11 16.3
11	343 47.4	N14 31.3	285 01.5	11.8 S	5 23.5	14.9	58.7	Suhail	222 48.8 S43 31.0
								Vega	80 34.8 N38 48.4
12	358 47.5	N14 30.5	299 32.3	11.8 S	5 38.4	14.8	58.8	Zuben-ubi	136 59.9 S16 07.8
13	13 47.7	N14 29.7	314 03.0	11.7 S	5 53.2	14.8	58.8		
14	28 47.8	N14 29.0	328 33.7	11.7 S	6 08.0	14.8	58.8		
15	43 47.9	N14 28.2	343 04.4	11.7 S	6 22.8	14.8	58.8		
16	58 48.0	N14 27.4	357 35.0	11.6 S	6 37.5	14.7	58.8		
17	73 48.1	N14 26.7	12 05.6	11.6 S	6 52.2	14.7	58.8		
18	88 48.2	N14 25.9	26 36.1	11.5 S	7 06.9	14.7	58.8		
19	103 48.3	N14 25.1	41 06.6	11.5 S	7 21.5	14.7	58.8		
20	118 48.5	N14 24.4	55 37.1	11.4 S	7 36.2	14.6	58.9		
21	133 48.6	N14 23.6	70 07.4	11.4 S	7 50.7	14.6	58.9		
22	148 48.7	N14 22.8	84 37.8	11.3 S	8 05.3	14.5	58.9		
23	163 48.8	N14 22.1	99 08.1	11.3 S	8 19.8	14.5	58.9		
	S.D. 15.8	d 0.8	S.D.	15.8	15.9	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 ° '
14	0	322 38.1	144 41.0	N 1 46.7	161 08.5	N 8 56.0	352 02.0	S13 15.8	10 39.4	S18 41.2
	1	337 40.6	159 40.8	N 1 45.5	176 09.5	N 8 55.4	7 04.7	S13 15.9	25 42.0	S18 41.2
	2	352 43.1	174 40.6	N 1 44.2	191 10.5	N 8 54.8	22 07.5	S13 16.0	40 44.7	S18 41.3
	3	7 45.5	189 40.4	N 1 42.9	206 11.5	N 8 54.2	37 10.3	S13 16.1	55 47.3	S18 41.3
	4	22 48.0	204 40.2	N 1 41.6	221 12.5	N 8 53.6	52 13.1	S13 16.2	70 50.0	S18 41.4
S	5	37 50.5	219 40.0	N 1 40.3	236 13.5	N 8 53.0	67 15.8	S13 16.3	85 52.6	S18 41.4
A										
T	6	52 52.9	234 39.8	N 1 39.0	251 14.4	N 8 52.4	82 18.6	S13 16.5	100 55.3	S18 41.5
U	7	67 55.4	249 39.6	N 1 37.8	266 15.4	N 8 51.8	97 21.4	S13 16.6	115 57.9	S18 41.5
R	8	82 57.9	264 39.3	N 1 36.5	281 16.4	N 8 51.2	112 24.2	S13 16.7	131 00.6	S18 41.6
D	9	98 00.3	279 39.1	N 1 35.2	296 17.4	N 8 50.5	127 26.9	S13 16.8	146 03.2	S18 41.6
A	10	113 02.8	294 38.9	N 1 33.9	311 18.4	N 8 49.9	142 29.7	S13 16.9	161 05.8	S18 41.7
Y	11	128 05.2	309 38.7	N 1 32.6	326 19.4	N 8 49.3	157 32.5	S13 17.0	176 08.5	S18 41.7
	12	143 07.7	324 38.5	N 1 31.3	341 20.4	N 8 48.7	172 35.3	S13 17.2	191 11.1	S18 41.8
	13	158 10.2	339 38.3	N 1 30.1	356 21.4	N 8 48.1	187 38.0	S13 17.3	206 13.8	S18 41.8
	14	173 12.6	354 38.1	N 1 28.8	11 22.3	N 8 47.5	202 40.8	S13 17.4	221 16.4	S18 41.9
	15	188 15.1	9 37.9	N 1 27.5	26 23.3	N 8 46.9	217 43.6	S13 17.5	236 19.1	S18 41.9
	16	203 17.6	24 37.7	N 1 26.2	41 24.3	N 8 46.3	232 46.4	S13 17.6	251 21.7	S18 42.0
	17	218 20.0	39 37.5	N 1 24.9	56 25.3	N 8 45.7	247 49.1	S13 17.8	266 24.4	S18 42.0
	18	233 22.5	54 37.3	N 1 23.6	71 26.3	N 8 45.0	262 51.9	S13 17.9	281 27.0	S18 42.1
	19	248 25.0	69 37.1	N 1 22.3	86 27.3	N 8 44.4	277 54.7	S13 18.0	296 29.7	S18 42.1
	20	263 27.4	84 36.9	N 1 21.1	101 28.3	N 8 43.8	292 57.5	S13 18.1	311 32.3	S18 42.2
	21	278 29.9	99 36.7	N 1 19.8	116 29.3	N 8 43.2	308 00.2	S13 18.2	326 34.9	S18 42.2
	22	293 32.4	114 36.5	N 1 18.5	131 30.2	N 8 42.6	323 03.0	S13 18.3	341 37.6	S18 42.3
	23	308 34.8	129 36.3	N 1 17.2	146 31.2	N 8 42.0	338 05.8	S13 18.5	356 40.2	S18 42.3
15	0	323 37.3	144 36.1	N 1 15.9	161 32.2	N 8 41.4	353 08.6	S13 18.6	11 42.9	S18 42.4
	1	338 39.7	159 35.9	N 1 14.6	176 33.2	N 8 40.8	8 11.3	S13 18.7	26 45.5	S18 42.4
	2	353 42.2	174 35.6	N 1 13.3	191 34.2	N 8 40.1	23 14.1	S13 18.8	41 48.2	S18 42.5
	3	8 44.7	189 35.4	N 1 12.1	206 35.2	N 8 39.5	38 16.9	S13 18.9	56 50.8	S18 42.5
	4	23 47.1	204 35.2	N 1 10.8	221 36.2	N 8 38.9	53 19.7	S13 19.0	71 53.5	S18 42.6
S	5	38 49.6	219 35.0	N 1 09.5	236 37.2	N 8 38.3	68 22.4	S13 19.2	86 56.1	S18 42.6
U										
N	6	53 52.1	234 34.8	N 1 08.2	251 38.1	N 8 37.7	83 25.2	S13 19.3	101 58.7	S18 42.7
D	7	68 54.5	249 34.6	N 1 06.9	266 39.1	N 8 37.1	98 28.0	S13 19.4	117 01.4	S18 42.7
A	8	83 57.0	264 34.4	N 1 05.6	281 40.1	N 8 36.5	113 30.8	S13 19.5	132 04.0	S18 42.8
Y	9	98 59.5	279 34.2	N 1 04.3	296 41.1	N 8 35.9	128 33.5	S13 19.6	147 06.7	S18 42.8
	10	114 01.9	294 34.0	N 1 03.1	311 42.1	N 8 35.2	143 36.3	S13 19.8	162 09.3	S18 42.9
	11	129 04.4	309 33.8	N 1 01.8	326 43.1	N 8 34.6	158 39.1	S13 19.9	177 12.0	S18 42.9
	12	144 06.8	324 33.6	N 1 00.5	341 44.1	N 8 34.0	173 41.9	S13 20.0	192 14.6	S18 43.0
	13	159 09.3	339 33.4	N 0 59.2	356 45.1	N 8 33.4	188 44.6	S13 20.1	207 17.3	S18 43.0
	14	174 11.8	354 33.2	N 0 57.9	11 46.1	N 8 32.8	203 47.4	S13 20.2	222 19.9	S18 43.1
	15	189 14.2	9 33.0	N 0 56.6	26 47.0	N 8 32.2	218 50.2	S13 20.3	237 22.5	S18 43.1
	16	204 16.7	24 32.8	N 0 55.3	41 48.0	N 8 31.6	233 53.0	S13 20.5	252 25.2	S18 43.2
	17	219 19.2	39 32.6	N 0 54.1	56 49.0	N 8 30.9	248 55.8	S13 20.6	267 27.8	S18 43.2
	18	234 21.6	54 32.4	N 0 52.8	71 50.0	N 8 30.3	263 58.5	S13 20.7	282 30.5	S18 43.3
	19	249 24.1	69 32.2	N 0 51.5	86 51.0	N 8 29.7	279 01.3	S13 20.8	297 33.1	S18 43.3
	20	264 26.6	84 32.0	N 0 50.2	101 52.0	N 8 29.1	294 04.1	S13 20.9	312 35.8	S18 43.4
	21	279 29.0	99 31.8	N 0 48.9	116 53.0	N 8 28.5	309 06.9	S13 21.0	327 38.4	S18 43.4
	22	294 31.5	114 31.6	N 0 47.6	131 54.0	N 8 27.9	324 09.6	S13 21.2	342 41.1	S18 43.5
	23	309 34.0	129 31.4	N 0 46.3	146 55.0	N 8 27.3	339 12.4	S13 21.3	357 43.7	S18 43.5
16	0	324 36.4	144 31.2	N 0 45.1	161 55.9	N 8 26.6	354 15.2	S13 21.4	12 46.3	S18 43.6
	1	339 38.9	159 31.0	N 0 43.8	176 56.9	N 8 26.0	9 18.0	S13 21.5	27 49.0	S18 43.6
	2	354 41.3	174 30.8	N 0 42.5	191 57.9	N 8 25.4	24 20.7	S13 21.6	42 51.6	S18 43.7
	3	9 43.8	189 30.6	N 0 41.2	206 58.9	N 8 24.8	39 23.5	S13 21.8	57 54.3	S18 43.7
	4	24 46.3	204 30.4	N 0 39.9	221 59.9	N 8 24.2	54 26.3	S13 21.9	72 56.9	S18 43.8
M	5	39 48.7	219 30.2	N 0 38.6	237 00.9	N 8 23.6	69 29.1	S13 22.0	87 59.6	S18 43.8
O										
N	6	54 51.2	234 30.0	N 0 37.3	252 01.9	N 8 22.9	84 31.8	S13 22.1	103 02.2	S18 43.9
D	7	69 53.7	249 29.8	N 0 36.0	267 02.9	N 8 22.3	99 34.6	S13 22.2	118 04.8	S18 43.9
A	8	84 56.1	264 29.6	N 0 34.8	282 03.9	N 8 21.7	114 37.4	S13 22.3	133 07.5	S18 44.0
Y	9	99 58.6	279 29.4	N 0 33.5	297 04.8	N 8 21.1	129 40.2	S13 22.5	148 10.1	S18 44.0
	10	115 01.1	294 29.2	N 0 32.2	312 05.8	N 8 20.5	144 43.0	S13 22.6	163 12.8	S18 44.1
	11	130 03.5	309 29.0	N 0 30.9	327 06.8	N 8 19.9	159 45.7	S13 22.7	178 15.4	S18 44.1
	12	145 06.0	324 28.8	N 0 29.6	342 07.8	N 8 19.3	174 48.5	S13 22.8	193 18.1	S18 44.2
	13	160 08.5	339 28.6	N 0 28.3	357 08.8	N 8 18.6	189 51.3	S13 22.9	208 20.7	S18 44.2
	14	175 10.9	354 28.4	N 0 27.0	12 09.8	N 8 18.0	204 54.1	S13 23.0	223 23.3	S18 44.3
	15	190 13.4	9 28.2	N 0 25.7	27 10.8	N 8 17.4	219 56.8	S13 23.2	238 26.0	S18 44.3
	16	205 15.8	24 28.0	N 0 24.5	42 11.8	N 8 16.8	234 59.6	S13 23.3	253 28.6	S18 44.4
	17	220 18.3	39 27.8	N 0 23.2	57 12.8	N 8 16.2	250 02.4	S13 23.4	268 31.3	S18 44.4
	18	235 20.8	54 27.6	N 0 21.9	72 13.8	N 8 15.6	265 05.2	S13 23.5	283 33.9	S18 44.5
	19	250 23.2	69 27.4	N 0 20.6	87 14.7	N 8 14.9	280 08.0	S13 23.6	298 36.6	S18 44.5
	20	265 25.7	84 27.2	N 0 19.3	102 15.7	N 8 14.3	295 10.7	S13 23.8	313 39.2	S18 44.6
	21	280 28.2	99 27.0	N 0 18.0	117 16.7	N 8 13.7	310 13.5	S13 23.9	328 41.8	S18 44.6
	22	295 30.6	114 26.8	N 0 16.7	132 17.7	N 8 13.1	325 16.3	S13 24.0	343 44.5	S18 44.7
	23	310 33.1	129 26.6	N 0 15.4	147 18.7	N 8 12.5	340 19.1	S13 24.1	358 47.1	S18 44.7
			v -0.2	d 1.3	v 1.0	d 0.6	v 2.8	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
	° '	° '	° '	'	° '	'	'		° '	° '
14 0	178 48.9	N14 21.3	113 38.3	11.2	S 8 34.3	14.5	58.9	Acamar	315 13.8	S40 12.9
1	193 49.0	N14 20.5	128 08.5	11.2	S 8 48.7	14.4	58.9	Achernar	335 22.0	S57 07.4
2	208 49.2	N14 19.7	142 38.7	11.1	S 9 03.1	14.4	58.9	Acrux	173 03.6	S63 13.2
3	223 49.3	N14 19.0	157 08.8	11.1	S 9 17.5	14.4	58.9	Adhara	255 08.3	S28 59.9
4	238 49.4	N14 18.2	171 38.8	11.0	S 9 31.8	14.3	58.9	Albireo	67 06.0	N28 00.4
S 5	253 49.5	N14 17.4	186 08.8	11.0	S 9 46.0	14.3	59.0			
A								Aldebaran	290 42.9	N16 33.1
T 6	268 49.6	N14 16.7	200 38.7	10.9	S10 00.3	14.2	59.0	Alioth	166 15.8	N55 51.0
U 7	283 49.7	N14 15.9	215 08.6	10.9	S10 14.4	14.2	59.0	Alkaid	152 54.4	N49 12.7
R 8	298 49.9	N14 15.1	229 38.4	10.8	S10 28.5	14.1	59.0	Al Na-ir	27 35.9	S46 51.3
D 9	313 50.0	N14 14.3	244 08.1	10.7	S10 42.6	14.1	59.0	Alnilam	275 40.7	S 1 11.2
A 10	328 50.1	N14 13.6	258 37.8	10.7	S10 56.6	14.0	59.0			
Y 11	343 50.2	N14 12.8	273 07.4	10.6	S11 10.6	14.0	59.0	Alphard	217 50.8	S 8 45.0
								Alphecca	126 06.1	N26 38.8
12	358 50.3	N14 12.0	287 37.0	10.6	S11 24.5	13.9	59.0	Alpheratz	357 37.4	N29 12.5
13	13 50.5	N14 11.2	302 06.5	10.5	S11 38.3	13.8	59.0	Altair	62 02.3	N 8 55.6
14	28 50.6	N14 10.5	316 35.9	10.4	S11 52.1	13.8	59.1	Ankaa	353 09.6	S42 11.2
15	43 50.7	N14 09.7	331 05.3	10.4	S12 05.9	13.7	59.1			
16	58 50.8	N14 08.9	345 34.6	10.3	S12 19.5	13.7	59.1	Antares	112 19.1	S26 28.8
17	73 50.9	N14 08.1	0 03.8	10.2	S12 33.1	13.6	59.1	Arcturus	145 50.6	N19 04.5
								Atria	107 15.7	S69 04.2
18	88 51.1	N14 07.3	14 32.9	10.2	S12 46.7	13.5	59.1	Avior	234 16.4	S59 34.5
19	103 51.2	N14 06.6	29 02.0	10.1	S13 00.2	13.5	59.1	Bellatrix	278 26.0	N 6 22.2
20	118 51.3	N14 05.8	43 31.1	10.0	S13 13.6	13.4	59.1			
21	133 51.4	N14 05.0	58 00.0	10.0	S13 26.9	13.3	59.1	Betelgeuse	270 55.3	N 7 24.7
22	148 51.6	N14 04.2	72 28.9	9.9	S13 40.2	13.3	59.1	Canopus	263 54.0	S52 42.2
23	163 51.7	N14 03.5	86 57.7	9.8	S13 53.4	13.2	59.1	Capella	280 26.2	N46 01.0
15 0	178 51.8	N14 02.7	101 26.5	9.7	S14 06.5	13.1	59.1	Castor	246 00.9	N31 50.5
1	193 51.9	N14 01.9	115 55.1	9.7	S14 19.5	13.1	59.2	Deneb	49 27.2	N45 21.5
2	208 52.0	N14 01.1	130 23.7	9.6	S14 32.5	13.0	59.2			
3	223 52.2	N14 00.3	144 52.2	9.5	S14 45.4	12.9	59.2	Denebola	182 28.0	N14 27.3
4	238 52.3	N13 59.5	159 20.7	9.4	S14 58.2	12.8	59.2	Diphda	348 49.9	S17 52.0
S 5	253 52.4	N13 58.8	173 49.0	9.4	S15 11.0	12.7	59.2	Dubhe	193 45.1	N61 38.3
U								Elnath	278 05.6	N28 37.4
N 6	268 52.5	N13 58.0	188 17.3	9.3	S15 23.6	12.7	59.2	Eltanin	90 43.2	N51 29.4
D 7	283 52.7	N13 57.2	202 45.5	9.2	S15 36.2	12.6	59.2			
A 8	298 52.8	N13 56.4	217 13.6	9.1	S15 48.7	12.5	59.2	Enif	33 41.1	N 9 58.5
Y 9	313 52.9	N13 55.6	231 41.7	9.1	S16 01.1	12.4	59.2	Fomalhaut	15 17.2	S29 30.4
10	328 53.0	N13 54.8	246 09.7	9.0	S16 13.4	12.3	59.2	Gacrux	171 55.1	S57 14.1
11	343 53.2	N13 54.1	260 37.6	8.9	S16 25.6	12.2	59.2	Gienah	175 46.7	S17 39.6
								Hadar	148 40.2	S60 28.7
12	358 53.3	N13 53.3	275 05.4	8.8	S16 37.7	12.1	59.2			
13	13 53.4	N13 52.5	289 33.1	8.7	S16 49.8	12.0	59.2	Hamal	327 54.2	N23 33.8
14	28 53.5	N13 51.7	304 00.7	8.6	S17 01.7	11.9	59.3	Kaus Austr.	83 35.9	S34 22.5
15	43 53.7	N13 50.9	318 28.3	8.6	S17 13.5	11.8	59.3	Kochab	137 20.1	N74 04.4
16	58 53.8	N13 50.1	332 55.8	8.5	S17 25.3	11.7	59.3	Markab	13 32.3	N15 19.2
17	73 53.9	N13 49.4	347 23.2	8.4	S17 36.9	11.6	59.3	Menkar	314 09.0	N 4 10.5
								Menkent	148 01.0	S36 28.6
18	88 54.0	N13 48.6	1 50.5	8.3	S17 48.5	11.5	59.3	Miaplacidus	221 39.6	S69 48.2
19	103 54.2	N13 47.8	16 17.8	8.2	S17 59.9	11.4	59.3	Mirfak	308 32.2	N49 56.0
20	118 54.3	N13 47.0	30 44.9	8.2	S18 11.3	11.3	59.3	Nunki	75 50.9	S26 16.2
21	133 54.4	N13 46.2	45 12.0	8.1	S18 22.5	11.2	59.3	Peacock	53 09.5	S56 40.0
22	148 54.6	N13 45.4	59 39.0	8.0	S18 33.6	11.1	59.3			
23	163 54.7	N13 44.6	74 05.9	7.9	S18 44.6	11.0	59.3	Polaris	317 12.0	N89 20.2
16 0	178 54.8	N13 43.8	88 32.7	7.8	S18 55.5	10.9	59.3	Pollux	243 21.0	N27 58.5
1	193 54.9	N13 43.0	102 59.4	7.7	S19 06.3	10.8	59.3	Procyon	244 54.0	N 5 10.3
2	208 55.1	N13 42.3	117 26.1	7.6	S19 17.0	10.7	59.3	Rasalhague	96 01.0	N12 32.9
3	223 55.2	N13 41.5	131 52.6	7.6	S19 27.6	10.6	59.3	Regulus	207 37.7	N11 51.9
4	238 55.3	N13 40.7	146 19.1	7.5	S19 38.0	10.5	59.3			
M 5	253 55.5	N13 39.9	160 45.5	7.4	S19 48.4	10.3	59.3	Rigel	281 06.7	S 8 10.5
O								Rigil Kent	139 44.3	S60 55.6
N 6	268 55.6	N13 39.1	175 11.8	7.3	S19 58.6	10.2	59.3	Sabik	102 05.8	S15 45.1
D 7	283 55.7	N13 38.3	189 38.0	7.2	S20 08.7	10.1	59.3	Schedar	349 33.7	N56 39.1
A 8	298 55.8	N13 37.5	204 04.2	7.1	S20 18.6	10.0	59.3	Shaula	96 13.9	S37 07.2
Y 9	313 56.0	N13 36.7	218 30.3	7.1	S20 28.5	9.8	59.4	Sirius	258 28.9	S16 44.6
10	328 56.1	N13 35.9	232 56.2	7.0	S20 38.2	9.7	59.4	Spica	158 25.4	S11 16.3
11	343 56.2	N13 35.1	247 22.1	6.9	S20 47.8	9.6	59.4	Suhail	222 48.7	S43 31.0
								Vega	80 34.8	N38 48.4
12	358 56.4	N13 34.3	261 47.9	6.8	S20 57.3	9.5	59.4	Zuben-ubi	136 59.9	S16 07.8
13	13 56.5	N13 33.5	276 13.7	6.7	S21 06.6	9.3	59.4			
14	28 56.6	N13 32.7	290 39.3	6.6	S21 15.8	9.2	59.4			
15	43 56.8	N13 32.0	305 04.9	6.6	S21 24.9	9.1	59.4			
16	58 56.9	N13 31.2	319 30.4	6.5	S21 33.8	8.9	59.4			
17	73 57.0	N13 30.4	333 55.8	6.4	S21 42.6	8.8	59.4			
18	88 57.2	N13 29.6	348 21.1	6.3	S21 51.3	8.7	59.4			
19	103 57.3	N13 28.8	2 46.3	6.2	S21 59.8	8.5	59.4			
20	118 57.4	N13 28.0	17 11.5	6.2	S22 08.2	8.4	59.4			
21	133 57.6	N13 27.2	31 36.6	6.1	S22 16.5	8.3	59.4			
22	148 57.7	N13 26.4	46 01.6	6.0	S22 24.6	8.1	59.4			
23	163 57.8	N13 25.6	60 26.6	5.9	S22 32.6	8.0	59.4			
	S.D. 15.8	d 0.8	S.D.	16.1	16.1		16.2			

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 35.6	144 26.4	N 0 14.1	162 19.7	N 8 11.9	355 21.8	S13 24.2	13 49.8	S18 44.8
	1	340 38.0	159 26.2	N 0 12.9	177 20.7	N 8 11.2	10 24.6	S13 24.3	28 52.4	S18 44.8
	2	355 40.5	174 26.0	N 0 11.6	192 21.7	N 8 10.6	25 27.4	S13 24.5	43 55.1	S18 44.9
	3	10 43.0	189 25.8	N 0 10.3	207 22.7	N 8 10.0	40 30.2	S13 24.6	58 57.7	S18 44.9
	4	25 45.4	204 25.6	N 0 09.0	222 23.6	N 8 09.4	55 33.0	S13 24.7	74 00.3	S18 45.0
T	5	40 47.9	219 25.4	N 0 07.7	237 24.6	N 8 08.8	70 35.7	S13 24.8	89 03.0	S18 45.0
U										
E	6	55 50.3	234 25.3	N 0 06.4	252 25.6	N 8 08.2	85 38.5	S13 24.9	104 05.6	S18 45.1
S	7	70 52.8	249 25.1	N 0 05.1	267 26.6	N 8 07.5	100 41.3	S13 25.0	119 08.3	S18 45.1
D	8	85 55.3	264 24.9	N 0 03.8	282 27.6	N 8 06.9	115 44.1	S13 25.2	134 10.9	S18 45.2
A	9	100 57.7	279 24.7	N 0 02.6	297 28.6	N 8 06.3	130 46.8	S13 25.3	149 13.5	S18 45.2
Y	10	116 00.2	294 24.5	N 0 01.3	312 29.6	N 8 05.7	145 49.6	S13 25.4	164 16.2	S18 45.2
	11	131 02.7	309 24.3	S 0 00.0	327 30.6	N 8 05.1	160 52.4	S13 25.5	179 18.8	S18 45.3
	12	146 05.1	324 24.1	S 0 01.3	342 31.6	N 8 04.4	175 55.2	S13 25.6	194 21.5	S18 45.3
	13	161 07.6	339 23.9	S 0 02.6	357 32.6	N 8 03.8	190 58.0	S13 25.7	209 24.1	S18 45.4
	14	176 10.1	354 23.7	S 0 03.9	12 33.6	N 8 03.2	206 00.7	S13 25.9	224 26.8	S18 45.4
	15	191 12.5	9 23.5	S 0 05.2	27 34.5	N 8 02.6	221 03.5	S13 26.0	239 29.4	S18 45.5
	16	206 15.0	24 23.3	S 0 06.5	42 35.5	N 8 02.0	236 06.3	S13 26.1	254 32.0	S18 45.5
	17	221 17.4	39 23.1	S 0 07.8	57 36.5	N 8 01.4	251 09.1	S13 26.2	269 34.7	S18 45.6
	18	236 19.9	54 22.9	S 0 09.0	72 37.5	N 8 00.7	266 11.8	S13 26.3	284 37.3	S18 45.6
	19	251 22.4	69 22.7	S 0 10.3	87 38.5	N 8 00.1	281 14.6	S13 26.5	299 40.0	S18 45.7
	20	266 24.8	84 22.5	S 0 11.6	102 39.5	N 7 59.5	296 17.4	S13 26.6	314 42.6	S18 45.7
	21	281 27.3	99 22.3	S 0 12.9	117 40.5	N 7 58.9	311 20.2	S13 26.7	329 45.2	S18 45.8
	22	296 29.8	114 22.1	S 0 14.2	132 41.5	N 7 58.3	326 23.0	S13 26.8	344 47.9	S18 45.8
	23	311 32.2	129 21.9	S 0 15.5	147 42.5	N 7 57.6	341 25.7	S13 26.9	359 50.5	S18 45.9
18	0	326 34.7	144 21.7	S 0 16.8	162 43.5	N 7 57.0	356 28.5	S13 27.0	14 53.2	S18 45.9
	1	341 37.2	159 21.5	S 0 18.1	177 44.4	N 7 56.4	11 31.3	S13 27.2	29 55.8	S18 46.0
	2	356 39.6	174 21.4	S 0 19.4	192 45.4	N 7 55.8	26 34.1	S13 27.3	44 58.5	S18 46.0
	3	11 42.1	189 21.2	S 0 20.6	207 46.4	N 7 55.2	41 36.9	S13 27.4	60 01.1	S18 46.1
	4	26 44.6	204 21.0	S 0 21.9	222 47.4	N 7 54.5	56 39.6	S13 27.5	75 03.7	S18 46.1
W	5	41 47.0	219 20.8	S 0 23.2	237 48.4	N 7 53.9	71 42.4	S13 27.6	90 06.4	S18 46.2
E										
D	6	56 49.5	234 20.6	S 0 24.5	252 49.4	N 7 53.3	86 45.2	S13 27.7	105 09.0	S18 46.2
N	7	71 51.9	249 20.4	S 0 25.8	267 50.4	N 7 52.7	101 48.0	S13 27.9	120 11.7	S18 46.3
E	8	86 54.4	264 20.2	S 0 27.1	282 51.4	N 7 52.1	116 50.7	S13 28.0	135 14.3	S18 46.3
S	9	101 56.9	279 20.0	S 0 28.4	297 52.4	N 7 51.4	131 53.5	S13 28.1	150 16.9	S18 46.4
D	10	116 59.3	294 19.8	S 0 29.7	312 53.4	N 7 50.8	146 56.3	S13 28.2	165 19.6	S18 46.4
A	11	132 01.8	309 19.6	S 0 31.0	327 54.4	N 7 50.2	161 59.1	S13 28.3	180 22.2	S18 46.5
Y										
	12	147 04.3	324 19.4	S 0 32.2	342 55.4	N 7 49.6	177 01.9	S13 28.4	195 24.9	S18 46.5
	13	162 06.7	339 19.2	S 0 33.5	357 56.3	N 7 49.0	192 04.6	S13 28.6	210 27.5	S18 46.6
	14	177 09.2	354 19.0	S 0 34.8	12 57.3	N 7 48.3	207 07.4	S13 28.7	225 30.1	S18 46.6
	15	192 11.7	9 18.8	S 0 36.1	27 58.3	N 7 47.7	222 10.2	S13 28.8	240 32.8	S18 46.7
	16	207 14.1	24 18.6	S 0 37.4	42 59.3	N 7 47.1	237 13.0	S13 28.9	255 35.4	S18 46.7
	17	222 16.6	39 18.5	S 0 38.7	58 00.3	N 7 46.5	252 15.8	S13 29.0	270 38.1	S18 46.8
	18	237 19.1	54 18.3	S 0 40.0	73 01.3	N 7 45.9	267 18.5	S13 29.2	285 40.7	S18 46.8
	19	252 21.5	69 18.1	S 0 41.3	88 02.3	N 7 45.2	282 21.3	S13 29.3	300 43.3	S18 46.8
	20	267 24.0	84 17.9	S 0 42.6	103 03.3	N 7 44.6	297 24.1	S13 29.4	315 46.0	S18 46.9
	21	282 26.4	99 17.7	S 0 43.9	118 04.3	N 7 44.0	312 26.9	S13 29.5	330 48.6	S18 46.9
	22	297 28.9	114 17.5	S 0 45.1	133 05.3	N 7 43.4	327 29.6	S13 29.6	345 51.3	S18 47.0
	23	312 31.4	129 17.3	S 0 46.4	148 06.3	N 7 42.8	342 32.4	S13 29.7	0 53.9	S18 47.0
19	0	327 33.8	144 17.1	S 0 47.7	163 07.2	N 7 42.1	357 35.2	S13 29.9	15 56.5	S18 47.1
	1	342 36.3	159 16.9	S 0 49.0	178 08.2	N 7 41.5	12 38.0	S13 30.0	30 59.2	S18 47.1
	2	357 38.8	174 16.7	S 0 50.3	193 09.2	N 7 40.9	27 40.8	S13 30.1	46 01.8	S18 47.2
	3	12 41.2	189 16.5	S 0 51.6	208 10.2	N 7 40.3	42 43.5	S13 30.2	61 04.5	S18 47.2
	4	27 43.7	204 16.4	S 0 52.9	223 11.2	N 7 39.6	57 46.3	S13 30.3	76 07.1	S18 47.3
T	5	42 46.2	219 16.2	S 0 54.2	238 12.2	N 7 39.0	72 49.1	S13 30.4	91 09.7	S18 47.3
H										
U	6	57 48.6	234 16.0	S 0 55.5	253 13.2	N 7 38.4	87 51.9	S13 30.6	106 12.4	S18 47.4
R	7	72 51.1	249 15.8	S 0 56.7	268 14.2	N 7 37.8	102 54.7	S13 30.7	121 15.0	S18 47.4
S	8	87 53.6	264 15.6	S 0 58.0	283 15.2	N 7 37.2	117 57.4	S13 30.8	136 17.6	S18 47.5
D	9	102 56.0	279 15.4	S 0 59.3	298 16.2	N 7 36.5	133 00.2	S13 30.9	151 20.3	S18 47.5
A	10	117 58.5	294 15.2	S 1 00.6	313 17.2	N 7 35.9	148 03.0	S13 31.0	166 22.9	S18 47.6
Y	11	133 00.9	309 15.0	S 1 01.9	328 18.2	N 7 35.3	163 05.8	S13 31.1	181 25.6	S18 47.6
	12	148 03.4	324 14.8	S 1 03.2	343 19.2	N 7 34.7	178 08.6	S13 31.3	196 28.2	S18 47.7
	13	163 05.9	339 14.6	S 1 04.5	358 20.1	N 7 34.0	193 11.3	S13 31.4	211 30.8	S18 47.7
	14	178 08.3	354 14.4	S 1 05.8	13 21.1	N 7 33.4	208 14.1	S13 31.5	226 33.5	S18 47.8
	15	193 10.8	9 14.3	S 1 07.1	28 22.1	N 7 32.8	223 16.9	S13 31.6	241 36.1	S18 47.8
	16	208 13.3	24 14.1	S 1 08.3	43 23.1	N 7 32.2	238 19.7	S13 31.7	256 38.8	S18 47.9
	17	223 15.7	39 13.9	S 1 09.6	58 24.1	N 7 31.6	253 22.4	S13 31.8	271 41.4	S18 47.9
	18	238 18.2	54 13.7	S 1 10.9	73 25.1	N 7 30.9	268 25.2	S13 32.0	286 44.0	S18 47.9
	19	253 20.7	69 13.5	S 1 12.2	88 26.1	N 7 30.3	283 28.0	S13 32.1	301 46.7	S18 48.0
	20	268 23.1	84 13.3	S 1 13.5	103 27.1	N 7 29.7	298 30.8	S13 32.2	316 49.3	S18 48.0
	21	283 25.6	99 13.1	S 1 14.8	118 28.1	N 7 29.1	313 33.6	S13 32.3	331 51.9	S18 48.1
	22	298 28.0	114 12.9	S 1 16.1	133 29.1	N 7 28.4	328 36.3	S13 32.4	346 54.6	S18 48.1
	23	313 30.5	129 12.7	S 1 17.4	148 30.1	N 7 27.8	343 39.1	S13 32.5	1 57.2	S18 48.2
			v -0.2	d 1.3	v 1.0	d 0.6	v 2.8	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
17	0	178 58.0	N13 24.8	74 51.4	5.9	S22 40.4	7.8	59.4
	1	193 58.1	N13 24.0	89 16.2	5.8	S22 48.1	7.7	59.4
	2	208 58.2	N13 23.2	103 40.9	5.7	S22 55.6	7.5	59.4
	3	223 58.4	N13 22.4	118 05.6	5.6	S23 03.0	7.4	59.4
	4	238 58.5	N13 21.6	132 30.1	5.6	S23 10.2	7.2	59.4
T	5	253 58.6	N13 20.8	146 54.6	5.5	S23 17.3	7.1	59.4
U								
E	6	268 58.8	N13 20.0	161 19.0	5.4	S23 24.2	6.9	59.4
S	7	283 58.9	N13 19.2	175 43.4	5.4	S23 31.0	6.8	59.4
D	8	298 59.0	N13 18.4	190 07.7	5.3	S23 37.6	6.6	59.4
A	9	313 59.2	N13 17.6	204 31.9	5.2	S23 44.1	6.5	59.4
Y	10	328 59.3	N13 16.8	218 56.1	5.2	S23 50.4	6.3	59.4
	11	343 59.4	N13 16.0	233 20.2	5.1	S23 56.5	6.1	59.4
	12	358 59.6	N13 15.2	247 44.2	5.0	S24 02.5	6.0	59.4
	13	13 59.7	N13 14.4	262 08.2	5.0	S24 08.3	5.8	59.4
	14	28 59.9	N13 13.6	276 32.1	4.9	S24 14.0	5.7	59.4
	15	43 60.0	N13 12.8	290 56.0	4.9	S24 19.5	5.5	59.4
	16	59 00.1	N13 12.0	305 19.8	4.8	S24 24.9	5.3	59.4
	17	74 00.3	N13 11.2	319 43.5	4.7	S24 30.0	5.2	59.4
	18	89 00.4	N13 10.4	334 07.2	4.7	S24 35.1	5.0	59.4
	19	104 00.5	N13 09.5	348 30.9	4.6	S24 39.9	4.8	59.4
	20	119 00.7	N13 08.7	2 54.5	4.6	S24 44.6	4.7	59.4
	21	134 00.8	N13 07.9	17 18.0	4.5	S24 49.1	4.5	59.4
	22	149 01.0	N13 07.1	31 41.5	4.5	S24 53.4	4.3	59.4
	23	164 01.1	N13 06.3	46 05.0	4.5	S24 57.6	4.2	59.4
18	0	179 01.2	N13 05.5	60 28.4	4.4	S25 01.6	4.0	59.4
	1	194 01.4	N13 04.7	74 51.8	4.4	S25 05.5	3.8	59.4
	2	209 01.5	N13 03.9	89 15.1	4.3	S25 09.1	3.7	59.4
	3	224 01.7	N13 03.1	103 38.4	4.3	S25 12.6	3.5	59.4
	4	239 01.8	N13 02.3	118 01.7	4.3	S25 16.0	3.3	59.4
W	5	254 01.9	N13 01.5	132 24.9	4.2	S25 19.1	3.1	59.4
E								
D	6	269 02.1	N13 00.7	146 48.1	4.2	S25 22.1	3.0	59.4
N	7	284 02.2	N12 59.9	161 11.3	4.2	S25 24.9	2.8	59.4
E	8	299 02.4	N12 59.0	175 34.4	4.1	S25 27.5	2.6	59.4
S	9	314 02.5	N12 58.2	189 57.6	4.1	S25 30.0	2.5	59.3
D	10	329 02.6	N12 57.4	204 20.7	4.1	S25 32.2	2.3	59.3
A	11	344 02.8	N12 56.6	218 43.8	4.1	S25 34.3	2.1	59.3
Y								
	12	359 02.9	N12 55.8	233 06.8	4.1	S25 36.3	1.9	59.3
	13	14 03.1	N12 55.0	247 29.9	4.0	S25 38.0	1.7	59.3
	14	29 03.2	N12 54.2	261 52.9	4.0	S25 39.6	1.6	59.3
	15	44 03.3	N12 53.4	276 15.9	4.0	S25 41.0	1.4	59.3
	16	59 03.5	N12 52.6	290 38.9	4.0	S25 42.2	1.2	59.3
	17	74 03.6	N12 51.7	305 01.9	4.0	S25 43.2	1.0	59.3
	18	89 03.8	N12 50.9	319 24.9	4.0	S25 44.1	0.9	59.3
	19	104 03.9	N12 50.1	333 47.9	4.0	S25 44.8	0.7	59.3
	20	119 04.1	N12 49.3	348 10.9	4.0	S25 45.3	0.5	59.3
	21	134 04.2	N12 48.5	2 33.9	4.0	S25 45.6	0.3	59.3
	22	149 04.4	N12 47.7	16 56.9	4.0	S25 45.7	0.2	59.3
	23	164 04.5	N12 46.9	31 19.9	4.0	S25 45.7	0.0	59.3
19	0	179 04.6	N12 46.0	45 43.0	4.0	S25 45.5	0.2	59.3
	1	194 04.8	N12 45.2	60 06.0	4.0	S25 45.1	0.4	59.2
	2	209 04.9	N12 44.4	74 29.0	4.0	S25 44.6	0.6	59.2
	3	224 05.1	N12 43.6	88 52.1	4.1	S25 43.8	0.7	59.2
	4	239 05.2	N12 42.8	103 15.2	4.1	S25 42.9	0.9	59.2
T	5	254 05.4	N12 42.0	117 38.3	4.1	S25 41.8	1.1	59.2
H								
U	6	269 05.5	N12 41.1	132 01.4	4.1	S25 40.6	1.3	59.2
R	7	284 05.7	N12 40.3	146 24.5	4.1	S25 39.1	1.4	59.2
S	8	299 05.8	N12 39.5	160 47.7	4.2	S25 37.5	1.6	59.2
D	9	314 06.0	N12 38.7	175 10.9	4.2	S25 35.7	1.8	59.2
A	10	329 06.1	N12 37.9	189 34.1	4.2	S25 33.8	2.0	59.2
Y	11	344 06.2	N12 37.1	203 57.4	4.3	S25 31.6	2.1	59.2
	12	359 06.4	N12 36.2	218 20.7	4.3	S25 29.3	2.3	59.1
	13	14 06.5	N12 35.4	232 44.0	4.3	S25 26.8	2.5	59.1
	14	29 06.7	N12 34.6	247 07.4	4.4	S25 24.2	2.7	59.1
	15	44 06.8	N12 33.8	261 30.8	4.4	S25 21.3	2.8	59.1
	16	59 07.0	N12 33.0	275 54.3	4.5	S25 18.3	3.0	59.1
	17	74 07.1	N12 32.1	290 17.8	4.5	S25 15.2	3.2	59.1
	18	89 07.3	N12 31.3	304 41.3	4.6	S25 11.8	3.3	59.1
	19	104 07.4	N12 30.5	319 04.9	4.6	S25 08.3	3.5	59.1
	20	119 07.6	N12 29.7	333 28.6	4.7	S25 04.6	3.7	59.1
	21	134 07.7	N12 28.8	347 52.3	4.7	S25 00.8	3.8	59.0
	22	149 07.9	N12 28.0	2 16.1	4.8	S24 56.8	4.0	59.0
	23	164 08.0	N12 27.2	16 39.9	4.8	S24 52.6	4.2	59.0
		S.D. 15.8	d 0.8	S.D. 16.2		16.2		16.1

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.8	S40 12.9
Achernar	335 22.0	S57 07.4
Acrux	173 03.7	S63 13.1
Adhara	255 08.3	S28 59.9
Albireo	67 06.0	N28 00.4
Aldebaran	290 42.9	N16 33.1
Alioth	166 15.8	N55 50.9
Alkaid	152 54.5	N49 12.7
Al Na-ir	27 35.9	S46 51.3
Alnilam	275 40.7	S 1 11.2
Alphard	217 50.8	S 8 45.0
Alphecca	126 06.1	N26 38.8
Alpheratz	357 37.3	N29 12.5
Altair	62 02.3	N 8 55.6
Ankaa	353 09.6	S42 11.2
Antares	112 19.2	S26 28.8
Arcturus	145 50.6	N19 04.5
Atria	107 15.7	S69 04.2
Avior	234 16.4	S59 34.5
Bellatrix	278 26.0	N 6 22.2
Betelgeuse	270 55.3	N 7 24.7
Canopus	263 54.0	S52 42.2
Capella	280 26.2	N46 01.0
Castor	246 00.9	N31 50.5
Deneb	49 27.2	N45 21.5
Denebola	182 28.0	N14 27.3
Diphda	348 49.9	S17 52.0
Dubhe	193 45.1	N61 38.3
Elnath	278 05.6	N28 37.4
Eltanin	90 43.2	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.1	S57 14.1
Gienah	175 46.7	S17 39.6
Hadar	148 40.2	S60 28.7
Hamal	327 54.2	N23 33.8
Kaus Austr.	83 35.9	S34 22.5
Kochab	137 20.2	N74 04.4
Markab	13 32.3	N15 19.3
Menkar	314 09.0	N 4 10.5
Menkent	148 01.0	S36 28.6
Miaplacidus	221 39.6	S69 48.2
Mirfak	308 32.2	N49 56.0
Nunki	75 50.9	S26 16.2
Peacock	53 09.5	S56 40.0
Polaris	317 10.7	N89 20.2
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.3
Rasalhague	96 01.0	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.7	S 8 10.5
Rigil Kent	139 44.4	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 33.7	N56 39.1
Shaula	96 13.9	S37 07.2
Sirius	258 28.9	S16 44.6
Spica	158 25.4	S11 16.3
Suhail	222 48.7	S43 31.0
Vega	80 34.8	N38 48.4
Zuben-ubi	136 59.9	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
20	0	328 33.0	144 12.5	S 1 18.7	163 31.1	N 7 27.2	358 41.9	S13 32.7	16 59.9	S18 48.2
	1	343 35.4	159 12.4	S 1 20.0	178 32.1	N 7 26.6	13 44.7	S13 32.8	32 02.5	S18 48.3
	2	358 37.9	174 12.2	S 1 21.2	193 33.0	N 7 25.9	28 47.5	S13 32.9	47 05.1	S18 48.3
	3	13 40.4	189 12.0	S 1 22.5	208 34.0	N 7 25.3	43 50.2	S13 33.0	62 07.8	S18 48.4
	4	28 42.8	204 11.8	S 1 23.8	223 35.0	N 7 24.7	58 53.0	S13 33.1	77 10.4	S18 48.4
F	5	43 45.3	219 11.6	S 1 25.1	238 36.0	N 7 24.1	73 55.8	S13 33.2	92 13.1	S18 48.5
R										
I	6	58 47.8	234 11.4	S 1 26.4	253 37.0	N 7 23.4	88 58.6	S13 33.4	107 15.7	S18 48.5
D	7	73 50.2	249 11.2	S 1 27.7	268 38.0	N 7 22.8	104 01.4	S13 33.5	122 18.3	S18 48.6
A	8	88 52.7	264 11.0	S 1 29.0	283 39.0	N 7 22.2	119 04.1	S13 33.6	137 21.0	S18 48.6
Y	9	103 55.2	279 10.9	S 1 30.3	298 40.0	N 7 21.6	134 06.9	S13 33.7	152 23.6	S18 48.7
	10	118 57.6	294 10.7	S 1 31.6	313 41.0	N 7 20.9	149 09.7	S13 33.8	167 26.2	S18 48.7
	11	134 00.1	309 10.5	S 1 32.8	328 42.0	N 7 20.3	164 12.5	S13 33.9	182 28.9	S18 48.8
	12	149 02.5	324 10.3	S 1 34.1	343 43.0	N 7 19.7	179 15.3	S13 34.1	197 31.5	S18 48.8
	13	164 05.0	339 10.1	S 1 35.4	358 44.0	N 7 19.1	194 18.0	S13 34.2	212 34.1	S18 48.8
	14	179 07.5	354 09.9	S 1 36.7	13 45.0	N 7 18.4	209 20.8	S13 34.3	227 36.8	S18 48.9
	15	194 09.9	9 09.7	S 1 38.0	28 45.9	N 7 17.8	224 23.6	S13 34.4	242 39.4	S18 48.9
	16	209 12.4	24 09.5	S 1 39.3	43 46.9	N 7 17.2	239 26.4	S13 34.5	257 42.1	S18 49.0
	17	224 14.9	39 09.3	S 1 40.6	58 47.9	N 7 16.6	254 29.2	S13 34.6	272 44.7	S18 49.0
	18	239 17.3	54 09.2	S 1 41.9	73 48.9	N 7 15.9	269 31.9	S13 34.8	287 47.3	S18 49.1
	19	254 19.8	69 09.0	S 1 43.2	88 49.9	N 7 15.3	284 34.7	S13 34.9	302 50.0	S18 49.1
	20	269 22.3	84 08.8	S 1 44.4	103 50.9	N 7 14.7	299 37.5	S13 35.0	317 52.6	S18 49.2
	21	284 24.7	99 08.6	S 1 45.7	118 51.9	N 7 14.1	314 40.3	S13 35.1	332 55.2	S18 49.2
	22	299 27.2	114 08.4	S 1 47.0	133 52.9	N 7 13.4	329 43.0	S13 35.2	347 57.9	S18 49.3
	23	314 29.7	129 08.2	S 1 48.3	148 53.9	N 7 12.8	344 45.8	S13 35.3	3 00.5	S18 49.3
21	0	329 32.1	144 08.0	S 1 49.6	163 54.9	N 7 12.2	359 48.6	S13 35.5	18 03.2	S18 49.4
	1	344 34.6	159 07.8	S 1 50.9	178 55.9	N 7 11.6	14 51.4	S13 35.6	33 05.8	S18 49.4
	2	359 37.0	174 07.7	S 1 52.2	193 56.9	N 7 10.9	29 54.2	S13 35.7	48 08.4	S18 49.5
	3	14 39.5	189 07.5	S 1 53.5	208 57.9	N 7 10.3	44 56.9	S13 35.8	63 11.1	S18 49.5
	4	29 42.0	204 07.3	S 1 54.8	223 58.9	N 7 09.7	59 59.7	S13 35.9	78 13.7	S18 49.6
S	5	44 44.4	219 07.1	S 1 56.0	238 59.9	N 7 09.1	75 02.5	S13 36.0	93 16.3	S18 49.6
A										
T	6	59 46.9	234 06.9	S 1 57.3	254 00.8	N 7 08.4	90 05.3	S13 36.2	108 19.0	S18 49.6
U	7	74 49.4	249 06.7	S 1 58.6	269 01.8	N 7 07.8	105 08.1	S13 36.3	123 21.6	S18 49.7
R	8	89 51.8	264 06.5	S 1 59.9	284 02.8	N 7 07.2	120 10.8	S13 36.4	138 24.2	S18 49.7
D	9	104 54.3	279 06.3	S 2 01.2	299 03.8	N 7 06.6	135 13.6	S13 36.5	153 26.9	S18 49.8
A	10	119 56.8	294 06.2	S 2 02.5	314 04.8	N 7 05.9	150 16.4	S13 36.6	168 29.5	S18 49.8
Y	11	134 59.2	309 06.0	S 2 03.8	329 05.8	N 7 05.3	165 19.2	S13 36.7	183 32.1	S18 49.9
	12	150 01.7	324 05.8	S 2 05.1	344 06.8	N 7 04.7	180 22.0	S13 36.9	198 34.8	S18 49.9
	13	165 04.2	339 05.6	S 2 06.3	359 07.8	N 7 04.1	195 24.7	S13 37.0	213 37.4	S18 50.0
	14	180 06.6	354 05.4	S 2 07.6	14 08.8	N 7 03.4	210 27.5	S13 37.1	228 40.1	S18 50.0
	15	195 09.1	9 05.2	S 2 08.9	29 09.8	N 7 02.8	225 30.3	S13 37.2	243 42.7	S18 50.1
	16	210 11.5	24 05.0	S 2 10.2	44 10.8	N 7 02.2	240 33.1	S13 37.3	258 45.3	S18 50.1
	17	225 14.0	39 04.9	S 2 11.5	59 11.8	N 7 01.5	255 35.9	S13 37.4	273 48.0	S18 50.2
	18	240 16.5	54 04.7	S 2 12.8	74 12.8	N 7 00.9	270 38.6	S13 37.6	288 50.6	S18 50.2
	19	255 18.9	69 04.5	S 2 14.1	89 13.8	N 7 00.3	285 41.4	S13 37.7	303 53.2	S18 50.3
	20	270 21.4	84 04.3	S 2 15.4	104 14.8	N 6 59.7	300 44.2	S13 37.8	318 55.9	S18 50.3
	21	285 23.9	99 04.1	S 2 16.6	119 15.8	N 6 59.0	315 47.0	S13 37.9	333 58.5	S18 50.3
	22	300 26.3	114 03.9	S 2 17.9	134 16.7	N 6 58.4	330 49.8	S13 38.0	349 01.1	S18 50.4
	23	315 28.8	129 03.7	S 2 19.2	149 17.7	N 6 57.8	345 52.5	S13 38.1	4 03.8	S18 50.4
22	0	330 31.3	144 03.6	S 2 20.5	164 18.7	N 6 57.2	0 55.3	S13 38.2	19 06.4	S18 50.5
	1	345 33.7	159 03.4	S 2 21.8	179 19.7	N 6 56.5	15 58.1	S13 38.4	34 09.0	S18 50.5
	2	0 36.2	174 03.2	S 2 23.1	194 20.7	N 6 55.9	31 00.9	S13 38.5	49 11.7	S18 50.6
	3	15 38.7	189 03.0	S 2 24.4	209 21.7	N 6 55.3	46 03.6	S13 38.6	64 14.3	S18 50.6
	4	30 41.1	204 02.8	S 2 25.7	224 22.7	N 6 54.6	61 06.4	S13 38.7	79 16.9	S18 50.7
S	5	45 43.6	219 02.6	S 2 26.9	239 23.7	N 6 54.0	76 09.2	S13 38.8	94 19.6	S18 50.7
U										
N	6	60 46.0	234 02.4	S 2 28.2	254 24.7	N 6 53.4	91 12.0	S13 38.9	109 22.2	S18 50.8
D	7	75 48.5	249 02.3	S 2 29.5	269 25.7	N 6 52.8	106 14.8	S13 39.1	124 24.8	S18 50.8
A	8	90 51.0	264 02.1	S 2 30.8	284 26.7	N 6 52.1	121 17.5	S13 39.2	139 27.5	S18 50.9
Y	9	105 53.4	279 01.9	S 2 32.1	299 27.7	N 6 51.5	136 20.3	S13 39.3	154 30.1	S18 50.9
	10	120 55.9	294 01.7	S 2 33.4	314 28.7	N 6 50.9	151 23.1	S13 39.4	169 32.7	S18 50.9
	11	135 58.4	309 01.5	S 2 34.7	329 29.7	N 6 50.2	166 25.9	S13 39.5	184 35.4	S18 51.0
	12	151 00.8	324 01.3	S 2 36.0	344 30.7	N 6 49.6	181 28.7	S13 39.6	199 38.0	S18 51.0
	13	166 03.3	339 01.1	S 2 37.2	359 31.7	N 6 49.0	196 31.4	S13 39.8	214 40.6	S18 51.1
	14	181 05.8	354 01.0	S 2 38.5	14 32.6	N 6 48.4	211 34.2	S13 39.9	229 43.3	S18 51.1
	15	196 08.2	9 00.8	S 2 39.8	29 33.6	N 6 47.7	226 37.0	S13 40.0	244 45.9	S18 51.2
	16	211 10.7	24 00.6	S 2 41.1	44 34.6	N 6 47.1	241 39.8	S13 40.1	259 48.5	S18 51.2
	17	226 13.1	39 00.4	S 2 42.4	59 35.6	N 6 46.5	256 42.6	S13 40.2	274 51.2	S18 51.3
	18	241 15.6	54 00.2	S 2 43.7	74 36.6	N 6 45.8	271 45.3	S13 40.3	289 53.8	S18 51.3
	19	256 18.1	69 00.0	S 2 45.0	89 37.6	N 6 45.2	286 48.1	S13 40.4	304 56.4	S18 51.4
	20	271 20.5	83 59.8	S 2 46.2	104 38.6	N 6 44.6	301 50.9	S13 40.6	319 59.1	S18 51.4
	21	286 23.0	98 59.7	S 2 47.5	119 39.6	N 6 44.0	316 53.7	S13 40.7	335 01.7	S18 51.5
	22	301 25.5	113 59.5	S 2 48.8	134 40.6	N 6 43.3	331 56.5	S13 40.8	350 04.3	S18 51.5
	23	316 27.9	128 59.3	S 2 50.1	149 41.6	N 6 42.7	346 59.2	S13 40.9	5 07.0	S18 51.5
			v -0.2	d 1.3	v 1.0	d 0.6	v -897.2	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
20	0	179 08.2	N12 26.4	31 03.8	4.9	S24 48.3	4.3	59.0
	1	194 08.3	N12 25.6	45 27.7	4.9	S24 43.8	4.5	59.0
	2	209 08.5	N12 24.7	59 51.7	5.0	S24 39.1	4.7	59.0
	3	224 08.6	N12 23.9	74 15.8	5.1	S24 34.3	4.8	59.0
	4	239 08.8	N12 23.1	88 39.9	5.1	S24 29.3	5.0	58.9
F	5	254 08.9	N12 22.3	103 04.1	5.2	S24 24.1	5.1	58.9
R								
I	6	269 09.1	N12 21.4	117 28.4	5.3	S24 18.8	5.3	58.9
D	7	284 09.2	N12 20.6	131 52.7	5.3	S24 13.4	5.5	58.9
A	8	299 09.4	N12 19.8	146 17.1	5.4	S24 07.8	5.6	58.9
Y	9	314 09.5	N12 18.9	160 41.6	5.5	S24 02.0	5.8	58.9
	10	329 09.7	N12 18.1	175 06.2	5.6	S23 56.1	5.9	58.9
	11	344 09.8	N12 17.3	189 30.8	5.6	S23 50.0	6.1	58.8
	12	359 10.0	N12 16.5	203 55.6	5.7	S23 43.8	6.2	58.8
	13	14 10.1	N12 15.6	218 20.4	5.8	S23 37.4	6.4	58.8
	14	29 10.3	N12 14.8	232 45.2	5.9	S23 30.9	6.5	58.8
	15	44 10.4	N12 14.0	247 10.2	6.0	S23 24.2	6.7	58.8
	16	59 10.6	N12 13.2	261 35.2	6.0	S23 17.4	6.8	58.8
	17	74 10.8	N12 12.3	276 00.4	6.1	S23 10.4	7.0	58.7
	18	89 10.9	N12 11.5	290 25.6	6.2	S23 03.3	7.1	58.7
	19	104 11.1	N12 10.7	304 50.9	6.3	S22 56.0	7.2	58.7
	20	119 11.2	N12 09.8	319 16.3	6.4	S22 48.7	7.4	58.7
	21	134 11.4	N12 09.0	333 41.7	6.5	S22 41.1	7.5	58.7
	22	149 11.5	N12 08.2	348 07.3	6.6	S22 33.5	7.7	58.7
	23	164 11.7	N12 07.3	2 33.0	6.7	S22 25.7	7.8	58.6
21	0	179 11.8	N12 06.5	16 58.7	6.7	S22 17.7	7.9	58.6
	1	194 12.0	N12 05.7	31 24.5	6.8	S22 09.7	8.1	58.6
	2	209 12.1	N12 04.8	45 50.5	6.9	S22 01.5	8.2	58.6
	3	224 12.3	N12 04.0	60 16.5	7.0	S21 53.1	8.3	58.6
	4	239 12.5	N12 03.2	74 42.6	7.1	S21 44.7	8.5	58.5
S	5	254 12.6	N12 02.3	89 08.8	7.2	S21 36.1	8.6	58.5
A								
T	6	269 12.8	N12 01.5	103 35.1	7.3	S21 27.4	8.7	58.5
U	7	284 12.9	N12 00.7	118 01.5	7.4	S21 18.6	8.8	58.5
R	8	299 13.1	N11 59.8	132 28.0	7.5	S21 09.6	9.0	58.5
D	9	314 13.2	N11 59.0	146 54.6	7.6	S21 00.5	9.1	58.4
A	10	329 13.4	N11 58.2	161 21.3	7.7	S20 51.3	9.2	58.4
Y	11	344 13.5	N11 57.3	175 48.1	7.8	S20 42.0	9.3	58.4
	12	359 13.7	N11 56.5	190 15.0	7.9	S20 32.6	9.4	58.4
	13	14 13.9	N11 55.7	204 42.0	8.0	S20 23.0	9.5	58.4
	14	29 14.0	N11 54.8	219 09.1	8.1	S20 13.4	9.7	58.3
	15	44 14.2	N11 54.0	233 36.2	8.2	S20 03.6	9.8	58.3
	16	59 14.3	N11 53.2	248 03.5	8.3	S19 53.7	9.9	58.3
	17	74 14.5	N11 52.3	262 30.9	8.4	S19 43.8	10.0	58.3
	18	89 14.6	N11 51.5	276 58.4	8.5	S19 33.7	10.1	58.2
	19	104 14.8	N11 50.6	291 26.0	8.6	S19 23.5	10.2	58.2
	20	119 15.0	N11 49.8	305 53.6	8.7	S19 13.2	10.3	58.2
	21	134 15.1	N11 49.0	320 21.4	8.8	S19 02.8	10.4	58.2
	22	149 15.3	N11 48.1	334 49.3	8.9	S18 52.3	10.5	58.2
	23	164 15.4	N11 47.3	349 17.3	9.0	S18 41.7	10.6	58.1
22	0	179 15.6	N11 46.5	3 45.3	9.1	S18 31.0	10.7	58.1
	1	194 15.8	N11 45.6	18 13.5	9.2	S18 20.2	10.8	58.1
	2	209 15.9	N11 44.8	32 41.8	9.3	S18 09.3	10.9	58.1
	3	224 16.1	N11 43.9	47 10.2	9.4	S17 58.3	11.0	58.0
	4	239 16.2	N11 43.1	61 38.6	9.5	S17 47.2	11.1	58.0
S	5	254 16.4	N11 42.3	76 07.2	9.6	S17 36.1	11.2	58.0
U								
N	6	269 16.6	N11 41.4	90 35.9	9.7	S17 24.8	11.2	58.0
D	7	284 16.7	N11 40.6	105 04.6	9.8	S17 13.5	11.3	57.9
A	8	299 16.9	N11 39.7	119 33.5	9.9	S17 02.1	11.4	57.9
Y	9	314 17.0	N11 38.9	134 02.4	10.0	S16 50.6	11.5	57.9
	10	329 17.2	N11 38.0	148 31.5	10.1	S16 39.0	11.6	57.9
	11	344 17.4	N11 37.2	163 00.6	10.1	S16 27.3	11.7	57.8
	12	359 17.5	N11 36.4	177 29.9	10.2	S16 15.6	11.7	57.8
	13	14 17.7	N11 35.5	191 59.2	10.3	S16 03.8	11.8	57.8
	14	29 17.9	N11 34.7	206 28.6	10.4	S15 51.9	11.9	57.8
	15	44 18.0	N11 33.8	220 58.2	10.5	S15 39.9	12.0	57.7
	16	59 18.2	N11 33.0	235 27.8	10.6	S15 27.9	12.0	57.7
	17	74 18.3	N11 32.1	249 57.5	10.7	S15 15.8	12.1	57.7
	18	89 18.5	N11 31.3	264 27.3	10.8	S15 03.6	12.2	57.7
	19	104 18.7	N11 30.4	278 57.2	10.9	S14 51.4	12.2	57.6
	20	119 18.8	N11 29.6	293 27.2	11.0	S14 39.1	12.3	57.6
	21	134 19.0	N11 28.8	307 57.3	11.1	S14 26.7	12.4	57.6
	22	149 19.2	N11 27.9	322 27.5	11.2	S14 14.3	12.4	57.6
	23	164 19.3	N11 27.1	336 57.7	11.3	S14 01.8	12.5	57.5
		S.D. 15.8	d 0.8	S.D. 16.0		15.9	15.8	

STARS Name	SHA	Dec
Acamar	315 13.8	S40 12.9
Achernar	335 22.0	S57 07.4
Acrux	173 03.7	S63 13.1
Adhara	255 08.3	S28 59.9
Albireo	67 06.0	N28 00.4
Aldebaran	290 42.9	N16 33.1
Alioth	166 15.8	N55 50.9
Alkaid	152 54.5	N49 12.7
Al Na-ir	27 35.9	S46 51.3
Alnilam	275 40.6	S 1 11.2
Alphard	217 50.7	S 8 45.0
Alphecca	126 06.1	N26 38.8
Alpheratz	357 37.3	N29 12.5
Altair	62 02.3	N 8 55.6
Ankaa	353 09.5	S42 11.2
Antares	112 19.2	S26 28.8
Arcturus	145 50.6	N19 04.5
Atria	107 15.7	S69 04.2
Avior	234 16.4	S59 34.5
Bellatrix	278 26.0	N 6 22.2
Betelgeuse	270 55.2	N 7 24.7
Canopus	263 53.9	S52 42.1
Capella	280 26.1	N46 01.0
Castor	246 00.9	N31 50.5
Deneb	49 27.2	N45 21.5
Denebola	182 28.0	N14 27.3
Diphda	348 49.9	S17 52.0
Dubhe	193 45.1	N61 38.3
Elnath	278 05.5	N28 37.4
Eltanin	90 43.2	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.1	S57 14.1
Gienah	175 46.7	S17 39.6
Hadar	148 40.2	S60 28.7
Hamal	327 54.2	N23 33.8
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 20.2	N74 04.4
Markab	13 32.3	N15 19.3
Menkar	314 08.9	N 4 10.5
Menkent	148 01.0	S36 28.6
Miaplacidus	221 39.6	S69 48.2
Mirfak	308 32.2	N49 56.0
Nunki	75 50.9	S26 16.2
Peacock	53 09.5	S56 40.0
Polaris	317 09.5	N89 20.2
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.3
Rasalhague	96 01.0	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.6	S 8 10.5
Rigil Kent	139 44.4	S60 55.6
Sabik	102 05.8	S15 45.1
Schedar	349 33.7	N56 39.1
Shaula	96 13.9	S37 07.2
Sirius	258 28.9	S16 44.6
Spica	158 25.4	S11 16.3
Suhail	222 48.7	S43 31.0
Vega	80 34.8	N38 48.4
Zuben-ubi	136 59.9	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
23	0	331 30.4	143 59.1	S 2 51.4	164 42.6	N 6 42.1	2 02.0	S13 41.0	20 09.6	S18 51.6
	1	346 32.9	158 58.9	S 2 52.7	179 43.6	N 6 41.4	17 04.8	S13 41.1	35 12.2	S18 51.6
	2	1 35.3	173 58.7	S 2 54.0	194 44.6	N 6 40.8	32 07.6	S13 41.3	50 14.9	S18 51.7
	3	16 37.8	188 58.6	S 2 55.3	209 45.6	N 6 40.2	47 10.3	S13 41.4	65 17.5	S18 51.7
	4	31 40.3	203 58.4	S 2 56.5	224 46.6	N 6 39.6	62 13.1	S13 41.5	80 20.1	S18 51.8
M	5	46 42.7	218 58.2	S 2 57.8	239 47.6	N 6 38.9	77 15.9	S13 41.6	95 22.8	S18 51.8
O										
N	6	61 45.2	233 58.0	S 2 59.1	254 48.6	N 6 38.3	92 18.7	S13 41.7	110 25.4	S18 51.9
D	7	76 47.6	248 57.8	S 3 00.4	269 49.6	N 6 37.7	107 21.5	S13 41.8	125 28.0	S18 51.9
A	8	91 50.1	263 57.6	S 3 01.7	284 50.5	N 6 37.0	122 24.2	S13 41.9	140 30.7	S18 52.0
Y	9	106 52.6	278 57.4	S 3 03.0	299 51.5	N 6 36.4	137 27.0	S13 42.1	155 33.3	S18 52.0
	10	121 55.0	293 57.3	S 3 04.2	314 52.5	N 6 35.8	152 29.8	S13 42.2	170 35.9	S18 52.0
	11	136 57.5	308 57.1	S 3 05.5	329 53.5	N 6 35.1	167 32.6	S13 42.3	185 38.6	S18 52.1
	12	151 60.0	323 56.9	S 3 06.8	344 54.5	N 6 34.5	182 35.4	S13 42.4	200 41.2	S18 52.1
	13	167 02.4	338 56.7	S 3 08.1	359 55.5	N 6 33.9	197 38.1	S13 42.5	215 43.8	S18 52.2
	14	182 04.9	353 56.5	S 3 09.4	14 56.5	N 6 33.2	212 40.9	S13 42.6	230 46.5	S18 52.2
	15	197 07.4	8 56.3	S 3 10.7	29 57.5	N 6 32.6	227 43.7	S13 42.8	245 49.1	S18 52.3
	16	212 09.8	23 56.2	S 3 12.0	44 58.5	N 6 32.0	242 46.5	S13 42.9	260 51.7	S18 52.3
	17	227 12.3	38 56.0	S 3 13.2	59 59.5	N 6 31.4	257 49.2	S13 43.0	275 54.3	S18 52.4
	18	242 14.7	53 55.8	S 3 14.5	75 00.5	N 6 30.7	272 52.0	S13 43.1	290 57.0	S18 52.4
	19	257 17.2	68 55.6	S 3 15.8	90 01.5	N 6 30.1	287 54.8	S13 43.2	305 59.6	S18 52.5
	20	272 19.7	83 55.4	S 3 17.1	105 02.5	N 6 29.5	302 57.6	S13 43.3	321 02.2	S18 52.5
	21	287 22.1	98 55.2	S 3 18.4	120 03.5	N 6 28.8	318 00.4	S13 43.4	336 04.9	S18 52.5
	22	302 24.6	113 55.0	S 3 19.7	135 04.5	N 6 28.2	333 03.1	S13 43.6	351 07.5	S18 52.6
	23	317 27.1	128 54.9	S 3 20.9	150 05.5	N 6 27.6	348 05.9	S13 43.7	6 10.1	S18 52.6
24	0	332 29.5	143 54.7	S 3 22.2	165 06.5	N 6 26.9	3 08.7	S13 43.8	21 12.8	S18 52.7
	1	347 32.0	158 54.5	S 3 23.5	180 07.5	N 6 26.3	18 11.5	S13 43.9	36 15.4	S18 52.7
	2	2 34.5	173 54.3	S 3 24.8	195 08.5	N 6 25.7	33 14.3	S13 44.0	51 18.0	S18 52.8
	3	17 36.9	188 54.1	S 3 26.1	210 09.4	N 6 25.0	48 17.0	S13 44.1	66 20.7	S18 52.8
	4	32 39.4	203 53.9	S 3 27.4	225 10.4	N 6 24.4	63 19.8	S13 44.2	81 23.3	S18 52.9
T	5	47 41.9	218 53.8	S 3 28.7	240 11.4	N 6 23.8	78 22.6	S13 44.4	96 25.9	S18 52.9
U										
E	6	62 44.3	233 53.6	S 3 29.9	255 12.4	N 6 23.1	93 25.4	S13 44.5	111 28.5	S18 52.9
S	7	77 46.8	248 53.4	S 3 31.2	270 13.4	N 6 22.5	108 28.1	S13 44.6	126 31.2	S18 53.0
D	8	92 49.2	263 53.2	S 3 32.5	285 14.4	N 6 21.9	123 30.9	S13 44.7	141 33.8	S18 53.0
A	9	107 51.7	278 53.0	S 3 33.8	300 15.4	N 6 21.3	138 33.7	S13 44.8	156 36.4	S18 53.1
Y	10	122 54.2	293 52.8	S 3 35.1	315 16.4	N 6 20.6	153 36.5	S13 44.9	171 39.1	S18 53.1
	11	137 56.6	308 52.6	S 3 36.4	330 17.4	N 6 20.0	168 39.3	S13 45.0	186 41.7	S18 53.2
	12	152 59.1	323 52.5	S 3 37.6	345 18.4	N 6 19.4	183 42.0	S13 45.2	201 44.3	S18 53.2
	13	168 01.6	338 52.3	S 3 38.9	0 19.4	N 6 18.7	198 44.8	S13 45.3	216 47.0	S18 53.3
	14	183 04.0	353 52.1	S 3 40.2	15 20.4	N 6 18.1	213 47.6	S13 45.4	231 49.6	S18 53.3
	15	198 06.5	8 51.9	S 3 41.5	30 21.4	N 6 17.5	228 50.4	S13 45.5	246 52.2	S18 53.4
	16	213 09.0	23 51.7	S 3 42.8	45 22.4	N 6 16.8	243 53.1	S13 45.6	261 54.8	S18 53.4
	17	228 11.4	38 51.5	S 3 44.0	60 23.4	N 6 16.2	258 55.9	S13 45.7	276 57.5	S18 53.4
	18	243 13.9	53 51.4	S 3 45.3	75 24.4	N 6 15.6	273 58.7	S13 45.8	292 00.1	S18 53.5
	19	258 16.4	68 51.2	S 3 46.6	90 25.4	N 6 14.9	289 01.5	S13 46.0	307 02.7	S18 53.5
	20	273 18.8	83 51.0	S 3 47.9	105 26.4	N 6 14.3	304 04.3	S13 46.1	322 05.4	S18 53.6
	21	288 21.3	98 50.8	S 3 49.2	120 27.4	N 6 13.7	319 07.0	S13 46.2	337 08.0	S18 53.6
	22	303 23.7	113 50.6	S 3 50.5	135 28.4	N 6 13.0	334 09.8	S13 46.3	352 10.6	S18 53.7
	23	318 26.2	128 50.4	S 3 51.7	150 29.3	N 6 12.4	349 12.6	S13 46.4	7 13.3	S18 53.7
25	0	333 28.7	143 50.3	S 3 53.0	165 30.3	N 6 11.8	4 15.4	S13 46.5	22 15.9	S18 53.8
	1	348 31.1	158 50.1	S 3 54.3	180 31.3	N 6 11.1	19 18.1	S13 46.6	37 18.5	S18 53.8
	2	3 33.6	173 49.9	S 3 55.6	195 32.3	N 6 10.5	34 20.9	S13 46.8	52 21.1	S18 53.8
	3	18 36.1	188 49.7	S 3 56.9	210 33.3	N 6 09.9	49 23.7	S13 46.9	67 23.8	S18 53.9
	4	33 38.5	203 49.5	S 3 58.1	225 34.3	N 6 09.2	64 26.5	S13 47.0	82 26.4	S18 53.9
W	5	48 41.0	218 49.3	S 3 59.4	240 35.3	N 6 08.6	79 29.2	S13 47.1	97 29.0	S18 54.0
E										
D	6	63 43.5	233 49.2	S 4 00.7	255 36.3	N 6 08.0	94 32.0	S13 47.2	112 31.7	S18 54.0
N	7	78 45.9	248 49.0	S 4 02.0	270 37.3	N 6 07.3	109 34.8	S13 47.3	127 34.3	S18 54.1
E	8	93 48.4	263 48.8	S 4 03.3	285 38.3	N 6 06.7	124 37.6	S13 47.4	142 36.9	S18 54.1
S	9	108 50.8	278 48.6	S 4 04.6	300 39.3	N 6 06.1	139 40.4	S13 47.6	157 39.5	S18 54.2
D	10	123 53.3	293 48.4	S 4 05.8	315 40.3	N 6 05.4	154 43.1	S13 47.7	172 42.2	S18 54.2
A	11	138 55.8	308 48.2	S 4 07.1	330 41.3	N 6 04.8	169 45.9	S13 47.8	187 44.8	S18 54.2
Y										
	12	153 58.2	323 48.0	S 4 08.4	345 42.3	N 6 04.2	184 48.7	S13 47.9	202 47.4	S18 54.3
	13	169 00.7	338 47.9	S 4 09.7	0 43.3	N 6 03.5	199 51.5	S13 48.0	217 50.0	S18 54.3
	14	184 03.2	353 47.7	S 4 11.0	15 44.3	N 6 02.9	214 54.2	S13 48.1	232 52.7	S18 54.4
	15	199 05.6	8 47.5	S 4 12.2	30 45.3	N 6 02.3	229 57.0	S13 48.2	247 55.3	S18 54.4
	16	214 08.1	23 47.3	S 4 13.5	45 46.3	N 6 01.6	244 59.8	S13 48.4	262 57.9	S18 54.5
	17	229 10.6	38 47.1	S 4 14.8	60 47.3	N 6 01.0	260 02.6	S13 48.5	278 00.6	S18 54.5
	18	244 13.0	53 46.9	S 4 16.1	75 48.3	N 6 00.4	275 05.4	S13 48.6	293 03.2	S18 54.5
	19	259 15.5	68 46.8	S 4 17.4	90 49.3	N 5 59.7	290 08.1	S13 48.7	308 05.8	S18 54.6
	20	274 18.0	83 46.6	S 4 18.6	105 50.3	N 5 59.1	305 10.9	S13 48.8	323 08.4	S18 54.6
	21	289 20.4	98 46.4	S 4 19.9	120 51.2	N 5 58.4	320 13.7	S13 48.9	338 11.1	S18 54.7
	22	304 22.9	113 46.2	S 4 21.2	135 52.2	N 5 57.8	335 16.5	S13 49.0	353 13.7	S18 54.7
	23	319 25.3	128 46.0	S 4 22.5	150 53.2	N 5 57.2	350 19.2	S13 49.1	8 16.3	S18 54.8
			v -0.2	d 1.3	v 1.0	d 0.6	v 2.8	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 '
23	0	179 19.5	N11 26.2	351 28.1	11.3	S13 49.2	12.6	57.5
	1	194 19.7	N11 25.4	5 58.5	11.4	S13 36.6	12.6	57.5
	2	209 19.8	N11 24.5	20 29.0	11.5	S13 24.0	12.7	57.5
	3	224 20.0	N11 23.7	34 59.6	11.6	S13 11.3	12.7	57.4
	4	239 20.1	N11 22.8	49 30.3	11.7	S12 58.5	12.8	57.4
M	5	254 20.3	N11 22.0	64 01.1	11.8	S12 45.7	12.8	57.4
O								
N	6	269 20.5	N11 21.1	78 32.0	11.9	S12 32.8	12.9	57.4
D	7	284 20.6	N11 20.3	93 02.9	11.9	S12 19.8	12.9	57.3
A	8	299 20.8	N11 19.4	107 33.9	12.0	S12 06.9	13.0	57.3
Y	9	314 21.0	N11 18.6	122 05.0	12.1	S11 53.8	13.0	57.3
	10	329 21.1	N11 17.7	136 36.2	12.2	S11 40.8	13.1	57.2
	11	344 21.3	N11 16.9	151 07.5	12.3	S11 27.7	13.1	57.2
	12	359 21.5	N11 16.0	165 38.9	12.3	S11 14.5	13.2	57.2
	13	14 21.6	N11 15.2	180 10.3	12.4	S11 01.3	13.2	57.2
	14	29 21.8	N11 14.3	194 41.8	12.5	S10 48.1	13.2	57.1
	15	44 22.0	N11 13.5	209 13.4	12.6	S10 34.8	13.3	57.1
	16	59 22.1	N11 12.6	223 45.0	12.7	S10 21.5	13.3	57.1
	17	74 22.3	N11 11.8	238 16.8	12.7	S10 08.2	13.3	57.1
	18	89 22.5	N11 10.9	252 48.6	12.8	S 9 54.8	13.4	57.0
	19	104 22.6	N11 10.1	267 20.4	12.9	S 9 41.4	13.4	57.0
	20	119 22.8	N11 09.2	281 52.4	12.9	S 9 27.9	13.4	57.0
	21	134 23.0	N11 08.4	296 24.4	13.0	S 9 14.4	13.5	56.9
	22	149 23.1	N11 07.5	310 56.5	13.1	S 9 00.9	13.5	56.9
	23	164 23.3	N11 06.6	325 28.7	13.2	S 8 47.4	13.5	56.9
24	0	179 23.5	N11 05.8	340 00.9	13.2	S 8 33.8	13.6	56.9
	1	194 23.7	N11 04.9	354 33.2	13.3	S 8 20.3	13.6	56.8
	2	209 23.8	N11 04.1	9 05.5	13.4	S 8 06.6	13.6	56.8
	3	224 24.0	N11 03.2	23 38.0	13.4	S 7 53.0	13.6	56.8
	4	239 24.2	N11 02.4	38 10.4	13.5	S 7 39.4	13.7	56.8
T	5	254 24.3	N11 01.5	52 43.0	13.6	S 7 25.7	13.7	56.7
U								
E	6	269 24.5	N11 00.7	67 15.6	13.6	S 7 12.0	13.7	56.7
S	7	284 24.7	N10 59.8	81 48.3	13.7	S 6 58.3	13.7	56.7
D	8	299 24.8	N10 58.9	96 21.0	13.7	S 6 44.5	13.7	56.6
A	9	314 25.0	N10 58.1	110 53.8	13.8	S 6 30.8	13.7	56.6
Y	10	329 25.2	N10 57.2	125 26.6	13.8	S 6 17.0	13.8	56.6
	11	344 25.3	N10 56.4	139 59.6	13.9	S 6 03.2	13.8	56.6
	12	359 25.5	N10 55.5	154 32.5	14.0	S 5 49.5	13.8	56.5
	13	14 25.7	N10 54.7	169 05.5	14.0	S 5 35.7	13.8	56.5
	14	29 25.9	N10 53.8	183 38.6	14.1	S 5 21.8	13.8	56.5
	15	44 26.0	N10 52.9	198 11.7	14.1	S 5 08.0	13.8	56.4
	16	59 26.2	N10 52.1	212 44.9	14.2	S 4 54.2	13.8	56.4
	17	74 26.4	N10 51.2	227 18.1	14.2	S 4 40.4	13.8	56.4
	18	89 26.5	N10 50.4	241 51.4	14.3	S 4 26.5	13.8	56.4
	19	104 26.7	N10 49.5	256 24.7	14.3	S 4 12.7	13.8	56.3
	20	119 26.9	N10 48.6	270 58.1	14.4	S 3 58.8	13.9	56.3
	21	134 27.1	N10 47.8	285 31.5	14.4	S 3 45.0	13.9	56.3
	22	149 27.2	N10 46.9	300 05.0	14.5	S 3 31.1	13.9	56.3
	23	164 27.4	N10 46.1	314 38.5	14.5	S 3 17.2	13.9	56.2
25	0	179 27.6	N10 45.2	329 12.0	14.5	S 3 03.4	13.9	56.2
	1	194 27.8	N10 44.3	343 45.6	14.6	S 2 49.5	13.9	56.2
	2	209 27.9	N10 43.5	358 19.3	14.6	S 2 35.7	13.9	56.2
	3	224 28.1	N10 42.6	12 52.9	14.7	S 2 21.8	13.9	56.1
	4	239 28.3	N10 41.7	27 26.7	14.7	S 2 08.0	13.8	56.1
W	5	254 28.4	N10 40.9	42 00.4	14.8	S 1 54.1	13.8	56.1
E								
D	6	269 28.6	N10 40.0	56 34.2	14.8	S 1 40.3	13.8	56.0
N	7	284 28.8	N10 39.2	71 08.0	14.8	S 1 26.4	13.8	56.0
E	8	299 29.0	N10 38.3	85 41.9	14.9	S 1 12.6	13.8	56.0
S	9	314 29.1	N10 37.4	100 15.8	14.9	S 0 58.8	13.8	56.0
D	10	329 29.3	N10 36.6	114 49.7	14.9	S 0 45.0	13.8	55.9
A	11	344 29.5	N10 35.7	129 23.7	15.0	S 0 31.2	13.8	55.9
Y								
	12	359 29.7	N10 34.8	143 57.7	15.0	S 0 17.4	13.8	55.9
	13	14 29.8	N10 34.0	158 31.7	15.0	S 0 03.7	13.8	55.9
	14	29 30.0	N10 33.1	173 05.7	15.0	N 0 10.1	13.8	55.8
	15	44 30.2	N10 32.2	187 39.8	15.1	N 0 23.8	13.7	55.8
	16	59 30.4	N10 31.4	202 13.9	15.1	N 0 37.6	13.7	55.8
	17	74 30.5	N10 30.5	216 48.0	15.1	N 0 51.3	13.7	55.8
	18	89 30.7	N10 29.6	231 22.2	15.2	N 1 05.0	13.7	55.7
	19	104 30.9	N10 28.8	245 56.4	15.2	N 1 18.7	13.7	55.7
	20	119 31.1	N10 27.9	260 30.6	15.2	N 1 32.3	13.7	55.7
	21	134 31.2	N10 27.0	275 04.8	15.2	N 1 46.0	13.6	55.7
	22	149 31.4	N10 26.2	289 39.0	15.2	N 1 59.6	13.6	55.6
	23	164 31.6	N10 25.3	304 13.3	15.3	N 2 13.2	13.6	55.6
		S.D. 15.8	d 0.9	S.D. 15.6		15.4	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.7	S40 12.9
Achernar	335 21.9	S57 07.4
Acrux	173 03.7	S63 13.1
Adhara	255 08.3	S28 59.8
Albireo	67 06.0	N28 00.5
Aldebaran	290 42.8	N16 33.1
Alioth	166 15.8	N55 50.9
Alkaid	152 54.5	N49 12.7
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.6	S 1 11.2
Alphard	217 50.7	S 8 45.0
Alphecca	126 06.1	N26 38.8
Alpheratz	357 37.3	N29 12.6
Altair	62 02.4	N 8 55.6
Ankaa	353 09.5	S42 11.2
Antares	112 19.2	S26 28.8
Arcturus	145 50.6	N19 04.5
Atria	107 15.8	S69 04.2
Avior	234 16.4	S59 34.5
Bellatrix	278 25.9	N 6 22.2
Betelgeuse	270 55.2	N 7 24.7
Canopus	263 53.9	S52 42.1
Capella	280 26.1	N46 01.0
Castor	246 00.9	N31 50.5
Deneb	49 27.2	N45 21.5
Denebola	182 28.1	N14 27.3
Diphda	348 49.8	S17 52.0
Dubhe	193 45.1	N61 38.2
Elnath	278 05.5	N28 37.4
Eltanin	90 43.2	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.1	S57 14.1
Gienah	175 46.7	S17 39.5
Hadar	148 40.2	S60 28.7
Hamal	327 54.2	N23 33.8
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 20.3	N74 04.4
Markab	13 32.3	N15 19.3
Menkar	314 08.9	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.6	S69 48.2
Mirfak	308 32.1	N49 56.0
Nunki	75 50.9	S26 16.2
Peacock	53 09.5	S56 40.0
Polaris	317 08.5	N89 20.2
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.3
Rasalhague	96 01.0	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.6	S 8 10.5
Rigil Kent	139 44.4	S60 55.6
Sabik	102 05.9	S15 45.1
Schedar	349 33.7	N56 39.1
Shaula	96 13.9	S37 07.2
Sirius	258 28.9	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.7	S43 31.0
Vega	80 34.8	N38 48.4
Zuben-ubi	136 59.9	S16 07.8

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 27.8	143 45.8	S 4 23.7	165 54.2	N 5 56.5	5 22.0	S13 49.3	23 18.9	S18 54.8
	1	349 30.3	158 45.7	S 4 25.0	180 55.2	N 5 55.9	20 24.8	S13 49.4	38 21.6	S18 54.9
	2	4 32.7	173 45.5	S 4 26.3	195 56.2	N 5 55.3	35 27.6	S13 49.5	53 24.2	S18 54.9
	3	19 35.2	188 45.3	S 4 27.6	210 57.2	N 5 54.6	50 30.3	S13 49.6	68 26.8	S18 54.9
	4	34 37.7	203 45.1	S 4 28.9	225 58.2	N 5 54.0	65 33.1	S13 49.7	83 29.5	S18 55.0
T	5	49 40.1	218 44.9	S 4 30.1	240 59.2	N 5 53.4	80 35.9	S13 49.8	98 32.1	S18 55.0
H										
U	6	64 42.6	233 44.7	S 4 31.4	256 00.2	N 5 52.7	95 38.7	S13 49.9	113 34.7	S18 55.1
R	7	79 45.1	248 44.5	S 4 32.7	271 01.2	N 5 52.1	110 41.4	S13 50.1	128 37.3	S18 55.1
S	8	94 47.5	263 44.4	S 4 34.0	286 02.2	N 5 51.5	125 44.2	S13 50.2	143 40.0	S18 55.2
D	9	109 50.0	278 44.2	S 4 35.3	301 03.2	N 5 50.8	140 47.0	S13 50.3	158 42.6	S18 55.2
A	10	124 52.4	293 44.0	S 4 36.5	316 04.2	N 5 50.2	155 49.8	S13 50.4	173 45.2	S18 55.2
Y	11	139 54.9	308 43.8	S 4 37.8	331 05.2	N 5 49.6	170 52.5	S13 50.5	188 47.8	S18 55.3
	12	154 57.4	323 43.6	S 4 39.1	346 06.2	N 5 48.9	185 55.3	S13 50.6	203 50.5	S18 55.3
	13	169 59.8	338 43.4	S 4 40.4	1 07.2	N 5 48.3	200 58.1	S13 50.7	218 53.1	S18 55.4
	14	185 02.3	353 43.3	S 4 41.6	16 08.2	N 5 47.6	216 00.9	S13 50.8	233 55.7	S18 55.4
	15	200 04.8	8 43.1	S 4 42.9	31 09.2	N 5 47.0	231 03.7	S13 51.0	248 58.3	S18 55.5
	16	215 07.2	23 42.9	S 4 44.2	46 10.2	N 5 46.4	246 06.4	S13 51.1	264 01.0	S18 55.5
	17	230 09.7	38 42.7	S 4 45.5	61 11.2	N 5 45.7	261 09.2	S13 51.2	279 03.6	S18 55.6
	18	245 12.2	53 42.5	S 4 46.7	76 12.2	N 5 45.1	276 12.0	S13 51.3	294 06.2	S18 55.6
	19	260 14.6	68 42.3	S 4 48.0	91 13.1	N 5 44.5	291 14.8	S13 51.4	309 08.8	S18 55.6
	20	275 17.1	83 42.1	S 4 49.3	106 14.1	N 5 43.8	306 17.5	S13 51.5	324 11.5	S18 55.7
	21	290 19.6	98 42.0	S 4 50.6	121 15.1	N 5 43.2	321 20.3	S13 51.6	339 14.1	S18 55.7
	22	305 22.0	113 41.8	S 4 51.9	136 16.1	N 5 42.6	336 23.1	S13 51.7	354 16.7	S18 55.8
	23	320 24.5	128 41.6	S 4 53.1	151 17.1	N 5 41.9	351 25.9	S13 51.9	9 19.3	S18 55.8
27	0	335 26.9	143 41.4	S 4 54.4	166 18.1	N 5 41.3	6 28.6	S13 52.0	24 22.0	S18 55.9
	1	350 29.4	158 41.2	S 4 55.7	181 19.1	N 5 40.6	21 31.4	S13 52.1	39 24.6	S18 55.9
	2	5 31.9	173 41.0	S 4 57.0	196 20.1	N 5 40.0	36 34.2	S13 52.2	54 27.2	S18 55.9
	3	20 34.3	188 40.9	S 4 58.2	211 21.1	N 5 39.4	51 37.0	S13 52.3	69 29.8	S18 56.0
	4	35 36.8	203 40.7	S 4 59.5	226 22.1	N 5 38.7	66 39.7	S13 52.4	84 32.5	S18 56.0
F	5	50 39.3	218 40.5	S 5 00.8	241 23.1	N 5 38.1	81 42.5	S13 52.5	99 35.1	S18 56.1
R										
I	6	65 41.7	233 40.3	S 5 02.1	256 24.1	N 5 37.5	96 45.3	S13 52.6	114 37.7	S18 56.1
D	7	80 44.2	248 40.1	S 5 03.3	271 25.1	N 5 36.8	111 48.1	S13 52.8	129 40.3	S18 56.2
A	8	95 46.7	263 39.9	S 5 04.6	286 26.1	N 5 36.2	126 50.8	S13 52.9	144 43.0	S18 56.2
Y	9	110 49.1	278 39.7	S 5 05.9	301 27.1	N 5 35.5	141 53.6	S13 53.0	159 45.6	S18 56.2
	10	125 51.6	293 39.6	S 5 07.2	316 28.1	N 5 34.9	156 56.4	S13 53.1	174 48.2	S18 56.3
	11	140 54.0	308 39.4	S 5 08.4	331 29.1	N 5 34.3	171 59.2	S13 53.2	189 50.8	S18 56.3
	12	155 56.5	323 39.2	S 5 09.7	346 30.1	N 5 33.6	187 01.9	S13 53.3	204 53.4	S18 56.4
	13	170 59.0	338 39.0	S 5 11.0	1 31.1	N 5 33.0	202 04.7	S13 53.4	219 56.1	S18 56.4
	14	186 01.4	353 38.8	S 5 12.2	16 32.1	N 5 32.4	217 07.5	S13 53.5	234 58.7	S18 56.5
	15	201 03.9	8 38.6	S 5 13.5	31 33.1	N 5 31.7	232 10.2	S13 53.6	250 01.3	S18 56.5
	16	216 06.4	23 38.4	S 5 14.8	46 34.1	N 5 31.1	247 13.0	S13 53.8	265 03.9	S18 56.5
	17	231 08.8	38 38.3	S 5 16.1	61 35.1	N 5 30.4	262 15.8	S13 53.9	280 06.6	S18 56.6
	18	246 11.3	53 38.1	S 5 17.3	76 36.1	N 5 29.8	277 18.6	S13 54.0	295 09.2	S18 56.6
	19	261 13.8	68 37.9	S 5 18.6	91 37.1	N 5 29.2	292 21.3	S13 54.1	310 11.8	S18 56.7
	20	276 16.2	83 37.7	S 5 19.9	106 38.0	N 5 28.5	307 24.1	S13 54.2	325 14.4	S18 56.7
	21	291 18.7	98 37.5	S 5 21.2	121 39.0	N 5 27.9	322 26.9	S13 54.3	340 17.1	S18 56.8
	22	306 21.2	113 37.3	S 5 22.4	136 40.0	N 5 27.3	337 29.7	S13 54.4	355 19.7	S18 56.8
	23	321 23.6	128 37.1	S 5 23.7	151 41.0	N 5 26.6	352 32.4	S13 54.5	10 22.3	S18 56.8
28	0	336 26.1	143 37.0	S 5 25.0	166 42.0	N 5 26.0	7 35.2	S13 54.7	25 24.9	S18 56.9
	1	351 28.5	158 36.8	S 5 26.2	181 43.0	N 5 25.3	22 38.0	S13 54.8	40 27.5	S18 56.9
	2	6 31.0	173 36.6	S 5 27.5	196 44.0	N 5 24.7	37 40.8	S13 54.9	55 30.2	S18 57.0
	3	21 33.5	188 36.4	S 5 28.8	211 45.0	N 5 24.1	52 43.5	S13 55.0	70 32.8	S18 57.0
	4	36 35.9	203 36.2	S 5 30.1	226 46.0	N 5 23.4	67 46.3	S13 55.1	85 35.4	S18 57.0
S	5	51 38.4	218 36.0	S 5 31.3	241 47.0	N 5 22.8	82 49.1	S13 55.2	100 38.0	S18 57.1
A										
T	6	66 40.9	233 35.8	S 5 32.6	256 48.0	N 5 22.1	97 51.9	S13 55.3	115 40.7	S18 57.1
U	7	81 43.3	248 35.7	S 5 33.9	271 49.0	N 5 21.5	112 54.6	S13 55.4	130 43.3	S18 57.2
R	8	96 45.8	263 35.5	S 5 35.1	286 50.0	N 5 20.9	127 57.4	S13 55.5	145 45.9	S18 57.2
D	9	111 48.3	278 35.3	S 5 36.4	301 51.0	N 5 20.2	143 00.2	S13 55.7	160 48.5	S18 57.3
A	10	126 50.7	293 35.1	S 5 37.7	316 52.0	N 5 19.6	158 02.9	S13 55.8	175 51.1	S18 57.3
Y	11	141 53.2	308 34.9	S 5 39.0	331 53.0	N 5 18.9	173 05.7	S13 55.9	190 53.8	S18 57.3
	12	156 55.7	323 34.7	S 5 40.2	346 54.0	N 5 18.3	188 08.5	S13 56.0	205 56.4	S18 57.4
	13	171 58.1	338 34.5	S 5 41.5	1 55.0	N 5 17.7	203 11.3	S13 56.1	220 59.0	S18 57.4
	14	187 00.6	353 34.4	S 5 42.8	16 56.0	N 5 17.0	218 14.0	S13 56.2	236 01.6	S18 57.5
	15	202 03.0	8 34.2	S 5 44.0	31 57.0	N 5 16.4	233 16.8	S13 56.3	251 04.2	S18 57.5
	16	217 05.5	23 34.0	S 5 45.3	46 58.0	N 5 15.7	248 19.6	S13 56.4	266 06.9	S18 57.6
	17	232 08.0	38 33.8	S 5 46.6	61 59.0	N 5 15.1	263 22.4	S13 56.5	281 09.5	S18 57.6
	18	247 10.4	53 33.6	S 5 47.8	76 60.0	N 5 14.5	278 25.1	S13 56.6	296 12.1	S18 57.6
	19	262 12.9	68 33.4	S 5 49.1	92 01.0	N 5 13.8	293 27.9	S13 56.8	311 14.7	S18 57.7
	20	277 15.4	83 33.2	S 5 50.4	107 02.0	N 5 13.2	308 30.7	S13 56.9	326 17.3	S18 57.7
	21	292 17.8	98 33.0	S 5 51.6	122 02.9	N 5 12.6	323 33.4	S13 57.0	341 20.0	S18 57.8
	22	307 20.3	113 32.9	S 5 52.9	137 03.9	N 5 11.9	338 36.2	S13 57.1	356 22.6	S18 57.8
	23	322 22.8	128 32.7	S 5 54.2	152 04.9	N 5 11.3	353 39.0	S13 57.2	11 25.2	S18 57.8
			v -0.2	d 1.3	v 1.0	d 0.6	v 2.8	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 '
26	0	179 31.8	N10 24.4	318 47.6	15.3	N 2 26.8	13.6	55.6
	1	194 32.0	N10 23.6	333 21.9	15.3	N 2 40.3	13.6	55.6
	2	209 32.1	N10 22.7	347 56.2	15.3	N 2 53.9	13.5	55.5
	3	224 32.3	N10 21.8	2 30.5	15.3	N 3 07.4	13.5	55.5
	4	239 32.5	N10 21.0	17 04.9	15.3	N 3 20.9	13.5	55.5
T	5	254 32.7	N10 20.1	31 39.2	15.4	N 3 34.3	13.5	55.5
H								
U	6	269 32.8	N10 19.2	46 13.6	15.4	N 3 47.7	13.4	55.4
R	7	284 33.0	N10 18.3	60 48.0	15.4	N 4 01.2	13.4	55.4
S	8	299 33.2	N10 17.5	75 22.4	15.4	N 4 14.5	13.4	55.4
D	9	314 33.4	N10 16.6	89 56.8	15.4	N 4 27.9	13.3	55.4
A	10	329 33.6	N10 15.7	104 31.2	15.4	N 4 41.2	13.3	55.3
Y	11	344 33.7	N10 14.9	119 05.6	15.4	N 4 54.5	13.3	55.3
	12	359 33.9	N10 14.0	133 40.0	15.4	N 5 07.7	13.3	55.3
	13	14 34.1	N10 13.1	148 14.5	15.4	N 5 21.0	13.2	55.3
	14	29 34.3	N10 12.2	162 48.9	15.4	N 5 34.2	13.2	55.3
	15	44 34.5	N10 11.4	177 23.3	15.4	N 5 47.3	13.2	55.2
	16	59 34.6	N10 10.5	191 57.8	15.4	N 6 00.4	13.1	55.2
	17	74 34.8	N10 09.6	206 32.2	15.4	N 6 13.5	13.1	55.2
	18	89 35.0	N10 08.7	221 06.7	15.4	N 6 26.6	13.1	55.2
	19	104 35.2	N10 07.9	235 41.1	15.4	N 6 39.6	13.0	55.2
	20	119 35.3	N10 07.0	250 15.6	15.4	N 6 52.6	13.0	55.1
	21	134 35.5	N10 06.1	264 50.0	15.4	N 7 05.5	12.9	55.1
	22	149 35.7	N10 05.2	279 24.4	15.4	N 7 18.4	12.9	55.1
	23	164 35.9	N10 04.4	293 58.9	15.4	N 7 31.3	12.9	55.1
27	0	179 36.1	N10 03.5	308 33.3	15.4	N 7 44.1	12.8	55.0
	1	194 36.3	N10 02.6	323 07.7	15.4	N 7 56.9	12.8	55.0
	2	209 36.4	N10 01.7	337 42.2	15.4	N 8 09.7	12.7	55.0
	3	224 36.6	N10 00.9	352 16.6	15.4	N 8 22.4	12.7	55.0
	4	239 36.8	N 9 60.0	6 51.0	15.4	N 8 35.0	12.7	55.0
F	5	254 37.0	N 9 59.1	21 25.4	15.4	N 8 47.6	12.6	55.0
R								
I	6	269 37.2	N 9 58.2	35 59.7	15.4	N 9 00.2	12.6	54.9
D	7	284 37.3	N 9 57.4	50 34.1	15.4	N 9 12.7	12.5	54.9
A	8	299 37.5	N 9 56.5	65 08.5	15.4	N 9 25.2	12.5	54.9
Y	9	314 37.7	N 9 55.6	79 42.8	15.3	N 9 37.6	12.4	54.9
	10	329 37.9	N 9 54.7	94 17.2	15.3	N 9 50.0	12.4	54.9
	11	344 38.1	N 9 53.9	108 51.5	15.3	N10 02.4	12.3	54.8
	12	359 38.3	N 9 53.0	123 25.8	15.3	N10 14.7	12.3	54.8
	13	14 38.4	N 9 52.1	138 00.1	15.3	N10 26.9	12.2	54.8
	14	29 38.6	N 9 51.2	152 34.3	15.3	N10 39.1	12.2	54.8
	15	44 38.8	N 9 50.3	167 08.6	15.3	N10 51.2	12.1	54.8
	16	59 39.0	N 9 49.5	181 42.8	15.2	N11 03.3	12.1	54.8
	17	74 39.2	N 9 48.6	196 17.0	15.2	N11 15.4	12.0	54.7
	18	89 39.4	N 9 47.7	210 51.2	15.2	N11 27.4	12.0	54.7
	19	104 39.5	N 9 46.8	225 25.4	15.2	N11 39.3	11.9	54.7
	20	119 39.7	N 9 45.9	239 59.6	15.1	N11 51.2	11.9	54.7
	21	134 39.9	N 9 45.1	254 33.7	15.1	N12 03.0	11.8	54.7
	22	149 40.1	N 9 44.2	269 07.8	15.1	N12 14.8	11.8	54.7
	23	164 40.3	N 9 43.3	283 41.9	15.1	N12 26.5	11.7	54.6
28	0	179 40.5	N 9 42.4	298 15.9	15.1	N12 38.2	11.7	54.6
	1	194 40.6	N 9 41.5	312 49.9	15.0	N12 49.8	11.6	54.6
	2	209 40.8	N 9 40.6	327 23.9	15.0	N13 01.3	11.5	54.6
	3	224 41.0	N 9 39.8	341 57.9	15.0	N13 12.8	11.5	54.6
	4	239 41.2	N 9 38.9	356 31.9	14.9	N13 24.3	11.4	54.6
S	5	254 41.4	N 9 38.0	11 05.8	14.9	N13 35.6	11.4	54.6
A								
T	6	269 41.6	N 9 37.1	25 39.7	14.9	N13 46.9	11.3	54.6
U	7	284 41.7	N 9 36.2	40 13.5	14.9	N13 58.2	11.3	54.5
R	8	299 41.9	N 9 35.3	54 47.3	14.8	N14 09.4	11.2	54.5
D	9	314 42.1	N 9 34.5	69 21.1	14.8	N14 20.5	11.1	54.5
A	10	329 42.3	N 9 33.6	83 54.9	14.8	N14 31.6	11.1	54.5
Y	11	344 42.5	N 9 32.7	98 28.6	14.7	N14 42.6	11.0	54.5
	12	359 42.7	N 9 31.8	113 02.3	14.7	N14 53.5	10.9	54.5
	13	14 42.9	N 9 30.9	127 35.9	14.7	N15 04.4	10.9	54.5
	14	29 43.1	N 9 30.0	142 09.6	14.6	N15 15.2	10.8	54.5
	15	44 43.2	N 9 29.1	156 43.1	14.6	N15 25.9	10.7	54.4
	16	59 43.4	N 9 28.3	171 16.7	14.5	N15 36.6	10.7	54.4
	17	74 43.6	N 9 27.4	185 50.2	14.5	N15 47.2	10.6	54.4
	18	89 43.8	N 9 26.5	200 23.7	14.5	N15 57.7	10.5	54.4
	19	104 44.0	N 9 25.6	214 57.1	14.4	N16 08.2	10.5	54.4
	20	119 44.2	N 9 24.7	229 30.5	14.4	N16 18.6	10.4	54.4
	21	134 44.4	N 9 23.8	244 03.8	14.3	N16 28.9	10.3	54.4
	22	149 44.6	N 9 22.9	258 37.1	14.3	N16 39.2	10.3	54.4
	23	164 44.7	N 9 22.0	273 10.4	14.3	N16 49.4	10.2	54.4
		S.D. 15.8	d 0.9	S.D.	15.1	14.9	14.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.7	S40 12.9
Achernar	335 21.9	S57 07.4
Acrux	173 03.7	S63 13.1
Adhara	255 08.3	S28 59.8
Albireo	67 06.0	N28 00.5
Aldebaran	290 42.8	N16 33.2
Alioth	166 15.8	N55 50.9
Alkaid	152 54.5	N49 12.7
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.6	S 1 11.2
Alphard	217 50.7	S 8 45.0
Alphecca	126 06.1	N26 38.8
Alpheratz	357 37.3	N29 12.6
Altair	62 02.4	N 8 55.6
Ankaa	353 09.5	S42 11.2
Antares	112 19.2	S26 28.8
Arcturus	145 50.6	N19 04.5
Atria	107 15.8	S69 04.2
Avior	234 16.4	S59 34.5
Bellatrix	278 25.9	N 6 22.2
Betelgeuse	270 55.2	N 7 24.7
Canopus	263 53.9	S52 42.1
Capella	280 26.1	N46 01.0
Castor	246 00.9	N31 50.5
Deneb	49 27.2	N45 21.6
Denebola	182 28.1	N14 27.3
Diphda	348 49.8	S17 52.0
Dubhe	193 45.1	N61 38.2
Elnath	278 05.5	N28 37.4
Eltanin	90 43.3	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.2	S57 14.1
Gienah	175 46.7	S17 39.5
Hadar	148 40.3	S60 28.7
Hamal	327 54.1	N23 33.8
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 20.4	N74 04.4
Markab	13 32.3	N15 19.3
Menkar	314 08.9	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.6	S69 48.2
Mirfak	308 32.1	N49 56.1
Nunki	75 50.9	S26 16.2
Peacock	53 09.5	S56 40.0
Polaris	317 07.4	N89 20.2
Pollux	243 21.0	N27 58.5
Procyon	244 54.0	N 5 10.3
Rasalhague	96 01.0	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.6	S 8 10.5
Rigil Kent	139 44.5	S60 55.6
Sabik	102 05.9	S15 45.1
Schedar	349 33.6	N56 39.2
Shaula	96 14.0	S37 07.2
Sirius	258 28.9	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.7	S43 31.0
Vega	80 34.8	N38 48.4
Zuben-ubi	136 59.9	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
29	0	337 25.2	143 32.5	S 5 55.4	167 05.9	N 5 10.6	8 41.8	S13 57.3	26 27.8	S18 57.9
	1	352 27.7	158 32.3	S 5 56.7	182 06.9	N 5 10.0	23 44.5	S13 57.4	41 30.4	S18 57.9
	2	7 30.1	173 32.1	S 5 58.0	197 07.9	N 5 09.3	38 47.3	S13 57.5	56 33.1	S18 58.0
	3	22 32.6	188 31.9	S 5 59.3	212 08.9	N 5 08.7	53 50.1	S13 57.6	71 35.7	S18 58.0
	4	37 35.1	203 31.7	S 6 00.5	227 09.9	N 5 08.1	68 52.8	S13 57.8	86 38.3	S18 58.1
S	5	52 37.5	218 31.5	S 6 01.8	242 10.9	N 5 07.4	83 55.6	S13 57.9	101 40.9	S18 58.1
U										
N	6	67 40.0	233 31.4	S 6 03.1	257 11.9	N 5 06.8	98 58.4	S13 58.0	116 43.5	S18 58.1
D	7	82 42.5	248 31.2	S 6 04.3	272 12.9	N 5 06.1	114 01.2	S13 58.1	131 46.2	S18 58.2
A	8	97 44.9	263 31.0	S 6 05.6	287 13.9	N 5 05.5	129 03.9	S13 58.2	146 48.8	S18 58.2
Y	9	112 47.4	278 30.8	S 6 06.8	302 14.9	N 5 04.9	144 06.7	S13 58.3	161 51.4	S18 58.3
	10	127 49.9	293 30.6	S 6 08.1	317 15.9	N 5 04.2	159 09.5	S13 58.4	176 54.0	S18 58.3
	11	142 52.3	308 30.4	S 6 09.4	332 16.9	N 5 03.6	174 12.2	S13 58.5	191 56.6	S18 58.3
	12	157 54.8	323 30.2	S 6 10.6	347 17.9	N 5 02.9	189 15.0	S13 58.6	206 59.3	S18 58.4
	13	172 57.3	338 30.0	S 6 11.9	2 18.9	N 5 02.3	204 17.8	S13 58.7	222 01.9	S18 58.4
	14	187 59.7	353 29.9	S 6 13.2	17 19.9	N 5 01.7	219 20.6	S13 58.9	237 04.5	S18 58.5
	15	203 02.2	8 29.7	S 6 14.4	32 20.9	N 5 01.0	234 23.3	S13 59.0	252 07.1	S18 58.5
	16	218 04.6	23 29.5	S 6 15.7	47 21.9	N 5 00.4	249 26.1	S13 59.1	267 09.7	S18 58.5
	17	233 07.1	38 29.3	S 6 17.0	62 22.9	N 4 59.7	264 28.9	S13 59.2	282 12.4	S18 58.6
	18	248 09.6	53 29.1	S 6 18.2	77 23.9	N 4 59.1	279 31.6	S13 59.3	297 15.0	S18 58.6
	19	263 12.0	68 28.9	S 6 19.5	92 24.9	N 4 58.5	294 34.4	S13 59.4	312 17.6	S18 58.7
	20	278 14.5	83 28.7	S 6 20.8	107 25.9	N 4 57.8	309 37.2	S13 59.5	327 20.2	S18 58.7
	21	293 17.0	98 28.5	S 6 22.0	122 26.9	N 4 57.2	324 40.0	S13 59.6	342 22.8	S18 58.8
	22	308 19.4	113 28.3	S 6 23.3	137 27.8	N 4 56.5	339 42.7	S13 59.7	357 25.4	S18 58.8
	23	323 21.9	128 28.2	S 6 24.6	152 28.8	N 4 55.9	354 45.5	S13 59.8	12 28.1	S18 58.8
30	0	338 24.4	143 28.0	S 6 25.8	167 29.8	N 4 55.2	9 48.3	S13 59.9	27 30.7	S18 58.9
	1	353 26.8	158 27.8	S 6 27.1	182 30.8	N 4 54.6	24 51.0	S14 00.1	42 33.3	S18 58.9
	2	8 29.3	173 27.6	S 6 28.3	197 31.8	N 4 54.0	39 53.8	S14 00.2	57 35.9	S18 59.0
	3	23 31.8	188 27.4	S 6 29.6	212 32.8	N 4 53.3	54 56.6	S14 00.3	72 38.5	S18 59.0
	4	38 34.2	203 27.2	S 6 30.9	227 33.8	N 4 52.7	69 59.3	S14 00.4	87 41.1	S18 59.0
M	5	53 36.7	218 27.0	S 6 32.1	242 34.8	N 4 52.0	85 02.1	S14 00.5	102 43.8	S18 59.1
O										
N	6	68 39.1	233 26.8	S 6 33.4	257 35.8	N 4 51.4	100 04.9	S14 00.6	117 46.4	S18 59.1
D	7	83 41.6	248 26.6	S 6 34.7	272 36.8	N 4 50.8	115 07.6	S14 00.7	132 49.0	S18 59.2
A	8	98 44.1	263 26.5	S 6 35.9	287 37.8	N 4 50.1	130 10.4	S14 00.8	147 51.6	S18 59.2
Y	9	113 46.5	278 26.3	S 6 37.2	302 38.8	N 4 49.5	145 13.2	S14 00.9	162 54.2	S18 59.2
	10	128 49.0	293 26.1	S 6 38.4	317 39.8	N 4 48.8	160 16.0	S14 01.0	177 56.8	S18 59.3
	11	143 51.5	308 25.9	S 6 39.7	332 40.8	N 4 48.2	175 18.7	S14 01.1	192 59.5	S18 59.3
	12	158 53.9	323 25.7	S 6 41.0	347 41.8	N 4 47.5	190 21.5	S14 01.3	208 02.1	S18 59.4
	13	173 56.4	338 25.5	S 6 42.2	2 42.8	N 4 46.9	205 24.3	S14 01.4	223 04.7	S18 59.4
	14	188 58.9	353 25.3	S 6 43.5	17 43.8	N 4 46.3	220 27.0	S14 01.5	238 07.3	S18 59.4
	15	204 01.3	8 25.1	S 6 44.7	32 44.8	N 4 45.6	235 29.8	S14 01.6	253 09.9	S18 59.5
	16	219 03.8	23 24.9	S 6 46.0	47 45.8	N 4 45.0	250 32.6	S14 01.7	268 12.5	S18 59.5
	17	234 06.2	38 24.7	S 6 47.3	62 46.8	N 4 44.3	265 35.3	S14 01.8	283 15.2	S18 59.6
	18	249 08.7	53 24.6	S 6 48.5	77 47.8	N 4 43.7	280 38.1	S14 01.9	298 17.8	S18 59.6
	19	264 11.2	68 24.4	S 6 49.8	92 48.8	N 4 43.0	295 40.9	S14 02.0	313 20.4	S18 59.6
	20	279 13.6	83 24.2	S 6 51.0	107 49.8	N 4 42.4	310 43.6	S14 02.1	328 23.0	S18 59.7
	21	294 16.1	98 24.0	S 6 52.3	122 50.8	N 4 41.8	325 46.4	S14 02.2	343 25.6	S18 59.7
	22	309 18.6	113 23.8	S 6 53.6	137 51.8	N 4 41.1	340 49.2	S14 02.3	358 28.2	S18 59.8
	23	324 21.0	128 23.6	S 6 54.8	152 52.8	N 4 40.5	355 51.9	S14 02.4	13 30.9	S18 59.8
31	0	339 23.5	143 23.4	S 6 56.1	167 53.7	N 4 39.8	10 54.7	S14 02.6	28 33.5	S18 59.8
	1	354 26.0	158 23.2	S 6 57.3	182 54.7	N 4 39.2	25 57.5	S14 02.7	43 36.1	S18 59.9
	2	9 28.4	173 23.0	S 6 58.6	197 55.7	N 4 38.5	41 00.3	S14 02.8	58 38.7	S18 59.9
	3	24 30.9	188 22.8	S 6 59.8	212 56.7	N 4 37.9	56 03.0	S14 02.9	73 41.3	S18 60.0
	4	39 33.4	203 22.6	S 7 01.1	227 57.7	N 4 37.3	71 05.8	S14 03.0	88 43.9	S19 00.0
T	5	54 35.8	218 22.5	S 7 02.4	242 58.7	N 4 36.6	86 08.6	S14 03.1	103 46.5	S19 00.0
U										
E	6	69 38.3	233 22.3	S 7 03.6	257 59.7	N 4 36.0	101 11.3	S14 03.2	118 49.2	S19 00.1
S	7	84 40.7	248 22.1	S 7 04.9	273 00.7	N 4 35.3	116 14.1	S14 03.3	133 51.8	S19 00.1
D	8	99 43.2	263 21.9	S 7 06.1	288 01.7	N 4 34.7	131 16.9	S14 03.4	148 54.4	S19 00.2
A	9	114 45.7	278 21.7	S 7 07.4	303 02.7	N 4 34.0	146 19.6	S14 03.5	163 57.0	S19 00.2
Y	10	129 48.1	293 21.5	S 7 08.6	318 03.7	N 4 33.4	161 22.4	S14 03.6	178 59.6	S19 00.2
	11	144 50.6	308 21.3	S 7 09.9	333 04.7	N 4 32.7	176 25.2	S14 03.7	194 02.2	S19 00.3
	12	159 53.1	323 21.1	S 7 11.2	348 05.7	N 4 32.1	191 27.9	S14 03.8	209 04.8	S19 00.3
	13	174 55.5	338 20.9	S 7 12.4	3 06.7	N 4 31.5	206 30.7	S14 04.0	224 07.5	S19 00.4
	14	189 58.0	353 20.7	S 7 13.7	18 07.7	N 4 30.8	221 33.5	S14 04.1	239 10.1	S19 00.4
	15	205 00.5	8 20.5	S 7 14.9	33 08.7	N 4 30.2	236 36.2	S14 04.2	254 12.7	S19 00.4
	16	220 02.9	23 20.3	S 7 16.2	48 09.7	N 4 29.5	251 39.0	S14 04.3	269 15.3	S19 00.5
	17	235 05.4	38 20.1	S 7 17.4	63 10.7	N 4 28.9	266 41.8	S14 04.4	284 17.9	S19 00.5
	18	250 07.9	53 20.0	S 7 18.7	78 11.7	N 4 28.2	281 44.5	S14 04.5	299 20.5	S19 00.6
	19	265 10.3	68 19.8	S 7 19.9	93 12.7	N 4 27.6	296 47.3	S14 04.6	314 23.1	S19 00.6
	20	280 12.8	83 19.6	S 7 21.2	108 13.7	N 4 27.0	311 50.0	S14 04.7	329 25.8	S19 00.6
	21	295 15.2	98 19.4	S 7 22.4	123 14.7	N 4 26.3	326 52.8	S14 04.8	344 28.4	S19 00.7
	22	310 17.7	113 19.2	S 7 23.7	138 15.7	N 4 25.7	341 55.6	S14 04.9	359 31.0	S19 00.7
	23	325 20.2	128 19.0	S 7 25.0	153 16.7	N 4 25.0	356 58.3	S14 05.0	14 33.6	S19 00.8
			v -0.2	d 1.3	v 1.0	d 0.6	v 2.8	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
29	0	179 44.9	N 9 21.2	287 43.6	14.2	N16 59.5	10.1	54.4
	1	194 45.1	N 9 20.3	302 16.8	14.2	N17 09.5	10.0	54.4
	2	209 45.3	N 9 19.4	316 49.9	14.1	N17 19.5	10.0	54.4
	3	224 45.5	N 9 18.5	331 23.0	14.1	N17 29.4	9.9	54.3
	4	239 45.7	N 9 17.6	345 56.1	14.0	N17 39.2	9.8	54.3
S	5	254 45.9	N 9 16.7	0 29.1	14.0	N17 48.9	9.7	54.3
U								
N	6	269 46.1	N 9 15.8	15 02.0	14.0	N17 58.6	9.7	54.3
D	7	284 46.2	N 9 14.9	29 34.9	13.9	N18 08.2	9.6	54.3
A	8	299 46.4	N 9 14.0	44 07.8	13.9	N18 17.7	9.5	54.3
Y	9	314 46.6	N 9 13.1	58 40.6	13.8	N18 27.2	9.4	54.3
	10	329 46.8	N 9 12.3	73 13.4	13.8	N18 36.5	9.4	54.3
	11	344 47.0	N 9 11.4	87 46.1	13.7	N18 45.8	9.3	54.3
	12	359 47.2	N 9 10.5	102 18.8	13.7	N18 55.0	9.2	54.3
	13	14 47.4	N 9 09.6	116 51.4	13.6	N19 04.1	9.1	54.3
	14	29 47.6	N 9 08.7	131 24.0	13.6	N19 13.1	9.0	54.3
	15	44 47.8	N 9 07.8	145 56.5	13.5	N19 22.1	9.0	54.3
	16	59 48.0	N 9 06.9	160 29.0	13.5	N19 30.9	8.9	54.3
	17	74 48.1	N 9 06.0	175 01.4	13.4	N19 39.7	8.8	54.3
	18	89 48.3	N 9 05.1	189 33.8	13.4	N19 48.4	8.7	54.3
	19	104 48.5	N 9 04.2	204 06.1	13.3	N19 57.0	8.6	54.3
	20	119 48.7	N 9 03.3	218 38.4	13.3	N20 05.6	8.5	54.3
	21	134 48.9	N 9 02.4	233 10.6	13.2	N20 14.0	8.4	54.3
	22	149 49.1	N 9 01.5	247 42.8	13.2	N20 22.4	8.4	54.3
	23	164 49.3	N 9 00.7	262 14.9	13.1	N20 30.6	8.3	54.3
30	0	179 49.5	N 8 59.8	276 47.0	13.1	N20 38.8	8.2	54.3
	1	194 49.7	N 8 58.9	291 19.0	13.0	N20 46.9	8.1	54.3
	2	209 49.9	N 8 58.0	305 50.9	13.0	N20 54.9	8.0	54.3
	3	224 50.1	N 8 57.1	320 22.8	12.9	N21 02.8	7.9	54.3
	4	239 50.2	N 8 56.2	334 54.7	12.8	N21 10.6	7.8	54.3
M	5	254 50.4	N 8 55.3	349 26.5	12.8	N21 18.4	7.7	54.3
O								
N	6	269 50.6	N 8 54.4	3 58.2	12.7	N21 26.0	7.6	54.3
D	7	284 50.8	N 8 53.5	18 29.9	12.7	N21 33.5	7.5	54.3
A	8	299 51.0	N 8 52.6	33 01.5	12.6	N21 41.0	7.4	54.3
Y	9	314 51.2	N 8 51.7	47 33.1	12.6	N21 48.3	7.4	54.3
	10	329 51.4	N 8 50.8	62 04.6	12.5	N21 55.6	7.3	54.3
	11	344 51.6	N 8 49.9	76 36.1	12.5	N22 02.8	7.2	54.3
	12	359 51.8	N 8 49.0	91 07.5	12.4	N22 09.8	7.1	54.3
	13	14 52.0	N 8 48.1	105 38.9	12.4	N22 16.8	7.0	54.3
	14	29 52.2	N 8 47.2	120 10.2	12.3	N22 23.7	6.9	54.3
	15	44 52.4	N 8 46.3	134 41.4	12.2	N22 30.4	6.8	54.3
	16	59 52.6	N 8 45.4	149 12.6	12.2	N22 37.1	6.7	54.3
	17	74 52.8	N 8 44.5	163 43.7	12.1	N22 43.7	6.6	54.3
	18	89 52.9	N 8 43.6	178 14.8	12.1	N22 50.1	6.5	54.3
	19	104 53.1	N 8 42.7	192 45.8	12.0	N22 56.5	6.4	54.3
	20	119 53.3	N 8 41.8	207 16.8	12.0	N23 02.8	6.3	54.3
	21	134 53.5	N 8 40.9	221 47.7	11.9	N23 08.9	6.2	54.3
	22	149 53.7	N 8 40.0	236 18.6	11.9	N23 15.0	6.1	54.3
	23	164 53.9	N 8 39.1	250 49.4	11.8	N23 20.9	6.0	54.3
31	0	179 54.1	N 8 38.2	265 20.1	11.7	N23 26.8	5.9	54.3
	1	194 54.3	N 8 37.3	279 50.8	11.7	N23 32.5	5.7	54.3
	2	209 54.5	N 8 36.4	294 21.5	11.6	N23 38.2	5.6	54.3
	3	224 54.7	N 8 35.5	308 52.0	11.6	N23 43.7	5.5	54.4
	4	239 54.9	N 8 34.6	323 22.6	11.5	N23 49.1	5.4	54.4
T	5	254 55.1	N 8 33.7	337 53.1	11.5	N23 54.5	5.3	54.4
U								
E	6	269 55.3	N 8 32.8	352 23.5	11.4	N23 59.7	5.2	54.4
S	7	284 55.5	N 8 31.9	6 53.8	11.4	N24 04.8	5.1	54.4
D	8	299 55.7	N 8 31.0	21 24.2	11.3	N24 09.7	5.0	54.4
A	9	314 55.9	N 8 30.1	35 54.4	11.3	N24 14.6	4.9	54.4
Y	10	329 56.1	N 8 29.2	50 24.6	11.2	N24 19.4	4.8	54.4
	11	344 56.3	N 8 28.3	64 54.8	11.2	N24 24.0	4.7	54.4
	12	359 56.5	N 8 27.4	79 24.9	11.1	N24 28.6	4.5	54.4
	13	14 56.7	N 8 26.5	93 55.0	11.1	N24 33.0	4.4	54.4
	14	29 56.8	N 8 25.6	108 25.0	11.0	N24 37.3	4.3	54.5
	15	44 57.0	N 8 24.7	122 54.9	11.0	N24 41.5	4.2	54.5
	16	59 57.2	N 8 23.8	137 24.8	10.9	N24 45.6	4.1	54.5
	17	74 57.4	N 8 22.9	151 54.7	10.9	N24 49.6	4.0	54.5
	18	89 57.6	N 8 22.0	166 24.5	10.8	N24 53.4	3.9	54.5
	19	104 57.8	N 8 21.1	180 54.2	10.8	N24 57.2	3.7	54.5
	20	119 58.0	N 8 20.2	195 23.9	10.7	N25 00.8	3.6	54.5
	21	134 58.2	N 8 19.2	209 53.6	10.7	N25 04.3	3.5	54.5
	22	149 58.4	N 8 18.3	224 23.2	10.6	N25 07.7	3.4	54.5
	23	164 58.6	N 8 17.4	238 52.8	10.6	N25 10.9	3.3	54.6
		S.D. 15.8	d 0.9	S.D. 14.8		14.8		14.8

STARS Name	SHA	Dec
Acamar	315 13.7	S40 12.9
Achernar	335 21.9	S57 07.4
Acrux	173 03.7	S63 13.1
Adhara	255 08.2	S28 59.8
Albireo	67 06.0	N28 00.5
Aldebaran	290 42.8	N16 33.2
Alioth	166 15.8	N55 50.9
Alkaid	152 54.5	N49 12.7
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.6	S 1 11.2
Alphard	217 50.7	S 8 45.0
Alphecca	126 06.2	N26 38.8
Alpheratz	357 37.3	N29 12.6
Altair	62 02.4	N 8 55.6
Ankaa	353 09.5	S42 11.2
Antares	112 19.2	S26 28.8
Arcturus	145 50.6	N19 04.5
Atria	107 15.9	S69 04.2
Avior	234 16.3	S59 34.5
Bellatrix	278 25.9	N 6 22.2
Betelgeuse	270 55.2	N 7 24.7
Canopus	263 53.9	S52 42.1
Capella	280 26.1	N46 01.0
Castor	246 00.8	N31 50.5
Deneb	49 27.2	N45 21.6
Denebola	182 28.1	N14 27.3
Diphda	348 49.8	S17 52.0
Dubhe	193 45.1	N61 38.2
Elnath	278 05.5	N28 37.4
Eltanin	90 43.3	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.2	S57 14.0
Gienah	175 46.7	S17 39.5
Hadar	148 40.3	S60 28.7
Hamal	327 54.1	N23 33.9
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 20.4	N74 04.4
Markab	13 32.3	N15 19.3
Menkar	314 08.9	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.6	S69 48.1
Mirfak	308 32.1	N49 56.1
Nunki	75 50.9	S26 16.2
Peacock	53 09.5	S56 40.0
Polaris	317 06.2	N89 20.2
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.3
Rasalhague	96 01.0	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.6	S 8 10.4
Rigil Kent	139 44.5	S60 55.6
Sabik	102 05.9	S15 45.1
Schedar	349 33.6	N56 39.2
Shaula	96 14.0	S37 07.2
Sirius	258 28.9	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.7	S43 31.0
Vega	80 34.8	N38 48.5
Zuben-ubi	136 60.0	S16 07.8

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	340 22.6	143 18.8	S 7 26.2	168 17.7	N 4 24.4	12 01.1	S14 05.1	29 36.2	S19 00.8
	1	355 25.1	158 18.6	S 7 27.5	183 18.6	N 4 23.7	27 03.9	S14 05.2	44 38.8	S19 00.8
	2	10 27.6	173 18.4	S 7 28.7	198 19.6	N 4 23.1	42 06.6	S14 05.3	59 41.4	S19 00.9
	3	25 30.0	188 18.2	S 7 30.0	213 20.6	N 4 22.4	57 09.4	S14 05.4	74 44.0	S19 00.9
	4	40 32.5	203 18.0	S 7 31.2	228 21.6	N 4 21.8	72 12.2	S14 05.6	89 46.7	S19 01.0
W	5	55 35.0	218 17.8	S 7 32.5	243 22.6	N 4 21.1	87 14.9	S14 05.7	104 49.3	S19 01.0
E										
D	6	70 37.4	233 17.6	S 7 33.7	258 23.6	N 4 20.5	102 17.7	S14 05.8	119 51.9	S19 01.0
N	7	85 39.9	248 17.4	S 7 35.0	273 24.6	N 4 19.9	117 20.5	S14 05.9	134 54.5	S19 01.1
E	8	100 42.4	263 17.2	S 7 36.2	288 25.6	N 4 19.2	132 23.2	S14 06.0	149 57.1	S19 01.1
S	9	115 44.8	278 17.1	S 7 37.5	303 26.6	N 4 18.6	147 26.0	S14 06.1	164 59.7	S19 01.2
D	10	130 47.3	293 16.9	S 7 38.7	318 27.6	N 4 17.9	162 28.8	S14 06.2	180 02.3	S19 01.2
A	11	145 49.7	308 16.7	S 7 40.0	333 28.6	N 4 17.3	177 31.5	S14 06.3	195 04.9	S19 01.2
Y										
	12	160 52.2	323 16.5	S 7 41.2	348 29.6	N 4 16.6	192 34.3	S14 06.4	210 07.5	S19 01.3
	13	175 54.7	338 16.3	S 7 42.5	3 30.6	N 4 16.0	207 37.1	S14 06.5	225 10.2	S19 01.3
	14	190 57.1	353 16.1	S 7 43.7	18 31.6	N 4 15.3	222 39.8	S14 06.6	240 12.8	S19 01.3
	15	205 59.6	8 15.9	S 7 45.0	33 32.6	N 4 14.7	237 42.6	S14 06.7	255 15.4	S19 01.4
	16	221 02.1	23 15.7	S 7 46.2	48 33.6	N 4 14.0	252 45.3	S14 06.8	270 18.0	S19 01.4
	17	236 04.5	38 15.5	S 7 47.5	63 34.6	N 4 13.4	267 48.1	S14 06.9	285 20.6	S19 01.5
	18	251 07.0	53 15.3	S 7 48.7	78 35.6	N 4 12.8	282 50.9	S14 07.0	300 23.2	S19 01.5
	19	266 09.5	68 15.1	S 7 50.0	93 36.6	N 4 12.1	297 53.6	S14 07.1	315 25.8	S19 01.5
	20	281 11.9	83 14.9	S 7 51.2	108 37.6	N 4 11.5	312 56.4	S14 07.3	330 28.4	S19 01.6
	21	296 14.4	98 14.7	S 7 52.5	123 38.6	N 4 10.8	327 59.2	S14 07.4	345 31.0	S19 01.6
	22	311 16.8	113 14.5	S 7 53.7	138 39.6	N 4 10.2	343 01.9	S14 07.5	0 33.7	S19 01.7
	23	326 19.3	128 14.3	S 7 54.9	153 40.6	N 4 09.5	358 04.7	S14 07.6	15 36.3	S19 01.7
2	0	341 21.8	143 14.1	S 7 56.2	168 41.6	N 4 08.9	13 07.4	S14 07.7	30 38.9	S19 01.7
	1	356 24.2	158 13.9	S 7 57.4	183 42.6	N 4 08.2	28 10.2	S14 07.8	45 41.5	S19 01.8
	2	11 26.7	173 13.7	S 7 58.7	198 43.5	N 4 07.6	43 13.0	S14 07.9	60 44.1	S19 01.8
	3	26 29.2	188 13.5	S 7 59.9	213 44.5	N 4 06.9	58 15.7	S14 08.0	75 46.7	S19 01.9
	4	41 31.6	203 13.3	S 8 01.2	228 45.5	N 4 06.3	73 18.5	S14 08.1	90 49.3	S19 01.9
T	5	56 34.1	218 13.1	S 8 02.4	243 46.5	N 4 05.7	88 21.3	S14 08.2	105 51.9	S19 01.9
H										
U	6	71 36.6	233 12.9	S 8 03.7	258 47.5	N 4 05.0	103 24.0	S14 08.3	120 54.5	S19 02.0
R	7	86 39.0	248 12.7	S 8 04.9	273 48.5	N 4 04.4	118 26.8	S14 08.4	135 57.1	S19 02.0
S	8	101 41.5	263 12.5	S 8 06.2	288 49.5	N 4 03.7	133 29.5	S14 08.5	150 59.7	S19 02.0
D	9	116 44.0	278 12.3	S 8 07.4	303 50.5	N 4 03.1	148 32.3	S14 08.6	166 02.4	S19 02.1
A	10	131 46.4	293 12.2	S 8 08.6	318 51.5	N 4 02.4	163 35.1	S14 08.7	181 05.0	S19 02.1
Y	11	146 48.9	308 12.0	S 8 09.9	333 52.5	N 4 01.8	178 37.8	S14 08.8	196 07.6	S19 02.2
	12	161 51.3	323 11.8	S 8 11.1	348 53.5	N 4 01.1	193 40.6	S14 08.9	211 10.2	S19 02.2
	13	176 53.8	338 11.6	S 8 12.4	3 54.5	N 4 00.5	208 43.4	S14 09.0	226 12.8	S19 02.2
	14	191 56.3	353 11.4	S 8 13.6	18 55.5	N 3 59.8	223 46.1	S14 09.1	241 15.4	S19 02.3
	15	206 58.7	8 11.2	S 8 14.9	33 56.5	N 3 59.2	238 48.9	S14 09.3	256 18.0	S19 02.3
	16	222 01.2	23 11.0	S 8 16.1	48 57.5	N 3 58.5	253 51.6	S14 09.4	271 20.6	S19 02.4
	17	237 03.7	38 10.8	S 8 17.4	63 58.5	N 3 57.9	268 54.4	S14 09.5	286 23.2	S19 02.4
	18	252 06.1	53 10.6	S 8 18.6	78 59.5	N 3 57.2	283 57.2	S14 09.6	301 25.8	S19 02.4
	19	267 08.6	68 10.4	S 8 19.8	94 00.5	N 3 56.6	298 59.9	S14 09.7	316 28.4	S19 02.5
	20	282 11.1	83 10.2	S 8 21.1	109 01.5	N 3 56.0	314 02.7	S14 09.8	331 31.0	S19 02.5
	21	297 13.5	98 10.0	S 8 22.3	124 02.5	N 3 55.3	329 05.4	S14 09.9	346 33.7	S19 02.5
	22	312 16.0	113 09.8	S 8 23.6	139 03.5	N 3 54.7	344 08.2	S14 10.0	1 36.3	S19 02.6
	23	327 18.5	128 09.6	S 8 24.8	154 04.5	N 3 54.0	359 11.0	S14 10.1	16 38.9	S19 02.6
3	0	342 20.9	143 09.4	S 8 26.0	169 05.5	N 3 53.4	14 13.7	S14 10.2	31 41.5	S19 02.7
	1	357 23.4	158 09.2	S 8 27.3	184 06.4	N 3 52.7	29 16.5	S14 10.3	46 44.1	S19 02.7
	2	12 25.8	173 09.0	S 8 28.5	199 07.4	N 3 52.1	44 19.2	S14 10.4	61 46.7	S19 02.7
	3	27 28.3	188 08.8	S 8 29.8	214 08.4	N 3 51.4	59 22.0	S14 10.5	76 49.3	S19 02.8
	4	42 30.8	203 08.6	S 8 31.0	229 09.4	N 3 50.8	74 24.8	S14 10.6	91 51.9	S19 02.8
F	5	57 33.2	218 08.4	S 8 32.2	244 10.4	N 3 50.1	89 27.5	S14 10.7	106 54.5	S19 02.8
R										
I	6	72 35.7	233 08.2	S 8 33.5	259 11.4	N 3 49.5	104 30.3	S14 10.8	121 57.1	S19 02.9
D	7	87 38.2	248 08.0	S 8 34.7	274 12.4	N 3 48.8	119 33.0	S14 10.9	136 59.7	S19 02.9
A	8	102 40.6	263 07.8	S 8 36.0	289 13.4	N 3 48.2	134 35.8	S14 11.0	152 02.3	S19 03.0
Y	9	117 43.1	278 07.6	S 8 37.2	304 14.4	N 3 47.5	149 38.6	S14 11.1	167 04.9	S19 03.0
	10	132 45.6	293 07.4	S 8 38.4	319 15.4	N 3 46.9	164 41.3	S14 11.2	182 07.5	S19 03.0
	11	147 48.0	308 07.2	S 8 39.7	334 16.4	N 3 46.2	179 44.1	S14 11.3	197 10.1	S19 03.1
	12	162 50.5	323 07.0	S 8 40.9	349 17.4	N 3 45.6	194 46.8	S14 11.4	212 12.8	S19 03.1
	13	177 53.0	338 06.8	S 8 42.1	4 18.4	N 3 44.9	209 49.6	S14 11.5	227 15.4	S19 03.1
	14	192 55.4	353 06.6	S 8 43.4	19 19.4	N 3 44.3	224 52.3	S14 11.6	242 18.0	S19 03.2
	15	207 57.9	8 06.4	S 8 44.6	34 20.4	N 3 43.6	239 55.1	S14 11.7	257 20.6	S19 03.2
	16	223 00.3	23 06.2	S 8 45.8	49 21.4	N 3 43.0	254 57.9	S14 11.8	272 23.2	S19 03.3
	17	238 02.8	38 06.0	S 8 47.1	64 22.4	N 3 42.3	270 00.6	S14 11.9	287 25.8	S19 03.3
	18	253 05.3	53 05.8	S 8 48.3	79 23.4	N 3 41.7	285 03.4	S14 12.1	302 28.4	S19 03.3
	19	268 07.7	68 05.6	S 8 49.6	94 24.4	N 3 41.1	300 06.1	S14 12.2	317 31.0	S19 03.4
	20	283 10.2	83 05.4	S 8 50.8	109 25.4	N 3 40.4	315 08.9	S14 12.3	332 33.6	S19 03.4
	21	298 12.7	98 05.2	S 8 52.0	124 26.4	N 3 39.8	330 11.6	S14 12.4	347 36.2	S19 03.4
	22	313 15.1	113 05.0	S 8 53.3	139 27.4	N 3 39.1	345 14.4	S14 12.5	2 38.8	S19 03.5
	23	328 17.6	128 04.8	S 8 54.5	154 28.4	N 3 38.5	0 17.2	S14 12.6	17 41.4	S19 03.5
			v -0.2	d 1.2	v 1.0	d 0.6	v 2.8	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
		° '	° '	° '	'	° '	'	'
1	0	179 58.8	N 8 16.5	253 22.3	10.5	N25 14.1	3.1	54.6
	1	194 59.0	N 8 15.6	267 51.8	10.5	N25 17.1	3.0	54.6
	2	209 59.2	N 8 14.7	282 21.2	10.4	N25 20.0	2.9	54.6
	3	224 59.4	N 8 13.8	296 50.6	10.4	N25 22.8	2.8	54.6
	4	239 59.6	N 8 12.9	311 19.9	10.3	N25 25.4	2.7	54.6
W	5	254 59.8	N 8 12.0	325 49.2	10.3	N25 28.0	2.5	54.6
E								
D	6	270 00.0	N 8 11.1	340 18.5	10.3	N25 30.4	2.4	54.7
N	7	285 00.2	N 8 10.2	354 47.7	10.2	N25 32.6	2.3	54.7
E	8	300 00.4	N 8 09.3	9 16.8	10.2	N25 34.8	2.2	54.7
S	9	315 00.6	N 8 08.4	23 46.0	10.1	N25 36.9	2.0	54.7
D	10	330 00.8	N 8 07.5	38 15.1	10.1	N25 38.8	1.9	54.7
A	11	345 01.0	N 8 06.5	52 44.1	10.1	N25 40.6	1.8	54.7
Y								
	12	0 01.2	N 8 05.6	67 13.1	10.0	N25 42.2	1.7	54.8
	13	15 01.4	N 8 04.7	81 42.1	10.0	N25 43.7	1.5	54.8
	14	30 01.6	N 8 03.8	96 11.0	9.9	N25 45.2	1.4	54.8
	15	45 01.8	N 8 02.9	110 40.0	9.9	N25 46.4	1.3	54.8
	16	60 02.0	N 8 02.0	125 08.8	9.9	N25 47.6	1.2	54.8
	17	75 02.2	N 8 01.1	139 37.7	9.8	N25 48.6	1.0	54.8
	18	90 02.4	N 8 00.2	154 06.5	9.8	N25 49.5	0.9	54.9
	19	105 02.6	N 7 59.3	168 35.2	9.8	N25 50.3	0.8	54.9
	20	120 02.8	N 7 58.4	183 04.0	9.7	N25 50.9	0.6	54.9
	21	135 03.0	N 7 57.4	197 32.7	9.7	N25 51.4	0.5	54.9
	22	150 03.2	N 7 56.5	212 01.3	9.7	N25 51.8	0.4	54.9
	23	165 03.4	N 7 55.6	226 30.0	9.6	N25 52.1	0.2	54.9
2	0	180 03.6	N 7 54.7	240 58.6	9.6	N25 52.2	0.1	55.0
	1	195 03.8	N 7 53.8	255 27.2	9.6	N25 52.2	0.0	55.0
	2	210 04.0	N 7 52.9	269 55.8	9.6	N25 52.0	0.1	55.0
	3	225 04.2	N 7 52.0	284 24.3	9.5	N25 51.7	0.3	55.0
	4	240 04.4	N 7 51.1	298 52.8	9.5	N25 51.3	0.4	55.0
T	5	255 04.6	N 7 50.1	313 21.3	9.5	N25 50.8	0.5	55.1
H								
U	6	270 04.8	N 7 49.2	327 49.8	9.5	N25 50.1	0.7	55.1
R	7	285 05.0	N 7 48.3	342 18.3	9.5	N25 49.3	0.8	55.1
S	8	300 05.2	N 7 47.4	356 46.7	9.4	N25 48.4	0.9	55.1
D	9	315 05.4	N 7 46.5	11 15.1	9.4	N25 47.3	1.1	55.2
A	10	330 05.6	N 7 45.6	25 43.5	9.4	N25 46.1	1.2	55.2
Y	11	345 05.8	N 7 44.7	40 11.9	9.4	N25 44.8	1.3	55.2
	12	0 06.0	N 7 43.8	54 40.2	9.4	N25 43.3	1.5	55.2
	13	15 06.2	N 7 42.8	69 08.6	9.3	N25 41.7	1.6	55.2
	14	30 06.4	N 7 41.9	83 36.9	9.3	N25 39.9	1.7	55.3
	15	45 06.6	N 7 41.0	98 05.2	9.3	N25 38.1	1.9	55.3
	16	60 06.8	N 7 40.1	112 33.5	9.3	N25 36.0	2.0	55.3
	17	75 07.0	N 7 39.2	127 01.8	9.3	N25 33.9	2.1	55.3
	18	90 07.2	N 7 38.3	141 30.1	9.3	N25 31.6	2.3	55.4
	19	105 07.4	N 7 37.3	155 58.4	9.3	N25 29.2	2.4	55.4
	20	120 07.6	N 7 36.4	170 26.7	9.3	N25 26.7	2.5	55.4
	21	135 07.8	N 7 35.5	184 54.9	9.3	N25 24.0	2.7	55.4
	22	150 08.0	N 7 34.6	199 23.2	9.3	N25 21.2	2.8	55.4
	23	165 08.2	N 7 33.7	213 51.4	9.2	N25 18.2	3.0	55.5
3	0	180 08.4	N 7 32.8	228 19.7	9.2	N25 15.1	3.1	55.5
	1	195 08.6	N 7 31.8	242 47.9	9.2	N25 11.9	3.2	55.5
	2	210 08.9	N 7 30.9	257 16.1	9.2	N25 08.5	3.4	55.5
	3	225 09.1	N 7 30.0	271 44.4	9.2	N25 05.1	3.5	55.6
	4	240 09.3	N 7 29.1	286 12.6	9.2	N25 01.4	3.6	55.6
F	5	255 09.5	N 7 28.2	300 40.9	9.2	N24 57.7	3.8	55.6
R								
I	6	270 09.7	N 7 27.3	315 09.1	9.2	N24 53.8	3.9	55.6
D	7	285 09.9	N 7 26.3	329 37.3	9.2	N24 49.7	4.0	55.7
A	8	300 10.1	N 7 25.4	344 05.6	9.2	N24 45.6	4.2	55.7
Y	9	315 10.3	N 7 24.5	358 33.8	9.2	N24 41.3	4.3	55.7
	10	330 10.5	N 7 23.6	13 02.1	9.3	N24 36.8	4.4	55.7
	11	345 10.7	N 7 22.7	27 30.4	9.3	N24 32.3	4.6	55.8
	12	0 10.9	N 7 21.7	41 58.6	9.3	N24 27.6	4.7	55.8
	13	15 11.1	N 7 20.8	56 26.9	9.3	N24 22.7	4.8	55.8
	14	30 11.3	N 7 19.9	70 55.2	9.3	N24 17.8	5.0	55.9
	15	45 11.5	N 7 19.0	85 23.5	9.3	N24 12.7	5.1	55.9
	16	60 11.7	N 7 18.1	99 51.8	9.3	N24 07.5	5.2	55.9
	17	75 11.9	N 7 17.1	114 20.1	9.3	N24 02.1	5.4	55.9
	18	90 12.1	N 7 16.2	128 48.4	9.3	N23 56.6	5.5	56.0
	19	105 12.3	N 7 15.3	143 16.8	9.3	N23 51.0	5.6	56.0
	20	120 12.5	N 7 14.4	157 45.1	9.4	N23 45.2	5.8	56.0
	21	135 12.7	N 7 13.5	172 13.5	9.4	N23 39.3	5.9	56.0
	22	150 12.9	N 7 12.5	186 41.9	9.4	N23 33.3	6.0	56.1
	23	165 13.1	N 7 11.6	201 10.3	9.4	N23 27.1	6.2	56.1
		S.D. 15.9	d 0.9	S.D.	14.9	15.0	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.7	S40 12.9
Achernar	335 21.9	S57 07.4
Acrux	173 03.7	S63 13.1
Adhara	255 08.2	S28 59.8
Albireo	67 06.0	N28 00.5
Aldebaran	290 42.8	N16 33.2
Alioth	166 15.9	N55 50.9
Alkaid	152 54.5	N49 12.6
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.6	S 1 11.2
Alphard	217 50.7	S 8 45.0
Alphecca	126 06.2	N26 38.8
Alpheratz	357 37.3	N29 12.6
Altair	62 02.4	N 8 55.6
Ankaa	353 09.5	S42 11.2
Antares	112 19.2	S26 28.8
Arcturus	145 50.6	N19 04.5
Atria	107 15.9	S69 04.2
Avior	234 16.3	S59 34.5
Bellatrix	278 25.9	N 6 22.2
Betelgeuse	270 55.2	N 7 24.7
Canopus	263 53.8	S52 42.1
Capella	280 26.0	N46 01.0
Castor	246 00.8	N31 50.5
Deneb	49 27.2	N45 21.6
Denebola	182 28.1	N14 27.3
Diphda	348 49.8	S17 52.0
Dubhe	193 45.1	N61 38.2
Elnath	278 05.4	N28 37.4
Eltanin	90 43.3	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.2	S57 14.0
Gienah	175 46.7	S17 39.5
Hadar	148 40.3	S60 28.7
Hamal	327 54.1	N23 33.9
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 20.5	N74 04.3
Markab	13 32.3	N15 19.3
Menkar	314 08.9	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.5	S69 48.1
Mirfak	308 32.0	N49 56.1
Nunki	75 50.9	S26 16.2
Peacock	53 09.5	S56 40.0
Polaris	317 05.0	N89 20.2
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.3
Rasalhague	96 01.0	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.6	S 8 10.4
Rigil Kent	139 44.5	S60 55.6
Sabik	102 05.9	S15 45.1
Schedar	349 33.6	N56 39.2
Shaula	96 14.0	S37 07.2
Sirius	258 28.8	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.7	S43 30.9
Vega	80 34.9	N38 48.5
Zuben-ubi	136 60.0	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
4	0	343 20.1	143 04.5	S 8 55.7	169 29.3	N 3 37.8	15 19.9	S14 12.7	32 44.0	S19 03.6
	1	358 22.5	158 04.3	S 8 57.0	184 30.3	N 3 37.2	30 22.7	S14 12.8	47 46.6	S19 03.6
	2	13 25.0	173 04.1	S 8 58.2	199 31.3	N 3 36.5	45 25.4	S14 12.9	62 49.2	S19 03.6
	3	28 27.5	188 03.9	S 8 59.4	214 32.3	N 3 35.9	60 28.2	S14 13.0	77 51.8	S19 03.7
	4	43 29.9	203 03.7	S 9 00.7	229 33.3	N 3 35.2	75 30.9	S14 13.1	92 54.4	S19 03.7
S	5	58 32.4	218 03.5	S 9 01.9	244 34.3	N 3 34.6	90 33.7	S14 13.2	107 57.0	S19 03.7
A										
T	6	73 34.8	233 03.3	S 9 03.1	259 35.3	N 3 33.9	105 36.5	S14 13.3	122 59.6	S19 03.8
U	7	88 37.3	248 03.1	S 9 04.4	274 36.3	N 3 33.3	120 39.2	S14 13.4	138 02.2	S19 03.8
R	8	103 39.8	263 02.9	S 9 05.6	289 37.3	N 3 32.6	135 42.0	S14 13.5	153 04.8	S19 03.8
D	9	118 42.2	278 02.7	S 9 06.8	304 38.3	N 3 32.0	150 44.7	S14 13.6	168 07.4	S19 03.9
A	10	133 44.7	293 02.5	S 9 08.0	319 39.3	N 3 31.3	165 47.5	S14 13.7	183 10.1	S19 03.9
Y	11	148 47.2	308 02.3	S 9 09.3	334 40.3	N 3 30.7	180 50.2	S14 13.8	198 12.7	S19 04.0
	12	163 49.6	323 02.1	S 9 10.5	349 41.3	N 3 30.0	195 53.0	S14 13.9	213 15.3	S19 04.0
	13	178 52.1	338 01.9	S 9 11.7	4 42.3	N 3 29.4	210 55.7	S14 14.0	228 17.9	S19 04.0
	14	193 54.6	353 01.7	S 9 13.0	19 43.3	N 3 28.7	225 58.5	S14 14.1	243 20.5	S19 04.1
	15	208 57.0	8 01.5	S 9 14.2	34 44.3	N 3 28.1	241 01.3	S14 14.2	258 23.1	S19 04.1
	16	223 59.5	23 01.3	S 9 15.4	49 45.3	N 3 27.4	256 04.0	S14 14.3	273 25.7	S19 04.1
	17	239 01.9	38 01.1	S 9 16.6	64 46.3	N 3 26.8	271 06.8	S14 14.4	288 28.3	S19 04.2
	18	254 04.4	53 00.9	S 9 17.9	79 47.3	N 3 26.1	286 09.5	S14 14.5	303 30.9	S19 04.2
	19	269 06.9	68 00.7	S 9 19.1	94 48.3	N 3 25.5	301 12.3	S14 14.6	318 33.5	S19 04.2
	20	284 09.3	83 00.5	S 9 20.3	109 49.3	N 3 24.8	316 15.0	S14 14.7	333 36.1	S19 04.3
	21	299 11.8	98 00.3	S 9 21.6	124 50.2	N 3 24.2	331 17.8	S14 14.8	348 38.7	S19 04.3
	22	314 14.3	113 00.1	S 9 22.8	139 51.2	N 3 23.5	346 20.5	S14 14.9	3 41.3	S19 04.4
	23	329 16.7	127 59.8	S 9 24.0	154 52.2	N 3 22.9	1 23.3	S14 15.0	18 43.9	S19 04.4
5	0	344 19.2	142 59.6	S 9 25.2	169 53.2	N 3 22.2	16 26.0	S14 15.1	33 46.5	S19 04.4
	1	359 21.7	157 59.4	S 9 26.5	184 54.2	N 3 21.6	31 28.8	S14 15.2	48 49.1	S19 04.5
	2	14 24.1	172 59.2	S 9 27.7	199 55.2	N 3 20.9	46 31.5	S14 15.3	63 51.7	S19 04.5
	3	29 26.6	187 59.0	S 9 28.9	214 56.2	N 3 20.3	61 34.3	S14 15.4	78 54.3	S19 04.5
	4	44 29.1	202 58.8	S 9 30.1	229 57.2	N 3 19.6	76 37.1	S14 15.5	93 56.9	S19 04.6
S	5	59 31.5	217 58.6	S 9 31.4	244 58.2	N 3 19.0	91 39.8	S14 15.6	108 59.5	S19 04.6
U										
N	6	74 34.0	232 58.4	S 9 32.6	259 59.2	N 3 18.3	106 42.6	S14 15.7	124 02.1	S19 04.6
D	7	89 36.4	247 58.2	S 9 33.8	275 00.2	N 3 17.7	121 45.3	S14 15.8	139 04.7	S19 04.7
A	8	104 38.9	262 58.0	S 9 35.0	290 01.2	N 3 17.0	136 48.1	S14 15.9	154 07.3	S19 04.7
Y	9	119 41.4	277 57.8	S 9 36.3	305 02.2	N 3 16.4	151 50.8	S14 16.0	169 09.9	S19 04.8
	10	134 43.8	292 57.6	S 9 37.5	320 03.2	N 3 15.7	166 53.6	S14 16.1	184 12.5	S19 04.8
	11	149 46.3	307 57.4	S 9 38.7	335 04.2	N 3 15.1	181 56.3	S14 16.2	199 15.1	S19 04.8
	12	164 48.8	322 57.1	S 9 39.9	350 05.2	N 3 14.4	196 59.1	S14 16.3	214 17.7	S19 04.9
	13	179 51.2	337 56.9	S 9 41.2	5 06.2	N 3 13.8	212 01.8	S14 16.4	229 20.3	S19 04.9
	14	194 53.7	352 56.7	S 9 42.4	20 07.2	N 3 13.1	227 04.6	S14 16.5	244 22.9	S19 04.9
	15	209 56.2	7 56.5	S 9 43.6	35 08.2	N 3 12.5	242 07.3	S14 16.6	259 25.5	S19 05.0
	16	224 58.6	22 56.3	S 9 44.8	50 09.2	N 3 11.8	257 10.1	S14 16.7	274 28.1	S19 05.0
	17	240 01.1	37 56.1	S 9 46.0	65 10.1	N 3 11.2	272 12.8	S14 16.8	289 30.7	S19 05.0
	18	255 03.6	52 55.9	S 9 47.3	80 11.1	N 3 10.5	287 15.6	S14 16.9	304 33.3	S19 05.1
	19	270 06.0	67 55.7	S 9 48.5	95 12.1	N 3 09.9	302 18.3	S14 17.0	319 35.9	S19 05.1
	20	285 08.5	82 55.5	S 9 49.7	110 13.1	N 3 09.2	317 21.1	S14 17.1	334 38.5	S19 05.1
	21	300 10.9	97 55.3	S 9 50.9	125 14.1	N 3 08.6	332 23.8	S14 17.2	349 41.1	S19 05.2
	22	315 13.4	112 55.1	S 9 52.1	140 15.1	N 3 07.9	347 26.6	S14 17.3	4 43.7	S19 05.2
	23	330 15.9	127 54.8	S 9 53.4	155 16.1	N 3 07.3	2 29.3	S14 17.4	19 46.3	S19 05.3
6	0	345 18.3	142 54.6	S 9 54.6	170 17.1	N 3 06.6	17 32.1	S14 17.5	34 48.9	S19 05.3
	1	0 20.8	157 54.4	S 9 55.8	185 18.1	N 3 06.0	32 34.8	S14 17.6	49 51.5	S19 05.3
	2	15 23.3	172 54.2	S 9 57.0	200 19.1	N 3 05.3	47 37.6	S14 17.7	64 54.1	S19 05.4
	3	30 25.7	187 54.0	S 9 58.2	215 20.1	N 3 04.7	62 40.3	S14 17.8	79 56.7	S19 05.4
	4	45 28.2	202 53.8	S 9 59.4	230 21.1	N 3 04.0	77 43.1	S14 17.9	94 59.3	S19 05.4
M	5	60 30.7	217 53.6	S10 00.7	245 22.1	N 3 03.4	92 45.8	S14 18.0	110 01.9	S19 05.5
O										
N	6	75 33.1	232 53.4	S10 01.9	260 23.1	N 3 02.7	107 48.6	S14 18.1	125 04.5	S19 05.5
D	7	90 35.6	247 53.2	S10 03.1	275 24.1	N 3 02.1	122 51.3	S14 18.2	140 07.1	S19 05.5
A	8	105 38.0	262 52.9	S10 04.3	290 25.1	N 3 01.4	137 54.1	S14 18.3	155 09.7	S19 05.6
Y	9	120 40.5	277 52.7	S10 05.5	305 26.1	N 3 00.8	152 56.8	S14 18.4	170 12.3	S19 05.6
	10	135 43.0	292 52.5	S10 06.7	320 27.1	N 3 00.1	167 59.6	S14 18.5	185 14.9	S19 05.6
	11	150 45.4	307 52.3	S10 08.0	335 28.0	N 2 59.5	183 02.3	S14 18.6	200 17.5	S19 05.7
	12	165 47.9	322 52.1	S10 09.2	350 29.0	N 2 58.8	198 05.1	S14 18.7	215 20.1	S19 05.7
	13	180 50.4	337 51.9	S10 10.4	5 30.0	N 2 58.1	213 07.8	S14 18.8	230 22.7	S19 05.7
	14	195 52.8	352 51.7	S10 11.6	20 31.0	N 2 57.5	228 10.6	S14 18.9	245 25.3	S19 05.8
	15	210 55.3	7 51.5	S10 12.8	35 32.0	N 2 56.8	243 13.3	S14 19.0	260 27.8	S19 05.8
	16	225 57.8	22 51.2	S10 14.0	50 33.0	N 2 56.2	258 16.1	S14 19.1	275 30.4	S19 05.9
	17	241 00.2	37 51.0	S10 15.2	65 34.0	N 2 55.5	273 18.8	S14 19.2	290 33.0	S19 05.9
	18	256 02.7	52 50.8	S10 16.4	80 35.0	N 2 54.9	288 21.5	S14 19.3	305 35.6	S19 05.9
	19	271 05.2	67 50.6	S10 17.7	95 36.0	N 2 54.2	303 24.3	S14 19.4	320 38.2	S19 06.0
	20	286 07.6	82 50.4	S10 18.9	110 37.0	N 2 53.6	318 27.0	S14 19.5	335 40.8	S19 06.0
	21	301 10.1	97 50.2	S10 20.1	125 38.0	N 2 52.9	333 29.8	S14 19.6	350 43.4	S19 06.0
	22	316 12.5	112 50.0	S10 21.3	140 39.0	N 2 52.3	348 32.5	S14 19.7	5 46.0	S19 06.1
	23	331 15.0	127 49.7	S10 22.5	155 40.0	N 2 51.6	3 35.3	S14 19.8	20 48.6	S19 06.1
			v -0.2	d 1.2	v 1.0	d 0.7	v 2.8	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
4 0	180 13.4	N 7 10.7	215 38.7	9.4	N23 20.9	6.3	56.1	Acamar	315 13.6 S40 12.9
1	195 13.6	N 7 09.8	230 07.2	9.4	N23 14.5	6.4	56.2	Achernar	335 21.8 S57 07.4
2	210 13.8	N 7 08.8	244 35.6	9.5	N23 07.9	6.5	56.2	Acrux	173 03.7 S63 13.1
3	225 14.0	N 7 07.9	259 04.1	9.5	N23 01.2	6.7	56.2	Adhara	255 08.2 S28 59.8
4	240 14.2	N 7 07.0	273 32.6	9.5	N22 54.4	6.8	56.2	Albireo	67 06.0 N28 00.5
S 5	255 14.4	N 7 06.1	288 01.1	9.5	N22 47.5	6.9	56.3		
A								Aldebaran	290 42.7 N16 33.2
T 6	270 14.6	N 7 05.2	302 29.7	9.5	N22 40.5	7.1	56.3	Alioth	166 15.9 N55 50.9
U 7	285 14.8	N 7 04.2	316 58.3	9.6	N22 33.3	7.2	56.3	Alkaid	152 54.5 N49 12.6
R 8	300 15.0	N 7 03.3	331 26.8	9.6	N22 26.0	7.3	56.3	Al Na-ir	27 35.9 S46 51.4
D 9	315 15.2	N 7 02.4	345 55.5	9.6	N22 18.5	7.4	56.4	Alnilam	275 40.5 S 1 11.2
A 10	330 15.4	N 7 01.5	0 24.1	9.6	N22 11.0	7.6	56.4		
Y 11	345 15.6	N 7 00.5	14 52.7	9.7	N22 03.3	7.7	56.4	Alphard	217 50.7 S 8 44.9
								Alphecca	126 06.2 N26 38.8
12	0 15.8	N 6 59.6	29 21.4	9.7	N21 55.5	7.8	56.5	Alpheratz	357 37.3 N29 12.6
13	15 16.0	N 6 58.7	43 50.1	9.7	N21 47.6	7.9	56.5	Altair	62 02.4 N 8 55.6
14	30 16.2	N 6 57.8	58 18.9	9.7	N21 39.5	8.1	56.5	Ankaa	353 09.5 S42 11.2
15	45 16.5	N 6 56.8	72 47.6	9.8	N21 31.3	8.2	56.5		
16	60 16.7	N 6 55.9	87 16.4	9.8	N21 23.0	8.3	56.6	Antares	112 19.2 S26 28.8
17	75 16.9	N 6 55.0	101 45.3	9.8	N21 14.6	8.4	56.6	Arcturus	145 50.6 N19 04.4
								Atria	107 15.9 S69 04.2
18	90 17.1	N 6 54.1	116 14.1	9.8	N21 06.1	8.5	56.6	Avior	234 16.3 S59 34.4
19	105 17.3	N 6 53.1	130 43.0	9.9	N20 57.4	8.7	56.7	Bellatrix	278 25.9 N 6 22.2
20	120 17.5	N 6 52.2	145 11.9	9.9	N20 48.6	8.8	56.7		
21	135 17.7	N 6 51.3	159 40.8	9.9	N20 39.7	8.9	56.7	Betelgeuse	270 55.1 N 7 24.8
22	150 17.9	N 6 50.4	174 09.8	10.0	N20 30.7	9.0	56.8	Canopus	263 53.8 S52 42.1
23	165 18.1	N 6 49.4	188 38.8	10.0	N20 21.6	9.1	56.8	Capella	280 26.0 N46 01.0
5 0	180 18.3	N 6 48.5	203 07.8	10.0	N20 12.3	9.3	56.8	Castor	246 00.8 N31 50.5
1	195 18.5	N 6 47.6	217 36.9	10.1	N20 03.0	9.4	56.8	Deneb	49 27.2 N45 21.6
2	210 18.7	N 6 46.6	232 05.9	10.1	N19 53.5	9.5	56.9		
3	225 18.9	N 6 45.7	246 35.1	10.1	N19 43.9	9.6	56.9	Denebola	182 28.0 N14 27.3
4	240 19.2	N 6 44.8	261 04.2	10.1	N19 34.2	9.7	56.9	Diphda	348 49.8 S17 52.0
S 5	255 19.4	N 6 43.9	275 33.4	10.2	N19 24.4	9.8	57.0	Dubhe	193 45.1 N61 38.2
U								Elnath	278 05.4 N28 37.4
N 6	270 19.6	N 6 42.9	290 02.6	10.2	N19 14.4	9.9	57.0	Eltanin	90 43.3 N51 29.4
D 7	285 19.8	N 6 42.0	304 31.8	10.2	N19 04.4	10.0	57.0		
A 8	300 20.0	N 6 41.1	319 01.1	10.3	N18 54.2	10.2	57.0	Enif	33 41.1 N 9 58.5
Y 9	315 20.2	N 6 40.2	333 30.4	10.3	N18 44.0	10.3	57.1	Fomalhaut	15 17.2 S29 30.4
10	330 20.4	N 6 39.2	347 59.8	10.3	N18 33.6	10.4	57.1	Gacrux	171 55.2 S57 14.0
11	345 20.6	N 6 38.3	2 29.1	10.4	N18 23.1	10.5	57.1	Gienah	175 46.7 S17 39.5
								Hadar	148 40.3 S60 28.7
12	0 20.8	N 6 37.4	16 58.5	10.4	N18 12.5	10.6	57.2		
13	15 21.0	N 6 36.4	31 28.0	10.4	N18 01.8	10.7	57.2	Hamal	327 54.1 N23 33.9
14	30 21.2	N 6 35.5	45 57.5	10.5	N17 51.0	10.8	57.2	Kaus Austr.	83 36.0 S34 22.5
15	45 21.5	N 6 34.6	60 27.0	10.5	N17 40.1	10.9	57.2	Kochab	137 20.5 N74 04.3
16	60 21.7	N 6 33.6	74 56.5	10.5	N17 29.1	11.0	57.3	Markab	13 32.3 N15 19.3
17	75 21.9	N 6 32.7	89 26.1	10.6	N17 18.0	11.1	57.3	Menkar	314 08.8 N 4 10.5
								Menkent	148 01.1 S36 28.6
18	90 22.1	N 6 31.8	103 55.7	10.6	N17 06.8	11.2	57.3	Miaplacidus	221 39.5 S69 48.1
19	105 22.3	N 6 30.9	118 25.3	10.6	N16 55.5	11.3	57.4	Mirfak	308 32.0 N49 56.1
20	120 22.5	N 6 29.9	132 55.0	10.7	N16 44.1	11.4	57.4	Nunki	75 51.0 S26 16.2
21	135 22.7	N 6 29.0	147 24.7	10.7	N16 32.6	11.5	57.4	Peacock	53 09.5 S56 40.1
22	150 22.9	N 6 28.1	161 54.4	10.7	N16 21.0	11.6	57.4		
23	165 23.1	N 6 27.1	176 24.2	10.8	N16 09.3	11.7	57.5	Polaris	317 04.1 N89 20.2
6 0	180 23.3	N 6 26.2	190 53.9	10.8	N15 57.5	11.8	57.5	Pollux	243 20.9 N27 58.5
1	195 23.6	N 6 25.3	205 23.8	10.8	N15 45.6	11.9	57.5	Procyon	244 53.9 N 5 10.3
2	210 23.8	N 6 24.3	219 53.6	10.9	N15 33.6	12.0	57.6	Rasalhague	96 01.1 N12 32.9
3	225 24.0	N 6 23.4	234 23.5	10.9	N15 21.5	12.1	57.6	Regulus	207 37.7 N11 51.9
4	240 24.2	N 6 22.5	248 53.4	10.9	N15 09.3	12.2	57.6		
M 5	255 24.4	N 6 21.5	263 23.4	10.9	N14 57.1	12.3	57.6	Rigel	281 06.5 S 8 10.4
O								Rigil Kent	139 44.5 S60 55.6
N 6	270 24.6	N 6 20.6	277 53.4	11.0	N14 44.7	12.3	57.7	Sabik	102 05.9 S15 45.1
D 7	285 24.8	N 6 19.7	292 23.4	11.0	N14 32.3	12.4	57.7	Schedar	349 33.6 N56 39.2
A 8	300 25.0	N 6 18.7	306 53.4	11.0	N14 19.8	12.5	57.7	Shaula	96 14.0 S37 07.2
Y 9	315 25.2	N 6 17.8	321 23.5	11.1	N14 07.2	12.6	57.7	Sirius	258 28.8 S16 44.5
10	330 25.5	N 6 16.9	335 53.6	11.1	N13 54.5	12.7	57.8	Spica	158 25.4 S11 16.3
11	345 25.7	N 6 15.9	350 23.7	11.1	N13 41.7	12.8	57.8	Suhail	222 48.7 S43 30.9
								Vega	80 34.9 N38 48.5
12	0 25.9	N 6 15.0	4 53.9	11.2	N13 28.8	12.9	57.8	Zuben-ubi	136 60.0 S16 07.8
13	15 26.1	N 6 14.1	19 24.0	11.2	N13 15.9	12.9	57.9		
14	30 26.3	N 6 13.1	33 54.2	11.2	N13 02.9	13.0	57.9		
15	45 26.5	N 6 12.2	48 24.5	11.2	N12 49.8	13.1	57.9		
16	60 26.7	N 6 11.3	62 54.7	11.3	N12 36.6	13.2	57.9		
17	75 26.9	N 6 10.3	77 25.0	11.3	N12 23.3	13.3	58.0		
18	90 27.1	N 6 09.4	91 55.3	11.3	N12 10.0	13.3	58.0		
19	105 27.4	N 6 08.5	106 25.7	11.3	N11 56.6	13.4	58.0		
20	120 27.6	N 6 07.5	120 56.0	11.4	N11 43.1	13.5	58.0		
21	135 27.8	N 6 06.6	135 26.4	11.4	N11 29.6	13.5	58.1		
22	150 28.0	N 6 05.7	149 56.8	11.4	N11 16.0	13.6	58.1		
23	165 28.2	N 6 04.7	164 27.3	11.4	N11 02.3	13.7	58.1		
	S.D. 15.9	d 0.9	S.D.	15.4	15.6	15.8			

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
7 0	346 17.5	142 49.5	S10 23.7	170 41.0	N 2 51.0	18 38.0	S14 19.9	35 51.2	S19 06.1
1	1 19.9	157 49.3	S10 24.9	185 42.0	N 2 50.3	33 40.8	S14 20.0	50 53.8	S19 06.2
2	16 22.4	172 49.1	S10 26.1	200 43.0	N 2 49.7	48 43.5	S14 20.1	65 56.4	S19 06.2
3	31 24.9	187 48.9	S10 27.3	215 44.0	N 2 49.0	63 46.3	S14 20.2	80 59.0	S19 06.2
4	46 27.3	202 48.7	S10 28.6	230 45.0	N 2 48.4	78 49.0	S14 20.3	96 01.6	S19 06.3
T 5	61 29.8	217 48.4	S10 29.8	245 45.9	N 2 47.7	93 51.8	S14 20.4	111 04.2	S19 06.3
U									
E 6	76 32.3	232 48.2	S10 31.0	260 46.9	N 2 47.1	108 54.5	S14 20.5	126 06.8	S19 06.3
S 7	91 34.7	247 48.0	S10 32.2	275 47.9	N 2 46.4	123 57.2	S14 20.6	141 09.4	S19 06.4
D 8	106 37.2	262 47.8	S10 33.4	290 48.9	N 2 45.8	138 60.0	S14 20.7	156 12.0	S19 06.4
A 9	121 39.6	277 47.6	S10 34.6	305 49.9	N 2 45.1	154 02.7	S14 20.8	171 14.6	S19 06.4
Y 10	136 42.1	292 47.4	S10 35.8	320 50.9	N 2 44.5	169 05.5	S14 20.9	186 17.2	S19 06.5
11	151 44.6	307 47.2	S10 37.0	335 51.9	N 2 43.8	184 08.2	S14 21.0	201 19.8	S19 06.5
12	166 47.0	322 46.9	S10 38.2	350 52.9	N 2 43.2	199 11.0	S14 21.1	216 22.4	S19 06.5
13	181 49.5	337 46.7	S10 39.4	5 53.9	N 2 42.5	214 13.7	S14 21.1	231 24.9	S19 06.6
14	196 52.0	352 46.5	S10 40.6	20 54.9	N 2 41.8	229 16.5	S14 21.2	246 27.5	S19 06.6
15	211 54.4	7 46.3	S10 41.8	35 55.9	N 2 41.2	244 19.2	S14 21.3	261 30.1	S19 06.6
16	226 56.9	22 46.1	S10 43.0	50 56.9	N 2 40.5	259 21.9	S14 21.4	276 32.7	S19 06.7
17	241 59.4	37 45.8	S10 44.2	65 57.9	N 2 39.9	274 24.7	S14 21.5	291 35.3	S19 06.7
18	257 01.8	52 45.6	S10 45.4	80 58.9	N 2 39.2	289 27.4	S14 21.6	306 37.9	S19 06.7
19	272 04.3	67 45.4	S10 46.6	95 59.9	N 2 38.6	304 30.2	S14 21.7	321 40.5	S19 06.8
20	287 06.8	82 45.2	S10 47.8	111 00.9	N 2 37.9	319 32.9	S14 21.8	336 43.1	S19 06.8
21	302 09.2	97 45.0	S10 49.0	126 01.9	N 2 37.3	334 35.7	S14 21.9	351 45.7	S19 06.8
22	317 11.7	112 44.8	S10 50.2	141 02.8	N 2 36.6	349 38.4	S14 22.0	6 48.3	S19 06.9
23	332 14.1	127 44.5	S10 51.5	156 03.8	N 2 36.0	4 41.1	S14 22.1	21 50.9	S19 06.9
8 0	347 16.6	142 44.3	S10 52.7	171 04.8	N 2 35.3	19 43.9	S14 22.2	36 53.5	S19 06.9
1	2 19.1	157 44.1	S10 53.9	186 05.8	N 2 34.7	34 46.6	S14 22.3	51 56.1	S19 07.0
2	17 21.5	172 43.9	S10 55.1	201 06.8	N 2 34.0	49 49.4	S14 22.4	66 58.7	S19 07.0
3	32 24.0	187 43.7	S10 56.3	216 07.8	N 2 33.4	64 52.1	S14 22.5	82 01.2	S19 07.0
4	47 26.5	202 43.4	S10 57.5	231 08.8	N 2 32.7	79 54.8	S14 22.6	97 03.8	S19 07.1
W 5	62 28.9	217 43.2	S10 58.7	246 09.8	N 2 32.1	94 57.6	S14 22.7	112 06.4	S19 07.1
E									
D 6	77 31.4	232 43.0	S10 59.9	261 10.8	N 2 31.4	110 00.3	S14 22.8	127 09.0	S19 07.1
N 7	92 33.9	247 42.8	S11 01.1	276 11.8	N 2 30.7	125 03.1	S14 22.9	142 11.6	S19 07.2
E 8	107 36.3	262 42.6	S11 02.3	291 12.8	N 2 30.1	140 05.8	S14 23.0	157 14.2	S19 07.2
S 9	122 38.8	277 42.3	S11 03.4	306 13.8	N 2 29.4	155 08.6	S14 23.1	172 16.8	S19 07.2
D 10	137 41.2	292 42.1	S11 04.6	321 14.8	N 2 28.8	170 11.3	S14 23.2	187 19.4	S19 07.3
A 11	152 43.7	307 41.9	S11 05.8	336 15.8	N 2 28.1	185 14.0	S14 23.3	202 22.0	S19 07.3
Y									
12	167 46.2	322 41.7	S11 07.0	351 16.8	N 2 27.5	200 16.8	S14 23.4	217 24.6	S19 07.3
13	182 48.6	337 41.4	S11 08.2	6 17.7	N 2 26.8	215 19.5	S14 23.4	232 27.2	S19 07.4
14	197 51.1	352 41.2	S11 09.4	21 18.7	N 2 26.2	230 22.3	S14 23.5	247 29.8	S19 07.4
15	212 53.6	7 41.0	S11 10.6	36 19.7	N 2 25.5	245 25.0	S14 23.6	262 32.3	S19 07.4
16	227 56.0	22 40.8	S11 11.8	51 20.7	N 2 24.9	260 27.7	S14 23.7	277 34.9	S19 07.5
17	242 58.5	37 40.6	S11 13.0	66 21.7	N 2 24.2	275 30.5	S14 23.8	292 37.5	S19 07.5
18	258 01.0	52 40.3	S11 14.2	81 22.7	N 2 23.6	290 33.2	S14 23.9	307 40.1	S19 07.5
19	273 03.4	67 40.1	S11 15.4	96 23.7	N 2 22.9	305 35.9	S14 24.0	322 42.7	S19 07.6
20	288 05.9	82 39.9	S11 16.6	111 24.7	N 2 22.3	320 38.7	S14 24.1	337 45.3	S19 07.6
21	303 08.4	97 39.7	S11 17.8	126 25.7	N 2 21.6	335 41.4	S14 24.2	352 47.9	S19 07.6
22	318 10.8	112 39.4	S11 19.0	141 26.7	N 2 20.9	350 44.2	S14 24.3	7 50.5	S19 07.7
23	333 13.3	127 39.2	S11 20.2	156 27.7	N 2 20.3	5 46.9	S14 24.4	22 53.1	S19 07.7
9 0	348 15.7	142 39.0	S11 21.4	171 28.7	N 2 19.6	20 49.6	S14 24.5	37 55.6	S19 07.7
1	3 18.2	157 38.8	S11 22.6	186 29.7	N 2 19.0	35 52.4	S14 24.6	52 58.2	S19 07.8
2	18 20.7	172 38.5	S11 23.8	201 30.7	N 2 18.3	50 55.1	S14 24.7	68 00.8	S19 07.8
3	33 23.1	187 38.3	S11 25.0	216 31.7	N 2 17.7	65 57.9	S14 24.8	83 03.4	S19 07.8
4	48 25.6	202 38.1	S11 26.1	231 32.6	N 2 17.0	81 00.6	S14 24.9	98 06.0	S19 07.9
T 5	63 28.1	217 37.9	S11 27.3	246 33.6	N 2 16.4	96 03.3	S14 25.0	113 08.6	S19 07.9
H									
U 6	78 30.5	232 37.6	S11 28.5	261 34.6	N 2 15.7	111 06.1	S14 25.1	128 11.2	S19 07.9
R 7	93 33.0	247 37.4	S11 29.7	276 35.6	N 2 15.1	126 08.8	S14 25.1	143 13.8	S19 08.0
S 8	108 35.5	262 37.2	S11 30.9	291 36.6	N 2 14.4	141 11.5	S14 25.2	158 16.4	S19 08.0
D 9	123 37.9	277 37.0	S11 32.1	306 37.6	N 2 13.7	156 14.3	S14 25.3	173 18.9	S19 08.0
A 10	138 40.4	292 36.7	S11 33.3	321 38.6	N 2 13.1	171 17.0	S14 25.4	188 21.5	S19 08.1
Y 11	153 42.8	307 36.5	S11 34.5	336 39.6	N 2 12.4	186 19.7	S14 25.5	203 24.1	S19 08.1
12	168 45.3	322 36.3	S11 35.7	351 40.6	N 2 11.8	201 22.5	S14 25.6	218 26.7	S19 08.1
13	183 47.8	337 36.1	S11 36.8	6 41.6	N 2 11.1	216 25.2	S14 25.7	233 29.3	S19 08.2
14	198 50.2	352 35.8	S11 38.0	21 42.6	N 2 10.5	231 28.0	S14 25.8	248 31.9	S19 08.2
15	213 52.7	7 35.6	S11 39.2	36 43.6	N 2 09.8	246 30.7	S14 25.9	263 34.5	S19 08.2
16	228 55.2	22 35.4	S11 40.4	51 44.6	N 2 09.2	261 33.4	S14 26.0	278 37.1	S19 08.3
17	243 57.6	37 35.1	S11 41.6	66 45.6	N 2 08.5	276 36.2	S14 26.1	293 39.6	S19 08.3
18	259 00.1	52 34.9	S11 42.8	81 46.5	N 2 07.9	291 38.9	S14 26.2	308 42.2	S19 08.3
19	274 02.6	67 34.7	S11 44.0	96 47.5	N 2 07.2	306 41.6	S14 26.3	323 44.8	S19 08.4
20	289 05.0	82 34.5	S11 45.1	111 48.5	N 2 06.5	321 44.4	S14 26.4	338 47.4	S19 08.4
21	304 07.5	97 34.2	S11 46.3	126 49.5	N 2 05.9	336 47.1	S14 26.4	353 50.0	S19 08.4
22	319 10.0	112 34.0	S11 47.5	141 50.5	N 2 05.2	351 49.8	S14 26.5	8 52.6	S19 08.4
23	334 12.4	127 33.8	S11 48.7	156 51.5	N 2 04.6	6 52.6	S14 26.6	23 55.2	S19 08.5
		v -0.2	d 1.2	v 1.0	d 0.7	v 2.7	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
7	0	180 28.4	N 6 03.8	178 57.7	11.5	N10 48.5	13.8	58.1
	1	195 28.6	N 6 02.9	193 28.2	11.5	N10 34.7	13.8	58.2
	2	210 28.8	N 6 01.9	207 58.7	11.5	N10 20.8	13.9	58.2
	3	225 29.1	N 6 01.0	222 29.2	11.5	N10 06.8	14.0	58.2
	4	240 29.3	N 6 00.0	236 59.8	11.5	N 9 52.8	14.0	58.2
T	5	255 29.5	N 5 59.1	251 30.3	11.6	N 9 38.7	14.1	58.3
U								
E	6	270 29.7	N 5 58.2	266 00.9	11.6	N 9 24.6	14.1	58.3
S	7	285 29.9	N 5 57.2	280 31.5	11.6	N 9 10.4	14.2	58.3
D	8	300 30.1	N 5 56.3	295 02.1	11.6	N 8 56.1	14.3	58.3
A	9	315 30.3	N 5 55.4	309 32.7	11.6	N 8 41.8	14.3	58.4
Y	10	330 30.5	N 5 54.4	324 03.4	11.6	N 8 27.4	14.4	58.4
	11	345 30.8	N 5 53.5	338 34.0	11.7	N 8 13.0	14.4	58.4
	12	0 31.0	N 5 52.5	353 04.7	11.7	N 7 58.5	14.5	58.4
	13	15 31.2	N 5 51.6	7 35.4	11.7	N 7 44.0	14.5	58.4
	14	30 31.4	N 5 50.7	22 06.1	11.7	N 7 29.4	14.6	58.5
	15	45 31.6	N 5 49.7	36 36.8	11.7	N 7 14.8	14.6	58.5
	16	60 31.8	N 5 48.8	51 07.5	11.7	N 7 00.1	14.7	58.5
	17	75 32.0	N 5 47.9	65 38.2	11.7	N 6 45.4	14.7	58.5
	18	90 32.3	N 5 46.9	80 09.0	11.7	N 6 30.6	14.8	58.6
	19	105 32.5	N 5 46.0	94 39.7	11.7	N 6 15.8	14.8	58.6
	20	120 32.7	N 5 45.0	109 10.5	11.8	N 6 00.9	14.9	58.6
	21	135 32.9	N 5 44.1	123 41.2	11.8	N 5 46.0	14.9	58.6
	22	150 33.1	N 5 43.2	138 12.0	11.8	N 5 31.1	14.9	58.6
	23	165 33.3	N 5 42.2	152 42.8	11.8	N 5 16.1	15.0	58.7
8	0	180 33.5	N 5 41.3	167 13.5	11.8	N 5 01.1	15.0	58.7
	1	195 33.8	N 5 40.3	181 44.3	11.8	N 4 46.0	15.1	58.7
	2	210 34.0	N 5 39.4	196 15.1	11.8	N 4 30.9	15.1	58.7
	3	225 34.2	N 5 38.5	210 45.9	11.8	N 4 15.8	15.1	58.7
	4	240 34.4	N 5 37.5	225 16.7	11.8	N 4 00.7	15.2	58.8
W	5	255 34.6	N 5 36.6	239 47.5	11.8	N 3 45.5	15.2	58.8
E								
D	6	270 34.8	N 5 35.6	254 18.3	11.8	N 3 30.3	15.2	58.8
N	7	285 35.0	N 5 34.7	268 49.0	11.8	N 3 15.0	15.2	58.8
E	8	300 35.3	N 5 33.8	283 19.8	11.8	N 2 59.8	15.3	58.8
S	9	315 35.5	N 5 32.8	297 50.6	11.8	N 2 44.5	15.3	58.9
D	10	330 35.7	N 5 31.9	312 21.4	11.8	N 2 29.2	15.3	58.9
A	11	345 35.9	N 5 30.9	326 52.1	11.8	N 2 13.8	15.3	58.9
Y								
	12	0 36.1	N 5 30.0	341 22.9	11.8	N 1 58.5	15.4	58.9
	13	15 36.3	N 5 29.1	355 53.7	11.8	N 1 43.1	15.4	58.9
	14	30 36.6	N 5 28.1	10 24.4	11.7	N 1 27.7	15.4	58.9
	15	45 36.8	N 5 27.2	24 55.2	11.7	N 1 12.3	15.4	59.0
	16	60 37.0	N 5 26.2	39 25.9	11.7	N 0 56.9	15.4	59.0
	17	75 37.2	N 5 25.3	53 56.6	11.7	N 0 41.5	15.4	59.0
	18	90 37.4	N 5 24.3	68 27.3	11.7	N 0 26.0	15.4	59.0
	19	105 37.6	N 5 23.4	82 58.0	11.7	N 0 10.6	15.5	59.0
	20	120 37.8	N 5 22.5	97 28.7	11.7	S 0 04.9	15.5	59.0
	21	135 38.1	N 5 21.5	111 59.3	11.7	S 0 20.4	15.5	59.1
	22	150 38.3	N 5 20.6	126 30.0	11.6	S 0 35.9	15.5	59.1
	23	165 38.5	N 5 19.6	141 00.6	11.6	S 0 51.3	15.5	59.1
9	0	180 38.7	N 5 18.7	155 31.2	11.6	S 1 06.8	15.5	59.1
	1	195 38.9	N 5 17.7	170 01.8	11.6	S 1 22.3	15.5	59.1
	2	210 39.1	N 5 16.8	184 32.4	11.6	S 1 37.8	15.5	59.1
	3	225 39.4	N 5 15.8	199 02.9	11.5	S 1 53.3	15.5	59.1
	4	240 39.6	N 5 14.9	213 33.4	11.5	S 2 08.8	15.5	59.2
T	5	255 39.8	N 5 14.0	228 03.9	11.5	S 2 24.2	15.5	59.2
H								
U	6	270 40.0	N 5 13.0	242 34.4	11.5	S 2 39.7	15.5	59.2
R	7	285 40.2	N 5 12.1	257 04.9	11.5	S 2 55.2	15.5	59.2
S	8	300 40.4	N 5 11.1	271 35.3	11.4	S 3 10.6	15.5	59.2
D	9	315 40.7	N 5 10.2	286 05.7	11.4	S 3 26.1	15.4	59.2
A	10	330 40.9	N 5 09.2	300 36.1	11.4	S 3 41.5	15.4	59.2
Y	11	345 41.1	N 5 08.3	315 06.4	11.3	S 3 56.9	15.4	59.2
	12	0 41.3	N 5 07.3	329 36.7	11.3	S 4 12.3	15.4	59.3
	13	15 41.5	N 5 06.4	344 07.0	11.3	S 4 27.7	15.4	59.3
	14	30 41.7	N 5 05.5	358 37.3	11.2	S 4 43.0	15.4	59.3
	15	45 42.0	N 5 04.5	13 07.5	11.2	S 4 58.4	15.3	59.3
	16	60 42.2	N 5 03.6	27 37.7	11.2	S 5 13.7	15.3	59.3
	17	75 42.4	N 5 02.6	42 07.8	11.1	S 5 29.0	15.3	59.3
	18	90 42.6	N 5 01.7	56 37.9	11.1	S 5 44.3	15.3	59.3
	19	105 42.8	N 5 00.7	71 08.0	11.1	S 5 59.5	15.3	59.3
	20	120 43.0	N 4 59.8	85 38.0	11.0	S 6 14.8	15.2	59.3
	21	135 43.3	N 4 58.8	100 08.0	11.0	S 6 30.0	15.2	59.3
	22	150 43.5	N 4 57.9	114 38.0	11.0	S 6 45.1	15.2	59.4
	23	165 43.7	N 4 56.9	129 07.9	10.9	S 7 00.3	15.1	59.4
		S.D. 15.9	d 0.9	S.D. 15.9		16.1		16.1

STARS Name	SHA	Dec
Acamar	315 13.6	S40 12.9
Achernar	335 21.8	S57 07.4
Acrux	173 03.8	S63 13.1
Adhara	255 08.2	S28 59.8
Albireo	67 06.0	N28 00.5
Aldebaran	290 42.7	N16 33.2
Alioth	166 15.9	N55 50.9
Alkaid	152 54.6	N49 12.6
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.5	S 1 11.1
Alphard	217 50.7	S 8 44.9
Alphecca	126 06.2	N26 38.8
Alpheratz	357 37.2	N29 12.6
Altair	62 02.4	N 8 55.6
Ankaa	353 09.4	S42 11.2
Antares	112 19.2	S26 28.8
Arcturus	145 50.6	N19 04.4
Atria	107 16.0	S69 04.2
Avior	234 16.3	S59 34.4
Bellatrix	278 25.8	N 6 22.2
Betelgeuse	270 55.1	N 7 24.8
Canopus	263 53.8	S52 42.1
Capella	280 26.0	N46 01.0
Castor	246 00.8	N31 50.5
Deneb	49 27.3	N45 21.6
Denebola	182 28.1	N14 27.3
Diphda	348 49.8	S17 52.0
Dubhe	193 45.1	N61 38.2
Elnath	278 05.4	N28 37.4
Eltanin	90 43.4	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.2	S57 14.0
Gienah	175 46.7	S17 39.5
Hadar	148 40.4	S60 28.7
Hamal	327 54.1	N23 33.9
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 20.6	N74 04.3
Markab	13 32.3	N15 19.3
Menkar	314 08.8	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.5	S69 48.1
Mirfak	308 32.0	N49 56.1
Nunki	75 51.0	S26 16.2
Peacock	53 09.5	S56 40.1
Polaris	317 03.2	N89 20.3
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.3
Rasalhague	96 01.1	N12 32.9
Regulus	207 37.7	N11 51.9
Rigel	281 06.5	S 8 10.4
Rigil Kent	139 44.6	S60 55.6
Sabik	102 05.9	S15 45.1
Schedar	349 33.6	N56 39.2
Shaula	96 14.0	S37 07.2
Sirius	258 28.8	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.7	S43 30.9
Vega	80 34.9	N38 48.5
Zuben-ubi	136 60.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
10	0	349 14.9	142 33.5	S11 49.9	171 52.5	N 2 03.9	21 55.3	S14 26.7	38 57.8	S19 08.5
	1	4 17.3	157 33.3	S11 51.1	186 53.5	N 2 03.3	36 58.0	S14 26.8	54 00.3	S19 08.5
	2	19 19.8	172 33.1	S11 52.2	201 54.5	N 2 02.6	52 00.8	S14 26.9	69 02.9	S19 08.6
	3	34 22.3	187 32.9	S11 53.4	216 55.5	N 2 02.0	67 03.5	S14 27.0	84 05.5	S19 08.6
	4	49 24.7	202 32.6	S11 54.6	231 56.5	N 2 01.3	82 06.2	S14 27.1	99 08.1	S19 08.6
F	5	64 27.2	217 32.4	S11 55.8	246 57.5	N 2 00.7	97 09.0	S14 27.2	114 10.7	S19 08.7
R										
I	6	79 29.7	232 32.2	S11 57.0	261 58.5	N 2 00.0	112 11.7	S14 27.3	129 13.3	S19 08.7
D	7	94 32.1	247 31.9	S11 58.1	276 59.5	N 1 59.3	127 14.4	S14 27.4	144 15.9	S19 08.7
A	8	109 34.6	262 31.7	S11 59.3	292 00.4	N 1 58.7	142 17.2	S14 27.5	159 18.4	S19 08.8
Y	9	124 37.1	277 31.5	S12 00.5	307 01.4	N 1 58.0	157 19.9	S14 27.6	174 21.0	S19 08.8
	10	139 39.5	292 31.2	S12 01.7	322 02.4	N 1 57.4	172 22.6	S14 27.6	189 23.6	S19 08.8
	11	154 42.0	307 31.0	S12 02.9	337 03.4	N 1 56.7	187 25.3	S14 27.7	204 26.2	S19 08.9
	12	169 44.5	322 30.8	S12 04.0	352 04.4	N 1 56.1	202 28.1	S14 27.8	219 28.8	S19 08.9
	13	184 46.9	337 30.5	S12 05.2	7 05.4	N 1 55.4	217 30.8	S14 27.9	234 31.4	S19 08.9
	14	199 49.4	352 30.3	S12 06.4	22 06.4	N 1 54.8	232 33.5	S14 28.0	249 33.9	S19 09.0
	15	214 51.8	7 30.1	S12 07.6	37 07.4	N 1 54.1	247 36.3	S14 28.1	264 36.5	S19 09.0
	16	229 54.3	22 29.8	S12 08.7	52 08.4	N 1 53.4	262 39.0	S14 28.2	279 39.1	S19 09.0
	17	244 56.8	37 29.6	S12 09.9	67 09.4	N 1 52.8	277 41.7	S14 28.3	294 41.7	S19 09.0
	18	259 59.2	52 29.4	S12 11.1	82 10.4	N 1 52.1	292 44.5	S14 28.4	309 44.3	S19 09.1
	19	275 01.7	67 29.1	S12 12.3	97 11.4	N 1 51.5	307 47.2	S14 28.5	324 46.9	S19 09.1
	20	290 04.2	82 28.9	S12 13.4	112 12.4	N 1 50.8	322 49.9	S14 28.6	339 49.4	S19 09.1
	21	305 06.6	97 28.7	S12 14.6	127 13.3	N 1 50.2	337 52.7	S14 28.6	354 52.0	S19 09.2
	22	320 09.1	112 28.4	S12 15.8	142 14.3	N 1 49.5	352 55.4	S14 28.7	9 54.6	S19 09.2
	23	335 11.6	127 28.2	S12 17.0	157 15.3	N 1 48.9	7 58.1	S14 28.8	24 57.2	S19 09.2
11	0	350 14.0	142 28.0	S12 18.1	172 16.3	N 1 48.2	23 00.8	S14 28.9	39 59.8	S19 09.3
	1	5 16.5	157 27.7	S12 19.3	187 17.3	N 1 47.5	38 03.6	S14 29.0	55 02.4	S19 09.3
	2	20 18.9	172 27.5	S12 20.5	202 18.3	N 1 46.9	53 06.3	S14 29.1	70 04.9	S19 09.3
	3	35 21.4	187 27.3	S12 21.6	217 19.3	N 1 46.2	68 09.0	S14 29.2	85 07.5	S19 09.4
	4	50 23.9	202 27.0	S12 22.8	232 20.3	N 1 45.6	83 11.8	S14 29.3	100 10.1	S19 09.4
S	5	65 26.3	217 26.8	S12 24.0	247 21.3	N 1 44.9	98 14.5	S14 29.4	115 12.7	S19 09.4
A										
T	6	80 28.8	232 26.6	S12 25.2	262 22.3	N 1 44.3	113 17.2	S14 29.5	130 15.3	S19 09.4
U	7	95 31.3	247 26.3	S12 26.3	277 23.3	N 1 43.6	128 19.9	S14 29.5	145 17.9	S19 09.5
R	8	110 33.7	262 26.1	S12 27.5	292 24.3	N 1 43.0	143 22.7	S14 29.6	160 20.4	S19 09.5
D	9	125 36.2	277 25.9	S12 28.7	307 25.2	N 1 42.3	158 25.4	S14 29.7	175 23.0	S19 09.5
A	10	140 38.7	292 25.6	S12 29.8	322 26.2	N 1 41.6	173 28.1	S14 29.8	190 25.6	S19 09.6
Y	11	155 41.1	307 25.4	S12 31.0	337 27.2	N 1 41.0	188 30.8	S14 29.9	205 28.2	S19 09.6
	12	170 43.6	322 25.1	S12 32.2	352 28.2	N 1 40.3	203 33.6	S14 30.0	220 30.8	S19 09.6
	13	185 46.1	337 24.9	S12 33.3	7 29.2	N 1 39.7	218 36.3	S14 30.1	235 33.3	S19 09.7
	14	200 48.5	352 24.7	S12 34.5	22 30.2	N 1 39.0	233 39.0	S14 30.2	250 35.9	S19 09.7
	15	215 51.0	7 24.4	S12 35.7	37 31.2	N 1 38.4	248 41.7	S14 30.3	265 38.5	S19 09.7
	16	230 53.4	22 24.2	S12 36.8	52 32.2	N 1 37.7	263 44.5	S14 30.3	280 41.1	S19 09.8
	17	245 55.9	37 24.0	S12 38.0	67 33.2	N 1 37.1	278 47.2	S14 30.4	295 43.7	S19 09.8
	18	260 58.4	52 23.7	S12 39.2	82 34.2	N 1 36.4	293 49.9	S14 30.5	310 46.2	S19 09.8
	19	276 00.8	67 23.5	S12 40.3	97 35.2	N 1 35.7	308 52.6	S14 30.6	325 48.8	S19 09.8
	20	291 03.3	82 23.2	S12 41.5	112 36.2	N 1 35.1	323 55.4	S14 30.7	340 51.4	S19 09.9
	21	306 05.8	97 23.0	S12 42.7	127 37.1	N 1 34.4	338 58.1	S14 30.8	355 54.0	S19 09.9
	22	321 08.2	112 22.8	S12 43.8	142 38.1	N 1 33.8	354 00.8	S14 30.9	10 56.6	S19 09.9
	23	336 10.7	127 22.5	S12 45.0	157 39.1	N 1 33.1	9 03.5	S14 31.0	25 59.1	S19 10.0
12	0	351 13.2	142 22.3	S12 46.1	172 40.1	N 1 32.5	24 06.3	S14 31.1	41 01.7	S19 10.0
	1	6 15.6	157 22.0	S12 47.3	187 41.1	N 1 31.8	39 09.0	S14 31.1	56 04.3	S19 10.0
	2	21 18.1	172 21.8	S12 48.5	202 42.1	N 1 31.1	54 11.7	S14 31.2	71 06.9	S19 10.1
	3	36 20.5	187 21.6	S12 49.6	217 43.1	N 1 30.5	69 14.4	S14 31.3	86 09.5	S19 10.1
	4	51 23.0	202 21.3	S12 50.8	232 44.1	N 1 29.8	84 17.2	S14 31.4	101 12.0	S19 10.1
S	5	66 25.5	217 21.1	S12 51.9	247 45.1	N 1 29.2	99 19.9	S14 31.5	116 14.6	S19 10.1
U										
N	6	81 27.9	232 20.8	S12 53.1	262 46.1	N 1 28.5	114 22.6	S14 31.6	131 17.2	S19 10.2
D	7	96 30.4	247 20.6	S12 54.3	277 47.1	N 1 27.9	129 25.3	S14 31.7	146 19.8	S19 10.2
A	8	111 32.9	262 20.4	S12 55.4	292 48.0	N 1 27.2	144 28.1	S14 31.8	161 22.4	S19 10.2
Y	9	126 35.3	277 20.1	S12 56.6	307 49.0	N 1 26.6	159 30.8	S14 31.8	176 24.9	S19 10.3
	10	141 37.8	292 19.9	S12 57.7	322 50.0	N 1 25.9	174 33.5	S14 31.9	191 27.5	S19 10.3
	11	156 40.3	307 19.6	S12 58.9	337 51.0	N 1 25.2	189 36.2	S14 32.0	206 30.1	S19 10.3
	12	171 42.7	322 19.4	S13 00.1	352 52.0	N 1 24.6	204 38.9	S14 32.1	221 32.7	S19 10.3
	13	186 45.2	337 19.1	S13 01.2	7 53.0	N 1 23.9	219 41.7	S14 32.2	236 35.2	S19 10.4
	14	201 47.7	352 18.9	S13 02.4	22 54.0	N 1 23.3	234 44.4	S14 32.3	251 37.8	S19 10.4
	15	216 50.1	7 18.7	S13 03.5	37 55.0	N 1 22.6	249 47.1	S14 32.4	266 40.4	S19 10.4
	16	231 52.6	22 18.4	S13 04.7	52 56.0	N 1 22.0	264 49.8	S14 32.5	281 43.0	S19 10.5
	17	246 55.0	37 18.2	S13 05.8	67 57.0	N 1 21.3	279 52.5	S14 32.5	296 45.6	S19 10.5
	18	261 57.5	52 17.9	S13 07.0	82 58.0	N 1 20.6	294 55.3	S14 32.6	311 48.1	S19 10.5
	19	276 60.0	67 17.7	S13 08.1	97 58.9	N 1 20.0	309 58.0	S14 32.7	326 50.7	S19 10.6
	20	292 02.4	82 17.4	S13 09.3	112 59.9	N 1 19.3	325 00.7	S14 32.8	341 53.3	S19 10.6
	21	307 04.9	97 17.2	S13 10.4	128 00.9	N 1 18.7	340 03.4	S14 32.9	356 55.9	S19 10.6
	22	322 07.4	112 16.9	S13 11.6	143 01.9	N 1 18.0	355 06.1	S14 33.0	11 58.4	S19 10.6
	23	337 09.8	127 16.7	S13 12.7	158 02.9	N 1 17.4	10 08.9	S14 33.1	27 01.0	S19 10.7
			v -0.2	d 1.2	v 1.0	d 0.7	v 2.7	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
		° '	° '	° '	'	° '	'	'
10	0	180 43.9	N 4 56.0	143 37.8	10.9	S 7 15.4	15.1	59.4
	1	195 44.1	N 4 55.0	158 07.6	10.8	S 7 30.4	15.1	59.4
	2	210 44.4	N 4 54.1	172 37.4	10.8	S 7 45.4	15.0	59.4
	3	225 44.6	N 4 53.1	187 07.1	10.7	S 8 00.4	15.0	59.4
	4	240 44.8	N 4 52.2	201 36.8	10.7	S 8 15.4	14.9	59.4
F	5	255 45.0	N 4 51.2	216 06.5	10.6	S 8 30.3	14.9	59.4
R								
I	6	270 45.2	N 4 50.3	230 36.1	10.6	S 8 45.1	14.9	59.4
D	7	285 45.4	N 4 49.4	245 05.6	10.6	S 8 60.0	14.8	59.4
A	8	300 45.7	N 4 48.4	259 35.1	10.5	S 9 14.7	14.8	59.4
Y	9	315 45.9	N 4 47.5	274 04.6	10.5	S 9 29.4	14.7	59.4
	10	330 46.1	N 4 46.5	288 34.0	10.4	S 9 44.1	14.7	59.4
	11	345 46.3	N 4 45.6	303 03.3	10.4	S 9 58.7	14.6	59.4
	12	0 46.5	N 4 44.6	317 32.6	10.3	S10 13.3	14.6	59.5
	13	15 46.8	N 4 43.7	332 01.9	10.2	S10 27.8	14.5	59.5
	14	30 47.0	N 4 42.7	346 31.1	10.2	S10 42.3	14.5	59.5
	15	45 47.2	N 4 41.8	1 00.2	10.1	S10 56.7	14.4	59.5
	16	60 47.4	N 4 40.8	15 29.3	10.1	S11 11.0	14.3	59.5
	17	75 47.6	N 4 39.9	29 58.3	10.0	S11 25.3	14.3	59.5
	18	90 47.8	N 4 38.9	44 27.3	10.0	S11 39.5	14.2	59.5
	19	105 48.1	N 4 38.0	58 56.2	9.9	S11 53.7	14.2	59.5
	20	120 48.3	N 4 37.0	73 25.0	9.8	S12 07.8	14.1	59.5
	21	135 48.5	N 4 36.1	87 53.8	9.8	S12 21.8	14.0	59.5
	22	150 48.7	N 4 35.1	102 22.5	9.7	S12 35.8	14.0	59.5
	23	165 48.9	N 4 34.2	116 51.2	9.7	S12 49.6	13.9	59.5
11	0	180 49.2	N 4 33.2	131 19.8	9.6	S13 03.5	13.8	59.5
	1	195 49.4	N 4 32.3	145 48.3	9.5	S13 17.2	13.7	59.5
	2	210 49.6	N 4 31.3	160 16.8	9.5	S13 30.9	13.7	59.5
	3	225 49.8	N 4 30.4	174 45.2	9.4	S13 44.4	13.6	59.5
	4	240 50.0	N 4 29.4	189 13.5	9.3	S13 58.0	13.5	59.5
S	5	255 50.3	N 4 28.5	203 41.8	9.3	S14 11.4	13.4	59.5
A								
T	6	270 50.5	N 4 27.5	218 10.0	9.2	S14 24.7	13.4	59.5
U	7	285 50.7	N 4 26.6	232 38.2	9.1	S14 38.0	13.3	59.5
R	8	300 50.9	N 4 25.6	247 06.2	9.1	S14 51.2	13.2	59.5
D	9	315 51.1	N 4 24.6	261 34.3	9.0	S15 04.3	13.1	59.5
A	10	330 51.4	N 4 23.7	276 02.2	8.9	S15 17.3	13.0	59.5
Y	11	345 51.6	N 4 22.7	290 30.1	8.9	S15 30.2	12.9	59.5
	12	0 51.8	N 4 21.8	304 57.9	8.8	S15 43.0	12.8	59.5
	13	15 52.0	N 4 20.8	319 25.6	8.7	S15 55.8	12.7	59.5
	14	30 52.2	N 4 19.9	333 53.3	8.7	S16 08.4	12.6	59.5
	15	45 52.5	N 4 18.9	348 20.9	8.6	S16 21.0	12.5	59.5
	16	60 52.7	N 4 18.0	2 48.4	8.5	S16 33.4	12.5	59.5
	17	75 52.9	N 4 17.0	17 15.8	8.4	S16 45.8	12.4	59.5
	18	90 53.1	N 4 16.1	31 43.2	8.4	S16 58.0	12.3	59.5
	19	105 53.3	N 4 15.1	46 10.5	8.3	S17 10.2	12.2	59.5
	20	120 53.6	N 4 14.2	60 37.7	8.2	S17 22.2	12.0	59.5
	21	135 53.8	N 4 13.2	75 04.9	8.2	S17 34.2	11.9	59.5
	22	150 54.0	N 4 12.3	89 32.0	8.1	S17 46.0	11.8	59.5
	23	165 54.2	N 4 11.3	103 59.0	8.0	S17 57.8	11.7	59.5
12	0	180 54.4	N 4 10.4	118 25.9	7.9	S18 09.4	11.6	59.5
	1	195 54.7	N 4 09.4	132 52.8	7.9	S18 20.9	11.5	59.5
	2	210 54.9	N 4 08.4	147 19.6	7.8	S18 32.3	11.4	59.5
	3	225 55.1	N 4 07.5	161 46.3	7.7	S18 43.6	11.3	59.5
	4	240 55.3	N 4 06.5	176 13.0	7.6	S18 54.8	11.2	59.5
S	5	255 55.5	N 4 05.6	190 39.6	7.6	S19 05.8	11.1	59.5
U								
N	6	270 55.8	N 4 04.6	205 06.1	7.5	S19 16.8	10.9	59.5
D	7	285 56.0	N 4 03.7	219 32.5	7.4	S19 27.6	10.8	59.5
A	8	300 56.2	N 4 02.7	233 58.8	7.4	S19 38.3	10.7	59.5
Y	9	315 56.4	N 4 01.8	248 25.1	7.3	S19 48.8	10.6	59.5
	10	330 56.6	N 4 00.8	262 51.3	7.2	S19 59.3	10.5	59.5
	11	345 56.9	N 3 59.9	277 17.5	7.1	S20 09.6	10.3	59.4
	12	0 57.1	N 3 58.9	291 43.6	7.1	S20 19.8	10.2	59.4
	13	15 57.3	N 3 57.9	306 09.5	7.0	S20 29.9	10.1	59.4
	14	30 57.5	N 3 57.0	320 35.5	6.9	S20 39.8	9.9	59.4
	15	45 57.8	N 3 56.0	335 01.3	6.9	S20 49.7	9.8	59.4
	16	60 58.0	N 3 55.1	349 27.1	6.8	S20 59.3	9.7	59.4
	17	75 58.2	N 3 54.1	3 52.8	6.7	S21 08.9	9.5	59.4
	18	90 58.4	N 3 53.2	18 18.5	6.6	S21 18.3	9.4	59.4
	19	105 58.6	N 3 52.2	32 44.0	6.6	S21 27.6	9.3	59.4
	20	120 58.9	N 3 51.3	47 09.5	6.5	S21 36.7	9.1	59.4
	21	135 59.1	N 3 50.3	61 35.0	6.4	S21 45.7	9.0	59.4
	22	150 59.3	N 3 49.3	76 00.3	6.4	S21 54.6	8.9	59.4
	23	165 59.5	N 3 48.4	90 25.6	6.3	S22 03.3	8.7	59.4
		S.D. 15.9	d 1.0	S.D.	16.2	16.2	16.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.6	S40 12.9
Achernar	335 21.8	S57 07.5
Acrux	173 03.8	S63 13.0
Adhara	255 08.2	S28 59.8
Albireo	67 06.0	N28 00.5
Aldebaran	290 42.7	N16 33.2
Alioth	166 15.9	N55 50.8
Alkaid	152 54.6	N49 12.6
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.5	S 1 11.1
Alphard	217 50.7	S 8 44.9
Alphecca	126 06.2	N26 38.8
Alpheratz	357 37.2	N29 12.6
Altair	62 02.4	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.3	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.0	S69 04.2
Avior	234 16.2	S59 34.4
Bellatrix	278 25.8	N 6 22.2
Betelgeuse	270 55.1	N 7 24.8
Canopus	263 53.7	S52 42.1
Capella	280 25.9	N46 01.0
Castor	246 00.7	N31 50.5
Deneb	49 27.3	N45 21.6
Denebola	182 28.1	N14 27.3
Diphda	348 49.8	S17 52.0
Dubhe	193 45.0	N61 38.1
Elnath	278 05.4	N28 37.4
Eltanin	90 43.4	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.2	S29 30.4
Gacrux	171 55.2	S57 14.0
Gienah	175 46.7	S17 39.5
Hadar	148 40.4	S60 28.7
Hamal	327 54.0	N23 33.9
Kaus Austr.	83 36.0	S34 22.5
Kochab	137 20.6	N74 04.3
Markab	13 32.3	N15 19.3
Menkar	314 08.8	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.5	S69 48.1
Mirfak	308 32.0	N49 56.1
Nunki	75 51.0	S26 16.2
Peacock	53 09.6	S56 40.1
Polaris	317 02.2	N89 20.3
Pollux	243 20.9	N27 58.5
Procyon	244 53.9	N 5 10.3
Rasalhague	96 01.1	N12 32.9
Regulus	207 37.6	N11 51.9
Rigel	281 06.5	S 8 10.4
Rigil Kent	139 44.6	S60 55.6
Sabik	102 05.9	S15 45.1
Schedar	349 33.6	N56 39.2
Shaula	96 14.0	S37 07.2
Sirius	258 28.8	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.6	S43 30.9
Vega	80 34.9	N38 48.5
Zuben-ubi	136 60.0	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
13 0	352 12.3	142 16.5	S13 13.9	173 03.9	N 1 16.7	25 11.6	S14 33.2	42 03.6	S19 10.7
1	7 14.8	157 16.2	S13 15.0	188 04.9	N 1 16.0	40 14.3	S14 33.2	57 06.2	S19 10.7
2	22 17.2	172 16.0	S13 16.2	203 05.9	N 1 15.4	55 17.0	S14 33.3	72 08.7	S19 10.8
3	37 19.7	187 15.7	S13 17.3	218 06.9	N 1 14.7	70 19.7	S14 33.4	87 11.3	S19 10.8
4	52 22.2	202 15.5	S13 18.5	233 07.9	N 1 14.1	85 22.5	S14 33.5	102 13.9	S19 10.8
M 5	67 24.6	217 15.2	S13 19.6	248 08.9	N 1 13.4	100 25.2	S14 33.6	117 16.5	S19 10.8
O									
N 6	82 27.1	232 15.0	S13 20.8	263 09.8	N 1 12.8	115 27.9	S14 33.7	132 19.0	S19 10.9
D 7	97 29.5	247 14.7	S13 21.9	278 10.8	N 1 12.1	130 30.6	S14 33.8	147 21.6	S19 10.9
A 8	112 32.0	262 14.5	S13 23.1	293 11.8	N 1 11.4	145 33.3	S14 33.8	162 24.2	S19 10.9
Y 9	127 34.5	277 14.2	S13 24.2	308 12.8	N 1 10.8	160 36.0	S14 33.9	177 26.8	S19 11.0
10	142 36.9	292 14.0	S13 25.4	323 13.8	N 1 10.1	175 38.8	S14 34.0	192 29.3	S19 11.0
11	157 39.4	307 13.7	S13 26.5	338 14.8	N 1 09.5	190 41.5	S14 34.1	207 31.9	S19 11.0
12	172 41.9	322 13.5	S13 27.7	353 15.8	N 1 08.8	205 44.2	S14 34.2	222 34.5	S19 11.0
13	187 44.3	337 13.2	S13 28.8	8 16.8	N 1 08.2	220 46.9	S14 34.3	237 37.1	S19 11.1
14	202 46.8	352 13.0	S13 30.0	23 17.8	N 1 07.5	235 49.6	S14 34.3	252 39.6	S19 11.1
15	217 49.3	7 12.7	S13 31.1	38 18.8	N 1 06.8	250 52.3	S14 34.4	267 42.2	S19 11.1
16	232 51.7	22 12.5	S13 32.2	53 19.7	N 1 06.2	265 55.1	S14 34.5	282 44.8	S19 11.2
17	247 54.2	37 12.2	S13 33.4	68 20.7	N 1 05.5	280 57.8	S14 34.6	297 47.4	S19 11.2
18	262 56.7	52 12.0	S13 34.5	83 21.7	N 1 04.9	296 00.5	S14 34.7	312 49.9	S19 11.2
19	277 59.1	67 11.7	S13 35.7	98 22.7	N 1 04.2	311 03.2	S14 34.8	327 52.5	S19 11.2
20	293 01.6	82 11.5	S13 36.8	113 23.7	N 1 03.6	326 05.9	S14 34.9	342 55.1	S19 11.3
21	308 04.0	97 11.2	S13 38.0	128 24.7	N 1 02.9	341 08.6	S14 34.9	357 57.6	S19 11.3
22	323 06.5	112 11.0	S13 39.1	143 25.7	N 1 02.2	356 11.3	S14 35.0	13 00.2	S19 11.3
23	338 09.0	127 10.7	S13 40.2	158 26.7	N 1 01.6	11 14.1	S14 35.1	28 02.8	S19 11.4
14 0	353 11.4	142 10.5	S13 41.4	173 27.7	N 1 00.9	26 16.8	S14 35.2	43 05.4	S19 11.4
1	8 13.9	157 10.2	S13 42.5	188 28.7	N 1 00.3	41 19.5	S14 35.3	58 07.9	S19 11.4
2	23 16.4	172 10.0	S13 43.6	203 29.6	N 0 59.6	56 22.2	S14 35.4	73 10.5	S19 11.4
3	38 18.8	187 09.7	S13 44.8	218 30.6	N 0 59.0	71 24.9	S14 35.4	88 13.1	S19 11.5
4	53 21.3	202 09.5	S13 45.9	233 31.6	N 0 58.3	86 27.6	S14 35.5	103 15.7	S19 11.5
T 5	68 23.8	217 09.2	S13 47.1	248 32.6	N 0 57.6	101 30.3	S14 35.6	118 18.2	S19 11.5
U									
E 6	83 26.2	232 09.0	S13 48.2	263 33.6	N 0 57.0	116 33.0	S14 35.7	133 20.8	S19 11.5
S 7	98 28.7	247 08.7	S13 49.3	278 34.6	N 0 56.3	131 35.8	S14 35.8	148 23.4	S19 11.6
D 8	113 31.1	262 08.5	S13 50.5	293 35.6	N 0 55.7	146 38.5	S14 35.9	163 25.9	S19 11.6
A 9	128 33.6	277 08.2	S13 51.6	308 36.6	N 0 55.0	161 41.2	S14 35.9	178 28.5	S19 11.6
Y 10	143 36.1	292 08.0	S13 52.7	323 37.6	N 0 54.3	176 43.9	S14 36.0	193 31.1	S19 11.7
11	158 38.5	307 07.7	S13 53.9	338 38.5	N 0 53.7	191 46.6	S14 36.1	208 33.7	S19 11.7
12	173 41.0	322 07.5	S13 55.0	353 39.5	N 0 53.0	206 49.3	S14 36.2	223 36.2	S19 11.7
13	188 43.5	337 07.2	S13 56.1	8 40.5	N 0 52.4	221 52.0	S14 36.3	238 38.8	S19 11.7
14	203 45.9	352 06.9	S13 57.3	23 41.5	N 0 51.7	236 54.7	S14 36.4	253 41.4	S19 11.8
15	218 48.4	7 06.7	S13 58.4	38 42.5	N 0 51.1	251 57.4	S14 36.4	268 43.9	S19 11.8
16	233 50.9	22 06.4	S13 59.5	53 43.5	N 0 50.4	267 00.2	S14 36.5	283 46.5	S19 11.8
17	248 53.3	37 06.2	S14 00.7	68 44.5	N 0 49.7	282 02.9	S14 36.6	298 49.1	S19 11.9
18	263 55.8	52 05.9	S14 01.8	83 45.5	N 0 49.1	297 05.6	S14 36.7	313 51.6	S19 11.9
19	278 58.3	67 05.7	S14 02.9	98 46.5	N 0 48.4	312 08.3	S14 36.8	328 54.2	S19 11.9
20	294 00.7	82 05.4	S14 04.1	113 47.4	N 0 47.8	327 11.0	S14 36.9	343 56.8	S19 11.9
21	309 03.2	97 05.2	S14 05.2	128 48.4	N 0 47.1	342 13.7	S14 36.9	358 59.4	S19 12.0
22	324 05.6	112 04.9	S14 06.3	143 49.4	N 0 46.5	357 16.4	S14 37.0	14 01.9	S19 12.0
23	339 08.1	127 04.6	S14 07.4	158 50.4	N 0 45.8	12 19.1	S14 37.1	29 04.5	S19 12.0
15 0	354 10.6	142 04.4	S14 08.6	173 51.4	N 0 45.1	27 21.8	S14 37.2	44 07.1	S19 12.0
1	9 13.0	157 04.1	S14 09.7	188 52.4	N 0 44.5	42 24.5	S14 37.3	59 09.6	S19 12.1
2	24 15.5	172 03.9	S14 10.8	203 53.4	N 0 43.8	57 27.2	S14 37.3	74 12.2	S19 12.1
3	39 18.0	187 03.6	S14 11.9	218 54.4	N 0 43.2	72 30.0	S14 37.4	89 14.8	S19 12.1
4	54 20.4	202 03.4	S14 13.1	233 55.4	N 0 42.5	87 32.7	S14 37.5	104 17.3	S19 12.2
W 5	69 22.9	217 03.1	S14 14.2	248 56.3	N 0 41.8	102 35.4	S14 37.6	119 19.9	S19 12.2
E									
D 6	84 25.4	232 02.8	S14 15.3	263 57.3	N 0 41.2	117 38.1	S14 37.7	134 22.5	S19 12.2
N 7	99 27.8	247 02.6	S14 16.4	278 58.3	N 0 40.5	132 40.8	S14 37.8	149 25.0	S19 12.2
E 8	114 30.3	262 02.3	S14 17.6	293 59.3	N 0 39.9	147 43.5	S14 37.8	164 27.6	S19 12.3
S 9	129 32.8	277 02.1	S14 18.7	309 00.3	N 0 39.2	162 46.2	S14 37.9	179 30.2	S19 12.3
D 10	144 35.2	292 01.8	S14 19.8	324 01.3	N 0 38.6	177 48.9	S14 38.0	194 32.7	S19 12.3
A 11	159 37.7	307 01.5	S14 20.9	339 02.3	N 0 37.9	192 51.6	S14 38.1	209 35.3	S19 12.3
Y									
12	174 40.1	322 01.3	S14 22.1	354 03.3	N 0 37.2	207 54.3	S14 38.2	224 37.9	S19 12.4
13	189 42.6	337 01.0	S14 23.2	9 04.3	N 0 36.6	222 57.0	S14 38.2	239 40.4	S19 12.4
14	204 45.1	352 00.8	S14 24.3	24 05.2	N 0 35.9	237 59.7	S14 38.3	254 43.0	S19 12.4
15	219 47.5	7 00.5	S14 25.4	39 06.2	N 0 35.3	253 02.4	S14 38.4	269 45.6	S19 12.4
16	234 50.0	22 00.2	S14 26.5	54 07.2	N 0 34.6	268 05.1	S14 38.5	284 48.1	S19 12.5
17	249 52.5	36 60.0	S14 27.7	69 08.2	N 0 33.9	283 07.8	S14 38.6	299 50.7	S19 12.5
18	264 54.9	51 59.7	S14 28.8	84 09.2	N 0 33.3	298 10.5	S14 38.6	314 53.3	S19 12.5
19	279 57.4	66 59.5	S14 29.9	99 10.2	N 0 32.6	313 13.2	S14 38.7	329 55.8	S19 12.5
20	294 59.9	81 59.2	S14 31.0	114 11.2	N 0 32.0	328 16.0	S14 38.8	344 58.4	S19 12.6
21	310 02.3	96 58.9	S14 32.1	129 12.2	N 0 31.3	343 18.7	S14 38.9	0 01.0	S19 12.6
22	325 04.8	111 58.7	S14 33.2	144 13.2	N 0 30.7	358 21.4	S14 39.0	15 03.5	S19 12.6
23	340 07.3	126 58.4	S14 34.4	159 14.1	N 0 30.0	13 24.1	S14 39.0	30 06.1	S19 12.7
		v -0.3	d 1.1	v 1.0	d 0.7	v 2.7	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 '
13	0	180 59.7	N 3 47.4	104 50.9	6.2	S22 11.9	8.6	59.4
	1	195 60.0	N 3 46.5	119 16.1	6.2	S22 20.3	8.4	59.4
	2	211 00.2	N 3 45.5	133 41.2	6.1	S22 28.6	8.3	59.4
	3	226 00.4	N 3 44.6	148 06.2	6.0	S22 36.7	8.1	59.3
	4	241 00.6	N 3 43.6	162 31.2	6.0	S22 44.7	8.0	59.3
M	5	256 00.9	N 3 42.6	176 56.1	5.9	S22 52.6	7.8	59.3
O								
N	6	271 01.1	N 3 41.7	191 20.9	5.9	S23 00.3	7.7	59.3
D	7	286 01.3	N 3 40.7	205 45.7	5.8	S23 07.8	7.6	59.3
A	8	301 01.5	N 3 39.8	220 10.5	5.7	S23 15.2	7.4	59.3
Y	9	316 01.7	N 3 38.8	234 35.2	5.7	S23 22.5	7.2	59.3
	10	331 02.0	N 3 37.9	248 59.8	5.6	S23 29.6	7.1	59.3
	11	346 02.2	N 3 36.9	263 24.3	5.6	S23 36.5	6.9	59.3
	12	1 02.4	N 3 35.9	277 48.9	5.5	S23 43.3	6.8	59.3
	13	16 02.6	N 3 35.0	292 13.3	5.5	S23 49.9	6.6	59.3
	14	31 02.9	N 3 34.0	306 37.7	5.4	S23 56.4	6.5	59.3
	15	46 03.1	N 3 33.1	321 02.1	5.4	S24 02.7	6.3	59.2
	16	61 03.3	N 3 32.1	335 26.4	5.3	S24 08.9	6.2	59.2
	17	76 03.5	N 3 31.1	349 50.6	5.3	S24 14.8	6.0	59.2
	18	91 03.7	N 3 30.2	4 14.8	5.2	S24 20.7	5.8	59.2
	19	106 04.0	N 3 29.2	18 39.0	5.2	S24 26.3	5.7	59.2
	20	121 04.2	N 3 28.3	33 03.1	5.1	S24 31.9	5.5	59.2
	21	136 04.4	N 3 27.3	47 27.2	5.1	S24 37.2	5.3	59.2
	22	151 04.6	N 3 26.4	61 51.2	5.0	S24 42.4	5.2	59.2
	23	166 04.9	N 3 25.4	76 15.2	5.0	S24 47.4	5.0	59.2
14	0	181 05.1	N 3 24.4	90 39.2	5.0	S24 52.2	4.8	59.2
	1	196 05.3	N 3 23.5	105 03.1	4.9	S24 56.9	4.7	59.2
	2	211 05.5	N 3 22.5	119 27.0	4.9	S25 01.4	4.5	59.1
	3	226 05.7	N 3 21.6	133 50.8	4.9	S25 05.8	4.3	59.1
	4	241 06.0	N 3 20.6	148 14.7	4.8	S25 09.9	4.2	59.1
T	5	256 06.2	N 3 19.6	162 38.5	4.8	S25 14.0	4.0	59.1
U								
E	6	271 06.4	N 3 18.7	177 02.2	4.8	S25 17.8	3.8	59.1
S	7	286 06.6	N 3 17.7	191 26.0	4.7	S25 21.5	3.7	59.1
D	8	301 06.9	N 3 16.8	205 49.7	4.7	S25 25.0	3.5	59.1
A	9	316 07.1	N 3 15.8	220 13.4	4.7	S25 28.3	3.3	59.1
Y	10	331 07.3	N 3 14.8	234 37.0	4.7	S25 31.5	3.2	59.1
	11	346 07.5	N 3 13.9	249 00.7	4.7	S25 34.4	3.0	59.0
	12	1 07.7	N 3 12.9	263 24.3	4.6	S25 37.3	2.8	59.0
	13	16 08.0	N 3 12.0	277 47.9	4.6	S25 39.9	2.6	59.0
	14	31 08.2	N 3 11.0	292 11.5	4.6	S25 42.4	2.5	59.0
	15	46 08.4	N 3 10.0	306 35.1	4.6	S25 44.7	2.3	59.0
	16	61 08.6	N 3 09.1	320 58.7	4.6	S25 46.8	2.1	59.0
	17	76 08.9	N 3 08.1	335 22.3	4.6	S25 48.7	2.0	59.0
	18	91 09.1	N 3 07.2	349 45.9	4.6	S25 50.5	1.8	59.0
	19	106 09.3	N 3 06.2	4 09.4	4.6	S25 52.1	1.6	58.9
	20	121 09.5	N 3 05.2	18 33.0	4.6	S25 53.6	1.4	58.9
	21	136 09.8	N 3 04.3	32 56.6	4.6	S25 54.8	1.3	58.9
	22	151 10.0	N 3 03.3	47 20.1	4.6	S25 55.9	1.1	58.9
	23	166 10.2	N 3 02.3	61 43.7	4.6	S25 56.8	0.9	58.9
15	0	181 10.4	N 3 01.4	76 07.3	4.6	S25 57.5	0.7	58.9
	1	196 10.6	N 3 00.4	90 30.9	4.6	S25 58.1	0.6	58.9
	2	211 10.9	N 2 59.5	104 54.5	4.6	S25 58.5	0.4	58.9
	3	226 11.1	N 2 58.5	119 18.1	4.6	S25 58.7	0.2	58.8
	4	241 11.3	N 2 57.5	133 41.7	4.6	S25 58.8	0.0	58.8
W	5	256 11.5	N 2 56.6	148 05.4	4.6	S25 58.6	0.1	58.8
E								
D	6	271 11.8	N 2 55.6	162 29.0	4.7	S25 58.3	0.3	58.8
N	7	286 12.0	N 2 54.7	176 52.7	4.7	S25 57.9	0.5	58.8
E	8	301 12.2	N 2 53.7	191 16.4	4.7	S25 57.2	0.6	58.8
S	9	316 12.4	N 2 52.7	205 40.1	4.7	S25 56.4	0.8	58.8
D	10	331 12.7	N 2 51.8	220 03.9	4.8	S25 55.4	1.0	58.7
A	11	346 12.9	N 2 50.8	234 27.7	4.8	S25 54.2	1.2	58.7
Y								
	12	1 13.1	N 2 49.8	248 51.5	4.8	S25 52.9	1.3	58.7
	13	16 13.3	N 2 48.9	263 15.3	4.8	S25 51.4	1.5	58.7
	14	31 13.6	N 2 47.9	277 39.2	4.9	S25 49.8	1.7	58.7
	15	46 13.8	N 2 47.0	292 03.1	4.9	S25 47.9	1.8	58.7
	16	61 14.0	N 2 46.0	306 27.0	4.9	S25 45.9	2.0	58.7
	17	76 14.2	N 2 45.0	320 51.0	5.0	S25 43.7	2.2	58.7
	18	91 14.4	N 2 44.1	335 15.1	5.0	S25 41.4	2.3	58.6
	19	106 14.7	N 2 43.1	349 39.1	5.1	S25 38.9	2.5	58.6
	20	121 14.9	N 2 42.1	4 03.3	5.1	S25 36.2	2.7	58.6
	21	136 15.1	N 2 41.2	18 27.4	5.2	S25 33.4	2.8	58.6
	22	151 15.3	N 2 40.2	32 51.6	5.2	S25 30.4	3.0	58.6
	23	166 15.6	N 2 39.2	47 15.9	5.3	S25 27.2	3.2	58.6
		S.D. 15.9	d 1.0	S.D. 16.2		16.1		16.0

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.6	S40 12.9
Achernar	335 21.8	S57 07.5
Acrux	173 03.8	S63 13.0
Adhara	255 08.1	S28 59.8
Albireo	67 06.1	N28 00.5
Aldebaran	290 42.7	N16 33.2
Alioth	166 15.9	N55 50.8
Alkaid	152 54.6	N49 12.6
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.5	S 1 11.1
Alphard	217 50.7	S 8 44.9
Alphecca	126 06.2	N26 38.8
Alpheratz	357 37.2	N29 12.6
Altair	62 02.4	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.3	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.1	S69 04.2
Avior	234 16.2	S59 34.4
Bellatrix	278 25.8	N 6 22.2
Betelgeuse	270 55.1	N 7 24.8
Canopus	263 53.7	S52 42.1
Capella	280 25.9	N46 01.0
Castor	246 00.7	N31 50.5
Deneb	49 27.3	N45 21.6
Denebola	182 28.0	N14 27.3
Diphda	348 49.7	S17 52.0
Dubhe	193 45.0	N61 38.1
Elnath	278 05.3	N28 37.4
Eltanin	90 43.4	N51 29.4
Enif	33 41.1	N 9 58.5
Fomalhaut	15 17.1	S29 30.4
Gacrux	171 55.2	S57 14.0
Gienah	175 46.7	S17 39.5
Hadar	148 40.4	S60 28.7
Hamal	327 54.0	N23 33.9
Kaus Austr.	83 36.1	S34 22.5
Kochab	137 20.7	N74 04.3
Markab	13 32.3	N15 19.3
Menkar	314 08.8	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.5	S69 48.1
Mirfak	308 31.9	N49 56.1
Nunki	75 51.0	S26 16.2
Peacock	53 09.6	S56 40.1
Polaris	317 01.1	N89 20.3
Pollux	243 20.8	N27 58.4
Procyon	244 53.8	N 5 10.3
Rasalhague	96 01.1	N12 32.9
Regulus	207 37.6	N11 51.9
Rigel	281 06.5	S 8 10.4
Rigil Kent	139 44.6	S60 55.5
Sabik	102 05.9	S15 45.1
Schedar	349 33.5	N56 39.3
Shaula	96 14.0	S37 07.2
Sirius	258 28.8	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.6	S43 30.9
Vega	80 34.9	N38 48.5
Zuben-ubi	137 00.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
16	0	355 09.7	141 58.1	S14 35.5	174 15.1	N 0 29.3	28 26.8	S14 39.1	45 08.7	S19 12.7
	1	10 12.2	156 57.9	S14 36.6	189 16.1	N 0 28.7	43 29.5	S14 39.2	60 11.2	S19 12.7
	2	25 14.6	171 57.6	S14 37.7	204 17.1	N 0 28.0	58 32.2	S14 39.3	75 13.8	S19 12.7
	3	40 17.1	186 57.3	S14 38.8	219 18.1	N 0 27.4	73 34.9	S14 39.4	90 16.4	S19 12.8
	4	55 19.6	201 57.1	S14 39.9	234 19.1	N 0 26.7	88 37.6	S14 39.4	105 18.9	S19 12.8
T	5	70 22.0	216 56.8	S14 41.0	249 20.1	N 0 26.0	103 40.3	S14 39.5	120 21.5	S19 12.8
H										
U	6	85 24.5	231 56.6	S14 42.1	264 21.1	N 0 25.4	118 43.0	S14 39.6	135 24.1	S19 12.8
R	7	100 27.0	246 56.3	S14 43.3	279 22.0	N 0 24.7	133 45.7	S14 39.7	150 26.6	S19 12.9
S	8	115 29.4	261 56.0	S14 44.4	294 23.0	N 0 24.1	148 48.4	S14 39.8	165 29.2	S19 12.9
D	9	130 31.9	276 55.8	S14 45.5	309 24.0	N 0 23.4	163 51.1	S14 39.8	180 31.8	S19 12.9
A	10	145 34.4	291 55.5	S14 46.6	324 25.0	N 0 22.8	178 53.8	S14 39.9	195 34.3	S19 12.9
Y	11	160 36.8	306 55.2	S14 47.7	339 26.0	N 0 22.1	193 56.5	S14 40.0	210 36.9	S19 13.0
	12	175 39.3	321 55.0	S14 48.8	354 27.0	N 0 21.4	208 59.2	S14 40.1	225 39.4	S19 13.0
	13	190 41.7	336 54.7	S14 49.9	9 28.0	N 0 20.8	224 01.9	S14 40.2	240 42.0	S19 13.0
	14	205 44.2	351 54.4	S14 51.0	24 29.0	N 0 20.1	239 04.6	S14 40.2	255 44.6	S19 13.0
	15	220 46.7	6 54.2	S14 52.1	39 29.9	N 0 19.5	254 07.3	S14 40.3	270 47.1	S19 13.1
	16	235 49.1	21 53.9	S14 53.2	54 30.9	N 0 18.8	269 10.0	S14 40.4	285 49.7	S19 13.1
	17	250 51.6	36 53.6	S14 54.3	69 31.9	N 0 18.1	284 12.7	S14 40.5	300 52.3	S19 13.1
	18	265 54.1	51 53.4	S14 55.4	84 32.9	N 0 17.5	299 15.4	S14 40.5	315 54.8	S19 13.1
	19	280 56.5	66 53.1	S14 56.5	99 33.9	N 0 16.8	314 18.1	S14 40.6	330 57.4	S19 13.2
	20	295 59.0	81 52.8	S14 57.7	114 34.9	N 0 16.2	329 20.8	S14 40.7	345 60.0	S19 13.2
	21	311 01.5	96 52.6	S14 58.8	129 35.9	N 0 15.5	344 23.5	S14 40.8	1 02.5	S19 13.2
	22	326 03.9	111 52.3	S14 59.9	144 36.9	N 0 14.8	359 26.2	S14 40.9	16 05.1	S19 13.2
	23	341 06.4	126 52.0	S15 01.0	159 37.8	N 0 14.2	14 28.9	S14 40.9	31 07.6	S19 13.3
17	0	356 08.9	141 51.7	S15 02.1	174 38.8	N 0 13.5	29 31.6	S14 41.0	46 10.2	S19 13.3
	1	11 11.3	156 51.5	S15 03.2	189 39.8	N 0 12.9	44 34.3	S14 41.1	61 12.8	S19 13.3
	2	26 13.8	171 51.2	S15 04.3	204 40.8	N 0 12.2	59 37.0	S14 41.2	76 15.3	S19 13.3
	3	41 16.2	186 50.9	S15 05.4	219 41.8	N 0 11.6	74 39.7	S14 41.2	91 17.9	S19 13.4
	4	56 18.7	201 50.7	S15 06.5	234 42.8	N 0 10.9	89 42.3	S14 41.3	106 20.4	S19 13.4
F	5	71 21.2	216 50.4	S15 07.6	249 43.8	N 0 10.2	104 45.0	S14 41.4	121 23.0	S19 13.4
R										
I	6	86 23.6	231 50.1	S15 08.7	264 44.7	N 0 09.6	119 47.7	S14 41.5	136 25.6	S19 13.4
D	7	101 26.1	246 49.9	S15 09.8	279 45.7	N 0 08.9	134 50.4	S14 41.6	151 28.1	S19 13.5
A	8	116 28.6	261 49.6	S15 10.9	294 46.7	N 0 08.3	149 53.1	S14 41.6	166 30.7	S19 13.5
Y	9	131 31.0	276 49.3	S15 12.0	309 47.7	N 0 07.6	164 55.8	S14 41.7	181 33.3	S19 13.5
	10	146 33.5	291 49.0	S15 13.0	324 48.7	N 0 06.9	179 58.5	S14 41.8	196 35.8	S19 13.5
	11	161 36.0	306 48.8	S15 14.1	339 49.7	N 0 06.3	195 01.2	S14 41.9	211 38.4	S19 13.6
	12	176 38.4	321 48.5	S15 15.2	354 50.7	N 0 05.6	210 03.9	S14 41.9	226 40.9	S19 13.6
	13	191 40.9	336 48.2	S15 16.3	9 51.7	N 0 05.0	225 06.6	S14 42.0	241 43.5	S19 13.6
	14	206 43.4	351 47.9	S15 17.4	24 52.6	N 0 04.3	240 09.3	S14 42.1	256 46.1	S19 13.6
	15	221 45.8	6 47.7	S15 18.5	39 53.6	N 0 03.6	255 12.0	S14 42.2	271 48.6	S19 13.7
	16	236 48.3	21 47.4	S15 19.6	54 54.6	N 0 03.0	270 14.7	S14 42.2	286 51.2	S19 13.7
	17	251 50.7	36 47.1	S15 20.7	69 55.6	N 0 02.3	285 17.4	S14 42.3	301 53.7	S19 13.7
	18	266 53.2	51 46.9	S15 21.8	84 56.6	N 0 01.7	300 20.1	S14 42.4	316 56.3	S19 13.7
	19	281 55.7	66 46.6	S15 22.9	99 57.6	N 0 01.0	315 22.8	S14 42.5	331 58.8	S19 13.8
	20	296 58.1	81 46.3	S15 24.0	114 58.6	N 0 00.3	330 25.5	S14 42.5	347 01.4	S19 13.8
	21	312 00.6	96 46.0	S15 25.1	129 59.5	S 0 00.3	345 28.1	S14 42.6	2 04.0	S19 13.8
	22	327 03.1	111 45.8	S15 26.2	145 00.5	S 0 01.0	0 30.8	S14 42.7	17 06.5	S19 13.8
	23	342 05.5	126 45.5	S15 27.2	160 01.5	S 0 01.6	15 33.5	S14 42.8	32 09.1	S19 13.9
18	0	357 08.0	141 45.2	S15 28.3	175 02.5	S 0 02.3	30 36.2	S14 42.8	47 11.6	S19 13.9
	1	12 10.5	156 44.9	S15 29.4	190 03.5	S 0 02.9	45 38.9	S14 42.9	62 14.2	S19 13.9
	2	27 12.9	171 44.7	S15 30.5	205 04.5	S 0 03.6	60 41.6	S14 43.0	77 16.8	S19 13.9
	3	42 15.4	186 44.4	S15 31.6	220 05.5	S 0 04.3	75 44.3	S14 43.1	92 19.3	S19 14.0
	4	57 17.9	201 44.1	S15 32.7	235 06.4	S 0 04.9	90 47.0	S14 43.1	107 21.9	S19 14.0
S	5	72 20.3	216 43.8	S15 33.8	250 07.4	S 0 05.6	105 49.7	S14 43.2	122 24.4	S19 14.0
A										
T	6	87 22.8	231 43.5	S15 34.9	265 08.4	S 0 06.2	120 52.4	S14 43.3	137 27.0	S19 14.0
U	7	102 25.2	246 43.3	S15 35.9	280 09.4	S 0 06.9	135 55.1	S14 43.4	152 29.5	S19 14.1
R	8	117 27.7	261 43.0	S15 37.0	295 10.4	S 0 07.6	150 57.7	S14 43.4	167 32.1	S19 14.1
D	9	132 30.2	276 42.7	S15 38.1	310 11.4	S 0 08.2	166 00.4	S14 43.5	182 34.7	S19 14.1
A	10	147 32.6	291 42.4	S15 39.2	325 12.4	S 0 08.9	181 03.1	S14 43.6	197 37.2	S19 14.1
Y	11	162 35.1	306 42.2	S15 40.3	340 13.3	S 0 09.5	196 05.8	S14 43.7	212 39.8	S19 14.2
	12	177 37.6	321 41.9	S15 41.4	355 14.3	S 0 10.2	211 08.5	S14 43.7	227 42.3	S19 14.2
	13	192 40.0	336 41.6	S15 42.4	10 15.3	S 0 10.9	226 11.2	S14 43.8	242 44.9	S19 14.2
	14	207 42.5	351 41.3	S15 43.5	25 16.3	S 0 11.5	241 13.9	S14 43.9	257 47.4	S19 14.2
	15	222 45.0	6 41.0	S15 44.6	40 17.3	S 0 12.2	256 16.6	S14 44.0	272 50.0	S19 14.2
	16	237 47.4	21 40.8	S15 45.7	55 18.3	S 0 12.8	271 19.3	S14 44.0	287 52.6	S19 14.3
	17	252 49.9	36 40.5	S15 46.8	70 19.2	S 0 13.5	286 21.9	S14 44.1	302 55.1	S19 14.3
	18	267 52.3	51 40.2	S15 47.8	85 20.2	S 0 14.2	301 24.6	S14 44.2	317 57.7	S19 14.3
	19	282 54.8	66 39.9	S15 48.9	100 21.2	S 0 14.8	316 27.3	S14 44.3	333 00.2	S19 14.3
	20	297 57.3	81 39.6	S15 50.0	115 22.2	S 0 15.5	331 30.0	S14 44.3	348 02.8	S19 14.4
	21	312 59.7	96 39.4	S15 51.1	130 23.2	S 0 16.1	346 32.7	S14 44.4	3 05.3	S19 14.4
	22	328 02.2	111 39.1	S15 52.1	145 24.2	S 0 16.8	1 35.4	S14 44.5	18 07.9	S19 14.4
	23	343 04.7	126 38.8	S15 53.2	160 25.2	S 0 17.5	16 38.1	S14 44.5	33 10.4	S19 14.4
			v -0.3	d 1.1	v 1.0	d 0.7	v 2.7	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 '
16	0	181 15.8	N 2 38.3	61 40.2	5.3	S25 23.9	3.3	58.5
	1	196 16.0	N 2 37.3	76 04.6	5.4	S25 20.4	3.5	58.5
	2	211 16.2	N 2 36.4	90 29.0	5.4	S25 16.7	3.7	58.5
	3	226 16.5	N 2 35.4	104 53.5	5.5	S25 12.9	3.8	58.5
	4	241 16.7	N 2 34.4	119 18.0	5.5	S25 08.9	4.0	58.5
T	5	256 16.9	N 2 33.5	133 42.6	5.6	S25 04.8	4.1	58.5
H								
U	6	271 17.1	N 2 32.5	148 07.3	5.7	S25 00.5	4.3	58.5
R	7	286 17.4	N 2 31.5	162 32.0	5.7	S24 56.0	4.5	58.4
S	8	301 17.6	N 2 30.6	176 56.8	5.8	S24 51.4	4.6	58.4
D	9	316 17.8	N 2 29.6	191 21.6	5.8	S24 46.7	4.8	58.4
A	10	331 18.0	N 2 28.6	205 46.5	5.9	S24 41.7	4.9	58.4
Y	11	346 18.3	N 2 27.7	220 11.5	6.0	S24 36.7	5.1	58.4
	12	1 18.5	N 2 26.7	234 36.6	6.1	S24 31.4	5.2	58.4
	13	16 18.7	N 2 25.7	249 01.7	6.1	S24 26.1	5.4	58.3
	14	31 18.9	N 2 24.8	263 26.9	6.2	S24 20.5	5.5	58.3
	15	46 19.1	N 2 23.8	277 52.1	6.3	S24 14.9	5.7	58.3
	16	61 19.4	N 2 22.8	292 17.5	6.3	S24 09.0	5.8	58.3
	17	76 19.6	N 2 21.9	306 42.9	6.4	S24 03.1	6.0	58.3
	18	91 19.8	N 2 20.9	321 08.4	6.5	S23 57.0	6.1	58.3
	19	106 20.0	N 2 20.0	335 34.0	6.6	S23 50.7	6.3	58.2
	20	121 20.3	N 2 19.0	349 59.6	6.7	S23 44.3	6.4	58.2
	21	136 20.5	N 2 18.0	4 25.4	6.7	S23 37.8	6.5	58.2
	22	151 20.7	N 2 17.1	18 51.2	6.8	S23 31.1	6.7	58.2
	23	166 20.9	N 2 16.1	33 17.1	6.9	S23 24.3	6.8	58.2
17	0	181 21.2	N 2 15.1	47 43.0	7.0	S23 17.3	7.0	58.2
	1	196 21.4	N 2 14.2	62 09.1	7.1	S23 10.2	7.1	58.1
	2	211 21.6	N 2 13.2	76 35.2	7.1	S23 03.0	7.2	58.1
	3	226 21.8	N 2 12.2	91 01.4	7.2	S22 55.6	7.4	58.1
	4	241 22.1	N 2 11.3	105 27.8	7.3	S22 48.1	7.5	58.1
F	5	256 22.3	N 2 10.3	119 54.2	7.4	S22 40.5	7.6	58.1
R								
I	6	271 22.5	N 2 09.3	134 20.6	7.5	S22 32.7	7.8	58.1
D	7	286 22.7	N 2 08.4	148 47.2	7.6	S22 24.8	7.9	58.0
A	8	301 23.0	N 2 07.4	163 13.9	7.7	S22 16.8	8.0	58.0
Y	9	316 23.2	N 2 06.4	177 40.6	7.7	S22 08.6	8.1	58.0
	10	331 23.4	N 2 05.5	192 07.4	7.8	S22 00.4	8.3	58.0
	11	346 23.6	N 2 04.5	206 34.4	7.9	S21 52.0	8.4	58.0
	12	1 23.9	N 2 03.5	221 01.4	8.0	S21 43.4	8.5	58.0
	13	16 24.1	N 2 02.6	235 28.5	8.1	S21 34.8	8.6	57.9
	14	31 24.3	N 2 01.6	249 55.7	8.2	S21 26.0	8.8	57.9
	15	46 24.5	N 2 00.6	264 23.0	8.3	S21 17.2	8.9	57.9
	16	61 24.7	N 1 59.7	278 50.3	8.4	S21 08.2	9.0	57.9
	17	76 25.0	N 1 58.7	293 17.8	8.5	S20 59.1	9.1	57.9
	18	91 25.2	N 1 57.7	307 45.3	8.6	S20 49.8	9.2	57.8
	19	106 25.4	N 1 56.8	322 13.0	8.6	S20 40.5	9.3	57.8
	20	121 25.6	N 1 55.8	336 40.7	8.7	S20 31.0	9.4	57.8
	21	136 25.9	N 1 54.8	351 08.6	8.8	S20 21.5	9.6	57.8
	22	151 26.1	N 1 53.9	5 36.5	8.9	S20 11.8	9.7	57.8
	23	166 26.3	N 1 52.9	20 04.5	9.0	S20 02.1	9.8	57.7
18	0	181 26.5	N 1 51.9	34 32.6	9.1	S19 52.2	9.9	57.7
	1	196 26.8	N 1 51.0	49 00.8	9.2	S19 42.2	10.0	57.7
	2	211 27.0	N 1 50.0	63 29.1	9.3	S19 32.1	10.1	57.7
	3	226 27.2	N 1 49.0	77 57.5	9.4	S19 21.9	10.2	57.7
	4	241 27.4	N 1 48.1	92 25.9	9.5	S19 11.6	10.3	57.7
S	5	256 27.7	N 1 47.1	106 54.5	9.6	S19 01.2	10.4	57.6
A								
T	6	271 27.9	N 1 46.1	121 23.2	9.7	S18 50.8	10.5	57.6
U	7	286 28.1	N 1 45.2	135 51.9	9.7	S18 40.2	10.6	57.6
R	8	301 28.3	N 1 44.2	150 20.8	9.8	S18 29.5	10.7	57.6
D	9	316 28.6	N 1 43.2	164 49.7	9.9	S18 18.8	10.8	57.6
A	10	331 28.8	N 1 42.2	179 18.7	10.0	S18 07.9	10.9	57.5
Y	11	346 29.0	N 1 41.3	193 47.8	10.1	S17 57.0	10.9	57.5
	12	1 29.2	N 1 40.3	208 17.0	10.2	S17 45.9	11.0	57.5
	13	16 29.4	N 1 39.3	222 46.3	10.3	S17 34.8	11.1	57.5
	14	31 29.7	N 1 38.4	237 15.7	10.4	S17 23.6	11.2	57.5
	15	46 29.9	N 1 37.4	251 45.1	10.5	S17 12.3	11.3	57.4
	16	61 30.1	N 1 36.4	266 14.7	10.6	S17 00.9	11.4	57.4
	17	76 30.3	N 1 35.5	280 44.3	10.6	S16 49.5	11.5	57.4
	18	91 30.6	N 1 34.5	295 14.1	10.7	S16 38.0	11.5	57.4
	19	106 30.8	N 1 33.5	309 43.9	10.8	S16 26.4	11.6	57.4
	20	121 31.0	N 1 32.6	324 13.8	10.9	S16 14.7	11.7	57.3
	21	136 31.2	N 1 31.6	338 43.8	11.0	S16 02.9	11.8	57.3
	22	151 31.5	N 1 30.6	353 13.8	11.1	S15 51.1	11.8	57.3
	23	166 31.7	N 1 29.7	7 44.0	11.2	S15 39.2	11.9	57.3
		S.D. 15.9	d 1.0	S.D. 15.9		15.8		15.7

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.6	S40 12.9
Achernar	335 21.7	S57 07.5
Acrux	173 03.8	S63 13.0
Adhara	255 08.1	S28 59.8
Albireo	67 06.1	N28 00.5
Aldebaran	290 42.6	N16 33.2
Alioth	166 15.9	N55 50.8
Alkaid	152 54.6	N49 12.6
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.4	S 1 11.1
Alphard	217 50.6	S 8 44.9
Alphecca	126 06.2	N26 38.8
Alpheratz	357 37.2	N29 12.7
Altair	62 02.4	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.3	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.1	S69 04.2
Avior	234 16.2	S59 34.4
Bellatrix	278 25.8	N 6 22.2
Betelgeuse	270 55.0	N 7 24.8
Canopus	263 53.7	S52 42.1
Capella	280 25.9	N46 01.0
Castor	246 00.7	N31 50.5
Deneb	49 27.3	N45 21.6
Denebola	182 28.0	N14 27.3
Diphda	348 49.7	S17 52.0
Dubhe	193 45.0	N61 38.1
Elnath	278 05.3	N28 37.5
Eltanin	90 43.4	N51 29.4
Enif	33 41.1	N 9 58.6
Fomalhaut	15 17.1	S29 30.4
Gacrux	171 55.2	S57 14.0
Gienah	175 46.7	S17 39.5
Hadar	148 40.4	S60 28.7
Hamal	327 54.0	N23 33.9
Kaus Austr.	83 36.1	S34 22.6
Kochab	137 20.7	N74 04.3
Markab	13 32.3	N15 19.3
Menkar	314 08.8	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.4	S69 48.1
Mirfak	308 31.9	N49 56.1
Nunki	75 51.0	S26 16.2
Peacock	53 09.6	S56 40.1
Polaris	317 00.2	N89 20.3
Pollux	243 20.8	N27 58.4
Procyon	244 53.8	N 5 10.3
Rasalhague	96 01.1	N12 32.9
Regulus	207 37.6	N11 51.9
Rigel	281 06.4	S 8 10.4
Rigil Kent	139 44.6	S60 55.5
Sabik	102 05.9	S15 45.1
Schedar	349 33.5	N56 39.3
Shaula	96 14.1	S37 07.2
Sirius	258 28.7	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.6	S43 30.9
Vega	80 34.9	N38 48.5
Zuben-ubi	137 00.0	S16 07.8

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	358 07.1	141 38.5	S15 54.3	175 26.1	S 0 18.1	31 40.7	S14 44.6	48 13.0	S19 14.5
	1	13 09.6	156 38.2	S15 55.4	190 27.1	S 0 18.8	46 43.4	S14 44.7	63 15.5	S19 14.5
	2	28 12.1	171 37.9	S15 56.4	205 28.1	S 0 19.4	61 46.1	S14 44.8	78 18.1	S19 14.5
	3	43 14.5	186 37.7	S15 57.5	220 29.1	S 0 20.1	76 48.8	S14 44.8	93 20.7	S19 14.5
	4	58 17.0	201 37.4	S15 58.6	235 30.1	S 0 20.7	91 51.5	S14 44.9	108 23.2	S19 14.5
S	5	73 19.5	216 37.1	S15 59.6	250 31.1	S 0 21.4	106 54.2	S14 45.0	123 25.8	S19 14.6
U										
N	6	88 21.9	231 36.8	S16 00.7	265 32.0	S 0 22.1	121 56.8	S14 45.1	138 28.3	S19 14.6
D	7	103 24.4	246 36.5	S16 01.8	280 33.0	S 0 22.7	136 59.5	S14 45.1	153 30.9	S19 14.6
A	8	118 26.8	261 36.2	S16 02.9	295 34.0	S 0 23.4	152 02.2	S14 45.2	168 33.4	S19 14.6
Y	9	133 29.3	276 36.0	S16 03.9	310 35.0	S 0 24.0	167 04.9	S14 45.3	183 36.0	S19 14.7
	10	148 31.8	291 35.7	S16 05.0	325 36.0	S 0 24.7	182 07.6	S14 45.3	198 38.5	S19 14.7
	11	163 34.2	306 35.4	S16 06.1	340 37.0	S 0 25.4	197 10.3	S14 45.4	213 41.1	S19 14.7
	12	178 36.7	321 35.1	S16 07.1	355 38.0	S 0 26.0	212 12.9	S14 45.5	228 43.6	S19 14.7
	13	193 39.2	336 34.8	S16 08.2	10 38.9	S 0 26.7	227 15.6	S14 45.6	243 46.2	S19 14.8
	14	208 41.6	351 34.5	S16 09.3	25 39.9	S 0 27.3	242 18.3	S14 45.6	258 48.7	S19 14.8
	15	223 44.1	6 34.2	S16 10.3	40 40.9	S 0 28.0	257 21.0	S14 45.7	273 51.3	S19 14.8
	16	238 46.6	21 34.0	S16 11.4	55 41.9	S 0 28.7	272 23.7	S14 45.8	288 53.8	S19 14.8
	17	253 49.0	36 33.7	S16 12.5	70 42.9	S 0 29.3	287 26.4	S14 45.8	303 56.4	S19 14.8
	18	268 51.5	51 33.4	S16 13.5	85 43.9	S 0 30.0	302 29.0	S14 45.9	318 58.9	S19 14.9
	19	283 54.0	66 33.1	S16 14.6	100 44.8	S 0 30.6	317 31.7	S14 46.0	334 01.5	S19 14.9
	20	298 56.4	81 32.8	S16 15.6	115 45.8	S 0 31.3	332 34.4	S14 46.1	349 04.1	S19 14.9
	21	313 58.9	96 32.5	S16 16.7	130 46.8	S 0 32.0	347 37.1	S14 46.1	4 06.6	S19 14.9
	22	329 01.3	111 32.2	S16 17.8	145 47.8	S 0 32.6	2 39.8	S14 46.2	19 09.2	S19 15.0
	23	344 03.8	126 31.9	S16 18.8	160 48.8	S 0 33.3	17 42.4	S14 46.3	34 11.7	S19 15.0
20	0	359 06.3	141 31.7	S16 19.9	175 49.8	S 0 33.9	32 45.1	S14 46.3	49 14.3	S19 15.0
	1	14 08.7	156 31.4	S16 21.0	190 50.7	S 0 34.6	47 47.8	S14 46.4	64 16.8	S19 15.0
	2	29 11.2	171 31.1	S16 22.0	205 51.7	S 0 35.3	62 50.5	S14 46.5	79 19.4	S19 15.0
	3	44 13.7	186 30.8	S16 23.1	220 52.7	S 0 35.9	77 53.1	S14 46.6	94 21.9	S19 15.1
	4	59 16.1	201 30.5	S16 24.1	235 53.7	S 0 36.6	92 55.8	S14 46.6	109 24.5	S19 15.1
M	5	74 18.6	216 30.2	S16 25.2	250 54.7	S 0 37.2	107 58.5	S14 46.7	124 27.0	S19 15.1
O										
N	6	89 21.1	231 29.9	S16 26.2	265 55.7	S 0 37.9	123 01.2	S14 46.8	139 29.6	S19 15.1
D	7	104 23.5	246 29.6	S16 27.3	280 56.6	S 0 38.6	138 03.9	S14 46.8	154 32.1	S19 15.2
A	8	119 26.0	261 29.3	S16 28.4	295 57.6	S 0 39.2	153 06.5	S14 46.9	169 34.7	S19 15.2
Y	9	134 28.4	276 29.0	S16 29.4	310 58.6	S 0 39.9	168 09.2	S14 47.0	184 37.2	S19 15.2
	10	149 30.9	291 28.8	S16 30.5	325 59.6	S 0 40.5	183 11.9	S14 47.0	199 39.8	S19 15.2
	11	164 33.4	306 28.5	S16 31.5	341 00.6	S 0 41.2	198 14.6	S14 47.1	214 42.3	S19 15.2
	12	179 35.8	321 28.2	S16 32.6	356 01.6	S 0 41.9	213 17.2	S14 47.2	229 44.9	S19 15.3
	13	194 38.3	336 27.9	S16 33.6	11 02.5	S 0 42.5	228 19.9	S14 47.3	244 47.4	S19 15.3
	14	209 40.8	351 27.6	S16 34.7	26 03.5	S 0 43.2	243 22.6	S14 47.3	259 49.9	S19 15.3
	15	224 43.2	6 27.3	S16 35.7	41 04.5	S 0 43.8	258 25.3	S14 47.4	274 52.5	S19 15.3
	16	239 45.7	21 27.0	S16 36.8	56 05.5	S 0 44.5	273 27.9	S14 47.5	289 55.0	S19 15.4
	17	254 48.2	36 26.7	S16 37.8	71 06.5	S 0 45.2	288 30.6	S14 47.5	304 57.6	S19 15.4
	18	269 50.6	51 26.4	S16 38.9	86 07.4	S 0 45.8	303 33.3	S14 47.6	320 00.1	S19 15.4
	19	284 53.1	66 26.1	S16 39.9	101 08.4	S 0 46.5	318 36.0	S14 47.7	335 02.7	S19 15.4
	20	299 55.6	81 25.8	S16 41.0	116 09.4	S 0 47.1	333 38.6	S14 47.7	350 05.2	S19 15.4
	21	314 58.0	96 25.5	S16 42.0	131 10.4	S 0 47.8	348 41.3	S14 47.8	5 07.8	S19 15.5
	22	330 00.5	111 25.2	S16 43.1	146 11.4	S 0 48.5	3 44.0	S14 47.9	20 10.3	S19 15.5
	23	345 02.9	126 24.9	S16 44.1	161 12.4	S 0 49.1	18 46.7	S14 47.9	35 12.9	S19 15.5
21	0	0 05.4	141 24.6	S16 45.2	176 13.3	S 0 49.8	33 49.3	S14 48.0	50 15.4	S19 15.5
	1	15 07.9	156 24.4	S16 46.2	191 14.3	S 0 50.4	48 52.0	S14 48.1	65 18.0	S19 15.5
	2	30 10.3	171 24.1	S16 47.2	206 15.3	S 0 51.1	63 54.7	S14 48.1	80 20.5	S19 15.6
	3	45 12.8	186 23.8	S16 48.3	221 16.3	S 0 51.8	78 57.4	S14 48.2	95 23.1	S19 15.6
	4	60 15.3	201 23.5	S16 49.3	236 17.3	S 0 52.4	94 00.0	S14 48.3	110 25.6	S19 15.6
T	5	75 17.7	216 23.2	S16 50.4	251 18.2	S 0 53.1	109 02.7	S14 48.3	125 28.2	S19 15.6
U										
E	6	90 20.2	231 22.9	S16 51.4	266 19.2	S 0 53.7	124 05.4	S14 48.4	140 30.7	S19 15.6
S	7	105 22.7	246 22.6	S16 52.5	281 20.2	S 0 54.4	139 08.0	S14 48.5	155 33.3	S19 15.7
D	8	120 25.1	261 22.3	S16 53.5	296 21.2	S 0 55.1	154 10.7	S14 48.5	170 35.8	S19 15.7
A	9	135 27.6	276 22.0	S16 54.5	311 22.2	S 0 55.7	169 13.4	S14 48.6	185 38.3	S19 15.7
Y	10	150 30.0	291 21.7	S16 55.6	326 23.2	S 0 56.4	184 16.1	S14 48.7	200 40.9	S19 15.7
	11	165 32.5	306 21.4	S16 56.6	341 24.1	S 0 57.0	199 18.7	S14 48.8	215 43.4	S19 15.8
	12	180 35.0	321 21.1	S16 57.6	356 25.1	S 0 57.7	214 21.4	S14 48.8	230 46.0	S19 15.8
	13	195 37.4	336 20.8	S16 58.7	11 26.1	S 0 58.3	229 24.1	S14 48.9	245 48.5	S19 15.8
	14	210 39.9	351 20.5	S16 59.7	26 27.1	S 0 59.0	244 26.7	S14 49.0	260 51.1	S19 15.8
	15	225 42.4	6 20.2	S17 00.8	41 28.1	S 0 59.7	259 29.4	S14 49.0	275 53.6	S19 15.8
	16	240 44.8	21 19.9	S17 01.8	56 29.0	S 1 00.3	274 32.1	S14 49.1	290 56.2	S19 15.9
	17	255 47.3	36 19.6	S17 02.8	71 30.0	S 1 01.0	289 34.7	S14 49.2	305 58.7	S19 15.9
	18	270 49.8	51 19.3	S17 03.9	86 31.0	S 1 01.6	304 37.4	S14 49.2	321 01.2	S19 15.9
	19	285 52.2	66 19.0	S17 04.9	101 32.0	S 1 02.3	319 40.1	S14 49.3	336 03.8	S19 15.9
	20	300 54.7	81 18.7	S17 05.9	116 33.0	S 1 03.0	334 42.7	S14 49.4	351 06.3	S19 15.9
	21	315 57.2	96 18.4	S17 07.0	131 33.9	S 1 03.6	349 45.4	S14 49.4	6 08.9	S19 16.0
	22	330 59.6	111 18.1	S17 08.0	146 34.9	S 1 04.3	4 48.1	S14 49.5	21 11.4	S19 16.0
	23	346 02.1	126 17.8	S17 09.0	161 35.9	S 1 04.9	19 50.7	S14 49.5	36 14.0	S19 16.0
			v -0.3	d 1.1	v 1.0	d 0.7	v 2.7	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 '
19	0	181 31.9	N 1 28.7	22 14.2	11.2	S15 27.2	12.0	57.3
	1	196 32.1	N 1 27.7	36 44.5	11.3	S15 15.1	12.0	57.2
	2	211 32.4	N 1 26.8	51 15.0	11.4	S15 03.0	12.1	57.2
	3	226 32.6	N 1 25.8	65 45.4	11.5	S14 50.8	12.2	57.2
	4	241 32.8	N 1 24.8	80 16.0	11.6	S14 38.6	12.3	57.2
S	5	256 33.0	N 1 23.8	94 46.7	11.7	S14 26.3	12.3	57.2
U								
N	6	271 33.3	N 1 22.9	109 17.4	11.7	S14 13.9	12.4	57.1
D	7	286 33.5	N 1 21.9	123 48.2	11.8	S14 01.5	12.4	57.1
A	8	301 33.7	N 1 20.9	138 19.1	11.9	S13 49.0	12.5	57.1
Y	9	316 33.9	N 1 20.0	152 50.1	12.0	S13 36.4	12.6	57.1
	10	331 34.1	N 1 19.0	167 21.1	12.0	S13 23.8	12.6	57.0
	11	346 34.4	N 1 18.0	181 52.2	12.1	S13 11.1	12.7	57.0
	12	1 34.6	N 1 17.1	196 23.4	12.2	S12 58.4	12.7	57.0
	13	16 34.8	N 1 16.1	210 54.7	12.3	S12 45.6	12.8	57.0
	14	31 35.0	N 1 15.1	225 26.1	12.3	S12 32.8	12.8	57.0
	15	46 35.3	N 1 14.2	239 57.5	12.4	S12 19.9	12.9	56.9
	16	61 35.5	N 1 13.2	254 29.0	12.5	S12 06.9	12.9	56.9
	17	76 35.7	N 1 12.2	269 00.6	12.6	S11 54.0	13.0	56.9
	18	91 35.9	N 1 11.2	283 32.2	12.6	S11 40.9	13.0	56.9
	19	106 36.2	N 1 10.3	298 03.9	12.7	S11 27.9	13.1	56.9
	20	121 36.4	N 1 09.3	312 35.7	12.8	S11 14.7	13.1	56.8
	21	136 36.6	N 1 08.3	327 07.5	12.8	S11 01.6	13.2	56.8
	22	151 36.8	N 1 07.4	341 39.4	12.9	S10 48.4	13.2	56.8
	23	166 37.1	N 1 06.4	356 11.4	13.0	S10 35.1	13.2	56.8
20	0	181 37.3	N 1 05.4	10 43.5	13.0	S10 21.8	13.3	56.7
	1	196 37.5	N 1 04.5	25 15.6	13.1	S10 08.5	13.3	56.7
	2	211 37.7	N 1 03.5	39 47.8	13.2	S 9 55.2	13.4	56.7
	3	226 37.9	N 1 02.5	54 20.0	13.2	S 9 41.8	13.4	56.7
	4	241 38.2	N 1 01.5	68 52.3	13.3	S 9 28.3	13.4	56.7
M	5	256 38.4	N 1 00.6	83 24.7	13.4	S 9 14.9	13.5	56.6
O								
N	6	271 38.6	N 0 59.6	97 57.1	13.4	S 9 01.4	13.5	56.6
D	7	286 38.8	N 0 58.6	112 29.6	13.5	S 8 47.9	13.5	56.6
A	8	301 39.1	N 0 57.7	127 02.1	13.5	S 8 34.3	13.6	56.6
Y	9	316 39.3	N 0 56.7	141 34.7	13.6	S 8 20.7	13.6	56.6
	10	331 39.5	N 0 55.7	156 07.4	13.7	S 8 07.1	13.6	56.5
	11	346 39.7	N 0 54.7	170 40.1	13.7	S 7 53.5	13.6	56.5
	12	1 40.0	N 0 53.8	185 12.9	13.8	S 7 39.8	13.7	56.5
	13	16 40.2	N 0 52.8	199 45.7	13.8	S 7 26.1	13.7	56.5
	14	31 40.4	N 0 51.8	214 18.6	13.9	S 7 12.4	13.7	56.4
	15	46 40.6	N 0 50.9	228 51.5	13.9	S 6 58.7	13.7	56.4
	16	61 40.8	N 0 49.9	243 24.5	14.0	S 6 44.9	13.8	56.4
	17	76 41.1	N 0 48.9	257 57.6	14.0	S 6 31.2	13.8	56.4
	18	91 41.3	N 0 48.0	272 30.6	14.1	S 6 17.4	13.8	56.4
	19	106 41.5	N 0 47.0	287 03.8	14.1	S 6 03.6	13.8	56.3
	20	121 41.7	N 0 46.0	301 37.0	14.2	S 5 49.7	13.8	56.3
	21	136 42.0	N 0 45.0	316 10.2	14.2	S 5 35.9	13.8	56.3
	22	151 42.2	N 0 44.1	330 43.5	14.3	S 5 22.1	13.9	56.3
	23	166 42.4	N 0 43.1	345 16.8	14.3	S 5 08.2	13.9	56.2
21	0	181 42.6	N 0 42.1	359 50.1	14.4	S 4 54.3	13.9	56.2
	1	196 42.8	N 0 41.2	14 23.5	14.4	S 4 40.4	13.9	56.2
	2	211 43.1	N 0 40.2	28 57.0	14.4	S 4 26.5	13.9	56.2
	3	226 43.3	N 0 39.2	43 30.5	14.5	S 4 12.6	13.9	56.2
	4	241 43.5	N 0 38.2	58 04.0	14.5	S 3 58.7	13.9	56.1
T	5	256 43.7	N 0 37.3	72 37.6	14.6	S 3 44.8	13.9	56.1
U								
E	6	271 44.0	N 0 36.3	87 11.2	14.6	S 3 30.9	13.9	56.1
S	7	286 44.2	N 0 35.3	101 44.8	14.6	S 3 17.0	13.9	56.1
D	8	301 44.4	N 0 34.4	116 18.5	14.7	S 3 03.0	13.9	56.0
A	9	316 44.6	N 0 33.4	130 52.2	14.7	S 2 49.1	13.9	56.0
Y	10	331 44.8	N 0 32.4	145 26.0	14.7	S 2 35.2	13.9	56.0
	11	346 45.1	N 0 31.4	159 59.8	14.8	S 2 21.2	13.9	56.0
	12	1 45.3	N 0 30.5	174 33.6	14.8	S 2 07.3	13.9	56.0
	13	16 45.5	N 0 29.5	189 07.4	14.8	S 1 53.4	13.9	55.9
	14	31 45.7	N 0 28.5	203 41.3	14.9	S 1 39.5	13.9	55.9
	15	46 46.0	N 0 27.6	218 15.2	14.9	S 1 25.5	13.9	55.9
	16	61 46.2	N 0 26.6	232 49.1	14.9	S 1 11.6	13.9	55.9
	17	76 46.4	N 0 25.6	247 23.1	15.0	S 0 57.7	13.9	55.9
	18	91 46.6	N 0 24.6	261 57.1	15.0	S 0 43.8	13.9	55.8
	19	106 46.8	N 0 23.7	276 31.1	15.0	S 0 29.9	13.9	55.8
	20	121 47.1	N 0 22.7	291 05.2	15.0	S 0 16.0	13.9	55.8
	21	136 47.3	N 0 21.7	305 39.2	15.1	S 0 02.1	13.9	55.8
	22	151 47.5	N 0 20.8	320 13.3	15.1	N 0 11.7	13.9	55.7
	23	166 47.7	N 0 19.8	334 47.4	15.1	N 0 25.6	13.9	55.7
		S.D. 15.9	d 1.0	S.D. 15.5		15.4	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.5	S40 12.9
Achernar	335 21.7	S57 07.5
Acrux	173 03.8	S63 13.0
Adhara	255 08.1	S28 59.8
Albireo	67 06.1	N28 00.5
Aldebaran	290 42.6	N16 33.2
Alioth	166 15.9	N55 50.8
Alkaid	152 54.6	N49 12.6
Al Na-ir	27 35.9	S46 51.4
Alnilam	275 40.4	S 1 11.1
Alphard	217 50.6	S 8 44.9
Alphecca	126 06.2	N26 38.8
Alpheratz	357 37.2	N29 12.7
Altair	62 02.4	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.3	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.1	S69 04.2
Avior	234 16.2	S59 34.4
Bellatrix	278 25.7	N 6 22.2
Betelgeuse	270 55.0	N 7 24.8
Canopus	263 53.6	S52 42.1
Capella	280 25.8	N46 01.0
Castor	246 00.7	N31 50.5
Deneb	49 27.3	N45 21.7
Denebola	182 28.0	N14 27.3
Diphda	348 49.7	S17 52.0
Dubhe	193 45.0	N61 38.1
Elnath	278 05.3	N28 37.5
Eltanin	90 43.5	N51 29.4
Enif	33 41.1	N 9 58.6
Fomalhaut	15 17.1	S29 30.4
Gacrux	171 55.2	S57 14.0
Gienah	175 46.7	S17 39.5
Hadar	148 40.4	S60 28.6
Hamal	327 54.0	N23 33.9
Kaus Austr.	83 36.1	S34 22.6
Kochab	137 20.8	N74 04.3
Markab	13 32.3	N15 19.3
Menkar	314 08.7	N 4 10.5
Menkent	148 01.1	S36 28.6
Miaplacidus	221 39.4	S69 48.0
Mirfak	308 31.9	N49 56.1
Nunki	75 51.0	S26 16.2
Peacock	53 09.6	S56 40.1
Polaris	316 59.4	N89 20.3
Pollux	243 20.8	N27 58.4
Procyon	244 53.8	N 5 10.3
Rasalhague	96 01.1	N12 32.9
Regulus	207 37.6	N11 51.9
Rigel	281 06.4	S 8 10.4
Rigil Kent	139 44.6	S60 55.5
Sabik	102 06.0	S15 45.1
Schedar	349 33.5	N56 39.3
Shaula	96 14.1	S37 07.2
Sirius	258 28.7	S16 44.5
Spica	158 25.5	S11 16.3
Suhail	222 48.6	S43 30.9
Vega	80 35.0	N38 48.5
Zuben-ubi	137 00.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
22	0	1 04.5	141 17.5	S17 10.0	176 36.9	S 1 05.6	34 53.4	S14 49.6	51 16.5	S19 16.0
	1	16 07.0	156 17.2	S17 11.1	191 37.9	S 1 06.3	49 56.1	S14 49.7	66 19.0	S19 16.0
	2	31 09.5	171 16.9	S17 12.1	206 38.8	S 1 06.9	64 58.7	S14 49.7	81 21.6	S19 16.1
	3	46 11.9	186 16.6	S17 13.1	221 39.8	S 1 07.6	80 01.4	S14 49.8	96 24.1	S19 16.1
	4	61 14.4	201 16.3	S17 14.2	236 40.8	S 1 08.2	95 04.1	S14 49.9	111 26.7	S19 16.1
W	5	76 16.9	216 16.0	S17 15.2	251 41.8	S 1 08.9	110 06.7	S14 49.9	126 29.2	S19 16.1
E										
D	6	91 19.3	231 15.7	S17 16.2	266 42.8	S 1 09.6	125 09.4	S14 50.0	141 31.8	S19 16.1
N	7	106 21.8	246 15.4	S17 17.2	281 43.8	S 1 10.2	140 12.1	S14 50.1	156 34.3	S19 16.2
E	8	121 24.3	261 15.1	S17 18.3	296 44.7	S 1 10.9	155 14.7	S14 50.1	171 36.8	S19 16.2
S	9	136 26.7	276 14.7	S17 19.3	311 45.7	S 1 11.5	170 17.4	S14 50.2	186 39.4	S19 16.2
D	10	151 29.2	291 14.4	S17 20.3	326 46.7	S 1 12.2	185 20.1	S14 50.3	201 41.9	S19 16.2
A	11	166 31.6	306 14.1	S17 21.3	341 47.7	S 1 12.9	200 22.7	S14 50.3	216 44.5	S19 16.2
Y										
	12	181 34.1	321 13.8	S17 22.4	356 48.7	S 1 13.5	215 25.4	S14 50.4	231 47.0	S19 16.3
	13	196 36.6	336 13.5	S17 23.4	11 49.6	S 1 14.2	230 28.1	S14 50.5	246 49.6	S19 16.3
	14	211 39.0	351 13.2	S17 24.4	26 50.6	S 1 14.8	245 30.7	S14 50.5	261 52.1	S19 16.3
	15	226 41.5	6 12.9	S17 25.4	41 51.6	S 1 15.5	260 33.4	S14 50.6	276 54.6	S19 16.3
	16	241 44.0	21 12.6	S17 26.4	56 52.6	S 1 16.2	275 36.0	S14 50.7	291 57.2	S19 16.3
	17	256 46.4	36 12.3	S17 27.5	71 53.5	S 1 16.8	290 38.7	S14 50.7	306 59.7	S19 16.4
	18	271 48.9	51 12.0	S17 28.5	86 54.5	S 1 17.5	305 41.4	S14 50.8	322 02.3	S19 16.4
	19	286 51.4	66 11.7	S17 29.5	101 55.5	S 1 18.1	320 44.0	S14 50.8	337 04.8	S19 16.4
	20	301 53.8	81 11.4	S17 30.5	116 56.5	S 1 18.8	335 46.7	S14 50.9	352 07.3	S19 16.4
	21	316 56.3	96 11.1	S17 31.5	131 57.5	S 1 19.5	350 49.4	S14 51.0	7 09.9	S19 16.4
	22	331 58.8	111 10.8	S17 32.5	146 58.4	S 1 20.1	5 52.0	S14 51.0	22 12.4	S19 16.5
	23	347 01.2	126 10.5	S17 33.6	161 59.4	S 1 20.8	20 54.7	S14 51.1	37 15.0	S19 16.5
23	0	2 03.7	141 10.1	S17 34.6	177 00.4	S 1 21.4	35 57.3	S14 51.2	52 17.5	S19 16.5
	1	17 06.1	156 09.8	S17 35.6	192 01.4	S 1 22.1	50 60.0	S14 51.2	67 20.0	S19 16.5
	2	32 08.6	171 09.5	S17 36.6	207 02.4	S 1 22.8	66 02.6	S14 51.3	82 22.6	S19 16.5
	3	47 11.1	186 09.2	S17 37.6	222 03.3	S 1 23.4	81 05.3	S14 51.4	97 25.1	S19 16.5
	4	62 13.5	201 08.9	S17 38.6	237 04.3	S 1 24.1	96 08.0	S14 51.4	112 27.7	S19 16.6
T	5	77 16.0	216 08.6	S17 39.6	252 05.3	S 1 24.7	111 10.6	S14 51.5	127 30.2	S19 16.6
H										
U	6	92 18.5	231 08.3	S17 40.6	267 06.3	S 1 25.4	126 13.3	S14 51.5	142 32.7	S19 16.6
R	7	107 20.9	246 08.0	S17 41.7	282 07.3	S 1 26.1	141 15.9	S14 51.6	157 35.3	S19 16.6
S	8	122 23.4	261 07.7	S17 42.7	297 08.2	S 1 26.7	156 18.6	S14 51.7	172 37.8	S19 16.6
D	9	137 25.9	276 07.4	S17 43.7	312 09.2	S 1 27.4	171 21.3	S14 51.7	187 40.3	S19 16.7
A	10	152 28.3	291 07.0	S17 44.7	327 10.2	S 1 28.0	186 23.9	S14 51.8	202 42.9	S19 16.7
Y	11	167 30.8	306 06.7	S17 45.7	342 11.2	S 1 28.7	201 26.6	S14 51.9	217 45.4	S19 16.7
	12	182 33.2	321 06.4	S17 46.7	357 12.1	S 1 29.4	216 29.2	S14 51.9	232 48.0	S19 16.7
	13	197 35.7	336 06.1	S17 47.7	12 13.1	S 1 30.0	231 31.9	S14 52.0	247 50.5	S19 16.7
	14	212 38.2	351 05.8	S17 48.7	27 14.1	S 1 30.7	246 34.5	S14 52.0	262 53.0	S19 16.8
	15	227 40.6	6 05.5	S17 49.7	42 15.1	S 1 31.3	261 37.2	S14 52.1	277 55.6	S19 16.8
	16	242 43.1	21 05.2	S17 50.7	57 16.1	S 1 32.0	276 39.9	S14 52.2	292 58.1	S19 16.8
	17	257 45.6	36 04.9	S17 51.7	72 17.0	S 1 32.7	291 42.5	S14 52.2	308 00.6	S19 16.8
	18	272 48.0	51 04.5	S17 52.7	87 18.0	S 1 33.3	306 45.2	S14 52.3	323 03.2	S19 16.8
	19	287 50.5	66 04.2	S17 53.7	102 19.0	S 1 34.0	321 47.8	S14 52.3	338 05.7	S19 16.8
	20	302 53.0	81 03.9	S17 54.7	117 20.0	S 1 34.6	336 50.5	S14 52.4	353 08.3	S19 16.9
	21	317 55.4	96 03.6	S17 55.7	132 20.9	S 1 35.3	351 53.1	S14 52.5	8 10.8	S19 16.9
	22	332 57.9	111 03.3	S17 56.7	147 21.9	S 1 36.0	6 55.8	S14 52.5	23 13.3	S19 16.9
	23	348 00.4	126 03.0	S17 57.7	162 22.9	S 1 36.6	21 58.4	S14 52.6	38 15.9	S19 16.9
24	0	3 02.8	141 02.6	S17 58.7	177 23.9	S 1 37.3	37 01.1	S14 52.7	53 18.4	S19 16.9
	1	18 05.3	156 02.3	S17 59.7	192 24.9	S 1 37.9	52 03.7	S14 52.7	68 20.9	S19 17.0
	2	33 07.7	171 02.0	S18 00.7	207 25.8	S 1 38.6	67 06.4	S14 52.8	83 23.5	S19 17.0
	3	48 10.2	186 01.7	S18 01.7	222 26.8	S 1 39.3	82 09.0	S14 52.8	98 26.0	S19 17.0
	4	63 12.7	201 01.4	S18 02.7	237 27.8	S 1 39.9	97 11.7	S14 52.9	113 28.5	S19 17.0
F	5	78 15.1	216 01.1	S18 03.7	252 28.8	S 1 40.6	112 14.4	S14 53.0	128 31.1	S19 17.0
R										
I	6	93 17.6	231 00.8	S18 04.7	267 29.7	S 1 41.2	127 17.0	S14 53.0	143 33.6	S19 17.0
D	7	108 20.1	246 00.4	S18 05.7	282 30.7	S 1 41.9	142 19.7	S14 53.1	158 36.1	S19 17.1
A	8	123 22.5	261 00.1	S18 06.7	297 31.7	S 1 42.6	157 22.3	S14 53.1	173 38.7	S19 17.1
Y	9	138 25.0	275 59.8	S18 07.7	312 32.7	S 1 43.2	172 25.0	S14 53.2	188 41.2	S19 17.1
	10	153 27.5	290 59.5	S18 08.7	327 33.6	S 1 43.9	187 27.6	S14 53.3	203 43.7	S19 17.1
	11	168 29.9	305 59.2	S18 09.7	342 34.6	S 1 44.5	202 30.3	S14 53.3	218 46.3	S19 17.1
	12	183 32.4	320 58.8	S18 10.6	357 35.6	S 1 45.2	217 32.9	S14 53.4	233 48.8	S19 17.2
	13	198 34.9	335 58.5	S18 11.6	12 36.6	S 1 45.9	232 35.6	S14 53.4	248 51.3	S19 17.2
	14	213 37.3	350 58.2	S18 12.6	27 37.6	S 1 46.5	247 38.2	S14 53.5	263 53.9	S19 17.2
	15	228 39.8	5 57.9	S18 13.6	42 38.5	S 1 47.2	262 40.9	S14 53.5	278 56.4	S19 17.2
	16	243 42.2	20 57.6	S18 14.6	57 39.5	S 1 47.8	277 43.5	S14 53.6	293 58.9	S19 17.2
	17	258 44.7	35 57.2	S18 15.6	72 40.5	S 1 48.5	292 46.2	S14 53.7	309 01.5	S19 17.2
	18	273 47.2	50 56.9	S18 16.6	87 41.5	S 1 49.2	307 48.8	S14 53.7	324 04.0	S19 17.3
	19	288 49.6	65 56.6	S18 17.6	102 42.4	S 1 49.8	322 51.5	S14 53.8	339 06.5	S19 17.3
	20	303 52.1	80 56.3	S18 18.5	117 43.4	S 1 50.5	337 54.1	S14 53.8	354 09.1	S19 17.3
	21	318 54.6	95 56.0	S18 19.5	132 44.4	S 1 51.1	352 56.8	S14 53.9	9 11.6	S19 17.3
	22	333 57.0	110 55.6	S18 20.5	147 45.4	S 1 51.8	7 59.4	S14 54.0	24 14.1	S19 17.3
	23	348 59.5	125 55.3	S18 21.5	162 46.3	S 1 52.5	23 02.0	S14 54.0	39 16.7	S19 17.3
			v -0.3	d 1.0	v 1.0	d 0.7	v 2.7	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
	° '	° '	° '	'	° '	'	'		° '	° '
22 0	181 48.0	N 0 18.8	349 21.5	15.1	N 0 39.4	13.8	55.7	Acamar	315 13.5	S40 12.9
1	196 48.2	N 0 17.8	3 55.6	15.2	N 0 53.3	13.8	55.7	Achernar	335 21.7	S57 07.5
2	211 48.4	N 0 16.9	18 29.9	15.2	N 1 07.1	13.8	55.7	Acrux	173 03.8	S63 13.0
3	226 48.6	N 0 15.9	33 04.0	15.2	N 1 20.9	13.8	55.6	Adhara	255 08.1	S28 59.8
4	241 48.8	N 0 14.9	47 38.3	15.2	N 1 34.7	13.8	55.6	Albireo	67 06.1	N28 00.5
W 5	256 49.1	N 0 13.9	62 12.5	15.2	N 1 48.5	13.8	55.6			
E								Aldebaran	290 42.6	N16 33.2
D 6	271 49.3	N 0 13.0	76 46.7	15.2	N 2 02.2	13.8	55.6	Alioth	166 15.9	N55 50.8
N 7	286 49.5	N 0 12.0	91 21.0	15.3	N 2 15.9	13.7	55.6	Alkaid	152 54.6	N49 12.6
E 8	301 49.7	N 0 11.0	105 55.2	15.3	N 2 29.7	13.7	55.5	Al Na-ir	27 35.9	S46 51.5
S 9	316 49.9	N 0 10.1	120 29.5	15.3	N 2 43.4	13.7	55.5	Alnilam	275 40.4	S 1 11.1
D 10	331 50.2	N 0 09.1	135 03.8	15.3	N 2 57.0	13.7	55.5			
A 11	346 50.4	N 0 08.1	149 38.1	15.3	N 3 10.7	13.6	55.5	Alphard	217 50.6	S 8 44.9
Y								Alphecca	126 06.3	N26 38.8
12	1 50.6	N 0 07.1	164 12.4	15.3	N 3 24.3	13.6	55.5	Alpheratz	357 37.2	N29 12.7
13	16 50.8	N 0 06.2	178 46.7	15.3	N 3 37.9	13.6	55.4	Altair	62 02.4	N 8 55.7
14	31 51.0	N 0 05.2	193 21.0	15.3	N 3 51.5	13.6	55.4	Ankaa	353 09.4	S42 11.3
15	46 51.3	N 0 04.2	207 55.4	15.3	N 4 05.0	13.6	55.4			
16	61 51.5	N 0 03.2	222 29.7	15.3	N 4 18.6	13.5	55.4	Antares	112 19.3	S26 28.8
17	76 51.7	N 0 02.3	237 04.1	15.3	N 4 32.1	13.5	55.4	Arcturus	145 50.7	N19 04.4
								Atria	107 16.2	S69 04.2
18	91 51.9	N 0 01.3	251 38.4	15.3	N 4 45.5	13.5	55.3	Avior	234 16.1	S59 34.4
19	106 52.2	N 0 00.3	266 12.8	15.4	N 4 59.0	13.4	55.3	Bellatrix	278 25.7	N 6 22.2
20	121 52.4	S 0 00.6	280 47.1	15.4	N 5 12.4	13.4	55.3			
21	136 52.6	S 0 01.6	295 21.5	15.4	N 5 25.8	13.4	55.3	Betelgeuse	270 55.0	N 7 24.8
22	151 52.8	S 0 02.6	309 55.8	15.4	N 5 39.1	13.3	55.3	Canopus	263 53.6	S52 42.1
23	166 53.0	S 0 03.6	324 30.2	15.4	N 5 52.4	13.3	55.2	Capella	280 25.8	N46 01.0
23 0	181 53.3	S 0 04.5	339 04.5	15.4	N 6 05.7	13.3	55.2	Castor	246 00.6	N31 50.4
1	196 53.5	S 0 05.5	353 38.9	15.4	N 6 19.0	13.2	55.2	Deneb	49 27.3	N45 21.7
2	211 53.7	S 0 06.5	8 13.3	15.4	N 6 32.2	13.2	55.2			
3	226 53.9	S 0 07.4	22 47.6	15.3	N 6 45.4	13.2	55.2	Denebola	182 28.0	N14 27.3
4	241 54.1	S 0 08.4	37 22.0	15.3	N 6 58.5	13.1	55.1	Diphda	348 49.7	S17 52.0
T 5	256 54.4	S 0 09.4	51 56.3	15.3	N 7 11.6	13.1	55.1	Dubhe	193 45.0	N61 38.1
H								Elnath	278 05.3	N28 37.5
U 6	271 54.6	S 0 10.4	66 30.6	15.3	N 7 24.7	13.1	55.1	Eltanin	90 43.5	N51 29.4
R 7	286 54.8	S 0 11.3	81 05.0	15.3	N 7 37.7	13.0	55.1			
S 8	301 55.0	S 0 12.3	95 39.3	15.3	N 7 50.7	13.0	55.1	Enif	33 41.1	N 9 58.6
D 9	316 55.2	S 0 13.3	110 13.6	15.3	N 8 03.6	12.9	55.0	Fomalhaut	15 17.1	S29 30.5
A 10	331 55.5	S 0 14.3	124 47.9	15.3	N 8 16.5	12.9	55.0	Gacrux	171 55.2	S57 13.9
Y 11	346 55.7	S 0 15.2	139 22.2	15.3	N 8 29.4	12.9	55.0	Gienah	175 46.7	S17 39.5
								Hadar	148 40.4	S60 28.6
12	1 55.9	S 0 16.2	153 56.5	15.3	N 8 42.2	12.8	55.0	Hamal	327 54.0	N23 33.9
13	16 56.1	S 0 17.2	168 30.7	15.3	N 8 55.0	12.8	55.0	Kaus Austr.	83 36.1	S34 22.6
14	31 56.3	S 0 18.2	183 05.0	15.3	N 9 07.8	12.7	55.0	Kochab	137 20.8	N74 04.3
15	46 56.5	S 0 19.1	197 39.2	15.2	N 9 20.4	12.7	54.9	Markab	13 32.3	N15 19.3
16	61 56.8	S 0 20.1	212 13.5	15.2	N 9 33.1	12.6	54.9	Menkar	314 08.7	N 4 10.5
17	76 57.0	S 0 21.1	226 47.7	15.2	N 9 45.7	12.6	54.9			
								Menkent	148 01.2	S36 28.5
18	91 57.2	S 0 22.0	241 21.9	15.2	N 9 58.2	12.6	54.9	Miaplacidus	221 39.4	S69 48.0
19	106 57.4	S 0 23.0	255 56.0	15.2	N10 10.7	12.5	54.9	Mirfak	308 31.8	N49 56.1
20	121 57.6	S 0 24.0	270 30.2	15.2	N10 23.2	12.5	54.9	Nunki	75 51.0	S26 16.2
21	136 57.9	S 0 25.0	285 04.4	15.1	N10 35.6	12.4	54.8	Peacock	53 09.6	S56 40.1
22	151 58.1	S 0 25.9	299 38.5	15.1	N10 48.0	12.4	54.8			
23	166 58.3	S 0 26.9	314 12.6	15.1	N11 00.3	12.3	54.8	Polaris	316 58.7	N89 20.3
24 0	181 58.5	S 0 27.9	328 46.7	15.1	N11 12.5	12.3	54.8	Pollux	243 20.8	N27 58.4
1	196 58.7	S 0 28.9	343 20.7	15.1	N11 24.7	12.2	54.8	Procyon	244 53.8	N 5 10.3
2	211 59.0	S 0 29.8	357 54.8	15.0	N11 36.9	12.1	54.8	Rasalhague	96 01.1	N12 32.9
3	226 59.2	S 0 30.8	12 28.8	15.0	N11 49.0	12.1	54.7	Regulus	207 37.6	N11 51.9
4	241 59.4	S 0 31.8	27 02.8	15.0	N12 01.0	12.0	54.7			
F 5	256 59.6	S 0 32.7	41 36.8	15.0	N12 13.0	12.0	54.7	Rigel	281 06.4	S 8 10.4
R								Rigil Kent	139 44.7	S60 55.5
I 6	271 59.8	S 0 33.7	56 10.7	14.9	N12 24.9	11.9	54.7	Sabik	102 06.0	S15 45.1
D 7	287 00.0	S 0 34.7	70 44.7	14.9	N12 36.8	11.9	54.7	Schedar	349 33.5	N56 39.3
A 8	302 00.3	S 0 35.7	85 18.6	14.9	N12 48.6	11.8	54.7	Shaula	96 14.1	S37 07.2
Y 9	317 00.5	S 0 36.6	99 52.4	14.9	N13 00.3	11.8	54.7	Sirius	258 28.7	S16 44.5
10	332 00.7	S 0 37.6	114 26.3	14.8	N13 12.0	11.7	54.6	Spica	158 25.5	S11 16.3
11	347 00.9	S 0 38.6	129 00.1	14.8	N13 23.7	11.6	54.6	Suhail	222 48.6	S43 30.9
								Vega	80 35.0	N38 48.5
12	2 01.1	S 0 39.6	143 33.9	14.8	N13 35.2	11.6	54.6	Zuben-ubi	137 00.0	S16 07.8
13	17 01.4	S 0 40.5	158 07.6	14.8	N13 46.8	11.5	54.6			
14	32 01.6	S 0 41.5	172 41.4	14.7	N13 58.2	11.5	54.6			
15	47 01.8	S 0 42.5	187 15.1	14.7	N14 09.6	11.4	54.6			
16	62 02.0	S 0 43.5	201 48.7	14.7	N14 20.9	11.3	54.6			
17	77 02.2	S 0 44.4	216 22.4	14.6	N14 32.2	11.3	54.5			
18	92 02.4	S 0 45.4	230 56.0	14.6	N14 43.4	11.2	54.5			
19	107 02.7	S 0 46.4	245 29.5	14.6	N14 54.5	11.1	54.5			
20	122 02.9	S 0 47.3	260 03.1	14.5	N15 05.6	11.1	54.5			
21	137 03.1	S 0 48.3	274 36.6	14.5	N15 16.6	11.0	54.5			
22	152 03.3	S 0 49.3	289 10.0	14.5	N15 27.5	10.9	54.5			
23	167 03.5	S 0 50.3	303 43.4	14.4	N15 38.4	10.9	54.5			
	S.D. 15.9	d 1.0	S.D.	15.1	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 ° '
25	0	4 02.0	140 55.0	S18 22.5	177 47.3	S 1 53.1	38 04.7	S14 54.1	54 19.2	S19 17.4
	1	19 04.4	155 54.7	S18 23.5	192 48.3	S 1 53.8	53 07.3	S14 54.1	69 21.7	S19 17.4
	2	34 06.9	170 54.3	S18 24.4	207 49.3	S 1 54.4	68 10.0	S14 54.2	84 24.3	S19 17.4
	3	49 09.3	185 54.0	S18 25.4	222 50.2	S 1 55.1	83 12.6	S14 54.3	99 26.8	S19 17.4
	4	64 11.8	200 53.7	S18 26.4	237 51.2	S 1 55.8	98 15.3	S14 54.3	114 29.3	S19 17.4
S	5	79 14.3	215 53.4	S18 27.4	252 52.2	S 1 56.4	113 17.9	S14 54.4	129 31.8	S19 17.4
A										
T	6	94 16.7	230 53.0	S18 28.3	267 53.2	S 1 57.1	128 20.6	S14 54.4	144 34.4	S19 17.5
U	7	109 19.2	245 52.7	S18 29.3	282 54.1	S 1 57.7	143 23.2	S14 54.5	159 36.9	S19 17.5
R	8	124 21.7	260 52.4	S18 30.3	297 55.1	S 1 58.4	158 25.9	S14 54.5	174 39.4	S19 17.5
D	9	139 24.1	275 52.1	S18 31.3	312 56.1	S 1 59.1	173 28.5	S14 54.6	189 42.0	S19 17.5
A	10	154 26.6	290 51.7	S18 32.2	327 57.1	S 1 59.7	188 31.1	S14 54.7	204 44.5	S19 17.5
Y	11	169 29.1	305 51.4	S18 33.2	342 58.0	S 2 00.4	203 33.8	S14 54.7	219 47.0	S19 17.5
	12	184 31.5	320 51.1	S18 34.2	357 59.0	S 2 01.0	218 36.4	S14 54.8	234 49.6	S19 17.6
	13	199 34.0	335 50.8	S18 35.2	12 60.0	S 2 01.7	233 39.1	S14 54.8	249 52.1	S19 17.6
	14	214 36.5	350 50.4	S18 36.1	28 01.0	S 2 02.4	248 41.7	S14 54.9	264 54.6	S19 17.6
	15	229 38.9	5 50.1	S18 37.1	43 01.9	S 2 03.0	263 44.4	S14 54.9	279 57.1	S19 17.6
	16	244 41.4	20 49.8	S18 38.1	58 02.9	S 2 03.7	278 47.0	S14 55.0	294 59.7	S19 17.6
	17	259 43.8	35 49.5	S18 39.1	73 03.9	S 2 04.3	293 49.6	S14 55.1	310 02.2	S19 17.6
	18	274 46.3	50 49.1	S18 40.0	88 04.9	S 2 05.0	308 52.3	S14 55.1	325 04.7	S19 17.7
	19	289 48.8	65 48.8	S18 41.0	103 05.8	S 2 05.7	323 54.9	S14 55.2	340 07.3	S19 17.7
	20	304 51.2	80 48.5	S18 42.0	118 06.8	S 2 06.3	338 57.6	S14 55.2	355 09.8	S19 17.7
	21	319 53.7	95 48.2	S18 42.9	133 07.8	S 2 07.0	354 00.2	S14 55.3	10 12.3	S19 17.7
	22	334 56.2	110 47.8	S18 43.9	148 08.8	S 2 07.6	9 02.8	S14 55.3	25 14.8	S19 17.7
	23	349 58.6	125 47.5	S18 44.9	163 09.7	S 2 08.3	24 05.5	S14 55.4	40 17.4	S19 17.7
26	0	5 01.1	140 47.2	S18 45.8	178 10.7	S 2 08.9	39 08.1	S14 55.4	55 19.9	S19 17.8
	1	20 03.6	155 46.8	S18 46.8	193 11.7	S 2 09.6	54 10.8	S14 55.5	70 22.4	S19 17.8
	2	35 06.0	170 46.5	S18 47.7	208 12.7	S 2 10.3	69 13.4	S14 55.6	85 25.0	S19 17.8
	3	50 08.5	185 46.2	S18 48.7	223 13.6	S 2 10.9	84 16.0	S14 55.6	100 27.5	S19 17.8
	4	65 10.9	200 45.8	S18 49.7	238 14.6	S 2 11.6	99 18.7	S14 55.7	115 30.0	S19 17.8
S	5	80 13.4	215 45.5	S18 50.6	253 15.6	S 2 12.2	114 21.3	S14 55.7	130 32.5	S19 17.8
U										
N	6	95 15.9	230 45.2	S18 51.6	268 16.5	S 2 12.9	129 24.0	S14 55.8	145 35.1	S19 17.9
D	7	110 18.3	245 44.9	S18 52.6	283 17.5	S 2 13.6	144 26.6	S14 55.8	160 37.6	S19 17.9
A	8	125 20.8	260 44.5	S18 53.5	298 18.5	S 2 14.2	159 29.2	S14 55.9	175 40.1	S19 17.9
Y	9	140 23.3	275 44.2	S18 54.5	313 19.5	S 2 14.9	174 31.9	S14 55.9	190 42.6	S19 17.9
	10	155 25.7	290 43.9	S18 55.4	328 20.4	S 2 15.5	189 34.5	S14 56.0	205 45.2	S19 17.9
	11	170 28.2	305 43.5	S18 56.4	343 21.4	S 2 16.2	204 37.1	S14 56.1	220 47.7	S19 17.9
	12	185 30.7	320 43.2	S18 57.3	358 22.4	S 2 16.9	219 39.8	S14 56.1	235 50.2	S19 17.9
	13	200 33.1	335 42.9	S18 58.3	13 23.4	S 2 17.5	234 42.4	S14 56.2	250 52.7	S19 18.0
	14	215 35.6	350 42.5	S18 59.3	28 24.3	S 2 18.2	249 45.1	S14 56.2	265 55.3	S19 18.0
	15	230 38.1	5 42.2	S19 00.2	43 25.3	S 2 18.8	264 47.7	S14 56.3	280 57.8	S19 18.0
	16	245 40.5	20 41.9	S19 01.2	58 26.3	S 2 19.5	279 50.3	S14 56.3	296 00.3	S19 18.0
	17	260 43.0	35 41.5	S19 02.1	73 27.3	S 2 20.2	294 53.0	S14 56.4	311 02.8	S19 18.0
	18	275 45.4	50 41.2	S19 03.1	88 28.2	S 2 20.8	309 55.6	S14 56.4	326 05.4	S19 18.0
	19	290 47.9	65 40.9	S19 04.0	103 29.2	S 2 21.5	324 58.2	S14 56.5	341 07.9	S19 18.1
	20	305 50.4	80 40.5	S19 05.0	118 30.2	S 2 22.1	340 00.9	S14 56.5	356 10.4	S19 18.1
	21	320 52.8	95 40.2	S19 05.9	133 31.1	S 2 22.8	355 03.5	S14 56.6	11 12.9	S19 18.1
	22	335 55.3	110 39.8	S19 06.9	148 32.1	S 2 23.5	10 06.1	S14 56.6	26 15.5	S19 18.1
	23	350 57.8	125 39.5	S19 07.8	163 33.1	S 2 24.1	25 08.8	S14 56.7	41 18.0	S19 18.1
27	0	6 00.2	140 39.2	S19 08.8	178 34.1	S 2 24.8	40 11.4	S14 56.8	56 20.5	S19 18.1
	1	21 02.7	155 38.8	S19 09.7	193 35.0	S 2 25.4	55 14.0	S14 56.8	71 23.0	S19 18.1
	2	36 05.2	170 38.5	S19 10.6	208 36.0	S 2 26.1	70 16.7	S14 56.9	86 25.6	S19 18.2
	3	51 07.6	185 38.2	S19 11.6	223 37.0	S 2 26.8	85 19.3	S14 56.9	101 28.1	S19 18.2
	4	66 10.1	200 37.8	S19 12.5	238 37.9	S 2 27.4	100 21.9	S14 57.0	116 30.6	S19 18.2
M	5	81 12.6	215 37.5	S19 13.5	253 38.9	S 2 28.1	115 24.6	S14 57.0	131 33.1	S19 18.2
O										
N	6	96 15.0	230 37.2	S19 14.4	268 39.9	S 2 28.7	130 27.2	S14 57.1	146 35.7	S19 18.2
D	7	111 17.5	245 36.8	S19 15.4	283 40.9	S 2 29.4	145 29.8	S14 57.1	161 38.2	S19 18.2
A	8	126 19.9	260 36.5	S19 16.3	298 41.8	S 2 30.1	160 32.5	S14 57.2	176 40.7	S19 18.2
Y	9	141 22.4	275 36.1	S19 17.3	313 42.8	S 2 30.7	175 35.1	S14 57.2	191 43.2	S19 18.3
	10	156 24.9	290 35.8	S19 18.2	328 43.8	S 2 31.4	190 37.7	S14 57.3	206 45.7	S19 18.3
	11	171 27.3	305 35.5	S19 19.1	343 44.7	S 2 32.0	205 40.3	S14 57.3	221 48.3	S19 18.3
	12	186 29.8	320 35.1	S19 20.1	358 45.7	S 2 32.7	220 43.0	S14 57.4	236 50.8	S19 18.3
	13	201 32.3	335 34.8	S19 21.0	13 46.7	S 2 33.3	235 45.6	S14 57.4	251 53.3	S19 18.3
	14	216 34.7	350 34.4	S19 21.9	28 47.7	S 2 34.0	250 48.2	S14 57.5	266 55.8	S19 18.3
	15	231 37.2	5 34.1	S19 22.9	43 48.6	S 2 34.7	265 50.9	S14 57.5	281 58.3	S19 18.3
	16	246 39.7	20 33.8	S19 23.8	58 49.6	S 2 35.3	280 53.5	S14 57.6	297 00.9	S19 18.4
	17	261 42.1	35 33.4	S19 24.8	73 50.6	S 2 36.0	295 56.1	S14 57.6	312 03.4	S19 18.4
	18	276 44.6	50 33.1	S19 25.7	88 51.5	S 2 36.6	310 58.7	S14 57.7	327 05.9	S19 18.4
	19	291 47.1	65 32.7	S19 26.6	103 52.5	S 2 37.3	326 01.4	S14 57.7	342 08.4	S19 18.4
	20	306 49.5	80 32.4	S19 27.6	118 53.5	S 2 38.0	341 04.0	S14 57.8	357 10.9	S19 18.4
	21	321 52.0	95 32.0	S19 28.5	133 54.5	S 2 38.6	356 06.6	S14 57.8	12 13.5	S19 18.4
	22	336 54.4	110 31.7	S19 29.4	148 55.4	S 2 39.3	11 09.2	S14 57.9	27 16.0	S19 18.4
	23	351 56.9	125 31.4	S19 30.3	163 56.4	S 2 39.9	26 11.9	S14 57.9	42 18.5	S19 18.5
			v -0.3	d 1.0	v 1.0	d 0.7	v 2.6	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
25	0	182 03.7	S 0 51.2	318 16.8	14.4	N15 49.2	10.8	54.5
	1	197 04.0	S 0 52.2	332 50.2	14.4	N15 59.9	10.7	54.5
	2	212 04.2	S 0 53.2	347 23.5	14.3	N16 10.5	10.7	54.4
	3	227 04.4	S 0 54.2	1 56.8	14.3	N16 21.1	10.6	54.4
	4	242 04.6	S 0 55.1	16 30.0	14.2	N16 31.6	10.5	54.4
S	5	257 04.8	S 0 56.1	31 03.2	14.2	N16 42.1	10.4	54.4
A								
T	6	272 05.0	S 0 57.1	45 36.4	14.2	N16 52.4	10.4	54.4
U	7	287 05.3	S 0 58.1	60 09.5	14.1	N17 02.7	10.3	54.4
R	8	302 05.5	S 0 59.0	74 42.6	14.1	N17 12.9	10.2	54.4
D	9	317 05.7	S 0 60.0	89 15.6	14.0	N17 23.1	10.1	54.4
A	10	332 05.9	S 1 01.0	103 48.6	14.0	N17 33.1	10.1	54.4
Y	11	347 06.1	S 1 01.9	118 21.6	14.0	N17 43.1	10.0	54.4
	12	2 06.3	S 1 02.9	132 54.5	13.9	N17 53.0	9.9	54.3
	13	17 06.6	S 1 03.9	147 27.4	13.9	N18 02.9	9.8	54.3
	14	32 06.8	S 1 04.9	162 00.2	13.8	N18 12.6	9.8	54.3
	15	47 07.0	S 1 05.8	176 33.0	13.8	N18 22.3	9.7	54.3
	16	62 07.2	S 1 06.8	191 05.8	13.7	N18 31.9	9.6	54.3
	17	77 07.4	S 1 07.8	205 38.5	13.7	N18 41.4	9.5	54.3
	18	92 07.6	S 1 08.8	220 11.1	13.7	N18 50.8	9.4	54.3
	19	107 07.9	S 1 09.7	234 43.7	13.6	N19 00.2	9.3	54.3
	20	122 08.1	S 1 10.7	249 16.3	13.6	N19 09.4	9.3	54.3
	21	137 08.3	S 1 11.7	263 48.8	13.5	N19 18.6	9.2	54.3
	22	152 08.5	S 1 12.6	278 21.3	13.5	N19 27.7	9.1	54.3
	23	167 08.7	S 1 13.6	292 53.7	13.4	N19 36.7	9.0	54.3
26	0	182 08.9	S 1 14.6	307 26.1	13.4	N19 45.7	8.9	54.3
	1	197 09.1	S 1 15.6	321 58.4	13.3	N19 54.5	8.8	54.2
	2	212 09.4	S 1 16.5	336 30.7	13.3	N20 03.3	8.8	54.2
	3	227 09.6	S 1 17.5	351 02.9	13.2	N20 11.9	8.7	54.2
	4	242 09.8	S 1 18.5	5 35.1	13.2	N20 20.5	8.6	54.2
S	5	257 10.0	S 1 19.5	20 07.3	13.1	N20 29.0	8.5	54.2
U								
N	6	272 10.2	S 1 20.4	34 39.3	13.1	N20 37.4	8.4	54.2
D	7	287 10.4	S 1 21.4	49 11.4	13.0	N20 45.7	8.3	54.2
A	8	302 10.7	S 1 22.4	63 43.4	13.0	N20 53.9	8.2	54.2
Y	9	317 10.9	S 1 23.4	78 15.3	12.9	N21 02.0	8.1	54.2
	10	332 11.1	S 1 24.3	92 47.2	12.9	N21 10.1	8.0	54.2
	11	347 11.3	S 1 25.3	107 19.1	12.8	N21 18.0	7.9	54.2
	12	2 11.5	S 1 26.3	121 50.9	12.8	N21 25.9	7.8	54.2
	13	17 11.7	S 1 27.2	136 22.6	12.8	N21 33.6	7.8	54.2
	14	32 11.9	S 1 28.2	150 54.3	12.7	N21 41.3	7.7	54.2
	15	47 12.1	S 1 29.2	165 26.0	12.7	N21 48.8	7.6	54.2
	16	62 12.4	S 1 30.2	179 57.6	12.6	N21 56.3	7.5	54.2
	17	77 12.6	S 1 31.1	194 29.1	12.6	N22 03.7	7.4	54.2
	18	92 12.8	S 1 32.1	209 00.6	12.5	N22 10.9	7.3	54.2
	19	107 13.0	S 1 33.1	223 32.1	12.5	N22 18.1	7.2	54.2
	20	122 13.2	S 1 34.1	238 03.5	12.4	N22 25.2	7.1	54.2
	21	137 13.4	S 1 35.0	252 34.8	12.4	N22 32.2	7.0	54.2
	22	152 13.6	S 1 36.0	267 06.1	12.3	N22 39.0	6.9	54.2
	23	167 13.9	S 1 37.0	281 37.4	12.3	N22 45.8	6.8	54.2
27	0	182 14.1	S 1 38.0	296 08.6	12.2	N22 52.5	6.7	54.2
	1	197 14.3	S 1 38.9	310 39.8	12.2	N22 59.1	6.6	54.2
	2	212 14.5	S 1 39.9	325 10.9	12.1	N23 05.5	6.5	54.2
	3	227 14.7	S 1 40.9	339 41.9	12.1	N23 11.9	6.4	54.2
	4	242 14.9	S 1 41.8	354 12.9	12.0	N23 18.1	6.3	54.2
M	5	257 15.1	S 1 42.8	8 43.9	12.0	N23 24.3	6.2	54.2
O								
N	6	272 15.3	S 1 43.8	23 14.8	11.9	N23 30.4	6.1	54.2
D	7	287 15.6	S 1 44.8	37 45.6	11.9	N23 36.3	5.9	54.2
A	8	302 15.8	S 1 45.7	52 16.5	11.8	N23 42.1	5.8	54.2
Y	9	317 16.0	S 1 46.7	66 47.2	11.8	N23 47.9	5.7	54.2
	10	332 16.2	S 1 47.7	81 17.9	11.7	N23 53.5	5.6	54.2
	11	347 16.4	S 1 48.7	95 48.6	11.7	N23 59.0	5.5	54.2
	12	2 16.6	S 1 49.6	110 19.2	11.6	N24 04.4	5.4	54.2
	13	17 16.8	S 1 50.6	124 49.8	11.6	N24 09.7	5.3	54.2
	14	32 17.0	S 1 51.6	139 20.3	11.5	N24 14.9	5.2	54.2
	15	47 17.2	S 1 52.5	153 50.8	11.5	N24 20.0	5.1	54.2
	16	62 17.5	S 1 53.5	168 21.2	11.4	N24 24.9	5.0	54.2
	17	77 17.7	S 1 54.5	182 51.6	11.4	N24 29.8	4.9	54.2
	18	92 17.9	S 1 55.5	197 21.9	11.3	N24 34.5	4.7	54.2
	19	107 18.1	S 1 56.4	211 52.2	11.3	N24 39.2	4.6	54.3
	20	122 18.3	S 1 57.4	226 22.5	11.2	N24 43.7	4.5	54.3
	21	137 18.5	S 1 58.4	240 52.7	11.2	N24 48.1	4.4	54.3
	22	152 18.7	S 1 59.4	255 22.8	11.2	N24 52.4	4.3	54.3
	23	167 18.9	S 2 00.3	269 52.9	11.1	N24 56.5	4.2	54.3
		S.D. 16.0	d 1.0	S.D. 14.8		14.8		14.8

Name	SHA	Dec
Acamar	315 13.5	S40 12.9
Achernar	335 21.7	S57 07.5
Acrux	173 03.8	S63 13.0
Adhara	255 08.0	S28 59.8
Albireo	67 06.1	N28 00.5
Aldebaran	290 42.6	N16 33.2
Alioth	166 15.9	N55 50.8
Alkaid	152 54.6	N49 12.6
Al Na-ir	27 35.9	S46 51.5
Alnilam	275 40.4	S 1 11.1
Alphard	217 50.6	S 8 44.9
Alphecca	126 06.3	N26 38.8
Alpheratz	357 37.2	N29 12.7
Altair	62 02.5	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.3	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.2	S69 04.2
Avior	234 16.1	S59 34.4
Bellatrix	278 25.7	N 6 22.2
Betelgeuse	270 55.0	N 7 24.8
Canopus	263 53.6	S52 42.1
Capella	280 25.8	N46 01.0
Castor	246 00.6	N31 50.4
Deneb	49 27.3	N45 21.7
Denebola	182 28.0	N14 27.3
Diphda	348 49.7	S17 52.0
Dubhe	193 45.0	N61 38.1
Elnath	278 05.2	N28 37.5
Eltanin	90 43.5	N51 29.4
Enif	33 41.1	N 9 58.6
Fomalhaut	15 17.1	S29 30.5
Gacrux	171 55.2	S57 13.9
Gienah	175 46.7	S17 39.5
Hadar	148 40.4	S60 28.6
Hamal	327 54.0	N23 33.9
Kaus Austr.	83 36.1	S34 22.6
Kochab	137 20.8	N74 04.2
Markab	13 32.3	N15 19.4
Menkar	314 08.7	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.3	S69 48.0
Mirfak	308 31.8	N49 56.1
Nunki	75 51.1	S26 16.2
Peacock	53 09.6	S56 40.1
Polaris	316 57.7	N89 20.3
Pollux	243 20.7	N27 58.4
Procyon	244 53.8	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.6	N11 51.8
Rigel	281 06.4	S 8 10.4
Rigil Kent	139 44.7	S60 55.5
Sabik	102 06.0	S15 45.0
Schedar	349 33.5	N56 39.3
Shaula	96 14.1	S37 07.2
Sirius	258 28.7	S16 44.5
Spica	158 25.5	S11 16.3
Suhail	222 48.6	S43 30.9
Vega	80 35.0	N38 48.5
Zuben-ubi	137 00.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
28	0	6 59.4	140 31.0	S19 31.3	178 57.4	S 2 40.6	41 14.5	S14 58.0	57 21.0	S19 18.5
	1	22 01.8	155 30.7	S19 32.2	193 58.3	S 2 41.3	56 17.1	S14 58.0	72 23.5	S19 18.5
	2	37 04.3	170 30.3	S19 33.1	208 59.3	S 2 41.9	71 19.7	S14 58.1	87 26.1	S19 18.5
	3	52 06.8	185 30.0	S19 34.1	224 00.3	S 2 42.6	86 22.4	S14 58.1	102 28.6	S19 18.5
	4	67 09.2	200 29.6	S19 35.0	239 01.2	S 2 43.2	101 25.0	S14 58.2	117 31.1	S19 18.5
T	5	82 11.7	215 29.3	S19 35.9	254 02.2	S 2 43.9	116 27.6	S14 58.2	132 33.6	S19 18.5
U										
E	6	97 14.2	230 29.0	S19 36.8	269 03.2	S 2 44.6	131 30.2	S14 58.3	147 36.1	S19 18.6
S	7	112 16.6	245 28.6	S19 37.8	284 04.2	S 2 45.2	146 32.9	S14 58.3	162 38.7	S19 18.6
D	8	127 19.1	260 28.3	S19 38.7	299 05.1	S 2 45.9	161 35.5	S14 58.4	177 41.2	S19 18.6
A	9	142 21.5	275 27.9	S19 39.6	314 06.1	S 2 46.5	176 38.1	S14 58.4	192 43.7	S19 18.6
Y	10	157 24.0	290 27.6	S19 40.5	329 07.1	S 2 47.2	191 40.7	S14 58.5	207 46.2	S19 18.6
	11	172 26.5	305 27.2	S19 41.4	344 08.0	S 2 47.8	206 43.4	S14 58.5	222 48.7	S19 18.6
	12	187 28.9	320 26.9	S19 42.4	359 09.0	S 2 48.5	221 46.0	S14 58.6	237 51.3	S19 18.6
	13	202 31.4	335 26.5	S19 43.3	14 10.0	S 2 49.2	236 48.6	S14 58.6	252 53.8	S19 18.7
	14	217 33.9	350 26.2	S19 44.2	29 10.9	S 2 49.8	251 51.2	S14 58.7	267 56.3	S19 18.7
	15	232 36.3	5 25.8	S19 45.1	44 11.9	S 2 50.5	266 53.8	S14 58.7	282 58.8	S19 18.7
	16	247 38.8	20 25.5	S19 46.0	59 12.9	S 2 51.1	281 56.5	S14 58.8	298 01.3	S19 18.7
	17	262 41.3	35 25.1	S19 47.0	74 13.8	S 2 51.8	296 59.1	S14 58.8	313 03.8	S19 18.7
	18	277 43.7	50 24.8	S19 47.9	89 14.8	S 2 52.5	312 01.7	S14 58.9	328 06.4	S19 18.7
	19	292 46.2	65 24.5	S19 48.8	104 15.8	S 2 53.1	327 04.3	S14 58.9	343 08.9	S19 18.7
	20	307 48.7	80 24.1	S19 49.7	119 16.7	S 2 53.8	342 07.0	S14 59.0	358 11.4	S19 18.7
	21	322 51.1	95 23.8	S19 50.6	134 17.7	S 2 54.4	357 09.6	S14 59.0	13 13.9	S19 18.8
	22	337 53.6	110 23.4	S19 51.5	149 18.7	S 2 55.1	12 12.2	S14 59.1	28 16.4	S19 18.8
	23	352 56.0	125 23.1	S19 52.4	164 19.7	S 2 55.8	27 14.8	S14 59.1	43 18.9	S19 18.8
29	0	7 58.5	140 22.7	S19 53.4	179 20.6	S 2 56.4	42 17.4	S14 59.2	58 21.4	S19 18.8
	1	23 01.0	155 22.4	S19 54.3	194 21.6	S 2 57.1	57 20.0	S14 59.2	73 24.0	S19 18.8
	2	38 03.4	170 22.0	S19 55.2	209 22.6	S 2 57.7	72 22.7	S14 59.3	88 26.5	S19 18.8
	3	53 05.9	185 21.7	S19 56.1	224 23.5	S 2 58.4	87 25.3	S14 59.3	103 29.0	S19 18.8
	4	68 08.4	200 21.3	S19 57.0	239 24.5	S 2 59.0	102 27.9	S14 59.4	118 31.5	S19 18.8
W	5	83 10.8	215 21.0	S19 57.9	254 25.5	S 2 59.7	117 30.5	S14 59.4	133 34.0	S19 18.9
E										
D	6	98 13.3	230 20.6	S19 58.8	269 26.4	S 3 00.4	132 33.1	S14 59.5	148 36.5	S19 18.9
N	7	113 15.8	245 20.3	S19 59.7	284 27.4	S 3 01.0	147 35.7	S14 59.5	163 39.1	S19 18.9
E	8	128 18.2	260 19.9	S20 00.6	299 28.4	S 3 01.7	162 38.4	S14 59.6	178 41.6	S19 18.9
S	9	143 20.7	275 19.5	S20 01.5	314 29.3	S 3 02.3	177 41.0	S14 59.6	193 44.1	S19 18.9
D	10	158 23.2	290 19.2	S20 02.4	329 30.3	S 3 03.0	192 43.6	S14 59.6	208 46.6	S19 18.9
A	11	173 25.6	305 18.8	S20 03.3	344 31.3	S 3 03.7	207 46.2	S14 59.7	223 49.1	S19 18.9
Y										
	12	188 28.1	320 18.5	S20 04.2	359 32.2	S 3 04.3	222 48.8	S14 59.7	238 51.6	S19 18.9
	13	203 30.5	335 18.1	S20 05.1	14 33.2	S 3 05.0	237 51.4	S14 59.8	253 54.1	S19 19.0
	14	218 33.0	350 17.8	S20 06.0	29 34.2	S 3 05.6	252 54.1	S14 59.8	268 56.6	S19 19.0
	15	233 35.5	5 17.4	S20 06.9	44 35.1	S 3 06.3	267 56.7	S14 59.9	283 59.2	S19 19.0
	16	248 37.9	20 17.1	S20 07.8	59 36.1	S 3 07.0	282 59.3	S14 59.9	299 01.7	S19 19.0
	17	263 40.4	35 16.7	S20 08.7	74 37.1	S 3 07.6	298 01.9	S14 60.0	314 04.2	S19 19.0
	18	278 42.9	50 16.4	S20 09.6	89 38.0	S 3 08.3	313 04.5	S15 00.0	329 06.7	S19 19.0
	19	293 45.3	65 16.0	S20 10.5	104 39.0	S 3 08.9	328 07.1	S15 00.1	344 09.2	S19 19.0
	20	308 47.8	80 15.7	S20 11.4	119 40.0	S 3 09.6	343 09.7	S15 00.1	359 11.7	S19 19.0
	21	323 50.3	95 15.3	S20 12.3	134 40.9	S 3 10.2	358 12.3	S15 00.2	14 14.2	S19 19.1
	22	338 52.7	110 14.9	S20 13.2	149 41.9	S 3 10.9	13 15.0	S15 00.2	29 16.7	S19 19.1
	23	353 55.2	125 14.6	S20 14.1	164 42.9	S 3 11.6	28 17.6	S15 00.2	44 19.3	S19 19.1
30	0	8 57.7	140 14.2	S20 15.0	179 43.8	S 3 12.2	43 20.2	S15 00.3	59 21.8	S19 19.1
	1	24 00.1	155 13.9	S20 15.9	194 44.8	S 3 12.9	58 22.8	S15 00.3	74 24.3	S19 19.1
	2	39 02.6	170 13.5	S20 16.8	209 45.8	S 3 13.5	73 25.4	S15 00.4	89 26.8	S19 19.1
	3	54 05.0	185 13.2	S20 17.7	224 46.7	S 3 14.2	88 28.0	S15 00.4	104 29.3	S19 19.1
	4	69 07.5	200 12.8	S20 18.6	239 47.7	S 3 14.9	103 30.6	S15 00.5	119 31.8	S19 19.1
T	5	84 10.0	215 12.5	S20 19.4	254 48.7	S 3 15.5	118 33.2	S15 00.5	134 34.3	S19 19.2
H										
U	6	99 12.4	230 12.1	S20 20.3	269 49.6	S 3 16.2	133 35.8	S15 00.6	149 36.8	S19 19.2
R	7	114 14.9	245 11.7	S20 21.2	284 50.6	S 3 16.8	148 38.5	S15 00.6	164 39.3	S19 19.2
S	8	129 17.4	260 11.4	S20 22.1	299 51.6	S 3 17.5	163 41.1	S15 00.7	179 41.9	S19 19.2
D	9	144 19.8	275 11.0	S20 23.0	314 52.5	S 3 18.1	178 43.7	S15 00.7	194 44.4	S19 19.2
A	10	159 22.3	290 10.7	S20 23.9	329 53.5	S 3 18.8	193 46.3	S15 00.7	209 46.9	S19 19.2
Y	11	174 24.8	305 10.3	S20 24.8	344 54.5	S 3 19.5	208 48.9	S15 00.8	224 49.4	S19 19.2
	12	189 27.2	320 09.9	S20 25.6	359 55.4	S 3 20.1	223 51.5	S15 00.8	239 51.9	S19 19.2
	13	204 29.7	335 09.6	S20 26.5	14 56.4	S 3 20.8	238 54.1	S15 00.9	254 54.4	S19 19.2
	14	219 32.1	350 09.2	S20 27.4	29 57.3	S 3 21.4	253 56.7	S15 00.9	269 56.9	S19 19.3
	15	234 34.6	5 08.9	S20 28.3	44 58.3	S 3 22.1	268 59.3	S15 01.0	284 59.4	S19 19.3
	16	249 37.1	20 08.5	S20 29.2	59 59.3	S 3 22.8	284 01.9	S15 01.0	300 01.9	S19 19.3
	17	264 39.5	35 08.1	S20 30.1	75 00.2	S 3 23.4	299 04.5	S15 01.0	315 04.4	S19 19.3
	18	279 42.0	50 07.8	S20 30.9	90 01.2	S 3 24.1	314 07.1	S15 01.1	330 06.9	S19 19.3
	19	294 44.5	65 07.4	S20 31.8	105 02.2	S 3 24.7	329 09.7	S15 01.1	345 09.5	S19 19.3
	20	309 46.9	80 07.1	S20 32.7	120 03.1	S 3 25.4	344 12.3	S15 01.2	0 12.0	S19 19.3
	21	324 49.4	95 06.7	S20 33.6	135 04.1	S 3 26.0	359 14.9	S15 01.2	15 14.5	S19 19.3
	22	339 51.9	110 06.3	S20 34.4	150 05.1	S 3 26.7	14 17.6	S15 01.3	30 17.0	S19 19.3
	23	354 54.3	125 06.0	S20 35.3	165 06.0	S 3 27.4	29 20.2	S15 01.3	45 19.5	S19 19.4
			v -0.4	d 0.9	v 1.0	d 0.7	v 2.6	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
28	0	182 19.1	S 2 01.3	284 23.0	11.1	N25 00.6	4.1	54.3
	1	197 19.4	S 2 02.3	298 53.0	11.0	N25 04.5	3.9	54.3
	2	212 19.6	S 2 03.2	313 23.0	11.0	N25 08.4	3.8	54.3
	3	227 19.8	S 2 04.2	327 53.0	10.9	N25 12.1	3.7	54.3
	4	242 20.0	S 2 05.2	342 22.9	10.9	N25 15.7	3.6	54.3
T	5	257 20.2	S 2 06.2	356 52.7	10.9	N25 19.1	3.5	54.3
U								
E	6	272 20.4	S 2 07.1	11 22.5	10.8	N25 22.5	3.4	54.3
S	7	287 20.6	S 2 08.1	25 52.3	10.8	N25 25.7	3.2	54.3
D	8	302 20.8	S 2 09.1	40 22.1	10.7	N25 28.8	3.1	54.4
A	9	317 21.0	S 2 10.0	54 51.8	10.7	N25 31.8	3.0	54.4
Y	10	332 21.2	S 2 11.0	69 21.4	10.7	N25 34.7	2.9	54.4
	11	347 21.5	S 2 12.0	83 51.1	10.6	N25 37.4	2.8	54.4
	12	2 21.7	S 2 13.0	98 20.6	10.6	N25 40.1	2.6	54.4
	13	17 21.9	S 2 13.9	112 50.2	10.6	N25 42.6	2.5	54.4
	14	32 22.1	S 2 14.9	127 19.7	10.5	N25 45.0	2.4	54.4
	15	47 22.3	S 2 15.9	141 49.2	10.5	N25 47.2	2.3	54.4
	16	62 22.5	S 2 16.9	156 18.6	10.4	N25 49.4	2.1	54.4
	17	77 22.7	S 2 17.8	170 48.0	10.4	N25 51.4	2.0	54.5
	18	92 22.9	S 2 18.8	185 17.4	10.4	N25 53.3	1.9	54.5
	19	107 23.1	S 2 19.8	199 46.8	10.3	N25 55.1	1.8	54.5
	20	122 23.3	S 2 20.7	214 16.1	10.3	N25 56.7	1.6	54.5
	21	137 23.5	S 2 21.7	228 45.4	10.3	N25 58.2	1.5	54.5
	22	152 23.8	S 2 22.7	243 14.6	10.3	N25 59.6	1.4	54.5
	23	167 24.0	S 2 23.7	257 43.8	10.2	N26 00.9	1.3	54.5
29	0	182 24.2	S 2 24.6	272 13.0	10.2	N26 02.0	1.1	54.6
	1	197 24.4	S 2 25.6	286 42.2	10.2	N26 03.0	1.0	54.6
	2	212 24.6	S 2 26.6	301 11.3	10.1	N26 03.9	0.9	54.6
	3	227 24.8	S 2 27.5	315 40.4	10.1	N26 04.7	0.8	54.6
	4	242 25.0	S 2 28.5	330 09.5	10.1	N26 05.3	0.6	54.6
W	5	257 25.2	S 2 29.5	344 38.6	10.1	N26 05.8	0.5	54.6
E								
D	6	272 25.4	S 2 30.5	359 07.6	10.0	N26 06.2	0.4	54.7
N	7	287 25.6	S 2 31.4	13 36.6	10.0	N26 06.5	0.3	54.7
E	8	302 25.8	S 2 32.4	28 05.6	10.0	N26 06.6	0.1	54.7
S	9	317 26.0	S 2 33.4	42 34.6	10.0	N26 06.6	0.0	54.7
D	10	332 26.2	S 2 34.3	57 03.5	9.9	N26 06.4	0.1	54.7
A	11	347 26.4	S 2 35.3	71 32.5	9.9	N26 06.2	0.3	54.7
Y								
	12	2 26.7	S 2 36.3	86 01.4	9.9	N26 05.8	0.4	54.8
	13	17 26.9	S 2 37.3	100 30.3	9.9	N26 05.3	0.5	54.8
	14	32 27.1	S 2 38.2	114 59.1	9.9	N26 04.6	0.7	54.8
	15	47 27.3	S 2 39.2	129 28.0	9.9	N26 03.8	0.8	54.8
	16	62 27.5	S 2 40.2	143 56.8	9.8	N26 02.9	0.9	54.8
	17	77 27.7	S 2 41.1	158 25.7	9.8	N26 01.9	1.0	54.9
	18	92 27.9	S 2 42.1	172 54.5	9.8	N26 00.7	1.2	54.9
	19	107 28.1	S 2 43.1	187 23.3	9.8	N25 59.4	1.3	54.9
	20	122 28.3	S 2 44.1	201 52.0	9.8	N25 57.9	1.4	54.9
	21	137 28.5	S 2 45.0	216 20.8	9.8	N25 56.4	1.6	54.9
	22	152 28.7	S 2 46.0	230 49.6	9.8	N25 54.7	1.7	55.0
	23	167 28.9	S 2 47.0	245 18.3	9.8	N25 52.8	1.8	55.0
30	0	182 29.1	S 2 47.9	259 47.1	9.7	N25 50.9	2.0	55.0
	1	197 29.3	S 2 48.9	274 15.8	9.7	N25 48.8	2.1	55.0
	2	212 29.5	S 2 49.9	288 44.5	9.7	N25 46.5	2.2	55.0
	3	227 29.7	S 2 50.9	303 13.3	9.7	N25 44.2	2.4	55.1
	4	242 29.9	S 2 51.8	317 42.0	9.7	N25 41.7	2.5	55.1
T	5	257 30.1	S 2 52.8	332 10.7	9.7	N25 39.1	2.6	55.1
H								
U	6	272 30.4	S 2 53.8	346 39.4	9.7	N25 36.3	2.8	55.1
R	7	287 30.6	S 2 54.7	1 08.1	9.7	N25 33.4	2.9	55.2
S	8	302 30.8	S 2 55.7	15 36.8	9.7	N25 30.4	3.0	55.2
D	9	317 31.0	S 2 56.7	30 05.5	9.7	N25 27.3	3.1	55.2
A	10	332 31.2	S 2 57.6	44 34.2	9.7	N25 24.0	3.3	55.2
Y	11	347 31.4	S 2 58.6	59 02.9	9.7	N25 20.6	3.4	55.3
	12	2 31.6	S 2 59.6	73 31.6	9.7	N25 17.0	3.5	55.3
	13	17 31.8	S 3 00.6	88 00.3	9.7	N25 13.3	3.7	55.3
	14	32 32.0	S 3 01.5	102 29.0	9.7	N25 09.5	3.8	55.3
	15	47 32.2	S 3 02.5	116 57.7	9.7	N25 05.6	3.9	55.4
	16	62 32.4	S 3 03.5	131 26.4	9.7	N25 01.5	4.1	55.4
	17	77 32.6	S 3 04.4	145 55.1	9.7	N24 57.3	4.2	55.4
	18	92 32.8	S 3 05.4	160 23.8	9.7	N24 53.0	4.3	55.4
	19	107 33.0	S 3 06.4	174 52.6	9.7	N24 48.5	4.5	55.5
	20	122 33.2	S 3 07.3	189 21.3	9.7	N24 43.9	4.6	55.5
	21	137 33.4	S 3 08.3	203 50.0	9.7	N24 39.2	4.7	55.5
	22	152 33.6	S 3 09.3	218 18.8	9.8	N24 34.4	4.9	55.5
	23	167 33.8	S 3 10.3	232 47.6	9.8	N24 29.4	5.0	55.6
		S.D. 16.0	d 1.0	S.D.	14.8	14.9	15.1	

STARS Name	SHA	Dec
Acamar	315 13.5	S40 12.9
Achernar	335 21.7	S57 07.5
Acrux	173 03.8	S63 13.0
Adhara	255 08.0	S28 59.8
Albireo	67 06.1	N28 00.5
Aldebaran	290 42.6	N16 33.2
Alioth	166 15.9	N55 50.7
Alkaid	152 54.6	N49 12.5
Al Na-ir	27 35.9	S46 51.5
Alnilam	275 40.4	S 1 11.1
Alphard	217 50.6	S 8 44.9
Alphecca	126 06.3	N26 38.8
Alpheratz	357 37.2	N29 12.7
Altair	62 02.5	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.3	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.2	S69 04.2
Avior	234 16.1	S59 34.4
Bellatrix	278 25.7	N 6 22.2
Betelgeuse	270 55.0	N 7 24.8
Canopus	263 53.6	S52 42.1
Capella	280 25.7	N46 01.0
Castor	246 00.6	N31 50.4
Deneb	49 27.4	N45 21.7
Denebola	182 28.0	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 45.0	N61 38.0
Elnath	278 05.2	N28 37.5
Eltanin	90 43.5	N51 29.4
Enif	33 41.1	N 9 58.6
Fomalhaut	15 17.1	S29 30.5
Gacrux	171 55.2	S57 13.9
Gienah	175 46.7	S17 39.5
Hadar	148 40.4	S60 28.6
Hamal	327 53.9	N23 33.9
Kaus Austr.	83 36.1	S34 22.6
Kochab	137 20.9	N74 04.2
Markab	13 32.3	N15 19.4
Menkar	314 08.7	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.3	S69 48.0
Mirfak	308 31.8	N49 56.2
Nunki	75 51.1	S26 16.2
Peacock	53 09.7	S56 40.1
Polaris	316 56.9	N89 20.4
Pollux	243 20.7	N27 58.4
Procyon	244 53.7	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.6	N11 51.8
Rigel	281 06.4	S 8 10.4
Rigil Kent	139 44.7	S60 55.5
Sabik	102 06.0	S15 45.0
Schedar	349 33.5	N56 39.3
Shaula	96 14.1	S37 07.2
Sirius	258 28.6	S16 44.5
Spica	158 25.5	S11 16.3
Suhail	222 48.5	S43 30.9
Vega	80 35.0	N38 48.5
Zuben-ubi	137 00.0	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
1 0	9 56.8	140 05.6	S20 36.2	180 07.0	S 3 28.0	44 22.8	S15 01.3	60 22.0	S19 19.4
1	24 59.3	155 05.2	S20 37.1	195 08.0	S 3 28.7	59 25.4	S15 01.4	75 24.5	S19 19.4
2	40 01.7	170 04.9	S20 37.9	210 08.9	S 3 29.3	74 28.0	S15 01.4	90 27.0	S19 19.4
3	55 04.2	185 04.5	S20 38.8	225 09.9	S 3 30.0	89 30.6	S15 01.5	105 29.5	S19 19.4
4	70 06.6	200 04.2	S20 39.7	240 10.8	S 3 30.6	104 33.2	S15 01.5	120 32.0	S19 19.4
F 5	85 09.1	215 03.8	S20 40.5	255 11.8	S 3 31.3	119 35.8	S15 01.6	135 34.5	S19 19.4
R									
I 6	100 11.6	230 03.4	S20 41.4	270 12.8	S 3 32.0	134 38.4	S15 01.6	150 37.0	S19 19.4
D 7	115 14.0	245 03.1	S20 42.3	285 13.7	S 3 32.6	149 41.0	S15 01.6	165 39.5	S19 19.4
A 8	130 16.5	260 02.7	S20 43.1	300 14.7	S 3 33.3	164 43.6	S15 01.7	180 42.0	S19 19.5
Y 9	145 19.0	275 02.3	S20 44.0	315 15.7	S 3 33.9	179 46.2	S15 01.7	195 44.5	S19 19.5
10	160 21.4	290 02.0	S20 44.9	330 16.6	S 3 34.6	194 48.8	S15 01.8	210 47.1	S19 19.5
11	175 23.9	305 01.6	S20 45.7	345 17.6	S 3 35.2	209 51.4	S15 01.8	225 49.6	S19 19.5
12	190 26.4	320 01.2	S20 46.6	0 18.6	S 3 35.9	224 54.0	S15 01.9	240 52.1	S19 19.5
13	205 28.8	335 00.9	S20 47.5	15 19.5	S 3 36.6	239 56.6	S15 01.9	255 54.6	S19 19.5
14	220 31.3	350 00.5	S20 48.3	30 20.5	S 3 37.2	254 59.2	S15 01.9	270 57.1	S19 19.5
15	235 33.8	5 00.1	S20 49.2	45 21.4	S 3 37.9	270 01.8	S15 02.0	285 59.6	S19 19.5
16	250 36.2	19 59.8	S20 50.1	60 22.4	S 3 38.5	285 04.4	S15 02.0	301 02.1	S19 19.5
17	265 38.7	34 59.4	S20 50.9	75 23.4	S 3 39.2	300 07.0	S15 02.1	316 04.6	S19 19.5
18	280 41.1	49 59.0	S20 51.8	90 24.3	S 3 39.9	315 09.6	S15 02.1	331 07.1	S19 19.6
19	295 43.6	64 58.7	S20 52.6	105 25.3	S 3 40.5	330 12.2	S15 02.1	346 09.6	S19 19.6
20	310 46.1	79 58.3	S20 53.5	120 26.3	S 3 41.2	345 14.8	S15 02.2	1 12.1	S19 19.6
21	325 48.5	94 57.9	S20 54.3	135 27.2	S 3 41.8	0 17.4	S15 02.2	16 14.6	S19 19.6
22	340 51.0	109 57.6	S20 55.2	150 28.2	S 3 42.5	15 20.0	S15 02.3	31 17.1	S19 19.6
23	355 53.5	124 57.2	S20 56.1	165 29.1	S 3 43.1	30 22.6	S15 02.3	46 19.6	S19 19.6
2 0	10 55.9	139 56.8	S20 56.9	180 30.1	S 3 43.8	45 25.2	S15 02.3	61 22.1	S19 19.6
1	25 58.4	154 56.5	S20 57.8	195 31.1	S 3 44.5	60 27.8	S15 02.4	76 24.6	S19 19.6
2	41 00.9	169 56.1	S20 58.6	210 32.0	S 3 45.1	75 30.4	S15 02.4	91 27.1	S19 19.6
3	56 03.3	184 55.7	S20 59.5	225 33.0	S 3 45.8	90 32.9	S15 02.5	106 29.6	S19 19.6
4	71 05.8	199 55.3	S21 00.3	240 33.9	S 3 46.4	105 35.5	S15 02.5	121 32.1	S19 19.7
S 5	86 08.3	214 55.0	S21 01.2	255 34.9	S 3 47.1	120 38.1	S15 02.5	136 34.6	S19 19.7
A									
T 6	101 10.7	229 54.6	S21 02.0	270 35.9	S 3 47.7	135 40.7	S15 02.6	151 37.1	S19 19.7
U 7	116 13.2	244 54.2	S21 02.9	285 36.8	S 3 48.4	150 43.3	S15 02.6	166 39.6	S19 19.7
R 8	131 15.6	259 53.9	S21 03.7	300 37.8	S 3 49.1	165 45.9	S15 02.7	181 42.1	S19 19.7
D 9	146 18.1	274 53.5	S21 04.6	315 38.7	S 3 49.7	180 48.5	S15 02.7	196 44.6	S19 19.7
A 10	161 20.6	289 53.1	S21 05.4	330 39.7	S 3 50.4	195 51.1	S15 02.7	211 47.1	S19 19.7
Y 11	176 23.0	304 52.8	S21 06.3	345 40.7	S 3 51.0	210 53.7	S15 02.8	226 49.6	S19 19.7
12	191 25.5	319 52.4	S21 07.1	0 41.6	S 3 51.7	225 56.3	S15 02.8	241 52.1	S19 19.7
13	206 28.0	334 52.0	S21 07.9	15 42.6	S 3 52.3	240 58.9	S15 02.9	256 54.6	S19 19.7
14	221 30.4	349 51.6	S21 08.8	30 43.6	S 3 53.0	256 01.5	S15 02.9	271 57.1	S19 19.7
15	236 32.9	4 51.3	S21 09.6	45 44.5	S 3 53.7	271 04.1	S15 02.9	286 59.6	S19 19.8
16	251 35.4	19 50.9	S21 10.5	60 45.5	S 3 54.3	286 06.7	S15 03.0	302 02.1	S19 19.8
17	266 37.8	34 50.5	S21 11.3	75 46.4	S 3 55.0	301 09.2	S15 03.0	317 04.6	S19 19.8
18	281 40.3	49 50.1	S21 12.2	90 47.4	S 3 55.6	316 11.8	S15 03.0	332 07.1	S19 19.8
19	296 42.7	64 49.8	S21 13.0	105 48.4	S 3 56.3	331 14.4	S15 03.1	347 09.6	S19 19.8
20	311 45.2	79 49.4	S21 13.8	120 49.3	S 3 56.9	346 17.0	S15 03.1	2 12.1	S19 19.8
21	326 47.7	94 49.0	S21 14.7	135 50.3	S 3 57.6	1 19.6	S15 03.2	17 14.6	S19 19.8
22	341 50.1	109 48.7	S21 15.5	150 51.2	S 3 58.2	16 22.2	S15 03.2	32 17.1	S19 19.8
23	356 52.6	124 48.3	S21 16.3	165 52.2	S 3 58.9	31 24.8	S15 03.2	47 19.6	S19 19.8
3 0	11 55.1	139 47.9	S21 17.2	180 53.2	S 3 59.6	46 27.4	S15 03.3	62 22.1	S19 19.8
1	26 57.5	154 47.5	S21 18.0	195 54.1	S 4 00.2	61 30.0	S15 03.3	77 24.6	S19 19.8
2	41 60.0	169 47.1	S21 18.8	210 55.1	S 4 00.9	76 32.6	S15 03.3	92 27.1	S19 19.9
3	57 02.5	184 46.8	S21 19.7	225 56.0	S 4 01.5	91 35.1	S15 03.4	107 29.6	S19 19.9
4	72 04.9	199 46.4	S21 20.5	240 57.0	S 4 02.2	106 37.7	S15 03.4	122 32.1	S19 19.9
S 5	87 07.4	214 46.0	S21 21.3	255 57.9	S 4 02.8	121 40.3	S15 03.5	137 34.6	S19 19.9
U									
N 6	102 09.9	229 45.6	S21 22.2	270 58.9	S 4 03.5	136 42.9	S15 03.5	152 37.1	S19 19.9
D 7	117 12.3	244 45.3	S21 23.0	285 59.9	S 4 04.2	151 45.5	S15 03.5	167 39.6	S19 19.9
A 8	132 14.8	259 44.9	S21 23.8	301 00.8	S 4 04.8	166 48.1	S15 03.6	182 42.1	S19 19.9
Y 9	147 17.2	274 44.5	S21 24.6	316 01.8	S 4 05.5	181 50.7	S15 03.6	197 44.6	S19 19.9
10	162 19.7	289 44.1	S21 25.5	331 02.7	S 4 06.1	196 53.2	S15 03.6	212 47.1	S19 19.9
11	177 22.2	304 43.8	S21 26.3	346 03.7	S 4 06.8	211 55.8	S15 03.7	227 49.6	S19 19.9
12	192 24.6	319 43.4	S21 27.1	1 04.7	S 4 07.4	226 58.4	S15 03.7	242 52.1	S19 19.9
13	207 27.1	334 43.0	S21 27.9	16 05.6	S 4 08.1	242 01.0	S15 03.7	257 54.6	S19 19.9
14	222 29.6	349 42.6	S21 28.8	31 06.6	S 4 08.8	257 03.6	S15 03.8	272 57.1	S19 20.0
15	237 32.0	4 42.2	S21 29.6	46 07.5	S 4 09.4	272 06.2	S15 03.8	287 59.6	S19 20.0
16	252 34.5	19 41.9	S21 30.4	61 08.5	S 4 10.1	287 08.8	S15 03.8	303 02.1	S19 20.0
17	267 37.0	34 41.5	S21 31.2	76 09.4	S 4 10.7	302 11.3	S15 03.9	318 04.6	S19 20.0
18	282 39.4	49 41.1	S21 32.0	91 10.4	S 4 11.4	317 13.9	S15 03.9	333 07.1	S19 20.0
19	297 41.9	64 40.7	S21 32.9	106 11.4	S 4 12.0	332 16.5	S15 04.0	348 09.6	S19 20.0
20	312 44.3	79 40.4	S21 33.7	121 12.3	S 4 12.7	347 19.1	S15 04.0	3 12.1	S19 20.0
21	327 46.8	94 40.0	S21 34.5	136 13.3	S 4 13.3	2 21.7	S15 04.0	18 14.6	S19 20.0
22	342 49.3	109 39.6	S21 35.3	151 14.2	S 4 14.0	17 24.2	S15 04.1	33 17.1	S19 20.0
23	357 51.7	124 39.2	S21 36.1	166 15.2	S 4 14.7	32 26.8	S15 04.1	48 19.6	S19 20.0
		v -0.4	d 0.8	v 1.0	d 0.7	v 2.6	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 '
1	0	182 34.0	S 3 11.2	247 16.3	9.8	N24 24.3	5.1	55.6
	1	197 34.2	S 3 12.2	261 45.1	9.8	N24 19.0	5.2	55.6
	2	212 34.4	S 3 13.2	276 13.9	9.8	N24 13.6	5.4	55.6
	3	227 34.6	S 3 14.1	290 42.7	9.8	N24 08.1	5.5	55.7
	4	242 34.8	S 3 15.1	305 11.5	9.8	N24 02.5	5.6	55.7
F	5	257 35.0	S 3 16.1	319 40.3	9.8	N23 56.7	5.8	55.7
R								
I	6	272 35.2	S 3 17.0	334 09.2	9.8	N23 50.8	5.9	55.8
D	7	287 35.4	S 3 18.0	348 38.0	9.9	N23 44.8	6.0	55.8
A	8	302 35.6	S 3 19.0	3 06.9	9.9	N23 38.7	6.1	55.8
Y	9	317 35.8	S 3 19.9	17 35.8	9.9	N23 32.4	6.3	55.8
	10	332 36.0	S 3 20.9	32 04.7	9.9	N23 26.0	6.4	55.9
	11	347 36.2	S 3 21.9	46 33.6	9.9	N23 19.5	6.5	55.9
	12	2 36.4	S 3 22.9	61 02.6	9.9	N23 12.8	6.7	55.9
	13	17 36.6	S 3 23.8	75 31.5	10.0	N23 06.0	6.8	56.0
	14	32 36.8	S 3 24.8	90 00.5	10.0	N22 59.1	6.9	56.0
	15	47 37.0	S 3 25.8	104 29.5	10.0	N22 52.1	7.0	56.0
	16	62 37.2	S 3 26.7	118 58.5	10.0	N22 44.9	7.2	56.1
	17	77 37.4	S 3 27.7	133 27.5	10.0	N22 37.6	7.3	56.1
	18	92 37.6	S 3 28.7	147 56.6	10.1	N22 30.2	7.4	56.1
	19	107 37.8	S 3 29.6	162 25.6	10.1	N22 22.7	7.5	56.2
	20	122 38.0	S 3 30.6	176 54.7	10.1	N22 15.0	7.7	56.2
	21	137 38.2	S 3 31.6	191 23.8	10.1	N22 07.3	7.8	56.2
	22	152 38.4	S 3 32.5	205 53.0	10.1	N21 59.4	7.9	56.3
	23	167 38.6	S 3 33.5	220 22.1	10.2	N21 51.3	8.0	56.3
2	0	182 38.8	S 3 34.5	234 51.3	10.2	N21 43.2	8.1	56.3
	1	197 39.0	S 3 35.4	249 20.5	10.2	N21 34.9	8.3	56.3
	2	212 39.2	S 3 36.4	263 49.7	10.2	N21 26.5	8.4	56.4
	3	227 39.4	S 3 37.4	278 19.0	10.2	N21 18.0	8.5	56.4
	4	242 39.6	S 3 38.3	292 48.3	10.3	N21 09.4	8.6	56.4
S	5	257 39.8	S 3 39.3	307 17.6	10.3	N21 00.7	8.7	56.5
A								
T	6	272 40.0	S 3 40.3	321 46.9	10.3	N20 51.8	8.9	56.5
U	7	287 40.2	S 3 41.2	336 16.2	10.3	N20 42.8	9.0	56.5
R	8	302 40.4	S 3 42.2	350 45.6	10.4	N20 33.7	9.1	56.6
D	9	317 40.6	S 3 43.2	5 15.0	10.4	N20 24.5	9.2	56.6
A	10	332 40.8	S 3 44.2	19 44.4	10.4	N20 15.2	9.3	56.6
Y	11	347 41.0	S 3 45.1	34 13.8	10.4	N20 05.7	9.4	56.7
	12	2 41.2	S 3 46.1	48 43.3	10.5	N19 56.2	9.6	56.7
	13	17 41.4	S 3 47.1	63 12.8	10.5	N19 46.5	9.7	56.7
	14	32 41.6	S 3 48.0	77 42.3	10.5	N19 36.7	9.8	56.8
	15	47 41.8	S 3 49.0	92 11.8	10.5	N19 26.8	9.9	56.8
	16	62 42.0	S 3 50.0	106 41.4	10.6	N19 16.8	10.0	56.9
	17	77 42.2	S 3 50.9	121 11.0	10.6	N19 06.7	10.1	56.9
	18	92 42.4	S 3 51.9	135 40.6	10.6	N18 56.5	10.2	56.9
	19	107 42.6	S 3 52.9	150 10.2	10.6	N18 46.1	10.3	57.0
	20	122 42.8	S 3 53.8	164 39.9	10.7	N18 35.7	10.5	57.0
	21	137 43.0	S 3 54.8	179 09.6	10.7	N18 25.1	10.6	57.0
	22	152 43.2	S 3 55.8	193 39.3	10.7	N18 14.4	10.7	57.1
	23	167 43.3	S 3 56.7	208 09.0	10.7	N18 03.7	10.8	57.1
3	0	182 43.5	S 3 57.7	222 38.8	10.8	N17 52.8	10.9	57.1
	1	197 43.7	S 3 58.7	237 08.6	10.8	N17 41.8	11.0	57.2
	2	212 43.9	S 3 59.6	251 38.4	10.8	N17 30.7	11.1	57.2
	3	227 44.1	S 4 00.6	266 08.2	10.8	N17 19.5	11.2	57.2
	4	242 44.3	S 4 01.6	280 38.1	10.9	N17 08.2	11.3	57.3
S	5	257 44.5	S 4 02.5	295 08.0	10.9	N16 56.8	11.4	57.3
U								
N	6	272 44.7	S 4 03.5	309 37.9	10.9	N16 45.3	11.5	57.3
D	7	287 44.9	S 4 04.4	324 07.8	10.9	N16 33.7	11.6	57.4
A	8	302 45.1	S 4 05.4	338 37.8	11.0	N16 22.0	11.7	57.4
Y	9	317 45.3	S 4 06.4	353 07.8	11.0	N16 10.2	11.8	57.4
	10	332 45.5	S 4 07.3	7 37.8	11.0	N15 58.3	11.9	57.5
	11	347 45.7	S 4 08.3	22 07.8	11.0	N15 46.3	12.0	57.5
	12	2 45.9	S 4 09.3	36 37.8	11.0	N15 34.2	12.1	57.6
	13	17 46.1	S 4 10.2	51 07.9	11.1	N15 22.0	12.2	57.6
	14	32 46.3	S 4 11.2	65 38.0	11.1	N15 09.8	12.3	57.6
	15	47 46.5	S 4 12.2	80 08.1	11.1	N14 57.4	12.4	57.7
	16	62 46.6	S 4 13.1	94 38.2	11.1	N14 44.9	12.5	57.7
	17	77 46.8	S 4 14.1	109 08.4	11.1	N14 32.4	12.6	57.7
	18	92 47.0	S 4 15.1	123 38.5	11.2	N14 19.7	12.6	57.8
	19	107 47.2	S 4 16.0	138 08.7	11.2	N14 07.0	12.7	57.8
	20	122 47.4	S 4 17.0	152 38.9	11.2	N13 54.2	12.8	57.8
	21	137 47.6	S 4 18.0	167 09.2	11.2	N13 41.3	12.9	57.9
	22	152 47.8	S 4 18.9	181 39.4	11.2	N13 28.3	13.0	57.9
	23	167 48.0	S 4 19.9	196 09.7	11.3	N13 15.2	13.1	57.9
		S.D. 16.0	d 1.0	S.D.	15.2	15.5	15.7	

Name	SHA ° '	Dec ° '
Acamar	315 13.5	S40 12.9
Achernar	335 21.7	S57 07.5
Acrux	173 03.8	S63 13.0
Adhara	255 08.0	S28 59.8
Albireo	67 06.1	N28 00.5
Aldebaran	290 42.5	N16 33.2
Alioth	166 15.9	N55 50.7
Alkaid	152 54.6	N49 12.5
Al Na-ir	27 35.9	S46 51.5
Alnilam	275 40.3	S 1 11.1
Alphard	217 50.6	S 8 44.9
Alphecca	126 06.3	N26 38.8
Alpheratz	357 37.2	N29 12.7
Altair	62 02.5	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.3	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.3	S69 04.2
Avior	234 16.0	S59 34.4
Bellatrix	278 25.7	N 6 22.2
Betelgeuse	270 54.9	N 7 24.8
Canopus	263 53.5	S52 42.1
Capella	280 25.7	N46 01.0
Castor	246 00.6	N31 50.4
Deneb	49 27.4	N45 21.7
Denebola	182 28.0	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.9	N61 38.0
Elnath	278 05.2	N28 37.5
Eltanin	90 43.6	N51 29.4
Enif	33 41.1	N 9 58.6
Fomalhaut	15 17.1	S29 30.5
Gacrux	171 55.2	S57 13.9
Gienah	175 46.7	S17 39.5
Hadar	148 40.5	S60 28.6
Hamal	327 53.9	N23 33.9
Kaus Austr.	83 36.1	S34 22.6
Kochab	137 20.9	N74 04.2
Markab	13 32.3	N15 19.4
Menkar	314 08.7	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.3	S69 48.0
Mirfak	308 31.8	N49 56.2
Nunki	75 51.1	S26 16.2
Peacock	53 09.7	S56 40.1
Polaris	316 56.3	N89 20.4
Pollux	243 20.7	N27 58.4
Procyon	244 53.7	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.5	N11 51.8
Rigel	281 06.3	S 8 10.4
Rigil Kent	139 44.7	S60 55.5
Sabik	102 06.0	S15 45.1
Schedar	349 33.5	N56 39.3
Shaula	96 14.1	S37 07.2
Sirius	258 28.6	S16 44.5
Spica	158 25.5	S11 16.3
Suhail	222 48.5	S43 30.9
Vega	80 35.0	N38 48.5
Zuben-ubi	137 00.0	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
4 0	12 54.2	139 38.8	S21 36.9	181 16.1	S 4 15.3	47 29.4	S15 04.1	63 22.1	S19 20.0
1	27 56.7	154 38.5	S21 37.8	196 17.1	S 4 16.0	62 32.0	S15 04.2	78 24.6	S19 20.0
2	42 59.1	169 38.1	S21 38.6	211 18.1	S 4 16.6	77 34.6	S15 04.2	93 27.0	S19 20.0
3	58 01.6	184 37.7	S21 39.4	226 19.0	S 4 17.3	92 37.2	S15 04.2	108 29.5	S19 20.1
4	73 04.1	199 37.3	S21 40.2	241 20.0	S 4 17.9	107 39.7	S15 04.3	123 32.0	S19 20.1
M 5	88 06.5	214 36.9	S21 41.0	256 20.9	S 4 18.6	122 42.3	S15 04.3	138 34.5	S19 20.1
O									
N 6	103 09.0	229 36.5	S21 41.8	271 21.9	S 4 19.2	137 44.9	S15 04.3	153 37.0	S19 20.1
D 7	118 11.5	244 36.2	S21 42.6	286 22.8	S 4 19.9	152 47.5	S15 04.4	168 39.5	S19 20.1
A 8	133 13.9	259 35.8	S21 43.4	301 23.8	S 4 20.6	167 50.0	S15 04.4	183 42.0	S19 20.1
Y 9	148 16.4	274 35.4	S21 44.2	316 24.8	S 4 21.2	182 52.6	S15 04.4	198 44.5	S19 20.1
10	163 18.8	289 35.0	S21 45.0	331 25.7	S 4 21.9	197 55.2	S15 04.5	213 47.0	S19 20.1
11	178 21.3	304 34.6	S21 45.8	346 26.7	S 4 22.5	212 57.8	S15 04.5	228 49.5	S19 20.1
12	193 23.8	319 34.2	S21 46.6	1 27.6	S 4 23.2	228 00.4	S15 04.5	243 52.0	S19 20.1
13	208 26.2	334 33.9	S21 47.5	16 28.6	S 4 23.8	243 02.9	S15 04.6	258 54.5	S19 20.1
14	223 28.7	349 33.5	S21 48.3	31 29.5	S 4 24.5	258 05.5	S15 04.6	273 57.0	S19 20.1
15	238 31.2	4 33.1	S21 49.1	46 30.5	S 4 25.1	273 08.1	S15 04.6	288 59.5	S19 20.1
16	253 33.6	19 32.7	S21 49.9	61 31.4	S 4 25.8	288 10.7	S15 04.7	304 02.0	S19 20.1
17	268 36.1	34 32.3	S21 50.7	76 32.4	S 4 26.5	303 13.2	S15 04.7	319 04.4	S19 20.2
18	283 38.6	49 31.9	S21 51.5	91 33.4	S 4 27.1	318 15.8	S15 04.7	334 06.9	S19 20.2
19	298 41.0	64 31.6	S21 52.3	106 34.3	S 4 27.8	333 18.4	S15 04.8	349 09.4	S19 20.2
20	313 43.5	79 31.2	S21 53.0	121 35.3	S 4 28.4	348 21.0	S15 04.8	4 11.9	S19 20.2
21	328 46.0	94 30.8	S21 53.8	136 36.2	S 4 29.1	3 23.5	S15 04.8	19 14.4	S19 20.2
22	343 48.4	109 30.4	S21 54.6	151 37.2	S 4 29.7	18 26.1	S15 04.9	34 16.9	S19 20.2
23	358 50.9	124 30.0	S21 55.4	166 38.1	S 4 30.4	33 28.7	S15 04.9	49 19.4	S19 20.2
5 0	13 53.3	139 29.6	S21 56.2	181 39.1	S 4 31.0	48 31.3	S15 04.9	64 21.9	S19 20.2
1	28 55.8	154 29.2	S21 57.0	196 40.0	S 4 31.7	63 33.8	S15 05.0	79 24.4	S19 20.2
2	43 58.3	169 28.9	S21 57.8	211 41.0	S 4 32.4	78 36.4	S15 05.0	94 26.9	S19 20.2
3	59 00.7	184 28.5	S21 58.6	226 42.0	S 4 33.0	93 39.0	S15 05.0	109 29.3	S19 20.2
4	74 03.2	199 28.1	S21 59.4	241 42.9	S 4 33.7	108 41.5	S15 05.1	124 31.8	S19 20.2
T 5	89 05.7	214 27.7	S22 00.2	256 43.9	S 4 34.3	123 44.1	S15 05.1	139 34.3	S19 20.2
U									
E 6	104 08.1	229 27.3	S22 01.0	271 44.8	S 4 35.0	138 46.7	S15 05.1	154 36.8	S19 20.2
S 7	119 10.6	244 26.9	S22 01.8	286 45.8	S 4 35.6	153 49.3	S15 05.1	169 39.3	S19 20.2
D 8	134 13.1	259 26.5	S22 02.5	301 46.7	S 4 36.3	168 51.8	S15 05.2	184 41.8	S19 20.3
A 9	149 15.5	274 26.1	S22 03.3	316 47.7	S 4 36.9	183 54.4	S15 05.2	199 44.3	S19 20.3
Y 10	164 18.0	289 25.8	S22 04.1	331 48.6	S 4 37.6	198 57.0	S15 05.2	214 46.8	S19 20.3
11	179 20.4	304 25.4	S22 04.9	346 49.6	S 4 38.2	213 59.5	S15 05.3	229 49.3	S19 20.3
12	194 22.9	319 25.0	S22 05.7	1 50.5	S 4 38.9	229 02.1	S15 05.3	244 51.8	S19 20.3
13	209 25.4	334 24.6	S22 06.5	16 51.5	S 4 39.6	244 04.7	S15 05.3	259 54.2	S19 20.3
14	224 27.8	349 24.2	S22 07.2	31 52.4	S 4 40.2	259 07.2	S15 05.4	274 56.7	S19 20.3
15	239 30.3	4 23.8	S22 08.0	46 53.4	S 4 40.9	274 09.8	S15 05.4	289 59.2	S19 20.3
16	254 32.8	19 23.4	S22 08.8	61 54.4	S 4 41.5	289 12.4	S15 05.4	305 01.7	S19 20.3
17	269 35.2	34 23.0	S22 09.6	76 55.3	S 4 42.2	304 15.0	S15 05.4	320 04.2	S19 20.3
18	284 37.7	49 22.6	S22 10.4	91 56.3	S 4 42.8	319 17.5	S15 05.5	335 06.7	S19 20.3
19	299 40.2	64 22.3	S22 11.1	106 57.2	S 4 43.5	334 20.1	S15 05.5	350 09.2	S19 20.3
20	314 42.6	79 21.9	S22 11.9	121 58.2	S 4 44.1	349 22.7	S15 05.5	5 11.7	S19 20.3
21	329 45.1	94 21.5	S22 12.7	136 59.1	S 4 44.8	4 25.2	S15 05.6	20 14.1	S19 20.3
22	344 47.6	109 21.1	S22 13.5	152 00.1	S 4 45.4	19 27.8	S15 05.6	35 16.6	S19 20.3
23	359 50.0	124 20.7	S22 14.2	167 01.0	S 4 46.1	34 30.4	S15 05.6	50 19.1	S19 20.3
6 0	14 52.5	139 20.3	S22 15.0	182 02.0	S 4 46.8	49 32.9	S15 05.7	65 21.6	S19 20.3
1	29 54.9	154 19.9	S22 15.8	197 02.9	S 4 47.4	64 35.5	S15 05.7	80 24.1	S19 20.4
2	44 57.4	169 19.5	S22 16.6	212 03.9	S 4 48.1	79 38.0	S15 05.7	95 26.6	S19 20.4
3	59 59.9	184 19.1	S22 17.3	227 04.8	S 4 48.7	94 40.6	S15 05.7	110 29.1	S19 20.4
4	75 02.3	199 18.7	S22 18.1	242 05.8	S 4 49.4	109 43.2	S15 05.8	125 31.5	S19 20.4
W 5	90 04.8	214 18.3	S22 18.9	257 06.7	S 4 50.0	124 45.7	S15 05.8	140 34.0	S19 20.4
E									
D 6	105 07.3	229 17.9	S22 19.6	272 07.7	S 4 50.7	139 48.3	S15 05.8	155 36.5	S19 20.4
N 7	120 09.7	244 17.6	S22 20.4	287 08.6	S 4 51.3	154 50.9	S15 05.9	170 39.0	S19 20.4
E 8	135 12.2	259 17.2	S22 21.2	302 09.6	S 4 52.0	169 53.4	S15 05.9	185 41.5	S19 20.4
S 9	150 14.7	274 16.8	S22 21.9	317 10.5	S 4 52.6	184 56.0	S15 05.9	200 44.0	S19 20.4
D 10	165 17.1	289 16.4	S22 22.7	332 11.5	S 4 53.3	199 58.6	S15 05.9	215 46.4	S19 20.4
A 11	180 19.6	304 16.0	S22 23.5	347 12.4	S 4 54.0	215 01.1	S15 06.0	230 48.9	S19 20.4
Y									
12	195 22.0	319 15.6	S22 24.2	2 13.4	S 4 54.6	230 03.7	S15 06.0	245 51.4	S19 20.4
13	210 24.5	334 15.2	S22 25.0	17 14.3	S 4 55.3	245 06.2	S15 06.0	260 53.9	S19 20.4
14	225 27.0	349 14.8	S22 25.7	32 15.3	S 4 55.9	260 08.8	S15 06.0	275 56.4	S19 20.4
15	240 29.4	4 14.4	S22 26.5	47 16.2	S 4 56.6	275 11.4	S15 06.1	290 58.9	S19 20.4
16	255 31.9	19 14.0	S22 27.3	62 17.2	S 4 57.2	290 13.9	S15 06.1	306 01.4	S19 20.4
17	270 34.4	34 13.6	S22 28.0	77 18.1	S 4 57.9	305 16.5	S15 06.1	321 03.8	S19 20.4
18	285 36.8	49 13.2	S22 28.8	92 19.1	S 4 58.5	320 19.0	S15 06.2	336 06.3	S19 20.4
19	300 39.3	64 12.8	S22 29.5	107 20.0	S 4 59.2	335 21.6	S15 06.2	351 08.8	S19 20.4
20	315 41.8	79 12.4	S22 30.3	122 21.0	S 4 59.8	350 24.2	S15 06.2	6 11.3	S19 20.4
21	330 44.2	94 12.0	S22 31.0	137 21.9	S 5 00.5	5 26.7	S15 06.2	21 13.8	S19 20.5
22	345 46.7	109 11.6	S22 31.8	152 22.9	S 5 01.1	20 29.3	S15 06.3	36 16.3	S19 20.5
23	0 49.2	124 11.2	S22 32.5	167 23.8	S 5 01.8	35 31.8	S15 06.3	51 18.7	S19 20.5
		v -0.4	d 0.8	v 1.0	d 0.7	v 2.6	d 0.0	v 2.5	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
4 0	182 48.2	S 4 20.9	210 39.9	11.3	N13 02.0	13.2	58.0	Acamar	315 13.5	S40 12.9
1	197 48.4	S 4 21.8	225 10.2	11.3	N12 48.8	13.3	58.0	Achernar	335 21.6	S57 07.5
2	212 48.6	S 4 22.8	239 40.5	11.3	N12 35.4	13.3	58.0	Acrux	173 03.8	S63 12.9
3	227 48.8	S 4 23.7	254 10.9	11.3	N12 22.0	13.4	58.1	Adhara	255 08.0	S28 59.8
4	242 49.0	S 4 24.7	268 41.2	11.3	N12 08.5	13.5	58.1	Albireo	67 06.2	N28 00.5
M 5	257 49.1	S 4 25.7	283 11.6	11.4	N11 54.9	13.6	58.1			
O								Aldebaran	290 42.5	N16 33.2
N 6	272 49.3	S 4 26.6	297 41.9	11.4	N11 41.3	13.7	58.2	Alioth	166 15.9	N55 50.7
D 7	287 49.5	S 4 27.6	312 12.3	11.4	N11 27.6	13.7	58.2	Alkaid	152 54.6	N49 12.5
A 8	302 49.7	S 4 28.6	326 42.7	11.4	N11 13.8	13.8	58.2	Al Na-ir	27 35.9	S46 51.5
Y 9	317 49.9	S 4 29.5	341 13.1	11.4	N10 59.9	13.9	58.3	Alnilam	275 40.3	S 1 11.1
10	332 50.1	S 4 30.5	355 43.5	11.4	N10 45.9	14.0	58.3			
11	347 50.3	S 4 31.5	10 13.9	11.4	N10 31.9	14.0	58.4	Alphard	217 50.5	S 8 44.9
								Alphecca	126 06.3	N26 38.7
12	2 50.5	S 4 32.4	24 44.4	11.4	N10 17.8	14.1	58.4	Alpheratz	357 37.2	N29 12.7
13	17 50.7	S 4 33.4	39 14.8	11.4	N10 03.6	14.2	58.4	Altair	62 02.5	N 8 55.7
14	32 50.9	S 4 34.3	53 45.3	11.5	N 9 49.4	14.2	58.5	Ankaa	353 09.4	S42 11.3
15	47 51.0	S 4 35.3	68 15.7	11.5	N 9 35.1	14.3	58.5			
16	62 51.2	S 4 36.3	82 46.2	11.5	N 9 20.7	14.4	58.5	Antares	112 19.4	S26 28.8
17	77 51.4	S 4 37.2	97 16.7	11.5	N 9 06.3	14.4	58.6	Arcturus	145 50.7	N19 04.4
								Atria	107 16.3	S69 04.2
18	92 51.6	S 4 38.2	111 47.2	11.5	N 8 51.8	14.5	58.6	Avior	234 16.0	S59 34.4
19	107 51.8	S 4 39.2	126 17.7	11.5	N 8 37.2	14.6	58.6	Bellatrix	278 25.6	N 6 22.2
20	122 52.0	S 4 40.1	140 48.1	11.5	N 8 22.6	14.6	58.6			
21	137 52.2	S 4 41.1	155 18.6	11.5	N 8 07.9	14.7	58.7	Betelgeuse	270 54.9	N 7 24.8
22	152 52.4	S 4 42.0	169 49.1	11.5	N 7 53.2	14.7	58.7	Canopus	263 53.5	S52 42.1
23	167 52.6	S 4 43.0	184 19.6	11.5	N 7 38.4	14.8	58.7	Capella	280 25.7	N46 01.1
5 0	182 52.7	S 4 44.0	198 50.1	11.5	N 7 23.6	14.9	58.8	Castor	246 00.5	N31 50.4
1	197 52.9	S 4 44.9	213 20.6	11.5	N 7 08.6	14.9	58.8	Deneb	49 27.4	N45 21.7
2	212 53.1	S 4 45.9	227 51.1	11.5	N 6 53.7	15.0	58.8			
3	227 53.3	S 4 46.9	242 21.6	11.5	N 6 38.7	15.0	58.9	Denebola	182 28.0	N14 27.2
4	242 53.5	S 4 47.8	256 52.1	11.5	N 6 23.6	15.1	58.9	Diphda	348 49.7	S17 52.0
T 5	257 53.7	S 4 48.8	271 22.6	11.5	N 6 08.5	15.1	58.9	Dubhe	193 44.9	N61 38.0
U								Elnath	278 05.2	N28 37.5
E 6	272 53.9	S 4 49.7	285 53.1	11.5	N 5 53.3	15.2	59.0	Eltanin	90 43.6	N51 29.4
S 7	287 54.0	S 4 50.7	300 23.6	11.5	N 5 38.1	15.2	59.0			
D 8	302 54.2	S 4 51.7	314 54.0	11.5	N 5 22.9	15.3	59.0	Enif	33 41.2	N 9 58.6
A 9	317 54.4	S 4 52.6	329 24.5	11.5	N 5 07.6	15.3	59.1	Fomalhaut	15 17.2	S29 30.5
Y 10	332 54.6	S 4 53.6	343 55.0	11.5	N 4 52.2	15.3	59.1	Gacrux	171 55.2	S57 13.9
11	347 54.8	S 4 54.5	358 25.4	11.5	N 4 36.8	15.4	59.1	Gienah	175 46.7	S17 39.5
								Hadar	148 40.5	S60 28.6
12	2 55.0	S 4 55.5	12 55.8	11.4	N 4 21.4	15.4	59.1			
13	17 55.2	S 4 56.5	27 26.3	11.4	N 4 05.9	15.5	59.2	Hamal	327 53.9	N23 34.0
14	32 55.4	S 4 57.4	41 56.7	11.4	N 3 50.4	15.5	59.2	Kaus Austr.	83 36.2	S34 22.6
15	47 55.5	S 4 58.4	56 27.1	11.4	N 3 34.9	15.5	59.2	Kochab	137 20.9	N74 04.2
16	62 55.7	S 4 59.4	70 57.5	11.4	N 3 19.3	15.6	59.3	Markab	13 32.3	N15 19.4
17	77 55.9	S 5 00.3	85 27.9	11.4	N 3 03.7	15.6	59.3	Menkar	314 08.7	N 4 10.5
								Menkent	148 01.2	S36 28.5
18	92 56.1	S 5 01.3	99 58.2	11.4	N 2 48.1	15.6	59.3	Miaplacidus	221 39.2	S69 48.0
19	107 56.3	S 5 02.2	114 28.6	11.3	N 2 32.4	15.7	59.3	Mirfak	308 31.7	N49 56.2
20	122 56.5	S 5 03.2	128 58.9	11.3	N 2 16.7	15.7	59.4	Nunki	75 51.1	S26 16.2
21	137 56.6	S 5 04.2	143 29.2	11.3	N 2 01.0	15.7	59.4	Peacock	53 09.7	S56 40.1
22	152 56.8	S 5 05.1	157 59.5	11.3	N 1 45.3	15.7	59.4			
23	167 57.0	S 5 06.1	172 29.8	11.3	N 1 29.5	15.8	59.4	Polaris	316 55.7	N89 20.4
6 0	182 57.2	S 5 07.0	187 00.1	11.3	N 1 13.7	15.8	59.5	Pollux	243 20.7	N27 58.4
1	197 57.4	S 5 08.0	201 30.3	11.2	N 0 57.9	15.8	59.5	Procyon	244 53.7	N 5 10.3
2	212 57.6	S 5 09.0	216 00.5	11.2	N 0 42.1	15.8	59.5	Rasalhague	96 01.2	N12 32.9
3	227 57.7	S 5 09.9	230 30.7	11.2	N 0 26.2	15.8	59.5	Regulus	207 37.5	N11 51.8
4	242 57.9	S 5 10.9	245 00.9	11.2	N 0 10.4	15.9	59.6			
W 5	257 58.1	S 5 11.8	259 31.0	11.1	S 0 05.5	15.9	59.6	Rigel	281 06.3	S 8 10.4
E								Rigil Kent	139 44.7	S60 55.5
D 6	272 58.3	S 5 12.8	274 01.1	11.1	S 0 21.4	15.9	59.6	Sabik	102 06.0	S15 45.1
N 7	287 58.5	S 5 13.7	288 31.2	11.1	S 0 37.3	15.9	59.6	Schedar	349 33.5	N56 39.4
E 8	302 58.7	S 5 14.7	303 01.2	11.1	S 0 53.2	15.9	59.7	Shaula	96 14.2	S37 07.2
S 9	317 58.8	S 5 15.7	317 31.3	11.0	S 1 09.1	15.9	59.7	Sirius	258 28.6	S16 44.5
D 10	332 59.0	S 5 16.6	332 01.3	11.0	S 1 25.1	15.9	59.7	Spica	158 25.5	S11 16.3
A 11	347 59.2	S 5 17.6	346 31.2	11.0	S 1 41.0	15.9	59.7	Suhail	222 48.5	S43 30.9
Y								Vega	80 35.1	N38 48.5
12	2 59.4	S 5 18.5	1 01.1	10.9	S 1 56.9	15.9	59.8	Zuben-ubi	137 00.1	S16 07.8
13	17 59.6	S 5 19.5	15 31.0	10.9	S 2 12.9	15.9	59.8			
14	32 59.8	S 5 20.5	30 00.9	10.9	S 2 28.8	15.9	59.8			
15	47 59.9	S 5 21.4	44 30.7	10.8	S 2 44.7	15.9	59.8			
16	63 00.1	S 5 22.4	59 00.5	10.8	S 3 00.7	15.9	59.8			
17	78 00.3	S 5 23.3	73 30.3	10.8	S 3 16.6	15.9	59.9			
18	93 00.5	S 5 24.3	87 60.0	10.7	S 3 32.5	15.9	59.9			
19	108 00.7	S 5 25.2	102 29.6	10.7	S 3 48.4	15.9	59.9			
20	123 00.8	S 5 26.2	116 59.3	10.6	S 4 04.3	15.9	59.9			
21	138 01.0	S 5 27.2	131 28.9	10.6	S 4 20.2	15.9	59.9			
22	153 01.2	S 5 28.1	145 58.4	10.5	S 4 36.1	15.9	60.0			
23	168 01.4	S 5 29.1	160 27.9	10.5	S 4 51.9	15.9	60.0			
	S.D. 16.0	d 1.0	S.D.	15.9	16.1	16.3				

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
7 0	15 51.6	139 10.8	S22 33.3	182 24.8	S 5 02.4	50 34.4	S15 06.3	66 21.2	S19 20.5
1	30 54.1	154 10.4	S22 34.0	197 25.7	S 5 03.1	65 36.9	S15 06.3	81 23.7	S19 20.5
2	45 56.5	169 10.1	S22 34.8	212 26.7	S 5 03.8	80 39.5	S15 06.4	96 26.2	S19 20.5
3	60 59.0	184 09.7	S22 35.5	227 27.6	S 5 04.4	95 42.1	S15 06.4	111 28.7	S19 20.5
4	76 01.5	199 09.3	S22 36.3	242 28.6	S 5 05.1	110 44.6	S15 06.4	126 31.1	S19 20.5
T 5	91 03.9	214 08.9	S22 37.0	257 29.5	S 5 05.7	125 47.2	S15 06.4	141 33.6	S19 20.5
H									
U 6	106 06.4	229 08.5	S22 37.8	272 30.5	S 5 06.4	140 49.7	S15 06.5	156 36.1	S19 20.5
R 7	121 08.9	244 08.1	S22 38.5	287 31.4	S 5 07.0	155 52.3	S15 06.5	171 38.6	S19 20.5
S 8	136 11.3	259 07.7	S22 39.3	302 32.4	S 5 07.7	170 54.8	S15 06.5	186 41.1	S19 20.5
D 9	151 13.8	274 07.3	S22 40.0	317 33.3	S 5 08.3	185 57.4	S15 06.5	201 43.5	S19 20.5
A 10	166 16.3	289 06.9	S22 40.7	332 34.3	S 5 09.0	200 59.9	S15 06.6	216 46.0	S19 20.5
Y 11	181 18.7	304 06.5	S22 41.5	347 35.2	S 5 09.6	216 02.5	S15 06.6	231 48.5	S19 20.5
12	196 21.2	319 06.1	S22 42.2	2 36.2	S 5 10.3	231 05.1	S15 06.6	246 51.0	S19 20.5
13	211 23.6	334 05.7	S22 43.0	17 37.1	S 5 10.9	246 07.6	S15 06.6	261 53.5	S19 20.5
14	226 26.1	349 05.3	S22 43.7	32 38.1	S 5 11.6	261 10.2	S15 06.7	276 55.9	S19 20.5
15	241 28.6	4 04.9	S22 44.4	47 39.0	S 5 12.2	276 12.7	S15 06.7	291 58.4	S19 20.5
16	256 31.0	19 04.5	S22 45.2	62 40.0	S 5 12.9	291 15.3	S15 06.7	307 00.9	S19 20.5
17	271 33.5	34 04.1	S22 45.9	77 40.9	S 5 13.5	306 17.8	S15 06.7	322 03.4	S19 20.5
18	286 36.0	49 03.7	S22 46.7	92 41.9	S 5 14.2	321 20.4	S15 06.8	337 05.9	S19 20.5
19	301 38.4	64 03.3	S22 47.4	107 42.8	S 5 14.9	336 22.9	S15 06.8	352 08.3	S19 20.5
20	316 40.9	79 02.9	S22 48.1	122 43.8	S 5 15.5	351 25.5	S15 06.8	7 10.8	S19 20.5
21	331 43.4	94 02.5	S22 48.9	137 44.7	S 5 16.2	6 28.0	S15 06.8	22 13.3	S19 20.5
22	346 45.8	109 02.1	S22 49.6	152 45.7	S 5 16.8	21 30.6	S15 06.9	37 15.8	S19 20.6
23	1 48.3	124 01.7	S22 50.3	167 46.6	S 5 17.5	36 33.1	S15 06.9	52 18.2	S19 20.6
8 0	16 50.8	139 01.3	S22 51.0	182 47.6	S 5 18.1	51 35.7	S15 06.9	67 20.7	S19 20.6
1	31 53.2	154 00.9	S22 51.8	197 48.5	S 5 18.8	66 38.2	S15 06.9	82 23.2	S19 20.6
2	46 55.7	169 00.5	S22 52.5	212 49.5	S 5 19.4	81 40.8	S15 07.0	97 25.7	S19 20.6
3	61 58.1	184 00.1	S22 53.2	227 50.4	S 5 20.1	96 43.3	S15 07.0	112 28.2	S19 20.6
4	77 00.6	198 59.7	S22 54.0	242 51.3	S 5 20.7	111 45.9	S15 07.0	127 30.6	S19 20.6
F 5	92 03.1	213 59.3	S22 54.7	257 52.3	S 5 21.4	126 48.4	S15 07.0	142 33.1	S19 20.6
R									
I 6	107 05.5	228 58.9	S22 55.4	272 53.2	S 5 22.0	141 51.0	S15 07.1	157 35.6	S19 20.6
D 7	122 08.0	243 58.5	S22 56.1	287 54.2	S 5 22.7	156 53.5	S15 07.1	172 38.1	S19 20.6
A 8	137 10.5	258 58.1	S22 56.8	302 55.1	S 5 23.3	171 56.1	S15 07.1	187 40.5	S19 20.6
Y 9	152 12.9	273 57.7	S22 57.6	317 56.1	S 5 24.0	186 58.6	S15 07.1	202 43.0	S19 20.6
10	167 15.4	288 57.3	S22 58.3	332 57.0	S 5 24.6	202 01.1	S15 07.1	217 45.5	S19 20.6
11	182 17.9	303 56.9	S22 59.0	347 58.0	S 5 25.3	217 03.7	S15 07.2	232 48.0	S19 20.6
12	197 20.3	318 56.5	S22 59.7	2 58.9	S 5 25.9	232 06.2	S15 07.2	247 50.4	S19 20.6
13	212 22.8	333 56.1	S23 00.4	17 59.9	S 5 26.6	247 08.8	S15 07.2	262 52.9	S19 20.6
14	227 25.3	348 55.7	S23 01.2	33 00.8	S 5 27.2	262 11.3	S15 07.2	277 55.4	S19 20.6
15	242 27.7	3 55.3	S23 01.9	48 01.8	S 5 27.9	277 13.9	S15 07.3	292 57.9	S19 20.6
16	257 30.2	18 54.9	S23 02.6	63 02.7	S 5 28.5	292 16.4	S15 07.3	308 00.3	S19 20.6
17	272 32.6	33 54.5	S23 03.3	78 03.6	S 5 29.2	307 19.0	S15 07.3	323 02.8	S19 20.6
18	287 35.1	48 54.1	S23 04.0	93 04.6	S 5 29.8	322 21.5	S15 07.3	338 05.3	S19 20.6
19	302 37.6	63 53.6	S23 04.7	108 05.5	S 5 30.5	337 24.0	S15 07.3	353 07.8	S19 20.6
20	317 40.0	78 53.2	S23 05.4	123 06.5	S 5 31.2	352 26.6	S15 07.4	8 10.2	S19 20.6
21	332 42.5	93 52.8	S23 06.2	138 07.4	S 5 31.8	7 29.1	S15 07.4	23 12.7	S19 20.6
22	347 45.0	108 52.4	S23 06.9	153 08.4	S 5 32.5	22 31.7	S15 07.4	38 15.2	S19 20.6
23	2 47.4	123 52.0	S23 07.6	168 09.3	S 5 33.1	37 34.2	S15 07.4	53 17.7	S19 20.6
9 0	17 49.9	138 51.6	S23 08.3	183 10.3	S 5 33.8	52 36.8	S15 07.4	68 20.1	S19 20.6
1	32 52.4	153 51.2	S23 09.0	198 11.2	S 5 34.4	67 39.3	S15 07.5	83 22.6	S19 20.6
2	47 54.8	168 50.8	S23 09.7	213 12.1	S 5 35.1	82 41.8	S15 07.5	98 25.1	S19 20.6
3	62 57.3	183 50.4	S23 10.4	228 13.1	S 5 35.7	97 44.4	S15 07.5	113 27.6	S19 20.6
4	77 59.7	198 50.0	S23 11.1	243 14.0	S 5 36.4	112 46.9	S15 07.5	128 30.0	S19 20.6
S 5	93 02.2	213 49.6	S23 11.8	258 15.0	S 5 37.0	127 49.5	S15 07.5	143 32.5	S19 20.6
A									
T 6	108 04.7	228 49.2	S23 12.5	273 15.9	S 5 37.7	142 52.0	S15 07.6	158 35.0	S19 20.6
U 7	123 07.1	243 48.8	S23 13.2	288 16.9	S 5 38.3	157 54.5	S15 07.6	173 37.4	S19 20.6
R 8	138 09.6	258 48.4	S23 13.9	303 17.8	S 5 39.0	172 57.1	S15 07.6	188 39.9	S19 20.6
D 9	153 12.1	273 48.0	S23 14.6	318 18.8	S 5 39.6	187 59.6	S15 07.6	203 42.4	S19 20.6
A 10	168 14.5	288 47.6	S23 15.3	333 19.7	S 5 40.3	203 02.2	S15 07.6	218 44.9	S19 20.6
Y 11	183 17.0	303 47.2	S23 16.0	348 20.6	S 5 40.9	218 04.7	S15 07.7	233 47.3	S19 20.6
12	198 19.5	318 46.8	S23 16.7	3 21.6	S 5 41.6	233 07.2	S15 07.7	248 49.8	S19 20.6
13	213 21.9	333 46.4	S23 17.4	18 22.5	S 5 42.2	248 09.8	S15 07.7	263 52.3	S19 20.6
14	228 24.4	348 46.0	S23 18.1	33 23.5	S 5 42.9	263 12.3	S15 07.7	278 54.7	S19 20.6
15	243 26.9	3 45.5	S23 18.8	48 24.4	S 5 43.5	278 14.8	S15 07.7	293 57.2	S19 20.7
16	258 29.3	18 45.1	S23 19.5	63 25.4	S 5 44.2	293 17.4	S15 07.8	308 59.7	S19 20.7
17	273 31.8	33 44.7	S23 20.2	78 26.3	S 5 44.8	308 19.9	S15 07.8	324 02.2	S19 20.7
18	288 34.2	48 44.3	S23 20.9	93 27.2	S 5 45.5	323 22.4	S15 07.8	339 04.6	S19 20.7
19	303 36.7	63 43.9	S23 21.5	108 28.2	S 5 46.1	338 25.0	S15 07.8	354 07.1	S19 20.7
20	318 39.2	78 43.5	S23 22.2	123 29.1	S 5 46.8	353 27.5	S15 07.8	9 09.6	S19 20.7
21	333 41.6	93 43.1	S23 22.9	138 30.1	S 5 47.4	8 30.0	S15 07.9	24 12.0	S19 20.7
22	348 44.1	108 42.7	S23 23.6	153 31.0	S 5 48.1	23 32.6	S15 07.9	39 14.5	S19 20.7
23	3 46.6	123 42.3	S23 24.3	168 32.0	S 5 48.7	38 35.1	S15 07.9	54 17.0	S19 20.7
		v -0.4	d 0.7	v 0.9	d 0.7	v 2.5	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
7	0	183 01.6	S 5 30.0	174 57.4	10.5	S 5 07.8	15.8	60.0
	1	198 01.7	S 5 31.0	189 26.8	10.4	S 5 23.6	15.8	60.0
	2	213 01.9	S 5 31.9	203 56.2	10.4	S 5 39.4	15.8	60.0
	3	228 02.1	S 5 32.9	218 25.5	10.3	S 5 55.2	15.8	60.0
	4	243 02.3	S 5 33.9	232 54.8	10.3	S 6 10.9	15.8	60.1
T	5	258 02.5	S 5 34.8	247 24.0	10.2	S 6 26.6	15.7	60.1
H								
U	6	273 02.6	S 5 35.8	261 53.1	10.2	S 6 42.3	15.7	60.1
R	7	288 02.8	S 5 36.7	276 22.3	10.1	S 6 58.0	15.7	60.1
S	8	303 03.0	S 5 37.7	290 51.3	10.1	S 7 13.6	15.6	60.1
D	9	318 03.2	S 5 38.6	305 20.4	10.0	S 7 29.2	15.6	60.1
A	10	333 03.3	S 5 39.6	319 49.3	10.0	S 7 44.8	15.6	60.1
Y	11	348 03.5	S 5 40.5	334 18.2	9.9	S 8 00.3	15.5	60.2
	12	3 03.7	S 5 41.5	348 47.1	9.9	S 8 15.8	15.5	60.2
	13	18 03.9	S 5 42.5	3 15.9	9.8	S 8 31.3	15.5	60.2
	14	33 04.1	S 5 43.4	17 44.6	9.7	S 8 46.7	15.4	60.2
	15	48 04.2	S 5 44.4	32 13.3	9.7	S 9 02.1	15.4	60.2
	16	63 04.4	S 5 45.3	46 41.9	9.6	S 9 17.4	15.3	60.2
	17	78 04.6	S 5 46.3	61 10.5	9.6	S 9 32.6	15.3	60.2
	18	93 04.8	S 5 47.2	75 39.0	9.5	S 9 47.9	15.2	60.2
	19	108 04.9	S 5 48.2	90 07.4	9.4	S10 03.0	15.2	60.2
	20	123 05.1	S 5 49.1	104 35.8	9.4	S10 18.1	15.1	60.2
	21	138 05.3	S 5 50.1	119 04.1	9.3	S10 33.2	15.1	60.3
	22	153 05.5	S 5 51.0	133 32.4	9.3	S10 48.2	15.0	60.3
	23	168 05.6	S 5 52.0	148 00.6	9.2	S11 03.1	14.9	60.3
8	0	183 05.8	S 5 53.0	162 28.7	9.1	S11 18.0	14.9	60.3
	1	198 06.0	S 5 53.9	176 56.7	9.1	S11 32.8	14.8	60.3
	2	213 06.2	S 5 54.9	191 24.7	9.0	S11 47.6	14.8	60.3
	3	228 06.3	S 5 55.8	205 52.7	8.9	S12 02.3	14.7	60.3
	4	243 06.5	S 5 56.8	220 20.5	8.9	S12 16.9	14.6	60.3
F	5	258 06.7	S 5 57.7	234 48.3	8.8	S12 31.4	14.5	60.3
R								
I	6	273 06.9	S 5 58.7	249 16.0	8.7	S12 45.9	14.5	60.3
D	7	288 07.0	S 5 59.6	263 43.7	8.6	S13 00.3	14.4	60.3
A	8	303 07.2	S 6 00.6	278 11.3	8.6	S13 14.6	14.3	60.3
Y	9	318 07.4	S 6 01.5	292 38.8	8.5	S13 28.9	14.2	60.3
	10	333 07.6	S 6 02.5	307 06.2	8.4	S13 43.1	14.2	60.3
	11	348 07.7	S 6 03.4	321 33.6	8.4	S13 57.1	14.1	60.3
	12	3 07.9	S 6 04.4	336 00.9	8.3	S14 11.2	14.0	60.3
	13	18 08.1	S 6 05.3	350 28.1	8.2	S14 25.1	13.9	60.3
	14	33 08.3	S 6 06.3	4 55.2	8.1	S14 38.9	13.8	60.3
	15	48 08.4	S 6 07.2	19 22.3	8.1	S14 52.6	13.7	60.3
	16	63 08.6	S 6 08.2	33 49.3	8.0	S15 06.3	13.7	60.3
	17	78 08.8	S 6 09.2	48 16.2	7.9	S15 19.9	13.6	60.3
	18	93 08.9	S 6 10.1	62 43.1	7.9	S15 33.3	13.5	60.3
	19	108 09.1	S 6 11.1	77 09.8	7.8	S15 46.7	13.4	60.3
	20	123 09.3	S 6 12.0	91 36.5	7.7	S15 60.0	13.3	60.3
	21	138 09.5	S 6 13.0	106 03.2	7.6	S16 13.1	13.2	60.3
	22	153 09.6	S 6 13.9	120 29.7	7.6	S16 26.2	13.1	60.3
	23	168 09.8	S 6 14.9	134 56.2	7.5	S16 39.2	13.0	60.3
9	0	183 10.0	S 6 15.8	149 22.6	7.4	S16 52.0	12.9	60.3
	1	198 10.1	S 6 16.8	163 48.9	7.3	S17 04.8	12.8	60.3
	2	213 10.3	S 6 17.7	178 15.2	7.2	S17 17.4	12.6	60.3
	3	228 10.5	S 6 18.7	192 41.3	7.2	S17 30.0	12.5	60.3
	4	243 10.7	S 6 19.6	207 07.4	7.1	S17 42.4	12.4	60.3
S	5	258 10.8	S 6 20.6	221 33.5	7.0	S17 54.7	12.3	60.3
A								
T	6	273 11.0	S 6 21.5	235 59.4	6.9	S18 06.9	12.2	60.3
U	7	288 11.2	S 6 22.5	250 25.3	6.9	S18 18.9	12.1	60.3
R	8	303 11.3	S 6 23.4	264 51.1	6.8	S18 30.9	12.0	60.3
D	9	318 11.5	S 6 24.4	279 16.8	6.7	S18 42.7	11.8	60.3
A	10	333 11.7	S 6 25.3	293 42.4	6.6	S18 54.4	11.7	60.3
Y	11	348 11.8	S 6 26.3	308 08.0	6.6	S19 06.0	11.6	60.3
	12	3 12.0	S 6 27.2	322 33.5	6.5	S19 17.5	11.5	60.3
	13	18 12.2	S 6 28.1	336 58.9	6.4	S19 28.8	11.3	60.3
	14	33 12.4	S 6 29.1	351 24.2	6.3	S19 40.0	11.2	60.3
	15	48 12.5	S 6 30.0	5 49.5	6.3	S19 51.1	11.1	60.3
	16	63 12.7	S 6 31.0	20 14.7	6.2	S20 02.1	10.9	60.2
	17	78 12.9	S 6 31.9	34 39.8	6.1	S20 12.9	10.8	60.2
	18	93 13.0	S 6 32.9	49 04.9	6.1	S20 23.5	10.7	60.2
	19	108 13.2	S 6 33.8	63 29.9	6.0	S20 34.1	10.5	60.2
	20	123 13.4	S 6 34.8	77 54.8	5.9	S20 44.5	10.4	60.2
	21	138 13.5	S 6 35.7	92 19.6	5.8	S20 54.7	10.3	60.2
	22	153 13.7	S 6 36.7	106 44.4	5.8	S21 04.8	10.1	60.2
	23	168 13.9	S 6 37.6	121 09.1	5.7	S21 14.8	10.0	60.2
		S.D. 16.0	d 1.0	S.D.	16.4	16.4	16.4	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.4	S40 12.9
Achernar	335 21.6	S57 07.6
Acrux	173 03.8	S63 12.9
Adhara	255 08.0	S28 59.8
Albireo	67 06.2	N28 00.5
Aldebaran	290 42.5	N16 33.2
Alioth	166 15.9	N55 50.7
Alkaid	152 54.6	N49 12.5
Al Na-ir	27 35.9	S46 51.5
Alnilam	275 40.3	S 1 11.1
Alphard	217 50.5	S 8 44.9
Alphecca	126 06.3	N26 38.7
Alpheratz	357 37.2	N29 12.7
Altair	62 02.5	N 8 55.7
Ankaa	353 09.4	S42 11.3
Antares	112 19.4	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.4	S69 04.2
Avior	234 16.0	S59 34.4
Bellatrix	278 25.6	N 6 22.2
Betelgeuse	270 54.9	N 7 24.8
Canopus	263 53.5	S52 42.1
Capella	280 25.7	N46 01.1
Castor	246 00.5	N31 50.4
Deneb	49 27.4	N45 21.7
Denebola	182 28.0	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.9	N61 38.0
Elnath	278 05.1	N28 37.5
Eltanin	90 43.6	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.2	S57 13.9
Gienah	175 46.7	S17 39.5
Hadar	148 40.5	S60 28.6
Hamal	327 53.9	N23 34.0
Kaus Austr.	83 36.2	S34 22.6
Kochab	137 21.0	N74 04.2
Markab	13 32.3	N15 19.4
Menkar	314 08.7	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.2	S69 48.0
Mirfak	308 31.7	N49 56.2
Nunki	75 51.1	S26 16.2
Peacock	53 09.7	S56 40.1
Polaris	316 55.1	N89 20.4
Pollux	243 20.6	N27 58.4
Procyon	244 53.7	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.5	N11 51.8
Rigel	281 06.3	S 8 10.4
Rigil Kent	139 44.7	S60 55.5
Sabik	102 06.0	S15 45.0
Schedar	349 33.5	N56 39.4
Shaula	96 14.2	S37 07.2
Sirius	258 28.6	S16 44.5
Spica	158 25.5	S11 16.3
Suhail	222 48.5	S43 30.8
Vega	80 35.1	N38 48.5
Zuben-ubi	137 00.1	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
10 0	18 49.0	138 41.9	S23 25.0	183 32.9	S 5 49.4	53 37.6	S15 07.9	69 19.4	S19 20.7
1	33 51.5	153 41.5	S23 25.7	198 33.8	S 5 50.0	68 40.2	S15 07.9	84 21.9	S19 20.7
2	48 54.0	168 41.1	S23 26.3	213 34.8	S 5 50.7	83 42.7	S15 07.9	99 24.4	S19 20.7
3	63 56.4	183 40.7	S23 27.0	228 35.7	S 5 51.3	98 45.2	S15 08.0	114 26.8	S19 20.7
4	78 58.9	198 40.3	S23 27.7	243 36.7	S 5 52.0	113 47.8	S15 08.0	129 29.3	S19 20.7
S 5	94 01.4	213 39.8	S23 28.4	258 37.6	S 5 52.6	128 50.3	S15 08.0	144 31.8	S19 20.7
U									
N 6	109 03.8	228 39.4	S23 29.1	273 38.5	S 5 53.3	143 52.8	S15 08.0	159 34.3	S19 20.7
D 7	124 06.3	243 39.0	S23 29.7	288 39.5	S 5 53.9	158 55.4	S15 08.0	174 36.7	S19 20.7
A 8	139 08.7	258 38.6	S23 30.4	303 40.4	S 5 54.6	173 57.9	S15 08.0	189 39.2	S19 20.7
Y 9	154 11.2	273 38.2	S23 31.1	318 41.4	S 5 55.2	189 00.4	S15 08.1	204 41.7	S19 20.7
10	169 13.7	288 37.8	S23 31.8	333 42.3	S 5 55.9	204 03.0	S15 08.1	219 44.1	S19 20.7
11	184 16.1	303 37.4	S23 32.4	348 43.3	S 5 56.5	219 05.5	S15 08.1	234 46.6	S19 20.7
12	199 18.6	318 37.0	S23 33.1	3 44.2	S 5 57.2	234 08.0	S15 08.1	249 49.1	S19 20.7
13	214 21.1	333 36.6	S23 33.8	18 45.1	S 5 57.8	249 10.6	S15 08.1	264 51.5	S19 20.7
14	229 23.5	348 36.2	S23 34.5	33 46.1	S 5 58.5	264 13.1	S15 08.1	279 54.0	S19 20.7
15	244 26.0	3 35.8	S23 35.1	48 47.0	S 5 59.1	279 15.6	S15 08.2	294 56.5	S19 20.7
16	259 28.5	18 35.3	S23 35.8	63 48.0	S 5 59.8	294 18.1	S15 08.2	309 58.9	S19 20.7
17	274 30.9	33 34.9	S23 36.5	78 48.9	S 6 00.4	309 20.7	S15 08.2	325 01.4	S19 20.7
18	289 33.4	48 34.5	S23 37.1	93 49.8	S 6 01.1	324 23.2	S15 08.2	340 03.9	S19 20.7
19	304 35.8	63 34.1	S23 37.8	108 50.8	S 6 01.7	339 25.7	S15 08.2	355 06.3	S19 20.7
20	319 38.3	78 33.7	S23 38.5	123 51.7	S 6 02.4	354 28.2	S15 08.2	10 08.8	S19 20.7
21	334 40.8	93 33.3	S23 39.1	138 52.7	S 6 03.0	9 30.8	S15 08.3	25 11.3	S19 20.7
22	349 43.2	108 32.9	S23 39.8	153 53.6	S 6 03.7	24 33.3	S15 08.3	40 13.7	S19 20.7
23	4 45.7	123 32.5	S23 40.5	168 54.5	S 6 04.3	39 35.8	S15 08.3	55 16.2	S19 20.7
11 0	19 48.2	138 32.1	S23 41.1	183 55.5	S 6 05.0	54 38.3	S15 08.3	70 18.6	S19 20.7
1	34 50.6	153 31.7	S23 41.8	198 56.4	S 6 05.6	69 40.9	S15 08.3	85 21.1	S19 20.7
2	49 53.1	168 31.2	S23 42.5	213 57.3	S 6 06.3	84 43.4	S15 08.3	100 23.6	S19 20.7
3	64 55.6	183 30.8	S23 43.1	228 58.3	S 6 06.9	99 45.9	S15 08.3	115 26.0	S19 20.7
4	79 58.0	198 30.4	S23 43.8	243 59.2	S 6 07.5	114 48.4	S15 08.4	130 28.5	S19 20.7
M 5	95 00.5	213 30.0	S23 44.4	259 00.2	S 6 08.2	129 51.0	S15 08.4	145 31.0	S19 20.7
O									
N 6	110 03.0	228 29.6	S23 45.1	274 01.1	S 6 08.8	144 53.5	S15 08.4	160 33.4	S19 20.7
D 7	125 05.4	243 29.2	S23 45.7	289 02.0	S 6 09.5	159 56.0	S15 08.4	175 35.9	S19 20.7
A 8	140 07.9	258 28.8	S23 46.4	304 03.0	S 6 10.1	174 58.5	S15 08.4	190 38.4	S19 20.7
Y 9	155 10.3	273 28.4	S23 47.0	319 03.9	S 6 10.8	190 01.1	S15 08.4	205 40.8	S19 20.7
10	170 12.8	288 28.0	S23 47.7	334 04.9	S 6 11.4	205 03.6	S15 08.4	220 43.3	S19 20.7
11	185 15.3	303 27.5	S23 48.3	349 05.8	S 6 12.1	220 06.1	S15 08.5	235 45.7	S19 20.7
12	200 17.7	318 27.1	S23 49.0	4 06.7	S 6 12.7	235 08.6	S15 08.5	250 48.2	S19 20.7
13	215 20.2	333 26.7	S23 49.7	19 07.7	S 6 13.4	250 11.1	S15 08.5	265 50.7	S19 20.7
14	230 22.7	348 26.3	S23 50.3	34 08.6	S 6 14.0	265 13.7	S15 08.5	280 53.1	S19 20.7
15	245 25.1	3 25.9	S23 50.9	49 09.5	S 6 14.7	280 16.2	S15 08.5	295 55.6	S19 20.7
16	260 27.6	18 25.5	S23 51.6	64 10.5	S 6 15.3	295 18.7	S15 08.5	310 58.1	S19 20.7
17	275 30.1	33 25.1	S23 52.2	79 11.4	S 6 16.0	310 21.2	S15 08.5	326 00.5	S19 20.7
18	290 32.5	48 24.7	S23 52.9	94 12.4	S 6 16.6	325 23.7	S15 08.6	341 03.0	S19 20.7
19	305 35.0	63 24.3	S23 53.5	109 13.3	S 6 17.3	340 26.3	S15 08.6	356 05.4	S19 20.7
20	320 37.5	78 23.8	S23 54.2	124 14.2	S 6 17.9	355 28.8	S15 08.6	11 07.9	S19 20.7
21	335 39.9	93 23.4	S23 54.8	139 15.2	S 6 18.6	10 31.3	S15 08.6	26 10.4	S19 20.7
22	350 42.4	108 23.0	S23 55.5	154 16.1	S 6 19.2	25 33.8	S15 08.6	41 12.8	S19 20.7
23	5 44.8	123 22.6	S23 56.1	169 17.0	S 6 19.9	40 36.3	S15 08.6	56 15.3	S19 20.7
12 0	20 47.3	138 22.2	S23 56.7	184 18.0	S 6 20.5	55 38.9	S15 08.6	71 17.7	S19 20.7
1	35 49.8	153 21.8	S23 57.4	199 18.9	S 6 21.2	70 41.4	S15 08.6	86 20.2	S19 20.7
2	50 52.2	168 21.4	S23 58.0	214 19.9	S 6 21.8	85 43.9	S15 08.7	101 22.7	S19 20.7
3	65 54.7	183 21.0	S23 58.6	229 20.8	S 6 22.4	100 46.4	S15 08.7	116 25.1	S19 20.7
4	80 57.2	198 20.5	S23 59.3	244 21.7	S 6 23.1	115 48.9	S15 08.7	131 27.6	S19 20.7
T 5	95 59.6	213 20.1	S23 59.9	259 22.7	S 6 23.7	130 51.4	S15 08.7	146 30.0	S19 20.7
U									
E 6	111 02.1	228 19.7	S24 00.5	274 23.6	S 6 24.4	145 53.9	S15 08.7	161 32.5	S19 20.7
S 7	126 04.6	243 19.3	S24 01.2	289 24.5	S 6 25.0	160 56.5	S15 08.7	176 35.0	S19 20.7
D 8	141 07.0	258 18.9	S24 01.8	304 25.5	S 6 25.7	175 59.0	S15 08.7	191 37.4	S19 20.7
A 9	156 09.5	273 18.5	S24 02.4	319 26.4	S 6 26.3	191 01.5	S15 08.7	206 39.9	S19 20.7
Y 10	171 12.0	288 18.1	S24 03.1	334 27.3	S 6 27.0	206 04.0	S15 08.7	221 42.3	S19 20.6
11	186 14.4	303 17.6	S24 03.7	349 28.3	S 6 27.6	221 06.5	S15 08.8	236 44.8	S19 20.6
12	201 16.9	318 17.2	S24 04.3	4 29.2	S 6 28.3	236 09.0	S15 08.8	251 47.3	S19 20.6
13	216 19.3	333 16.8	S24 05.0	19 30.1	S 6 28.9	251 11.5	S15 08.8	266 49.7	S19 20.6
14	231 21.8	348 16.4	S24 05.6	34 31.1	S 6 29.6	266 14.1	S15 08.8	281 52.2	S19 20.6
15	246 24.3	3 16.0	S24 06.2	49 32.0	S 6 30.2	281 16.6	S15 08.8	296 54.6	S19 20.6
16	261 26.7	18 15.6	S24 06.8	64 32.9	S 6 30.9	296 19.1	S15 08.8	311 57.1	S19 20.6
17	276 29.2	33 15.2	S24 07.4	79 33.9	S 6 31.5	311 21.6	S15 08.8	326 59.5	S19 20.6
18	291 31.7	48 14.8	S24 08.1	94 34.8	S 6 32.2	326 24.1	S15 08.8	342 02.0	S19 20.6
19	306 34.1	63 14.3	S24 08.7	109 35.7	S 6 32.8	341 26.6	S15 08.8	357 04.5	S19 20.6
20	321 36.6	78 13.9	S24 09.3	124 36.7	S 6 33.4	356 29.1	S15 08.8	12 06.9	S19 20.6
21	336 39.1	93 13.5	S24 09.9	139 37.6	S 6 34.1	11 31.6	S15 08.9	27 09.4	S19 20.6
22	351 41.5	108 13.1	S24 10.5	154 38.6	S 6 34.7	26 34.1	S15 08.9	42 11.8	S19 20.6
23	6 44.0	123 12.7	S24 11.2	169 39.5	S 6 35.4	41 36.6	S15 08.9	57 14.3	S19 20.6
		v -0.4	d 0.7	v 0.9	d 0.6	v 2.5	d 0.0	v 2.5	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
10	0	183 14.0	S 6 38.6	135 33.7	5.6	S21 24.6	9.8	60.2
	1	198 14.2	S 6 39.5	149 58.3	5.6	S21 34.3	9.7	60.2
	2	213 14.4	S 6 40.5	164 22.8	5.5	S21 43.9	9.5	60.1
	3	228 14.5	S 6 41.4	178 47.2	5.4	S21 53.2	9.4	60.1
	4	243 14.7	S 6 42.4	193 11.6	5.4	S22 02.5	9.2	60.1
S	5	258 14.9	S 6 43.3	207 35.9	5.3	S22 11.6	9.1	60.1
U								
N	6	273 15.0	S 6 44.3	222 00.1	5.2	S22 20.5	8.9	60.1
D	7	288 15.2	S 6 45.2	236 24.3	5.2	S22 29.3	8.8	60.1
A	8	303 15.3	S 6 46.1	250 48.4	5.1	S22 37.9	8.6	60.1
Y	9	318 15.5	S 6 47.1	265 12.5	5.1	S22 46.4	8.5	60.1
	10	333 15.7	S 6 48.0	279 36.5	5.0	S22 54.7	8.3	60.0
	11	348 15.8	S 6 49.0	294 00.4	4.9	S23 02.8	8.1	60.0
	12	3 16.0	S 6 49.9	308 24.3	4.9	S23 10.8	8.0	60.0
	13	18 16.2	S 6 50.9	322 48.2	4.8	S23 18.6	7.8	60.0
	14	33 16.3	S 6 51.8	337 12.0	4.8	S23 26.3	7.7	60.0
	15	48 16.5	S 6 52.8	351 35.7	4.7	S23 33.8	7.5	60.0
	16	63 16.7	S 6 53.7	5 59.4	4.7	S23 41.1	7.3	59.9
	17	78 16.8	S 6 54.6	20 23.0	4.6	S23 48.3	7.2	59.9
	18	93 17.0	S 6 55.6	34 46.6	4.6	S23 55.3	7.0	59.9
	19	108 17.1	S 6 56.5	49 10.1	4.5	S24 02.2	6.8	59.9
	20	123 17.3	S 6 57.5	63 33.6	4.5	S24 08.8	6.7	59.9
	21	138 17.5	S 6 58.4	77 57.1	4.5	S24 15.3	6.5	59.9
	22	153 17.6	S 6 59.4	92 20.5	4.4	S24 21.7	6.3	59.8
	23	168 17.8	S 7 00.3	106 43.9	4.4	S24 27.8	6.2	59.8
11	0	183 18.0	S 7 01.3	121 07.2	4.3	S24 33.8	6.0	59.8
	1	198 18.1	S 7 02.2	135 30.5	4.3	S24 39.6	5.8	59.8
	2	213 18.3	S 7 03.1	149 53.7	4.3	S24 45.3	5.6	59.8
	3	228 18.4	S 7 04.1	164 17.0	4.2	S24 50.8	5.5	59.8
	4	243 18.6	S 7 05.0	178 40.2	4.2	S24 56.0	5.3	59.7
M	5	258 18.8	S 7 06.0	193 03.4	4.2	S25 01.2	5.1	59.7
O								
N	6	273 18.9	S 7 06.9	207 26.5	4.1	S25 06.1	4.9	59.7
D	7	288 19.1	S 7 07.8	221 49.6	4.1	S25 10.9	4.8	59.7
A	8	303 19.2	S 7 08.8	236 12.7	4.1	S25 15.5	4.6	59.7
Y	9	318 19.4	S 7 09.7	250 35.8	4.1	S25 19.9	4.4	59.6
	10	333 19.6	S 7 10.7	264 58.9	4.1	S25 24.1	4.2	59.6
	11	348 19.7	S 7 11.6	279 21.9	4.0	S25 28.2	4.1	59.6
	12	3 19.9	S 7 12.6	293 44.9	4.0	S25 32.1	3.9	59.6
	13	18 20.0	S 7 13.5	308 07.9	4.0	S25 35.8	3.7	59.6
	14	33 20.2	S 7 14.4	322 30.9	4.0	S25 39.3	3.5	59.5
	15	48 20.4	S 7 15.4	336 53.9	4.0	S25 42.7	3.3	59.5
	16	63 20.5	S 7 16.3	351 16.9	4.0	S25 45.8	3.2	59.5
	17	78 20.7	S 7 17.3	5 39.9	4.0	S25 48.8	3.0	59.5
	18	93 20.8	S 7 18.2	20 02.9	4.0	S25 51.6	2.8	59.5
	19	108 21.0	S 7 19.1	34 25.9	4.0	S25 54.2	2.6	59.4
	20	123 21.1	S 7 20.1	48 48.8	4.0	S25 56.7	2.4	59.4
	21	138 21.3	S 7 21.0	63 11.8	4.0	S25 59.0	2.3	59.4
	22	153 21.5	S 7 22.0	77 34.8	4.0	S26 01.0	2.1	59.4
	23	168 21.6	S 7 22.9	91 57.8	4.0	S26 03.0	1.9	59.4
12	0	183 21.8	S 7 23.8	106 20.8	4.0	S26 04.7	1.7	59.3
	1	198 21.9	S 7 24.8	120 43.8	4.0	S26 06.2	1.5	59.3
	2	213 22.1	S 7 25.7	135 06.9	4.0	S26 07.6	1.4	59.3
	3	228 22.2	S 7 26.6	149 29.9	4.1	S26 08.8	1.2	59.3
	4	243 22.4	S 7 27.6	163 53.0	4.1	S26 09.8	1.0	59.2
T	5	258 22.6	S 7 28.5	178 16.1	4.1	S26 10.6	0.8	59.2
U								
E	6	273 22.7	S 7 29.5	192 39.2	4.1	S26 11.3	0.6	59.2
S	7	288 22.9	S 7 30.4	207 02.3	4.1	S26 11.7	0.5	59.2
D	8	303 23.0	S 7 31.3	221 25.5	4.2	S26 12.0	0.3	59.2
A	9	318 23.2	S 7 32.3	235 48.7	4.2	S26 12.1	0.1	59.1
Y	10	333 23.3	S 7 33.2	250 11.9	4.2	S26 12.1	0.1	59.1
	11	348 23.5	S 7 34.1	264 35.2	4.3	S26 11.8	0.2	59.1
	12	3 23.6	S 7 35.1	278 58.5	4.3	S26 11.4	0.4	59.1
	13	18 23.8	S 7 36.0	293 21.8	4.3	S26 10.8	0.6	59.0
	14	33 23.9	S 7 37.0	307 45.2	4.4	S26 10.1	0.8	59.0
	15	48 24.1	S 7 37.9	322 08.6	4.4	S26 09.1	0.9	59.0
	16	63 24.3	S 7 38.8	336 32.0	4.5	S26 08.0	1.1	59.0
	17	78 24.4	S 7 39.8	350 55.5	4.5	S26 06.7	1.3	58.9
	18	93 24.6	S 7 40.7	5 19.1	4.5	S26 05.2	1.5	58.9
	19	108 24.7	S 7 41.6	19 42.7	4.6	S26 03.6	1.6	58.9
	20	123 24.9	S 7 42.6	34 06.3	4.6	S26 01.8	1.8	58.9
	21	138 25.0	S 7 43.5	48 30.0	4.7	S25 59.8	2.0	58.9
	22	153 25.2	S 7 44.4	62 53.8	4.8	S25 57.7	2.2	58.8
	23	168 25.3	S 7 45.4	77 17.6	4.8	S25 55.4	2.3	58.8
		S.D. 16.0	d 0.9	S.D. 16.4		16.2		16.1

Name	SHA ° '	Dec ° '
Acamar	315 13.4	S40 12.9
Achernar	335 21.6	S57 07.6
Acrux	173 03.7	S63 12.9
Adhara	255 07.9	S28 59.8
Albireo	67 06.2	N28 00.5
Aldebaran	290 42.5	N16 33.2
Alioth	166 15.9	N55 50.7
Alkaid	152 54.6	N49 12.5
Al Na-ir	27 35.9	S46 51.5
Alnilam	275 40.3	S 1 11.1
Alphard	217 50.5	S 8 44.9
Alphecca	126 06.3	N26 38.7
Alpheratz	357 37.2	N29 12.7
Altair	62 02.5	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.4	S69 04.2
Avior	234 15.9	S59 34.4
Bellatrix	278 25.6	N 6 22.2
Betelgeuse	270 54.9	N 7 24.8
Canopus	263 53.4	S52 42.1
Capella	280 25.6	N46 01.1
Castor	246 00.5	N31 50.4
Deneb	49 27.4	N45 21.7
Denebola	182 28.0	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.9	N61 38.0
Elnath	278 05.1	N28 37.5
Eltanin	90 43.6	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.2	S57 13.9
Gienah	175 46.7	S17 39.5
Hadar	148 40.5	S60 28.6
Hamal	327 53.9	N23 34.0
Kaus Austr.	83 36.2	S34 22.6
Kochab	137 21.0	N74 04.2
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.1	S69 48.0
Mirfak	308 31.7	N49 56.2
Nunki	75 51.1	S26 16.2
Peacock	53 09.7	S56 40.1
Polaris	316 54.4	N89 20.4
Pollux	243 20.6	N27 58.4
Procyon	244 53.7	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.5	N11 51.8
Rigel	281 06.3	S 8 10.4
Rigil Kent	139 44.7	S60 55.5
Sabik	102 06.0	S15 45.0
Schedar	349 33.5	N56 39.4
Shaula	96 14.2	S37 07.2
Sirius	258 28.6	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.4	S43 30.8
Vega	80 35.1	N38 48.5
Zuben-ubi	137 00.1	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
13 0	21 46.4	138 12.3	S24 11.8	184 40.4	S 6 36.0	56 39.2	S15 08.9	72 16.7	S19 20.6
1	36 48.9	153 11.9	S24 12.4	199 41.4	S 6 36.7	71 41.7	S15 08.9	87 19.2	S19 20.6
2	51 51.4	168 11.4	S24 13.0	214 42.3	S 6 37.3	86 44.2	S15 08.9	102 21.7	S19 20.6
3	66 53.8	183 11.0	S24 13.6	229 43.2	S 6 38.0	101 46.7	S15 08.9	117 24.1	S19 20.6
4	81 56.3	198 10.6	S24 14.2	244 44.2	S 6 38.6	116 49.2	S15 08.9	132 26.6	S19 20.6
W 5	96 58.8	213 10.2	S24 14.8	259 45.1	S 6 39.3	131 51.7	S15 08.9	147 29.0	S19 20.6
E									
D 6	112 01.2	228 09.8	S24 15.5	274 46.0	S 6 39.9	146 54.2	S15 08.9	162 31.5	S19 20.6
N 7	127 03.7	243 09.4	S24 16.1	289 47.0	S 6 40.5	161 56.7	S15 08.9	177 33.9	S19 20.6
E 8	142 06.2	258 09.0	S24 16.7	304 47.9	S 6 41.2	176 59.2	S15 09.0	192 36.4	S19 20.6
S 9	157 08.6	273 08.5	S24 17.3	319 48.8	S 6 41.8	192 01.7	S15 09.0	207 38.8	S19 20.6
D 10	172 11.1	288 08.1	S24 17.9	334 49.7	S 6 42.5	207 04.2	S15 09.0	222 41.3	S19 20.6
A 11	187 13.6	303 07.7	S24 18.5	349 50.7	S 6 43.1	222 06.7	S15 09.0	237 43.7	S19 20.6
Y									
12	202 16.0	318 07.3	S24 19.1	4 51.6	S 6 43.8	237 09.2	S15 09.0	252 46.2	S19 20.6
13	217 18.5	333 06.9	S24 19.7	19 52.5	S 6 44.4	252 11.7	S15 09.0	267 48.7	S19 20.6
14	232 20.9	348 06.5	S24 20.3	34 53.5	S 6 45.1	267 14.2	S15 09.0	282 51.1	S19 20.6
15	247 23.4	3 06.1	S24 20.9	49 54.4	S 6 45.7	282 16.8	S15 09.0	297 53.6	S19 20.6
16	262 25.9	18 05.6	S24 21.5	64 55.3	S 6 46.4	297 19.3	S15 09.0	312 56.0	S19 20.6
17	277 28.3	33 05.2	S24 22.1	79 56.3	S 6 47.0	312 21.8	S15 09.0	327 58.5	S19 20.6
18	292 30.8	48 04.8	S24 22.7	94 57.2	S 6 47.6	327 24.3	S15 09.0	343 00.9	S19 20.6
19	307 33.3	63 04.4	S24 23.3	109 58.1	S 6 48.3	342 26.8	S15 09.0	358 03.4	S19 20.6
20	322 35.7	78 04.0	S24 23.9	124 59.1	S 6 48.9	357 29.3	S15 09.1	13 05.8	S19 20.6
21	337 38.2	93 03.6	S24 24.5	139 60.0	S 6 49.6	12 31.8	S15 09.1	28 08.3	S19 20.6
22	352 40.7	108 03.2	S24 25.1	155 00.9	S 6 50.2	27 34.3	S15 09.1	43 10.7	S19 20.6
23	7 43.1	123 02.7	S24 25.7	170 01.9	S 6 50.9	42 36.8	S15 09.1	58 13.2	S19 20.6
14 0	22 45.6	138 02.3	S24 26.3	185 02.8	S 6 51.5	57 39.3	S15 09.1	73 15.6	S19 20.6
1	37 48.1	153 01.9	S24 26.9	200 03.7	S 6 52.2	72 41.8	S15 09.1	88 18.1	S19 20.6
2	52 50.5	168 01.5	S24 27.4	215 04.7	S 6 52.8	87 44.3	S15 09.1	103 20.5	S19 20.6
3	67 53.0	183 01.1	S24 28.0	230 05.6	S 6 53.4	102 46.8	S15 09.1	118 23.0	S19 20.5
4	82 55.4	198 00.7	S24 28.6	245 06.5	S 6 54.1	117 49.3	S15 09.1	133 25.4	S19 20.5
T 5	97 57.9	213 00.2	S24 29.2	260 07.4	S 6 54.7	132 51.8	S15 09.1	148 27.9	S19 20.5
H									
U 6	113 00.4	227 59.8	S24 29.8	275 08.4	S 6 55.4	147 54.3	S15 09.1	163 30.3	S19 20.5
R 7	128 02.8	242 59.4	S24 30.4	290 09.3	S 6 56.0	162 56.8	S15 09.1	178 32.8	S19 20.5
S 8	143 05.3	257 59.0	S24 31.0	305 10.2	S 6 56.7	177 59.3	S15 09.1	193 35.2	S19 20.5
D 9	158 07.8	272 58.6	S24 31.5	320 11.2	S 6 57.3	193 01.8	S15 09.1	208 37.7	S19 20.5
A 10	173 10.2	287 58.2	S24 32.1	335 12.1	S 6 58.0	208 04.3	S15 09.1	223 40.1	S19 20.5
Y 11	188 12.7	302 57.8	S24 32.7	350 13.0	S 6 58.6	223 06.8	S15 09.1	238 42.6	S19 20.5
12	203 15.2	317 57.3	S24 33.3	5 13.9	S 6 59.2	238 09.3	S15 09.1	253 45.0	S19 20.5
13	218 17.6	332 56.9	S24 33.9	20 14.9	S 6 59.9	253 11.7	S15 09.2	268 47.5	S19 20.5
14	233 20.1	347 56.5	S24 34.4	35 15.8	S 7 00.5	268 14.2	S15 09.2	283 49.9	S19 20.5
15	248 22.6	2 56.1	S24 35.0	50 16.7	S 7 01.2	283 16.7	S15 09.2	298 52.4	S19 20.5
16	263 25.0	17 55.7	S24 35.6	65 17.7	S 7 01.8	298 19.2	S15 09.2	313 54.8	S19 20.5
17	278 27.5	32 55.3	S24 36.2	80 18.6	S 7 02.5	313 21.7	S15 09.2	328 57.3	S19 20.5
18	293 29.9	47 54.9	S24 36.7	95 19.5	S 7 03.1	328 24.2	S15 09.2	343 59.7	S19 20.5
19	308 32.4	62 54.4	S24 37.3	110 20.5	S 7 03.7	343 26.7	S15 09.2	359 02.2	S19 20.5
20	323 34.9	77 54.0	S24 37.9	125 21.4	S 7 04.4	358 29.2	S15 09.2	14 04.6	S19 20.5
21	338 37.3	92 53.6	S24 38.5	140 22.3	S 7 05.0	13 31.7	S15 09.2	29 07.1	S19 20.5
22	353 39.8	107 53.2	S24 39.0	155 23.2	S 7 05.7	28 34.2	S15 09.2	44 09.5	S19 20.5
23	8 42.3	122 52.8	S24 39.6	170 24.2	S 7 06.3	43 36.7	S15 09.2	59 12.0	S19 20.5
15 0	23 44.7	137 52.4	S24 40.2	185 25.1	S 7 07.0	58 39.2	S15 09.2	74 14.4	S19 20.5
1	38 47.2	152 51.9	S24 40.7	200 26.0	S 7 07.6	73 41.7	S15 09.2	89 16.9	S19 20.5
2	53 49.7	167 51.5	S24 41.3	215 26.9	S 7 08.2	88 44.2	S15 09.2	104 19.3	S19 20.5
3	68 52.1	182 51.1	S24 41.9	230 27.9	S 7 08.9	103 46.7	S15 09.2	119 21.8	S19 20.5
4	83 54.6	197 50.7	S24 42.4	245 28.8	S 7 09.5	118 49.2	S15 09.2	134 24.2	S19 20.5
F 5	98 57.0	212 50.3	S24 43.0	260 29.7	S 7 10.2	133 51.6	S15 09.2	149 26.7	S19 20.4
R									
I 6	113 59.5	227 49.9	S24 43.6	275 30.7	S 7 10.8	148 54.1	S15 09.2	164 29.1	S19 20.4
D 7	129 02.0	242 49.5	S24 44.1	290 31.6	S 7 11.5	163 56.6	S15 09.2	179 31.5	S19 20.4
A 8	144 04.4	257 49.0	S24 44.7	305 32.5	S 7 12.1	178 59.1	S15 09.2	194 34.0	S19 20.4
Y 9	159 06.9	272 48.6	S24 45.2	320 33.4	S 7 12.7	194 01.6	S15 09.2	209 36.4	S19 20.4
10	174 09.4	287 48.2	S24 45.8	335 34.4	S 7 13.4	209 04.1	S15 09.2	224 38.9	S19 20.4
11	189 11.8	302 47.8	S24 46.4	350 35.3	S 7 14.0	224 06.6	S15 09.2	239 41.3	S19 20.4
12	204 14.3	317 47.4	S24 46.9	5 36.2	S 7 14.7	239 09.1	S15 09.2	254 43.8	S19 20.4
13	219 16.8	332 47.0	S24 47.5	20 37.1	S 7 15.3	254 11.6	S15 09.2	269 46.2	S19 20.4
14	234 19.2	347 46.6	S24 48.0	35 38.1	S 7 16.0	269 14.0	S15 09.2	284 48.7	S19 20.4
15	249 21.7	2 46.1	S24 48.6	50 39.0	S 7 16.6	284 16.5	S15 09.2	299 51.1	S19 20.4
16	264 24.2	17 45.7	S24 49.1	65 39.9	S 7 17.2	299 19.0	S15 09.3	314 53.6	S19 20.4
17	279 26.6	32 45.3	S24 49.7	80 40.8	S 7 17.9	314 21.5	S15 09.3	329 56.0	S19 20.4
18	294 29.1	47 44.9	S24 50.2	95 41.8	S 7 18.5	329 24.0	S15 09.3	344 58.4	S19 20.4
19	309 31.5	62 44.5	S24 50.8	110 42.7	S 7 19.2	344 26.5	S15 09.3	0 00.9	S19 20.4
20	324 34.0	77 44.1	S24 51.3	125 43.6	S 7 19.8	359 29.0	S15 09.3	15 03.3	S19 20.4
21	339 36.5	92 43.7	S24 51.9	140 44.5	S 7 20.4	14 31.4	S15 09.3	30 05.8	S19 20.4
22	354 38.9	107 43.2	S24 52.4	155 45.5	S 7 21.1	29 33.9	S15 09.3	45 08.2	S19 20.4
23	9 41.4	122 42.8	S24 53.0	170 46.4	S 7 21.7	44 36.4	S15 09.3	60 10.7	S19 20.4
		v -0.4	d 0.6	v 0.9	d 0.6	v 2.5	d 0.0	v 2.4	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
13	0	183 25.5	S 7 46.3	91 41.4	4.9	S25 52.9	2.5	58.8
	1	198 25.6	S 7 47.2	106 05.4	4.9	S25 50.2	2.7	58.8
	2	213 25.8	S 7 48.2	120 29.3	5.0	S25 47.4	2.8	58.7
	3	228 25.9	S 7 49.1	134 53.4	5.0	S25 44.4	3.0	58.7
	4	243 26.1	S 7 50.0	149 17.5	5.1	S25 41.2	3.2	58.7
W	5	258 26.2	S 7 51.0	163 41.7	5.2	S25 37.9	3.3	58.7
E								
D	6	273 26.4	S 7 51.9	178 05.9	5.2	S25 34.4	3.5	58.6
N	7	288 26.5	S 7 52.8	192 30.2	5.3	S25 30.8	3.6	58.6
E	8	303 26.7	S 7 53.8	206 54.6	5.4	S25 27.0	3.8	58.6
S	9	318 26.8	S 7 54.7	221 19.1	5.5	S25 23.0	4.0	58.6
D	10	333 27.0	S 7 55.6	235 43.6	5.5	S25 18.9	4.1	58.5
A	11	348 27.1	S 7 56.6	250 08.2	5.6	S25 14.6	4.3	58.5
Y								
	12	3 27.3	S 7 57.5	264 32.9	5.7	S25 10.2	4.4	58.5
	13	18 27.4	S 7 58.4	278 57.7	5.8	S25 05.6	4.6	58.5
	14	33 27.6	S 7 59.4	293 22.5	5.8	S25 00.8	4.7	58.4
	15	48 27.7	S 8 00.3	307 47.4	5.9	S24 55.9	4.9	58.4
	16	63 27.9	S 8 01.2	322 12.4	6.0	S24 50.9	5.1	58.4
	17	78 28.0	S 8 02.2	336 37.5	6.1	S24 45.7	5.2	58.4
	18	93 28.2	S 8 03.1	351 02.7	6.2	S24 40.3	5.4	58.3
	19	108 28.3	S 8 04.0	5 28.0	6.3	S24 34.8	5.5	58.3
	20	123 28.5	S 8 05.0	19 53.3	6.3	S24 29.2	5.7	58.3
	21	138 28.6	S 8 05.9	34 18.7	6.4	S24 23.4	5.8	58.3
	22	153 28.7	S 8 06.8	48 44.2	6.5	S24 17.4	5.9	58.2
	23	168 28.9	S 8 07.7	63 09.8	6.6	S24 11.3	6.1	58.2
14	0	183 29.0	S 8 08.7	77 35.5	6.7	S24 05.1	6.2	58.2
	1	198 29.2	S 8 09.6	92 01.3	6.8	S23 58.7	6.4	58.2
	2	213 29.3	S 8 10.5	106 27.2	6.9	S23 52.2	6.5	58.1
	3	228 29.5	S 8 11.5	120 53.1	7.0	S23 45.6	6.6	58.1
	4	243 29.6	S 8 12.4	135 19.2	7.1	S23 38.8	6.8	58.1
T	5	258 29.8	S 8 13.3	149 45.3	7.1	S23 31.9	6.9	58.1
H								
U	6	273 29.9	S 8 14.3	164 11.6	7.2	S23 24.8	7.1	58.0
R	7	288 30.1	S 8 15.2	178 37.9	7.3	S23 17.6	7.2	58.0
S	8	303 30.2	S 8 16.1	193 04.3	7.4	S23 10.3	7.3	58.0
D	9	318 30.3	S 8 17.0	207 30.9	7.5	S23 02.9	7.5	58.0
A	10	333 30.5	S 8 18.0	221 57.5	7.6	S22 55.3	7.6	57.9
Y	11	348 30.6	S 8 18.9	236 24.2	7.7	S22 47.6	7.7	57.9
	12	3 30.8	S 8 19.8	250 51.0	7.8	S22 39.7	7.8	57.9
	13	18 30.9	S 8 20.7	265 17.9	7.9	S22 31.8	8.0	57.9
	14	33 31.1	S 8 21.7	279 44.9	8.0	S22 23.7	8.1	57.9
	15	48 31.2	S 8 22.6	294 12.0	8.1	S22 15.5	8.2	57.8
	16	63 31.3	S 8 23.5	308 39.2	8.2	S22 07.2	8.3	57.8
	17	78 31.5	S 8 24.5	323 06.5	8.3	S21 58.7	8.4	57.8
	18	93 31.6	S 8 25.4	337 33.9	8.4	S21 50.1	8.6	57.8
	19	108 31.8	S 8 26.3	352 01.4	8.5	S21 41.5	8.7	57.7
	20	123 31.9	S 8 27.2	6 29.0	8.6	S21 32.7	8.8	57.7
	21	138 32.1	S 8 28.2	20 56.7	8.7	S21 23.8	8.9	57.7
	22	153 32.2	S 8 29.1	35 24.5	8.8	S21 14.7	9.0	57.7
	23	168 32.3	S 8 30.0	49 52.4	8.9	S21 05.6	9.1	57.6
15	0	183 32.5	S 8 30.9	64 20.4	9.0	S20 56.4	9.2	57.6
	1	198 32.6	S 8 31.9	78 48.4	9.1	S20 47.0	9.3	57.6
	2	213 32.8	S 8 32.8	93 16.6	9.2	S20 37.6	9.5	57.6
	3	228 32.9	S 8 33.7	107 44.9	9.3	S20 28.0	9.6	57.5
	4	243 33.0	S 8 34.6	122 13.3	9.4	S20 18.3	9.7	57.5
F	5	258 33.2	S 8 35.5	136 41.8	9.5	S20 08.6	9.8	57.5
R								
I	6	273 33.3	S 8 36.5	151 10.3	9.6	S19 58.7	9.9	57.5
D	7	288 33.5	S 8 37.4	165 39.0	9.7	S19 48.7	10.0	57.4
A	8	303 33.6	S 8 38.3	180 07.8	9.8	S19 38.7	10.1	57.4
Y	9	318 33.7	S 8 39.2	194 36.6	9.9	S19 28.5	10.2	57.4
	10	333 33.9	S 8 40.2	209 05.6	10.0	S19 18.3	10.3	57.4
	11	348 34.0	S 8 41.1	223 34.6	10.1	S19 07.9	10.4	57.3
	12	3 34.1	S 8 42.0	238 03.8	10.1	S18 57.5	10.4	57.3
	13	18 34.3	S 8 42.9	252 33.0	10.2	S18 46.9	10.5	57.3
	14	33 34.4	S 8 43.9	267 02.4	10.3	S18 36.3	10.6	57.3
	15	48 34.6	S 8 44.8	281 31.8	10.4	S18 25.6	10.7	57.3
	16	63 34.7	S 8 45.7	296 01.3	10.5	S18 14.8	10.8	57.2
	17	78 34.8	S 8 46.6	310 30.9	10.6	S18 03.9	10.9	57.2
	18	93 35.0	S 8 47.5	325 00.6	10.7	S17 52.9	11.0	57.2
	19	108 35.1	S 8 48.5	339 30.4	10.8	S17 41.9	11.1	57.2
	20	123 35.2	S 8 49.4	354 00.3	10.9	S17 30.8	11.1	57.1
	21	138 35.4	S 8 50.3	8 30.3	11.0	S17 19.5	11.2	57.1
	22	153 35.5	S 8 51.2	23 00.4	11.1	S17 08.2	11.3	57.1
	23	168 35.6	S 8 52.1	37 30.6	11.2	S16 56.9	11.4	57.1
		S.D. 16.0	d 0.9	S.D. 15.9		15.8		15.6

STARS Name	SHA	Dec
Acamar	315 13.4	S40 12.9
Achernar	335 21.6	S57 07.6
Acrux	173 03.7	S63 12.9
Adhara	255 07.9	S28 59.8
Albireo	67 06.2	N28 00.5
Aldebaran	290 42.5	N16 33.2
Alioth	166 15.9	N55 50.7
Alkaid	152 54.6	N49 12.5
Al Na-ir	27 36.0	S46 51.5
Alnilam	275 40.3	S 1 11.2
Alphard	217 50.5	S 8 44.9
Alphecca	126 06.3	N26 38.7
Alpheratz	357 37.2	N29 12.7
Altair	62 02.5	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.8
Arcturus	145 50.7	N19 04.4
Atria	107 16.4	S69 04.1
Avior	234 15.9	S59 34.4
Bellatrix	278 25.6	N 6 22.2
Betelgeuse	270 54.8	N 7 24.8
Canopus	263 53.4	S52 42.1
Capella	280 25.6	N46 01.1
Castor	246 00.5	N31 50.4
Deneb	49 27.5	N45 21.7
Denebola	182 28.0	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.8	N61 38.0
Elnath	278 05.1	N28 37.5
Eltanin	90 43.7	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.2	S57 13.9
Gienah	175 46.6	S17 39.5
Hadar	148 40.5	S60 28.6
Hamal	327 53.9	N23 34.0
Kaus Austr.	83 36.2	S34 22.6
Kochab	137 21.0	N74 04.1
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.1	S69 48.0
Mirfak	308 31.7	N49 56.2
Nunki	75 51.1	S26 16.2
Peacock	53 09.8	S56 40.2
Polaris	316 53.9	N89 20.5
Pollux	243 20.6	N27 58.4
Procyon	244 53.6	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.5	N11 51.8
Rigel	281 06.3	S 8 10.4
Rigil Kent	139 44.7	S60 55.4
Sabik	102 06.1	S15 45.0
Schedar	349 33.5	N56 39.4
Shaula	96 14.2	S37 07.2
Sirius	258 28.5	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.4	S43 30.8
Vega	80 35.1	N38 48.5
Zuben-ubi	137 00.1	S16 07.8

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 43.9	137 42.4	S24 53.5	185 47.3	S 7 22.4	59 38.9	S15 09.3	75 13.1	S19 20.4
	1	39 46.3	152 42.0	S24 54.0	200 48.2	S 7 23.0	74 41.4	S15 09.3	90 15.5	S19 20.3
	2	54 48.8	167 41.6	S24 54.6	215 49.2	S 7 23.6	89 43.9	S15 09.3	105 18.0	S19 20.3
	3	69 51.3	182 41.2	S24 55.1	230 50.1	S 7 24.3	104 46.4	S15 09.3	120 20.4	S19 20.3
	4	84 53.7	197 40.8	S24 55.7	245 51.0	S 7 24.9	119 48.8	S15 09.3	135 22.9	S19 20.3
S	5	99 56.2	212 40.3	S24 56.2	260 51.9	S 7 25.6	134 51.3	S15 09.3	150 25.3	S19 20.3
A										
T	6	114 58.7	227 39.9	S24 56.7	275 52.9	S 7 26.2	149 53.8	S15 09.3	165 27.8	S19 20.3
U	7	130 01.1	242 39.5	S24 57.3	290 53.8	S 7 26.9	164 56.3	S15 09.3	180 30.2	S19 20.3
R	8	145 03.6	257 39.1	S24 57.8	305 54.7	S 7 27.5	179 58.8	S15 09.3	195 32.6	S19 20.3
D	9	160 06.0	272 38.7	S24 58.4	320 55.6	S 7 28.1	195 01.2	S15 09.3	210 35.1	S19 20.3
A	10	175 08.5	287 38.3	S24 58.9	335 56.6	S 7 28.8	210 03.7	S15 09.3	225 37.5	S19 20.3
Y	11	190 11.0	302 37.9	S24 59.4	350 57.5	S 7 29.4	225 06.2	S15 09.3	240 40.0	S19 20.3
	12	205 13.4	317 37.4	S24 59.9	5 58.4	S 7 30.1	240 08.7	S15 09.3	255 42.4	S19 20.3
	13	220 15.9	332 37.0	S25 00.5	20 59.3	S 7 30.7	255 11.2	S15 09.3	270 44.9	S19 20.3
	14	235 18.4	347 36.6	S25 01.0	36 00.3	S 7 31.3	270 13.6	S15 09.3	285 47.3	S19 20.3
	15	250 20.8	2 36.2	S25 01.5	51 01.2	S 7 32.0	285 16.1	S15 09.3	300 49.7	S19 20.3
	16	265 23.3	17 35.8	S25 02.1	66 02.1	S 7 32.6	300 18.6	S15 09.3	315 52.2	S19 20.3
	17	280 25.8	32 35.4	S25 02.6	81 03.0	S 7 33.3	315 21.1	S15 09.3	330 54.6	S19 20.3
	18	295 28.2	47 35.0	S25 03.1	96 03.9	S 7 33.9	330 23.6	S15 09.3	345 57.1	S19 20.2
	19	310 30.7	62 34.5	S25 03.6	111 04.9	S 7 34.5	345 26.0	S15 09.3	0 59.5	S19 20.2
	20	325 33.1	77 34.1	S25 04.2	126 05.8	S 7 35.2	0 28.5	S15 09.3	16 01.9	S19 20.2
	21	340 35.6	92 33.7	S25 04.7	141 06.7	S 7 35.8	15 31.0	S15 09.3	31 04.4	S19 20.2
	22	355 38.1	107 33.3	S25 05.2	156 07.6	S 7 36.5	30 33.5	S15 09.3	46 06.8	S19 20.2
	23	10 40.5	122 32.9	S25 05.7	171 08.6	S 7 37.1	45 35.9	S15 09.3	61 09.2	S19 20.2
17	0	25 43.0	137 32.5	S25 06.2	186 09.5	S 7 37.7	60 38.4	S15 09.3	76 11.7	S19 20.2
	1	40 45.5	152 32.1	S25 06.8	201 10.4	S 7 38.4	75 40.9	S15 09.3	91 14.1	S19 20.2
	2	55 47.9	167 31.6	S25 07.3	216 11.3	S 7 39.0	90 43.4	S15 09.2	106 16.6	S19 20.2
	3	70 50.4	182 31.2	S25 07.8	231 12.2	S 7 39.7	105 45.9	S15 09.2	121 19.0	S19 20.2
	4	85 52.9	197 30.8	S25 08.3	246 13.2	S 7 40.3	120 48.3	S15 09.2	136 21.4	S19 20.2
S	5	100 55.3	212 30.4	S25 08.8	261 14.1	S 7 40.9	135 50.8	S15 09.2	151 23.9	S19 20.2
U										
N	6	115 57.8	227 30.0	S25 09.3	276 15.0	S 7 41.6	150 53.3	S15 09.2	166 26.3	S19 20.2
D	7	131 00.3	242 29.6	S25 09.9	291 15.9	S 7 42.2	165 55.7	S15 09.2	181 28.8	S19 20.2
A	8	146 02.7	257 29.2	S25 10.4	306 16.8	S 7 42.8	180 58.2	S15 09.2	196 31.2	S19 20.2
Y	9	161 05.2	272 28.8	S25 10.9	321 17.8	S 7 43.5	196 00.7	S15 09.2	211 33.6	S19 20.2
	10	176 07.6	287 28.3	S25 11.4	336 18.7	S 7 44.1	211 03.2	S15 09.2	226 36.1	S19 20.1
	11	191 10.1	302 27.9	S25 11.9	351 19.6	S 7 44.8	226 05.6	S15 09.2	241 38.5	S19 20.1
	12	206 12.6	317 27.5	S25 12.4	6 20.5	S 7 45.4	241 08.1	S15 09.2	256 40.9	S19 20.1
	13	221 15.0	332 27.1	S25 12.9	21 21.4	S 7 46.0	256 10.6	S15 09.2	271 43.4	S19 20.1
	14	236 17.5	347 26.7	S25 13.4	36 22.4	S 7 46.7	271 13.1	S15 09.2	286 45.8	S19 20.1
	15	251 20.0	2 26.3	S25 13.9	51 23.3	S 7 47.3	286 15.5	S15 09.2	301 48.2	S19 20.1
	16	266 22.4	17 25.9	S25 14.4	66 24.2	S 7 48.0	301 18.0	S15 09.2	316 50.7	S19 20.1
	17	281 24.9	32 25.5	S25 14.9	81 25.1	S 7 48.6	316 20.5	S15 09.2	331 53.1	S19 20.1
	18	296 27.4	47 25.1	S25 15.4	96 26.0	S 7 49.2	331 22.9	S15 09.2	346 55.6	S19 20.1
	19	311 29.8	62 24.6	S25 15.9	111 27.0	S 7 49.9	346 25.4	S15 09.2	1 58.0	S19 20.1
	20	326 32.3	77 24.2	S25 16.4	126 27.9	S 7 50.5	1 27.9	S15 09.2	17 00.4	S19 20.1
	21	341 34.8	92 23.8	S25 16.9	141 28.8	S 7 51.1	16 30.3	S15 09.2	32 02.9	S19 20.1
	22	356 37.2	107 23.4	S25 17.4	156 29.7	S 7 51.8	31 32.8	S15 09.2	47 05.3	S19 20.1
	23	11 39.7	122 23.0	S25 17.9	171 30.6	S 7 52.4	46 35.3	S15 09.2	62 07.7	S19 20.1
18	0	26 42.1	137 22.6	S25 18.4	186 31.6	S 7 53.1	61 37.7	S15 09.2	77 10.2	S19 20.0
	1	41 44.6	152 22.2	S25 18.9	201 32.5	S 7 53.7	76 40.2	S15 09.2	92 12.6	S19 20.0
	2	56 47.1	167 21.8	S25 19.4	216 33.4	S 7 54.3	91 42.7	S15 09.2	107 15.0	S19 20.0
	3	71 49.5	182 21.3	S25 19.9	231 34.3	S 7 55.0	106 45.2	S15 09.2	122 17.5	S19 20.0
	4	86 52.0	197 20.9	S25 20.4	246 35.2	S 7 55.6	121 47.6	S15 09.2	137 19.9	S19 20.0
M	5	101 54.5	212 20.5	S25 20.9	261 36.1	S 7 56.2	136 50.1	S15 09.2	152 22.3	S19 20.0
O										
N	6	116 56.9	227 20.1	S25 21.4	276 37.1	S 7 56.9	151 52.5	S15 09.1	167 24.8	S19 20.0
D	7	131 59.4	242 19.7	S25 21.8	291 38.0	S 7 57.5	166 55.0	S15 09.1	182 27.2	S19 20.0
A	8	147 01.9	257 19.3	S25 22.3	306 38.9	S 7 58.2	181 57.5	S15 09.1	197 29.6	S19 20.0
Y	9	162 04.3	272 18.9	S25 22.8	321 39.8	S 7 58.8	196 59.9	S15 09.1	212 32.1	S19 20.0
	10	177 06.8	287 18.5	S25 23.3	336 40.7	S 7 59.4	212 02.4	S15 09.1	227 34.5	S19 20.0
	11	192 09.2	302 18.1	S25 23.8	351 41.6	S 8 00.1	227 04.9	S15 09.1	242 36.9	S19 20.0
	12	207 11.7	317 17.7	S25 24.3	6 42.6	S 8 00.7	242 07.3	S15 09.1	257 39.4	S19 20.0
	13	222 14.2	332 17.2	S25 24.7	21 43.5	S 8 01.3	257 09.8	S15 09.1	272 41.8	S19 19.9
	14	237 16.6	347 16.8	S25 25.2	36 44.4	S 8 02.0	272 12.3	S15 09.1	287 44.2	S19 19.9
	15	252 19.1	2 16.4	S25 25.7	51 45.3	S 8 02.6	287 14.7	S15 09.1	302 46.7	S19 19.9
	16	267 21.6	17 16.0	S25 26.2	66 46.2	S 8 03.2	302 17.2	S15 09.1	317 49.1	S19 19.9
	17	282 24.0	32 15.6	S25 26.7	81 47.1	S 8 03.9	317 19.7	S15 09.1	332 51.5	S19 19.9
	18	297 26.5	47 15.2	S25 27.1	96 48.1	S 8 04.5	332 22.1	S15 09.1	347 54.0	S19 19.9
	19	312 29.0	62 14.8	S25 27.6	111 49.0	S 8 05.2	347 24.6	S15 09.1	2 56.4	S19 19.9
	20	327 31.4	77 14.4	S25 28.1	126 49.9	S 8 05.8	2 27.0	S15 09.1	17 58.8	S19 19.9
	21	342 33.9	92 14.0	S25 28.6	141 50.8	S 8 06.4	17 29.5	S15 09.1	33 01.3	S19 19.9
	22	357 36.4	107 13.6	S25 29.0	156 51.7	S 8 07.1	32 32.0	S15 09.0	48 03.7	S19 19.9
	23	12 38.8	122 13.2	S25 29.5	171 52.6	S 8 07.7	47 34.4	S15 09.0	63 06.1	S19 19.9
			v -0.4	d 0.5	v 0.9	d 0.6	v 2.5	d 0.0	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
16	0	183 35.8	S 8 53.1	52 00.8	11.3	S16 45.4	11.4	57.0
	1	198 35.9	S 8 54.0	66 31.1	11.3	S16 33.9	11.5	57.0
	2	213 36.1	S 8 54.9	81 01.6	11.4	S16 22.3	11.6	57.0
	3	228 36.2	S 8 55.8	95 32.1	11.5	S16 10.6	11.7	57.0
	4	243 36.3	S 8 56.7	110 02.7	11.6	S15 58.9	11.7	57.0
S	5	258 36.5	S 8 57.7	124 33.4	11.7	S15 47.1	11.8	56.9
A								
T	6	273 36.6	S 8 58.6	139 04.1	11.8	S15 35.2	11.9	56.9
U	7	288 36.7	S 8 59.5	153 35.0	11.9	S15 23.3	11.9	56.9
R	8	303 36.9	S 9 00.4	168 05.9	11.9	S15 11.3	12.0	56.9
D	9	318 37.0	S 9 01.3	182 36.9	12.0	S14 59.2	12.1	56.8
A	10	333 37.1	S 9 02.2	197 08.1	12.1	S14 47.0	12.1	56.8
Y	11	348 37.3	S 9 03.2	211 39.2	12.2	S14 34.8	12.2	56.8
	12	3 37.4	S 9 04.1	226 10.5	12.3	S14 22.6	12.3	56.8
	13	18 37.5	S 9 05.0	240 41.8	12.3	S14 10.3	12.3	56.8
	14	33 37.6	S 9 05.9	255 13.3	12.4	S13 57.9	12.4	56.7
	15	48 37.8	S 9 06.8	269 44.8	12.5	S13 45.4	12.4	56.7
	16	63 37.9	S 9 07.7	284 16.3	12.6	S13 33.0	12.5	56.7
	17	78 38.0	S 9 08.7	298 48.0	12.6	S13 20.4	12.5	56.7
	18	93 38.2	S 9 09.6	313 19.7	12.7	S13 07.8	12.6	56.6
	19	108 38.3	S 9 10.5	327 51.5	12.8	S12 55.2	12.7	56.6
	20	123 38.4	S 9 11.4	342 23.4	12.9	S12 42.5	12.7	56.6
	21	138 38.6	S 9 12.3	356 55.3	12.9	S12 29.7	12.8	56.6
	22	153 38.7	S 9 13.2	11 27.3	13.0	S12 16.9	12.8	56.6
	23	168 38.8	S 9 14.1	25 59.4	13.1	S12 04.0	12.8	56.5
17	0	183 38.9	S 9 15.1	40 31.6	13.2	S11 51.2	12.9	56.5
	1	198 39.1	S 9 16.0	55 03.8	13.2	S11 38.2	12.9	56.5
	2	213 39.2	S 9 16.9	69 36.1	13.3	S11 25.2	13.0	56.5
	3	228 39.3	S 9 17.8	84 08.4	13.4	S11 12.2	13.0	56.5
	4	243 39.5	S 9 18.7	98 40.8	13.4	S10 59.1	13.1	56.4
S	5	258 39.6	S 9 19.6	113 13.3	13.5	S10 46.0	13.1	56.4
U								
N	6	273 39.7	S 9 20.5	127 45.9	13.5	S10 32.9	13.1	56.4
D	7	288 39.8	S 9 21.5	142 18.5	13.6	S10 19.7	13.2	56.4
A	8	303 40.0	S 9 22.4	156 51.2	13.7	S10 06.5	13.2	56.3
Y	9	318 40.1	S 9 23.3	171 23.9	13.7	S 9 53.2	13.3	56.3
	10	333 40.2	S 9 24.2	185 56.7	13.8	S 9 39.9	13.3	56.3
	11	348 40.4	S 9 25.1	200 29.5	13.9	S 9 26.6	13.3	56.3
	12	3 40.5	S 9 26.0	215 02.5	13.9	S 9 13.2	13.4	56.3
	13	18 40.6	S 9 26.9	229 35.4	14.0	S 8 59.8	13.4	56.2
	14	33 40.7	S 9 27.8	244 08.4	14.0	S 8 46.4	13.4	56.2
	15	48 40.9	S 9 28.7	258 41.5	14.1	S 8 33.0	13.5	56.2
	16	63 41.0	S 9 29.7	273 14.7	14.1	S 8 19.5	13.5	56.2
	17	78 41.1	S 9 30.6	287 47.8	14.2	S 8 06.0	13.5	56.2
	18	93 41.2	S 9 31.5	302 21.1	14.2	S 7 52.4	13.5	56.1
	19	108 41.4	S 9 32.4	316 54.4	14.3	S 7 38.9	13.6	56.1
	20	123 41.5	S 9 33.3	331 27.7	14.3	S 7 25.3	13.6	56.1
	21	138 41.6	S 9 34.2	346 01.1	14.4	S 7 11.7	13.6	56.1
	22	153 41.7	S 9 35.1	0 34.5	14.4	S 6 58.1	13.6	56.1
	23	168 41.8	S 9 36.0	15 08.0	14.5	S 6 44.4	13.6	56.0
18	0	183 42.0	S 9 36.9	29 41.5	14.5	S 6 30.7	13.7	56.0
	1	198 42.1	S 9 37.8	44 15.1	14.6	S 6 17.1	13.7	56.0
	2	213 42.2	S 9 38.7	58 48.7	14.6	S 6 03.4	13.7	56.0
	3	228 42.3	S 9 39.7	73 22.4	14.7	S 5 49.6	13.7	56.0
	4	243 42.5	S 9 40.6	87 56.1	14.7	S 5 35.9	13.7	55.9
M	5	258 42.6	S 9 41.5	102 29.8	14.7	S 5 22.1	13.8	55.9
O								
N	6	273 42.7	S 9 42.4	117 03.6	14.8	S 5 08.4	13.8	55.9
D	7	288 42.8	S 9 43.3	131 37.4	14.8	S 4 54.6	13.8	55.9
A	8	303 42.9	S 9 44.2	146 11.3	14.9	S 4 40.8	13.8	55.9
Y	9	318 43.1	S 9 45.1	160 45.2	14.9	S 4 27.0	13.8	55.8
	10	333 43.2	S 9 46.0	175 19.1	14.9	S 4 13.2	13.8	55.8
	11	348 43.3	S 9 46.9	189 53.1	15.0	S 3 59.4	13.8	55.8
	12	3 43.4	S 9 47.8	204 27.1	15.0	S 3 45.5	13.8	55.8
	13	18 43.5	S 9 48.7	219 01.1	15.0	S 3 31.7	13.8	55.8
	14	33 43.7	S 9 49.6	233 35.2	15.1	S 3 17.9	13.8	55.7
	15	48 43.8	S 9 50.5	248 09.3	15.1	S 3 04.0	13.8	55.7
	16	63 43.9	S 9 51.4	262 43.4	15.1	S 2 50.2	13.9	55.7
	17	78 44.0	S 9 52.3	277 17.5	15.2	S 2 36.3	13.9	55.7
	18	93 44.1	S 9 53.2	291 51.7	15.2	S 2 22.5	13.9	55.7
	19	108 44.3	S 9 54.1	306 25.9	15.2	S 2 08.6	13.9	55.6
	20	123 44.4	S 9 55.0	321 00.2	15.2	S 1 54.7	13.9	55.6
	21	138 44.5	S 9 55.9	335 34.4	15.3	S 1 40.9	13.9	55.6
	22	153 44.6	S 9 56.8	350 08.7	15.3	S 1 27.0	13.9	55.6
	23	168 44.7	S 9 57.8	4 43.0	15.3	S 1 13.2	13.9	55.6
		S.D. 16.1	d 0.9	S.D.	15.5	15.3	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.4	S40 13.0
Achernar	335 21.6	S57 07.6
Acrux	173 03.7	S63 12.9
Adhara	255 07.9	S28 59.8
Albireo	67 06.2	N28 00.5
Aldebaran	290 42.4	N16 33.2
Alioth	166 15.9	N55 50.6
Alkaid	152 54.6	N49 12.4
Al Na-ir	27 36.0	S46 51.5
Alnilam	275 40.2	S 1 11.2
Alphard	217 50.5	S 8 44.9
Alphecca	126 06.3	N26 38.7
Alpheratz	357 37.2	N29 12.7
Altair	62 02.5	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.8
Arcturus	145 50.7	N19 04.3
Atria	107 16.4	S69 04.1
Avior	234 15.9	S59 34.4
Bellatrix	278 25.6	N 6 22.2
Betelgeuse	270 54.8	N 7 24.8
Canopus	263 53.4	S52 42.1
Capella	280 25.6	N46 01.1
Castor	246 00.4	N31 50.4
Deneb	49 27.5	N45 21.7
Denebola	182 28.0	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.8	N61 37.9
Elnath	278 05.1	N28 37.5
Eltanin	90 43.7	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.2	S57 13.9
Gienah	175 46.6	S17 39.5
Hadar	148 40.5	S60 28.5
Hamal	327 53.9	N23 34.0
Kaus Austr.	83 36.2	S34 22.6
Kochab	137 21.1	N74 04.1
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.0	S69 48.0
Mirfak	308 31.6	N49 56.2
Nunki	75 51.1	S26 16.2
Peacock	53 09.8	S56 40.2
Polaris	316 53.5	N89 20.5
Pollux	243 20.6	N27 58.4
Procyon	244 53.6	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.5	N11 51.8
Rigel	281 06.2	S 8 10.4
Rigil Kent	139 44.7	S60 55.4
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.4
Shaula	96 14.2	S37 07.2
Sirius	258 28.5	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.4	S43 30.8
Vega	80 35.1	N38 48.5
Zuben-ubi	137 00.1	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
19	0	27 41.3	137 12.7	S25 30.0	186 53.6	S 8 08.3	62 36.9	S15 09.0	78 08.5	S19 19.9
	1	42 43.7	152 12.3	S25 30.4	201 54.5	S 8 09.0	77 39.3	S15 09.0	93 11.0	S19 19.8
	2	57 46.2	167 11.9	S25 30.9	216 55.4	S 8 09.6	92 41.8	S15 09.0	108 13.4	S19 19.8
	3	72 48.7	182 11.5	S25 31.4	231 56.3	S 8 10.2	107 44.3	S15 09.0	123 15.8	S19 19.8
	4	87 51.1	197 11.1	S25 31.8	246 57.2	S 8 10.9	122 46.7	S15 09.0	138 18.3	S19 19.8
T	5	102 53.6	212 10.7	S25 32.3	261 58.1	S 8 11.5	137 49.2	S15 09.0	153 20.7	S19 19.8
U										
E	6	117 56.1	227 10.3	S25 32.8	276 59.0	S 8 12.1	152 51.6	S15 09.0	168 23.1	S19 19.8
S	7	132 58.5	242 09.9	S25 33.2	291 60.0	S 8 12.8	167 54.1	S15 09.0	183 25.5	S19 19.8
D	8	148 01.0	257 09.5	S25 33.7	307 00.9	S 8 13.4	182 56.5	S15 09.0	198 28.0	S19 19.8
A	9	163 03.5	272 09.1	S25 34.2	322 01.8	S 8 14.1	197 59.0	S15 09.0	213 30.4	S19 19.8
Y	10	178 05.9	287 08.7	S25 34.6	337 02.7	S 8 14.7	213 01.5	S15 09.0	228 32.8	S19 19.8
	11	193 08.4	302 08.3	S25 35.1	352 03.6	S 8 15.3	228 03.9	S15 08.9	243 35.3	S19 19.8
	12	208 10.8	317 07.9	S25 35.5	7 04.5	S 8 16.0	243 06.4	S15 08.9	258 37.7	S19 19.7
	13	223 13.3	332 07.5	S25 36.0	22 05.4	S 8 16.6	258 08.8	S15 08.9	273 40.1	S19 19.7
	14	238 15.8	347 07.0	S25 36.4	37 06.3	S 8 17.2	273 11.3	S15 08.9	288 42.5	S19 19.7
	15	253 18.2	2 06.6	S25 36.9	52 07.3	S 8 17.9	288 13.7	S15 08.9	303 45.0	S19 19.7
	16	268 20.7	17 06.2	S25 37.3	67 08.2	S 8 18.5	303 16.2	S15 08.9	318 47.4	S19 19.7
	17	283 23.2	32 05.8	S25 37.8	82 09.1	S 8 19.1	318 18.6	S15 08.9	333 49.8	S19 19.7
	18	298 25.6	47 05.4	S25 38.3	97 10.0	S 8 19.8	333 21.1	S15 08.9	348 52.3	S19 19.7
	19	313 28.1	62 05.0	S25 38.7	112 10.9	S 8 20.4	348 23.5	S15 08.9	3 54.7	S19 19.7
	20	328 30.6	77 04.6	S25 39.2	127 11.8	S 8 21.0	3 26.0	S15 08.9	18 57.1	S19 19.7
	21	343 33.0	92 04.2	S25 39.6	142 12.7	S 8 21.7	18 28.5	S15 08.9	33 59.5	S19 19.7
	22	358 35.5	107 03.8	S25 40.0	157 13.6	S 8 22.3	33 30.9	S15 08.8	49 02.0	S19 19.6
	23	13 38.0	122 03.4	S25 40.5	172 14.6	S 8 22.9	48 33.4	S15 08.8	64 04.4	S19 19.6
20	0	28 40.4	137 03.0	S25 40.9	187 15.5	S 8 23.6	63 35.8	S15 08.8	79 06.8	S19 19.6
	1	43 42.9	152 02.6	S25 41.4	202 16.4	S 8 24.2	78 38.3	S15 08.8	94 09.2	S19 19.6
	2	58 45.3	167 02.2	S25 41.8	217 17.3	S 8 24.8	93 40.7	S15 08.8	109 11.7	S19 19.6
	3	73 47.8	182 01.8	S25 42.3	232 18.2	S 8 25.5	108 43.2	S15 08.8	124 14.1	S19 19.6
	4	88 50.3	197 01.4	S25 42.7	247 19.1	S 8 26.1	123 45.6	S15 08.8	139 16.5	S19 19.6
W	5	103 52.7	212 01.0	S25 43.1	262 20.0	S 8 26.7	138 48.1	S15 08.8	154 18.9	S19 19.6
E										
D	6	118 55.2	227 00.6	S25 43.6	277 20.9	S 8 27.4	153 50.5	S15 08.8	169 21.4	S19 19.6
N	7	133 57.7	242 00.2	S25 44.0	292 21.8	S 8 28.0	168 53.0	S15 08.8	184 23.8	S19 19.6
E	8	149 00.1	256 59.8	S25 44.5	307 22.8	S 8 28.6	183 55.4	S15 08.7	199 26.2	S19 19.6
S	9	164 02.6	271 59.4	S25 44.9	322 23.7	S 8 29.3	198 57.9	S15 08.7	214 28.6	S19 19.5
D	10	179 05.1	286 58.9	S25 45.3	337 24.6	S 8 29.9	214 00.3	S15 08.7	229 31.1	S19 19.5
A	11	194 07.5	301 58.5	S25 45.8	352 25.5	S 8 30.5	229 02.8	S15 08.7	244 33.5	S19 19.5
Y										
	12	209 10.0	316 58.1	S25 46.2	7 26.4	S 8 31.2	244 05.2	S15 08.7	259 35.9	S19 19.5
	13	224 12.4	331 57.7	S25 46.6	22 27.3	S 8 31.8	259 07.6	S15 08.7	274 38.3	S19 19.5
	14	239 14.9	346 57.3	S25 47.1	37 28.2	S 8 32.4	274 10.1	S15 08.7	289 40.8	S19 19.5
	15	254 17.4	1 56.9	S25 47.5	52 29.1	S 8 33.1	289 12.5	S15 08.7	304 43.2	S19 19.5
	16	269 19.8	16 56.5	S25 47.9	67 30.0	S 8 33.7	304 15.0	S15 08.6	319 45.6	S19 19.5
	17	284 22.3	31 56.1	S25 48.3	82 30.9	S 8 34.3	319 17.4	S15 08.6	334 48.0	S19 19.5
	18	299 24.8	46 55.7	S25 48.8	97 31.9	S 8 35.0	334 19.9	S15 08.6	349 50.5	S19 19.4
	19	314 27.2	61 55.3	S25 49.2	112 32.8	S 8 35.6	349 22.3	S15 08.6	4 52.9	S19 19.4
	20	329 29.7	76 54.9	S25 49.6	127 33.7	S 8 36.2	4 24.8	S15 08.6	19 55.3	S19 19.4
	21	344 32.2	91 54.5	S25 50.0	142 34.6	S 8 36.9	19 27.2	S15 08.6	34 57.7	S19 19.4
	22	359 34.6	106 54.1	S25 50.5	157 35.5	S 8 37.5	34 29.7	S15 08.6	50 00.1	S19 19.4
	23	14 37.1	121 53.7	S25 50.9	172 36.4	S 8 38.1	49 32.1	S15 08.6	65 02.6	S19 19.4
21	0	29 39.6	136 53.3	S25 51.3	187 37.3	S 8 38.8	64 34.5	S15 08.5	80 05.0	S19 19.4
	1	44 42.0	151 52.9	S25 51.7	202 38.2	S 8 39.4	79 37.0	S15 08.5	95 07.4	S19 19.4
	2	59 44.5	166 52.5	S25 52.1	217 39.1	S 8 40.0	94 39.4	S15 08.5	110 09.8	S19 19.4
	3	74 46.9	181 52.1	S25 52.6	232 40.0	S 8 40.6	109 41.9	S15 08.5	125 12.2	S19 19.4
	4	89 49.4	196 51.7	S25 53.0	247 40.9	S 8 41.3	124 44.3	S15 08.5	140 14.7	S19 19.3
T	5	104 51.9	211 51.3	S25 53.4	262 41.8	S 8 41.9	139 46.8	S15 08.5	155 17.1	S19 19.3
H										
U	6	119 54.3	226 50.9	S25 53.8	277 42.8	S 8 42.5	154 49.2	S15 08.5	170 19.5	S19 19.3
R	7	134 56.8	241 50.5	S25 54.2	292 43.7	S 8 43.2	169 51.6	S15 08.5	185 21.9	S19 19.3
S	8	149 59.3	256 50.1	S25 54.6	307 44.6	S 8 43.8	184 54.1	S15 08.4	200 24.4	S19 19.3
D	9	165 01.7	271 49.7	S25 55.0	322 45.5	S 8 44.4	199 56.5	S15 08.4	215 26.8	S19 19.3
A	10	180 04.2	286 49.3	S25 55.4	337 46.4	S 8 45.1	214 59.0	S15 08.4	230 29.2	S19 19.3
Y	11	195 06.7	301 48.9	S25 55.8	352 47.3	S 8 45.7	230 01.4	S15 08.4	245 31.6	S19 19.3
	12	210 09.1	316 48.5	S25 56.3	7 48.2	S 8 46.3	245 03.8	S15 08.4	260 34.0	S19 19.3
	13	225 11.6	331 48.1	S25 56.7	22 49.1	S 8 47.0	260 06.3	S15 08.4	275 36.5	S19 19.2
	14	240 14.1	346 47.7	S25 57.1	37 50.0	S 8 47.6	275 08.7	S15 08.4	290 38.9	S19 19.2
	15	255 16.5	1 47.3	S25 57.5	52 50.9	S 8 48.2	290 11.2	S15 08.3	305 41.3	S19 19.2
	16	270 19.0	16 46.9	S25 57.9	67 51.8	S 8 48.9	305 13.6	S15 08.3	320 43.7	S19 19.2
	17	285 21.4	31 46.5	S25 58.3	82 52.7	S 8 49.5	320 16.0	S15 08.3	335 46.1	S19 19.2
	18	300 23.9	46 46.2	S25 58.7	97 53.6	S 8 50.1	335 18.5	S15 08.3	350 48.5	S19 19.2
	19	315 26.4	61 45.8	S25 59.1	112 54.5	S 8 50.7	350 20.9	S15 08.3	5 51.0	S19 19.2
	20	330 28.8	76 45.4	S25 59.5	127 55.4	S 8 51.4	5 23.3	S15 08.3	20 53.4	S19 19.2
	21	345 31.3	91 45.0	S25 59.9	142 56.3	S 8 52.0	20 25.8	S15 08.3	35 55.8	S19 19.1
	22	0 33.8	106 44.6	S26 00.3	157 57.3	S 8 52.6	35 28.2	S15 08.2	50 58.2	S19 19.1
	23	15 36.2	121 44.2	S26 00.7	172 58.2	S 8 53.3	50 30.6	S15 08.2	66 00.6	S19 19.1
			v -0.4	d 0.4	v 0.9	d 0.6	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
19	0	183 44.8	S 9 58.7	19 17.3	15.3	S 0 59.3	13.9	55.6
	1	198 45.0	S 9 59.6	33 51.7	15.4	S 0 45.5	13.8	55.5
	2	213 45.1	S10 00.5	48 26.1	15.4	S 0 31.6	13.8	55.5
	3	228 45.2	S10 01.4	63 00.5	15.4	S 0 17.8	13.8	55.5
	4	243 45.3	S10 02.3	77 34.9	15.4	S 0 04.0	13.8	55.5
T	5	258 45.4	S10 03.2	92 09.3	15.4	N 0 09.9	13.8	55.5
U								
E	6	273 45.5	S10 04.1	106 43.7	15.4	N 0 23.7	13.8	55.4
S	7	288 45.6	S10 05.0	121 18.2	15.5	N 0 37.5	13.8	55.4
D	8	303 45.8	S10 05.9	135 52.7	15.5	N 0 51.3	13.8	55.4
A	9	318 45.9	S10 06.8	150 27.1	15.5	N 1 05.0	13.8	55.4
Y	10	333 46.0	S10 07.7	165 01.6	15.5	N 1 18.8	13.8	55.4
	11	348 46.1	S10 08.6	179 36.2	15.5	N 1 32.6	13.8	55.4
	12	3 46.2	S10 09.5	194 10.7	15.5	N 1 46.3	13.7	55.3
	13	18 46.3	S10 10.4	208 45.2	15.5	N 2 00.0	13.7	55.3
	14	33 46.4	S10 11.3	223 19.7	15.5	N 2 13.7	13.7	55.3
	15	48 46.6	S10 12.2	237 54.3	15.5	N 2 27.4	13.7	55.3
	16	63 46.7	S10 13.1	252 28.8	15.6	N 2 41.1	13.7	55.3
	17	78 46.8	S10 14.0	267 03.4	15.6	N 2 54.8	13.7	55.3
	18	93 46.9	S10 14.9	281 38.0	15.6	N 3 08.4	13.6	55.2
	19	108 47.0	S10 15.7	296 12.5	15.6	N 3 22.0	13.6	55.2
	20	123 47.1	S10 16.6	310 47.1	15.6	N 3 35.6	13.6	55.2
	21	138 47.2	S10 17.5	325 21.7	15.6	N 3 49.2	13.6	55.2
	22	153 47.3	S10 18.4	339 56.3	15.6	N 4 02.7	13.6	55.2
	23	168 47.4	S10 19.3	354 30.8	15.6	N 4 16.3	13.5	55.2
20	0	183 47.5	S10 20.2	9 05.4	15.6	N 4 29.8	13.5	55.1
	1	198 47.7	S10 21.1	23 40.0	15.6	N 4 43.3	13.5	55.1
	2	213 47.8	S10 22.0	38 14.6	15.6	N 4 56.7	13.5	55.1
	3	228 47.9	S10 22.9	52 49.1	15.6	N 5 10.1	13.4	55.1
	4	243 48.0	S10 23.8	67 23.7	15.6	N 5 23.5	13.4	55.1
W	5	258 48.1	S10 24.7	81 58.3	15.6	N 5 36.9	13.4	55.1
E								
D	6	273 48.2	S10 25.6	96 32.8	15.6	N 5 50.2	13.3	55.0
N	7	288 48.3	S10 26.5	111 07.4	15.6	N 6 03.6	13.3	55.0
E	8	303 48.4	S10 27.4	125 41.9	15.5	N 6 16.8	13.3	55.0
S	9	318 48.5	S10 28.3	140 16.5	15.5	N 6 30.1	13.2	55.0
D	10	333 48.6	S10 29.2	154 51.0	15.5	N 6 43.3	13.2	55.0
A	11	348 48.7	S10 30.1	169 25.5	15.5	N 6 56.5	13.2	55.0
Y								
	12	3 48.8	S10 31.0	184 00.0	15.5	N 7 09.6	13.1	54.9
	13	18 49.0	S10 31.9	198 34.5	15.5	N 7 22.7	13.1	54.9
	14	33 49.1	S10 32.8	213 09.0	15.5	N 7 35.8	13.1	54.9
	15	48 49.2	S10 33.6	227 43.5	15.5	N 7 48.9	13.0	54.9
	16	63 49.3	S10 34.5	242 18.0	15.5	N 8 01.9	13.0	54.9
	17	78 49.4	S10 35.4	256 52.4	15.4	N 8 14.8	13.0	54.9
	18	93 49.5	S10 36.3	271 26.8	15.4	N 8 27.7	12.9	54.9
	19	108 49.6	S10 37.2	286 01.2	15.4	N 8 40.6	12.9	54.8
	20	123 49.7	S10 38.1	300 35.6	15.4	N 8 53.5	12.8	54.8
	21	138 49.8	S10 39.0	315 10.0	15.4	N 9 06.3	12.8	54.8
	22	153 49.9	S10 39.9	329 44.4	15.4	N 9 19.0	12.8	54.8
	23	168 50.0	S10 40.8	344 18.7	15.3	N 9 31.7	12.7	54.8
21	0	183 50.1	S10 41.7	358 53.1	15.3	N 9 44.4	12.7	54.8
	1	198 50.2	S10 42.5	13 27.4	15.3	N 9 57.0	12.6	54.8
	2	213 50.3	S10 43.4	28 01.7	15.3	N10 09.6	12.6	54.7
	3	228 50.4	S10 44.3	42 35.9	15.3	N10 22.1	12.5	54.7
	4	243 50.5	S10 45.2	57 10.2	15.2	N10 34.6	12.5	54.7
T	5	258 50.6	S10 46.1	71 44.4	15.2	N10 47.1	12.4	54.7
H								
U	6	273 50.7	S10 47.0	86 18.6	15.2	N10 59.5	12.4	54.7
R	7	288 50.8	S10 47.9	100 52.7	15.2	N11 11.8	12.3	54.7
S	8	303 50.9	S10 48.8	115 26.9	15.1	N11 24.1	12.3	54.7
D	9	318 51.0	S10 49.7	130 01.0	15.1	N11 36.3	12.2	54.6
A	10	333 51.1	S10 50.5	144 35.1	15.1	N11 48.5	12.2	54.6
Y	11	348 51.2	S10 51.4	159 09.1	15.1	N12 00.6	12.1	54.6
	12	3 51.3	S10 52.3	173 43.2	15.0	N12 12.7	12.1	54.6
	13	18 51.4	S10 53.2	188 17.2	15.0	N12 24.7	12.0	54.6
	14	33 51.5	S10 54.1	202 51.2	15.0	N12 36.7	12.0	54.6
	15	48 51.6	S10 55.0	217 25.1	14.9	N12 48.6	11.9	54.6
	16	63 51.7	S10 55.9	231 59.0	14.9	N13 00.5	11.9	54.5
	17	78 51.8	S10 56.7	246 32.9	14.9	N13 12.3	11.8	54.5
	18	93 51.9	S10 57.6	261 06.8	14.9	N13 24.0	11.7	54.5
	19	108 52.0	S10 58.5	275 40.6	14.8	N13 35.7	11.7	54.5
	20	123 52.1	S10 59.4	290 14.4	14.8	N13 47.3	11.6	54.5
	21	138 52.2	S11 00.3	304 48.1	14.8	N13 58.9	11.6	54.5
	22	153 52.3	S11 01.2	319 21.8	14.7	N14 10.4	11.5	54.5
	23	168 52.4	S11 02.0	333 55.5	14.7	N14 21.8	11.4	54.5
		S.D. 16.1	d 0.9	S.D.	15.1	15.0	14.9	

STARS Name	SHA	Dec
Acamar	315 13.4	S40 13.0
Achernar	335 21.6	S57 07.6
Acrux	173 03.7	S63 12.9
Adhara	255 07.9	S28 59.8
Albireo	67 06.2	N28 00.5
Aldebaran	290 42.4	N16 33.2
Alioth	166 15.9	N55 50.6
Alkaid	152 54.6	N49 12.4
Al Na-ir	27 36.0	S46 51.5
Alnilam	275 40.2	S 1 11.2
Alphard	217 50.5	S 8 44.9
Alphecca	126 06.3	N26 38.7
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.8
Arcturus	145 50.7	N19 04.3
Atria	107 16.5	S69 04.1
Avior	234 15.8	S59 34.4
Bellatrix	278 25.5	N 6 22.2
Betelgeuse	270 54.8	N 7 24.7
Canopus	263 53.3	S52 42.1
Capella	280 25.5	N46 01.1
Castor	246 00.4	N31 50.4
Deneb	49 27.5	N45 21.7
Denebola	182 27.9	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.8	N61 37.9
Elnath	278 05.0	N28 37.5
Eltanin	90 43.7	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.1	S57 13.8
Gienah	175 46.6	S17 39.5
Hadar	148 40.5	S60 28.5
Hamal	327 53.9	N23 34.0
Kaus Austr.	83 36.2	S34 22.6
Kochab	137 21.1	N74 04.1
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 39.0	S69 48.0
Mirfak	308 31.6	N49 56.2
Nunki	75 51.2	S26 16.2
Peacock	53 09.8	S56 40.2
Polaris	316 53.2	N89 20.5
Pollux	243 20.5	N27 58.4
Procyon	244 53.6	N 5 10.3
Rasalhague	96 01.2	N12 32.9
Regulus	207 37.4	N11 51.8
Rigel	281 06.2	S 8 10.4
Rigil Kent	139 44.7	S60 55.4
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.4
Shaula	96 14.2	S37 07.2
Sirius	258 28.5	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.4	S43 30.8
Vega	80 35.2	N38 48.5
Zuben-ubi	137 00.1	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
22	0	30 38.7	136 43.8	S26 01.1	187 59.1	S 8 53.9	65 33.1	S15 08.2	81 03.1	S19 19.1
	1	45 41.2	151 43.4	S26 01.5	202 60.0	S 8 54.5	80 35.5	S15 08.2	96 05.5	S19 19.1
	2	60 43.6	166 43.0	S26 01.8	218 00.9	S 8 55.2	95 38.0	S15 08.2	111 07.9	S19 19.1
	3	75 46.1	181 42.6	S26 02.2	233 01.8	S 8 55.8	110 40.4	S15 08.2	126 10.3	S19 19.1
	4	90 48.5	196 42.2	S26 02.6	248 02.7	S 8 56.4	125 42.8	S15 08.1	141 12.7	S19 19.1
F	5	105 51.0	211 41.8	S26 03.0	263 03.6	S 8 57.0	140 45.3	S15 08.1	156 15.1	S19 19.1
R										
I	6	120 53.5	226 41.4	S26 03.4	278 04.5	S 8 57.7	155 47.7	S15 08.1	171 17.6	S19 19.0
D	7	135 55.9	241 41.0	S26 03.8	293 05.4	S 8 58.3	170 50.1	S15 08.1	186 20.0	S19 19.0
A	8	150 58.4	256 40.6	S26 04.2	308 06.3	S 8 58.9	185 52.6	S15 08.1	201 22.4	S19 19.0
Y	9	166 00.9	271 40.2	S26 04.6	323 07.2	S 8 59.6	200 55.0	S15 08.1	216 24.8	S19 19.0
	10	181 03.3	286 39.8	S26 04.9	338 08.1	S 9 00.2	215 57.4	S15 08.0	231 27.2	S19 19.0
	11	196 05.8	301 39.4	S26 05.3	353 09.0	S 9 00.8	230 59.8	S15 08.0	246 29.6	S19 19.0
	12	211 08.3	316 39.1	S26 05.7	8 09.9	S 9 01.4	246 02.3	S15 08.0	261 32.0	S19 19.0
	13	226 10.7	331 38.7	S26 06.1	23 10.8	S 9 02.1	261 04.7	S15 08.0	276 34.5	S19 19.0
	14	241 13.2	346 38.3	S26 06.5	38 11.7	S 9 02.7	276 07.1	S15 08.0	291 36.9	S19 18.9
	15	256 15.7	1 37.9	S26 06.8	53 12.6	S 9 03.3	291 09.6	S15 08.0	306 39.3	S19 18.9
	16	271 18.1	16 37.5	S26 07.2	68 13.5	S 9 04.0	306 12.0	S15 07.9	321 41.7	S19 18.9
	17	286 20.6	31 37.1	S26 07.6	83 14.4	S 9 04.6	321 14.4	S15 07.9	336 44.1	S19 18.9
	18	301 23.0	46 36.7	S26 08.0	98 15.3	S 9 05.2	336 16.9	S15 07.9	351 46.5	S19 18.9
	19	316 25.5	61 36.3	S26 08.4	113 16.2	S 9 05.8	351 19.3	S15 07.9	6 48.9	S19 18.9
	20	331 28.0	76 35.9	S26 08.7	128 17.1	S 9 06.5	6 21.7	S15 07.9	21 51.4	S19 18.9
	21	346 30.4	91 35.5	S26 09.1	143 18.0	S 9 07.1	21 24.1	S15 07.8	36 53.8	S19 18.9
	22	1 32.9	106 35.1	S26 09.5	158 18.9	S 9 07.7	36 26.6	S15 07.8	51 56.2	S19 18.8
	23	16 35.4	121 34.8	S26 09.8	173 19.8	S 9 08.3	51 29.0	S15 07.8	66 58.6	S19 18.8
23	0	31 37.8	136 34.4	S26 10.2	188 20.7	S 9 09.0	66 31.4	S15 07.8	82 01.0	S19 18.8
	1	46 40.3	151 34.0	S26 10.6	203 21.6	S 9 09.6	81 33.9	S15 07.8	97 03.4	S19 18.8
	2	61 42.8	166 33.6	S26 10.9	218 22.5	S 9 10.2	96 36.3	S15 07.8	112 05.8	S19 18.8
	3	76 45.2	181 33.2	S26 11.3	233 23.4	S 9 10.9	111 38.7	S15 07.7	127 08.3	S19 18.8
	4	91 47.7	196 32.8	S26 11.7	248 24.3	S 9 11.5	126 41.1	S15 07.7	142 10.7	S19 18.8
S	5	106 50.2	211 32.4	S26 12.0	263 25.2	S 9 12.1	141 43.6	S15 07.7	157 13.1	S19 18.7
A										
T	6	121 52.6	226 32.0	S26 12.4	278 26.1	S 9 12.7	156 46.0	S15 07.7	172 15.5	S19 18.7
U	7	136 55.1	241 31.7	S26 12.8	293 27.0	S 9 13.4	171 48.4	S15 07.7	187 17.9	S19 18.7
R	8	151 57.5	256 31.3	S26 13.1	308 27.9	S 9 14.0	186 50.8	S15 07.6	202 20.3	S19 18.7
D	9	167 00.0	271 30.9	S26 13.5	323 28.8	S 9 14.6	201 53.3	S15 07.6	217 22.7	S19 18.7
A	10	182 02.5	286 30.5	S26 13.8	338 29.7	S 9 15.2	216 55.7	S15 07.6	232 25.1	S19 18.7
Y	11	197 04.9	301 30.1	S26 14.2	353 30.6	S 9 15.9	231 58.1	S15 07.6	247 27.5	S19 18.7
	12	212 07.4	316 29.7	S26 14.6	8 31.5	S 9 16.5	247 00.5	S15 07.6	262 30.0	S19 18.7
	13	227 09.9	331 29.3	S26 14.9	23 32.4	S 9 17.1	262 02.9	S15 07.5	277 32.4	S19 18.6
	14	242 12.3	346 29.0	S26 15.3	38 33.3	S 9 17.8	277 05.4	S15 07.5	292 34.8	S19 18.6
	15	257 14.8	1 28.6	S26 15.6	53 34.2	S 9 18.4	292 07.8	S15 07.5	307 37.2	S19 18.6
	16	272 17.3	16 28.2	S26 16.0	68 35.1	S 9 19.0	307 10.2	S15 07.5	322 39.6	S19 18.6
	17	287 19.7	31 27.8	S26 16.3	83 36.0	S 9 19.6	322 12.6	S15 07.5	337 42.0	S19 18.6
	18	302 22.2	46 27.4	S26 16.7	98 36.9	S 9 20.3	337 15.1	S15 07.4	352 44.4	S19 18.6
	19	317 24.6	61 27.0	S26 17.0	113 37.8	S 9 20.9	352 17.5	S15 07.4	7 46.8	S19 18.6
	20	332 27.1	76 26.6	S26 17.4	128 38.7	S 9 21.5	7 19.9	S15 07.4	22 49.2	S19 18.5
	21	347 29.6	91 26.3	S26 17.7	143 39.6	S 9 22.1	22 22.3	S15 07.4	37 51.7	S19 18.5
	22	2 32.0	106 25.9	S26 18.1	158 40.5	S 9 22.8	37 24.7	S15 07.4	52 54.1	S19 18.5
	23	17 34.5	121 25.5	S26 18.4	173 41.4	S 9 23.4	52 27.2	S15 07.3	67 56.5	S19 18.5
24	0	32 37.0	136 25.1	S26 18.8	188 42.3	S 9 24.0	67 29.6	S15 07.3	82 58.9	S19 18.5
	1	47 39.4	151 24.7	S26 19.1	203 43.2	S 9 24.6	82 32.0	S15 07.3	98 01.3	S19 18.5
	2	62 41.9	166 24.4	S26 19.4	218 44.1	S 9 25.3	97 34.4	S15 07.3	113 03.7	S19 18.5
	3	77 44.4	181 24.0	S26 19.8	233 45.0	S 9 25.9	112 36.8	S15 07.3	128 06.1	S19 18.4
	4	92 46.8	196 23.6	S26 20.1	248 45.9	S 9 26.5	127 39.2	S15 07.2	143 08.5	S19 18.4
S	5	107 49.3	211 23.2	S26 20.5	263 46.8	S 9 27.1	142 41.7	S15 07.2	158 10.9	S19 18.4
U										
N	6	122 51.8	226 22.8	S26 20.8	278 47.7	S 9 27.8	157 44.1	S15 07.2	173 13.3	S19 18.4
D	7	137 54.2	241 22.5	S26 21.1	293 48.6	S 9 28.4	172 46.5	S15 07.2	188 15.7	S19 18.4
A	8	152 56.7	256 22.1	S26 21.5	308 49.5	S 9 29.0	187 48.9	S15 07.1	203 18.1	S19 18.4
Y	9	167 59.1	271 21.7	S26 21.8	323 50.4	S 9 29.6	202 51.3	S15 07.1	218 20.6	S19 18.4
	10	183 01.6	286 21.3	S26 22.1	338 51.3	S 9 30.3	217 53.7	S15 07.1	233 23.0	S19 18.3
	11	198 04.1	301 20.9	S26 22.5	353 52.2	S 9 30.9	232 56.2	S15 07.1	248 25.4	S19 18.3
	12	213 06.5	316 20.6	S26 22.8	8 53.1	S 9 31.5	247 58.6	S15 07.1	263 27.8	S19 18.3
	13	228 09.0	331 20.2	S26 23.1	23 54.0	S 9 32.1	263 01.0	S15 07.0	278 30.2	S19 18.3
	14	243 11.5	346 19.8	S26 23.5	38 54.9	S 9 32.8	278 03.4	S15 07.0	293 32.6	S19 18.3
	15	258 13.9	1 19.4	S26 23.8	53 55.7	S 9 33.4	293 05.8	S15 07.0	308 35.0	S19 18.3
	16	273 16.4	16 19.0	S26 24.1	68 56.6	S 9 34.0	308 08.2	S15 07.0	323 37.4	S19 18.3
	17	288 18.9	31 18.7	S26 24.4	83 57.5	S 9 34.6	323 10.6	S15 06.9	338 39.8	S19 18.2
	18	303 21.3	46 18.3	S26 24.8	98 58.4	S 9 35.2	338 13.1	S15 06.9	353 42.2	S19 18.2
	19	318 23.8	61 17.9	S26 25.1	113 59.3	S 9 35.9	353 15.5	S15 06.9	8 44.6	S19 18.2
	20	333 26.3	76 17.5	S26 25.4	129 00.2	S 9 36.5	8 17.9	S15 06.9	23 47.0	S19 18.2
	21	348 28.7	91 17.2	S26 25.7	144 01.1	S 9 37.1	23 20.3	S15 06.8	38 49.4	S19 18.2
	22	3 31.2	106 16.8	S26 26.0	159 02.0	S 9 37.7	38 22.7	S15 06.8	53 51.8	S19 18.2
	23	18 33.6	121 16.4	S26 26.4	174 02.9	S 9 38.4	53 25.1	S15 06.8	68 54.2	S19 18.2
			v -0.4	d 0.4	v 0.9	d 0.6	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
	° '	° '	° '	'	° '	'	'		° '	° '
22 0	183 52.5	S11 02.9	348 29.2	14.6	N14 33.2	11.4	54.5	Acamar	315 13.4	S40 13.0
1	198 52.6	S11 03.8	3 02.8	14.6	N14 44.5	11.3	54.4	Achernar	335 21.6	S57 07.6
2	213 52.7	S11 04.7	17 36.4	14.6	N14 55.7	11.2	54.4	Acrux	173 03.7	S63 12.9
3	228 52.8	S11 05.6	32 09.9	14.5	N15 06.9	11.2	54.4	Adhara	255 07.8	S28 59.8
4	243 52.9	S11 06.5	46 43.4	14.5	N15 18.0	11.1	54.4	Albireo	67 06.3	N28 00.5
F 5	258 53.0	S11 07.3	61 16.9	14.5	N15 29.1	11.0	54.4			
R								Aldebaran	290 42.4	N16 33.2
I 6	273 53.1	S11 08.2	75 50.3	14.4	N15 40.0	11.0	54.4	Alioth	166 15.9	N55 50.6
D 7	288 53.2	S11 09.1	90 23.7	14.4	N15 50.9	10.9	54.4	Alkaid	152 54.6	N49 12.4
A 8	303 53.2	S11 10.0	104 57.0	14.3	N16 01.8	10.8	54.4	Al Na-ir	27 36.0	S46 51.5
Y 9	318 53.3	S11 10.9	119 30.4	14.3	N16 12.5	10.8	54.4	Alnilam	275 40.2	S 1 11.2
10	333 53.4	S11 11.7	134 03.6	14.3	N16 23.2	10.7	54.3			
11	348 53.5	S11 12.6	148 36.9	14.2	N16 33.9	10.6	54.3	Alphard	217 50.4	S 8 45.0
								Alphecca	126 06.3	N26 38.7
12	3 53.6	S11 13.5	163 10.0	14.2	N16 44.4	10.6	54.3	Alpheratz	357 37.2	N29 12.8
13	18 53.7	S11 14.4	177 43.2	14.1	N16 54.9	10.5	54.3	Altair	62 02.6	N 8 55.7
14	33 53.8	S11 15.3	192 16.3	14.1	N17 05.3	10.4	54.3	Ankaa	353 09.4	S42 11.4
15	48 53.9	S11 16.1	206 49.3	14.1	N17 15.7	10.3	54.3			
16	63 54.0	S11 17.0	221 22.4	14.0	N17 25.9	10.3	54.3	Antares	112 19.4	S26 28.7
17	78 54.1	S11 17.9	235 55.3	14.0	N17 36.1	10.2	54.3	Arcturus	145 50.7	N19 04.3
								Atria	107 16.5	S69 04.1
18	93 54.2	S11 18.8	250 28.3	13.9	N17 46.2	10.1	54.3	Avior	234 15.8	S59 34.4
19	108 54.3	S11 19.7	265 01.2	13.9	N17 56.2	10.0	54.3	Bellatrix	278 25.5	N 6 22.2
20	123 54.4	S11 20.5	279 34.0	13.8	N18 06.2	9.9	54.3			
21	138 54.4	S11 21.4	294 06.8	13.8	N18 16.0	9.9	54.2	Betelgeuse	270 54.8	N 7 24.7
22	153 54.5	S11 22.3	308 39.6	13.8	N18 25.8	9.8	54.2	Canopus	263 53.3	S52 42.1
23	168 54.6	S11 23.2	323 12.3	13.7	N18 35.5	9.7	54.2	Capella	280 25.5	N46 01.1
23 0	183 54.7	S11 24.0	337 44.9	13.7	N18 45.2	9.6	54.2	Castor	246 00.4	N31 50.4
1	198 54.8	S11 24.9	352 17.5	13.6	N18 54.7	9.5	54.2	Deneb	49 27.5	N45 21.7
2	213 54.9	S11 25.8	6 50.1	13.6	N19 04.2	9.5	54.2			
3	228 55.0	S11 26.7	21 22.6	13.5	N19 13.6	9.4	54.2	Denebola	182 27.9	N14 27.2
4	243 55.1	S11 27.5	35 55.1	13.5	N19 22.9	9.3	54.2	Diphda	348 49.7	S17 52.0
S 5	258 55.1	S11 28.4	50 27.6	13.4	N19 32.1	9.2	54.2	Dubhe	193 44.8	N61 37.9
A								Elnath	278 05.0	N28 37.5
T 6	273 55.2	S11 29.3	64 59.9	13.4	N19 41.2	9.1	54.2	Eltanin	90 43.7	N51 29.4
U 7	288 55.3	S11 30.2	79 32.3	13.3	N19 50.2	9.0	54.2	Enif	33 41.2	N 9 58.6
R 8	303 55.4	S11 31.0	94 04.6	13.3	N19 59.2	9.0	54.2	Fomalhaut	15 17.2	S29 30.5
D 9	318 55.5	S11 31.9	108 36.8	13.2	N20 08.1	8.9	54.2	Gacrux	171 55.1	S57 13.8
A 10	333 55.6	S11 32.8	123 09.0	13.2	N20 16.8	8.8	54.2	Gienah	175 46.6	S17 39.5
Y 11	348 55.7	S11 33.6	137 41.2	13.1	N20 25.5	8.7	54.1	Hadar	148 40.5	S60 28.5
12	3 55.8	S11 34.5	152 13.3	13.1	N20 34.1	8.6	54.1	Hamal	327 53.9	N23 34.0
13	18 55.8	S11 35.4	166 45.3	13.1	N20 42.6	8.5	54.1	Kaus Austr.	83 36.2	S34 22.6
14	33 55.9	S11 36.3	181 17.3	13.0	N20 51.0	8.4	54.1	Kochab	137 21.1	N74 04.1
15	48 56.0	S11 37.1	195 49.3	13.0	N20 59.4	8.3	54.1	Markab	13 32.3	N15 19.4
16	63 56.1	S11 38.0	210 21.2	12.9	N21 07.6	8.2	54.1	Menkar	314 08.6	N 4 10.5
17	78 56.2	S11 38.9	224 53.1	12.9	N21 15.7	8.1	54.1			
								Menkent	148 01.2	S36 28.5
18	93 56.3	S11 39.7	239 24.9	12.8	N21 23.8	8.0	54.1	Miaplacidus	221 38.9	S69 48.0
19	108 56.3	S11 40.6	253 56.6	12.8	N21 31.7	7.9	54.1	Mirfak	308 31.6	N49 56.2
20	123 56.4	S11 41.5	268 28.3	12.7	N21 39.6	7.9	54.1	Nunki	75 51.2	S26 16.2
21	138 56.5	S11 42.4	283 00.0	12.7	N21 47.3	7.8	54.1	Peacock	53 09.8	S56 40.2
22	153 56.6	S11 43.2	297 31.6	12.6	N21 55.0	7.7	54.1			
23	168 56.7	S11 44.1	312 03.2	12.6	N22 02.6	7.6	54.1	Polaris	316 52.8	N89 20.5
24 0	183 56.8	S11 45.0	326 34.7	12.5	N22 10.0	7.5	54.1	Pollux	243 20.5	N27 58.4
1	198 56.8	S11 45.8	341 06.2	12.5	N22 17.4	7.4	54.1	Procyon	244 53.6	N 5 10.3
2	213 56.9	S11 46.7	355 37.6	12.4	N22 24.7	7.3	54.1	Rasalhague	96 01.3	N12 32.9
3	228 57.0	S11 47.6	10 09.0	12.4	N22 31.8	7.2	54.1	Regulus	207 37.4	N11 51.8
4	243 57.1	S11 48.4	24 40.4	12.3	N22 38.9	7.1	54.1			
S 5	258 57.2	S11 49.3	39 11.6	12.3	N22 45.8	7.0	54.1	Rigel	281 06.2	S 8 10.5
U								Rigil Kent	139 44.7	S60 55.4
N 6	273 57.2	S11 50.2	53 42.9	12.2	N22 52.7	6.9	54.1	Sabik	102 06.1	S15 45.0
D 7	288 57.3	S11 51.0	68 14.1	12.2	N22 59.5	6.8	54.1	Schedar	349 33.5	N56 39.5
A 8	303 57.4	S11 51.9	82 45.2	12.1	N23 06.1	6.7	54.1	Shaula	96 14.2	S37 07.2
Y 9	318 57.5	S11 52.8	97 16.3	12.1	N23 12.7	6.6	54.1	Sirius	258 28.5	S16 44.5
10	333 57.6	S11 53.6	111 47.4	12.1	N23 19.1	6.4	54.1	Spica	158 25.4	S11 16.3
11	348 57.6	S11 54.5	126 18.4	12.0	N23 25.5	6.3	54.1	Suhail	222 48.3	S43 30.8
								Vega	80 35.2	N38 48.5
12	3 57.7	S11 55.4	140 49.3	12.0	N23 31.7	6.2	54.1	Zuben-ubi	137 00.1	S16 07.8
13	18 57.8	S11 56.2	155 20.2	11.9	N23 37.8	6.1	54.1			
14	33 57.9	S11 57.1	169 51.1	11.9	N23 43.8	6.0	54.1			
15	48 57.9	S11 58.0	184 21.9	11.8	N23 49.8	5.9	54.1			
16	63 58.0	S11 58.8	198 52.7	11.8	N23 55.6	5.8	54.1			
17	78 58.1	S11 59.7	213 23.5	11.7	N24 01.3	5.7	54.1			
18	93 58.2	S12 00.6	227 54.1	11.7	N24 06.9	5.6	54.1			
19	108 58.2	S12 01.4	242 24.8	11.6	N24 12.3	5.5	54.1			
20	123 58.3	S12 02.3	256 55.4	11.6	N24 17.7	5.4	54.1			
21	138 58.4	S12 03.1	271 26.0	11.6	N24 23.0	5.3	54.1			
22	153 58.5	S12 04.0	285 56.5	11.5	N24 28.1	5.1	54.1			
23	168 58.5	S12 04.9	300 27.0	11.5	N24 33.1	5.0	54.1			
	S.D. 16.1	d 0.9	S.D.	14.8	14.8	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 ° '
25	0	33 36.1	136 16.0	S26 26.7	189 03.8	S 9 39.0	68 27.5	S15 06.8	83 56.6	S19 18.1
	1	48 38.6	151 15.7	S26 27.0	204 04.7	S 9 39.6	83 29.9	S15 06.8	98 59.0	S19 18.1
	2	63 41.0	166 15.3	S26 27.3	219 05.6	S 9 40.2	98 32.3	S15 06.7	114 01.4	S19 18.1
	3	78 43.5	181 14.9	S26 27.6	234 06.5	S 9 40.9	113 34.8	S15 06.7	129 03.9	S19 18.1
	4	93 46.0	196 14.6	S26 27.9	249 07.4	S 9 41.5	128 37.2	S15 06.7	144 06.3	S19 18.1
M	5	108 48.4	211 14.2	S26 28.3	264 08.3	S 9 42.1	143 39.6	S15 06.7	159 08.7	S19 18.1
O										
N	6	123 50.9	226 13.8	S26 28.6	279 09.2	S 9 42.7	158 42.0	S15 06.6	174 11.1	S19 18.1
D	7	138 53.4	241 13.4	S26 28.9	294 10.0	S 9 43.3	173 44.4	S15 06.6	189 13.5	S19 18.0
A	8	153 55.8	256 13.1	S26 29.2	309 10.9	S 9 44.0	188 46.8	S15 06.6	204 15.9	S19 18.0
Y	9	168 58.3	271 12.7	S26 29.5	324 11.8	S 9 44.6	203 49.2	S15 06.6	219 18.3	S19 18.0
	10	184 00.8	286 12.3	S26 29.8	339 12.7	S 9 45.2	218 51.6	S15 06.5	234 20.7	S19 18.0
	11	199 03.2	301 12.0	S26 30.1	354 13.6	S 9 45.8	233 54.0	S15 06.5	249 23.1	S19 18.0
	12	214 05.7	316 11.6	S26 30.4	9 14.5	S 9 46.5	248 56.4	S15 06.5	264 25.5	S19 18.0
	13	229 08.1	331 11.2	S26 30.7	24 15.4	S 9 47.1	263 58.8	S15 06.5	279 27.9	S19 17.9
	14	244 10.6	346 10.8	S26 31.0	39 16.3	S 9 47.7	279 01.2	S15 06.4	294 30.3	S19 17.9
	15	259 13.1	1 10.5	S26 31.3	54 17.2	S 9 48.3	294 03.6	S15 06.4	309 32.7	S19 17.9
	16	274 15.5	16 10.1	S26 31.6	69 18.1	S 9 48.9	309 06.1	S15 06.4	324 35.1	S19 17.9
	17	289 18.0	31 09.7	S26 31.9	84 19.0	S 9 49.6	324 08.5	S15 06.4	339 37.5	S19 17.9
	18	304 20.5	46 09.4	S26 32.2	99 19.9	S 9 50.2	339 10.9	S15 06.3	354 39.9	S19 17.9
	19	319 22.9	61 09.0	S26 32.5	114 20.7	S 9 50.8	354 13.3	S15 06.3	9 42.3	S19 17.8
	20	334 25.4	76 08.6	S26 32.8	129 21.6	S 9 51.4	9 15.7	S15 06.3	24 44.7	S19 17.8
	21	349 27.9	91 08.3	S26 33.1	144 22.5	S 9 52.0	24 18.1	S15 06.2	39 47.1	S19 17.8
	22	4 30.3	106 07.9	S26 33.4	159 23.4	S 9 52.7	39 20.5	S15 06.2	54 49.5	S19 17.8
	23	19 32.8	121 07.5	S26 33.7	174 24.3	S 9 53.3	54 22.9	S15 06.2	69 51.9	S19 17.8
26	0	34 35.3	136 07.2	S26 34.0	189 25.2	S 9 53.9	69 25.3	S15 06.2	84 54.3	S19 17.8
	1	49 37.7	151 06.8	S26 34.3	204 26.1	S 9 54.5	84 27.7	S15 06.1	99 56.7	S19 17.8
	2	64 40.2	166 06.5	S26 34.6	219 27.0	S 9 55.2	99 30.1	S15 06.1	114 59.1	S19 17.7
	3	79 42.6	181 06.1	S26 34.9	234 27.9	S 9 55.8	114 32.5	S15 06.1	130 01.5	S19 17.7
	4	94 45.1	196 05.7	S26 35.2	249 28.8	S 9 56.4	129 34.9	S15 06.1	145 03.9	S19 17.7
T	5	109 47.6	211 05.4	S26 35.5	264 29.6	S 9 57.0	144 37.3	S15 06.0	160 06.3	S19 17.7
U										
E	6	124 50.0	226 05.0	S26 35.7	279 30.5	S 9 57.6	159 39.7	S15 06.0	175 08.7	S19 17.7
S	7	139 52.5	241 04.6	S26 36.0	294 31.4	S 9 58.3	174 42.1	S15 06.0	190 11.1	S19 17.7
D	8	154 55.0	256 04.3	S26 36.3	309 32.3	S 9 58.9	189 44.5	S15 06.0	205 13.5	S19 17.6
A	9	169 57.4	271 03.9	S26 36.6	324 33.2	S 9 59.5	204 46.9	S15 05.9	220 15.9	S19 17.6
Y	10	184 59.9	286 03.6	S26 36.9	339 34.1	S10 00.1	219 49.3	S15 05.9	235 18.3	S19 17.6
	11	200 02.4	301 03.2	S26 37.2	354 35.0	S10 00.7	234 51.7	S15 05.9	250 20.7	S19 17.6
	12	215 04.8	316 02.8	S26 37.4	9 35.9	S10 01.3	249 54.1	S15 05.8	265 23.1	S19 17.6
	13	230 07.3	331 02.5	S26 37.7	24 36.7	S10 02.0	264 56.5	S15 05.8	280 25.5	S19 17.6
	14	245 09.7	346 02.1	S26 38.0	39 37.6	S10 02.6	279 58.9	S15 05.8	295 27.9	S19 17.5
	15	260 12.2	1 01.8	S26 38.3	54 38.5	S10 03.2	295 01.3	S15 05.8	310 30.3	S19 17.5
	16	275 14.7	16 01.4	S26 38.5	69 39.4	S10 03.8	310 03.7	S15 05.7	325 32.7	S19 17.5
	17	290 17.1	31 01.0	S26 38.8	84 40.3	S10 04.4	325 06.1	S15 05.7	340 35.1	S19 17.5
	18	305 19.6	46 00.7	S26 39.1	99 41.2	S10 05.1	340 08.5	S15 05.7	355 37.5	S19 17.5
	19	320 22.1	61 00.3	S26 39.4	114 42.1	S10 05.7	355 10.9	S15 05.6	10 39.9	S19 17.5
	20	335 24.5	75 60.0	S26 39.6	129 43.0	S10 06.3	10 13.3	S15 05.6	25 42.3	S19 17.4
	21	350 27.0	90 59.6	S26 39.9	144 43.8	S10 06.9	25 15.7	S15 05.6	40 44.7	S19 17.4
	22	5 29.5	105 59.3	S26 40.2	159 44.7	S10 07.5	40 18.1	S15 05.6	55 47.1	S19 17.4
	23	20 31.9	120 58.9	S26 40.4	174 45.6	S10 08.2	55 20.5	S15 05.5	70 49.5	S19 17.4
27	0	35 34.4	135 58.5	S26 40.7	189 46.5	S10 08.8	70 22.8	S15 05.5	85 51.9	S19 17.4
	1	50 36.9	150 58.2	S26 41.0	204 47.4	S10 09.4	85 25.2	S15 05.5	100 54.3	S19 17.4
	2	65 39.3	165 57.8	S26 41.2	219 48.3	S10 10.0	100 27.6	S15 05.4	115 56.6	S19 17.3
	3	80 41.8	180 57.5	S26 41.5	234 49.2	S10 10.6	115 30.0	S15 05.4	130 59.0	S19 17.3
	4	95 44.2	195 57.1	S26 41.8	249 50.0	S10 11.2	130 32.4	S15 05.4	146 01.4	S19 17.3
W	5	110 46.7	210 56.8	S26 42.0	264 50.9	S10 11.9	145 34.8	S15 05.3	161 03.8	S19 17.3
E										
D	6	125 49.2	225 56.4	S26 42.3	279 51.8	S10 12.5	160 37.2	S15 05.3	176 06.2	S19 17.3
N	7	140 51.6	240 56.1	S26 42.6	294 52.7	S10 13.1	175 39.6	S15 05.3	191 08.6	S19 17.2
E	8	155 54.1	255 55.7	S26 42.8	309 53.6	S10 13.7	190 42.0	S15 05.3	206 11.0	S19 17.2
S	9	170 56.6	270 55.4	S26 43.1	324 54.5	S10 14.3	205 44.4	S15 05.2	221 13.4	S19 17.2
D	10	185 59.0	285 55.0	S26 43.3	339 55.3	S10 14.9	220 46.8	S15 05.2	236 15.8	S19 17.2
A	11	201 01.5	300 54.7	S26 43.6	354 56.2	S10 15.6	235 49.2	S15 05.2	251 18.2	S19 17.2
Y										
	12	216 04.0	315 54.3	S26 43.8	9 57.1	S10 16.2	250 51.6	S15 05.1	266 20.6	S19 17.2
	13	231 06.4	330 54.0	S26 44.1	24 58.0	S10 16.8	265 53.9	S15 05.1	281 23.0	S19 17.1
	14	246 08.9	345 53.6	S26 44.3	39 58.9	S10 17.4	280 56.3	S15 05.1	296 25.4	S19 17.1
	15	261 11.4	0 53.3	S26 44.6	54 59.8	S10 18.0	295 58.7	S15 05.0	311 27.8	S19 17.1
	16	276 13.8	15 52.9	S26 44.8	70 00.6	S10 18.6	311 01.1	S15 05.0	326 30.2	S19 17.1
	17	291 16.3	30 52.6	S26 45.1	85 01.5	S10 19.3	326 03.5	S15 05.0	341 32.6	S19 17.1
	18	306 18.7	45 52.2	S26 45.3	100 02.4	S10 19.9	341 05.9	S15 04.9	356 35.0	S19 17.1
	19	321 21.2	60 51.9	S26 45.6	115 03.3	S10 20.5	356 08.3	S15 04.9	11 37.3	S19 17.0
	20	336 23.7	75 51.5	S26 45.8	130 04.2	S10 21.1	11 10.7	S15 04.9	26 39.7	S19 17.0
	21	351 26.1	90 51.2	S26 46.1	145 05.1	S10 21.7	26 13.1	S15 04.9	41 42.1	S19 17.0
	22	6 28.6	105 50.8	S26 46.3	160 05.9	S10 22.3	41 15.4	S15 04.8	56 44.5	S19 17.0
	23	21 31.1	120 50.5	S26 46.6	175 06.8	S10 23.0	56 17.8	S15 04.8	71 46.9	S19 17.0
			v -0.4	d 0.3	v 0.9	d 0.6	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 '
25	0	183 58.6	S12 05.7	314 57.4	11.4	N24 38.1	4.9	54.1
	1	198 58.7	S12 06.6	329 27.8	11.4	N24 42.9	4.8	54.1
	2	213 58.8	S12 07.4	343 58.1	11.4	N24 47.6	4.7	54.1
	3	228 58.8	S12 08.3	358 28.5	11.3	N24 52.1	4.6	54.1
	4	243 58.9	S12 09.2	12 58.7	11.3	N24 56.6	4.5	54.1
M	5	258 59.0	S12 10.0	27 29.0	11.2	N25 01.0	4.4	54.1
O								
N	6	273 59.1	S12 10.9	41 59.2	11.2	N25 05.2	4.2	54.1
D	7	288 59.1	S12 11.7	56 29.3	11.2	N25 09.3	4.1	54.1
A	8	303 59.2	S12 12.6	70 59.4	11.1	N25 13.3	4.0	54.1
Y	9	318 59.3	S12 13.5	85 29.5	11.1	N25 17.2	3.9	54.1
	10	333 59.3	S12 14.3	99 59.6	11.0	N25 21.0	3.8	54.1
	11	348 59.4	S12 15.2	114 29.6	11.0	N25 24.6	3.6	54.1
	12	3 59.5	S12 16.0	128 59.6	11.0	N25 28.2	3.5	54.1
	13	18 59.6	S12 16.9	143 29.5	10.9	N25 31.6	3.4	54.1
	14	33 59.6	S12 17.7	157 59.4	10.9	N25 34.9	3.3	54.1
	15	48 59.7	S12 18.6	172 29.3	10.9	N25 38.0	3.2	54.1
	16	63 59.8	S12 19.5	186 59.1	10.8	N25 41.1	3.1	54.1
	17	78 59.8	S12 20.3	201 28.9	10.8	N25 44.0	2.9	54.1
	18	93 59.9	S12 21.2	215 58.7	10.8	N25 46.8	2.8	54.1
	19	108 60.0	S12 22.0	230 28.5	10.8	N25 49.5	2.7	54.1
	20	124 00.0	S12 22.9	244 58.2	10.7	N25 52.1	2.6	54.2
	21	139 00.1	S12 23.7	259 27.9	10.7	N25 54.5	2.4	54.2
	22	154 00.2	S12 24.6	273 57.6	10.7	N25 56.9	2.3	54.2
	23	169 00.2	S12 25.4	288 27.2	10.6	N25 59.1	2.2	54.2
26	0	184 00.3	S12 26.3	302 56.8	10.6	N26 01.1	2.1	54.2
	1	199 00.4	S12 27.2	317 26.4	10.6	N26 03.1	2.0	54.2
	2	214 00.4	S12 28.0	331 55.9	10.6	N26 04.9	1.8	54.2
	3	229 00.5	S12 28.9	346 25.5	10.5	N26 06.6	1.7	54.2
	4	244 00.6	S12 29.7	0 55.0	10.5	N26 08.2	1.6	54.2
T	5	259 00.6	S12 30.6	15 24.5	10.5	N26 09.7	1.5	54.2
U								
E	6	274 00.7	S12 31.4	29 53.9	10.5	N26 11.0	1.3	54.2
S	7	289 00.8	S12 32.3	44 23.4	10.4	N26 12.2	1.2	54.2
D	8	304 00.8	S12 33.1	58 52.8	10.4	N26 13.3	1.1	54.3
A	9	319 00.9	S12 34.0	73 22.2	10.4	N26 14.3	1.0	54.3
Y	10	334 00.9	S12 34.8	87 51.6	10.4	N26 15.1	0.8	54.3
	11	349 01.0	S12 35.7	102 21.0	10.4	N26 15.8	0.7	54.3
	12	4 01.1	S12 36.5	116 50.3	10.4	N26 16.4	0.6	54.3
	13	19 01.1	S12 37.4	131 19.7	10.3	N26 16.9	0.5	54.3
	14	34 01.2	S12 38.2	145 49.0	10.3	N26 17.2	0.3	54.3
	15	49 01.3	S12 39.1	160 18.3	10.3	N26 17.4	0.2	54.3
	16	64 01.3	S12 39.9	174 47.6	10.3	N26 17.5	0.1	54.3
	17	79 01.4	S12 40.8	189 16.9	10.3	N26 17.4	0.1	54.4
	18	94 01.4	S12 41.6	203 46.1	10.3	N26 17.2	0.2	54.4
	19	109 01.5	S12 42.5	218 15.4	10.3	N26 16.9	0.3	54.4
	20	124 01.6	S12 43.3	232 44.6	10.2	N26 16.5	0.4	54.4
	21	139 01.6	S12 44.1	247 13.9	10.2	N26 15.9	0.6	54.4
	22	154 01.7	S12 45.0	261 43.1	10.2	N26 15.2	0.7	54.4
	23	169 01.7	S12 45.8	276 12.3	10.2	N26 14.4	0.8	54.4
27	0	184 01.8	S12 46.7	290 41.5	10.2	N26 13.5	0.9	54.5
	1	199 01.9	S12 47.5	305 10.7	10.2	N26 12.4	1.1	54.5
	2	214 01.9	S12 48.4	319 39.9	10.2	N26 11.2	1.2	54.5
	3	229 02.0	S12 49.2	334 09.1	10.2	N26 09.9	1.3	54.5
	4	244 02.0	S12 50.1	348 38.3	10.2	N26 08.4	1.5	54.5
W	5	259 02.1	S12 50.9	3 07.5	10.2	N26 06.8	1.6	54.5
E								
D	6	274 02.1	S12 51.7	17 36.7	10.2	N26 05.1	1.7	54.6
N	7	289 02.2	S12 52.6	32 05.8	10.2	N26 03.3	1.8	54.6
E	8	304 02.3	S12 53.4	46 35.0	10.2	N26 01.3	2.0	54.6
S	9	319 02.3	S12 54.3	61 04.2	10.2	N25 59.2	2.1	54.6
D	10	334 02.4	S12 55.1	75 33.4	10.2	N25 57.0	2.2	54.6
A	11	349 02.4	S12 56.0	90 02.6	10.2	N25 54.6	2.4	54.6
Y								
	12	4 02.5	S12 56.8	104 31.8	10.2	N25 52.2	2.5	54.7
	13	19 02.5	S12 57.6	119 01.0	10.2	N25 49.6	2.6	54.7
	14	34 02.6	S12 58.5	133 30.2	10.2	N25 46.8	2.7	54.7
	15	49 02.6	S12 59.3	147 59.4	10.2	N25 44.0	2.9	54.7
	16	64 02.7	S13 00.2	162 28.6	10.2	N25 41.0	3.0	54.7
	17	79 02.7	S13 01.0	176 57.8	10.2	N25 37.8	3.1	54.7
	18	94 02.8	S13 01.8	191 27.0	10.2	N25 34.6	3.2	54.8
	19	109 02.8	S13 02.7	205 56.2	10.2	N25 31.2	3.4	54.8
	20	124 02.9	S13 03.5	220 25.5	10.2	N25 27.7	3.5	54.8
	21	139 03.0	S13 04.4	234 54.7	10.2	N25 24.1	3.6	54.8
	22	154 03.0	S13 05.2	249 24.0	10.3	N25 20.3	3.8	54.8
	23	169 03.1	S13 06.0	263 53.2	10.3	N25 16.4	3.9	54.9
		S.D. 16.1	d 0.8	S.D.	14.7	14.8	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.4	S40 13.0
Achernar	335 21.6	S57 07.6
Acrux	173 03.6	S63 12.9
Adhara	255 07.8	S28 59.8
Albireo	67 06.3	N28 00.5
Aldebaran	290 42.4	N16 33.2
Alioth	166 15.8	N55 50.6
Alkaid	152 54.6	N49 12.4
Al Na-ir	27 36.0	S46 51.5
Alnilam	275 40.2	S 1 11.2
Alphard	217 50.4	S 8 45.0
Alphecca	126 06.3	N26 38.7
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.7
Arcturus	145 50.7	N19 04.3
Atria	107 16.5	S69 04.1
Avior	234 15.8	S59 34.4
Bellatrix	278 25.5	N 6 22.2
Betelgeuse	270 54.8	N 7 24.7
Canopus	263 53.3	S52 42.1
Capella	280 25.5	N46 01.1
Castor	246 00.3	N31 50.4
Deneb	49 27.5	N45 21.7
Denebola	182 27.9	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.7	N61 37.9
Elnath	278 05.0	N28 37.5
Eltanin	90 43.7	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.1	S57 13.8
Gienah	175 46.6	S17 39.5
Hadar	148 40.4	S60 28.5
Hamal	327 53.9	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 04.1
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.2	S36 28.5
Miaplacidus	221 38.9	S69 48.0
Mirfak	308 31.6	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 09.9	S56 40.2
Polaris	316 52.4	N89 20.5
Pollux	243 20.5	N27 58.4
Procyon	244 53.5	N 5 10.3
Rasalhague	96 01.3	N12 32.9
Regulus	207 37.4	N11 51.8
Rigel	281 06.2	S 8 10.5
Rigil Kent	139 44.7	S60 55.4
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.5
Shaula	96 14.2	S37 07.2
Sirius	258 28.4	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.3	S43 30.8
Vega	80 35.2	N38 48.5
Zuben-ubi	137 00.1	S16 07.8

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	36 33.5	135 50.2	S26 46.8	190 07.7	S10 23.6	71 20.2	S15 04.8	86 49.3	S19 16.9
	1	51 36.0	150 49.8	S26 47.1	205 08.6	S10 24.2	86 22.6	S15 04.7	101 51.7	S19 16.9
	2	66 38.5	165 49.5	S26 47.3	220 09.5	S10 24.8	101 25.0	S15 04.7	116 54.1	S19 16.9
	3	81 40.9	180 49.1	S26 47.5	235 10.4	S10 25.4	116 27.4	S15 04.7	131 56.5	S19 16.9
	4	96 43.4	195 48.8	S26 47.8	250 11.2	S10 26.0	131 29.8	S15 04.6	146 58.9	S19 16.9
T	5	111 45.9	210 48.4	S26 48.0	265 12.1	S10 26.7	146 32.1	S15 04.6	162 01.3	S19 16.9
H										
U	6	126 48.3	225 48.1	S26 48.2	280 13.0	S10 27.3	161 34.5	S15 04.6	177 03.7	S19 16.8
R	7	141 50.8	240 47.8	S26 48.5	295 13.9	S10 27.9	176 36.9	S15 04.5	192 06.1	S19 16.8
S	8	156 53.2	255 47.4	S26 48.7	310 14.8	S10 28.5	191 39.3	S15 04.5	207 08.4	S19 16.8
D	9	171 55.7	270 47.1	S26 48.9	325 15.6	S10 29.1	206 41.7	S15 04.5	222 10.8	S19 16.8
A	10	186 58.2	285 46.7	S26 49.2	340 16.5	S10 29.7	221 44.1	S15 04.4	237 13.2	S19 16.8
Y	11	202 00.6	300 46.4	S26 49.4	355 17.4	S10 30.3	236 46.4	S15 04.4	252 15.6	S19 16.7
	12	217 03.1	315 46.1	S26 49.6	10 18.3	S10 31.0	251 48.8	S15 04.4	267 18.0	S19 16.7
	13	232 05.6	330 45.7	S26 49.9	25 19.2	S10 31.6	266 51.2	S15 04.3	282 20.4	S19 16.7
	14	247 08.0	345 45.4	S26 50.1	40 20.0	S10 32.2	281 53.6	S15 04.3	297 22.8	S19 16.7
	15	262 10.5	0 45.1	S26 50.3	55 20.9	S10 32.8	296 56.0	S15 04.3	312 25.2	S19 16.7
	16	277 13.0	15 44.7	S26 50.5	70 21.8	S10 33.4	311 58.4	S15 04.2	327 27.6	S19 16.6
	17	292 15.4	30 44.4	S26 50.8	85 22.7	S10 34.0	327 00.7	S15 04.2	342 29.9	S19 16.6
	18	307 17.9	45 44.0	S26 51.0	100 23.6	S10 34.6	342 03.1	S15 04.2	357 32.3	S19 16.6
	19	322 20.3	60 43.7	S26 51.2	115 24.4	S10 35.3	357 05.5	S15 04.1	12 34.7	S19 16.6
	20	337 22.8	75 43.4	S26 51.4	130 25.3	S10 35.9	12 07.9	S15 04.1	27 37.1	S19 16.6
	21	352 25.3	90 43.0	S26 51.6	145 26.2	S10 36.5	27 10.3	S15 04.1	42 39.5	S19 16.6
	22	7 27.7	105 42.7	S26 51.9	160 27.1	S10 37.1	42 12.6	S15 04.0	57 41.9	S19 16.5
	23	22 30.2	120 42.4	S26 52.1	175 27.9	S10 37.7	57 15.0	S15 04.0	72 44.3	S19 16.5
29	0	37 32.7	135 42.0	S26 52.3	190 28.8	S10 38.3	72 17.4	S15 04.0	87 46.7	S19 16.5
	1	52 35.1	150 41.7	S26 52.5	205 29.7	S10 38.9	87 19.8	S15 03.9	102 49.1	S19 16.5
	2	67 37.6	165 41.4	S26 52.7	220 30.6	S10 39.5	102 22.2	S15 03.9	117 51.4	S19 16.5
	3	82 40.1	180 41.1	S26 52.9	235 31.5	S10 40.2	117 24.5	S15 03.8	132 53.8	S19 16.4
	4	97 42.5	195 40.7	S26 53.1	250 32.3	S10 40.8	132 26.9	S15 03.8	147 56.2	S19 16.4
F	5	112 45.0	210 40.4	S26 53.4	265 33.2	S10 41.4	147 29.3	S15 03.8	162 58.6	S19 16.4
R										
I	6	127 47.5	225 40.1	S26 53.6	280 34.1	S10 42.0	162 31.7	S15 03.7	178 01.0	S19 16.4
D	7	142 49.9	240 39.7	S26 53.8	295 35.0	S10 42.6	177 34.0	S15 03.7	193 03.4	S19 16.4
A	8	157 52.4	255 39.4	S26 54.0	310 35.8	S10 43.2	192 36.4	S15 03.7	208 05.8	S19 16.3
Y	9	172 54.8	270 39.1	S26 54.2	325 36.7	S10 43.8	207 38.8	S15 03.6	223 08.1	S19 16.3
	10	187 57.3	285 38.8	S26 54.4	340 37.6	S10 44.4	222 41.2	S15 03.6	238 10.5	S19 16.3
	11	202 59.8	300 38.4	S26 54.6	355 38.5	S10 45.1	237 43.5	S15 03.6	253 12.9	S19 16.3
	12	218 02.2	315 38.1	S26 54.8	10 39.3	S10 45.7	252 45.9	S15 03.5	268 15.3	S19 16.3
	13	233 04.7	330 37.8	S26 55.0	25 40.2	S10 46.3	267 48.3	S15 03.5	283 17.7	S19 16.2
	14	248 07.2	345 37.5	S26 55.2	40 41.1	S10 46.9	282 50.7	S15 03.5	298 20.1	S19 16.2
	15	263 09.6	0 37.1	S26 55.4	55 42.0	S10 47.5	297 53.0	S15 03.4	313 22.5	S19 16.2
	16	278 12.1	15 36.8	S26 55.6	70 42.8	S10 48.1	312 55.4	S15 03.4	328 24.8	S19 16.2
	17	293 14.6	30 36.5	S26 55.8	85 43.7	S10 48.7	327 57.8	S15 03.3	343 27.2	S19 16.2
	18	308 17.0	45 36.2	S26 56.0	100 44.6	S10 49.3	343 00.2	S15 03.3	358 29.6	S19 16.1
	19	323 19.5	60 35.8	S26 56.2	115 45.5	S10 49.9	358 02.5	S15 03.3	13 32.0	S19 16.1
	20	338 22.0	75 35.5	S26 56.4	130 46.3	S10 50.6	13 04.9	S15 03.2	28 34.4	S19 16.1
	21	353 24.4	90 35.2	S26 56.6	145 47.2	S10 51.2	28 07.3	S15 03.2	43 36.8	S19 16.1
	22	8 26.9	105 34.9	S26 56.8	160 48.1	S10 51.8	43 09.6	S15 03.2	58 39.2	S19 16.1
	23	23 29.3	120 34.6	S26 57.0	175 49.0	S10 52.4	58 12.0	S15 03.1	73 41.5	S19 16.0
30	0	38 31.8	135 34.2	S26 57.2	190 49.8	S10 53.0	73 14.4	S15 03.1	88 43.9	S19 16.0
	1	53 34.3	150 33.9	S26 57.4	205 50.7	S10 53.6	88 16.7	S15 03.0	103 46.3	S19 16.0
	2	68 36.7	165 33.6	S26 57.5	220 51.6	S10 54.2	103 19.1	S15 03.0	118 48.7	S19 16.0
	3	83 39.2	180 33.3	S26 57.7	235 52.5	S10 54.8	118 21.5	S15 03.0	133 51.1	S19 16.0
	4	98 41.7	195 33.0	S26 57.9	250 53.3	S10 55.4	133 23.9	S15 02.9	148 53.5	S19 15.9
S	5	113 44.1	210 32.7	S26 58.1	265 54.2	S10 56.0	148 26.2	S15 02.9	163 55.8	S19 15.9
A										
T	6	128 46.6	225 32.3	S26 58.3	280 55.1	S10 56.7	163 28.6	S15 02.9	178 58.2	S19 15.9
U	7	143 49.1	240 32.0	S26 58.5	295 56.0	S10 57.3	178 31.0	S15 02.8	194 00.6	S19 15.9
R	8	158 51.5	255 31.7	S26 58.7	310 56.8	S10 57.9	193 33.3	S15 02.8	209 03.0	S19 15.9
D	9	173 54.0	270 31.4	S26 58.8	325 57.7	S10 58.5	208 35.7	S15 02.7	224 05.4	S19 15.8
A	10	188 56.4	285 31.1	S26 59.0	340 58.6	S10 59.1	223 38.1	S15 02.7	239 07.7	S19 15.8
Y	11	203 58.9	300 30.8	S26 59.2	355 59.4	S10 59.7	238 40.4	S15 02.7	254 10.1	S19 15.8
	12	219 01.4	315 30.5	S26 59.4	11 00.3	S11 00.3	253 42.8	S15 02.6	269 12.5	S19 15.8
	13	234 03.8	330 30.2	S26 59.6	26 01.2	S11 00.9	268 45.2	S15 02.6	284 14.9	S19 15.8
	14	249 06.3	345 29.8	S26 59.7	41 02.1	S11 01.5	283 47.5	S15 02.5	299 17.3	S19 15.7
	15	264 08.8	0 29.5	S26 59.9	56 02.9	S11 02.1	298 49.9	S15 02.5	314 19.7	S19 15.7
	16	279 11.2	15 29.2	S27 00.1	71 03.8	S11 02.7	313 52.3	S15 02.5	329 22.0	S19 15.7
	17	294 13.7	30 28.9	S27 00.3	86 04.7	S11 03.3	328 54.6	S15 02.4	344 24.4	S19 15.7
	18	309 16.2	45 28.6	S27 00.4	101 05.5	S11 04.0	343 57.0	S15 02.4	359 26.8	S19 15.6
	19	324 18.6	60 28.3	S27 00.6	116 06.4	S11 04.6	358 59.4	S15 02.3	14 29.2	S19 15.6
	20	339 21.1	75 28.0	S27 00.8	131 07.3	S11 05.2	14 01.7	S15 02.3	29 31.6	S19 15.6
	21	354 23.6	90 27.7	S27 00.9	146 08.1	S11 05.8	29 04.1	S15 02.3	44 33.9	S19 15.6
	22	9 26.0	105 27.4	S27 01.1	161 09.0	S11 06.4	44 06.4	S15 02.2	59 36.3	S19 15.6
	23	24 28.5	120 27.1	S27 01.3	176 09.9	S11 07.0	59 08.8	S15 02.2	74 38.7	S19 15.5
			v -0.3	d 0.2	v 0.9	d 0.6	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
		° '	° '	° '	'	° '	'	'
28	0	184 03.1	S13 06.9	278 22.5	10.3	N25 12.4	4.0	54.9
	1	199 03.2	S13 07.7	292 51.8	10.3	N25 08.3	4.1	54.9
	2	214 03.2	S13 08.5	307 21.1	10.3	N25 04.0	4.3	54.9
	3	229 03.3	S13 09.4	321 50.4	10.3	N24 59.6	4.4	55.0
	4	244 03.3	S13 10.2	336 19.8	10.3	N24 55.1	4.5	55.0
T	5	259 03.4	S13 11.0	350 49.1	10.3	N24 50.5	4.6	55.0
H								
U	6	274 03.4	S13 11.9	5 18.5	10.4	N24 45.7	4.8	55.0
R	7	289 03.5	S13 12.7	19 47.8	10.4	N24 40.8	4.9	55.0
S	8	304 03.5	S13 13.6	34 17.2	10.4	N24 35.8	5.0	55.1
D	9	319 03.5	S13 14.4	48 46.6	10.4	N24 30.7	5.1	55.1
A	10	334 03.6	S13 15.2	63 16.1	10.4	N24 25.4	5.3	55.1
Y	11	349 03.6	S13 16.1	77 45.5	10.4	N24 20.0	5.4	55.1
	12	4 03.7	S13 16.9	92 15.0	10.5	N24 14.5	5.5	55.2
	13	19 03.7	S13 17.7	106 44.5	10.5	N24 08.9	5.6	55.2
	14	34 03.8	S13 18.6	121 14.0	10.5	N24 03.1	5.8	55.2
	15	49 03.8	S13 19.4	135 43.5	10.5	N23 57.2	5.9	55.2
	16	64 03.9	S13 20.2	150 13.0	10.5	N23 51.2	6.0	55.3
	17	79 03.9	S13 21.0	164 42.6	10.6	N23 45.1	6.1	55.3
	18	94 04.0	S13 21.9	179 12.2	10.6	N23 38.9	6.2	55.3
	19	109 04.0	S13 22.7	193 41.8	10.6	N23 32.5	6.4	55.4
	20	124 04.0	S13 23.5	208 11.4	10.6	N23 26.0	6.5	55.4
	21	139 04.1	S13 24.4	222 41.0	10.6	N23 19.4	6.6	55.4
	22	154 04.1	S13 25.2	237 10.7	10.7	N23 12.7	6.7	55.4
	23	169 04.2	S13 26.0	251 40.4	10.7	N23 05.8	6.9	55.5
29	0	184 04.2	S13 26.9	266 10.1	10.7	N22 58.8	7.0	55.5
	1	199 04.3	S13 27.7	280 39.9	10.7	N22 51.7	7.1	55.5
	2	214 04.3	S13 28.5	295 09.6	10.8	N22 44.5	7.2	55.5
	3	229 04.3	S13 29.3	309 39.4	10.8	N22 37.2	7.3	55.6
	4	244 04.4	S13 30.2	324 09.2	10.8	N22 29.8	7.4	55.6
F	5	259 04.4	S13 31.0	338 39.1	10.8	N22 22.2	7.6	55.6
R								
I	6	274 04.5	S13 31.8	353 08.9	10.9	N22 14.5	7.7	55.7
D	7	289 04.5	S13 32.6	7 38.8	10.9	N22 06.7	7.8	55.7
A	8	304 04.6	S13 33.5	22 08.7	10.9	N21 58.8	7.9	55.7
Y	9	319 04.6	S13 34.3	36 38.7	10.9	N21 50.8	8.0	55.8
	10	334 04.6	S13 35.1	51 08.6	11.0	N21 42.6	8.1	55.8
	11	349 04.7	S13 35.9	65 38.6	11.0	N21 34.4	8.3	55.8
	12	4 04.7	S13 36.8	80 08.6	11.0	N21 26.0	8.4	55.8
	13	19 04.7	S13 37.6	94 38.7	11.0	N21 17.5	8.5	55.9
	14	34 04.8	S13 38.4	109 08.7	11.1	N21 08.9	8.6	55.9
	15	49 04.8	S13 39.2	123 38.8	11.1	N21 00.2	8.7	55.9
	16	64 04.9	S13 40.1	138 08.9	11.1	N20 51.4	8.8	56.0
	17	79 04.9	S13 40.9	152 39.1	11.1	N20 42.4	8.9	56.0
	18	94 04.9	S13 41.7	167 09.2	11.2	N20 33.4	9.0	56.0
	19	109 05.0	S13 42.5	181 39.4	11.2	N20 24.2	9.2	56.1
	20	124 05.0	S13 43.3	196 09.7	11.2	N20 15.0	9.3	56.1
	21	139 05.0	S13 44.2	210 39.9	11.2	N20 05.6	9.4	56.1
	22	154 05.1	S13 45.0	225 10.2	11.3	N19 56.1	9.5	56.2
	23	169 05.1	S13 45.8	239 40.5	11.3	N19 46.5	9.6	56.2
30	0	184 05.1	S13 46.6	254 10.8	11.3	N19 36.8	9.7	56.2
	1	199 05.2	S13 47.4	268 41.1	11.3	N19 27.0	9.8	56.3
	2	214 05.2	S13 48.3	283 11.5	11.4	N19 17.1	9.9	56.3
	3	229 05.2	S13 49.1	297 41.9	11.4	N19 07.0	10.0	56.3
	4	244 05.3	S13 49.9	312 12.3	11.4	N18 56.9	10.1	56.4
S	5	259 05.3	S13 50.7	326 42.7	11.4	N18 46.7	10.2	56.4
A								
T	6	274 05.3	S13 51.5	341 13.2	11.5	N18 36.3	10.3	56.4
U	7	289 05.4	S13 52.4	355 43.7	11.5	N18 25.9	10.4	56.5
R	8	304 05.4	S13 53.2	10 14.2	11.5	N18 15.4	10.5	56.5
D	9	319 05.4	S13 54.0	24 44.8	11.5	N18 04.7	10.6	56.5
A	10	334 05.5	S13 54.8	39 15.3	11.6	N17 54.0	10.7	56.6
Y	11	349 05.5	S13 55.6	53 45.9	11.6	N17 43.1	10.8	56.6
	12	4 05.5	S13 56.4	68 16.5	11.6	N17 32.2	10.9	56.7
	13	19 05.6	S13 57.2	82 47.1	11.6	N17 21.1	11.0	56.7
	14	34 05.6	S13 58.1	97 17.8	11.6	N17 10.0	11.1	56.7
	15	49 05.6	S13 58.9	111 48.5	11.7	N16 58.7	11.2	56.8
	16	64 05.6	S13 59.7	126 19.2	11.7	N16 47.4	11.3	56.8
	17	79 05.7	S14 00.5	140 49.9	11.7	N16 36.0	11.4	56.8
	18	94 05.7	S14 01.3	155 20.6	11.7	N16 24.4	11.5	56.9
	19	109 05.7	S14 02.1	169 51.3	11.8	N16 12.8	11.6	56.9
	20	124 05.8	S14 02.9	184 22.1	11.8	N16 01.1	11.7	56.9
	21	139 05.8	S14 03.8	198 52.9	11.8	N15 49.3	11.8	57.0
	22	154 05.8	S14 04.6	213 23.7	11.8	N15 37.3	11.9	57.0
	23	169 05.8	S14 05.4	227 54.5	11.8	N15 25.3	12.0	57.1
		S.D. 16.1	d 0.8	S.D.	15.0	15.2	15.4	

Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.0
Achernar	335 21.6	S57 07.7
Acrux	173 03.6	S63 12.9
Adhara	255 07.8	S28 59.8
Albireo	67 06.3	N28 00.5
Aldebaran	290 42.4	N16 33.2
Alioth	166 15.8	N55 50.6
Alkaid	152 54.6	N49 12.4
Al Na-ir	27 36.0	S46 51.6
Alnilam	275 40.2	S 1 11.2
Alphard	217 50.4	S 8 45.0
Alphecca	126 06.3	N26 38.7
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.7
Arcturus	145 50.7	N19 04.3
Atria	107 16.5	S69 04.1
Avior	234 15.7	S59 34.4
Bellatrix	278 25.5	N 6 22.2
Betelgeuse	270 54.7	N 7 24.7
Canopus	263 53.3	S52 42.1
Capella	280 25.4	N46 01.1
Castor	246 00.3	N31 50.4
Deneb	49 27.6	N45 21.7
Denebola	182 27.9	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.7	N61 37.9
Elnath	278 05.0	N28 37.5
Eltanin	90 43.8	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.1	S57 13.8
Gienah	175 46.6	S17 39.5
Hadar	148 40.4	S60 28.5
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 04.1
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.1	S36 28.5
Miaplacidus	221 38.8	S69 48.0
Mirfak	308 31.6	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 09.9	S56 40.2
Polaris	316 52.2	N89 20.6
Pollux	243 20.5	N27 58.4
Procyon	244 53.5	N 5 10.3
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.4	N11 51.8
Rigel	281 06.2	S 8 10.5
Rigil Kent	139 44.7	S60 55.4
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.5
Shaula	96 14.2	S37 07.2
Sirius	258 28.4	S16 44.5
Spica	158 25.4	S11 16.3
Suhail	222 48.3	S43 30.8
Vega	80 35.2	N38 48.5
Zuben-ubi	137 00.1	S16 07.8

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	39 30.9	135 26.8	S27 01.4	191 10.8	S11 07.6	74 11.2	S15 02.1	89 41.1	S19 15.5
	1	54 33.4	150 26.5	S27 01.6	206 11.6	S11 08.2	89 13.5	S15 02.1	104 43.5	S19 15.5
	2	69 35.9	165 26.2	S27 01.8	221 12.5	S11 08.8	104 15.9	S15 02.1	119 45.8	S19 15.5
	3	84 38.3	180 25.9	S27 01.9	236 13.4	S11 09.4	119 18.3	S15 02.0	134 48.2	S19 15.5
	4	99 40.8	195 25.6	S27 02.1	251 14.2	S11 10.0	134 20.6	S15 02.0	149 50.6	S19 15.4
S	5	114 43.3	210 25.3	S27 02.2	266 15.1	S11 10.6	149 23.0	S15 01.9	164 53.0	S19 15.4
U										
N	6	129 45.7	225 25.0	S27 02.4	281 16.0	S11 11.2	164 25.3	S15 01.9	179 55.3	S19 15.4
D	7	144 48.2	240 24.7	S27 02.6	296 16.8	S11 11.8	179 27.7	S15 01.9	194 57.7	S19 15.4
A	8	159 50.7	255 24.4	S27 02.7	311 17.7	S11 12.5	194 30.1	S15 01.8	210 00.1	S19 15.3
Y	9	174 53.1	270 24.1	S27 02.9	326 18.6	S11 13.1	209 32.4	S15 01.8	225 02.5	S19 15.3
	10	189 55.6	285 23.8	S27 03.0	341 19.4	S11 13.7	224 34.8	S15 01.7	240 04.9	S19 15.3
	11	204 58.1	300 23.5	S27 03.2	356 20.3	S11 14.3	239 37.1	S15 01.7	255 07.2	S19 15.3
	12	220 00.5	315 23.2	S27 03.3	11 21.2	S11 14.9	254 39.5	S15 01.7	270 09.6	S19 15.3
	13	235 03.0	330 22.9	S27 03.5	26 22.0	S11 15.5	269 41.9	S15 01.6	285 12.0	S19 15.2
	14	250 05.4	345 22.6	S27 03.6	41 22.9	S11 16.1	284 44.2	S15 01.6	300 14.4	S19 15.2
	15	265 07.9	0 22.3	S27 03.8	56 23.8	S11 16.7	299 46.6	S15 01.5	315 16.7	S19 15.2
	16	280 10.4	15 22.0	S27 03.9	71 24.6	S11 17.3	314 48.9	S15 01.5	330 19.1	S19 15.2
	17	295 12.8	30 21.7	S27 04.1	86 25.5	S11 17.9	329 51.3	S15 01.4	345 21.5	S19 15.1
	18	310 15.3	45 21.4	S27 04.2	101 26.4	S11 18.5	344 53.6	S15 01.4	0 23.9	S19 15.1
	19	325 17.8	60 21.1	S27 04.4	116 27.2	S11 19.1	359 56.0	S15 01.4	15 26.3	S19 15.1
	20	340 20.2	75 20.8	S27 04.5	131 28.1	S11 19.7	14 58.4	S15 01.3	30 28.6	S19 15.1
	21	355 22.7	90 20.5	S27 04.7	146 29.0	S11 20.3	30 00.7	S15 01.3	45 31.0	S19 15.1
	22	10 25.2	105 20.2	S27 04.8	161 29.8	S11 20.9	45 03.1	S15 01.2	60 33.4	S19 15.0
	23	25 27.6	120 19.9	S27 05.0	176 30.7	S11 21.5	60 05.4	S15 01.2	75 35.8	S19 15.0
1	0	40 30.1	135 19.7	S27 05.1	191 31.6	S11 22.1	75 07.8	S15 01.2	90 38.1	S19 15.0
	1	55 32.5	150 19.4	S27 05.2	206 32.4	S11 22.7	90 10.1	S15 01.1	105 40.5	S19 15.0
	2	70 35.0	165 19.1	S27 05.4	221 33.3	S11 23.3	105 12.5	S15 01.1	120 42.9	S19 14.9
	3	85 37.5	180 18.8	S27 05.5	236 34.2	S11 24.0	120 14.8	S15 01.0	135 45.3	S19 14.9
	4	100 39.9	195 18.5	S27 05.6	251 35.0	S11 24.6	135 17.2	S15 01.0	150 47.6	S19 14.9
M	5	115 42.4	210 18.2	S27 05.8	266 35.9	S11 25.2	150 19.5	S15 00.9	165 50.0	S19 14.9
O										
N	6	130 44.9	225 17.9	S27 05.9	281 36.8	S11 25.8	165 21.9	S15 00.9	180 52.4	S19 14.9
D	7	145 47.3	240 17.6	S27 06.0	296 37.6	S11 26.4	180 24.2	S15 00.8	195 54.8	S19 14.8
A	8	160 49.8	255 17.4	S27 06.2	311 38.5	S11 27.0	195 26.6	S15 00.8	210 57.1	S19 14.8
Y	9	175 52.3	270 17.1	S27 06.3	326 39.4	S11 27.6	210 28.9	S15 00.8	225 59.5	S19 14.8
	10	190 54.7	285 16.8	S27 06.4	341 40.2	S11 28.2	225 31.3	S15 00.7	241 01.9	S19 14.8
	11	205 57.2	300 16.5	S27 06.6	356 41.1	S11 28.8	240 33.6	S15 00.7	256 04.2	S19 14.7
	12	220 59.7	315 16.2	S27 06.7	11 41.9	S11 29.4	255 36.0	S15 00.6	271 06.6	S19 14.7
	13	236 02.1	330 16.0	S27 06.8	26 42.8	S11 30.0	270 38.3	S15 00.6	286 09.0	S19 14.7
	14	251 04.6	345 15.7	S27 06.9	41 43.7	S11 30.6	285 40.7	S15 00.5	301 11.4	S19 14.7
	15	266 07.0	0 15.4	S27 07.1	56 44.5	S11 31.2	300 43.0	S15 00.5	316 13.7	S19 14.7
	16	281 09.5	15 15.1	S27 07.2	71 45.4	S11 31.8	315 45.4	S15 00.5	331 16.1	S19 14.6
	17	296 12.0	30 14.8	S27 07.3	86 46.3	S11 32.4	330 47.7	S15 00.4	346 18.5	S19 14.6
	18	311 14.4	45 14.6	S27 07.4	101 47.1	S11 33.0	345 50.1	S15 00.4	1 20.9	S19 14.6
	19	326 16.9	60 14.3	S27 07.6	116 48.0	S11 33.6	0 52.4	S15 00.3	16 23.2	S19 14.6
	20	341 19.4	75 14.0	S27 07.7	131 48.8	S11 34.2	15 54.8	S15 00.3	31 25.6	S19 14.5
	21	356 21.8	90 13.7	S27 07.8	146 49.7	S11 34.8	30 57.1	S15 00.2	46 28.0	S19 14.5
	22	11 24.3	105 13.5	S27 07.9	161 50.6	S11 35.4	45 59.5	S15 00.2	61 30.3	S19 14.5
	23	26 26.8	120 13.2	S27 08.0	176 51.4	S11 36.0	61 01.8	S15 00.1	76 32.7	S19 14.5
2	0	41 29.2	135 12.9	S27 08.1	191 52.3	S11 36.6	76 04.2	S15 00.1	91 35.1	S19 14.4
	1	56 31.7	150 12.6	S27 08.3	206 53.2	S11 37.2	91 06.5	S15 00.0	106 37.5	S19 14.4
	2	71 34.1	165 12.4	S27 08.4	221 54.0	S11 37.8	106 08.9	S14 60.0	121 39.8	S19 14.4
	3	86 36.6	180 12.1	S27 08.5	236 54.9	S11 38.4	121 11.2	S14 60.0	136 42.2	S19 14.4
	4	101 39.1	195 11.8	S27 08.6	251 55.7	S11 39.0	136 13.6	S14 59.9	151 44.6	S19 14.3
T	5	116 41.5	210 11.6	S27 08.7	266 56.6	S11 39.6	151 15.9	S14 59.9	166 46.9	S19 14.3
U										
E	6	131 44.0	225 11.3	S27 08.8	281 57.5	S11 40.2	166 18.3	S14 59.8	181 49.3	S19 14.3
S	7	146 46.5	240 11.0	S27 08.9	296 58.3	S11 40.8	181 20.6	S14 59.8	196 51.7	S19 14.3
D	8	161 48.9	255 10.8	S27 09.0	311 59.2	S11 41.4	196 22.9	S14 59.7	211 54.0	S19 14.3
A	9	176 51.4	270 10.5	S27 09.1	327 00.0	S11 42.0	211 25.3	S14 59.7	226 56.4	S19 14.2
Y	10	191 53.9	285 10.2	S27 09.2	342 00.9	S11 42.6	226 27.6	S14 59.6	241 58.8	S19 14.2
	11	206 56.3	300 10.0	S27 09.3	357 01.8	S11 43.2	241 30.0	S14 59.6	257 01.2	S19 14.2
	12	221 58.8	315 09.7	S27 09.4	12 02.6	S11 43.8	256 32.3	S14 59.5	272 03.5	S19 14.2
	13	237 01.3	330 09.4	S27 09.5	27 03.5	S11 44.4	271 34.7	S14 59.5	287 05.9	S19 14.1
	14	252 03.7	345 09.2	S27 09.6	42 04.3	S11 45.0	286 37.0	S14 59.4	302 08.3	S19 14.1
	15	267 06.2	0 08.9	S27 09.7	57 05.2	S11 45.6	301 39.3	S14 59.4	317 10.6	S19 14.1
	16	282 08.6	15 08.7	S27 09.8	72 06.0	S11 46.2	316 41.7	S14 59.3	332 13.0	S19 14.1
	17	297 11.1	30 08.4	S27 09.9	87 06.9	S11 46.8	331 44.0	S14 59.3	347 15.4	S19 14.0
	18	312 13.6	45 08.1	S27 10.0	102 07.8	S11 47.4	346 46.4	S14 59.3	2 17.7	S19 14.0
	19	327 16.0	60 07.9	S27 10.1	117 08.6	S11 48.0	1 48.7	S14 59.2	17 20.1	S19 14.0
	20	342 18.5	75 07.6	S27 10.2	132 09.5	S11 48.6	16 51.0	S14 59.2	32 22.5	S19 14.0
	21	357 21.0	90 07.4	S27 10.3	147 10.3	S11 49.2	31 53.4	S14 59.1	47 24.8	S19 13.9
	22	12 23.4	105 07.1	S27 10.4	162 11.2	S11 49.8	46 55.7	S14 59.1	62 27.2	S19 13.9
	23	27 25.9	120 06.9	S27 10.5	177 12.0	S11 50.4	61 58.1	S14 59.0	77 29.6	S19 13.9
			v -0.3	d 0.1	v 0.9	d 0.6	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
31	0	184 05.9	S14 06.2	242 25.4	11.8	N15 13.2	12.1	57.1
	1	199 05.9	S14 07.0	256 56.2	11.9	N15 01.1	12.2	57.1
	2	214 05.9	S14 07.8	271 27.1	11.9	N14 48.8	12.3	57.2
	3	229 05.9	S14 08.6	285 58.0	11.9	N14 36.4	12.4	57.2
	4	244 06.0	S14 09.4	300 28.9	11.9	N14 24.0	12.5	57.3
S	5	259 06.0	S14 10.2	314 59.8	11.9	N14 11.4	12.5	57.3
U								
N	6	274 06.0	S14 11.0	329 30.8	11.9	N13 58.8	12.6	57.3
D	7	289 06.0	S14 11.8	344 01.7	11.9	N13 46.1	12.7	57.4
A	8	304 06.1	S14 12.7	358 32.7	12.0	N13 33.3	12.8	57.4
Y	9	319 06.1	S14 13.5	13 03.7	12.0	N13 20.4	12.9	57.4
	10	334 06.1	S14 14.3	27 34.6	12.0	N13 07.5	13.0	57.5
	11	349 06.1	S14 15.1	42 05.6	12.0	N12 54.4	13.0	57.5
	12	4 06.1	S14 15.9	56 36.6	12.0	N12 41.3	13.1	57.6
	13	19 06.2	S14 16.7	71 07.6	12.0	N12 28.1	13.2	57.6
	14	34 06.2	S14 17.5	85 38.7	12.0	N12 14.8	13.3	57.6
	15	49 06.2	S14 18.3	100 09.7	12.0	N12 01.4	13.4	57.7
	16	64 06.2	S14 19.1	114 40.7	12.0	N11 48.0	13.4	57.7
	17	79 06.3	S14 19.9	129 11.8	12.0	N11 34.4	13.5	57.8
	18	94 06.3	S14 20.7	143 42.8	12.0	N11 20.8	13.6	57.8
	19	109 06.3	S14 21.5	158 13.9	12.1	N11 07.2	13.7	57.8
	20	124 06.3	S14 22.3	172 44.9	12.1	N10 53.4	13.7	57.9
	21	139 06.3	S14 23.1	187 16.0	12.1	N10 39.6	13.8	57.9
	22	154 06.3	S14 23.9	201 47.1	12.1	N10 25.7	13.9	58.0
	23	169 06.4	S14 24.7	216 18.1	12.1	N10 11.7	14.0	58.0
1	0	184 06.4	S14 25.5	230 49.2	12.1	N 9 57.7	14.0	58.0
	1	199 06.4	S14 26.3	245 20.2	12.1	N 9 43.6	14.1	58.1
	2	214 06.4	S14 27.1	259 51.3	12.1	N 9 29.4	14.2	58.1
	3	229 06.4	S14 27.9	274 22.4	12.1	N 9 15.2	14.2	58.2
	4	244 06.4	S14 28.7	288 53.4	12.1	N 9 00.9	14.3	58.2
M	5	259 06.5	S14 29.5	303 24.5	12.1	N 8 46.5	14.4	58.2
O								
N	6	274 06.5	S14 30.3	317 55.5	12.0	N 8 32.1	14.4	58.3
D	7	289 06.5	S14 31.1	332 26.6	12.0	N 8 17.6	14.5	58.3
A	8	304 06.5	S14 31.9	346 57.6	12.0	N 8 03.0	14.6	58.4
Y	9	319 06.5	S14 32.7	1 28.6	12.0	N 7 48.4	14.6	58.4
	10	334 06.5	S14 33.5	15 59.7	12.0	N 7 33.7	14.7	58.4
	11	349 06.6	S14 34.3	30 30.7	12.0	N 7 19.0	14.7	58.5
	12	4 06.6	S14 35.1	45 01.7	12.0	N 7 04.2	14.8	58.5
	13	19 06.6	S14 35.9	59 32.7	12.0	N 6 49.3	14.9	58.6
	14	34 06.6	S14 36.7	74 03.6	12.0	N 6 34.4	14.9	58.6
	15	49 06.6	S14 37.5	88 34.6	12.0	N 6 19.5	15.0	58.6
	16	64 06.6	S14 38.3	103 05.6	12.0	N 6 04.4	15.0	58.7
	17	79 06.6	S14 39.1	117 36.5	11.9	N 5 49.4	15.1	58.7
	18	94 06.6	S14 39.9	132 07.4	11.9	N 5 34.3	15.1	58.7
	19	109 06.6	S14 40.7	146 38.3	11.9	N 5 19.1	15.2	58.8
	20	124 06.7	S14 41.5	161 09.2	11.9	N 5 03.9	15.2	58.8
	21	139 06.7	S14 42.2	175 40.1	11.9	N 4 48.6	15.3	58.9
	22	154 06.7	S14 43.0	190 10.9	11.8	N 4 33.3	15.3	58.9
	23	169 06.7	S14 43.8	204 41.7	11.8	N 4 17.9	15.4	58.9
2	0	184 06.7	S14 44.6	219 12.5	11.8	N 4 02.6	15.4	59.0
	1	199 06.7	S14 45.4	233 43.3	11.8	N 3 47.1	15.4	59.0
	2	214 06.7	S14 46.2	248 14.1	11.8	N 3 31.6	15.5	59.1
	3	229 06.7	S14 47.0	262 44.8	11.7	N 3 16.1	15.5	59.1
	4	244 06.7	S14 47.8	277 15.5	11.7	N 3 00.6	15.6	59.1
T	5	259 06.7	S14 48.6	291 46.2	11.7	N 2 45.0	15.6	59.2
U								
E	6	274 06.7	S14 49.4	306 16.8	11.6	N 2 29.3	15.6	59.2
S	7	289 06.8	S14 50.1	320 47.4	11.6	N 2 13.7	15.7	59.2
D	8	304 06.8	S14 50.9	335 18.0	11.6	N 1 58.0	15.7	59.3
A	9	319 06.8	S14 51.7	349 48.6	11.6	N 1 42.3	15.7	59.3
Y	10	334 06.8	S14 52.5	4 19.1	11.5	N 1 26.5	15.8	59.4
	11	349 06.8	S14 53.3	18 49.6	11.5	N 1 10.7	15.8	59.4
	12	4 06.8	S14 54.1	33 20.0	11.5	N 0 54.9	15.8	59.4
	13	19 06.8	S14 54.9	47 50.5	11.4	N 0 39.1	15.8	59.5
	14	34 06.8	S14 55.7	62 20.8	11.4	N 0 23.2	15.9	59.5
	15	49 06.8	S14 56.4	76 51.2	11.3	N 0 07.4	15.9	59.5
	16	64 06.8	S14 57.2	91 21.5	11.3	S 0 08.5	15.9	59.6
	17	79 06.8	S14 58.0	105 51.7	11.3	S 0 24.5	15.9	59.6
	18	94 06.8	S14 58.8	120 21.9	11.2	S 0 40.4	15.9	59.6
	19	109 06.8	S14 59.6	134 52.1	11.2	S 0 56.4	16.0	59.7
	20	124 06.8	S15 00.4	149 22.3	11.1	S 1 12.3	16.0	59.7
	21	139 06.8	S15 01.1	163 52.3	11.1	S 1 28.3	16.0	59.7
	22	154 06.8	S15 01.9	178 22.4	11.0	S 1 44.3	16.0	59.8
	23	169 06.8	S15 02.7	192 52.4	11.0	S 2 00.3	16.0	59.8
		S.D. 16.1	d 0.8	S.D.	15.7	15.9	16.2	

STARS Name	SHA	Dec
Acamar	315 13.3	S40 13.0
Achernar	335 21.6	S57 07.7
Acrux	173 03.6	S63 12.8
Adhara	255 07.8	S28 59.8
Albireo	67 06.3	N28 00.5
Aldebaran	290 42.3	N16 33.2
Alioth	166 15.8	N55 50.6
Alkaid	152 54.6	N49 12.4
Al Na-ir	27 36.0	S46 51.6
Alnilam	275 40.1	S 1 11.2
Alphard	217 50.4	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.7
Arcturus	145 50.7	N19 04.3
Atria	107 16.5	S69 04.1
Avior	234 15.7	S59 34.4
Bellatrix	278 25.5	N 6 22.2
Betelgeuse	270 54.7	N 7 24.7
Canopus	263 53.2	S52 42.1
Capella	280 25.4	N46 01.1
Castor	246 00.3	N31 50.4
Deneb	49 27.6	N45 21.7
Denebola	182 27.9	N14 27.2
Diphda	348 49.7	S17 52.0
Dubhe	193 44.7	N61 37.9
Elnath	278 05.0	N28 37.5
Eltanin	90 43.8	N51 29.4
Enif	33 41.2	N 9 58.6
Fomalhaut	15 17.2	S29 30.5
Gacrux	171 55.1	S57 13.8
Gienah	175 46.6	S17 39.5
Hadar	148 40.4	S60 28.5
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 04.0
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.1	S36 28.5
Miaplacidus	221 38.8	S69 48.0
Mirfak	308 31.6	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 09.9	S56 40.2
Polaris	316 52.2	N89 20.6
Pollux	243 20.4	N27 58.4
Procyon	244 53.5	N 5 10.3
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.4	N11 51.8
Rigel	281 06.1	S 8 10.5
Rigil Kent	139 44.7	S60 55.4
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.5
Shaula	96 14.3	S37 07.2
Sirius	258 28.4	S16 44.6
Spica	158 25.4	S11 16.3
Suhail	222 48.3	S43 30.8
Vega	80 35.2	N38 48.4
Zuben-ubi	137 00.1	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
3	0	42 28.4	135 06.6	S27 10.6	192 12.9	S11 51.0	77 00.4	S14 59.0	92 31.9	S19 13.9
	1	57 30.8	150 06.3	S27 10.7	207 13.8	S11 51.6	92 02.7	S14 58.9	107 34.3	S19 13.8
	2	72 33.3	165 06.1	S27 10.8	222 14.6	S11 52.2	107 05.1	S14 58.9	122 36.7	S19 13.8
	3	87 35.8	180 05.8	S27 10.9	237 15.5	S11 52.8	122 07.4	S14 58.8	137 39.0	S19 13.8
	4	102 38.2	195 05.6	S27 10.9	252 16.3	S11 53.4	137 09.7	S14 58.8	152 41.4	S19 13.8
W	5	117 40.7	210 05.3	S27 11.0	267 17.2	S11 54.0	152 12.1	S14 58.7	167 43.8	S19 13.7
E										
D	6	132 43.1	225 05.1	S27 11.1	282 18.0	S11 54.6	167 14.4	S14 58.7	182 46.1	S19 13.7
N	7	147 45.6	240 04.8	S27 11.2	297 18.9	S11 55.2	182 16.8	S14 58.6	197 48.5	S19 13.7
E	8	162 48.1	255 04.6	S27 11.3	312 19.8	S11 55.8	197 19.1	S14 58.6	212 50.9	S19 13.7
S	9	177 50.5	270 04.3	S27 11.4	327 20.6	S11 56.4	212 21.4	S14 58.5	227 53.2	S19 13.6
D	10	192 53.0	285 04.1	S27 11.4	342 21.5	S11 57.0	227 23.8	S14 58.5	242 55.6	S19 13.6
A	11	207 55.5	300 03.9	S27 11.5	357 22.3	S11 57.6	242 26.1	S14 58.4	257 58.0	S19 13.6
Y										
	12	222 57.9	315 03.6	S27 11.6	12 23.2	S11 58.2	257 28.4	S14 58.4	273 00.3	S19 13.6
	13	238 00.4	330 03.4	S27 11.7	27 24.0	S11 58.8	272 30.8	S14 58.3	288 02.7	S19 13.5
	14	253 02.9	345 03.1	S27 11.8	42 24.9	S11 59.4	287 33.1	S14 58.3	303 05.1	S19 13.5
	15	268 05.3	0 02.9	S27 11.8	57 25.7	S11 60.0	302 35.4	S14 58.2	318 07.4	S19 13.5
	16	283 07.8	15 02.6	S27 11.9	72 26.6	S12 00.6	317 37.8	S14 58.2	333 09.8	S19 13.5
	17	298 10.2	30 02.4	S27 12.0	87 27.4	S12 01.2	332 40.1	S14 58.1	348 12.2	S19 13.4
	18	313 12.7	45 02.2	S27 12.0	102 28.3	S12 01.8	347 42.4	S14 58.1	3 14.5	S19 13.4
	19	328 15.2	60 01.9	S27 12.1	117 29.1	S12 02.3	2 44.8	S14 58.0	18 16.9	S19 13.4
	20	343 17.6	75 01.7	S27 12.2	132 30.0	S12 02.9	17 47.1	S14 58.0	33 19.2	S19 13.4
	21	358 20.1	90 01.4	S27 12.3	147 30.9	S12 03.5	32 49.4	S14 57.9	48 21.6	S19 13.3
	22	13 22.6	105 01.2	S27 12.3	162 31.7	S12 04.1	47 51.8	S14 57.9	63 24.0	S19 13.3
	23	28 25.0	120 01.0	S27 12.4	177 32.6	S12 04.7	62 54.1	S14 57.8	78 26.3	S19 13.3
4	0	43 27.5	135 00.7	S27 12.5	192 33.4	S12 05.3	77 56.4	S14 57.8	93 28.7	S19 13.3
	1	58 30.0	150 00.5	S27 12.5	207 34.3	S12 05.9	92 58.8	S14 57.7	108 31.1	S19 13.2
	2	73 32.4	165 00.3	S27 12.6	222 35.1	S12 06.5	108 01.1	S14 57.7	123 33.4	S19 13.2
	3	88 34.9	180 00.0	S27 12.6	237 36.0	S12 07.1	123 03.4	S14 57.6	138 35.8	S19 13.2
	4	103 37.4	194 59.8	S27 12.7	252 36.8	S12 07.7	138 05.7	S14 57.6	153 38.1	S19 13.2
T	5	118 39.8	209 59.6	S27 12.8	267 37.7	S12 08.3	153 08.1	S14 57.5	168 40.5	S19 13.1
H										
U	6	133 42.3	224 59.3	S27 12.8	282 38.5	S12 08.9	168 10.4	S14 57.5	183 42.9	S19 13.1
R	7	148 44.7	239 59.1	S27 12.9	297 39.4	S12 09.5	183 12.7	S14 57.4	198 45.2	S19 13.1
S	8	163 47.2	254 58.9	S27 12.9	312 40.2	S12 10.1	198 15.1	S14 57.4	213 47.6	S19 13.1
D	9	178 49.7	269 58.6	S27 13.0	327 41.1	S12 10.7	213 17.4	S14 57.3	228 50.0	S19 13.0
A	10	193 52.1	284 58.4	S27 13.1	342 41.9	S12 11.3	228 19.7	S14 57.3	243 52.3	S19 13.0
Y	11	208 54.6	299 58.2	S27 13.1	357 42.8	S12 11.9	243 22.0	S14 57.2	258 54.7	S19 13.0
	12	223 57.1	314 58.0	S27 13.2	12 43.6	S12 12.5	258 24.4	S14 57.2	273 57.0	S19 13.0
	13	238 59.5	329 57.7	S27 13.2	27 44.5	S12 13.0	273 26.7	S14 57.1	288 59.4	S19 12.9
	14	254 02.0	344 57.5	S27 13.3	42 45.3	S12 13.6	288 29.0	S14 57.0	304 01.8	S19 12.9
	15	269 04.5	359 57.3	S27 13.3	57 46.2	S12 14.2	303 31.4	S14 57.0	319 04.1	S19 12.9
	16	284 06.9	14 57.1	S27 13.4	72 47.0	S12 14.8	318 33.7	S14 56.9	334 06.5	S19 12.8
	17	299 09.4	29 56.9	S27 13.4	87 47.9	S12 15.4	333 36.0	S14 56.9	349 08.8	S19 12.8
	18	314 11.8	44 56.6	S27 13.5	102 48.7	S12 16.0	348 38.3	S14 56.8	4 11.2	S19 12.8
	19	329 14.3	59 56.4	S27 13.5	117 49.6	S12 16.6	3 40.7	S14 56.8	19 13.6	S19 12.8
	20	344 16.8	74 56.2	S27 13.5	132 50.4	S12 17.2	18 43.0	S14 56.7	34 15.9	S19 12.7
	21	359 19.2	89 56.0	S27 13.6	147 51.3	S12 17.8	33 45.3	S14 56.7	49 18.3	S19 12.7
	22	14 21.7	104 55.8	S27 13.6	162 52.1	S12 18.4	48 47.6	S14 56.6	64 20.6	S19 12.7
	23	29 24.2	119 55.5	S27 13.7	177 53.0	S12 19.0	63 49.9	S14 56.6	79 23.0	S19 12.7
5	0	44 26.6	134 55.3	S27 13.7	192 53.8	S12 19.6	78 52.3	S14 56.5	94 25.4	S19 12.6
	1	59 29.1	149 55.1	S27 13.8	207 54.7	S12 20.2	93 54.6	S14 56.5	109 27.7	S19 12.6
	2	74 31.6	164 54.9	S27 13.8	222 55.5	S12 20.8	108 56.9	S14 56.4	124 30.1	S19 12.6
	3	89 34.0	179 54.7	S27 13.8	237 56.4	S12 21.3	123 59.2	S14 56.4	139 32.4	S19 12.6
	4	104 36.5	194 54.5	S27 13.9	252 57.2	S12 21.9	139 01.6	S14 56.3	154 34.8	S19 12.5
F	5	119 39.0	209 54.3	S27 13.9	267 58.1	S12 22.5	154 03.9	S14 56.2	169 37.1	S19 12.5
R										
I	6	134 41.4	224 54.1	S27 13.9	282 58.9	S12 23.1	169 06.2	S14 56.2	184 39.5	S19 12.5
D	7	149 43.9	239 53.9	S27 14.0	297 59.7	S12 23.7	184 08.5	S14 56.1	199 41.9	S19 12.5
A	8	164 46.3	254 53.6	S27 14.0	313 00.6	S12 24.3	199 10.8	S14 56.1	214 44.2	S19 12.4
Y	9	179 48.8	269 53.4	S27 14.0	328 01.4	S12 24.9	214 13.2	S14 56.0	229 46.6	S19 12.4
	10	194 51.3	284 53.2	S27 14.1	343 02.3	S12 25.5	229 15.5	S14 56.0	244 48.9	S19 12.4
	11	209 53.7	299 53.0	S27 14.1	358 03.1	S12 26.1	244 17.8	S14 55.9	259 51.3	S19 12.3
	12	224 56.2	314 52.8	S27 14.1	13 04.0	S12 26.7	259 20.1	S14 55.9	274 53.6	S19 12.3
	13	239 58.7	329 52.6	S27 14.2	28 04.8	S12 27.2	274 22.4	S14 55.8	289 56.0	S19 12.3
	14	255 01.1	344 52.4	S27 14.2	43 05.7	S12 27.8	289 24.8	S14 55.8	304 58.4	S19 12.3
	15	270 03.6	359 52.2	S27 14.2	58 06.5	S12 28.4	304 27.1	S14 55.7	320 00.7	S19 12.2
	16	285 06.1	14 52.0	S27 14.2	73 07.4	S12 29.0	319 29.4	S14 55.6	335 03.1	S19 12.2
	17	300 08.5	29 51.8	S27 14.3	88 08.2	S12 29.6	334 31.7	S14 55.6	350 05.4	S19 12.2
	18	315 11.0	44 51.6	S27 14.3	103 09.0	S12 30.2	349 34.0	S14 55.5	5 07.8	S19 12.2
	19	330 13.5	59 51.4	S27 14.3	118 09.9	S12 30.8	4 36.3	S14 55.5	20 10.1	S19 12.1
	20	345 15.9	74 51.2	S27 14.3	133 10.7	S12 31.4	19 38.7	S14 55.4	35 12.5	S19 12.1
	21	0 18.4	89 51.0	S27 14.3	148 11.6	S12 32.0	34 41.0	S14 55.4	50 14.9	S19 12.1
	22	15 20.8	104 50.8	S27 14.4	163 12.4	S12 32.6	49 43.3	S14 55.3	65 17.2	S19 12.0
	23	30 23.3	119 50.6	S27 14.4	178 13.3	S12 33.1	64 45.6	S14 55.3	80 19.6	S19 12.0
			v -0.2	d 0.1	v 0.9	d 0.6	v 2.3	d 0.1	v 2.4	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
3	0	184 06.8	S15 03.5	207 22.3	10.9	S 2 16.3	16.0	59.8
	1	199 06.8	S15 04.3	221 52.2	10.9	S 2 32.3	16.0	59.9
	2	214 06.8	S15 05.0	236 22.0	10.8	S 2 48.3	16.0	59.9
	3	229 06.8	S15 05.8	250 51.8	10.8	S 3 04.4	16.0	59.9
	4	244 06.8	S15 06.6	265 21.6	10.7	S 3 20.4	16.0	60.0
W	5	259 06.8	S15 07.4	279 51.3	10.7	S 3 36.4	16.0	60.0
E								
D	6	274 06.8	S15 08.2	294 20.9	10.6	S 3 52.4	16.0	60.0
N	7	289 06.8	S15 08.9	308 50.5	10.6	S 4 08.5	16.0	60.1
E	8	304 06.8	S15 09.7	323 20.0	10.5	S 4 24.5	16.0	60.1
S	9	319 06.8	S15 10.5	337 49.4	10.5	S 4 40.5	16.0	60.1
D	10	334 06.8	S15 11.3	352 18.8	10.4	S 4 56.5	16.0	60.2
A	11	349 06.8	S15 12.1	6 48.2	10.3	S 5 12.5	16.0	60.2
Y								
	12	4 06.8	S15 12.8	21 17.4	10.3	S 5 28.5	16.0	60.2
	13	19 06.8	S15 13.6	35 46.6	10.2	S 5 44.4	16.0	60.2
	14	34 06.8	S15 14.4	50 15.8	10.1	S 6 00.4	15.9	60.3
	15	49 06.8	S15 15.2	64 44.9	10.1	S 6 16.3	15.9	60.3
	16	64 06.8	S15 15.9	79 13.9	10.0	S 6 32.2	15.9	60.3
	17	79 06.8	S15 16.7	93 42.8	9.9	S 6 48.1	15.9	60.4
	18	94 06.8	S15 17.5	108 11.7	9.9	S 7 03.9	15.9	60.4
	19	109 06.8	S15 18.3	122 40.5	9.8	S 7 19.8	15.8	60.4
	20	124 06.7	S15 19.0	137 09.3	9.7	S 7 35.6	15.8	60.4
	21	139 06.7	S15 19.8	151 37.9	9.7	S 7 51.4	15.8	60.5
	22	154 06.7	S15 20.6	166 06.5	9.6	S 8 07.1	15.7	60.5
	23	169 06.7	S15 21.3	180 35.0	9.5	S 8 22.8	15.7	60.5
4	0	184 06.7	S15 22.1	195 03.5	9.4	S 8 38.5	15.7	60.5
	1	199 06.7	S15 22.9	209 31.9	9.4	S 8 54.2	15.6	60.6
	2	214 06.7	S15 23.7	224 00.2	9.3	S 9 09.8	15.6	60.6
	3	229 06.7	S15 24.4	238 28.4	9.2	S 9 25.3	15.6	60.6
	4	244 06.7	S15 25.2	252 56.5	9.1	S 9 40.9	15.5	60.6
T	5	259 06.7	S15 26.0	267 24.6	9.1	S 9 56.3	15.5	60.6
H								
U	6	274 06.7	S15 26.7	281 52.6	9.0	S10 11.8	15.4	60.7
R	7	289 06.6	S15 27.5	296 20.5	8.9	S10 27.1	15.4	60.7
S	8	304 06.6	S15 28.3	310 48.3	8.8	S10 42.5	15.3	60.7
D	9	319 06.6	S15 29.0	325 16.0	8.7	S10 57.7	15.3	60.7
A	10	334 06.6	S15 29.8	339 43.7	8.7	S11 13.0	15.2	60.7
Y	11	349 06.6	S15 30.6	354 11.3	8.6	S11 28.1	15.2	60.8
	12	4 06.6	S15 31.3	8 38.8	8.5	S11 43.2	15.1	60.8
	13	19 06.6	S15 32.1	23 06.2	8.4	S11 58.3	15.0	60.8
	14	34 06.6	S15 32.9	37 33.5	8.3	S12 13.2	15.0	60.8
	15	49 06.5	S15 33.6	52 00.7	8.2	S12 28.2	14.9	60.8
	16	64 06.5	S15 34.4	66 27.9	8.1	S12 43.0	14.8	60.9
	17	79 06.5	S15 35.1	80 54.9	8.1	S12 57.8	14.8	60.9
	18	94 06.5	S15 35.9	95 21.9	8.0	S13 12.5	14.7	60.9
	19	109 06.5	S15 36.7	109 48.8	7.9	S13 27.1	14.6	60.9
	20	124 06.5	S15 37.4	124 15.6	7.8	S13 41.7	14.6	60.9
	21	139 06.5	S15 38.2	138 42.3	7.7	S13 56.1	14.5	60.9
	22	154 06.4	S15 39.0	153 08.9	7.6	S14 10.5	14.4	60.9
	23	169 06.4	S15 39.7	167 35.4	7.5	S14 24.8	14.3	61.0
5	0	184 06.4	S15 40.5	182 01.8	7.4	S14 39.1	14.2	61.0
	1	199 06.4	S15 41.2	196 28.1	7.3	S14 53.2	14.1	61.0
	2	214 06.4	S15 42.0	210 54.4	7.2	S15 07.3	14.1	61.0
	3	229 06.4	S15 42.8	225 20.5	7.1	S15 21.2	14.0	61.0
	4	244 06.3	S15 43.5	239 46.6	7.1	S15 35.1	13.9	61.0
F	5	259 06.3	S15 44.3	254 12.5	7.0	S15 48.9	13.8	61.0
R								
I	6	274 06.3	S15 45.0	268 38.4	6.9	S16 02.5	13.7	61.0
D	7	289 06.3	S15 45.8	283 04.2	6.8	S16 16.1	13.6	61.0
A	8	304 06.3	S15 46.5	297 29.9	6.7	S16 29.6	13.5	61.1
Y	9	319 06.2	S15 47.3	311 55.4	6.6	S16 42.9	13.4	61.1
	10	334 06.2	S15 48.1	326 20.9	6.5	S16 56.2	13.3	61.1
	11	349 06.2	S15 48.8	340 46.3	6.4	S17 09.4	13.2	61.1
	12	4 06.2	S15 49.6	355 11.6	6.3	S17 22.4	13.0	61.1
	13	19 06.2	S15 50.3	9 36.8	6.2	S17 35.3	12.9	61.1
	14	34 06.1	S15 51.1	24 02.0	6.1	S17 48.1	12.8	61.1
	15	49 06.1	S15 51.8	38 27.0	6.0	S18 00.8	12.7	61.1
	16	64 06.1	S15 52.6	52 51.9	5.9	S18 13.4	12.6	61.1
	17	79 06.1	S15 53.3	67 16.7	5.8	S18 25.9	12.5	61.1
	18	94 06.0	S15 54.1	81 41.5	5.7	S18 38.2	12.3	61.1
	19	109 06.0	S15 54.8	96 06.1	5.6	S18 50.4	12.2	61.1
	20	124 06.0	S15 55.6	110 30.7	5.6	S19 02.5	12.1	61.1
	21	139 06.0	S15 56.3	124 55.2	5.5	S19 14.5	12.0	61.1
	22	154 06.0	S15 57.1	139 19.5	5.4	S19 26.3	11.8	61.1
	23	169 05.9	S15 57.8	153 43.8	5.3	S19 38.0	11.7	61.1
		S.D. 16.1	d 0.8	S.D.	16.4	16.6	16.6	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.0
Achernar	335 21.6	S57 07.7
Acrux	173 03.6	S63 12.8
Adhara	255 07.7	S28 59.8
Albireo	67 06.3	N28 00.5
Aldebaran	290 42.3	N16 33.2
Alioth	166 15.8	N55 50.5
Alkaid	152 54.6	N49 12.3
Al Na-ir	27 36.1	S46 51.6
Alnilam	275 40.1	S 1 11.2
Alphard	217 50.3	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.7
Ankaa	353 09.4	S42 11.4
Antares	112 19.4	S26 28.7
Arcturus	145 50.7	N19 04.3
Atria	107 16.6	S69 04.1
Avior	234 15.7	S59 34.4
Bellatrix	278 25.4	N 6 22.2
Betelgeuse	270 54.7	N 7 24.7
Canopus	263 53.2	S52 42.1
Capella	280 25.4	N46 01.1
Castor	246 00.3	N31 50.4
Deneb	49 27.6	N45 21.7
Denebola	182 27.9	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.6	N61 37.9
Elnath	278 04.9	N28 37.5
Eltanin	90 43.8	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.2	S29 30.6
Gacrux	171 55.0	S57 13.8
Gienah	175 46.6	S17 39.5
Hadar	148 40.4	S60 28.5
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.2	N74 04.0
Markab	13 32.3	N15 19.4
Menkar	314 08.6	N 4 10.5
Menkent	148 01.1	S36 28.5
Miaplacidus	221 38.7	S69 48.0
Mirfak	308 31.5	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 09.9	S56 40.2
Polaris	316 52.1	N89 20.6
Pollux	243 20.4	N27 58.4
Procyon	244 53.5	N 5 10.3
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.3	N11 51.8
Rigel	281 06.1	S 8 10.5
Rigil Kent	139 44.7	S60 55.4
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.5
Shaula	96 14.3	S37 07.2
Sirius	258 28.4	S16 44.6
Spica	158 25.4	S11 16.3
Suhail	222 48.2	S43 30.9
Vega	80 35.2	N38 48.4
Zuben-ubi	137 00.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
6	0	45 25.8	134 50.4	S27 14.4	193 14.1	S12 33.7	79 47.9	S14 55.2	95 21.9	S19 12.0
	1	60 28.2	149 50.3	S27 14.4	208 15.0	S12 34.3	94 50.2	S14 55.1	110 24.3	S19 12.0
	2	75 30.7	164 50.1	S27 14.4	223 15.8	S12 34.9	109 52.6	S14 55.1	125 26.6	S19 11.9
	3	90 33.2	179 49.9	S27 14.4	238 16.6	S12 35.5	124 54.9	S14 55.0	140 29.0	S19 11.9
	4	105 35.6	194 49.7	S27 14.4	253 17.5	S12 36.1	139 57.2	S14 55.0	155 31.3	S19 11.9
S	5	120 38.1	209 49.5	S27 14.5	268 18.3	S12 36.7	154 59.5	S14 54.9	170 33.7	S19 11.8
A										
T	6	135 40.6	224 49.3	S27 14.5	283 19.2	S12 37.3	170 01.8	S14 54.9	185 36.0	S19 11.8
U	7	150 43.0	239 49.1	S27 14.5	298 20.0	S12 37.8	185 04.1	S14 54.8	200 38.4	S19 11.8
R	8	165 45.5	254 48.9	S27 14.5	313 20.9	S12 38.4	200 06.4	S14 54.7	215 40.8	S19 11.8
D	9	180 48.0	269 48.8	S27 14.5	328 21.7	S12 39.0	215 08.7	S14 54.7	230 43.1	S19 11.7
A	10	195 50.4	284 48.6	S27 14.5	343 22.5	S12 39.6	230 11.1	S14 54.6	245 45.5	S19 11.7
Y	11	210 52.9	299 48.4	S27 14.5	358 23.4	S12 40.2	245 13.4	S14 54.6	260 47.8	S19 11.7
	12	225 55.3	314 48.2	S27 14.5	13 24.2	S12 40.8	260 15.7	S14 54.5	275 50.2	S19 11.7
	13	240 57.8	329 48.0	S27 14.5	28 25.1	S12 41.4	275 18.0	S14 54.5	290 52.5	S19 11.6
	14	256 00.3	344 47.8	S27 14.5	43 25.9	S12 42.0	290 20.3	S14 54.4	305 54.9	S19 11.6
	15	271 02.7	359 47.7	S27 14.5	58 26.7	S12 42.5	305 22.6	S14 54.3	320 57.2	S19 11.6
	16	286 05.2	14 47.5	S27 14.5	73 27.6	S12 43.1	320 24.9	S14 54.3	335 59.6	S19 11.5
	17	301 07.7	29 47.3	S27 14.5	88 28.4	S12 43.7	335 27.2	S14 54.2	351 01.9	S19 11.5
	18	316 10.1	44 47.1	S27 14.5	103 29.3	S12 44.3	350 29.5	S14 54.2	6 04.3	S19 11.5
	19	331 12.6	59 47.0	S27 14.5	118 30.1	S12 44.9	5 31.9	S14 54.1	21 06.6	S19 11.5
	20	346 15.1	74 46.8	S27 14.5	133 30.9	S12 45.5	20 34.2	S14 54.0	36 09.0	S19 11.4
	21	1 17.5	89 46.6	S27 14.5	148 31.8	S12 46.1	35 36.5	S14 54.0	51 11.3	S19 11.4
	22	16 20.0	104 46.4	S27 14.5	163 32.6	S12 46.6	50 38.8	S14 53.9	66 13.7	S19 11.4
	23	31 22.4	119 46.3	S27 14.5	178 33.5	S12 47.2	65 41.1	S14 53.9	81 16.0	S19 11.3
7	0	46 24.9	134 46.1	S27 14.5	193 34.3	S12 47.8	80 43.4	S14 53.8	96 18.4	S19 11.3
	1	61 27.4	149 45.9	S27 14.5	208 35.1	S12 48.4	95 45.7	S14 53.8	111 20.7	S19 11.3
	2	76 29.8	164 45.8	S27 14.5	223 36.0	S12 49.0	110 48.0	S14 53.7	126 23.1	S19 11.3
	3	91 32.3	179 45.6	S27 14.5	238 36.8	S12 49.6	125 50.3	S14 53.6	141 25.4	S19 11.2
	4	106 34.8	194 45.4	S27 14.4	253 37.7	S12 50.2	140 52.6	S14 53.6	156 27.8	S19 11.2
S	5	121 37.2	209 45.3	S27 14.4	268 38.5	S12 50.7	155 54.9	S14 53.5	171 30.1	S19 11.2
U										
N	6	136 39.7	224 45.1	S27 14.4	283 39.3	S12 51.3	170 57.2	S14 53.5	186 32.5	S19 11.1
D	7	151 42.2	239 44.9	S27 14.4	298 40.2	S12 51.9	185 59.5	S14 53.4	201 34.8	S19 11.1
A	8	166 44.6	254 44.8	S27 14.4	313 41.0	S12 52.5	201 01.8	S14 53.3	216 37.2	S19 11.1
Y	9	181 47.1	269 44.6	S27 14.4	328 41.8	S12 53.1	216 04.1	S14 53.3	231 39.5	S19 11.0
	10	196 49.6	284 44.5	S27 14.4	343 42.7	S12 53.7	231 06.5	S14 53.2	246 41.9	S19 11.0
	11	211 52.0	299 44.3	S27 14.3	358 43.5	S12 54.2	246 08.8	S14 53.2	261 44.2	S19 11.0
	12	226 54.5	314 44.2	S27 14.3	13 44.4	S12 54.8	261 11.1	S14 53.1	276 46.6	S19 11.0
	13	241 56.9	329 44.0	S27 14.3	28 45.2	S12 55.4	276 13.4	S14 53.0	291 48.9	S19 10.9
	14	256 59.4	344 43.8	S27 14.3	43 46.0	S12 56.0	291 15.7	S14 53.0	306 51.3	S19 10.9
	15	272 01.9	359 43.7	S27 14.3	58 46.9	S12 56.6	306 18.0	S14 52.9	321 53.6	S19 10.9
	16	287 04.3	14 43.5	S27 14.2	73 47.7	S12 57.2	321 20.3	S14 52.9	336 56.0	S19 10.8
	17	302 06.8	29 43.4	S27 14.2	88 48.5	S12 57.7	336 22.6	S14 52.8	351 58.3	S19 10.8
	18	317 09.3	44 43.2	S27 14.2	103 49.4	S12 58.3	351 24.9	S14 52.7	7 00.7	S19 10.8
	19	332 11.7	59 43.1	S27 14.2	118 50.2	S12 58.9	6 27.2	S14 52.7	22 03.0	S19 10.8
	20	347 14.2	74 42.9	S27 14.1	133 51.0	S12 59.5	21 29.5	S14 52.6	37 05.4	S19 10.7
	21	2 16.7	89 42.8	S27 14.1	148 51.9	S13 00.1	36 31.8	S14 52.6	52 07.7	S19 10.7
	22	17 19.1	104 42.6	S27 14.1	163 52.7	S13 00.6	51 34.1	S14 52.5	67 10.1	S19 10.7
	23	32 21.6	119 42.5	S27 14.0	178 53.6	S13 01.2	66 36.4	S14 52.4	82 12.4	S19 10.6
8	0	47 24.1	134 42.3	S27 14.0	193 54.4	S13 01.8	81 38.7	S14 52.4	97 14.8	S19 10.6
	1	62 26.5	149 42.2	S27 14.0	208 55.2	S13 02.4	96 41.0	S14 52.3	112 17.1	S19 10.6
	2	77 29.0	164 42.1	S27 13.9	223 56.1	S13 03.0	111 43.3	S14 52.2	127 19.4	S19 10.5
	3	92 31.4	179 41.9	S27 13.9	238 56.9	S13 03.6	126 45.6	S14 52.2	142 21.8	S19 10.5
	4	107 33.9	194 41.8	S27 13.9	253 57.7	S13 04.1	141 47.9	S14 52.1	157 24.1	S19 10.5
M	5	122 36.4	209 41.6	S27 13.8	268 58.6	S13 04.7	156 50.2	S14 52.1	172 26.5	S19 10.5
O										
N	6	137 38.8	224 41.5	S27 13.8	283 59.4	S13 05.3	171 52.5	S14 52.0	187 28.8	S19 10.4
D	7	152 41.3	239 41.4	S27 13.8	299 00.2	S13 05.9	186 54.8	S14 51.9	202 31.2	S19 10.4
A	8	167 43.8	254 41.2	S27 13.7	314 01.1	S13 06.5	201 57.1	S14 51.9	217 33.5	S19 10.4
Y	9	182 46.2	269 41.1	S27 13.7	329 01.9	S13 07.0	216 59.4	S14 51.8	232 35.9	S19 10.3
	10	197 48.7	284 41.0	S27 13.6	344 02.7	S13 07.6	232 01.7	S14 51.7	247 38.2	S19 10.3
	11	212 51.2	299 40.8	S27 13.6	359 03.6	S13 08.2	247 04.0	S14 51.7	262 40.6	S19 10.3
	12	227 53.6	314 40.7	S27 13.5	14 04.4	S13 08.8	262 06.3	S14 51.6	277 42.9	S19 10.2
	13	242 56.1	329 40.6	S27 13.5	29 05.2	S13 09.4	277 08.5	S14 51.6	292 45.2	S19 10.2
	14	257 58.6	344 40.4	S27 13.5	44 06.1	S13 09.9	292 10.8	S14 51.5	307 47.6	S19 10.2
	15	273 01.0	359 40.3	S27 13.4	59 06.9	S13 10.5	307 13.1	S14 51.4	322 49.9	S19 10.2
	16	288 03.5	14 40.2	S27 13.4	74 07.7	S13 11.1	322 15.4	S14 51.4	337 52.3	S19 10.1
	17	303 05.9	29 40.1	S27 13.3	89 08.5	S13 11.7	337 17.7	S14 51.3	352 54.6	S19 10.1
	18	318 08.4	44 39.9	S27 13.3	104 09.4	S13 12.2	352 20.0	S14 51.2	7 57.0	S19 10.1
	19	333 10.9	59 39.8	S27 13.2	119 10.2	S13 12.8	7 22.3	S14 51.2	22 59.3	S19 10.0
	20	348 13.3	74 39.7	S27 13.2	134 11.0	S13 13.4	22 24.6	S14 51.1	38 01.6	S19 10.0
	21	3 15.8	89 39.6	S27 13.1	149 11.9	S13 14.0	37 26.9	S14 51.0	53 04.0	S19 10.0
	22	18 18.3	104 39.4	S27 13.1	164 12.7	S13 14.6	52 29.2	S14 51.0	68 06.3	S19 09.9
	23	33 20.7	119 39.3	S27 13.0	179 13.5	S13 15.1	67 31.5	S14 50.9	83 08.7	S19 09.9
			v -0.2	d 0.0	v 0.8	d 0.6	v 2.3	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
6	0	184 05.9	S15 58.6	168 08.0	5.2	S19 49.5	11.6	61.1
	1	199 05.9	S15 59.3	182 32.1	5.1	S20 01.0	11.4	61.1
	2	214 05.9	S16 00.1	196 56.1	5.0	S20 12.2	11.3	61.1
	3	229 05.8	S16 00.8	211 20.1	4.9	S20 23.4	11.1	61.1
	4	244 05.8	S16 01.6	225 43.9	4.8	S20 34.4	11.0	61.1
S	5	259 05.8	S16 02.3	240 07.6	4.8	S20 45.2	10.9	61.1
A								
T	6	274 05.7	S16 03.1	254 31.3	4.7	S20 55.9	10.7	61.1
U	7	289 05.7	S16 03.8	268 54.9	4.6	S21 06.5	10.6	61.1
R	8	304 05.7	S16 04.6	283 18.4	4.5	S21 16.9	10.4	61.1
D	9	319 05.7	S16 05.3	297 41.8	4.4	S21 27.2	10.3	61.1
A	10	334 05.6	S16 06.1	312 05.1	4.3	S21 37.3	10.1	61.1
Y	11	349 05.6	S16 06.8	326 28.4	4.3	S21 47.2	9.9	61.1
	12	4 05.6	S16 07.5	340 51.5	4.2	S21 57.0	9.8	61.1
	13	19 05.5	S16 08.3	355 14.6	4.1	S22 06.6	9.6	61.0
	14	34 05.5	S16 09.0	9 37.7	4.0	S22 16.1	9.5	61.0
	15	49 05.5	S16 09.8	24 00.6	3.9	S22 25.4	9.3	61.0
	16	64 05.4	S16 10.5	38 23.5	3.9	S22 34.6	9.1	61.0
	17	79 05.4	S16 11.3	52 46.3	3.8	S22 43.6	9.0	61.0
	18	94 05.4	S16 12.0	67 09.0	3.7	S22 52.4	8.8	61.0
	19	109 05.4	S16 12.7	81 31.6	3.7	S23 01.0	8.6	61.0
	20	124 05.3	S16 13.5	95 54.2	3.6	S23 09.5	8.5	61.0
	21	139 05.3	S16 14.2	110 16.7	3.5	S23 17.8	8.3	61.0
	22	154 05.3	S16 15.0	124 39.2	3.5	S23 25.9	8.1	61.0
	23	169 05.2	S16 15.7	139 01.6	3.4	S23 33.9	8.0	60.9
7	0	184 05.2	S16 16.4	153 23.9	3.3	S23 41.7	7.8	60.9
	1	199 05.2	S16 17.2	167 46.2	3.3	S23 49.3	7.6	60.9
	2	214 05.1	S16 17.9	182 08.4	3.2	S23 56.7	7.4	60.9
	3	229 05.1	S16 18.6	196 30.6	3.2	S24 04.0	7.3	60.9
	4	244 05.0	S16 19.4	210 52.7	3.1	S24 11.0	7.1	60.9
S	5	259 05.0	S16 20.1	225 14.8	3.1	S24 17.9	6.9	60.9
U								
N	6	274 05.0	S16 20.9	239 36.8	3.0	S24 24.6	6.7	60.8
D	7	289 04.9	S16 21.6	253 58.7	3.0	S24 31.2	6.5	60.8
A	8	304 04.9	S16 22.3	268 20.6	2.9	S24 37.5	6.3	60.8
Y	9	319 04.9	S16 23.1	282 42.5	2.9	S24 43.7	6.2	60.8
	10	334 04.8	S16 23.8	297 04.4	2.8	S24 49.6	6.0	60.8
	11	349 04.8	S16 24.5	311 26.2	2.8	S24 55.4	5.8	60.8
	12	4 04.7	S16 25.3	325 47.9	2.8	S25 01.0	5.6	60.7
	13	19 04.7	S16 26.0	340 09.7	2.7	S25 06.4	5.4	60.7
	14	34 04.7	S16 26.7	354 31.4	2.7	S25 11.7	5.2	60.7
	15	49 04.6	S16 27.5	8 53.0	2.7	S25 16.7	5.0	60.7
	16	64 04.6	S16 28.2	23 14.7	2.6	S25 21.5	4.8	60.7
	17	79 04.6	S16 28.9	37 36.3	2.6	S25 26.2	4.6	60.6
	18	94 04.5	S16 29.6	51 57.9	2.6	S25 30.6	4.5	60.6
	19	109 04.5	S16 30.4	66 19.5	2.6	S25 34.9	4.3	60.6
	20	124 04.4	S16 31.1	80 41.1	2.6	S25 39.0	4.1	60.6
	21	139 04.4	S16 31.8	95 02.6	2.6	S25 42.8	3.9	60.6
	22	154 04.3	S16 32.6	109 24.2	2.5	S25 46.5	3.7	60.5
	23	169 04.3	S16 33.3	123 45.7	2.5	S25 50.0	3.5	60.5
8	0	184 04.3	S16 34.0	138 07.2	2.5	S25 53.3	3.3	60.5
	1	199 04.2	S16 34.7	152 28.8	2.5	S25 56.4	3.1	60.5
	2	214 04.2	S16 35.5	166 50.3	2.5	S25 59.3	2.9	60.4
	3	229 04.1	S16 36.2	181 11.8	2.5	S26 02.0	2.7	60.4
	4	244 04.1	S16 36.9	195 33.4	2.5	S26 04.6	2.5	60.4
M	5	259 04.0	S16 37.6	209 54.9	2.5	S26 06.9	2.3	60.4
O								
N	6	274 04.0	S16 38.4	224 16.5	2.6	S26 09.0	2.1	60.3
D	7	289 04.0	S16 39.1	238 38.1	2.6	S26 10.9	1.9	60.3
A	8	304 03.9	S16 39.8	252 59.6	2.6	S26 12.7	1.7	60.3
Y	9	319 03.9	S16 40.5	267 21.3	2.6	S26 14.2	1.5	60.3
	10	334 03.8	S16 41.2	281 42.9	2.6	S26 15.6	1.4	60.2
	11	349 03.8	S16 42.0	296 04.5	2.7	S26 16.8	1.2	60.2
	12	4 03.7	S16 42.7	310 26.2	2.7	S26 17.7	1.0	60.2
	13	19 03.7	S16 43.4	324 47.9	2.7	S26 18.5	0.8	60.2
	14	34 03.6	S16 44.1	339 09.7	2.7	S26 19.1	0.6	60.1
	15	49 03.6	S16 44.8	353 31.5	2.8	S26 19.5	0.4	60.1
	16	64 03.5	S16 45.6	7 53.3	2.8	S26 19.7	0.2	60.1
	17	79 03.5	S16 46.3	22 15.1	2.9	S26 19.7	0.0	60.0
	18	94 03.4	S16 47.0	36 37.0	2.9	S26 19.5	0.2	60.0
	19	109 03.4	S16 47.7	50 59.0	2.9	S26 19.1	0.4	60.0
	20	124 03.3	S16 48.4	65 21.0	3.0	S26 18.6	0.6	60.0
	21	139 03.3	S16 49.2	79 43.0	3.0	S26 17.8	0.7	59.9
	22	154 03.2	S16 49.9	94 05.1	3.1	S26 16.9	0.9	59.9
	23	169 03.2	S16 50.6	108 27.2	3.1	S26 15.8	1.1	59.9
		S.D. 16.1	d 0.7	S.D. 16.6		16.5		16.4

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.0
Achernar	335 21.6	S57 07.7
Acrux	173 03.5	S63 12.8
Adhara	255 07.7	S28 59.9
Albireo	67 06.3	N28 00.5
Aldebaran	290 42.3	N16 33.2
Alioth	166 15.8	N55 50.5
Alkaid	152 54.6	N49 12.3
Al Na-ir	27 36.1	S46 51.6
Alnilam	275 40.1	S 1 11.2
Alphard	217 50.3	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.7
Ankaa	353 09.4	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.7	N19 04.3
Atria	107 16.6	S69 04.1
Avior	234 15.6	S59 34.4
Bellatrix	278 25.4	N 6 22.2
Betelgeuse	270 54.7	N 7 24.7
Canopus	263 53.2	S52 42.2
Capella	280 25.4	N46 01.1
Castor	246 00.2	N31 50.4
Deneb	49 27.6	N45 21.7
Denebola	182 27.8	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.6	N61 37.8
Elnath	278 04.9	N28 37.5
Eltanin	90 43.8	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.2	S29 30.6
Gacrux	171 55.0	S57 13.8
Gienah	175 46.5	S17 39.5
Hadar	148 40.4	S60 28.5
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.2	N74 04.0
Markab	13 32.3	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.1	S36 28.5
Miaplacidus	221 38.7	S69 48.0
Mirfak	308 31.5	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 09.9	S56 40.2
Polaris	316 51.9	N89 20.6
Pollux	243 20.4	N27 58.4
Procyon	244 53.4	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.3	N11 51.7
Rigel	281 06.1	S 8 10.5
Rigil Kent	139 44.7	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.5
Shaula	96 14.3	S37 07.2
Sirius	258 28.4	S16 44.6
Spica	158 25.4	S11 16.3
Suhail	222 48.2	S43 30.9
Vega	80 35.3	N38 48.4
Zuben-ubi	137 00.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
9	0	48 23.2	134 39.2	S27 13.0	194 14.4	S13 15.7	82 33.8	S14 50.9	98 11.0	S19 09.9
	1	63 25.7	149 39.1	S27 12.9	209 15.2	S13 16.3	97 36.1	S14 50.8	113 13.4	S19 09.9
	2	78 28.1	164 39.0	S27 12.8	224 16.0	S13 16.9	112 38.4	S14 50.7	128 15.7	S19 09.8
	3	93 30.6	179 38.9	S27 12.8	239 16.9	S13 17.5	127 40.7	S14 50.7	143 18.1	S19 09.8
	4	108 33.1	194 38.7	S27 12.7	254 17.7	S13 18.0	142 42.9	S14 50.6	158 20.4	S19 09.8
T	5	123 35.5	209 38.6	S27 12.7	269 18.5	S13 18.6	157 45.2	S14 50.5	173 22.7	S19 09.7
U										
E	6	138 38.0	224 38.5	S27 12.6	284 19.3	S13 19.2	172 47.5	S14 50.5	188 25.1	S19 09.7
S	7	153 40.4	239 38.4	S27 12.5	299 20.2	S13 19.8	187 49.8	S14 50.4	203 27.4	S19 09.7
D	8	168 42.9	254 38.3	S27 12.5	314 21.0	S13 20.3	202 52.1	S14 50.3	218 29.8	S19 09.6
A	9	183 45.4	269 38.2	S27 12.4	329 21.8	S13 20.9	217 54.4	S14 50.3	233 32.1	S19 09.6
Y	10	198 47.8	284 38.1	S27 12.4	344 22.7	S13 21.5	232 56.7	S14 50.2	248 34.4	S19 09.6
	11	213 50.3	299 38.0	S27 12.3	359 23.5	S13 22.1	247 59.0	S14 50.1	263 36.8	S19 09.5
	12	228 52.8	314 37.9	S27 12.2	14 24.3	S13 22.6	263 01.3	S14 50.1	278 39.1	S19 09.5
	13	243 55.2	329 37.8	S27 12.2	29 25.1	S13 23.2	278 03.6	S14 50.0	293 41.5	S19 09.5
	14	258 57.7	344 37.7	S27 12.1	44 26.0	S13 23.8	293 05.8	S14 49.9	308 43.8	S19 09.4
	15	274 00.2	359 37.6	S27 12.0	59 26.8	S13 24.4	308 08.1	S14 49.9	323 46.1	S19 09.4
	16	289 02.6	14 37.5	S27 11.9	74 27.6	S13 24.9	323 10.4	S14 49.8	338 48.5	S19 09.4
	17	304 05.1	29 37.4	S27 11.9	89 28.4	S13 25.5	338 12.7	S14 49.8	353 50.8	S19 09.4
	18	319 07.5	44 37.3	S27 11.8	104 29.3	S13 26.1	353 15.0	S14 49.7	8 53.2	S19 09.3
	19	334 10.0	59 37.2	S27 11.7	119 30.1	S13 26.7	8 17.3	S14 49.6	23 55.5	S19 09.3
	20	349 12.5	74 37.1	S27 11.7	134 30.9	S13 27.2	23 19.6	S14 49.6	38 57.8	S19 09.3
	21	4 14.9	89 37.0	S27 11.6	149 31.8	S13 27.8	38 21.8	S14 49.5	54 00.2	S19 09.2
	22	19 17.4	104 36.9	S27 11.5	164 32.6	S13 28.4	53 24.1	S14 49.4	69 02.5	S19 09.2
	23	34 19.9	119 36.8	S27 11.4	179 33.4	S13 29.0	68 26.4	S14 49.4	84 04.9	S19 09.2
10	0	49 22.3	134 36.7	S27 11.3	194 34.2	S13 29.5	83 28.7	S14 49.3	99 07.2	S19 09.1
	1	64 24.8	149 36.6	S27 11.3	209 35.1	S13 30.1	98 31.0	S14 49.2	114 09.5	S19 09.1
	2	79 27.3	164 36.5	S27 11.2	224 35.9	S13 30.7	113 33.3	S14 49.2	129 11.9	S19 09.1
	3	94 29.7	179 36.4	S27 11.1	239 36.7	S13 31.3	128 35.6	S14 49.1	144 14.2	S19 09.0
	4	109 32.2	194 36.4	S27 11.0	254 37.5	S13 31.8	143 37.8	S14 49.0	159 16.6	S19 09.0
W	5	124 34.7	209 36.3	S27 10.9	269 38.4	S13 32.4	158 40.1	S14 49.0	174 18.9	S19 09.0
E										
D	6	139 37.1	224 36.2	S27 10.9	284 39.2	S13 33.0	173 42.4	S14 48.9	189 21.2	S19 08.9
N	7	154 39.6	239 36.1	S27 10.8	299 40.0	S13 33.6	188 44.7	S14 48.8	204 23.6	S19 08.9
E	8	169 42.0	254 36.0	S27 10.7	314 40.8	S13 34.1	203 47.0	S14 48.8	219 25.9	S19 08.9
S	9	184 44.5	269 35.9	S27 10.6	329 41.7	S13 34.7	218 49.3	S14 48.7	234 28.2	S19 08.8
D	10	199 47.0	284 35.9	S27 10.5	344 42.5	S13 35.3	233 51.5	S14 48.6	249 30.6	S19 08.8
A	11	214 49.4	299 35.8	S27 10.4	359 43.3	S13 35.8	248 53.8	S14 48.5	264 32.9	S19 08.8
Y										
	12	229 51.9	314 35.7	S27 10.3	14 44.1	S13 36.4	263 56.1	S14 48.5	279 35.3	S19 08.7
	13	244 54.4	329 35.6	S27 10.2	29 44.9	S13 37.0	278 58.4	S14 48.4	294 37.6	S19 08.7
	14	259 56.8	344 35.6	S27 10.1	44 45.8	S13 37.6	294 00.7	S14 48.3	309 39.9	S19 08.7
	15	274 59.3	359 35.5	S27 10.1	59 46.6	S13 38.1	309 02.9	S14 48.3	324 42.3	S19 08.7
	16	290 01.8	14 35.4	S27 10.0	74 47.4	S13 38.7	324 05.2	S14 48.2	339 44.6	S19 08.6
	17	305 04.2	29 35.4	S27 09.9	89 48.2	S13 39.3	339 07.5	S14 48.1	354 46.9	S19 08.6
	18	320 06.7	44 35.3	S27 09.8	104 49.1	S13 39.8	354 09.8	S14 48.1	9 49.3	S19 08.6
	19	335 09.2	59 35.2	S27 09.7	119 49.9	S13 40.4	9 12.1	S14 48.0	24 51.6	S19 08.5
	20	350 11.6	74 35.2	S27 09.6	134 50.7	S13 41.0	24 14.3	S14 47.9	39 53.9	S19 08.5
	21	5 14.1	89 35.1	S27 09.5	149 51.5	S13 41.6	39 16.6	S14 47.9	54 56.3	S19 08.5
	22	20 16.5	104 35.0	S27 09.4	164 52.3	S13 42.1	54 18.9	S14 47.8	69 58.6	S19 08.4
	23	35 19.0	119 35.0	S27 09.3	179 53.2	S13 42.7	69 21.2	S14 47.7	85 00.9	S19 08.4
11	0	50 21.5	134 34.9	S27 09.2	194 54.0	S13 43.3	84 23.4	S14 47.7	100 03.3	S19 08.4
	1	65 23.9	149 34.8	S27 09.1	209 54.8	S13 43.8	99 25.7	S14 47.6	115 05.6	S19 08.3
	2	80 26.4	164 34.8	S27 09.0	224 55.6	S13 44.4	114 28.0	S14 47.5	130 08.0	S19 08.3
	3	95 28.9	179 34.7	S27 08.9	239 56.4	S13 45.0	129 30.3	S14 47.4	145 10.3	S19 08.3
	4	110 31.3	194 34.7	S27 08.8	254 57.3	S13 45.5	144 32.5	S14 47.4	160 12.6	S19 08.2
T	5	125 33.8	209 34.6	S27 08.7	269 58.1	S13 46.1	159 34.8	S14 47.3	175 15.0	S19 08.2
H										
U	6	140 36.3	224 34.6	S27 08.6	284 58.9	S13 46.7	174 37.1	S14 47.2	190 17.3	S19 08.2
R	7	155 38.7	239 34.5	S27 08.4	299 59.7	S13 47.3	189 39.4	S14 47.2	205 19.6	S19 08.1
S	8	170 41.2	254 34.5	S27 08.3	315 00.5	S13 47.8	204 41.7	S14 47.1	220 22.0	S19 08.1
D	9	185 43.7	269 34.4	S27 08.2	330 01.4	S13 48.4	219 43.9	S14 47.0	235 24.3	S19 08.1
A	10	200 46.1	284 34.4	S27 08.1	345 02.2	S13 49.0	234 46.2	S14 47.0	250 26.6	S19 08.0
Y	11	215 48.6	299 34.3	S27 08.0	0 03.0	S13 49.5	249 48.5	S14 46.9	265 29.0	S19 08.0
	12	230 51.0	314 34.3	S27 07.9	15 03.8	S13 50.1	264 50.7	S14 46.8	280 31.3	S19 08.0
	13	245 53.5	329 34.2	S27 07.8	30 04.6	S13 50.7	279 53.0	S14 46.7	295 33.6	S19 07.9
	14	260 56.0	344 34.2	S27 07.7	45 05.5	S13 51.2	294 55.3	S14 46.7	310 36.0	S19 07.9
	15	275 58.4	359 34.1	S27 07.6	60 06.3	S13 51.8	309 57.6	S14 46.6	325 38.3	S19 07.9
	16	291 00.9	14 34.1	S27 07.4	75 07.1	S13 52.4	324 59.8	S14 46.5	340 40.6	S19 07.8
	17	306 03.4	29 34.1	S27 07.3	90 07.9	S13 52.9	340 02.1	S14 46.5	355 43.0	S19 07.8
	18	321 05.8	44 34.0	S27 07.2	105 08.7	S13 53.5	355 04.4	S14 46.4	10 45.3	S19 07.8
	19	336 08.3	59 34.0	S27 07.1	120 09.5	S13 54.1	10 06.7	S14 46.3	25 47.6	S19 07.7
	20	351 10.8	74 34.0	S27 07.0	135 10.4	S13 54.6	25 08.9	S14 46.2	40 50.0	S19 07.7
	21	6 13.2	89 33.9	S27 06.8	150 11.2	S13 55.2	40 11.2	S14 46.2	55 52.3	S19 07.7
	22	21 15.7	104 33.9	S27 06.7	165 12.0	S13 55.8	55 13.5	S14 46.1	70 54.6	S19 07.6
	23	36 18.2	119 33.9	S27 06.6	180 12.8	S13 56.3	70 15.7	S14 46.0	85 56.9	S19 07.6
			v -0.1	d 0.1	v 0.8	d 0.6	v 2.3	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
9	0	184 03.1	S16 51.3	122 49.4	3.2	S26 14.5	1.3	59.8
	1	199 03.1	S16 52.0	137 11.7	3.3	S26 13.0	1.5	59.8
	2	214 03.0	S16 52.7	151 34.0	3.3	S26 11.3	1.7	59.8
	3	229 03.0	S16 53.4	165 56.4	3.4	S26 09.4	1.9	59.7
	4	244 02.9	S16 54.2	180 18.9	3.5	S26 07.4	2.0	59.7
T	5	259 02.9	S16 54.9	194 41.4	3.5	S26 05.2	2.2	59.7
U								
E	6	274 02.8	S16 55.6	209 04.0	3.6	S26 02.7	2.4	59.7
S	7	289 02.8	S16 56.3	223 26.7	3.7	S26 00.2	2.6	59.6
D	8	304 02.7	S16 57.0	237 49.4	3.7	S25 57.4	2.8	59.6
A	9	319 02.7	S16 57.7	252 12.2	3.8	S25 54.5	2.9	59.6
Y	10	334 02.6	S16 58.4	266 35.1	3.9	S25 51.3	3.1	59.5
	11	349 02.5	S16 59.1	280 58.1	4.0	S25 48.1	3.3	59.5
	12	4 02.5	S16 59.8	295 21.2	4.1	S25 44.6	3.5	59.5
	13	19 02.4	S17 00.5	309 44.3	4.1	S25 41.0	3.6	59.4
	14	34 02.4	S17 01.3	324 07.5	4.2	S25 37.1	3.8	59.4
	15	49 02.3	S17 02.0	338 30.8	4.3	S25 33.2	4.0	59.4
	16	64 02.3	S17 02.7	352 54.3	4.4	S25 29.0	4.1	59.3
	17	79 02.2	S17 03.4	7 17.7	4.5	S25 24.7	4.3	59.3
	18	94 02.1	S17 04.1	21 41.3	4.6	S25 20.2	4.5	59.3
	19	109 02.1	S17 04.8	36 05.0	4.7	S25 15.6	4.6	59.2
	20	124 02.0	S17 05.5	50 28.8	4.8	S25 10.8	4.8	59.2
	21	139 02.0	S17 06.2	64 52.7	4.9	S25 05.8	5.0	59.2
	22	154 01.9	S17 06.9	79 16.7	5.0	S25 00.7	5.1	59.1
	23	169 01.9	S17 07.6	93 40.7	5.1	S24 55.4	5.3	59.1
10	0	184 01.8	S17 08.3	108 04.9	5.2	S24 50.0	5.4	59.1
	1	199 01.7	S17 09.0	122 29.2	5.3	S24 44.4	5.6	59.0
	2	214 01.7	S17 09.7	136 53.6	5.4	S24 38.6	5.8	59.0
	3	229 01.6	S17 10.4	151 18.0	5.5	S24 32.7	5.9	59.0
	4	244 01.5	S17 11.1	165 42.6	5.6	S24 26.6	6.1	58.9
W	5	259 01.5	S17 11.8	180 07.3	5.7	S24 20.4	6.2	58.9
E								
D	6	274 01.4	S17 12.5	194 32.1	5.8	S24 14.1	6.4	58.9
N	7	289 01.4	S17 13.2	208 57.0	5.9	S24 07.6	6.5	58.8
E	8	304 01.3	S17 13.9	223 22.1	6.0	S24 00.9	6.6	58.8
S	9	319 01.2	S17 14.6	237 47.2	6.1	S23 54.2	6.8	58.8
D	10	334 01.2	S17 15.3	252 12.4	6.2	S23 47.2	6.9	58.7
A	11	349 01.1	S17 16.0	266 37.8	6.3	S23 40.2	7.1	58.7
Y								
	12	4 01.0	S17 16.7	281 03.2	6.5	S23 32.9	7.2	58.7
	13	19 01.0	S17 17.4	295 28.8	6.6	S23 25.6	7.3	58.6
	14	34 00.9	S17 18.1	309 54.5	6.7	S23 18.1	7.5	58.6
	15	49 00.8	S17 18.8	324 20.3	6.8	S23 10.5	7.6	58.6
	16	64 00.8	S17 19.5	338 46.2	6.9	S23 02.8	7.7	58.5
	17	79 00.7	S17 20.2	353 12.2	7.0	S22 54.9	7.9	58.5
	18	94 00.7	S17 20.9	7 38.4	7.1	S22 46.9	8.0	58.5
	19	109 00.6	S17 21.6	22 04.6	7.3	S22 38.8	8.1	58.4
	20	124 00.5	S17 22.3	36 31.0	7.4	S22 30.5	8.3	58.4
	21	139 00.4	S17 22.9	50 57.5	7.5	S22 22.1	8.4	58.4
	22	154 00.4	S17 23.6	65 24.1	7.6	S22 13.6	8.5	58.3
	23	169 00.3	S17 24.3	79 50.8	7.7	S22 05.0	8.6	58.3
11	0	184 00.2	S17 25.0	94 17.6	7.8	S21 56.3	8.7	58.3
	1	199 00.2	S17 25.7	108 44.6	7.9	S21 47.4	8.9	58.2
	2	214 00.1	S17 26.4	123 11.6	8.1	S21 38.4	9.0	58.2
	3	229 00.0	S17 27.1	137 38.8	8.2	S21 29.3	9.1	58.2
	4	243 60.0	S17 27.8	152 06.1	8.3	S21 20.1	9.2	58.1
T	5	258 59.9	S17 28.5	166 33.5	8.4	S21 10.8	9.3	58.1
H								
U	6	273 59.8	S17 29.1	181 01.0	8.5	S21 01.4	9.4	58.1
R	7	288 59.8	S17 29.8	195 28.7	8.6	S20 51.9	9.5	58.0
S	8	303 59.7	S17 30.5	209 56.4	8.8	S20 42.2	9.6	58.0
D	9	318 59.6	S17 31.2	224 24.3	8.9	S20 32.5	9.7	58.0
A	10	333 59.5	S17 31.9	238 52.3	9.0	S20 22.7	9.8	57.9
Y	11	348 59.5	S17 32.6	253 20.4	9.1	S20 12.7	9.9	57.9
	12	3 59.4	S17 33.3	267 48.6	9.2	S20 02.7	10.0	57.9
	13	18 59.3	S17 33.9	282 16.9	9.3	S19 52.5	10.1	57.8
	14	33 59.2	S17 34.6	296 45.3	9.4	S19 42.3	10.2	57.8
	15	48 59.2	S17 35.3	311 13.9	9.5	S19 32.0	10.3	57.8
	16	63 59.1	S17 36.0	325 42.5	9.7	S19 21.6	10.4	57.7
	17	78 59.0	S17 36.7	340 11.3	9.8	S19 11.0	10.5	57.7
	18	93 59.0	S17 37.4	354 40.1	9.9	S19 00.4	10.6	57.7
	19	108 58.9	S17 38.0	9 09.1	10.0	S18 49.7	10.7	57.6
	20	123 58.8	S17 38.7	23 38.2	10.1	S18 39.0	10.8	57.6
	21	138 58.7	S17 39.4	38 07.4	10.2	S18 28.1	10.9	57.6
	22	153 58.6	S17 40.1	52 36.7	10.3	S18 17.1	11.0	57.5
	23	168 58.6	S17 40.7	67 06.1	10.4	S18 06.1	11.0	57.5
		S.D. 16.2	d 0.7	S.D.	16.2	16.0	15.8	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.1
Achernar	335 21.6	S57 07.7
Acrux	173 03.5	S63 12.8
Adhara	255 07.7	S28 59.9
Albireo	67 06.3	N28 00.5
Aldebaran	290 42.3	N16 33.2
Alioth	166 15.8	N55 50.5
Alkaid	152 54.6	N49 12.3
Al Na-ir	27 36.1	S46 51.6
Alnilam	275 40.1	S 1 11.2
Alphard	217 50.3	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.6
Ankaa	353 09.4	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.7	N19 04.3
Atria	107 16.6	S69 04.0
Avior	234 15.6	S59 34.4
Bellatrix	278 25.4	N 6 22.2
Betelgeuse	270 54.7	N 7 24.7
Canopus	263 53.1	S52 42.2
Capella	280 25.3	N46 01.1
Castor	246 00.2	N31 50.4
Deneb	49 27.6	N45 21.7
Denebola	182 27.8	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.6	N61 37.8
Elnath	278 04.9	N28 37.5
Eltanin	90 43.8	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.2	S29 30.6
Gacrux	171 55.0	S57 13.8
Gienah	175 46.5	S17 39.5
Hadar	148 40.4	S60 28.5
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.2	N74 04.0
Markab	13 32.3	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.1	S36 28.5
Miaplacidus	221 38.6	S69 48.0
Mirfak	308 31.5	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 10.0	S56 40.2
Polaris	316 51.8	N89 20.6
Pollux	243 20.3	N27 58.4
Procyon	244 53.4	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.3	N11 51.7
Rigel	281 06.1	S 8 10.5
Rigil Kent	139 44.7	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.5
Shaula	96 14.3	S37 07.2
Sirius	258 28.3	S16 44.6
Spica	158 25.4	S11 16.3
Suhail	222 48.2	S43 30.9
Vega	80 35.3	N38 48.4
Zuben-ubi	137 00.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
12	0	51 20.6	134 33.8	S27 06.5	195 13.6	S13 56.9	85 18.0	S14 46.0	100 59.3	S19 07.6
	1	66 23.1	149 33.8	S27 06.3	210 14.4	S13 57.5	100 20.3	S14 45.9	116 01.6	S19 07.5
	2	81 25.5	164 33.8	S27 06.2	225 15.3	S13 58.0	115 22.5	S14 45.8	131 03.9	S19 07.5
	3	96 28.0	179 33.8	S27 06.1	240 16.1	S13 58.6	130 24.8	S14 45.7	146 06.3	S19 07.5
	4	111 30.5	194 33.7	S27 06.0	255 16.9	S13 59.2	145 27.1	S14 45.7	161 08.6	S19 07.4
F	5	126 32.9	209 33.7	S27 05.8	270 17.7	S13 59.7	160 29.4	S14 45.6	176 10.9	S19 07.4
R										
I	6	141 35.4	224 33.7	S27 05.7	285 18.5	S14 00.3	175 31.6	S14 45.5	191 13.3	S19 07.4
D	7	156 37.9	239 33.7	S27 05.6	300 19.3	S14 00.9	190 33.9	S14 45.5	206 15.6	S19 07.3
A	8	171 40.3	254 33.6	S27 05.5	315 20.2	S14 01.4	205 36.2	S14 45.4	221 17.9	S19 07.3
Y	9	186 42.8	269 33.6	S27 05.3	330 21.0	S14 02.0	220 38.4	S14 45.3	236 20.2	S19 07.3
	10	201 45.3	284 33.6	S27 05.2	345 21.8	S14 02.6	235 40.7	S14 45.2	251 22.6	S19 07.2
	11	216 47.7	299 33.6	S27 05.1	0 22.6	S14 03.1	250 43.0	S14 45.2	266 24.9	S19 07.2
	12	231 50.2	314 33.6	S27 04.9	15 23.4	S14 03.7	265 45.2	S14 45.1	281 27.2	S19 07.2
	13	246 52.6	329 33.6	S27 04.8	30 24.2	S14 04.3	280 47.5	S14 45.0	296 29.6	S19 07.1
	14	261 55.1	344 33.6	S27 04.6	45 25.0	S14 04.8	295 49.8	S14 44.9	311 31.9	S19 07.1
	15	276 57.6	359 33.5	S27 04.5	60 25.9	S14 05.4	310 52.0	S14 44.9	326 34.2	S19 07.1
	16	292 00.0	14 33.5	S27 04.4	75 26.7	S14 05.9	325 54.3	S14 44.8	341 36.6	S19 07.0
	17	307 02.5	29 33.5	S27 04.2	90 27.5	S14 06.5	340 56.6	S14 44.7	356 38.9	S19 07.0
	18	322 05.0	44 33.5	S27 04.1	105 28.3	S14 07.1	355 58.8	S14 44.7	11 41.2	S19 06.9
	19	337 07.4	59 33.5	S27 03.9	120 29.1	S14 07.6	11 01.1	S14 44.6	26 43.5	S19 06.9
	20	352 09.9	74 33.5	S27 03.8	135 29.9	S14 08.2	26 03.3	S14 44.5	41 45.9	S19 06.9
	21	7 12.4	89 33.5	S27 03.7	150 30.7	S14 08.8	41 05.6	S14 44.4	56 48.2	S19 06.8
	22	22 14.8	104 33.5	S27 03.5	165 31.5	S14 09.3	56 07.9	S14 44.4	71 50.5	S19 06.8
	23	37 17.3	119 33.5	S27 03.4	180 32.4	S14 09.9	71 10.1	S14 44.3	86 52.8	S19 06.8
13	0	52 19.8	134 33.5	S27 03.2	195 33.2	S14 10.4	86 12.4	S14 44.2	101 55.2	S19 06.7
	1	67 22.2	149 33.5	S27 03.1	210 34.0	S14 11.0	101 14.7	S14 44.1	116 57.5	S19 06.7
	2	82 24.7	164 33.5	S27 02.9	225 34.8	S14 11.6	116 16.9	S14 44.1	131 59.8	S19 06.7
	3	97 27.1	179 33.5	S27 02.8	240 35.6	S14 12.1	131 19.2	S14 44.0	147 02.2	S19 06.6
	4	112 29.6	194 33.6	S27 02.6	255 36.4	S14 12.7	146 21.4	S14 43.9	162 04.5	S19 06.6
S	5	127 32.1	209 33.6	S27 02.5	270 37.2	S14 13.3	161 23.7	S14 43.8	177 06.8	S19 06.6
A										
T	6	142 34.5	224 33.6	S27 02.3	285 38.0	S14 13.8	176 26.0	S14 43.8	192 09.1	S19 06.5
U	7	157 37.0	239 33.6	S27 02.2	300 38.8	S14 14.4	191 28.2	S14 43.7	207 11.5	S19 06.5
R	8	172 39.5	254 33.6	S27 02.0	315 39.7	S14 14.9	206 30.5	S14 43.6	222 13.8	S19 06.5
D	9	187 41.9	269 33.6	S27 01.9	330 40.5	S14 15.5	221 32.7	S14 43.5	237 16.1	S19 06.4
A	10	202 44.4	284 33.6	S27 01.7	345 41.3	S14 16.1	236 35.0	S14 43.5	252 18.4	S19 06.4
Y	11	217 46.9	299 33.7	S27 01.6	0 42.1	S14 16.6	251 37.3	S14 43.4	267 20.8	S19 06.4
	12	232 49.3	314 33.7	S27 01.4	15 42.9	S14 17.2	266 39.5	S14 43.3	282 23.1	S19 06.3
	13	247 51.8	329 33.7	S27 01.3	30 43.7	S14 17.7	281 41.8	S14 43.2	297 25.4	S19 06.3
	14	262 54.3	344 33.7	S27 01.1	45 44.5	S14 18.3	296 44.0	S14 43.2	312 27.7	S19 06.3
	15	277 56.7	359 33.7	S27 00.9	60 45.3	S14 18.9	311 46.3	S14 43.1	327 30.1	S19 06.2
	16	292 59.2	14 33.8	S27 00.8	75 46.1	S14 19.4	326 48.6	S14 43.0	342 32.4	S19 06.2
	17	308 01.6	29 33.8	S27 00.6	90 46.9	S14 20.0	341 50.8	S14 42.9	357 34.7	S19 06.1
	18	323 04.1	44 33.8	S27 00.5	105 47.7	S14 20.5	356 53.1	S14 42.9	12 37.0	S19 06.1
	19	338 06.6	59 33.9	S27 00.3	120 48.6	S14 21.1	11 55.3	S14 42.8	27 39.4	S19 06.1
	20	353 09.0	74 33.9	S27 00.1	135 49.4	S14 21.7	26 57.6	S14 42.7	42 41.7	S19 06.0
	21	8 11.5	89 33.9	S26 60.0	150 50.2	S14 22.2	41 59.8	S14 42.6	57 44.0	S19 06.0
	22	23 14.0	104 34.0	S26 59.8	165 51.0	S14 22.8	57 02.1	S14 42.5	72 46.3	S19 06.0
	23	38 16.4	119 34.0	S26 59.6	180 51.8	S14 23.3	72 04.4	S14 42.5	87 48.7	S19 05.9
14	0	53 18.9	134 34.0	S26 59.5	195 52.6	S14 23.9	87 06.6	S14 42.4	102 51.0	S19 05.9
	1	68 21.4	149 34.1	S26 59.3	210 53.4	S14 24.4	102 08.9	S14 42.3	117 53.3	S19 05.9
	2	83 23.8	164 34.1	S26 59.1	225 54.2	S14 25.0	117 11.1	S14 42.2	132 55.6	S19 05.8
	3	98 26.3	179 34.2	S26 59.0	240 55.0	S14 25.6	132 13.4	S14 42.2	147 58.0	S19 05.8
	4	113 28.7	194 34.2	S26 58.8	255 55.8	S14 26.1	147 15.6	S14 42.1	163 00.3	S19 05.8
S	5	128 31.2	209 34.2	S26 58.6	270 56.6	S14 26.7	162 17.9	S14 42.0	178 02.6	S19 05.7
U										
N	6	143 33.7	224 34.3	S26 58.4	285 57.4	S14 27.2	177 20.1	S14 41.9	193 04.9	S19 05.7
D	7	158 36.1	239 34.3	S26 58.3	300 58.2	S14 27.8	192 22.4	S14 41.9	208 07.2	S19 05.6
A	8	173 38.6	254 34.4	S26 58.1	315 59.0	S14 28.3	207 24.6	S14 41.8	223 09.6	S19 05.6
Y	9	188 41.1	269 34.4	S26 57.9	330 59.8	S14 28.9	222 26.9	S14 41.7	238 11.9	S19 05.6
	10	203 43.5	284 34.5	S26 57.7	346 00.6	S14 29.5	237 29.1	S14 41.6	253 14.2	S19 05.5
	11	218 46.0	299 34.5	S26 57.6	1 01.4	S14 30.0	252 31.4	S14 41.5	268 16.5	S19 05.5
	12	233 48.5	314 34.6	S26 57.4	16 02.3	S14 30.6	267 33.7	S14 41.5	283 18.9	S19 05.5
	13	248 50.9	329 34.7	S26 57.2	31 03.1	S14 31.1	282 35.9	S14 41.4	298 21.2	S19 05.4
	14	263 53.4	344 34.7	S26 57.0	46 03.9	S14 31.7	297 38.2	S14 41.3	313 23.5	S19 05.4
	15	278 55.9	359 34.8	S26 56.8	61 04.7	S14 32.2	312 40.4	S14 41.2	328 25.8	S19 05.4
	16	293 58.3	14 34.8	S26 56.7	76 05.5	S14 32.8	327 42.7	S14 41.2	343 28.1	S19 05.3
	17	309 00.8	29 34.9	S26 56.5	91 06.3	S14 33.3	342 44.9	S14 41.1	358 30.5	S19 05.3
	18	324 03.2	44 35.0	S26 56.3	106 07.1	S14 33.9	357 47.2	S14 41.0	13 32.8	S19 05.2
	19	339 05.7	59 35.0	S26 56.1	121 07.9	S14 34.5	12 49.4	S14 40.9	28 35.1	S19 05.2
	20	354 08.2	74 35.1	S26 55.9	136 08.7	S14 35.0	27 51.7	S14 40.8	43 37.4	S19 05.2
	21	9 10.6	89 35.2	S26 55.7	151 09.5	S14 35.6	42 53.9	S14 40.8	58 39.7	S19 05.1
	22	24 13.1	104 35.2	S26 55.6	166 10.3	S14 36.1	57 56.2	S14 40.7	73 42.1	S19 05.1
	23	39 15.6	119 35.3	S26 55.4	181 11.1	S14 36.7	72 58.4	S14 40.6	88 44.4	S19 05.1
			v 0.0	d 0.2	v 0.8	d 0.6	v 2.3	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
12	0	183 58.5	S17 41.4	81 35.6	10.5	S17 55.0	11.1	57.5
	1	198 58.4	S17 42.1	96 05.3	10.6	S17 43.8	11.2	57.4
	2	213 58.3	S17 42.8	110 35.0	10.7	S17 32.5	11.3	57.4
	3	228 58.3	S17 43.5	125 04.8	10.8	S17 21.2	11.4	57.4
	4	243 58.2	S17 44.1	139 34.8	10.9	S17 09.8	11.4	57.3
F	5	258 58.1	S17 44.8	154 04.8	11.0	S16 58.3	11.5	57.3
R								
I	6	273 58.0	S17 45.5	168 34.9	11.1	S16 46.7	11.6	57.3
D	7	288 57.9	S17 46.2	183 05.2	11.2	S16 35.0	11.6	57.2
A	8	303 57.9	S17 46.8	197 35.5	11.3	S16 23.3	11.7	57.2
Y	9	318 57.8	S17 47.5	212 05.9	11.4	S16 11.5	11.8	57.2
	10	333 57.7	S17 48.2	226 36.5	11.5	S15 59.7	11.8	57.1
	11	348 57.6	S17 48.8	241 07.1	11.6	S15 47.8	11.9	57.1
	12	3 57.5	S17 49.5	255 37.8	11.7	S15 35.8	12.0	57.1
	13	18 57.5	S17 50.2	270 08.7	11.8	S15 23.7	12.0	57.1
	14	33 57.4	S17 50.9	284 39.6	11.9	S15 11.6	12.1	57.0
	15	48 57.3	S17 51.5	299 10.6	12.0	S14 59.5	12.2	57.0
	16	63 57.2	S17 52.2	313 41.7	12.1	S14 47.3	12.2	57.0
	17	78 57.1	S17 52.9	328 12.9	12.2	S14 35.0	12.3	56.9
	18	93 57.0	S17 53.5	342 44.1	12.3	S14 22.6	12.3	56.9
	19	108 57.0	S17 54.2	357 15.5	12.4	S14 10.2	12.4	56.9
	20	123 56.9	S17 54.9	11 47.0	12.5	S13 57.8	12.4	56.8
	21	138 56.8	S17 55.5	26 18.5	12.5	S13 45.3	12.5	56.8
	22	153 56.7	S17 56.2	40 50.1	12.6	S13 32.7	12.6	56.8
	23	168 56.6	S17 56.9	55 21.9	12.7	S13 20.1	12.6	56.8
13	0	183 56.5	S17 57.5	69 53.7	12.8	S13 07.5	12.7	56.7
	1	198 56.4	S17 58.2	84 25.5	12.9	S12 54.8	12.7	56.7
	2	213 56.4	S17 58.9	98 57.5	13.0	S12 42.0	12.7	56.7
	3	228 56.3	S17 59.5	113 29.5	13.0	S12 29.2	12.8	56.6
	4	243 56.2	S18 00.2	128 01.7	13.1	S12 16.4	12.8	56.6
S	5	258 56.1	S18 00.8	142 33.9	13.2	S12 03.5	12.9	56.6
A								
T	6	273 56.0	S18 01.5	157 06.1	13.3	S11 50.6	12.9	56.6
U	7	288 55.9	S18 02.2	171 38.5	13.4	S11 37.6	13.0	56.5
R	8	303 55.8	S18 02.8	186 10.9	13.4	S11 24.6	13.0	56.5
D	9	318 55.7	S18 03.5	200 43.4	13.5	S11 11.6	13.0	56.5
A	10	333 55.7	S18 04.1	215 16.0	13.6	S10 58.5	13.1	56.4
Y	11	348 55.6	S18 04.8	229 48.6	13.6	S10 45.4	13.1	56.4
	12	3 55.5	S18 05.5	244 21.3	13.7	S10 32.2	13.2	56.4
	13	18 55.4	S18 06.1	258 54.1	13.8	S10 19.0	13.2	56.4
	14	33 55.3	S18 06.8	273 27.0	13.9	S10 05.8	13.2	56.3
	15	48 55.2	S18 07.4	287 59.9	13.9	S 9 52.6	13.3	56.3
	16	63 55.1	S18 08.1	302 32.9	14.0	S 9 39.3	13.3	56.3
	17	78 55.0	S18 08.7	317 05.9	14.0	S 9 26.0	13.3	56.3
	18	93 54.9	S18 09.4	331 39.1	14.1	S 9 12.6	13.3	56.2
	19	108 54.8	S18 10.0	346 12.2	14.2	S 8 59.3	13.4	56.2
	20	123 54.7	S18 10.7	0 45.5	14.2	S 8 45.9	13.4	56.2
	21	138 54.6	S18 11.4	15 18.8	14.3	S 8 32.4	13.4	56.2
	22	153 54.6	S18 12.0	29 52.1	14.4	S 8 19.0	13.4	56.1
	23	168 54.5	S18 12.7	44 25.5	14.4	S 8 05.5	13.5	56.1
14	0	183 54.4	S18 13.3	58 59.0	14.5	S 7 52.0	13.5	56.1
	1	198 54.3	S18 14.0	73 32.5	14.5	S 7 38.5	13.5	56.1
	2	213 54.2	S18 14.6	88 06.1	14.6	S 7 25.0	13.5	56.0
	3	228 54.1	S18 15.3	102 39.7	14.6	S 7 11.4	13.6	56.0
	4	243 54.0	S18 15.9	117 13.4	14.7	S 6 57.8	13.6	56.0
S	5	258 53.9	S18 16.6	131 47.2	14.7	S 6 44.2	13.6	56.0
U								
N	6	273 53.8	S18 17.2	146 20.9	14.8	S 6 30.6	13.6	55.9
D	7	288 53.7	S18 17.9	160 54.8	14.8	S 6 17.0	13.6	55.9
A	8	303 53.6	S18 18.5	175 28.7	14.9	S 6 03.4	13.6	55.9
Y	9	318 53.5	S18 19.2	190 02.6	14.9	S 5 49.7	13.7	55.9
	10	333 53.4	S18 19.8	204 36.6	15.0	S 5 36.0	13.7	55.8
	11	348 53.3	S18 20.4	219 10.6	15.0	S 5 22.3	13.7	55.8
	12	3 53.2	S18 21.1	233 44.6	15.1	S 5 08.7	13.7	55.8
	13	18 53.1	S18 21.7	248 18.7	15.1	S 4 54.9	13.7	55.8
	14	33 53.0	S18 22.4	262 52.9	15.1	S 4 41.2	13.7	55.7
	15	48 52.9	S18 23.0	277 27.1	15.2	S 4 27.5	13.7	55.7
	16	63 52.8	S18 23.7	292 01.3	15.2	S 4 13.8	13.7	55.7
	17	78 52.7	S18 24.3	306 35.5	15.3	S 4 00.0	13.7	55.7
	18	93 52.6	S18 24.9	321 09.8	15.3	S 3 46.3	13.7	55.6
	19	108 52.5	S18 25.6	335 44.2	15.3	S 3 32.5	13.8	55.6
	20	123 52.4	S18 26.2	350 18.5	15.4	S 3 18.8	13.8	55.6
	21	138 52.3	S18 26.9	4 52.9	15.4	S 3 05.0	13.8	55.6
	22	153 52.2	S18 27.5	19 27.3	15.4	S 2 51.3	13.8	55.6
	23	168 52.1	S18 28.1	34 01.8	15.5	S 2 37.5	13.8	55.5
		S.D. 16.2	d 0.7	S.D.	15.6	15.4	15.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.1
Achernar	335 21.6	S57 07.7
Acrux	173 03.5	S63 12.8
Adhara	255 07.7	S28 59.9
Albireo	67 06.3	N28 00.5
Aldebaran	290 42.3	N16 33.2
Alioth	166 15.7	N55 50.5
Alkaid	152 54.6	N49 12.3
Al Na-ir	27 36.1	S46 51.6
Alnilam	275 40.1	S 1 11.2
Alphard	217 50.3	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.2	N29 12.8
Altair	62 02.6	N 8 55.6
Ankaa	353 09.4	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.6	N19 04.2
Atria	107 16.6	S69 04.0
Avior	234 15.5	S59 34.4
Bellatrix	278 25.4	N 6 22.2
Betelgeuse	270 54.6	N 7 24.7
Canopus	263 53.1	S52 42.2
Capella	280 25.3	N46 01.1
Castor	246 00.2	N31 50.4
Deneb	49 27.7	N45 21.7
Denebola	182 27.8	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.5	N61 37.8
Elnath	278 04.9	N28 37.5
Eltanin	90 43.9	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.3	S29 30.6
Gacrux	171 55.0	S57 13.8
Gienah	175 46.5	S17 39.5
Hadar	148 40.4	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.2	N74 04.0
Markab	13 32.4	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.1	S36 28.5
Miaplacidus	221 38.6	S69 48.0
Mirfak	308 31.5	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 10.0	S56 40.2
Polaris	316 52.0	N89 20.6
Pollux	243 20.3	N27 58.4
Procyon	244 53.4	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.3	N11 51.7
Rigel	281 06.1	S 8 10.5
Rigil Kent	139 44.7	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.5
Shaula	96 14.3	S37 07.2
Sirius	258 28.3	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.1	S43 30.9
Vega	80 35.3	N38 48.4
Zuben-ubi	137 00.0	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
15	0	54 18.0	134 35.4	S26 55.2	196 11.9	S14 37.2	88 00.7	S14 40.5	103 46.7	S19 05.0
	1	69 20.5	149 35.5	S26 55.0	211 12.7	S14 37.8	103 02.9	S14 40.4	118 49.0	S19 05.0
	2	84 23.0	164 35.5	S26 54.8	226 13.5	S14 38.3	118 05.1	S14 40.4	133 51.3	S19 05.0
	3	99 25.4	179 35.6	S26 54.6	241 14.3	S14 38.9	133 07.4	S14 40.3	148 53.7	S19 04.9
	4	114 27.9	194 35.7	S26 54.4	256 15.1	S14 39.4	148 09.6	S14 40.2	163 56.0	S19 04.9
M	5	129 30.3	209 35.8	S26 54.2	271 15.9	S14 40.0	163 11.9	S14 40.1	178 58.3	S19 04.8
O										
N	6	144 32.8	224 35.9	S26 54.0	286 16.7	S14 40.5	178 14.1	S14 40.0	194 00.6	S19 04.8
D	7	159 35.3	239 35.9	S26 53.8	301 17.5	S14 41.1	193 16.4	S14 40.0	209 02.9	S19 04.8
A	8	174 37.7	254 36.0	S26 53.6	316 18.3	S14 41.7	208 18.6	S14 39.9	224 05.3	S19 04.7
Y	9	189 40.2	269 36.1	S26 53.4	331 19.1	S14 42.2	223 20.9	S14 39.8	239 07.6	S19 04.7
	10	204 42.7	284 36.2	S26 53.2	346 19.9	S14 42.8	238 23.1	S14 39.7	254 09.9	S19 04.7
	11	219 45.1	299 36.3	S26 53.0	1 20.7	S14 43.3	253 25.4	S14 39.6	269 12.2	S19 04.6
	12	234 47.6	314 36.4	S26 52.9	16 21.5	S14 43.9	268 27.6	S14 39.6	284 14.5	S19 04.6
	13	249 50.1	329 36.5	S26 52.7	31 22.3	S14 44.4	283 29.9	S14 39.5	299 16.8	S19 04.5
	14	264 52.5	344 36.6	S26 52.5	46 23.1	S14 45.0	298 32.1	S14 39.4	314 19.2	S19 04.5
	15	279 55.0	359 36.7	S26 52.2	61 23.9	S14 45.5	313 34.3	S14 39.3	329 21.5	S19 04.5
	16	294 57.5	14 36.8	S26 52.0	76 24.7	S14 46.1	328 36.6	S14 39.2	344 23.8	S19 04.4
	17	309 59.9	29 36.9	S26 51.8	91 25.5	S14 46.6	343 38.8	S14 39.2	359 26.1	S19 04.4
	18	325 02.4	44 37.0	S26 51.6	106 26.3	S14 47.2	358 41.1	S14 39.1	14 28.4	S19 04.4
	19	340 04.8	59 37.1	S26 51.4	121 27.1	S14 47.7	13 43.3	S14 39.0	29 30.8	S19 04.3
	20	355 07.3	74 37.2	S26 51.2	136 27.9	S14 48.3	28 45.6	S14 38.9	44 33.1	S19 04.3
	21	10 09.8	89 37.3	S26 51.0	151 28.7	S14 48.8	43 47.8	S14 38.8	59 35.4	S19 04.2
	22	25 12.2	104 37.4	S26 50.8	166 29.5	S14 49.4	58 50.0	S14 38.8	74 37.7	S19 04.2
	23	40 14.7	119 37.5	S26 50.6	181 30.3	S14 49.9	73 52.3	S14 38.7	89 40.0	S19 04.2
16	0	55 17.2	134 37.6	S26 50.4	196 31.1	S14 50.5	88 54.5	S14 38.6	104 42.3	S19 04.1
	1	70 19.6	149 37.7	S26 50.2	211 31.9	S14 51.0	103 56.8	S14 38.5	119 44.6	S19 04.1
	2	85 22.1	164 37.8	S26 50.0	226 32.7	S14 51.6	118 59.0	S14 38.4	134 47.0	S19 04.1
	3	100 24.6	179 38.0	S26 49.8	241 33.5	S14 52.1	134 01.2	S14 38.3	149 49.3	S19 04.0
	4	115 27.0	194 38.1	S26 49.6	256 34.3	S14 52.7	149 03.5	S14 38.3	164 51.6	S19 04.0
T	5	130 29.5	209 38.2	S26 49.3	271 35.1	S14 53.2	164 05.7	S14 38.2	179 53.9	S19 03.9
U										
E	6	145 32.0	224 38.3	S26 49.1	286 35.9	S14 53.8	179 08.0	S14 38.1	194 56.2	S19 03.9
S	7	160 34.4	239 38.4	S26 48.9	301 36.7	S14 54.3	194 10.2	S14 38.0	209 58.5	S19 03.9
D	8	175 36.9	254 38.6	S26 48.7	316 37.4	S14 54.9	209 12.4	S14 37.9	225 00.9	S19 03.8
A	9	190 39.3	269 38.7	S26 48.5	331 38.2	S14 55.4	224 14.7	S14 37.8	240 03.2	S19 03.8
Y	10	205 41.8	284 38.8	S26 48.3	346 39.0	S14 56.0	239 16.9	S14 37.8	255 05.5	S19 03.8
	11	220 44.3	299 38.9	S26 48.0	1 39.8	S14 56.5	254 19.2	S14 37.7	270 07.8	S19 03.7
	12	235 46.7	314 39.1	S26 47.8	16 40.6	S14 57.0	269 21.4	S14 37.6	285 10.1	S19 03.7
	13	250 49.2	329 39.2	S26 47.6	31 41.4	S14 57.6	284 23.6	S14 37.5	300 12.4	S19 03.6
	14	265 51.7	344 39.3	S26 47.4	46 42.2	S14 58.1	299 25.9	S14 37.4	315 14.7	S19 03.6
	15	280 54.1	359 39.5	S26 47.2	61 43.0	S14 58.7	314 28.1	S14 37.4	330 17.1	S19 03.6
	16	295 56.6	14 39.6	S26 46.9	76 43.8	S14 59.2	329 30.3	S14 37.3	345 19.4	S19 03.5
	17	310 59.1	29 39.7	S26 46.7	91 44.6	S14 59.8	344 32.6	S14 37.2	0 21.7	S19 03.5
	18	326 01.5	44 39.9	S26 46.5	106 45.4	S15 00.3	359 34.8	S14 37.1	15 24.0	S19 03.5
	19	341 04.0	59 40.0	S26 46.3	121 46.2	S15 00.9	14 37.1	S14 37.0	30 26.3	S19 03.4
	20	356 06.4	74 40.2	S26 46.0	136 47.0	S15 01.4	29 39.3	S14 36.9	45 28.6	S19 03.4
	21	11 08.9	89 40.3	S26 45.8	151 47.8	S15 02.0	44 41.5	S14 36.8	60 30.9	S19 03.3
	22	26 11.4	104 40.5	S26 45.6	166 48.6	S15 02.5	59 43.8	S14 36.8	75 33.2	S19 03.3
	23	41 13.8	119 40.6	S26 45.3	181 49.4	S15 03.1	74 46.0	S14 36.7	90 35.6	S19 03.3
17	0	56 16.3	134 40.8	S26 45.1	196 50.1	S15 03.6	89 48.2	S14 36.6	105 37.9	S19 03.2
	1	71 18.8	149 40.9	S26 44.9	211 50.9	S15 04.1	104 50.5	S14 36.5	120 40.2	S19 03.2
	2	86 21.2	164 41.1	S26 44.7	226 51.7	S15 04.7	119 52.7	S14 36.4	135 42.5	S19 03.1
	3	101 23.7	179 41.2	S26 44.4	241 52.5	S15 05.2	134 54.9	S14 36.3	150 44.8	S19 03.1
	4	116 26.2	194 41.4	S26 44.2	256 53.3	S15 05.8	149 57.2	S14 36.3	165 47.1	S19 03.1
W	5	131 28.6	209 41.5	S26 44.0	271 54.1	S15 06.3	164 59.4	S14 36.2	180 49.4	S19 03.0
E										
D	6	146 31.1	224 41.7	S26 43.7	286 54.9	S15 06.9	180 01.6	S14 36.1	195 51.7	S19 03.0
N	7	161 33.6	239 41.9	S26 43.5	301 55.7	S15 07.4	195 03.9	S14 36.0	210 54.1	S19 02.9
E	8	176 36.0	254 42.0	S26 43.3	316 56.5	S15 08.0	210 06.1	S14 35.9	225 56.4	S19 02.9
S	9	191 38.5	269 42.2	S26 43.0	331 57.3	S15 08.5	225 08.3	S14 35.8	240 58.7	S19 02.9
D	10	206 40.9	284 42.4	S26 42.8	346 58.1	S15 09.0	240 10.6	S14 35.8	256 01.0	S19 02.8
A	11	221 43.4	299 42.5	S26 42.5	1 58.8	S15 09.6	255 12.8	S14 35.7	271 03.3	S19 02.8
Y										
	12	236 45.9	314 42.7	S26 42.3	16 59.6	S15 10.1	270 15.0	S14 35.6	286 05.6	S19 02.8
	13	251 48.3	329 42.9	S26 42.1	32 00.4	S15 10.7	285 17.2	S14 35.5	301 07.9	S19 02.7
	14	266 50.8	344 43.1	S26 41.8	47 01.2	S15 11.2	300 19.5	S14 35.4	316 10.2	S19 02.7
	15	281 53.3	359 43.2	S26 41.6	62 02.0	S15 11.8	315 21.7	S14 35.3	331 12.5	S19 02.6
	16	296 55.7	14 43.4	S26 41.3	77 02.8	S15 12.3	330 23.9	S14 35.2	346 14.9	S19 02.6
	17	311 58.2	29 43.6	S26 41.1	92 03.6	S15 12.8	345 26.2	S14 35.2	1 17.2	S19 02.6
	18	327 00.7	44 43.8	S26 40.8	107 04.4	S15 13.4	0 28.4	S14 35.1	16 19.5	S19 02.5
	19	342 03.1	59 43.9	S26 40.6	122 05.2	S15 13.9	15 30.6	S14 35.0	31 21.8	S19 02.5
	20	357 05.6	74 44.1	S26 40.4	137 05.9	S15 14.5	30 32.9	S14 34.9	46 24.1	S19 02.4
	21	12 08.1	89 44.3	S26 40.1	152 06.7	S15 15.0	45 35.1	S14 34.8	61 26.4	S19 02.4
	22	27 10.5	104 44.5	S26 39.9	167 07.5	S15 15.5	60 37.3	S14 34.7	76 28.7	S19 02.4
	23	42 13.0	119 44.7	S26 39.6	182 08.3	S15 16.1	75 39.5	S14 34.6	91 31.0	S19 02.3
			v 0.1	d 0.2	v 0.8	d 0.5	v 2.2	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
15	0	183 52.0	S18 28.8	48 36.3	15.5	S 2 23.7	13.8	55.5
	1	198 51.9	S18 29.4	63 10.8	15.5	S 2 10.0	13.8	55.5
	2	213 51.8	S18 30.1	77 45.4	15.5	S 1 56.2	13.8	55.5
	3	228 51.7	S18 30.7	92 19.9	15.6	S 1 42.4	13.8	55.5
	4	243 51.6	S18 31.3	106 54.5	15.6	S 1 28.7	13.8	55.4
M	5	258 51.5	S18 32.0	121 29.1	15.6	S 1 14.9	13.8	55.4
O								
N	6	273 51.4	S18 32.6	136 03.8	15.6	S 1 01.2	13.8	55.4
D	7	288 51.3	S18 33.2	150 38.4	15.7	S 0 47.4	13.7	55.4
A	8	303 51.2	S18 33.9	165 13.1	15.7	S 0 33.7	13.7	55.4
Y	9	318 51.0	S18 34.5	179 47.8	15.7	S 0 19.9	13.7	55.3
	10	333 50.9	S18 35.1	194 22.5	15.7	S 0 06.2	13.7	55.3
	11	348 50.8	S18 35.8	208 57.3	15.7	N 0 07.5	13.7	55.3
	12	3 50.7	S18 36.4	223 32.0	15.8	N 0 21.2	13.7	55.3
	13	18 50.6	S18 37.0	238 06.8	15.8	N 0 34.9	13.7	55.3
	14	33 50.5	S18 37.7	252 41.6	15.8	N 0 48.6	13.7	55.2
	15	48 50.4	S18 38.3	267 16.4	15.8	N 1 02.3	13.7	55.2
	16	63 50.3	S18 38.9	281 51.2	15.8	N 1 16.0	13.7	55.2
	17	78 50.2	S18 39.5	296 26.0	15.8	N 1 29.6	13.7	55.2
	18	93 50.1	S18 40.2	311 00.9	15.8	N 1 43.3	13.6	55.2
	19	108 50.0	S18 40.8	325 35.7	15.8	N 1 56.9	13.6	55.1
	20	123 49.9	S18 41.4	340 10.6	15.9	N 2 10.5	13.6	55.1
	21	138 49.7	S18 42.0	354 45.4	15.9	N 2 24.1	13.6	55.1
	22	153 49.6	S18 42.7	9 20.3	15.9	N 2 37.7	13.6	55.1
	23	168 49.5	S18 43.3	23 55.2	15.9	N 2 51.2	13.6	55.1
16	0	183 49.4	S18 43.9	38 30.1	15.9	N 3 04.8	13.5	55.1
	1	198 49.3	S18 44.5	53 04.9	15.9	N 3 18.3	13.5	55.0
	2	213 49.2	S18 45.2	67 39.8	15.9	N 3 31.8	13.5	55.0
	3	228 49.1	S18 45.8	82 14.7	15.9	N 3 45.3	13.5	55.0
	4	243 49.0	S18 46.4	96 49.6	15.9	N 3 58.8	13.5	55.0
T	5	258 48.8	S18 47.0	111 24.5	15.9	N 4 12.2	13.4	55.0
U								
E	6	273 48.7	S18 47.7	125 59.4	15.9	N 4 25.6	13.4	54.9
S	7	288 48.6	S18 48.3	140 34.3	15.9	N 4 39.0	13.4	54.9
D	8	303 48.5	S18 48.9	155 09.1	15.9	N 4 52.4	13.4	54.9
A	9	318 48.4	S18 49.5	169 44.0	15.9	N 5 05.7	13.3	54.9
Y	10	333 48.3	S18 50.1	184 18.9	15.9	N 5 19.0	13.3	54.9
	11	348 48.2	S18 50.7	198 53.7	15.9	N 5 32.3	13.3	54.9
	12	3 48.0	S18 51.4	213 28.6	15.9	N 5 45.6	13.3	54.9
	13	18 47.9	S18 52.0	228 03.4	15.8	N 5 58.8	13.2	54.8
	14	33 47.8	S18 52.6	242 38.3	15.8	N 6 12.0	13.2	54.8
	15	48 47.7	S18 53.2	257 13.1	15.8	N 6 25.2	13.2	54.8
	16	63 47.6	S18 53.8	271 47.9	15.8	N 6 38.3	13.1	54.8
	17	78 47.5	S18 54.4	286 22.7	15.8	N 6 51.4	13.1	54.8
	18	93 47.3	S18 55.1	300 57.5	15.8	N 7 04.5	13.1	54.8
	19	108 47.2	S18 55.7	315 32.3	15.8	N 7 17.6	13.0	54.7
	20	123 47.1	S18 56.3	330 07.1	15.8	N 7 30.6	13.0	54.7
	21	138 47.0	S18 56.9	344 41.8	15.8	N 7 43.5	13.0	54.7
	22	153 46.9	S18 57.5	359 16.6	15.7	N 7 56.5	12.9	54.7
	23	168 46.7	S18 58.1	13 51.3	15.7	N 8 09.4	12.9	54.7
17	0	183 46.6	S18 58.7	28 26.0	15.7	N 8 22.3	12.9	54.7
	1	198 46.5	S18 59.3	43 00.7	15.7	N 8 35.1	12.8	54.7
	2	213 46.4	S18 59.9	57 35.4	15.7	N 8 47.9	12.8	54.6
	3	228 46.3	S19 00.6	72 10.0	15.6	N 9 00.6	12.7	54.6
	4	243 46.1	S19 01.2	86 44.6	15.6	N 9 13.3	12.7	54.6
W	5	258 46.0	S19 01.8	101 19.2	15.6	N 9 26.0	12.7	54.6
E								
D	6	273 45.9	S19 02.4	115 53.8	15.6	N 9 38.6	12.6	54.6
N	7	288 45.8	S19 03.0	130 28.4	15.6	N 9 51.2	12.6	54.6
E	8	303 45.6	S19 03.6	145 02.9	15.5	N10 03.7	12.5	54.6
S	9	318 45.5	S19 04.2	159 37.4	15.5	N10 16.2	12.5	54.6
D	10	333 45.4	S19 04.8	174 11.9	15.5	N10 28.7	12.5	54.5
A	11	348 45.3	S19 05.4	188 46.4	15.5	N10 41.1	12.4	54.5
Y								
	12	3 45.1	S19 06.0	203 20.8	15.4	N10 53.5	12.4	54.5
	13	18 45.0	S19 06.6	217 55.2	15.4	N11 05.8	12.3	54.5
	14	33 44.9	S19 07.2	232 29.6	15.4	N11 18.0	12.3	54.5
	15	48 44.8	S19 07.8	247 03.9	15.3	N11 30.3	12.2	54.5
	16	63 44.6	S19 08.4	261 38.2	15.3	N11 42.4	12.2	54.5
	17	78 44.5	S19 09.0	276 12.5	15.3	N11 54.5	12.1	54.5
	18	93 44.4	S19 09.6	290 46.8	15.3	N12 06.6	12.1	54.4
	19	108 44.3	S19 10.2	305 21.0	15.2	N12 18.6	12.0	54.4
	20	123 44.1	S19 10.8	319 55.2	15.2	N12 30.6	12.0	54.4
	21	138 44.0	S19 11.4	334 29.3	15.2	N12 42.5	11.9	54.4
	22	153 43.9	S19 12.0	349 03.4	15.1	N12 54.3	11.9	54.4
	23	168 43.8	S19 12.6	3 37.5	15.1	N13 06.1	11.8	54.4
		S.D. 16.2	d 0.6	S.D.	15.1	14.9	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.1
Achernar	335 21.6	S57 07.7
Acrux	173 03.4	S63 12.8
Adhara	255 07.6	S28 59.9
Albireo	67 06.4	N28 00.5
Aldebaran	290 42.3	N16 33.2
Alioth	166 15.7	N55 50.5
Alkaid	152 54.5	N49 12.3
Al Na-ir	27 36.1	S46 51.6
Alnilam	275 40.0	S 1 11.2
Alphard	217 50.2	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.2	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.4	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.6	N19 04.2
Atria	107 16.6	S69 04.0
Avior	234 15.5	S59 34.4
Bellatrix	278 25.4	N 6 22.2
Betelgeuse	270 54.6	N 7 24.7
Canopus	263 53.1	S52 42.2
Capella	280 25.3	N46 01.1
Castor	246 00.2	N31 50.4
Deneb	49 27.7	N45 21.7
Denebola	182 27.8	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.5	N61 37.8
Elnath	278 04.9	N28 37.5
Eltanin	90 43.9	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.3	S29 30.6
Gacrux	171 54.9	S57 13.8
Gienah	175 46.5	S17 39.5
Hadar	148 40.3	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 03.9
Markab	13 32.4	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.1	S36 28.5
Miaplacidus	221 38.5	S69 48.0
Mirfak	308 31.5	N49 56.3
Nunki	75 51.2	S26 16.2
Peacock	53 10.0	S56 40.2
Polaris	316 52.3	N89 20.7
Pollux	243 20.3	N27 58.4
Procyon	244 53.4	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.2	N11 51.7
Rigel	281 06.1	S 8 10.5
Rigil Kent	139 44.7	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.6
Shaula	96 14.3	S37 07.2
Sirius	258 28.3	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.1	S43 30.9
Vega	80 35.3	N38 48.4
Zuben-ubi	137 00.0	S16 07.8

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
18	0	57 15.4	134 44.9	S26 39.4	197 09.1	S15 16.6	90 41.8	S14 34.5	106 33.3	S19 02.3
	1	72 17.9	149 45.1	S26 39.1	212 09.9	S15 17.2	105 44.0	S14 34.5	121 35.6	S19 02.2
	2	87 20.4	164 45.3	S26 38.9	227 10.7	S15 17.7	120 46.2	S14 34.4	136 37.9	S19 02.2
	3	102 22.8	179 45.5	S26 38.6	242 11.5	S15 18.2	135 48.4	S14 34.3	151 40.3	S19 02.2
	4	117 25.3	194 45.7	S26 38.4	257 12.2	S15 18.8	150 50.7	S14 34.2	166 42.6	S19 02.1
T	5	132 27.8	209 45.9	S26 38.1	272 13.0	S15 19.3	165 52.9	S14 34.1	181 44.9	S19 02.1
H										
U	6	147 30.2	224 46.1	S26 37.9	287 13.8	S15 19.9	180 55.1	S14 34.0	196 47.2	S19 02.0
R	7	162 32.7	239 46.3	S26 37.6	302 14.6	S15 20.4	195 57.3	S14 33.9	211 49.5	S19 02.0
S	8	177 35.2	254 46.5	S26 37.3	317 15.4	S15 20.9	210 59.6	S14 33.8	226 51.8	S19 02.0
D	9	192 37.6	269 46.7	S26 37.1	332 16.2	S15 21.5	226 01.8	S14 33.8	241 54.1	S19 01.9
A	10	207 40.1	284 46.9	S26 36.8	347 17.0	S15 22.0	241 04.0	S14 33.7	256 56.4	S19 01.9
Y	11	222 42.5	299 47.1	S26 36.6	2 17.7	S15 22.6	256 06.2	S14 33.6	271 58.7	S19 01.8
	12	237 45.0	314 47.3	S26 36.3	17 18.5	S15 23.1	271 08.5	S14 33.5	287 01.0	S19 01.8
	13	252 47.5	329 47.5	S26 36.1	32 19.3	S15 23.6	286 10.7	S14 33.4	302 03.3	S19 01.8
	14	267 49.9	344 47.8	S26 35.8	47 20.1	S15 24.2	301 12.9	S14 33.3	317 05.6	S19 01.7
	15	282 52.4	359 48.0	S26 35.5	62 20.9	S15 24.7	316 15.1	S14 33.2	332 07.9	S19 01.7
	16	297 54.9	14 48.2	S26 35.3	77 21.7	S15 25.3	331 17.4	S14 33.1	347 10.2	S19 01.6
	17	312 57.3	29 48.4	S26 35.0	92 22.4	S15 25.8	346 19.6	S14 33.1	2 12.6	S19 01.6
	18	327 59.8	44 48.6	S26 34.7	107 23.2	S15 26.3	1 21.8	S14 33.0	17 14.9	S19 01.6
	19	343 02.3	59 48.9	S26 34.5	122 24.0	S15 26.9	16 24.0	S14 32.9	32 17.2	S19 01.5
	20	358 04.7	74 49.1	S26 34.2	137 24.8	S15 27.4	31 26.2	S14 32.8	47 19.5	S19 01.5
	21	13 07.2	89 49.3	S26 33.9	152 25.6	S15 27.9	46 28.5	S14 32.7	62 21.8	S19 01.4
	22	28 09.7	104 49.5	S26 33.7	167 26.4	S15 28.5	61 30.7	S14 32.6	77 24.1	S19 01.4
	23	43 12.1	119 49.8	S26 33.4	182 27.1	S15 29.0	76 32.9	S14 32.5	92 26.4	S19 01.4
19	0	58 14.6	134 50.0	S26 33.1	197 27.9	S15 29.5	91 35.1	S14 32.4	107 28.7	S19 01.3
	1	73 17.0	149 50.3	S26 32.9	212 28.7	S15 30.1	106 37.4	S14 32.3	122 31.0	S19 01.3
	2	88 19.5	164 50.5	S26 32.6	227 29.5	S15 30.6	121 39.6	S14 32.3	137 33.3	S19 01.2
	3	103 22.0	179 50.7	S26 32.3	242 30.3	S15 31.2	136 41.8	S14 32.2	152 35.6	S19 01.2
	4	118 24.4	194 51.0	S26 32.1	257 31.1	S15 31.7	151 44.0	S14 32.1	167 37.9	S19 01.2
F	5	133 26.9	209 51.2	S26 31.8	272 31.8	S15 32.2	166 46.2	S14 32.0	182 40.2	S19 01.1
R										
I	6	148 29.4	224 51.5	S26 31.5	287 32.6	S15 32.8	181 48.5	S14 31.9	197 42.5	S19 01.1
D	7	163 31.8	239 51.7	S26 31.2	302 33.4	S15 33.3	196 50.7	S14 31.8	212 44.8	S19 01.0
A	8	178 34.3	254 52.0	S26 31.0	317 34.2	S15 33.8	211 52.9	S14 31.7	227 47.1	S19 01.0
Y	9	193 36.8	269 52.2	S26 30.7	332 35.0	S15 34.4	226 55.1	S14 31.6	242 49.4	S19 01.0
	10	208 39.2	284 52.5	S26 30.4	347 35.7	S15 34.9	241 57.3	S14 31.5	257 51.7	S19 00.9
	11	223 41.7	299 52.7	S26 30.1	2 36.5	S15 35.4	256 59.5	S14 31.5	272 54.0	S19 00.9
	12	238 44.2	314 53.0	S26 29.9	17 37.3	S15 36.0	272 01.8	S14 31.4	287 56.3	S19 00.8
	13	253 46.6	329 53.2	S26 29.6	32 38.1	S15 36.5	287 04.0	S14 31.3	302 58.6	S19 00.8
	14	268 49.1	344 53.5	S26 29.3	47 38.9	S15 37.0	302 06.2	S14 31.2	318 01.0	S19 00.7
	15	283 51.5	359 53.7	S26 29.0	62 39.6	S15 37.6	317 08.4	S14 31.1	333 03.3	S19 00.7
	16	298 54.0	14 54.0	S26 28.7	77 40.4	S15 38.1	332 10.6	S14 31.0	348 05.6	S19 00.7
	17	313 56.5	29 54.3	S26 28.5	92 41.2	S15 38.6	347 12.8	S14 30.9	3 07.9	S19 00.6
	18	328 58.9	44 54.5	S26 28.2	107 42.0	S15 39.2	2 15.1	S14 30.8	18 10.2	S19 00.6
	19	344 01.4	59 54.8	S26 27.9	122 42.7	S15 39.7	17 17.3	S14 30.7	33 12.5	S19 00.5
	20	359 03.9	74 55.1	S26 27.6	137 43.5	S15 40.2	32 19.5	S14 30.6	48 14.8	S19 00.5
	21	14 06.3	89 55.4	S26 27.3	152 44.3	S15 40.8	47 21.7	S14 30.5	63 17.1	S19 00.5
	22	29 08.8	104 55.6	S26 27.0	167 45.1	S15 41.3	62 23.9	S14 30.5	78 19.4	S19 00.4
	23	44 11.3	119 55.9	S26 26.8	182 45.9	S15 41.8	77 26.1	S14 30.4	93 21.7	S19 00.4
20	0	59 13.7	134 56.2	S26 26.5	197 46.6	S15 42.4	92 28.3	S14 30.3	108 24.0	S19 00.3
	1	74 16.2	149 56.5	S26 26.2	212 47.4	S15 42.9	107 30.6	S14 30.2	123 26.3	S19 00.3
	2	89 18.7	164 56.8	S26 25.9	227 48.2	S15 43.4	122 32.8	S14 30.1	138 28.6	S19 00.2
	3	104 21.1	179 57.0	S26 25.6	242 49.0	S15 44.0	137 35.0	S14 30.0	153 30.9	S19 00.2
	4	119 23.6	194 57.3	S26 25.3	257 49.7	S15 44.5	152 37.2	S14 29.9	168 33.2	S19 00.2
S	5	134 26.0	209 57.6	S26 25.0	272 50.5	S15 45.0	167 39.4	S14 29.8	183 35.5	S19 00.1
A										
T	6	149 28.5	224 57.9	S26 24.7	287 51.3	S15 45.5	182 41.6	S14 29.7	198 37.8	S19 00.1
U	7	164 31.0	239 58.2	S26 24.4	302 52.1	S15 46.1	197 43.8	S14 29.6	213 40.1	S19 00.0
R	8	179 33.4	254 58.5	S26 24.1	317 52.8	S15 46.6	212 46.0	S14 29.5	228 42.4	S18 60.0
D	9	194 35.9	269 58.8	S26 23.8	332 53.6	S15 47.1	227 48.3	S14 29.4	243 44.7	S18 60.0
A	10	209 38.4	284 59.1	S26 23.6	347 54.4	S15 47.7	242 50.5	S14 29.3	258 47.0	S18 59.9
Y	11	224 40.8	299 59.4	S26 23.3	2 55.2	S15 48.2	257 52.7	S14 29.3	273 49.3	S18 59.9
	12	239 43.3	314 59.7	S26 23.0	17 55.9	S15 48.7	272 54.9	S14 29.2	288 51.6	S18 59.8
	13	254 45.8	329 60.0	S26 22.7	32 56.7	S15 49.2	287 57.1	S14 29.1	303 53.9	S18 59.8
	14	269 48.2	345 00.3	S26 22.4	47 57.5	S15 49.8	302 59.3	S14 29.0	318 56.2	S18 59.7
	15	284 50.7	0 00.6	S26 22.1	62 58.3	S15 50.3	318 01.5	S14 28.9	333 58.5	S18 59.7
	16	299 53.1	15 00.9	S26 21.8	77 59.0	S15 50.8	333 03.7	S14 28.8	349 00.8	S18 59.7
	17	314 55.6	30 01.2	S26 21.5	92 59.8	S15 51.4	348 05.9	S14 28.7	4 03.1	S18 59.6
	18	329 58.1	45 01.5	S26 21.2	108 00.6	S15 51.9	3 08.1	S14 28.6	19 05.4	S18 59.6
	19	345 00.5	60 01.9	S26 20.9	123 01.4	S15 52.4	18 10.3	S14 28.5	34 07.7	S18 59.5
	20	0 03.0	75 02.2	S26 20.6	138 02.1	S15 52.9	33 12.6	S14 28.4	49 10.0	S18 59.5
	21	15 05.5	90 02.5	S26 20.3	153 02.9	S15 53.5	48 14.8	S14 28.3	64 12.3	S18 59.5
	22	30 07.9	105 02.8	S26 20.0	168 03.7	S15 54.0	63 17.0	S14 28.2	79 14.6	S18 59.4
	23	45 10.4	120 03.1	S26 19.7	183 04.4	S15 54.5	78 19.2	S14 28.1	94 16.9	S18 59.4
			v 0.3	d 0.3	v 0.8	d 0.5	v 2.2	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
18	0	183 43.6	S19 13.2	18 11.6	15.1	N13 17.9	11.7	54.4
	1	198 43.5	S19 13.8	32 45.6	15.0	N13 29.6	11.7	54.4
	2	213 43.4	S19 14.4	47 19.6	15.0	N13 41.2	11.6	54.4
	3	228 43.2	S19 15.0	61 53.5	14.9	N13 52.7	11.6	54.3
	4	243 43.1	S19 15.6	76 27.4	14.9	N14 04.3	11.5	54.3
T	5	258 43.0	S19 16.2	91 01.3	14.9	N14 15.7	11.4	54.3
H								
U	6	273 42.8	S19 16.8	105 35.1	14.8	N14 27.1	11.4	54.3
R	7	288 42.7	S19 17.3	120 08.9	14.8	N14 38.4	11.3	54.3
S	8	303 42.6	S19 17.9	134 42.7	14.7	N14 49.7	11.3	54.3
D	9	318 42.4	S19 18.5	149 16.4	14.7	N15 00.9	11.2	54.3
A	10	333 42.3	S19 19.1	163 50.0	14.7	N15 12.0	11.1	54.3
Y	11	348 42.2	S19 19.7	178 23.7	14.6	N15 23.1	11.1	54.3
	12	3 42.0	S19 20.3	192 57.2	14.6	N15 34.1	11.0	54.3
	13	18 41.9	S19 20.9	207 30.8	14.5	N15 45.1	10.9	54.3
	14	33 41.8	S19 21.5	222 04.3	14.5	N15 55.9	10.9	54.2
	15	48 41.6	S19 22.1	236 37.7	14.5	N16 06.7	10.8	54.2
	16	63 41.5	S19 22.6	251 11.1	14.4	N16 17.5	10.7	54.2
	17	78 41.4	S19 23.2	265 44.5	14.4	N16 28.2	10.7	54.2
	18	93 41.2	S19 23.8	280 17.8	14.3	N16 38.8	10.6	54.2
	19	108 41.1	S19 24.4	294 51.1	14.3	N16 49.3	10.5	54.2
	20	123 41.0	S19 25.0	309 24.3	14.2	N16 59.7	10.5	54.2
	21	138 40.8	S19 25.6	323 57.5	14.2	N17 10.1	10.4	54.2
	22	153 40.7	S19 26.2	338 30.6	14.1	N17 20.4	10.3	54.2
	23	168 40.6	S19 26.7	353 03.7	14.1	N17 30.7	10.2	54.2
19	0	183 40.4	S19 27.3	7 36.8	14.0	N17 40.8	10.2	54.2
	1	198 40.3	S19 27.9	22 09.8	14.0	N17 50.9	10.1	54.2
	2	213 40.1	S19 28.5	36 42.7	13.9	N18 00.9	10.0	54.1
	3	228 40.0	S19 29.1	51 15.6	13.9	N18 10.9	9.9	54.1
	4	243 39.9	S19 29.6	65 48.5	13.8	N18 20.7	9.9	54.1
F	5	258 39.7	S19 30.2	80 21.3	13.8	N18 30.5	9.8	54.1
R								
I	6	273 39.6	S19 30.8	94 54.0	13.8	N18 40.2	9.7	54.1
D	7	288 39.4	S19 31.4	109 26.7	13.7	N18 49.8	9.6	54.1
A	8	303 39.3	S19 31.9	123 59.4	13.7	N18 59.4	9.5	54.1
Y	9	318 39.2	S19 32.5	138 32.0	13.6	N19 08.8	9.5	54.1
	10	333 39.0	S19 33.1	153 04.5	13.6	N19 18.2	9.4	54.1
	11	348 38.9	S19 33.7	167 37.0	13.5	N19 27.5	9.3	54.1
	12	3 38.7	S19 34.2	182 09.5	13.5	N19 36.7	9.2	54.1
	13	18 38.6	S19 34.8	196 41.9	13.4	N19 45.8	9.1	54.1
	14	33 38.5	S19 35.4	211 14.2	13.4	N19 54.8	9.0	54.1
	15	48 38.3	S19 36.0	225 46.5	13.3	N20 03.8	8.9	54.1
	16	63 38.2	S19 36.5	240 18.8	13.2	N20 12.7	8.9	54.1
	17	78 38.0	S19 37.1	254 51.0	13.2	N20 21.4	8.8	54.1
	18	93 37.9	S19 37.7	269 23.1	13.1	N20 30.1	8.7	54.1
	19	108 37.7	S19 38.3	283 55.2	13.1	N20 38.7	8.6	54.0
	20	123 37.6	S19 38.8	298 27.3	13.0	N20 47.2	8.5	54.0
	21	138 37.4	S19 39.4	312 59.3	13.0	N20 55.6	8.4	54.0
	22	153 37.3	S19 40.0	327 31.2	12.9	N21 03.9	8.3	54.0
	23	168 37.2	S19 40.5	342 03.1	12.9	N21 12.2	8.2	54.0
20	0	183 37.0	S19 41.1	356 34.9	12.8	N21 20.3	8.1	54.0
	1	198 36.9	S19 41.7	11 06.7	12.8	N21 28.3	8.0	54.0
	2	213 36.7	S19 42.2	25 38.5	12.7	N21 36.3	7.9	54.0
	3	228 36.6	S19 42.8	40 10.1	12.7	N21 44.1	7.9	54.0
	4	243 36.4	S19 43.4	54 41.8	12.6	N21 51.9	7.8	54.0
S	5	258 36.3	S19 43.9	69 13.4	12.6	N21 59.6	7.7	54.0
A								
T	6	273 36.1	S19 44.5	83 44.9	12.5	N22 07.1	7.6	54.0
U	7	288 36.0	S19 45.0	98 16.4	12.5	N22 14.6	7.5	54.0
R	8	303 35.8	S19 45.6	112 47.8	12.4	N22 21.9	7.4	54.0
D	9	318 35.7	S19 46.2	127 19.2	12.4	N22 29.2	7.3	54.0
A	10	333 35.5	S19 46.7	141 50.5	12.3	N22 36.4	7.2	54.0
Y	11	348 35.4	S19 47.3	156 21.8	12.3	N22 43.4	7.1	54.0
	12	3 35.2	S19 47.8	170 53.1	12.2	N22 50.4	7.0	54.0
	13	18 35.1	S19 48.4	185 24.3	12.2	N22 57.3	6.9	54.0
	14	33 34.9	S19 49.0	199 55.4	12.1	N23 04.0	6.8	54.0
	15	48 34.8	S19 49.5	214 26.5	12.1	N23 10.7	6.7	54.0
	16	63 34.6	S19 50.1	228 57.5	12.0	N23 17.2	6.5	54.0
	17	78 34.5	S19 50.6	243 28.5	12.0	N23 23.7	6.4	54.0
	18	93 34.3	S19 51.2	257 59.5	11.9	N23 30.0	6.3	54.0
	19	108 34.2	S19 51.7	272 30.4	11.9	N23 36.2	6.2	54.0
	20	123 34.0	S19 52.3	287 01.2	11.9	N23 42.3	6.1	54.0
	21	138 33.9	S19 52.9	301 32.0	11.8	N23 48.4	6.0	54.0
	22	153 33.7	S19 53.4	316 02.8	11.8	N23 54.3	5.9	54.0
	23	168 33.6	S19 54.0	330 33.5	11.7	N24 00.1	5.8	54.0
		S.D. 16.2	d 0.6	S.D. 14.8		14.7		14.7

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.1
Achernar	335 21.7	S57 07.8
Acrux	173 03.4	S63 12.8
Adhara	255 07.6	S28 59.9
Albireo	67 06.4	N28 00.5
Aldebaran	290 42.3	N16 33.2
Alioth	166 15.7	N55 50.4
Alkaid	152 54.5	N49 12.2
Al Na-ir	27 36.1	S46 51.6
Alnilam	275 40.0	S 1 11.2
Alphard	217 50.2	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.3	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.5	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.6	N19 04.2
Atria	107 16.6	S69 04.0
Avior	234 15.5	S59 34.4
Bellatrix	278 25.4	N 6 22.2
Betelgeuse	270 54.6	N 7 24.7
Canopus	263 53.1	S52 42.2
Capella	280 25.3	N46 01.1
Castor	246 00.1	N31 50.4
Deneb	49 27.7	N45 21.7
Denebola	182 27.8	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.4	N61 37.8
Elnath	278 04.8	N28 37.5
Eltanin	90 43.9	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.3	S29 30.6
Gacrux	171 54.9	S57 13.8
Gienah	175 46.5	S17 39.5
Hadar	148 40.3	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 03.9
Markab	13 32.4	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.1	S36 28.4
Miaplacidus	221 38.5	S69 48.0
Mirfak	308 31.5	N49 56.3
Nunki	75 51.3	S26 16.2
Peacock	53 10.0	S56 40.2
Polaris	316 52.4	N89 20.7
Pollux	243 20.3	N27 58.4
Procyon	244 53.4	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.2	N11 51.7
Rigel	281 06.0	S 8 10.5
Rigil Kent	139 44.6	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.6
Shaula	96 14.3	S37 07.2
Sirius	258 28.3	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.1	S43 30.9
Vega	80 35.3	N38 48.4
Zuben-ubi	137 00.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
21	0	60 12.9	135 03.5	S26 19.4	198 05.2	S15 55.1	93 21.4	S14 28.0	109 19.2	S18 59.3
	1	75 15.3	150 03.8	S26 19.0	213 06.0	S15 55.6	108 23.6	S14 28.0	124 21.5	S18 59.3
	2	90 17.8	165 04.1	S26 18.7	228 06.8	S15 56.1	123 25.8	S14 27.9	139 23.8	S18 59.2
	3	105 20.3	180 04.4	S26 18.4	243 07.5	S15 56.6	138 28.0	S14 27.8	154 26.1	S18 59.2
	4	120 22.7	195 04.8	S26 18.1	258 08.3	S15 57.2	153 30.2	S14 27.7	169 28.4	S18 59.2
S	5	135 25.2	210 05.1	S26 17.8	273 09.1	S15 57.7	168 32.4	S14 27.6	184 30.7	S18 59.1
U										
N	6	150 27.6	225 05.4	S26 17.5	288 09.8	S15 58.2	183 34.6	S14 27.5	199 33.0	S18 59.1
D	7	165 30.1	240 05.8	S26 17.2	303 10.6	S15 58.7	198 36.8	S14 27.4	214 35.3	S18 59.0
A	8	180 32.6	255 06.1	S26 16.9	318 11.4	S15 59.3	213 39.0	S14 27.3	229 37.6	S18 59.0
Y	9	195 35.0	270 06.5	S26 16.6	333 12.2	S15 59.8	228 41.2	S14 27.2	244 39.8	S18 58.9
	10	210 37.5	285 06.8	S26 16.3	348 12.9	S16 00.3	243 43.4	S14 27.1	259 42.1	S18 58.9
	11	225 40.0	300 07.2	S26 15.9	3 13.7	S16 00.8	258 45.6	S14 27.0	274 44.4	S18 58.9
	12	240 42.4	315 07.5	S26 15.6	18 14.5	S16 01.4	273 47.8	S14 26.9	289 46.7	S18 58.8
	13	255 44.9	330 07.9	S26 15.3	33 15.2	S16 01.9	288 50.1	S14 26.8	304 49.0	S18 58.8
	14	270 47.4	345 08.2	S26 15.0	48 16.0	S16 02.4	303 52.3	S14 26.7	319 51.3	S18 58.7
	15	285 49.8	0 08.6	S26 14.7	63 16.8	S16 02.9	318 54.5	S14 26.6	334 53.6	S18 58.7
	16	300 52.3	15 08.9	S26 14.4	78 17.5	S16 03.5	333 56.7	S14 26.5	349 55.9	S18 58.6
	17	315 54.8	30 09.3	S26 14.1	93 18.3	S16 04.0	348 58.9	S14 26.4	4 58.2	S18 58.6
	18	330 57.2	45 09.6	S26 13.7	108 19.1	S16 04.5	4 01.1	S14 26.3	20 00.5	S18 58.6
	19	345 59.7	60 10.0	S26 13.4	123 19.8	S16 05.0	19 03.3	S14 26.2	35 02.8	S18 58.5
	20	1 02.1	75 10.4	S26 13.1	138 20.6	S16 05.5	34 05.5	S14 26.1	50 05.1	S18 58.5
	21	16 04.6	90 10.7	S26 12.8	153 21.4	S16 06.1	49 07.7	S14 26.1	65 07.4	S18 58.4
	22	31 07.1	105 11.1	S26 12.5	168 22.1	S16 06.6	64 09.9	S14 26.0	80 09.7	S18 58.4
	23	46 09.5	120 11.5	S26 12.1	183 22.9	S16 07.1	79 12.1	S14 25.9	95 12.0	S18 58.3
22	0	61 12.0	135 11.9	S26 11.8	198 23.7	S16 07.6	94 14.3	S14 25.8	110 14.3	S18 58.3
	1	76 14.5	150 12.2	S26 11.5	213 24.4	S16 08.2	109 16.5	S14 25.7	125 16.6	S18 58.3
	2	91 16.9	165 12.6	S26 11.2	228 25.2	S16 08.7	124 18.7	S14 25.6	140 18.9	S18 58.2
	3	106 19.4	180 13.0	S26 10.8	243 26.0	S16 09.2	139 20.9	S14 25.5	155 21.2	S18 58.2
	4	121 21.9	195 13.4	S26 10.5	258 26.7	S16 09.7	154 23.1	S14 25.4	170 23.5	S18 58.1
M	5	136 24.3	210 13.8	S26 10.2	273 27.5	S16 10.2	169 25.3	S14 25.3	185 25.8	S18 58.1
O										
N	6	151 26.8	225 14.1	S26 09.9	288 28.3	S16 10.8	184 27.5	S14 25.2	200 28.0	S18 58.0
D	7	166 29.3	240 14.5	S26 09.5	303 29.0	S16 11.3	199 29.7	S14 25.1	215 30.3	S18 58.0
A	8	181 31.7	255 14.9	S26 09.2	318 29.8	S16 11.8	214 31.9	S14 25.0	230 32.6	S18 57.9
Y	9	196 34.2	270 15.3	S26 08.9	333 30.6	S16 12.3	229 34.1	S14 24.9	245 34.9	S18 57.9
	10	211 36.6	285 15.7	S26 08.5	348 31.3	S16 12.8	244 36.3	S14 24.8	260 37.2	S18 57.9
	11	226 39.1	300 16.1	S26 08.2	3 32.1	S16 13.4	259 38.5	S14 24.7	275 39.5	S18 57.8
	12	241 41.6	315 16.5	S26 07.9	18 32.9	S16 13.9	274 40.7	S14 24.6	290 41.8	S18 57.8
	13	256 44.0	330 16.9	S26 07.6	33 33.6	S16 14.4	289 42.9	S14 24.5	305 44.1	S18 57.7
	14	271 46.5	345 17.3	S26 07.2	48 34.4	S16 14.9	304 45.0	S14 24.4	320 46.4	S18 57.7
	15	286 49.0	0 17.7	S26 06.9	63 35.2	S16 15.4	319 47.2	S14 24.3	335 48.7	S18 57.6
	16	301 51.4	15 18.1	S26 06.6	78 35.9	S16 16.0	334 49.4	S14 24.2	350 51.0	S18 57.6
	17	316 53.9	30 18.5	S26 06.2	93 36.7	S16 16.5	349 51.6	S14 24.1	5 53.3	S18 57.6
	18	331 56.4	45 18.9	S26 05.9	108 37.4	S16 17.0	4 53.8	S14 24.0	20 55.6	S18 57.5
	19	346 58.8	60 19.3	S26 05.6	123 38.2	S16 17.5	19 56.0	S14 23.9	35 57.9	S18 57.5
	20	2 01.3	75 19.7	S26 05.2	138 39.0	S16 18.0	34 58.2	S14 23.8	51 00.1	S18 57.4
	21	17 03.7	90 20.2	S26 04.9	153 39.7	S16 18.6	50 00.4	S14 23.7	66 02.4	S18 57.4
	22	32 06.2	105 20.6	S26 04.5	168 40.5	S16 19.1	65 02.6	S14 23.6	81 04.7	S18 57.3
	23	47 08.7	120 21.0	S26 04.2	183 41.3	S16 19.6	80 04.8	S14 23.5	96 07.0	S18 57.3
23	0	62 11.1	135 21.4	S26 03.9	198 42.0	S16 20.1	95 07.0	S14 23.4	111 09.3	S18 57.2
	1	77 13.6	150 21.9	S26 03.5	213 42.8	S16 20.6	110 09.2	S14 23.3	126 11.6	S18 57.2
	2	92 16.1	165 22.3	S26 03.2	228 43.5	S16 21.1	125 11.4	S14 23.2	141 13.9	S18 57.2
	3	107 18.5	180 22.7	S26 02.8	243 44.3	S16 21.7	140 13.6	S14 23.1	156 16.2	S18 57.1
	4	122 21.0	195 23.1	S26 02.5	258 45.1	S16 22.2	155 15.8	S14 23.0	171 18.5	S18 57.1
T	5	137 23.5	210 23.6	S26 02.2	273 45.8	S16 22.7	170 18.0	S14 22.9	186 20.8	S18 57.0
U										
E	6	152 25.9	225 24.0	S26 01.8	288 46.6	S16 23.2	185 20.2	S14 22.8	201 23.1	S18 57.0
S	7	167 28.4	240 24.4	S26 01.5	303 47.3	S16 23.7	200 22.4	S14 22.7	216 25.3	S18 56.9
D	8	182 30.9	255 24.9	S26 01.1	318 48.1	S16 24.2	215 24.5	S14 22.6	231 27.6	S18 56.9
A	9	197 33.3	270 25.3	S26 00.8	333 48.9	S16 24.7	230 26.7	S14 22.5	246 29.9	S18 56.8
Y	10	212 35.8	285 25.8	S26 00.4	348 49.6	S16 25.3	245 28.9	S14 22.4	261 32.2	S18 56.8
	11	227 38.2	300 26.2	S26 00.1	3 50.4	S16 25.8	260 31.1	S14 22.3	276 34.5	S18 56.8
	12	242 40.7	315 26.7	S25 59.7	18 51.1	S16 26.3	275 33.3	S14 22.2	291 36.8	S18 56.7
	13	257 43.2	330 27.1	S25 59.4	33 51.9	S16 26.8	290 35.5	S14 22.1	306 39.1	S18 56.7
	14	272 45.6	345 27.6	S25 59.0	48 52.7	S16 27.3	305 37.7	S14 22.0	321 41.4	S18 56.6
	15	287 48.1	0 28.0	S25 58.7	63 53.4	S16 27.8	320 39.9	S14 21.9	336 43.7	S18 56.6
	16	302 50.6	15 28.5	S25 58.3	78 54.2	S16 28.3	335 42.1	S14 21.8	351 45.9	S18 56.5
	17	317 53.0	30 28.9	S25 58.0	93 54.9	S16 28.9	350 44.3	S14 21.7	6 48.2	S18 56.5
	18	332 55.5	45 29.4	S25 57.6	108 55.7	S16 29.4	5 46.4	S14 21.6	21 50.5	S18 56.4
	19	347 58.0	60 29.9	S25 57.3	123 56.4	S16 29.9	20 48.6	S14 21.5	36 52.8	S18 56.4
	20	3 00.4	75 30.3	S25 56.9	138 57.2	S16 30.4	35 50.8	S14 21.4	51 55.1	S18 56.3
	21	18 02.9	90 30.8	S25 56.6	153 58.0	S16 30.9	50 53.0	S14 21.3	66 57.4	S18 56.3
	22	33 05.4	105 31.3	S25 56.2	168 58.7	S16 31.4	65 55.2	S14 21.2	81 59.7	S18 56.3
	23	48 07.8	120 31.7	S25 55.9	183 59.5	S16 31.9	80 57.4	S14 21.1	97 02.0	S18 56.2
			v 0.4	d 0.3	v 0.8	d 0.5	v 2.2	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA ° '	SUN Dec ° '	MOON GHA ° '	MOON v '	MOON Dec ° '	MOON d '	MOON HP '
21	0	183 33.4	S19 54.5	345 04.2	11.7	N24 05.7	5.7	54.0
	1	198 33.2	S19 55.1	359 34.8	11.6	N24 11.3	5.6	54.0
	2	213 33.1	S19 55.6	14 05.4	11.6	N24 16.8	5.5	54.0
	3	228 32.9	S19 56.2	28 35.9	11.5	N24 22.1	5.4	54.0
	4	243 32.8	S19 56.7	43 06.4	11.5	N24 27.4	5.2	54.0
S	5	258 32.6	S19 57.3	57 36.8	11.5	N24 32.5	5.1	54.0
U								
N	6	273 32.5	S19 57.8	72 07.2	11.4	N24 37.5	5.0	54.0
D	7	288 32.3	S19 58.4	86 37.6	11.4	N24 42.4	4.9	54.0
A	8	303 32.2	S19 58.9	101 07.9	11.3	N24 47.2	4.8	54.0
Y	9	318 32.0	S19 59.4	115 38.2	11.3	N24 51.9	4.7	54.0
	10	333 31.8	S19 60.0	130 08.5	11.2	N24 56.5	4.6	54.0
	11	348 31.7	S20 00.5	144 38.7	11.2	N25 00.9	4.4	54.0
	12	3 31.5	S20 01.1	159 08.9	11.2	N25 05.3	4.3	54.0
	13	18 31.4	S20 01.6	173 39.0	11.1	N25 09.5	4.2	54.0
	14	33 31.2	S20 02.2	188 09.1	11.1	N25 13.6	4.1	54.0
	15	48 31.0	S20 02.7	202 39.2	11.1	N25 17.5	4.0	54.0
	16	63 30.9	S20 03.3	217 09.2	11.0	N25 21.4	3.9	54.0
	17	78 30.7	S20 03.8	231 39.2	11.0	N25 25.1	3.7	54.0
	18	93 30.6	S20 04.3	246 09.1	11.0	N25 28.8	3.6	54.0
	19	108 30.4	S20 04.9	260 39.0	10.9	N25 32.3	3.5	54.0
	20	123 30.2	S20 05.4	275 08.9	10.9	N25 35.7	3.4	54.0
	21	138 30.1	S20 06.0	289 38.8	10.9	N25 38.9	3.3	54.0
	22	153 29.9	S20 06.5	304 08.6	10.8	N25 42.1	3.1	54.0
	23	168 29.7	S20 07.0	318 38.4	10.8	N25 45.1	3.0	54.0
22	0	183 29.6	S20 07.6	333 08.2	10.8	N25 48.0	2.9	54.0
	1	198 29.4	S20 08.1	347 37.9	10.7	N25 50.8	2.8	54.0
	2	213 29.3	S20 08.6	2 07.7	10.7	N25 53.4	2.7	54.0
	3	228 29.1	S20 09.2	16 37.3	10.7	N25 55.9	2.5	54.0
	4	243 28.9	S20 09.7	31 07.0	10.7	N25 58.4	2.4	54.0
M	5	258 28.8	S20 10.2	45 36.6	10.6	N26 00.6	2.3	54.0
O								
N	6	273 28.6	S20 10.8	60 06.3	10.6	N26 02.8	2.2	54.0
D	7	288 28.4	S20 11.3	74 35.9	10.6	N26 04.9	2.0	54.0
A	8	303 28.3	S20 11.8	89 05.4	10.6	N26 06.8	1.9	54.0
Y	9	318 28.1	S20 12.4	103 35.0	10.5	N26 08.6	1.8	54.1
	10	333 27.9	S20 12.9	118 04.5	10.5	N26 10.2	1.7	54.1
	11	348 27.8	S20 13.4	132 34.0	10.5	N26 11.8	1.5	54.1
	12	3 27.6	S20 14.0	147 03.5	10.5	N26 13.2	1.4	54.1
	13	18 27.4	S20 14.5	161 33.0	10.5	N26 14.5	1.3	54.1
	14	33 27.3	S20 15.0	176 02.4	10.5	N26 15.7	1.2	54.1
	15	48 27.1	S20 15.5	190 31.9	10.4	N26 16.7	1.0	54.1
	16	63 26.9	S20 16.1	205 01.3	10.4	N26 17.6	0.9	54.1
	17	78 26.8	S20 16.6	219 30.7	10.4	N26 18.4	0.8	54.1
	18	93 26.6	S20 17.1	234 00.1	10.4	N26 19.1	0.7	54.1
	19	108 26.4	S20 17.6	248 29.5	10.4	N26 19.6	0.5	54.1
	20	123 26.3	S20 18.2	262 58.9	10.4	N26 20.0	0.4	54.1
	21	138 26.1	S20 18.7	277 28.2	10.4	N26 20.3	0.3	54.1
	22	153 25.9	S20 19.2	291 57.6	10.4	N26 20.5	0.2	54.1
	23	168 25.7	S20 19.7	306 27.0	10.4	N26 20.5	0.0	54.1
23	0	183 25.6	S20 20.3	320 56.3	10.3	N26 20.4	0.1	54.2
	1	198 25.4	S20 20.8	335 25.6	10.3	N26 20.2	0.2	54.2
	2	213 25.2	S20 21.3	349 55.0	10.3	N26 19.8	0.3	54.2
	3	228 25.1	S20 21.8	4 24.3	10.3	N26 19.4	0.5	54.2
	4	243 24.9	S20 22.3	18 53.6	10.3	N26 18.8	0.6	54.2
T	5	258 24.7	S20 22.8	33 23.0	10.3	N26 18.0	0.7	54.2
U								
E	6	273 24.5	S20 23.4	47 52.3	10.3	N26 17.2	0.9	54.2
S	7	288 24.4	S20 23.9	62 21.6	10.3	N26 16.2	1.0	54.2
D	8	303 24.2	S20 24.4	76 50.9	10.3	N26 15.1	1.1	54.2
A	9	318 24.0	S20 24.9	91 20.3	10.3	N26 13.8	1.2	54.2
Y	10	333 23.8	S20 25.4	105 49.6	10.3	N26 12.5	1.4	54.3
	11	348 23.7	S20 25.9	120 18.9	10.3	N26 11.0	1.5	54.3
	12	3 23.5	S20 26.5	134 48.3	10.3	N26 09.4	1.6	54.3
	13	18 23.3	S20 27.0	149 17.6	10.3	N26 07.6	1.7	54.3
	14	33 23.1	S20 27.5	163 47.0	10.3	N26 05.7	1.9	54.3
	15	48 23.0	S20 28.0	178 16.3	10.4	N26 03.7	2.0	54.3
	16	63 22.8	S20 28.5	192 45.7	10.4	N26 01.6	2.1	54.3
	17	78 22.6	S20 29.0	207 15.1	10.4	N25 59.4	2.3	54.3
	18	93 22.4	S20 29.5	221 44.4	10.4	N25 57.0	2.4	54.3
	19	108 22.3	S20 30.0	236 13.8	10.4	N25 54.5	2.5	54.4
	20	123 22.1	S20 30.5	250 43.2	10.4	N25 51.8	2.6	54.4
	21	138 21.9	S20 31.0	265 12.7	10.4	N25 49.1	2.8	54.4
	22	153 21.7	S20 31.6	279 42.1	10.4	N25 46.2	2.9	54.4
	23	168 21.5	S20 32.1	294 11.5	10.4	N25 43.2	3.0	54.4
		S.D. 16.2	d 0.5	S.D. 14.7		14.7	14.8	

Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.1
Achernar	335 21.7	S57 07.8
Acrux	173 03.4	S63 12.8
Adhara	255 07.6	S28 59.9
Albireo	67 06.4	N28 00.5
Aldebaran	290 42.2	N16 33.2
Alioth	166 15.7	N55 50.4
Alkaid	152 54.5	N49 12.2
Al Na-ir	27 36.2	S46 51.6
Alnilam	275 40.0	S 1 11.2
Alphard	217 50.2	S 8 45.0
Alphecca	126 06.3	N26 38.6
Alpheratz	357 37.3	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.5	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.6	N19 04.2
Atria	107 16.6	S69 04.0
Avior	234 15.4	S59 34.4
Bellatrix	278 25.3	N 6 22.2
Betelgeuse	270 54.6	N 7 24.7
Canopus	263 53.1	S52 42.2
Capella	280 25.3	N46 01.1
Castor	246 00.1	N31 50.4
Deneb	49 27.7	N45 21.7
Denebola	182 27.7	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.4	N61 37.8
Elnath	278 04.8	N28 37.5
Eltanin	90 43.9	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.3	S29 30.6
Gacrux	171 54.9	S57 13.8
Gienah	175 46.4	S17 39.5
Hadar	148 40.3	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 03.9
Markab	13 32.4	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.0	S36 28.4
Miaplacidus	221 38.4	S69 48.0
Mirfak	308 31.5	N49 56.4
Nunki	75 51.3	S26 16.2
Peacock	53 10.0	S56 40.1
Polaris	316 52.5	N89 20.7
Pollux	243 20.2	N27 58.3
Procyon	244 53.3	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.2	N11 51.7
Rigel	281 06.0	S 8 10.5
Rigil Kent	139 44.6	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.5	N56 39.6
Shaula	96 14.3	S37 07.2
Sirius	258 28.3	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.0	S43 30.9
Vega	80 35.3	N38 48.4
Zuben-ubi	136 60.0	S16 07.8

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	63 10.3	135 32.2	S25 55.5	199 00.2	S16 32.4	95 59.6	S14 21.0	112 04.3	S18 56.2
	1	78 12.7	150 32.7	S25 55.2	214 01.0	S16 33.0	111 01.8	S14 20.9	127 06.5	S18 56.1
	2	93 15.2	165 33.2	S25 54.8	229 01.7	S16 33.5	126 03.9	S14 20.8	142 08.8	S18 56.1
	3	108 17.7	180 33.7	S25 54.5	244 02.5	S16 34.0	141 06.1	S14 20.7	157 11.1	S18 56.0
	4	123 20.1	195 34.1	S25 54.1	259 03.3	S16 34.5	156 08.3	S14 20.6	172 13.4	S18 56.0
W	5	138 22.6	210 34.6	S25 53.7	274 04.0	S16 35.0	171 10.5	S14 20.5	187 15.7	S18 55.9
E										
D	6	153 25.1	225 35.1	S25 53.4	289 04.8	S16 35.5	186 12.7	S14 20.4	202 18.0	S18 55.9
N	7	168 27.5	240 35.6	S25 53.0	304 05.5	S16 36.0	201 14.9	S14 20.3	217 20.3	S18 55.8
E	8	183 30.0	255 36.1	S25 52.7	319 06.3	S16 36.5	216 17.1	S14 20.2	232 22.6	S18 55.8
S	9	198 32.5	270 36.6	S25 52.3	334 07.0	S16 37.0	231 19.2	S14 20.1	247 24.8	S18 55.8
D	10	213 34.9	285 37.1	S25 51.9	349 07.8	S16 37.6	246 21.4	S14 20.0	262 27.1	S18 55.7
A	11	228 37.4	300 37.6	S25 51.6	4 08.5	S16 38.1	261 23.6	S14 19.9	277 29.4	S18 55.7
Y										
	12	243 39.9	315 38.1	S25 51.2	19 09.3	S16 38.6	276 25.8	S14 19.8	292 31.7	S18 55.6
	13	258 42.3	330 38.6	S25 50.8	34 10.0	S16 39.1	291 28.0	S14 19.7	307 34.0	S18 55.6
	14	273 44.8	345 39.1	S25 50.5	49 10.8	S16 39.6	306 30.2	S14 19.6	322 36.3	S18 55.5
	15	288 47.2	0 39.6	S25 50.1	64 11.5	S16 40.1	321 32.3	S14 19.5	337 38.6	S18 55.5
	16	303 49.7	15 40.1	S25 49.7	79 12.3	S16 40.6	336 34.5	S14 19.4	352 40.8	S18 55.4
	17	318 52.2	30 40.6	S25 49.4	94 13.1	S16 41.1	351 36.7	S14 19.3	7 43.1	S18 55.4
	18	333 54.6	45 41.1	S25 49.0	109 13.8	S16 41.6	6 38.9	S14 19.2	22 45.4	S18 55.3
	19	348 57.1	60 41.7	S25 48.6	124 14.6	S16 42.1	21 41.1	S14 19.1	37 47.7	S18 55.3
	20	3 59.6	75 42.2	S25 48.3	139 15.3	S16 42.6	36 43.3	S14 19.0	52 50.0	S18 55.3
	21	19 02.0	90 42.7	S25 47.9	154 16.1	S16 43.2	51 45.4	S14 18.9	67 52.3	S18 55.2
	22	34 04.5	105 43.2	S25 47.5	169 16.8	S16 43.7	66 47.6	S14 18.8	82 54.6	S18 55.2
	23	49 07.0	120 43.8	S25 47.2	184 17.6	S16 44.2	81 49.8	S14 18.7	97 56.8	S18 55.1
25	0	64 09.4	135 44.3	S25 46.8	199 18.3	S16 44.7	96 52.0	S14 18.6	112 59.1	S18 55.1
	1	79 11.9	150 44.8	S25 46.4	214 19.1	S16 45.2	111 54.2	S14 18.5	128 01.4	S18 55.0
	2	94 14.4	165 45.3	S25 46.1	229 19.8	S16 45.7	126 56.3	S14 18.4	143 03.7	S18 55.0
	3	109 16.8	180 45.9	S25 45.7	244 20.6	S16 46.2	141 58.5	S14 18.3	158 06.0	S18 54.9
	4	124 19.3	195 46.4	S25 45.3	259 21.3	S16 46.7	157 00.7	S14 18.2	173 08.3	S18 54.9
T	5	139 21.7	210 47.0	S25 44.9	274 22.1	S16 47.2	172 02.9	S14 18.1	188 10.5	S18 54.8
H										
U	6	154 24.2	225 47.5	S25 44.6	289 22.8	S16 47.7	187 05.1	S14 18.0	203 12.8	S18 54.8
R	7	169 26.7	240 48.0	S25 44.2	304 23.6	S16 48.2	202 07.2	S14 17.9	218 15.1	S18 54.7
S	8	184 29.1	255 48.6	S25 43.8	319 24.3	S16 48.7	217 09.4	S14 17.8	233 17.4	S18 54.7
D	9	199 31.6	270 49.1	S25 43.4	334 25.1	S16 49.2	232 11.6	S14 17.6	248 19.7	S18 54.7
A	10	214 34.1	285 49.7	S25 43.1	349 25.8	S16 49.7	247 13.8	S14 17.5	263 22.0	S18 54.6
Y	11	229 36.5	300 50.2	S25 42.7	4 26.6	S16 50.2	262 16.0	S14 17.4	278 24.2	S18 54.6
	12	244 39.0	315 50.8	S25 42.3	19 27.3	S16 50.7	277 18.1	S14 17.3	293 26.5	S18 54.5
	13	259 41.5	330 51.4	S25 41.9	34 28.1	S16 51.2	292 20.3	S14 17.2	308 28.8	S18 54.5
	14	274 43.9	345 51.9	S25 41.5	49 28.8	S16 51.7	307 22.5	S14 17.1	323 31.1	S18 54.4
	15	289 46.4	0 52.5	S25 41.2	64 29.5	S16 52.3	322 24.7	S14 17.0	338 33.4	S18 54.4
	16	304 48.9	15 53.1	S25 40.8	79 30.3	S16 52.8	337 26.8	S14 16.9	353 35.7	S18 54.3
	17	319 51.3	30 53.6	S25 40.4	94 31.0	S16 53.3	352 29.0	S14 16.8	8 37.9	S18 54.3
	18	334 53.8	45 54.2	S25 40.0	109 31.8	S16 53.8	7 31.2	S14 16.7	23 40.2	S18 54.2
	19	349 56.2	60 54.8	S25 39.6	124 32.5	S16 54.3	22 33.4	S14 16.6	38 42.5	S18 54.2
	20	4 58.7	75 55.3	S25 39.2	139 33.3	S16 54.8	37 35.6	S14 16.5	53 44.8	S18 54.1
	21	20 01.2	90 55.9	S25 38.9	154 34.0	S16 55.3	52 37.7	S14 16.4	68 47.1	S18 54.1
	22	35 03.6	105 56.5	S25 38.5	169 34.8	S16 55.8	67 39.9	S14 16.3	83 49.3	S18 54.0
	23	50 06.1	120 57.1	S25 38.1	184 35.5	S16 56.3	82 42.1	S14 16.2	98 51.6	S18 54.0
26	0	65 08.6	135 57.7	S25 37.7	199 36.3	S16 56.8	97 44.3	S14 16.1	113 53.9	S18 54.0
	1	80 11.0	150 58.2	S25 37.3	214 37.0	S16 57.3	112 46.4	S14 16.0	128 56.2	S18 53.9
	2	95 13.5	165 58.8	S25 36.9	229 37.8	S16 57.8	127 48.6	S14 15.9	143 58.5	S18 53.9
	3	110 16.0	180 59.4	S25 36.5	244 38.5	S16 58.3	142 50.8	S14 15.8	159 00.7	S18 53.8
	4	125 18.4	196 00.0	S25 36.2	259 39.2	S16 58.8	157 52.9	S14 15.7	174 03.0	S18 53.8
F	5	140 20.9	211 00.6	S25 35.8	274 40.0	S16 59.3	172 55.1	S14 15.5	189 05.3	S18 53.7
R										
I	6	155 23.3	226 01.2	S25 35.4	289 40.7	S16 59.8	187 57.3	S14 15.4	204 07.6	S18 53.7
D	7	170 25.8	241 01.8	S25 35.0	304 41.5	S17 00.3	202 59.5	S14 15.3	219 09.9	S18 53.6
A	8	185 28.3	256 02.4	S25 34.6	319 42.2	S17 00.8	218 01.6	S14 15.2	234 12.1	S18 53.6
Y	9	200 30.7	271 03.0	S25 34.2	334 43.0	S17 01.3	233 03.8	S14 15.1	249 14.4	S18 53.5
	10	215 33.2	286 03.6	S25 33.8	349 43.7	S17 01.8	248 06.0	S14 15.0	264 16.7	S18 53.5
	11	230 35.7	301 04.2	S25 33.4	4 44.5	S17 02.3	263 08.2	S14 14.9	279 19.0	S18 53.4
	12	245 38.1	316 04.9	S25 33.0	19 45.2	S17 02.8	278 10.3	S14 14.8	294 21.3	S18 53.4
	13	260 40.6	331 05.5	S25 32.6	34 45.9	S17 03.3	293 12.5	S14 14.7	309 23.5	S18 53.3
	14	275 43.1	346 06.1	S25 32.2	49 46.7	S17 03.8	308 14.7	S14 14.6	324 25.8	S18 53.3
	15	290 45.5	1 06.7	S25 31.9	64 47.4	S17 04.3	323 16.8	S14 14.5	339 28.1	S18 53.2
	16	305 48.0	16 07.3	S25 31.5	79 48.2	S17 04.8	338 19.0	S14 14.4	354 30.4	S18 53.2
	17	320 50.5	31 08.0	S25 31.1	94 48.9	S17 05.3	353 21.2	S14 14.3	9 32.7	S18 53.1
	18	335 52.9	46 08.6	S25 30.7	109 49.7	S17 05.8	8 23.3	S14 14.2	24 34.9	S18 53.1
	19	350 55.4	61 09.2	S25 30.3	124 50.4	S17 06.3	23 25.5	S14 14.1	39 37.2	S18 53.1
	20	5 57.8	76 09.8	S25 29.9	139 51.1	S17 06.8	38 27.7	S14 13.9	54 39.5	S18 53.0
	21	21 00.3	91 10.5	S25 29.5	154 51.9	S17 07.3	53 29.9	S14 13.8	69 41.8	S18 53.0
	22	36 02.8	106 11.1	S25 29.1	169 52.6	S17 07.8	68 32.0	S14 13.7	84 44.1	S18 52.9
	23	51 05.2	121 11.8	S25 28.7	184 53.4	S17 08.3	83 34.2	S14 13.6	99 46.3	S18 52.9
			v 0.6	d 0.4	v 0.7	d 0.5	v 2.2	d 0.1	v 2.3	d 0.0

G.M.T d	h	SUN GHA	SUN Dec	MOON GHA	MOON v	MOON Dec	MOON d	MOON HP
24	0	183 21.4	S20 32.6	308 41.0	10.5	N25 40.1	3.1	54.4
	1	198 21.2	S20 33.1	323 10.5	10.5	N25 36.8	3.3	54.4
	2	213 21.0	S20 33.6	337 40.0	10.5	N25 33.4	3.4	54.5
	3	228 20.8	S20 34.1	352 09.5	10.5	N25 29.9	3.5	54.5
	4	243 20.6	S20 34.6	6 39.0	10.5	N25 26.3	3.6	54.5
W	5	258 20.5	S20 35.1	21 08.6	10.5	N25 22.5	3.8	54.5
E								
D	6	273 20.3	S20 35.6	35 38.1	10.6	N25 18.7	3.9	54.5
N	7	288 20.1	S20 36.1	50 07.7	10.6	N25 14.7	4.0	54.5
E	8	303 19.9	S20 36.6	64 37.3	10.6	N25 10.5	4.1	54.5
S	9	318 19.7	S20 37.1	79 07.0	10.6	N25 06.3	4.2	54.6
D	10	333 19.5	S20 37.6	93 36.6	10.7	N25 01.9	4.4	54.6
A	11	348 19.4	S20 38.1	108 06.3	10.7	N24 57.4	4.5	54.6
Y								
	12	3 19.2	S20 38.6	122 36.0	10.7	N24 52.8	4.6	54.6
	13	18 19.0	S20 39.1	137 05.7	10.7	N24 48.1	4.7	54.6
	14	33 18.8	S20 39.6	151 35.4	10.7	N24 43.2	4.9	54.6
	15	48 18.6	S20 40.1	166 05.2	10.8	N24 38.2	5.0	54.7
	16	63 18.4	S20 40.6	180 35.0	10.8	N24 33.1	5.1	54.7
	17	78 18.3	S20 41.1	195 04.8	10.8	N24 27.9	5.2	54.7
	18	93 18.1	S20 41.6	209 34.7	10.9	N24 22.6	5.3	54.7
	19	108 17.9	S20 42.0	224 04.6	10.9	N24 17.1	5.5	54.7
	20	123 17.7	S20 42.5	238 34.5	10.9	N24 11.6	5.6	54.7
	21	138 17.5	S20 43.0	253 04.4	10.9	N24 05.9	5.7	54.8
	22	153 17.3	S20 43.5	267 34.4	11.0	N24 00.1	5.8	54.8
	23	168 17.1	S20 44.0	282 04.4	11.0	N23 54.1	5.9	54.8
25	0	183 17.0	S20 44.5	296 34.4	11.0	N23 48.1	6.0	54.8
	1	198 16.8	S20 45.0	311 04.5	11.1	N23 41.9	6.2	54.8
	2	213 16.6	S20 45.5	325 34.6	11.1	N23 35.6	6.3	54.9
	3	228 16.4	S20 46.0	340 04.7	11.1	N23 29.2	6.4	54.9
	4	243 16.2	S20 46.5	354 34.8	11.1	N23 22.7	6.5	54.9
T	5	258 16.0	S20 46.9	9 05.0	11.2	N23 16.1	6.6	54.9
H								
U	6	273 15.8	S20 47.4	23 35.2	11.2	N23 09.4	6.7	54.9
R	7	288 15.6	S20 47.9	38 05.5	11.2	N23 02.5	6.9	55.0
S	8	303 15.4	S20 48.4	52 35.7	11.3	N22 55.5	7.0	55.0
D	9	318 15.2	S20 48.9	67 06.0	11.3	N22 48.4	7.1	55.0
A	10	333 15.1	S20 49.4	81 36.4	11.3	N22 41.2	7.2	55.0
Y	11	348 14.9	S20 49.8	96 06.8	11.4	N22 33.9	7.3	55.1
	12	3 14.7	S20 50.3	110 37.2	11.4	N22 26.5	7.4	55.1
	13	18 14.5	S20 50.8	125 07.6	11.4	N22 19.0	7.5	55.1
	14	33 14.3	S20 51.3	139 38.1	11.5	N22 11.4	7.6	55.1
	15	48 14.1	S20 51.8	154 08.6	11.5	N22 03.6	7.7	55.1
	16	63 13.9	S20 52.2	168 39.1	11.5	N21 55.7	7.9	55.2
	17	78 13.7	S20 52.7	183 09.7	11.6	N21 47.8	8.0	55.2
	18	93 13.5	S20 53.2	197 40.3	11.6	N21 39.7	8.1	55.2
	19	108 13.3	S20 53.7	212 11.0	11.6	N21 31.5	8.2	55.2
	20	123 13.1	S20 54.2	226 41.6	11.7	N21 23.2	8.3	55.3
	21	138 12.9	S20 54.6	241 12.3	11.7	N21 14.8	8.4	55.3
	22	153 12.7	S20 55.1	255 43.1	11.7	N21 06.3	8.5	55.3
	23	168 12.5	S20 55.6	270 13.9	11.8	N20 57.7	8.6	55.3
26	0	183 12.4	S20 56.1	284 44.7	11.8	N20 49.0	8.7	55.4
	1	198 12.2	S20 56.5	299 15.5	11.8	N20 40.2	8.8	55.4
	2	213 12.0	S20 57.0	313 46.4	11.9	N20 31.3	8.9	55.4
	3	228 11.8	S20 57.5	328 17.3	11.9	N20 22.2	9.0	55.4
	4	243 11.6	S20 57.9	342 48.3	11.9	N20 13.1	9.1	55.5
F	5	258 11.4	S20 58.4	357 19.2	12.0	N20 03.9	9.2	55.5
R								
I	6	273 11.2	S20 58.9	11 50.3	12.0	N19 54.5	9.3	55.5
D	7	288 11.0	S20 59.3	26 21.3	12.0	N19 45.1	9.4	55.5
A	8	303 10.8	S20 59.8	40 52.4	12.1	N19 35.6	9.5	55.6
Y	9	318 10.6	S21 00.3	55 23.5	12.1	N19 25.9	9.6	55.6
	10	333 10.4	S21 00.8	69 54.6	12.1	N19 16.2	9.7	55.6
	11	348 10.2	S21 01.2	84 25.8	12.2	N19 06.4	9.8	55.7
	12	3 10.0	S21 01.7	98 57.0	12.2	N18 56.4	9.9	55.7
	13	18 09.8	S21 02.1	113 28.3	12.2	N18 46.4	10.0	55.7
	14	33 09.6	S21 02.6	127 59.5	12.3	N18 36.3	10.1	55.7
	15	48 09.4	S21 03.1	142 30.8	12.3	N18 26.1	10.2	55.8
	16	63 09.2	S21 03.5	157 02.2	12.3	N18 15.8	10.3	55.8
	17	78 09.0	S21 04.0	171 33.5	12.4	N18 05.4	10.4	55.8
	18	93 08.8	S21 04.5	186 04.9	12.4	N17 54.9	10.5	55.9
	19	108 08.6	S21 04.9	200 36.3	12.4	N17 44.3	10.6	55.9
	20	123 08.4	S21 05.4	215 07.8	12.4	N17 33.6	10.7	55.9
	21	138 08.2	S21 05.8	229 39.3	12.5	N17 22.8	10.8	56.0
	22	153 08.0	S21 06.3	244 10.8	12.5	N17 11.9	10.9	56.0
	23	168 07.8	S21 06.8	258 42.3	12.5	N17 01.0	11.0	56.0
		S.D. 16.2	d 0.5	S.D. 14.9		15.0		15.2

STARS Name	SHA	Dec
Acamar	315 13.3	S40 13.1
Achernar	335 21.7	S57 07.8
Acrux	173 03.3	S63 12.8
Adhara	255 07.6	S28 59.9
Albireo	67 06.4	N28 00.5
Aldebaran	290 42.2	N16 33.2
Alioth	166 15.6	N55 50.4
Alkaid	152 54.5	N49 12.2
Al Na-ir	27 36.2	S46 51.6
Alnilam	275 40.0	S 1 11.2
Alphard	217 50.2	S 8 45.0
Alphecca	126 06.3	N26 38.5
Alpheratz	357 37.3	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.5	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.6	N19 04.2
Atria	107 16.5	S69 04.0
Avior	234 15.4	S59 34.4
Bellatrix	278 25.3	N 6 22.2
Betelgeuse	270 54.6	N 7 24.7
Canopus	263 53.0	S52 42.2
Capella	280 25.2	N46 01.2
Castor	246 00.1	N31 50.4
Deneb	49 27.7	N45 21.7
Denebola	182 27.7	N14 27.1
Diphda	348 49.7	S17 52.1
Dubhe	193 44.3	N61 37.8
Elnath	278 04.8	N28 37.5
Eltanin	90 43.9	N51 29.3
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.3	S29 30.6
Gacrux	171 54.8	S57 13.8
Gienah	175 46.4	S17 39.5
Hadar	148 40.3	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 03.9
Markab	13 32.4	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.0	S36 28.4
Miaplacidus	221 38.4	S69 48.0
Mirfak	308 31.5	N49 56.4
Nunki	75 51.3	S26 16.2
Peacock	53 10.1	S56 40.1
Polaris	316 52.9	N89 20.7
Pollux	243 20.2	N27 58.3
Procyon	244 53.3	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.2	N11 51.7
Rigel	281 06.0	S 8 10.5
Rigil Kent	139 44.6	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.6	N56 39.6
Shaula	96 14.3	S37 07.2
Sirius	258 28.2	S16 44.6
Spica	158 25.3	S11 16.3
Suhail	222 48.0	S43 30.9
Vega	80 35.3	N38 48.4
Zuben-ubi	136 60.0	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
27	0	66 07.7	136 12.4	S25 28.3	199 54.1	S17 08.7	98 36.4	S14 13.5	114 48.6	S18 52.8
	1	81 10.2	151 13.0	S25 27.9	214 54.8	S17 09.2	113 38.5	S14 13.4	129 50.9	S18 52.8
	2	96 12.6	166 13.7	S25 27.5	229 55.6	S17 09.7	128 40.7	S14 13.3	144 53.2	S18 52.7
	3	111 15.1	181 14.3	S25 27.1	244 56.3	S17 10.2	143 42.9	S14 13.2	159 55.4	S18 52.7
	4	126 17.6	196 15.0	S25 26.7	259 57.1	S17 10.7	158 45.0	S14 13.1	174 57.7	S18 52.6
S	5	141 20.0	211 15.6	S25 26.3	274 57.8	S17 11.2	173 47.2	S14 13.0	189 60.0	S18 52.6
A										
T	6	156 22.5	226 16.3	S25 25.9	289 58.5	S17 11.7	188 49.4	S14 12.9	205 02.3	S18 52.5
U	7	171 25.0	241 17.0	S25 25.5	304 59.3	S17 12.2	203 51.5	S14 12.8	220 04.6	S18 52.5
R	8	186 27.4	256 17.6	S25 25.1	320 00.0	S17 12.7	218 53.7	S14 12.7	235 06.8	S18 52.4
D	9	201 29.9	271 18.3	S25 24.6	335 00.7	S17 13.2	233 55.9	S14 12.5	250 09.1	S18 52.4
A	10	216 32.3	286 18.9	S25 24.2	350 01.5	S17 13.7	248 58.0	S14 12.4	265 11.4	S18 52.3
Y	11	231 34.8	301 19.6	S25 23.8	5 02.2	S17 14.2	264 00.2	S14 12.3	280 13.7	S18 52.3
	12	246 37.3	316 20.3	S25 23.4	20 03.0	S17 14.7	279 02.4	S14 12.2	295 15.9	S18 52.2
	13	261 39.7	331 21.0	S25 23.0	35 03.7	S17 15.2	294 04.5	S14 12.1	310 18.2	S18 52.2
	14	276 42.2	346 21.6	S25 22.6	50 04.4	S17 15.7	309 06.7	S14 12.0	325 20.5	S18 52.1
	15	291 44.7	1 22.3	S25 22.2	65 05.2	S17 16.2	324 08.9	S14 11.9	340 22.8	S18 52.1
	16	306 47.1	16 23.0	S25 21.8	80 05.9	S17 16.7	339 11.0	S14 11.8	355 25.0	S18 52.0
	17	321 49.6	31 23.7	S25 21.4	95 06.6	S17 17.2	354 13.2	S14 11.7	10 27.3	S18 52.0
	18	336 52.1	46 24.4	S25 21.0	110 07.4	S17 17.6	9 15.3	S14 11.6	25 29.6	S18 51.9
	19	351 54.5	61 25.1	S25 20.6	125 08.1	S17 18.1	24 17.5	S14 11.5	40 31.9	S18 51.9
	20	6 57.0	76 25.7	S25 20.2	140 08.9	S17 18.6	39 19.7	S14 11.3	55 34.1	S18 51.8
	21	21 59.4	91 26.4	S25 19.7	155 09.6	S17 19.1	54 21.8	S14 11.2	70 36.4	S18 51.8
	22	37 01.9	106 27.1	S25 19.3	170 10.3	S17 19.6	69 24.0	S14 11.1	85 38.7	S18 51.7
	23	52 04.4	121 27.8	S25 18.9	185 11.1	S17 20.1	84 26.2	S14 11.0	100 41.0	S18 51.7
28	0	67 06.8	136 28.5	S25 18.5	200 11.8	S17 20.6	99 28.3	S14 10.9	115 43.2	S18 51.7
	1	82 09.3	151 29.2	S25 18.1	215 12.5	S17 21.1	114 30.5	S14 10.8	130 45.5	S18 51.6
	2	97 11.8	166 29.9	S25 17.7	230 13.3	S17 21.6	129 32.6	S14 10.7	145 47.8	S18 51.6
	3	112 14.2	181 30.7	S25 17.3	245 14.0	S17 22.1	144 34.8	S14 10.6	160 50.1	S18 51.5
	4	127 16.7	196 31.4	S25 16.8	260 14.7	S17 22.6	159 37.0	S14 10.5	175 52.3	S18 51.5
S	5	142 19.2	211 32.1	S25 16.4	275 15.5	S17 23.0	174 39.1	S14 10.4	190 54.6	S18 51.4
U										
N	6	157 21.6	226 32.8	S25 16.0	290 16.2	S17 23.5	189 41.3	S14 10.2	205 56.9	S18 51.4
D	7	172 24.1	241 33.5	S25 15.6	305 16.9	S17 24.0	204 43.5	S14 10.1	220 59.2	S18 51.3
A	8	187 26.6	256 34.2	S25 15.2	320 17.7	S17 24.5	219 45.6	S14 10.0	236 01.4	S18 51.3
Y	9	202 29.0	271 35.0	S25 14.8	335 18.4	S17 25.0	234 47.8	S14 09.9	251 03.7	S18 51.2
	10	217 31.5	286 35.7	S25 14.3	350 19.1	S17 25.5	249 49.9	S14 09.8	266 06.0	S18 51.2
	11	232 33.9	301 36.4	S25 13.9	5 19.9	S17 26.0	264 52.1	S14 09.7	281 08.2	S18 51.1
	12	247 36.4	316 37.2	S25 13.5	20 20.6	S17 26.5	279 54.3	S14 09.6	296 10.5	S18 51.1
	13	262 38.9	331 37.9	S25 13.1	35 21.3	S17 27.0	294 56.4	S14 09.5	311 12.8	S18 51.0
	14	277 41.3	346 38.6	S25 12.7	50 22.1	S17 27.4	309 58.6	S14 09.4	326 15.1	S18 51.0
	15	292 43.8	1 39.4	S25 12.2	65 22.8	S17 27.9	325 00.7	S14 09.2	341 17.3	S18 50.9
	16	307 46.3	16 40.1	S25 11.8	80 23.5	S17 28.4	340 02.9	S14 09.1	356 19.6	S18 50.9
	17	322 48.7	31 40.9	S25 11.4	95 24.3	S17 28.9	355 05.0	S14 09.0	11 21.9	S18 50.8
	18	337 51.2	46 41.6	S25 11.0	110 25.0	S17 29.4	10 07.2	S14 08.9	26 24.2	S18 50.8
	19	352 53.7	61 42.4	S25 10.5	125 25.7	S17 29.9	25 09.4	S14 08.8	41 26.4	S18 50.7
	20	7 56.1	76 43.1	S25 10.1	140 26.4	S17 30.4	40 11.5	S14 08.7	56 28.7	S18 50.7
	21	22 58.6	91 43.9	S25 09.7	155 27.2	S17 30.9	55 13.7	S14 08.6	71 31.0	S18 50.6
	22	38 01.1	106 44.6	S25 09.3	170 27.9	S17 31.3	70 15.8	S14 08.5	86 33.2	S18 50.6
	23	53 03.5	121 45.4	S25 08.9	185 28.6	S17 31.8	85 18.0	S14 08.3	101 35.5	S18 50.5
29	0	68 06.0	136 46.1	S25 08.4	200 29.4	S17 32.3	100 20.1	S14 08.2	116 37.8	S18 50.5
	1	83 08.4	151 46.9	S25 08.0	215 30.1	S17 32.8	115 22.3	S14 08.1	131 40.1	S18 50.4
	2	98 10.9	166 47.7	S25 07.6	230 30.8	S17 33.3	130 24.4	S14 08.0	146 42.3	S18 50.4
	3	113 13.4	181 48.4	S25 07.1	245 31.5	S17 33.8	145 26.6	S14 07.9	161 44.6	S18 50.3
	4	128 15.8	196 49.2	S25 06.7	260 32.3	S17 34.2	160 28.8	S14 07.8	176 46.9	S18 50.3
M	5	143 18.3	211 50.0	S25 06.3	275 33.0	S17 34.7	175 30.9	S14 07.7	191 49.1	S18 50.2
O										
N	6	158 20.8	226 50.8	S25 05.9	290 33.7	S17 35.2	190 33.1	S14 07.6	206 51.4	S18 50.2
D	7	173 23.2	241 51.6	S25 05.4	305 34.5	S17 35.7	205 35.2	S14 07.4	221 53.7	S18 50.1
A	8	188 25.7	256 52.3	S25 05.0	320 35.2	S17 36.2	220 37.4	S14 07.3	236 55.9	S18 50.1
Y	9	203 28.2	271 53.1	S25 04.6	335 35.9	S17 36.7	235 39.5	S14 07.2	251 58.2	S18 50.0
	10	218 30.6	286 53.9	S25 04.1	350 36.6	S17 37.2	250 41.7	S14 07.1	267 00.5	S18 50.0
	11	233 33.1	301 54.7	S25 03.7	5 37.4	S17 37.6	265 43.8	S14 07.0	282 02.8	S18 49.9
	12	248 35.5	316 55.5	S25 03.3	20 38.1	S17 38.1	280 46.0	S14 06.9	297 05.0	S18 49.9
	13	263 38.0	331 56.3	S25 02.8	35 38.8	S17 38.6	295 48.1	S14 06.8	312 07.3	S18 49.8
	14	278 40.5	346 57.1	S25 02.4	50 39.6	S17 39.1	310 50.3	S14 06.7	327 09.6	S18 49.8
	15	293 42.9	1 57.9	S25 02.0	65 40.3	S17 39.6	325 52.4	S14 06.5	342 11.8	S18 49.7
	16	308 45.4	16 58.7	S25 01.5	80 41.0	S17 40.0	340 54.6	S14 06.4	357 14.1	S18 49.7
	17	323 47.9	31 59.5	S25 01.1	95 41.7	S17 40.5	355 56.8	S14 06.3	12 16.4	S18 49.6
	18	338 50.3	47 00.3	S25 00.7	110 42.5	S17 41.0	10 58.9	S14 06.2	27 18.6	S18 49.6
	19	353 52.8	62 01.1	S25 00.2	125 43.2	S17 41.5	26 01.1	S14 06.1	42 20.9	S18 49.5
	20	8 55.3	77 02.0	S24 59.8	140 43.9	S17 42.0	41 03.2	S14 06.0	57 23.2	S18 49.5
	21	23 57.7	92 02.8	S24 59.4	155 44.6	S17 42.4	56 05.4	S14 05.9	72 25.4	S18 49.4
	22	39 00.2	107 03.6	S24 58.9	170 45.4	S17 42.9	71 07.5	S14 05.7	87 27.7	S18 49.4
	23	54 02.7	122 04.4	S24 58.5	185 46.1	S17 43.4	86 09.7	S14 05.6	102 30.0	S18 49.3
			v 0.7	d 0.4	v 0.7	d 0.5	v 2.2	d 0.1	v 2.3	d 0.0

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
27 0	183 07.6	S21 07.2	273 13.8	12.6	N16 49.9	11.0	56.0	Acamar	315 13.3	S40 13.1
1	198 07.4	S21 07.7	287 45.4	12.6	N16 38.8	11.1	56.1	Achernar	335 21.7	S57 07.8
2	213 07.2	S21 08.1	302 17.0	12.6	N16 27.6	11.2	56.1	Acrux	173 03.3	S63 12.8
3	228 07.0	S21 08.6	316 48.7	12.6	N16 16.2	11.3	56.1	Adhara	255 07.6	S28 59.9
4	243 06.7	S21 09.0	331 20.3	12.7	N16 04.8	11.4	56.2	Albireo	67 06.4	N28 00.4
S 5	258 06.5	S21 09.5	345 52.0	12.7	N15 53.4	11.5	56.2			
A								Aldebaran	290 42.2	N16 33.2
T 6	273 06.3	S21 09.9	0 23.7	12.7	N15 41.8	11.6	56.2	Alioth	166 15.6	N55 50.4
U 7	288 06.1	S21 10.4	14 55.5	12.7	N15 30.1	11.7	56.3	Alkaid	152 54.5	N49 12.2
R 8	303 05.9	S21 10.8	29 27.2	12.8	N15 18.4	11.7	56.3	Al Na-ir	27 36.2	S46 51.6
D 9	318 05.7	S21 11.3	43 59.0	12.8	N15 06.6	11.8	56.3	Alnilam	275 40.0	S 1 11.2
A 10	333 05.5	S21 11.7	58 30.8	12.8	N14 54.6	11.9	56.4			
Y 11	348 05.3	S21 12.2	73 02.6	12.8	N14 42.7	12.0	56.4	Alphard	217 50.1	S 8 45.0
								Alphecca	126 06.3	N26 38.5
12	3 05.1	S21 12.6	87 34.4	12.8	N14 30.6	12.1	56.4	Alpheratz	357 37.3	N29 12.8
13	18 04.9	S21 13.1	102 06.3	12.9	N14 18.4	12.2	56.5	Altair	62 02.7	N 8 55.6
14	33 04.7	S21 13.5	116 38.2	12.9	N14 06.2	12.2	56.5	Ankaa	353 09.5	S42 11.5
15	48 04.5	S21 14.0	131 10.0	12.9	N13 53.9	12.3	56.5			
16	63 04.3	S21 14.4	145 41.9	12.9	N13 41.5	12.4	56.6	Antares	112 19.4	S26 28.7
17	78 04.1	S21 14.9	160 13.9	12.9	N13 29.0	12.5	56.6	Arcturus	145 50.6	N19 04.2
								Atria	107 16.5	S69 04.0
18	93 03.8	S21 15.3	174 45.8	12.9	N13 16.5	12.5	56.6	Avior	234 15.4	S59 34.4
19	108 03.6	S21 15.8	189 17.8	13.0	N13 03.8	12.6	56.7	Bellatrix	278 25.3	N 6 22.2
20	123 03.4	S21 16.2	203 49.7	13.0	N12 51.1	12.7	56.7			
21	138 03.2	S21 16.7	218 21.7	13.0	N12 38.4	12.8	56.8	Betelgeuse	270 54.6	N 7 24.7
22	153 03.0	S21 17.1	232 53.7	13.0	N12 25.5	12.8	56.8	Canopus	263 53.0	S52 42.3
23	168 02.8	S21 17.5	247 25.7	13.0	N12 12.6	12.9	56.8	Capella	280 25.2	N46 01.2
28 0	183 02.6	S21 18.0	261 57.7	13.0	N11 59.6	13.0	56.9	Castor	246 00.1	N31 50.4
1	198 02.4	S21 18.4	276 29.7	13.0	N11 46.5	13.1	56.9	Deneb	49 27.7	N45 21.7
2	213 02.2	S21 18.9	291 01.8	13.0	N11 33.4	13.1	56.9			
3	228 02.0	S21 19.3	305 33.8	13.0	N11 20.2	13.2	57.0	Denebola	182 27.7	N14 27.1
4	243 01.7	S21 19.7	320 05.9	13.0	N11 06.9	13.3	57.0	Diphda	348 49.7	S17 52.1
S 5	258 01.5	S21 20.2	334 37.9	13.1	N10 53.6	13.3	57.0	Dubhe	193 44.3	N61 37.8
U								Elnath	278 04.8	N28 37.5
N 6	273 01.3	S21 20.6	349 10.0	13.1	N10 40.2	13.4	57.1	Eltanin	90 43.9	N51 29.2
D 7	288 01.1	S21 21.0	3 42.0	13.1	N10 26.7	13.5	57.1			
A 8	303 00.9	S21 21.5	18 14.1	13.1	N10 13.2	13.5	57.2	Enif	33 41.3	N 9 58.6
Y 9	318 00.7	S21 21.9	32 46.2	13.1	N 9 59.5	13.6	57.2	Fomalhaut	15 17.3	S29 30.6
10	333 00.5	S21 22.3	47 18.2	13.1	N 9 45.9	13.7	57.2	Gacrux	171 54.8	S57 13.8
11	348 00.2	S21 22.8	61 50.3	13.1	N 9 32.1	13.7	57.3	Gienah	175 46.4	S17 39.5
								Hadar	148 40.2	S60 28.4
12	3 00.0	S21 23.2	76 22.4	13.1	N 9 18.3	13.8	57.3	Hamal	327 53.8	N23 34.0
13	17 59.8	S21 23.6	90 54.4	13.1	N 9 04.5	13.9	57.3	Kaus Austr.	83 36.3	S34 22.5
14	32 59.6	S21 24.1	105 26.5	13.1	N 8 50.6	13.9	57.4	Kochab	137 21.1	N74 03.9
15	47 59.4	S21 24.5	119 58.6	13.1	N 8 36.6	14.0	57.4	Markab	13 32.4	N15 19.4
16	62 59.2	S21 24.9	134 30.6	13.1	N 8 22.5	14.0	57.5	Menkar	314 08.5	N 4 10.5
17	77 59.0	S21 25.4	149 02.7	13.1	N 8 08.4	14.1	57.5			
								Menkent	148 01.0	S36 28.4
18	92 58.7	S21 25.8	163 34.7	13.0	N 7 54.3	14.2	57.5	Miaplacidus	221 38.3	S69 48.0
19	107 58.5	S21 26.2	178 06.8	13.0	N 7 40.1	14.2	57.6	Mirfak	308 31.5	N49 56.4
20	122 58.3	S21 26.6	192 38.8	13.0	N 7 25.8	14.3	57.6	Nunki	75 51.3	S26 16.2
21	137 58.1	S21 27.1	207 10.8	13.0	N 7 11.5	14.3	57.7	Peacock	53 10.1	S56 40.1
22	152 57.9	S21 27.5	221 42.8	13.0	N 6 57.1	14.4	57.7			
23	167 57.6	S21 27.9	236 14.8	13.0	N 6 42.7	14.4	57.7	Polaris	316 53.4	N89 20.7
29 0	182 57.4	S21 28.3	250 46.8	13.0	N 6 28.2	14.5	57.8	Pollux	243 20.2	N27 58.3
1	197 57.2	S21 28.8	265 18.8	13.0	N 6 13.7	14.5	57.8	Procyon	244 53.3	N 5 10.2
2	212 57.0	S21 29.2	279 50.7	13.0	N 5 59.1	14.6	57.9	Rasalhague	96 01.3	N12 32.8
3	227 56.8	S21 29.6	294 22.7	12.9	N 5 44.4	14.6	57.9	Regulus	207 37.1	N11 51.7
4	242 56.6	S21 30.0	308 54.6	12.9	N 5 29.8	14.7	57.9			
M 5	257 56.3	S21 30.5	323 26.5	12.9	N 5 15.0	14.7	58.0	Rigel	281 06.0	S 8 10.5
O								Rigil Kent	139 44.6	S60 55.3
N 6	272 56.1	S21 30.9	337 58.4	12.9	N 5 00.3	14.8	58.0	Sabik	102 06.1	S15 45.1
D 7	287 55.9	S21 31.3	352 30.2	12.9	N 4 45.5	14.8	58.1	Schedar	349 33.6	N56 39.6
A 8	302 55.7	S21 31.7	7 02.1	12.8	N 4 30.6	14.9	58.1	Shaula	96 14.3	S37 07.2
Y 9	317 55.5	S21 32.1	21 33.9	12.8	N 4 15.7	14.9	58.1			
10	332 55.2	S21 32.5	36 05.7	12.8	N 4 00.7	14.9	58.2	Sirius	258 28.2	S16 44.6
11	347 55.0	S21 33.0	50 37.5	12.8	N 3 45.8	15.0	58.2	Spica	158 25.2	S11 16.3
								Suhail	222 48.0	S43 30.9
12	2 54.8	S21 33.4	65 09.2	12.7	N 3 30.7	15.0	58.3	Vega	80 35.3	N38 48.4
13	17 54.6	S21 33.8	79 40.9	12.7	N 3 15.7	15.1	58.3	Zuben-ubi	136 60.0	S16 07.8
14	32 54.3	S21 34.2	94 12.6	12.7	N 3 00.6	15.1	58.3			
15	47 54.1	S21 34.6	108 44.3	12.7	N 2 45.4	15.1	58.4			
16	62 53.9	S21 35.0	123 15.9	12.6	N 2 30.3	15.2	58.4			
17	77 53.7	S21 35.4	137 47.5	12.6	N 2 15.1	15.2	58.5			
18	92 53.4	S21 35.9	152 19.0	12.6	N 1 59.8	15.2	58.5			
19	107 53.2	S21 36.3	166 50.5	12.5	N 1 44.5	15.3	58.5			
20	122 53.0	S21 36.7	181 22.0	12.5	N 1 29.2	15.3	58.6			
21	137 52.8	S21 37.1	195 53.5	12.4	N 1 13.9	15.3	58.6			
22	152 52.5	S21 37.5	210 24.9	12.4	N 0 58.6	15.4	58.7			
23	167 52.3	S21 37.9	224 56.3	12.4	N 0 43.2	15.4	58.7			
	S.D. 16.2	d 0.4	S.D.	15.4	15.6	15.9				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
30	0	69 05.1	137 05.3	S24 58.0	200 46.8	S17 43.9	101 11.8	S14 05.5	117 32.3	S18 49.3
	1	84 07.6	152 06.1	S24 57.6	215 47.5	S17 44.4	116 14.0	S14 05.4	132 34.5	S18 49.2
	2	99 10.0	167 06.9	S24 57.2	230 48.2	S17 44.8	131 16.1	S14 05.3	147 36.8	S18 49.2
	3	114 12.5	182 07.8	S24 56.7	245 49.0	S17 45.3	146 18.3	S14 05.2	162 39.1	S18 49.1
	4	129 15.0	197 08.6	S24 56.3	260 49.7	S17 45.8	161 20.4	S14 05.1	177 41.3	S18 49.1
T	5	144 17.4	212 09.4	S24 55.8	275 50.4	S17 46.3	176 22.6	S14 04.9	192 43.6	S18 49.0
U										
E	6	159 19.9	227 10.3	S24 55.4	290 51.1	S17 46.8	191 24.7	S14 04.8	207 45.9	S18 49.0
S	7	174 22.4	242 11.1	S24 55.0	305 51.9	S17 47.2	206 26.8	S14 04.7	222 48.1	S18 48.9
D	8	189 24.8	257 12.0	S24 54.5	320 52.6	S17 47.7	221 29.0	S14 04.6	237 50.4	S18 48.9
A	9	204 27.3	272 12.8	S24 54.1	335 53.3	S17 48.2	236 31.1	S14 04.5	252 52.7	S18 48.8
Y	10	219 29.8	287 13.7	S24 53.6	350 54.0	S17 48.7	251 33.3	S14 04.4	267 54.9	S18 48.8
	11	234 32.2	302 14.5	S24 53.2	5 54.8	S17 49.2	266 35.4	S14 04.2	282 57.2	S18 48.7
	12	249 34.7	317 15.4	S24 52.7	20 55.5	S17 49.6	281 37.6	S14 04.1	297 59.5	S18 48.7
	13	264 37.2	332 16.3	S24 52.3	35 56.2	S17 50.1	296 39.7	S14 04.0	313 01.7	S18 48.6
	14	279 39.6	347 17.1	S24 51.9	50 56.9	S17 50.6	311 41.9	S14 03.9	328 04.0	S18 48.6
	15	294 42.1	2 18.0	S24 51.4	65 57.6	S17 51.1	326 44.0	S14 03.8	343 06.3	S18 48.5
	16	309 44.5	17 18.9	S24 51.0	80 58.4	S17 51.5	341 46.2	S14 03.7	358 08.5	S18 48.4
	17	324 47.0	32 19.7	S24 50.5	95 59.1	S17 52.0	356 48.3	S14 03.6	13 10.8	S18 48.4
	18	339 49.5	47 20.6	S24 50.1	110 59.8	S17 52.5	11 50.5	S14 03.4	28 13.1	S18 48.3
	19	354 51.9	62 21.5	S24 49.6	126 00.5	S17 53.0	26 52.6	S14 03.3	43 15.3	S18 48.3
	20	9 54.4	77 22.4	S24 49.2	141 01.2	S17 53.4	41 54.8	S14 03.2	58 17.6	S18 48.2
	21	24 56.9	92 23.3	S24 48.7	156 02.0	S17 53.9	56 56.9	S14 03.1	73 19.9	S18 48.2
	22	39 59.3	107 24.1	S24 48.3	171 02.7	S17 54.4	71 59.0	S14 03.0	88 22.1	S18 48.1
	23	55 01.8	122 25.0	S24 47.8	186 03.4	S17 54.9	87 01.2	S14 02.9	103 24.4	S18 48.1
1	0	70 04.3	137 25.9	S24 47.4	201 04.1	S17 55.3	102 03.3	S14 02.7	118 26.6	S18 48.0
	1	85 06.7	152 26.8	S24 46.9	216 04.8	S17 55.8	117 05.5	S14 02.6	133 28.9	S18 48.0
	2	100 09.2	167 27.7	S24 46.5	231 05.5	S17 56.3	132 07.6	S14 02.5	148 31.2	S18 47.9
	3	115 11.6	182 28.6	S24 46.0	246 06.3	S17 56.8	147 09.8	S14 02.4	163 33.4	S18 47.9
	4	130 14.1	197 29.5	S24 45.6	261 07.0	S17 57.2	162 11.9	S14 02.3	178 35.7	S18 47.8
W	5	145 16.6	212 30.4	S24 45.1	276 07.7	S17 57.7	177 14.0	S14 02.2	193 38.0	S18 47.8
E										
D	6	160 19.0	227 31.4	S24 44.7	291 08.4	S17 58.2	192 16.2	S14 02.0	208 40.2	S18 47.7
N	7	175 21.5	242 32.3	S24 44.2	306 09.1	S17 58.6	207 18.3	S14 01.9	223 42.5	S18 47.7
E	8	190 24.0	257 33.2	S24 43.8	321 09.9	S17 59.1	222 20.5	S14 01.8	238 44.8	S18 47.6
S	9	205 26.4	272 34.1	S24 43.3	336 10.6	S17 59.6	237 22.6	S14 01.7	253 47.0	S18 47.6
D	10	220 28.9	287 35.0	S24 42.9	351 11.3	S18 00.1	252 24.8	S14 01.6	268 49.3	S18 47.5
A	11	235 31.4	302 35.9	S24 42.4	6 12.0	S18 00.5	267 26.9	S14 01.4	283 51.6	S18 47.5
Y										
	12	250 33.8	317 36.9	S24 41.9	21 12.7	S18 01.0	282 29.0	S14 01.3	298 53.8	S18 47.4
	13	265 36.3	332 37.8	S24 41.5	36 13.4	S18 01.5	297 31.2	S14 01.2	313 56.1	S18 47.4
	14	280 38.8	347 38.7	S24 41.0	51 14.1	S18 01.9	312 33.3	S14 01.1	328 58.3	S18 47.3
	15	295 41.2	2 39.7	S24 40.6	66 14.9	S18 02.4	327 35.5	S14 01.0	344 00.6	S18 47.3
	16	310 43.7	17 40.6	S24 40.1	81 15.6	S18 02.9	342 37.6	S14 00.9	359 02.9	S18 47.2
	17	325 46.1	32 41.6	S24 39.7	96 16.3	S18 03.4	357 39.7	S14 00.7	14 05.1	S18 47.2
	18	340 48.6	47 42.5	S24 39.2	111 17.0	S18 03.8	12 41.9	S14 00.6	29 07.4	S18 47.1
	19	355 51.1	62 43.4	S24 38.7	126 17.7	S18 04.3	27 44.0	S14 00.5	44 09.7	S18 47.1
	20	10 53.5	77 44.4	S24 38.3	141 18.4	S18 04.8	42 46.2	S14 00.4	59 11.9	S18 47.0
	21	25 56.0	92 45.3	S24 37.8	156 19.2	S18 05.2	57 48.3	S14 00.3	74 14.2	S18 46.9
	22	40 58.5	107 46.3	S24 37.4	171 19.9	S18 05.7	72 50.4	S14 00.1	89 16.4	S18 46.9
	23	56 00.9	122 47.3	S24 36.9	186 20.6	S18 06.2	87 52.6	S14 00.0	104 18.7	S18 46.8
2	0	71 03.4	137 48.2	S24 36.5	201 21.3	S18 06.6	102 54.7	S13 59.9	119 21.0	S18 46.8
	1	86 05.9	152 49.2	S24 36.0	216 22.0	S18 07.1	117 56.8	S13 59.8	134 23.2	S18 46.7
	2	101 08.3	167 50.2	S24 35.5	231 22.7	S18 07.6	132 59.0	S13 59.7	149 25.5	S18 46.7
	3	116 10.8	182 51.1	S24 35.1	246 23.4	S18 08.0	148 01.1	S13 59.6	164 27.7	S18 46.6
	4	131 13.3	197 52.1	S24 34.6	261 24.1	S18 08.5	163 03.3	S13 59.4	179 30.0	S18 46.6
T	5	146 15.7	212 53.1	S24 34.1	276 24.9	S18 09.0	178 05.4	S13 59.3	194 32.3	S18 46.5
H										
U	6	161 18.2	227 54.1	S24 33.7	291 25.6	S18 09.4	193 07.5	S13 59.2	209 34.5	S18 46.5
R	7	176 20.6	242 55.0	S24 33.2	306 26.3	S18 09.9	208 09.7	S13 59.1	224 36.8	S18 46.4
S	8	191 23.1	257 56.0	S24 32.8	321 27.0	S18 10.4	223 11.8	S13 59.0	239 39.1	S18 46.4
D	9	206 25.6	272 57.0	S24 32.3	336 27.7	S18 10.8	238 13.9	S13 58.8	254 41.3	S18 46.3
A	10	221 28.0	287 58.0	S24 31.8	351 28.4	S18 11.3	253 16.1	S13 58.7	269 43.6	S18 46.3
Y	11	236 30.5	302 59.0	S24 31.4	6 29.1	S18 11.8	268 18.2	S13 58.6	284 45.8	S18 46.2
	12	251 33.0	317 60.0	S24 30.9	21 29.8	S18 12.2	283 20.3	S13 58.5	299 48.1	S18 46.2
	13	266 35.4	333 01.0	S24 30.4	36 30.5	S18 12.7	298 22.5	S13 58.4	314 50.4	S18 46.1
	14	281 37.9	348 02.0	S24 30.0	51 31.3	S18 13.2	313 24.6	S13 58.2	329 52.6	S18 46.1
	15	296 40.4	3 03.0	S24 29.5	66 32.0	S18 13.6	328 26.7	S13 58.1	344 54.9	S18 46.0
	16	311 42.8	18 04.0	S24 29.0	81 32.7	S18 14.1	343 28.9	S13 58.0	359 57.1	S18 45.9
	17	326 45.3	33 05.0	S24 28.6	96 33.4	S18 14.6	358 31.0	S13 57.9	14 59.4	S18 45.9
	18	341 47.7	48 06.0	S24 28.1	111 34.1	S18 15.0	13 33.1	S13 57.8	30 01.7	S18 45.8
	19	356 50.2	63 07.1	S24 27.6	126 34.8	S18 15.5	28 35.3	S13 57.6	45 03.9	S18 45.8
	20	11 52.7	78 08.1	S24 27.2	141 35.5	S18 16.0	43 37.4	S13 57.5	60 06.2	S18 45.7
	21	26 55.1	93 09.1	S24 26.7	156 36.2	S18 16.4	58 39.5	S13 57.4	75 08.4	S18 45.7
	22	41 57.6	108 10.1	S24 26.2	171 36.9	S18 16.9	73 41.7	S13 57.3	90 10.7	S18 45.6
	23	57 00.1	123 11.2	S24 25.7	186 37.6	S18 17.3	88 43.8	S13 57.1	105 13.0	S18 45.6
			v 0.9	d 0.5	v 0.7	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
30	0	182 52.1	S21 38.3	239 27.6	12.3	N 0 27.8	15.4	58.7
	1	197 51.9	S21 38.7	253 58.9	12.3	N 0 12.3	15.4	58.8
	2	212 51.6	S21 39.1	268 30.1	12.2	S 0 03.1	15.5	58.8
	3	227 51.4	S21 39.5	283 01.3	12.2	S 0 18.6	15.5	58.9
	4	242 51.2	S21 39.9	297 32.5	12.1	S 0 34.1	15.5	58.9
T	5	257 51.0	S21 40.3	312 03.6	12.1	S 0 49.6	15.5	58.9
U								
E	6	272 50.7	S21 40.7	326 34.6	12.1	S 1 05.2	15.5	59.0
S	7	287 50.5	S21 41.1	341 05.6	12.0	S 1 20.7	15.6	59.0
D	8	302 50.3	S21 41.5	355 36.6	12.0	S 1 36.3	15.6	59.1
A	9	317 50.1	S21 41.9	10 07.5	11.9	S 1 51.9	15.6	59.1
Y	10	332 49.8	S21 42.3	24 38.3	11.8	S 2 07.5	15.6	59.1
	11	347 49.6	S21 42.7	39 09.1	11.8	S 2 23.1	15.6	59.2
	12	2 49.4	S21 43.1	53 39.8	11.7	S 2 38.7	15.6	59.2
	13	17 49.1	S21 43.5	68 10.5	11.7	S 2 54.3	15.6	59.3
	14	32 48.9	S21 43.9	82 41.1	11.6	S 3 10.0	15.6	59.3
	15	47 48.7	S21 44.3	97 11.7	11.6	S 3 25.6	15.6	59.3
	16	62 48.4	S21 44.7	111 42.2	11.5	S 3 41.2	15.6	59.4
	17	77 48.2	S21 45.1	126 12.6	11.4	S 3 56.9	15.6	59.4
	18	92 48.0	S21 45.5	140 43.0	11.4	S 4 12.5	15.6	59.5
	19	107 47.8	S21 45.9	155 13.3	11.3	S 4 28.2	15.6	59.5
	20	122 47.5	S21 46.3	169 43.5	11.2	S 4 43.8	15.6	59.5
	21	137 47.3	S21 46.7	184 13.7	11.2	S 4 59.5	15.6	59.6
	22	152 47.1	S21 47.1	198 43.8	11.1	S 5 15.1	15.6	59.6
	23	167 46.8	S21 47.5	213 13.8	11.0	S 5 30.7	15.6	59.6
1	0	182 46.6	S21 47.8	227 43.7	11.0	S 5 46.3	15.6	59.7
	1	197 46.4	S21 48.2	242 13.6	10.9	S 6 02.0	15.6	59.7
	2	212 46.1	S21 48.6	256 43.4	10.8	S 6 17.6	15.6	59.8
	3	227 45.9	S21 49.0	271 13.2	10.7	S 6 33.1	15.6	59.8
	4	242 45.7	S21 49.4	285 42.8	10.7	S 6 48.7	15.6	59.8
W	5	257 45.4	S21 49.8	300 12.4	10.6	S 7 04.3	15.6	59.9
E								
D	6	272 45.2	S21 50.2	314 41.9	10.5	S 7 19.8	15.5	59.9
N	7	287 45.0	S21 50.6	329 11.3	10.4	S 7 35.3	15.5	59.9
E	8	302 44.7	S21 50.9	343 40.6	10.3	S 7 50.8	15.5	60.0
S	9	317 44.5	S21 51.3	358 09.9	10.3	S 8 06.3	15.5	60.0
D	10	332 44.2	S21 51.7	12 39.0	10.2	S 8 21.7	15.4	60.0
A	11	347 44.0	S21 52.1	27 08.1	10.1	S 8 37.1	15.4	60.1
Y								
	12	2 43.8	S21 52.5	41 37.1	10.0	S 8 52.5	15.4	60.1
	13	17 43.5	S21 52.8	56 06.0	9.9	S 9 07.9	15.4	60.1
	14	32 43.3	S21 53.2	70 34.8	9.8	S 9 23.2	15.3	60.2
	15	47 43.1	S21 53.6	85 03.6	9.7	S 9 38.5	15.3	60.2
	16	62 42.8	S21 54.0	99 32.2	9.6	S 9 53.7	15.2	60.2
	17	77 42.6	S21 54.4	114 00.8	9.5	S10 08.9	15.2	60.3
	18	92 42.4	S21 54.7	128 29.2	9.5	S10 24.1	15.2	60.3
	19	107 42.1	S21 55.1	142 57.6	9.4	S10 39.2	15.1	60.3
	20	122 41.9	S21 55.5	157 25.8	9.3	S10 54.3	15.1	60.4
	21	137 41.6	S21 55.9	171 54.0	9.2	S11 09.4	15.0	60.4
	22	152 41.4	S21 56.2	186 22.0	9.1	S11 24.3	15.0	60.4
	23	167 41.2	S21 56.6	200 50.0	9.0	S11 39.3	14.9	60.5
2	0	182 40.9	S21 57.0	215 17.9	8.9	S11 54.2	14.9	60.5
	1	197 40.7	S21 57.4	229 45.7	8.8	S12 09.0	14.8	60.5
	2	212 40.4	S21 57.7	244 13.3	8.7	S12 23.8	14.8	60.6
	3	227 40.2	S21 58.1	258 40.9	8.6	S12 38.5	14.7	60.6
	4	242 40.0	S21 58.5	273 08.3	8.5	S12 53.1	14.7	60.6
T	5	257 39.7	S21 58.8	287 35.7	8.4	S13 07.7	14.6	60.7
H								
U	6	272 39.5	S21 59.2	302 03.0	8.3	S13 22.3	14.5	60.7
R	7	287 39.2	S21 59.6	316 30.1	8.1	S13 36.7	14.5	60.7
S	8	302 39.0	S21 59.9	330 57.1	8.0	S13 51.1	14.4	60.7
D	9	317 38.7	S22 00.3	345 24.1	7.9	S14 05.4	14.3	60.8
A	10	332 38.5	S22 00.7	359 50.9	7.8	S14 19.7	14.2	60.8
Y	11	347 38.3	S22 01.0	14 17.6	7.7	S14 33.9	14.2	60.8
	12	2 38.0	S22 01.4	28 44.2	7.6	S14 47.9	14.1	60.8
	13	17 37.8	S22 01.7	43 10.7	7.5	S15 02.0	14.0	60.9
	14	32 37.5	S22 02.1	57 37.1	7.4	S15 15.9	13.9	60.9
	15	47 37.3	S22 02.5	72 03.4	7.3	S15 29.7	13.8	60.9
	16	62 37.0	S22 02.8	86 29.6	7.2	S15 43.5	13.8	60.9
	17	77 36.8	S22 03.2	100 55.6	7.1	S15 57.2	13.7	61.0
	18	92 36.6	S22 03.6	115 21.5	6.9	S16 10.7	13.6	61.0
	19	107 36.3	S22 03.9	129 47.4	6.8	S16 24.2	13.5	61.0
	20	122 36.1	S22 04.3	144 13.1	6.7	S16 37.6	13.4	61.0
	21	137 35.8	S22 04.6	158 38.7	6.6	S16 50.9	13.3	61.1
	22	152 35.6	S22 05.0	173 04.2	6.5	S17 04.1	13.2	61.1
	23	167 35.3	S22 05.3	187 29.6	6.4	S17 17.2	13.1	61.1
		S.D. 16.2	d 0.4	S.D.	16.1	16.4	16.6	

STARS Name	SHA	Dec
Acamar	315 13.3	S40 13.2
Achernar	335 21.7	S57 07.8
Acrux	173 03.2	S63 12.8
Adhara	255 07.5	S28 59.9
Albireo	67 06.4	N28 00.4
Aldebaran	290 42.2	N16 33.2
Alioth	166 15.6	N55 50.4
Alkaid	152 54.4	N49 12.2
Al Na-ir	27 36.2	S46 51.6
Alnilam	275 40.0	S 1 11.2
Alphard	217 50.1	S 8 45.1
Alphecca	126 06.3	N26 38.5
Alpheratz	357 37.3	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.5	S42 11.5
Antares	112 19.4	S26 28.7
Arcturus	145 50.6	N19 04.2
Atria	107 16.5	S69 04.0
Avior	234 15.3	S59 34.5
Bellatrix	278 25.3	N 6 22.2
Betelgeuse	270 54.5	N 7 24.7
Canopus	263 53.0	S52 42.3
Capella	280 25.2	N46 01.2
Castor	246 00.0	N31 50.4
Deneb	49 27.8	N45 21.7
Denebola	182 27.7	N14 27.0
Diphda	348 49.7	S17 52.1
Dubhe	193 44.3	N61 37.8
Elnath	278 04.8	N28 37.5
Eltanin	90 43.9	N51 29.2
Enif	33 41.3	N 9 58.6
Fomalhaut	15 17.3	S29 30.6
Gacrux	171 54.8	S57 13.8
Gienah	175 46.4	S17 39.6
Hadar	148 40.2	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 21.1	N74 03.8
Markab	13 32.4	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 01.0	S36 28.4
Miaplacidus	221 38.3	S69 48.0
Mirfak	308 31.5	N49 56.4
Nunki	75 51.3	S26 16.2
Peacock	53 10.1	S56 40.1
Polaris	316 53.9	N89 20.8
Pollux	243 20.2	N27 58.3
Procyon	244 53.3	N 5 10.2
Rasalhague	96 01.3	N12 32.8
Regulus	207 37.1	N11 51.7
Rigel	281 06.0	S 8 10.5
Rigil Kent	139 44.6	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.6	N56 39.6
Shaula	96 14.3	S37 07.2
Sirius	258 28.2	S16 44.7
Spica	158 25.2	S11 16.3
Suhail	222 48.0	S43 30.9
Vega	80 35.3	N38 48.3
Zuben-ubi	136 59.9	S16 07.8

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
3 0	72 02.5	138 12.2	S24 25.3	201 38.3	S18 17.8	103 45.9	S13 57.0	120 15.2	S18 45.5
1	87 05.0	153 13.2	S24 24.8	216 39.0	S18 18.3	118 48.1	S13 56.9	135 17.5	S18 45.5
2	102 07.5	168 14.3	S24 24.3	231 39.8	S18 18.7	133 50.2	S13 56.8	150 19.7	S18 45.4
3	117 09.9	183 15.3	S24 23.9	246 40.5	S18 19.2	148 52.3	S13 56.7	165 22.0	S18 45.4
4	132 12.4	198 16.4	S24 23.4	261 41.2	S18 19.7	163 54.5	S13 56.5	180 24.2	S18 45.3
F 5	147 14.9	213 17.4	S24 22.9	276 41.9	S18 20.1	178 56.6	S13 56.4	195 26.5	S18 45.3
R									
I 6	162 17.3	228 18.5	S24 22.4	291 42.6	S18 20.6	193 58.7	S13 56.3	210 28.8	S18 45.2
D 7	177 19.8	243 19.5	S24 22.0	306 43.3	S18 21.0	209 00.9	S13 56.2	225 31.0	S18 45.1
A 8	192 22.2	258 20.6	S24 21.5	321 44.0	S18 21.5	224 03.0	S13 56.1	240 33.3	S18 45.1
Y 9	207 24.7	273 21.6	S24 21.0	336 44.7	S18 22.0	239 05.1	S13 55.9	255 35.5	S18 45.0
10	222 27.2	288 22.7	S24 20.6	351 45.4	S18 22.4	254 07.2	S13 55.8	270 37.8	S18 45.0
11	237 29.6	303 23.8	S24 20.1	6 46.1	S18 22.9	269 09.4	S13 55.7	285 40.0	S18 44.9
12	252 32.1	318 24.8	S24 19.6	21 46.8	S18 23.3	284 11.5	S13 55.6	300 42.3	S18 44.9
13	267 34.6	333 25.9	S24 19.1	36 47.5	S18 23.8	299 13.6	S13 55.4	315 44.6	S18 44.8
14	282 37.0	348 27.0	S24 18.7	51 48.2	S18 24.3	314 15.8	S13 55.3	330 46.8	S18 44.8
15	297 39.5	3 28.1	S24 18.2	66 48.9	S18 24.7	329 17.9	S13 55.2	345 49.1	S18 44.7
16	312 42.0	18 29.1	S24 17.7	81 49.6	S18 25.2	344 20.0	S13 55.1	0 51.3	S18 44.7
17	327 44.4	33 30.2	S24 17.2	96 50.3	S18 25.6	359 22.1	S13 55.0	15 53.6	S18 44.6
18	342 46.9	48 31.3	S24 16.7	111 51.0	S18 26.1	14 24.3	S13 54.8	30 55.8	S18 44.6
19	357 49.4	63 32.4	S24 16.3	126 51.7	S18 26.5	29 26.4	S13 54.7	45 58.1	S18 44.5
20	12 51.8	78 33.5	S24 15.8	141 52.4	S18 27.0	44 28.5	S13 54.6	61 00.4	S18 44.4
21	27 54.3	93 34.6	S24 15.3	156 53.2	S18 27.5	59 30.7	S13 54.5	76 02.6	S18 44.4
22	42 56.7	108 35.7	S24 14.8	171 53.9	S18 27.9	74 32.8	S13 54.3	91 04.9	S18 44.3
23	57 59.2	123 36.8	S24 14.4	186 54.6	S18 28.4	89 34.9	S13 54.2	106 07.1	S18 44.3
4 0	73 01.7	138 37.9	S24 13.9	201 55.3	S18 28.8	104 37.0	S13 54.1	121 09.4	S18 44.2
1	88 04.1	153 39.0	S24 13.4	216 56.0	S18 29.3	119 39.2	S13 54.0	136 11.6	S18 44.2
2	103 06.6	168 40.1	S24 12.9	231 56.7	S18 29.7	134 41.3	S13 53.8	151 13.9	S18 44.1
3	118 09.1	183 41.2	S24 12.4	246 57.4	S18 30.2	149 43.4	S13 53.7	166 16.1	S18 44.1
4	133 11.5	198 42.4	S24 12.0	261 58.1	S18 30.7	164 45.5	S13 53.6	181 18.4	S18 44.0
S 5	148 14.0	213 43.5	S24 11.5	276 58.8	S18 31.1	179 47.7	S13 53.5	196 20.7	S18 44.0
A									
T 6	163 16.5	228 44.6	S24 11.0	291 59.5	S18 31.6	194 49.8	S13 53.3	211 22.9	S18 43.9
U 7	178 18.9	243 45.7	S24 10.5	307 00.2	S18 32.0	209 51.9	S13 53.2	226 25.2	S18 43.9
R 8	193 21.4	258 46.9	S24 10.0	322 00.9	S18 32.5	224 54.0	S13 53.1	241 27.4	S18 43.8
D 9	208 23.9	273 48.0	S24 09.5	337 01.6	S18 32.9	239 56.2	S13 53.0	256 29.7	S18 43.7
A 10	223 26.3	288 49.1	S24 09.1	352 02.3	S18 33.4	254 58.3	S13 52.9	271 31.9	S18 43.7
Y 11	238 28.8	303 50.3	S24 08.6	7 03.0	S18 33.8	270 00.4	S13 52.7	286 34.2	S18 43.6
12	253 31.2	318 51.4	S24 08.1	22 03.7	S18 34.3	285 02.5	S13 52.6	301 36.4	S18 43.6
13	268 33.7	333 52.6	S24 07.6	37 04.4	S18 34.7	300 04.7	S13 52.5	316 38.7	S18 43.5
14	283 36.2	348 53.7	S24 07.1	52 05.1	S18 35.2	315 06.8	S13 52.4	331 40.9	S18 43.5
15	298 38.6	3 54.9	S24 06.6	67 05.8	S18 35.7	330 08.9	S13 52.2	346 43.2	S18 43.4
16	313 41.1	18 56.0	S24 06.2	82 06.5	S18 36.1	345 11.0	S13 52.1	1 45.5	S18 43.4
17	328 43.6	33 57.2	S24 05.7	97 07.2	S18 36.6	0 13.1	S13 52.0	16 47.7	S18 43.3
18	343 46.0	48 58.4	S24 05.2	112 07.9	S18 37.0	15 15.3	S13 51.9	31 50.0	S18 43.2
19	358 48.5	63 59.5	S24 04.7	127 08.6	S18 37.5	30 17.4	S13 51.7	46 52.2	S18 43.2
20	13 51.0	79 00.7	S24 04.2	142 09.3	S18 37.9	45 19.5	S13 51.6	61 54.5	S18 43.1
21	28 53.4	94 01.9	S24 03.7	157 10.0	S18 38.4	60 21.6	S13 51.5	76 56.7	S18 43.1
22	43 55.9	109 03.0	S24 03.2	172 10.7	S18 38.8	75 23.8	S13 51.4	91 59.0	S18 43.0
23	58 58.3	124 04.2	S24 02.8	187 11.4	S18 39.3	90 25.9	S13 51.2	107 01.2	S18 43.0
5 0	74 00.8	139 05.4	S24 02.3	202 12.1	S18 39.7	105 28.0	S13 51.1	122 03.5	S18 42.9
1	89 03.3	154 06.6	S24 01.8	217 12.8	S18 40.2	120 30.1	S13 51.0	137 05.7	S18 42.9
2	104 05.7	169 07.8	S24 01.3	232 13.4	S18 40.6	135 32.2	S13 50.9	152 08.0	S18 42.8
3	119 08.2	184 09.0	S24 00.8	247 14.1	S18 41.1	150 34.4	S13 50.7	167 10.2	S18 42.8
4	134 10.7	199 10.2	S24 00.3	262 14.8	S18 41.5	165 36.5	S13 50.6	182 12.5	S18 42.7
S 5	149 13.1	214 11.4	S23 59.8	277 15.5	S18 42.0	180 38.6	S13 50.5	197 14.7	S18 42.6
U									
N 6	164 15.6	229 12.6	S23 59.3	292 16.2	S18 42.4	195 40.7	S13 50.3	212 17.0	S18 42.6
D 7	179 18.1	244 13.8	S23 58.8	307 16.9	S18 42.9	210 42.8	S13 50.2	227 19.2	S18 42.5
A 8	194 20.5	259 15.0	S23 58.3	322 17.6	S18 43.3	225 45.0	S13 50.1	242 21.5	S18 42.5
Y 9	209 23.0	274 16.2	S23 57.9	337 18.3	S18 43.8	240 47.1	S13 50.0	257 23.7	S18 42.4
10	224 25.5	289 17.4	S23 57.4	352 19.0	S18 44.2	255 49.2	S13 49.8	272 26.0	S18 42.4
11	239 27.9	304 18.6	S23 56.9	7 19.7	S18 44.6	270 51.3	S13 49.7	287 28.3	S18 42.3
12	254 30.4	319 19.8	S23 56.4	22 20.4	S18 45.1	285 53.4	S13 49.6	302 30.5	S18 42.3
13	269 32.8	334 21.1	S23 55.9	37 21.1	S18 45.5	300 55.5	S13 49.5	317 32.8	S18 42.2
14	284 35.3	349 22.3	S23 55.4	52 21.8	S18 46.0	315 57.7	S13 49.3	332 35.0	S18 42.1
15	299 37.8	4 23.5	S23 54.9	67 22.5	S18 46.4	330 59.8	S13 49.2	347 37.3	S18 42.1
16	314 40.2	19 24.8	S23 54.4	82 23.2	S18 46.9	346 01.9	S13 49.1	2 39.5	S18 42.0
17	329 42.7	34 26.0	S23 53.9	97 23.9	S18 47.3	1 04.0	S13 49.0	17 41.8	S18 42.0
18	344 45.2	49 27.2	S23 53.4	112 24.6	S18 47.8	16 06.1	S13 48.8	32 44.0	S18 41.9
19	359 47.6	64 28.5	S23 52.9	127 25.3	S18 48.2	31 08.2	S13 48.7	47 46.3	S18 41.9
20	14 50.1	79 29.7	S23 52.4	142 25.9	S18 48.7	46 10.4	S13 48.6	62 48.5	S18 41.8
21	29 52.6	94 31.0	S23 51.9	157 26.6	S18 49.1	61 12.5	S13 48.4	77 50.8	S18 41.8
22	44 55.0	109 32.2	S23 51.5	172 27.3	S18 49.6	76 14.6	S13 48.3	92 53.0	S18 41.7
23	59 57.5	124 33.5	S23 51.0	187 28.0	S18 50.0	91 16.7	S13 48.2	107 55.3	S18 41.6
		v 1.1	d 0.5	v 0.7	d 0.5	v 2.1	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
3 0	182 35.1	S22 05.7	201 54.8	6.3	S17 30.2	13.0	61.1	Acamar	315 13.3 S40 13.2
1	197 34.8	S22 06.0	216 20.0	6.1	S17 43.0	12.9	61.1	Achernar	335 21.7 S57 07.8
2	212 34.6	S22 06.4	230 45.0	6.0	S17 55.8	12.8	61.2	Acrux	173 03.2 S63 12.8
3	227 34.3	S22 06.7	245 09.9	5.9	S18 08.5	12.7	61.2	Adhara	255 07.5 S28 60.0
4	242 34.1	S22 07.1	259 34.7	5.8	S18 21.0	12.5	61.2	Albireo	67 06.4 N28 00.4
F 5	257 33.9	S22 07.4	273 59.4	5.7	S18 33.4	12.4	61.2		
R								Aldebaran	290 42.2 N16 33.2
I 6	272 33.6	S22 07.8	288 24.0	5.6	S18 45.7	12.3	61.2	Alioth	166 15.5 N55 50.4
D 7	287 33.4	S22 08.1	302 48.4	5.5	S18 57.9	12.2	61.2	Alkaid	152 54.4 N49 12.2
A 8	302 33.1	S22 08.5	317 12.8	5.3	S19 10.0	12.1	61.3	Al Na-ir	27 36.2 S46 51.6
Y 9	317 32.9	S22 08.8	331 37.0	5.2	S19 21.9	11.9	61.3	Alnilam	275 40.0 S 1 11.2
10	332 32.6	S22 09.2	346 01.1	5.1	S19 33.7	11.8	61.3		
11	347 32.4	S22 09.5	0 25.2	5.0	S19 45.4	11.7	61.3	Alphard	217 50.1 S 8 45.1
								Alphecca	126 06.3 N26 38.5
12	2 32.1	S22 09.9	14 49.0	4.9	S19 57.0	11.6	61.3	Alpheratz	357 37.3 N29 12.8
13	17 31.9	S22 10.2	29 12.8	4.8	S20 08.4	11.4	61.3	Altair	62 02.7 N 8 55.6
14	32 31.6	S22 10.6	43 36.5	4.7	S20 19.7	11.3	61.3	Ankaa	353 09.5 S42 11.5
15	47 31.4	S22 10.9	58 00.1	4.6	S20 30.8	11.1	61.3		
16	62 31.1	S22 11.3	72 23.5	4.5	S20 41.8	11.0	61.4	Antares	112 19.4 S26 28.7
17	77 30.9	S22 11.6	86 46.9	4.3	S20 52.7	10.9	61.4	Arcturus	145 50.5 N19 04.1
								Atria	107 16.5 S69 03.9
18	92 30.6	S22 11.9	101 10.1	4.2	S21 03.4	10.7	61.4	Avior	234 15.3 S59 34.5
19	107 30.4	S22 12.3	115 33.3	4.1	S21 14.0	10.6	61.4	Bellatrix	278 25.3 N 6 22.2
20	122 30.1	S22 12.6	129 56.3	4.0	S21 24.4	10.4	61.4		
21	137 29.9	S22 13.0	144 19.2	3.9	S21 34.6	10.3	61.4	Betelgeuse	270 54.5 N 7 24.7
22	152 29.6	S22 13.3	158 42.0	3.8	S21 44.8	10.1	61.4	Canopus	263 53.0 S52 42.3
23	167 29.4	S22 13.6	173 04.7	3.7	S21 54.7	10.0	61.4	Capella	280 25.2 N46 01.2
4 0	182 29.1	S22 14.0	187 27.4	3.6	S22 04.5	9.8	61.4	Castor	246 00.0 N31 50.4
1	197 28.8	S22 14.3	201 49.9	3.5	S22 14.2	9.6	61.4	Deneb	49 27.8 N45 21.7
2	212 28.6	S22 14.6	216 12.3	3.4	S22 23.6	9.5	61.4		
3	227 28.3	S22 15.0	230 34.6	3.3	S22 33.0	9.3	61.4	Denebola	182 27.6 N14 27.0
4	242 28.1	S22 15.3	244 56.8	3.2	S22 42.1	9.2	61.4	Diphda	348 49.7 S17 52.1
S 5	257 27.8	S22 15.6	259 19.0	3.1	S22 51.1	9.0	61.4	Dubhe	193 44.2 N61 37.7
A								Elnath	278 04.8 N28 37.5
T 6	272 27.6	S22 16.0	273 41.0	3.0	S22 59.9	8.8	61.5	Eltanin	90 43.9 N51 29.2
U 7	287 27.3	S22 16.3	288 02.9	2.9	S23 08.6	8.6	61.5		
R 8	302 27.1	S22 16.6	302 24.8	2.9	S23 17.0	8.5	61.5	Enif	33 41.4 N 9 58.5
D 9	317 26.8	S22 17.0	316 46.6	2.8	S23 25.3	8.3	61.5	Fomalhaut	15 17.3 S29 30.6
A 10	332 26.6	S22 17.3	331 08.3	2.7	S23 33.4	8.1	61.5	Gacrux	171 54.7 S57 13.8
Y 11	347 26.3	S22 17.6	345 29.9	2.6	S23 41.4	7.9	61.5	Gienah	175 46.3 S17 39.6
								Hadar	148 40.2 S60 28.4
12	2 26.1	S22 18.0	359 51.4	2.5	S23 49.2	7.8	61.5		
13	17 25.8	S22 18.3	14 12.8	2.4	S23 56.7	7.6	61.5	Hamal	327 53.8 N23 34.0
14	32 25.5	S22 18.6	28 34.2	2.4	S24 04.1	7.4	61.5	Kaus Austr.	83 36.3 S34 22.5
15	47 25.3	S22 18.9	42 55.5	2.3	S24 11.4	7.2	61.5	Kochab	137 21.0 N74 03.8
16	62 25.0	S22 19.3	57 16.7	2.2	S24 18.4	7.0	61.4	Markab	13 32.4 N15 19.4
17	77 24.8	S22 19.6	71 37.8	2.1	S24 25.2	6.8	61.4	Menkar	314 08.5 N 4 10.5
								Menkent	148 01.0 S36 28.4
18	92 24.5	S22 19.9	85 58.9	2.1	S24 31.9	6.7	61.4	Miaplacidus	221 38.2 S69 48.0
19	107 24.3	S22 20.2	100 19.9	2.0	S24 38.4	6.5	61.4	Mirfak	308 31.4 N49 56.4
20	122 24.0	S22 20.5	114 40.9	2.0	S24 44.6	6.3	61.4	Nunki	75 51.3 S26 16.2
21	137 23.7	S22 20.9	129 01.8	1.9	S24 50.7	6.1	61.4	Peacock	53 10.1 S56 40.1
22	152 23.5	S22 21.2	143 22.6	1.8	S24 56.6	5.9	61.4		
23	167 23.2	S22 21.5	157 43.4	1.8	S25 02.3	5.7	61.4	Polaris	316 54.2 N89 20.8
5 0	182 23.0	S22 21.8	172 04.1	1.7	S25 07.8	5.5	61.4	Pollux	243 20.2 N27 58.3
1	197 22.7	S22 22.1	186 24.8	1.7	S25 13.1	5.3	61.4	Procyon	244 53.2 N 5 10.2
2	212 22.5	S22 22.5	200 45.4	1.6	S25 18.2	5.1	61.4	Rasalhague	96 01.3 N12 32.7
3	227 22.2	S22 22.8	215 06.0	1.6	S25 23.1	4.9	61.4	Regulus	207 37.1 N11 51.7
4	242 21.9	S22 23.1	229 26.6	1.5	S25 27.8	4.7	61.4		
S 5	257 21.7	S22 23.4	243 47.1	1.5	S25 32.3	4.5	61.4	Rigel	281 06.0 S 8 10.6
U								Rigil Kent	139 44.5 S60 55.3
N 6	272 21.4	S22 23.7	258 07.6	1.5	S25 36.6	4.3	61.3	Sabik	102 06.1 S15 45.1
D 7	287 21.2	S22 24.0	272 28.0	1.4	S25 40.7	4.1	61.3	Schedar	349 33.6 N56 39.6
A 8	302 20.9	S22 24.3	286 48.4	1.4	S25 44.7	3.9	61.3	Shaula	96 14.3 S37 07.2
Y 9	317 20.6	S22 24.7	301 08.8	1.4	S25 48.4	3.7	61.3	Sirius	258 28.2 S16 44.7
10	332 20.4	S22 25.0	315 29.2	1.4	S25 51.8	3.5	61.3	Spica	158 25.2 S11 16.4
11	347 20.1	S22 25.3	329 49.5	1.3	S25 55.1	3.3	61.3	Suhail	222 47.9 S43 30.9
								Vega	80 35.3 N38 48.3
12	2 19.9	S22 25.6	344 09.9	1.3	S25 58.2	3.1	61.3	Zuben-ubi	136 59.9 S16 07.8
13	17 19.6	S22 25.9	358 30.2	1.3	S26 01.1	2.9	61.2		
14	32 19.3	S22 26.2	12 50.5	1.3	S26 03.8	2.7	61.2		
15	47 19.1	S22 26.5	27 10.8	1.3	S26 06.3	2.5	61.2		
16	62 18.8	S22 26.8	41 31.1	1.3	S26 08.5	2.3	61.2		
17	77 18.5	S22 27.1	55 51.4	1.3	S26 10.6	2.1	61.2		
18	92 18.3	S22 27.4	70 11.7	1.3	S26 12.4	1.9	61.2		
19	107 18.0	S22 27.7	84 32.0	1.3	S26 14.1	1.6	61.1		
20	122 17.8	S22 28.0	98 52.3	1.3	S26 15.5	1.4	61.1		
21	137 17.5	S22 28.3	113 12.7	1.3	S26 16.7	1.2	61.1		
22	152 17.2	S22 28.6	127 33.0	1.3	S26 17.8	1.0	61.1		
23	167 17.0	S22 28.9	141 53.4	1.4	S26 18.6	0.8	61.1		
	S.D. 16.2	d 0.3	S.D.	16.7	16.7	16.7			

G.M.T	ARIES	VENUS		MARS		JUPITER		SATURN	
d h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
	° '	° '	° '	° '	° '	° '	° '	° '	° '
6 0	74 60.0	139 34.8	S23 50.5	202 28.7	S18 50.4	106 18.8	S13 48.1	122 57.5	S18 41.6
1	90 02.4	154 36.0	S23 50.0	217 29.4	S18 50.9	121 20.9	S13 47.9	137 59.8	S18 41.5
2	105 04.9	169 37.3	S23 49.5	232 30.1	S18 51.3	136 23.1	S13 47.8	153 02.0	S18 41.5
3	120 07.3	184 38.6	S23 49.0	247 30.8	S18 51.8	151 25.2	S13 47.7	168 04.3	S18 41.4
4	135 09.8	199 39.8	S23 48.5	262 31.5	S18 52.2	166 27.3	S13 47.6	183 06.5	S18 41.4
M 5	150 12.3	214 41.1	S23 48.0	277 32.2	S18 52.7	181 29.4	S13 47.4	198 08.8	S18 41.3
O									
N 6	165 14.7	229 42.4	S23 47.5	292 32.9	S18 53.1	196 31.5	S13 47.3	213 11.0	S18 41.3
D 7	180 17.2	244 43.7	S23 47.0	307 33.6	S18 53.5	211 33.6	S13 47.2	228 13.3	S18 41.2
A 8	195 19.7	259 45.0	S23 46.5	322 34.2	S18 54.0	226 35.7	S13 47.0	243 15.5	S18 41.1
Y 9	210 22.1	274 46.3	S23 46.0	337 34.9	S18 54.4	241 37.8	S13 46.9	258 17.8	S18 41.1
10	225 24.6	289 47.6	S23 45.5	352 35.6	S18 54.9	256 40.0	S13 46.8	273 20.0	S18 41.0
11	240 27.1	304 48.9	S23 45.0	7 36.3	S18 55.3	271 42.1	S13 46.7	288 22.2	S18 41.0
12	255 29.5	319 50.2	S23 44.5	22 37.0	S18 55.8	286 44.2	S13 46.5	303 24.5	S18 40.9
13	270 32.0	334 51.5	S23 44.0	37 37.7	S18 56.2	301 46.3	S13 46.4	318 26.7	S18 40.9
14	285 34.5	349 52.8	S23 43.5	52 38.4	S18 56.6	316 48.4	S13 46.3	333 29.0	S18 40.8
15	300 36.9	4 54.1	S23 43.0	67 39.1	S18 57.1	331 50.5	S13 46.1	348 31.2	S18 40.7
16	315 39.4	19 55.4	S23 42.5	82 39.8	S18 57.5	346 52.6	S13 46.0	3 33.5	S18 40.7
17	330 41.8	34 56.7	S23 42.0	97 40.4	S18 58.0	1 54.7	S13 45.9	18 35.7	S18 40.6
18	345 44.3	49 58.0	S23 41.5	112 41.1	S18 58.4	16 56.9	S13 45.8	33 38.0	S18 40.6
19	0 46.8	64 59.4	S23 41.0	127 41.8	S18 58.8	31 59.0	S13 45.6	48 40.2	S18 40.5
20	15 49.2	80 00.7	S23 40.5	142 42.5	S18 59.3	47 01.1	S13 45.5	63 42.5	S18 40.5
21	30 51.7	95 02.0	S23 40.0	157 43.2	S18 59.7	62 03.2	S13 45.4	78 44.7	S18 40.4
22	45 54.2	110 03.4	S23 39.5	172 43.9	S19 00.1	77 05.3	S13 45.2	93 47.0	S18 40.4
23	60 56.6	125 04.7	S23 39.0	187 44.6	S19 00.6	92 07.4	S13 45.1	108 49.2	S18 40.3
7 0	75 59.1	140 06.0	S23 38.5	202 45.3	S19 01.0	107 09.5	S13 45.0	123 51.5	S18 40.2
1	91 01.6	155 07.4	S23 38.0	217 45.9	S19 01.5	122 11.6	S13 44.8	138 53.7	S18 40.2
2	106 04.0	170 08.7	S23 37.5	232 46.6	S19 01.9	137 13.7	S13 44.7	153 56.0	S18 40.1
3	121 06.5	185 10.1	S23 37.0	247 47.3	S19 02.3	152 15.8	S13 44.6	168 58.2	S18 40.1
4	136 09.0	200 11.5	S23 36.5	262 48.0	S19 02.8	167 18.0	S13 44.5	184 00.5	S18 40.0
T 5	151 11.4	215 12.8	S23 36.0	277 48.7	S19 03.2	182 20.1	S13 44.3	199 02.7	S18 40.0
U									
E 6	166 13.9	230 14.2	S23 35.5	292 49.4	S19 03.6	197 22.2	S13 44.2	214 04.9	S18 39.9
S 7	181 16.3	245 15.5	S23 35.0	307 50.1	S19 04.1	212 24.3	S13 44.1	229 07.2	S18 39.8
D 8	196 18.8	260 16.9	S23 34.5	322 50.7	S19 04.5	227 26.4	S13 43.9	244 09.4	S18 39.8
A 9	211 21.3	275 18.3	S23 34.0	337 51.4	S19 05.0	242 28.5	S13 43.8	259 11.7	S18 39.7
Y 10	226 23.7	290 19.7	S23 33.4	352 52.1	S19 05.4	257 30.6	S13 43.7	274 13.9	S18 39.7
11	241 26.2	305 21.0	S23 32.9	7 52.8	S19 05.8	272 32.7	S13 43.5	289 16.2	S18 39.6
12	256 28.7	320 22.4	S23 32.4	22 53.5	S19 06.3	287 34.8	S13 43.4	304 18.4	S18 39.6
13	271 31.1	335 23.8	S23 31.9	37 54.2	S19 06.7	302 36.9	S13 43.3	319 20.7	S18 39.5
14	286 33.6	350 25.2	S23 31.4	52 54.8	S19 07.1	317 39.0	S13 43.2	334 22.9	S18 39.4
15	301 36.1	5 26.6	S23 30.9	67 55.5	S19 07.6	332 41.1	S13 43.0	349 25.2	S18 39.4
16	316 38.5	20 28.0	S23 30.4	82 56.2	S19 08.0	347 43.2	S13 42.9	4 27.4	S18 39.3
17	331 41.0	35 29.4	S23 29.9	97 56.9	S19 08.4	2 45.3	S13 42.8	19 29.6	S18 39.3
18	346 43.5	50 30.8	S23 29.4	112 57.6	S19 08.9	17 47.4	S13 42.6	34 31.9	S18 39.2
19	1 45.9	65 32.2	S23 28.9	127 58.3	S19 09.3	32 49.6	S13 42.5	49 34.1	S18 39.2
20	16 48.4	80 33.6	S23 28.4	142 58.9	S19 09.7	47 51.7	S13 42.4	64 36.4	S18 39.1
21	31 50.8	95 35.0	S23 27.9	157 59.6	S19 10.2	62 53.8	S13 42.2	79 38.6	S18 39.0
22	46 53.3	110 36.5	S23 27.4	173 00.3	S19 10.6	77 55.9	S13 42.1	94 40.9	S18 39.0
23	61 55.8	125 37.9	S23 26.9	188 01.0	S19 11.0	92 58.0	S13 42.0	109 43.1	S18 38.9
8 0	76 58.2	140 39.3	S23 26.4	203 01.7	S19 11.5	108 00.1	S13 41.8	124 45.4	S18 38.9
1	92 00.7	155 40.8	S23 25.8	218 02.3	S19 11.9	123 02.2	S13 41.7	139 47.6	S18 38.8
2	107 03.2	170 42.2	S23 25.3	233 03.0	S19 12.3	138 04.3	S13 41.6	154 49.8	S18 38.8
3	122 05.6	185 43.6	S23 24.8	248 03.7	S19 12.7	153 06.4	S13 41.4	169 52.1	S18 38.7
4	137 08.1	200 45.1	S23 24.3	263 04.4	S19 13.2	168 08.5	S13 41.3	184 54.3	S18 38.6
W 5	152 10.6	215 46.5	S23 23.8	278 05.1	S19 13.6	183 10.6	S13 41.2	199 56.6	S18 38.6
E									
D 6	167 13.0	230 48.0	S23 23.3	293 05.7	S19 14.0	198 12.7	S13 41.0	214 58.8	S18 38.5
N 7	182 15.5	245 49.4	S23 22.8	308 06.4	S19 14.5	213 14.8	S13 40.9	230 01.1	S18 38.5
E 8	197 18.0	260 50.9	S23 22.3	323 07.1	S19 14.9	228 16.9	S13 40.8	245 03.3	S18 38.4
S 9	212 20.4	275 52.3	S23 21.8	338 07.8	S19 15.3	243 19.0	S13 40.6	260 05.5	S18 38.4
D 10	227 22.9	290 53.8	S23 21.3	353 08.5	S19 15.7	258 21.1	S13 40.5	275 07.8	S18 38.3
A 11	242 25.3	305 55.3	S23 20.8	8 09.1	S19 16.2	273 23.2	S13 40.4	290 10.0	S18 38.2
Y									
12	257 27.8	320 56.7	S23 20.2	23 09.8	S19 16.6	288 25.3	S13 40.2	305 12.3	S18 38.2
13	272 30.3	335 58.2	S23 19.7	38 10.5	S19 17.0	303 27.4	S13 40.1	320 14.5	S18 38.1
14	287 32.7	350 59.7	S23 19.2	53 11.2	S19 17.5	318 29.5	S13 40.0	335 16.8	S18 38.1
15	302 35.2	6 01.2	S23 18.7	68 11.9	S19 17.9	333 31.6	S13 39.8	350 19.0	S18 38.0
16	317 37.7	21 02.6	S23 18.2	83 12.5	S19 18.3	348 33.7	S13 39.7	5 21.2	S18 37.9
17	332 40.1	36 04.1	S23 17.7	98 13.2	S19 18.7	3 35.8	S13 39.6	20 23.5	S18 37.9
18	347 42.6	51 05.6	S23 17.2	113 13.9	S19 19.2	18 37.9	S13 39.4	35 25.7	S18 37.8
19	2 45.1	66 07.1	S23 16.7	128 14.6	S19 19.6	33 40.0	S13 39.3	50 28.0	S18 37.8
20	17 47.5	81 08.6	S23 16.1	143 15.2	S19 20.0	48 42.1	S13 39.2	65 30.2	S18 37.7
21	32 50.0	96 10.1	S23 15.6	158 15.9	S19 20.4	63 44.2	S13 39.0	80 32.5	S18 37.7
22	47 52.4	111 11.6	S23 15.1	173 16.6	S19 20.9	78 46.3	S13 38.9	95 34.7	S18 37.6
23	62 54.9	126 13.1	S23 14.6	188 17.3	S19 21.3	93 48.4	S13 38.8	110 36.9	S18 37.5
		v 1.4	d 0.5	v 0.7	d 0.4	v 2.1	d 0.1	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
	° '	° '	° '	'	° '	'	'		° ' ° '
6 0	182 16.7	S22 29.2	156 13.8	1.4	S26 19.2	0.6	61.0	Acamar	315 13.3 S40 13.2
1	197 16.4	S22 29.5	170 34.2	1.4	S26 19.6	0.4	61.0	Achernar	335 21.7 S57 07.8
2	212 16.2	S22 29.8	184 54.6	1.4	S26 19.8	0.2	61.0	Acrux	173 03.2 S63 12.8
3	227 15.9	S22 30.1	199 15.1	1.5	S26 19.8	0.0	61.0	Adhara	255 07.5 S28 60.0
4	242 15.6	S22 30.4	213 35.6	1.5	S26 19.6	0.2	60.9	Albireo	67 06.4 N28 00.4
M 5	257 15.4	S22 30.7	227 56.2	1.5	S26 19.2	0.4	60.9		
O								Aldebaran	290 42.2 N16 33.2
N 6	272 15.1	S22 31.0	242 16.8	1.6	S26 18.6	0.6	60.9	Alioth	166 15.5 N55 50.3
D 7	287 14.9	S22 31.3	256 37.4	1.6	S26 17.8	0.8	60.9	Alkaid	152 54.4 N49 12.1
A 8	302 14.6	S22 31.6	270 58.1	1.7	S26 16.8	1.0	60.8	Al Na-ir	27 36.2 S46 51.6
Y 9	317 14.3	S22 31.9	285 18.8	1.7	S26 15.6	1.2	60.8	Alnilam	275 39.9 S 1 11.3
10	332 14.1	S22 32.2	299 39.6	1.8	S26 14.2	1.4	60.8		
11	347 13.8	S22 32.5	314 00.4	1.8	S26 12.6	1.6	60.8	Alphard	217 50.1 S 8 45.1
								Alphecca	126 06.3 N26 38.5
12	2 13.5	S22 32.8	328 21.3	1.9	S26 10.8	1.8	60.7	Alpheratz	357 37.3 N29 12.8
13	17 13.3	S22 33.1	342 42.3	2.0	S26 08.8	2.0	60.7	Altair	62 02.7 N 8 55.6
14	32 13.0	S22 33.4	357 03.3	2.0	S26 06.6	2.2	60.7	Ankaa	353 09.5 S42 11.5
15	47 12.7	S22 33.7	11 24.4	2.1	S26 04.2	2.4	60.7		
16	62 12.5	S22 33.9	25 45.6	2.2	S26 01.6	2.6	60.6	Antares	112 19.3 S26 28.7
17	77 12.2	S22 34.2	40 06.9	2.2	S25 58.8	2.8	60.6	Arcturus	145 50.5 N19 04.1
								Atria	107 16.5 S69 03.9
18	92 11.9	S22 34.5	54 28.2	2.3	S25 55.9	3.0	60.6	Avior	234 15.3 S59 34.5
19	107 11.6	S22 34.8	68 49.6	2.4	S25 52.7	3.2	60.5	Bellatrix	278 25.3 N 6 22.2
20	122 11.4	S22 35.1	83 11.0	2.5	S25 49.4	3.3	60.5		
21	137 11.1	S22 35.4	97 32.6	2.6	S25 45.8	3.5	60.5	Betelgeuse	270 54.5 N 7 24.7
22	152 10.8	S22 35.7	111 54.2	2.6	S25 42.1	3.7	60.5	Canopus	263 53.0 S52 42.3
23	167 10.6	S22 35.9	126 16.0	2.7	S25 38.2	3.9	60.4	Capella	280 25.2 N46 01.2
7 0	182 10.3	S22 36.2	140 37.8	2.8	S25 34.1	4.1	60.4	Castor	245 60.0 N31 50.4
1	197 10.0	S22 36.5	154 59.7	2.9	S25 29.8	4.3	60.4	Deneb	49 27.8 N45 21.7
2	212 09.8	S22 36.8	169 21.7	3.0	S25 25.4	4.5	60.3		
3	227 09.5	S22 37.1	183 43.8	3.1	S25 20.7	4.6	60.3	Denebola	182 27.6 N14 27.0
4	242 09.2	S22 37.3	198 06.1	3.2	S25 15.9	4.8	60.3	Diphda	348 49.7 S17 52.1
T 5	257 09.0	S22 37.6	212 28.4	3.3	S25 10.9	5.0	60.2	Dubhe	193 44.2 N61 37.7
U								Elnath	278 04.7 N28 37.5
E 6	272 08.7	S22 37.9	226 50.8	3.4	S25 05.8	5.2	60.2	Eltanin	90 43.9 N51 29.2
S 7	287 08.4	S22 38.2	241 13.3	3.5	S25 00.4	5.3	60.2		
D 8	302 08.1	S22 38.4	255 35.9	3.6	S24 54.9	5.5	60.1	Enif	33 41.4 N 9 58.5
A 9	317 07.9	S22 38.7	269 58.6	3.7	S24 49.3	5.7	60.1	Fomalhaut	15 17.3 S29 30.6
Y 10	332 07.6	S22 39.0	284 21.5	3.8	S24 43.4	5.8	60.1	Gacrux	171 54.7 S57 13.8
11	347 07.3	S22 39.3	298 44.4	4.0	S24 37.4	6.0	60.0	Gienah	175 46.3 S17 39.6
								Hadar	148 40.1 S60 28.4
12	2 07.1	S22 39.5	313 07.5	4.1	S24 31.2	6.2	60.0	Hamal	327 53.8 N23 34.0
13	17 06.8	S22 39.8	327 30.7	4.2	S24 24.9	6.3	60.0	Kaus Austr.	83 36.3 S34 22.5
14	32 06.5	S22 40.1	341 54.0	4.3	S24 18.4	6.5	59.9	Kochab	137 21.0 N74 03.8
15	47 06.2	S22 40.4	356 17.4	4.4	S24 11.8	6.7	59.9	Markab	13 32.4 N15 19.4
16	62 06.0	S22 40.6	10 40.9	4.5	S24 04.9	6.8	59.8	Menkar	314 08.5 N 4 10.5
17	77 05.7	S22 40.9	25 04.6	4.6	S23 58.0	7.0	59.8		
								Menkent	148 00.9 S36 28.4
18	92 05.4	S22 41.2	39 28.3	4.8	S23 50.9	7.1	59.8	Miaplacidus	221 38.2 S69 48.0
19	107 05.2	S22 41.4	53 52.2	4.9	S23 43.6	7.3	59.7	Mirfak	308 31.4 N49 56.4
20	122 04.9	S22 41.7	68 16.2	5.0	S23 36.2	7.4	59.7	Nunki	75 51.3 S26 16.2
21	137 04.6	S22 42.0	82 40.4	5.1	S23 28.6	7.6	59.7	Peacock	53 10.1 S56 40.1
22	152 04.3	S22 42.2	97 04.6	5.3	S23 20.9	7.7	59.6		
23	167 04.1	S22 42.5	111 29.0	5.4	S23 13.0	7.9	59.6	Polaris	316 54.7 N89 20.8
8 0	182 03.8	S22 42.8	125 53.5	5.5	S23 05.0	8.0	59.6	Pollux	243 20.1 N27 58.3
1	197 03.5	S22 43.0	140 18.2	5.6	S22 56.9	8.1	59.5	Procyon	244 53.2 N 5 10.2
2	212 03.2	S22 43.3	154 43.0	5.8	S22 48.6	8.3	59.5	Rasalhague	96 01.3 N12 32.7
3	227 03.0	S22 43.5	169 07.8	5.9	S22 40.2	8.4	59.4	Regulus	207 37.1 N11 51.7
4	242 02.7	S22 43.8	183 32.9	6.0	S22 31.7	8.5	59.4		
W 5	257 02.4	S22 44.1	197 58.0	6.2	S22 23.0	8.7	59.4	Rigel	281 06.0 S 8 10.6
E								Rigil Kent	139 44.5 S60 55.3
D 6	272 02.1	S22 44.3	212 23.3	6.3	S22 14.2	8.8	59.3	Sabik	102 06.1 S15 45.1
N 7	287 01.9	S22 44.6	226 48.7	6.4	S22 05.2	8.9	59.3	Schedar	349 33.6 N56 39.6
E 8	302 01.6	S22 44.8	241 14.3	6.5	S21 56.2	9.1	59.2	Shaula	96 14.2 S37 07.1
S 9	317 01.3	S22 45.1	255 39.9	6.7	S21 47.0	9.2	59.2		
D 10	332 01.0	S22 45.4	270 05.7	6.8	S21 37.7	9.3	59.2	Sirius	258 28.2 S16 44.7
A 11	347 00.8	S22 45.6	284 31.7	6.9	S21 28.2	9.4	59.1	Spica	158 25.2 S11 16.4
Y								Suhail	222 47.9 S43 31.0
12	2 00.5	S22 45.9	298 57.7	7.1	S21 18.7	9.5	59.1	Vega	80 35.3 N38 48.3
13	17 00.2	S22 46.1	313 23.9	7.2	S21 09.0	9.7	59.1	Zuben-ubi	136 59.9 S16 07.8
14	31 59.9	S22 46.4	327 50.2	7.3	S20 59.3	9.8	59.0		
15	46 59.7	S22 46.6	342 16.7	7.4	S20 49.4	9.9	59.0		
16	61 59.4	S22 46.9	356 43.2	7.6	S20 39.4	10.0	58.9		
17	76 59.1	S22 47.1	11 10.0	7.7	S20 29.2	10.1	58.9		
18	91 58.8	S22 47.4	25 36.8	7.8	S20 19.0	10.2	58.9		
19	106 58.5	S22 47.6	40 03.8	8.0	S20 08.7	10.3	58.8		
20	121 58.3	S22 47.9	54 30.9	8.1	S19 58.3	10.4	58.8		
21	136 58.0	S22 48.1	68 58.1	8.2	S19 47.7	10.5	58.7		
22	151 57.7	S22 48.4	83 25.4	8.4	S19 37.1	10.6	58.7		
23	166 57.4	S22 48.6	97 52.9	8.5	S19 26.4	10.7	58.7		
	S.D. 16.2	d 0.3	S.D.	16.6	16.3		16.1		

G.M.T d h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
9 0	77 57.4	141 14.7	S23 14.1	203 17.9	S19 21.7	108 50.5	S13 38.6	125 39.2	S18 37.5
1	92 59.8	156 16.2	S23 13.6	218 18.6	S19 22.1	123 52.6	S13 38.5	140 41.4	S18 37.4
2	108 02.3	171 17.7	S23 13.1	233 19.3	S19 22.6	138 54.7	S13 38.4	155 43.7	S18 37.4
3	123 04.8	186 19.2	S23 12.6	248 20.0	S19 23.0	153 56.8	S13 38.2	170 45.9	S18 37.3
4	138 07.2	201 20.7	S23 12.0	263 20.6	S19 23.4	168 58.9	S13 38.1	185 48.1	S18 37.2
T 5	153 09.7	216 22.3	S23 11.5	278 21.3	S19 23.8	184 01.0	S13 38.0	200 50.4	S18 37.2
H									
U 6	168 12.2	231 23.8	S23 11.0	293 22.0	S19 24.3	199 03.1	S13 37.8	215 52.6	S18 37.1
R 7	183 14.6	246 25.4	S23 10.5	308 22.7	S19 24.7	214 05.2	S13 37.7	230 54.9	S18 37.1
S 8	198 17.1	261 26.9	S23 10.0	323 23.3	S19 25.1	229 07.3	S13 37.6	245 57.1	S18 37.0
D 9	213 19.6	276 28.4	S23 09.5	338 24.0	S19 25.5	244 09.4	S13 37.4	260 59.3	S18 37.0
A 10	228 22.0	291 30.0	S23 08.9	353 24.7	S19 26.0	259 11.5	S13 37.3	276 01.6	S18 36.9
Y 11	243 24.5	306 31.6	S23 08.4	8 25.4	S19 26.4	274 13.6	S13 37.2	291 03.8	S18 36.8
12	258 26.9	321 33.1	S23 07.9	23 26.0	S19 26.8	289 15.7	S13 37.0	306 06.1	S18 36.8
13	273 29.4	336 34.7	S23 07.4	38 26.7	S19 27.2	304 17.8	S13 36.9	321 08.3	S18 36.7
14	288 31.9	351 36.2	S23 06.9	53 27.4	S19 27.6	319 19.9	S13 36.8	336 10.5	S18 36.7
15	303 34.3	6 37.8	S23 06.4	68 28.1	S19 28.1	334 22.0	S13 36.6	351 12.8	S18 36.6
16	318 36.8	21 39.4	S23 05.9	83 28.7	S19 28.5	349 24.1	S13 36.5	6 15.0	S18 36.5
17	333 39.3	36 41.0	S23 05.3	98 29.4	S19 28.9	4 26.1	S13 36.4	21 17.3	S18 36.5
18	348 41.7	51 42.5	S23 04.8	113 30.1	S19 29.3	19 28.2	S13 36.2	36 19.5	S18 36.4
19	3 44.2	66 44.1	S23 04.3	128 30.7	S19 29.7	34 30.3	S13 36.1	51 21.7	S18 36.4
20	18 46.7	81 45.7	S23 03.8	143 31.4	S19 30.2	49 32.4	S13 36.0	66 24.0	S18 36.3
21	33 49.1	96 47.3	S23 03.3	158 32.1	S19 30.6	64 34.5	S13 35.8	81 26.2	S18 36.2
22	48 51.6	111 48.9	S23 02.8	173 32.8	S19 31.0	79 36.6	S13 35.7	96 28.5	S18 36.2
23	63 54.1	126 50.5	S23 02.2	188 33.4	S19 31.4	94 38.7	S13 35.5	111 30.7	S18 36.1
10 0	78 56.5	141 52.1	S23 01.7	203 34.1	S19 31.8	109 40.8	S13 35.4	126 32.9	S18 36.1
1	93 59.0	156 53.7	S23 01.2	218 34.8	S19 32.3	124 42.9	S13 35.3	141 35.2	S18 36.0
2	109 01.4	171 55.3	S23 00.7	233 35.4	S19 32.7	139 45.0	S13 35.1	156 37.4	S18 36.0
3	124 03.9	186 56.9	S23 00.2	248 36.1	S19 33.1	154 47.1	S13 35.0	171 39.7	S18 35.9
4	139 06.4	201 58.6	S22 59.6	263 36.8	S19 33.5	169 49.2	S13 34.9	186 41.9	S18 35.8
F 5	154 08.8	217 00.2	S22 59.1	278 37.4	S19 33.9	184 51.3	S13 34.7	201 44.1	S18 35.8
R									
I 6	169 11.3	232 01.8	S22 58.6	293 38.1	S19 34.3	199 53.4	S13 34.6	216 46.4	S18 35.7
D 7	184 13.8	247 03.4	S22 58.1	308 38.8	S19 34.8	214 55.5	S13 34.5	231 48.6	S18 35.7
A 8	199 16.2	262 05.1	S22 57.6	323 39.5	S19 35.2	229 57.5	S13 34.3	246 50.8	S18 35.6
Y 9	214 18.7	277 06.7	S22 57.0	338 40.1	S19 35.6	244 59.6	S13 34.2	261 53.1	S18 35.5
10	229 21.2	292 08.4	S22 56.5	353 40.8	S19 36.0	260 01.7	S13 34.0	276 55.3	S18 35.5
11	244 23.6	307 10.0	S22 56.0	8 41.5	S19 36.4	275 03.8	S13 33.9	291 57.6	S18 35.4
12	259 26.1	322 11.7	S22 55.5	23 42.1	S19 36.8	290 05.9	S13 33.8	306 59.8	S18 35.4
13	274 28.6	337 13.3	S22 55.0	38 42.8	S19 37.2	305 08.0	S13 33.6	322 02.0	S18 35.3
14	289 31.0	352 15.0	S22 54.4	53 43.5	S19 37.7	320 10.1	S13 33.5	337 04.3	S18 35.2
15	304 33.5	7 16.6	S22 53.9	68 44.1	S19 38.1	335 12.2	S13 33.4	352 06.5	S18 35.2
16	319 35.9	22 18.3	S22 53.4	83 44.8	S19 38.5	350 14.3	S13 33.2	7 08.7	S18 35.1
17	334 38.4	37 20.0	S22 52.9	98 45.5	S19 38.9	5 16.4	S13 33.1	22 11.0	S18 35.1
18	349 40.9	52 21.6	S22 52.4	113 46.1	S19 39.3	20 18.5	S13 32.9	37 13.2	S18 35.0
19	4 43.3	67 23.3	S22 51.8	128 46.8	S19 39.7	35 20.5	S13 32.8	52 15.5	S18 34.9
20	19 45.8	82 25.0	S22 51.3	143 47.5	S19 40.1	50 22.6	S13 32.7	67 17.7	S18 34.9
21	34 48.3	97 26.7	S22 50.8	158 48.1	S19 40.6	65 24.7	S13 32.5	82 19.9	S18 34.8
22	49 50.7	112 28.4	S22 50.3	173 48.8	S19 41.0	80 26.8	S13 32.4	97 22.2	S18 34.8
23	64 53.2	127 30.1	S22 49.8	188 49.5	S19 41.4	95 28.9	S13 32.3	112 24.4	S18 34.7
11 0	79 55.7	142 31.8	S22 49.2	203 50.1	S19 41.8	110 31.0	S13 32.1	127 26.6	S18 34.6
1	94 58.1	157 33.5	S22 48.7	218 50.8	S19 42.2	125 33.1	S13 32.0	142 28.9	S18 34.6
2	110 00.6	172 35.2	S22 48.2	233 51.5	S19 42.6	140 35.2	S13 31.8	157 31.1	S18 34.5
3	125 03.0	187 36.9	S22 47.7	248 52.1	S19 43.0	155 37.3	S13 31.7	172 33.3	S18 34.5
4	140 05.5	202 38.6	S22 47.2	263 52.8	S19 43.4	170 39.3	S13 31.6	187 35.6	S18 34.4
S 5	155 08.0	217 40.3	S22 46.6	278 53.4	S19 43.8	185 41.4	S13 31.4	202 37.8	S18 34.3
A									
T 6	170 10.4	232 42.0	S22 46.1	293 54.1	S19 44.3	200 43.5	S13 31.3	217 40.0	S18 34.3
U 7	185 12.9	247 43.7	S22 45.6	308 54.8	S19 44.7	215 45.6	S13 31.2	232 42.3	S18 34.2
R 8	200 15.4	262 45.5	S22 45.1	323 55.4	S19 45.1	230 47.7	S13 31.0	247 44.5	S18 34.2
D 9	215 17.8	277 47.2	S22 44.5	338 56.1	S19 45.5	245 49.8	S13 30.9	262 46.8	S18 34.1
A 10	230 20.3	292 48.9	S22 44.0	353 56.8	S19 45.9	260 51.9	S13 30.7	277 49.0	S18 34.0
Y 11	245 22.8	307 50.7	S22 43.5	8 57.4	S19 46.3	275 53.9	S13 30.6	292 51.2	S18 34.0
12	260 25.2	322 52.4	S22 43.0	23 58.1	S19 46.7	290 56.0	S13 30.5	307 53.5	S18 33.9
13	275 27.7	337 54.2	S22 42.4	38 58.8	S19 47.1	305 58.1	S13 30.3	322 55.7	S18 33.9
14	290 30.2	352 55.9	S22 41.9	53 59.4	S19 47.5	321 00.2	S13 30.2	337 57.9	S18 33.8
15	305 32.6	7 57.7	S22 41.4	69 00.1	S19 47.9	336 02.3	S13 30.0	353 00.2	S18 33.7
16	320 35.1	22 59.4	S22 40.9	84 00.7	S19 48.3	351 04.4	S13 29.9	8 02.4	S18 33.7
17	335 37.5	38 01.2	S22 40.4	99 01.4	S19 48.7	6 06.5	S13 29.8	23 04.6	S18 33.6
18	350 40.0	53 03.0	S22 39.8	114 02.1	S19 49.1	21 08.5	S13 29.6	38 06.9	S18 33.6
19	5 42.5	68 04.7	S22 39.3	129 02.7	S19 49.6	36 10.6	S13 29.5	53 09.1	S18 33.5
20	20 44.9	83 06.5	S22 38.8	144 03.4	S19 50.0	51 12.7	S13 29.3	68 11.3	S18 33.4
21	35 47.4	98 08.3	S22 38.3	159 04.0	S19 50.4	66 14.8	S13 29.2	83 13.6	S18 33.4
22	50 49.9	113 10.1	S22 37.7	174 04.7	S19 50.8	81 16.9	S13 29.1	98 15.8	S18 33.3
23	65 52.3	128 11.9	S22 37.2	189 05.4	S19 51.2	96 19.0	S13 28.9	113 18.0	S18 33.3
		v 1.7	d 0.5	v 0.7	d 0.4	v 2.1	d 0.1	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
9 0	181 57.2	S22 48.8	112 20.5	8.6	S19 15.5	10.8	58.6	Acamar	315 13.3 S40 13.2
1	196 56.9	S22 49.1	126 48.2	8.7	S19 04.6	10.9	58.6	Achernar	335 21.8 S57 07.8
2	211 56.6	S22 49.3	141 16.1	8.9	S18 53.6	11.0	58.5	Acrux	173 03.1 S63 12.8
3	226 56.3	S22 49.6	155 44.1	9.0	S18 42.5	11.1	58.5	Adhara	255 07.5 S28 60.0
4	241 56.0	S22 49.8	170 12.2	9.1	S18 31.3	11.2	58.5	Albireo	67 06.4 N28 00.4
T 5	256 55.8	S22 50.1	184 40.4	9.2	S18 20.0	11.3	58.4		
H								Aldebaran	290 42.2 N16 33.2
U 6	271 55.5	S22 50.3	199 08.8	9.4	S18 08.7	11.4	58.4	Alioth	166 15.5 N55 50.3
R 7	286 55.2	S22 50.5	213 37.3	9.5	S17 57.2	11.4	58.3	Alkaid	152 54.4 N49 12.1
S 8	301 54.9	S22 50.8	228 05.8	9.6	S17 45.7	11.5	58.3	Al Na-ir	27 36.2 S46 51.6
D 9	316 54.6	S22 51.0	242 34.6	9.7	S17 34.1	11.6	58.3	Alnilam	275 39.9 S 1 11.3
A 10	331 54.4	S22 51.3	257 03.4	9.8	S17 22.4	11.7	58.2		
Y 11	346 54.1	S22 51.5	271 32.4	10.0	S17 10.6	11.8	58.2	Alphard	217 50.0 S 8 45.1
								Alphecca	126 06.2 N26 38.5
12	1 53.8	S22 51.7	286 01.4	10.1	S16 58.8	11.8	58.1	Alpheratz	357 37.3 N29 12.8
13	16 53.5	S22 52.0	300 30.6	10.2	S16 46.9	11.9	58.1	Altair	62 02.7 N 8 55.6
14	31 53.2	S22 52.2	314 59.9	10.3	S16 34.9	12.0	58.1	Ankaa	353 09.5 S42 11.5
15	46 53.0	S22 52.4	329 29.4	10.4	S16 22.8	12.1	58.0		
16	61 52.7	S22 52.7	343 58.9	10.5	S16 10.7	12.1	58.0	Antares	112 19.3 S26 28.7
17	76 52.4	S22 52.9	358 28.6	10.7	S15 58.5	12.2	57.9	Arcturus	145 50.5 N19 04.1
								Atria	107 16.5 S69 03.9
18	91 52.1	S22 53.1	12 58.3	10.8	S15 46.2	12.3	57.9	Avior	234 15.2 S59 34.5
19	106 51.8	S22 53.4	27 28.2	10.9	S15 33.9	12.3	57.9	Bellatrix	278 25.3 N 6 22.2
20	121 51.5	S22 53.6	41 58.2	11.0	S15 21.5	12.4	57.8		
21	136 51.3	S22 53.8	56 28.3	11.1	S15 09.1	12.4	57.8	Betelgeuse	270 54.5 N 7 24.7
22	151 51.0	S22 54.0	70 58.5	11.2	S14 56.6	12.5	57.7	Canopus	263 53.0 S52 42.3
23	166 50.7	S22 54.3	85 28.8	11.3	S14 44.0	12.6	57.7	Capella	280 25.2 N46 01.2
10 0	181 50.4	S22 54.5	99 59.2	11.4	S14 31.4	12.6	57.7	Castor	245 60.0 N31 50.4
1	196 50.1	S22 54.7	114 29.7	11.5	S14 18.7	12.7	57.6	Deneb	49 27.8 N45 21.7
2	211 49.9	S22 54.9	129 00.4	11.6	S14 06.0	12.7	57.6		
3	226 49.6	S22 55.2	143 31.1	11.7	S13 53.2	12.8	57.6	Denebola	182 27.6 N14 27.0
4	241 49.3	S22 55.4	158 01.9	11.8	S13 40.4	12.8	57.5	Diphda	348 49.7 S17 52.1
F 5	256 49.0	S22 55.6	172 32.9	11.9	S13 27.5	12.9	57.5	Dubhe	193 44.1 N61 37.7
R								Elnath	278 04.7 N28 37.5
I 6	271 48.7	S22 55.8	187 03.9	12.0	S13 14.6	12.9	57.4	Eltanin	90 43.9 N51 29.2
D 7	286 48.4	S22 56.0	201 35.0	12.1	S13 01.6	13.0	57.4		
A 8	301 48.1	S22 56.3	216 06.3	12.2	S12 48.6	13.0	57.4	Enif	33 41.4 N 9 58.5
Y 9	316 47.9	S22 56.5	230 37.6	12.3	S12 35.5	13.1	57.3	Fomalhaut	15 17.3 S29 30.6
10	331 47.6	S22 56.7	245 09.0	12.4	S12 22.4	13.1	57.3	Gacrux	171 54.6 S57 13.8
11	346 47.3	S22 56.9	259 40.5	12.5	S12 09.3	13.1	57.3	Gienah	175 46.3 S17 39.6
								Hadar	148 40.1 S60 28.4
12	1 47.0	S22 57.1	274 12.1	12.6	S11 56.1	13.2	57.2	Hamal	327 53.8 N23 34.0
13	16 46.7	S22 57.4	288 43.8	12.7	S11 42.9	13.2	57.2	Kaus Austr.	83 36.3 S34 22.5
14	31 46.4	S22 57.6	303 15.6	12.8	S11 29.6	13.3	57.1	Kochab	137 21.0 N74 03.8
15	46 46.2	S22 57.8	317 47.4	12.9	S11 16.3	13.3	57.1	Markab	13 32.4 N15 19.4
16	61 45.9	S22 58.0	332 19.4	13.0	S11 03.0	13.3	57.1	Menkar	314 08.5 N 4 10.5
17	76 45.6	S22 58.2	346 51.4	13.0	S10 49.6	13.4	57.0		
								Menkent	148 00.9 S36 28.5
18	91 45.3	S22 58.4	1 23.6	13.1	S10 36.2	13.4	57.0	Miaplacidus	221 38.1 S69 48.1
19	106 45.0	S22 58.6	15 55.8	13.2	S10 22.8	13.4	57.0	Mirfak	308 31.4 N49 56.4
20	121 44.7	S22 58.8	30 28.1	13.3	S10 09.3	13.5	56.9	Nunki	75 51.3 S26 16.2
21	136 44.4	S22 59.1	45 00.4	13.4	S 9 55.8	13.5	56.9	Peacock	53 10.1 S56 40.1
22	151 44.2	S22 59.3	59 32.9	13.4	S 9 42.3	13.5	56.9		
23	166 43.9	S22 59.5	74 05.4	13.5	S 9 28.8	13.5	56.8	Polaris	316 55.5 N89 20.8
11 0	181 43.6	S22 59.7	88 38.0	13.6	S 9 15.2	13.6	56.8	Pollux	243 20.1 N27 58.3
1	196 43.3	S22 59.9	103 10.7	13.7	S 9 01.6	13.6	56.7	Procyon	244 53.2 N 5 10.2
2	211 43.0	S23 00.1	117 43.5	13.8	S 8 48.0	13.6	56.7	Rasalhague	96 01.3 N12 32.7
3	226 42.7	S23 00.3	132 16.3	13.8	S 8 34.4	13.6	56.7	Regulus	207 37.0 N11 51.6
4	241 42.4	S23 00.5	146 49.2	13.9	S 8 20.7	13.7	56.6	Rigel	281 06.0 S 8 10.6
S 5	256 42.1	S23 00.7	161 22.1	14.0	S 8 07.0	13.7	56.6	Rigil Kent	139 44.5 S60 55.3
A								Sabik	102 06.1 S15 45.1
T 6	271 41.9	S23 00.9	175 55.2	14.0	S 7 53.3	13.7	56.6	Schedar	349 33.6 N56 39.6
U 7	286 41.6	S23 01.1	190 28.3	14.1	S 7 39.6	13.7	56.5	Shaula	96 14.2 S37 07.1
R 8	301 41.3	S23 01.3	205 01.5	14.2	S 7 25.9	13.7	56.5		
D 9	316 41.0	S23 01.5	219 34.7	14.2	S 7 12.1	13.7	56.5	Sirius	258 28.1 S16 44.7
A 10	331 40.7	S23 01.7	234 08.0	14.3	S 6 58.4	13.8	56.4	Spica	158 25.2 S11 16.4
Y 11	346 40.4	S23 01.9	248 41.4	14.4	S 6 44.6	13.8	56.4	Suhail	222 47.9 S43 31.0
								Vega	80 35.3 N38 48.3
12	1 40.1	S23 02.1	263 14.8	14.4	S 6 30.8	13.8	56.4	Zuben-ubi	136 59.9 S16 07.8
13	16 39.8	S23 02.3	277 48.3	14.5	S 6 17.0	13.8	56.3		
14	31 39.5	S23 02.5	292 21.8	14.5	S 6 03.2	13.8	56.3		
15	46 39.3	S23 02.7	306 55.4	14.6	S 5 49.4	13.8	56.3		
16	61 39.0	S23 02.9	321 29.1	14.7	S 5 35.6	13.8	56.2		
17	76 38.7	S23 03.1	336 02.8	14.7	S 5 21.7	13.8	56.2		
18	91 38.4	S23 03.3	350 36.5	14.8	S 5 07.9	13.8	56.2		
19	106 38.1	S23 03.5	5 10.3	14.8	S 4 54.0	13.9	56.2		
20	121 37.8	S23 03.6	19 44.2	14.9	S 4 40.2	13.9	56.1		
21	136 37.5	S23 03.8	34 18.1	14.9	S 4 26.3	13.9	56.1		
22	151 37.2	S23 04.0	48 52.1	15.0	S 4 12.5	13.9	56.1		
23	166 36.9	S23 04.2	63 26.1	15.0	S 3 58.6	13.9	56.0		
	S.D. 16.2	d 0.2	S.D.	15.8	15.6	15.4			

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
12	0	80 54.8	143 13.6	S22 36.7	204 06.0	S19 51.6	111 21.0	S13 28.8	128 20.3	S18 33.2
	1	95 57.3	158 15.4	S22 36.2	219 06.7	S19 52.0	126 23.1	S13 28.6	143 22.5	S18 33.1
	2	110 59.7	173 17.2	S22 35.6	234 07.3	S19 52.4	141 25.2	S13 28.5	158 24.7	S18 33.1
	3	126 02.2	188 19.0	S22 35.1	249 08.0	S19 52.8	156 27.3	S13 28.4	173 27.0	S18 33.0
	4	141 04.7	203 20.9	S22 34.6	264 08.7	S19 53.2	171 29.4	S13 28.2	188 29.2	S18 33.0
S	5	156 07.1	218 22.7	S22 34.1	279 09.3	S19 53.6	186 31.5	S13 28.1	203 31.4	S18 32.9
U										
N	6	171 09.6	233 24.5	S22 33.5	294 10.0	S19 54.0	201 33.5	S13 27.9	218 33.7	S18 32.8
D	7	186 12.0	248 26.3	S22 33.0	309 10.6	S19 54.4	216 35.6	S13 27.8	233 35.9	S18 32.8
A	8	201 14.5	263 28.1	S22 32.5	324 11.3	S19 54.8	231 37.7	S13 27.7	248 38.1	S18 32.7
Y	9	216 17.0	278 30.0	S22 32.0	339 12.0	S19 55.2	246 39.8	S13 27.5	263 40.4	S18 32.7
	10	231 19.4	293 31.8	S22 31.4	354 12.6	S19 55.6	261 41.9	S13 27.4	278 42.6	S18 32.6
	11	246 21.9	308 33.6	S22 30.9	9 13.3	S19 56.0	276 43.9	S13 27.2	293 44.8	S18 32.5
	12	261 24.4	323 35.5	S22 30.4	24 13.9	S19 56.4	291 46.0	S13 27.1	308 47.1	S18 32.5
	13	276 26.8	338 37.3	S22 29.9	39 14.6	S19 56.8	306 48.1	S13 27.0	323 49.3	S18 32.4
	14	291 29.3	353 39.2	S22 29.3	54 15.2	S19 57.2	321 50.2	S13 26.8	338 51.5	S18 32.3
	15	306 31.8	8 41.0	S22 28.8	69 15.9	S19 57.6	336 52.3	S13 26.7	353 53.7	S18 32.3
	16	321 34.2	23 42.9	S22 28.3	84 16.6	S19 58.0	351 54.3	S13 26.5	8 56.0	S18 32.2
	17	336 36.7	38 44.7	S22 27.8	99 17.2	S19 58.4	6 56.4	S13 26.4	23 58.2	S18 32.2
	18	351 39.1	53 46.6	S22 27.2	114 17.9	S19 58.8	21 58.5	S13 26.3	39 00.4	S18 32.1
	19	6 41.6	68 48.5	S22 26.7	129 18.5	S19 59.2	37 00.6	S13 26.1	54 02.7	S18 32.0
	20	21 44.1	83 50.3	S22 26.2	144 19.2	S19 59.6	52 02.7	S13 26.0	69 04.9	S18 32.0
	21	36 46.5	98 52.2	S22 25.7	159 19.8	S20 00.0	67 04.7	S13 25.8	84 07.1	S18 31.9
	22	51 49.0	113 54.1	S22 25.1	174 20.5	S20 00.4	82 06.8	S13 25.7	99 09.4	S18 31.9
	23	66 51.5	128 56.0	S22 24.6	189 21.1	S20 00.8	97 08.9	S13 25.5	114 11.6	S18 31.8
13	0	81 53.9	143 57.9	S22 24.1	204 21.8	S20 01.2	112 11.0	S13 25.4	129 13.8	S18 31.7
	1	96 56.4	158 59.8	S22 23.5	219 22.5	S20 01.6	127 13.1	S13 25.3	144 16.1	S18 31.7
	2	111 58.9	174 01.7	S22 23.0	234 23.1	S20 02.0	142 15.1	S13 25.1	159 18.3	S18 31.6
	3	127 01.3	189 03.6	S22 22.5	249 23.8	S20 02.4	157 17.2	S13 25.0	174 20.5	S18 31.5
	4	142 03.8	204 05.5	S22 22.0	264 24.4	S20 02.8	172 19.3	S13 24.8	189 22.8	S18 31.5
M	5	157 06.3	219 07.4	S22 21.4	279 25.1	S20 03.2	187 21.4	S13 24.7	204 25.0	S18 31.4
O										
N	6	172 08.7	234 09.3	S22 20.9	294 25.7	S20 03.6	202 23.4	S13 24.5	219 27.2	S18 31.4
D	7	187 11.2	249 11.2	S22 20.4	309 26.4	S20 04.0	217 25.5	S13 24.4	234 29.4	S18 31.3
A	8	202 13.6	264 13.1	S22 19.9	324 27.0	S20 04.4	232 27.6	S13 24.3	249 31.7	S18 31.2
Y	9	217 16.1	279 15.1	S22 19.3	339 27.7	S20 04.8	247 29.7	S13 24.1	264 33.9	S18 31.2
	10	232 18.6	294 17.0	S22 18.8	354 28.3	S20 05.2	262 31.8	S13 24.0	279 36.1	S18 31.1
	11	247 21.0	309 18.9	S22 18.3	9 29.0	S20 05.6	277 33.8	S13 23.8	294 38.4	S18 31.1
	12	262 23.5	324 20.9	S22 17.7	24 29.6	S20 06.0	292 35.9	S13 23.7	309 40.6	S18 31.0
	13	277 26.0	339 22.8	S22 17.2	39 30.3	S20 06.4	307 38.0	S13 23.6	324 42.8	S18 30.9
	14	292 28.4	354 24.7	S22 16.7	54 30.9	S20 06.7	322 40.1	S13 23.4	339 45.0	S18 30.9
	15	307 30.9	9 26.7	S22 16.2	69 31.6	S20 07.1	337 42.1	S13 23.3	354 47.3	S18 30.8
	16	322 33.4	24 28.7	S22 15.6	84 32.2	S20 07.5	352 44.2	S13 23.1	9 49.5	S18 30.7
	17	337 35.8	39 30.6	S22 15.1	99 32.9	S20 07.9	7 46.3	S13 23.0	24 51.7	S18 30.7
	18	352 38.3	54 32.6	S22 14.6	114 33.5	S20 08.3	22 48.4	S13 22.8	39 54.0	S18 30.6
	19	7 40.8	69 34.6	S22 14.1	129 34.2	S20 08.7	37 50.4	S13 22.7	54 56.2	S18 30.6
	20	22 43.2	84 36.5	S22 13.5	144 34.8	S20 09.1	52 52.5	S13 22.5	69 58.4	S18 30.5
	21	37 45.7	99 38.5	S22 13.0	159 35.5	S20 09.5	67 54.6	S13 22.4	85 00.7	S18 30.4
	22	52 48.1	114 40.5	S22 12.5	174 36.1	S20 09.9	82 56.7	S13 22.3	100 02.9	S18 30.4
	23	67 50.6	129 42.5	S22 11.9	189 36.8	S20 10.3	97 58.7	S13 22.1	115 05.1	S18 30.3
14	0	82 53.1	144 44.5	S22 11.4	204 37.4	S20 10.7	113 00.8	S13 22.0	130 07.3	S18 30.2
	1	97 55.5	159 46.4	S22 10.9	219 38.1	S20 11.1	128 02.9	S13 21.8	145 09.6	S18 30.2
	2	112 58.0	174 48.4	S22 10.4	234 38.7	S20 11.4	143 04.9	S13 21.7	160 11.8	S18 30.1
	3	128 00.5	189 50.4	S22 09.8	249 39.4	S20 11.8	158 07.0	S13 21.5	175 14.0	S18 30.1
	4	143 02.9	204 52.5	S22 09.3	264 40.0	S20 12.2	173 09.1	S13 21.4	190 16.2	S18 30.0
T	5	158 05.4	219 54.5	S22 08.8	279 40.7	S20 12.6	188 11.2	S13 21.3	205 18.5	S18 29.9
U										
E	6	173 07.9	234 56.5	S22 08.2	294 41.3	S20 13.0	203 13.2	S13 21.1	220 20.7	S18 29.9
S	7	188 10.3	249 58.5	S22 07.7	309 42.0	S20 13.4	218 15.3	S13 21.0	235 22.9	S18 29.8
D	8	203 12.8	265 00.5	S22 07.2	324 42.6	S20 13.8	233 17.4	S13 20.8	250 25.2	S18 29.7
A	9	218 15.2	280 02.6	S22 06.7	339 43.3	S20 14.2	248 19.4	S13 20.7	265 27.4	S18 29.7
Y	10	233 17.7	295 04.6	S22 06.1	354 43.9	S20 14.6	263 21.5	S13 20.5	280 29.6	S18 29.6
	11	248 20.2	310 06.6	S22 05.6	9 44.6	S20 14.9	278 23.6	S13 20.4	295 31.8	S18 29.6
	12	263 22.6	325 08.7	S22 05.1	24 45.2	S20 15.3	293 25.7	S13 20.2	310 34.1	S18 29.5
	13	278 25.1	340 10.7	S22 04.5	39 45.9	S20 15.7	308 27.7	S13 20.1	325 36.3	S18 29.4
	14	293 27.6	355 12.8	S22 04.0	54 46.5	S20 16.1	323 29.8	S13 19.9	340 38.5	S18 29.4
	15	308 30.0	10 14.8	S22 03.5	69 47.2	S20 16.5	338 31.9	S13 19.8	355 40.7	S18 29.3
	16	323 32.5	25 16.9	S22 03.0	84 47.8	S20 16.9	353 33.9	S13 19.7	10 43.0	S18 29.2
	17	338 35.0	40 18.9	S22 02.4	99 48.5	S20 17.3	8 36.0	S13 19.5	25 45.2	S18 29.2
	18	353 37.4	55 21.0	S22 01.9	114 49.1	S20 17.6	23 38.1	S13 19.4	40 47.4	S18 29.1
	19	8 39.9	70 23.1	S22 01.4	129 49.7	S20 18.0	38 40.2	S13 19.2	55 49.7	S18 29.1
	20	23 42.4	85 25.1	S22 00.9	144 50.4	S20 18.4	53 42.2	S13 19.1	70 51.9	S18 29.0
	21	38 44.8	100 27.2	S22 00.3	159 51.0	S20 18.8	68 44.3	S13 18.9	85 54.1	S18 28.9
	22	53 47.3	115 29.3	S21 59.8	174 51.7	S20 19.2	83 46.4	S13 18.8	100 56.3	S18 28.9
	23	68 49.7	130 31.4	S21 59.3	189 52.3	S20 19.6	98 48.4	S13 18.6	115 58.6	S18 28.8
			v 1.9	d 0.5	v 0.7	d 0.4	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 '
12	0	181 36.6	S23 04.4	78 00.1	15.1	S 3 44.7	13.9	56.0
	1	196 36.4	S23 04.6	92 34.2	15.1	S 3 30.9	13.9	56.0
	2	211 36.1	S23 04.8	107 08.4	15.1	S 3 17.0	13.9	55.9
	3	226 35.8	S23 05.0	121 42.6	15.2	S 3 03.1	13.9	55.9
	4	241 35.5	S23 05.2	136 16.8	15.2	S 2 49.3	13.9	55.9
S	5	256 35.2	S23 05.3	150 51.1	15.3	S 2 35.4	13.9	55.9
U								
N	6	271 34.9	S23 05.5	165 25.4	15.3	S 2 21.5	13.9	55.8
D	7	286 34.6	S23 05.7	179 59.7	15.3	S 2 07.7	13.9	55.8
A	8	301 34.3	S23 05.9	194 34.1	15.4	S 1 53.8	13.9	55.8
Y	9	316 34.0	S23 06.1	209 08.5	15.4	S 1 40.0	13.8	55.7
	10	331 33.7	S23 06.2	223 43.0	15.4	S 1 26.1	13.8	55.7
	11	346 33.4	S23 06.4	238 17.4	15.5	S 1 12.3	13.8	55.7
	12	1 33.2	S23 06.6	252 51.9	15.5	S 0 58.5	13.8	55.7
	13	16 32.9	S23 06.8	267 26.5	15.5	S 0 44.7	13.8	55.6
	14	31 32.6	S23 07.0	282 01.1	15.6	S 0 30.9	13.8	55.6
	15	46 32.3	S23 07.1	296 35.7	15.6	S 0 17.1	13.8	55.6
	16	61 32.0	S23 07.3	311 10.3	15.6	S 0 03.3	13.8	55.5
	17	76 31.7	S23 07.5	325 44.9	15.6	N 0 10.5	13.8	55.5
	18	91 31.4	S23 07.7	340 19.6	15.7	N 0 24.2	13.8	55.5
	19	106 31.1	S23 07.8	354 54.3	15.7	N 0 38.0	13.7	55.5
	20	121 30.8	S23 08.0	9 29.0	15.7	N 0 51.7	13.7	55.4
	21	136 30.5	S23 08.2	24 03.7	15.7	N 1 05.4	13.7	55.4
	22	151 30.2	S23 08.3	38 38.5	15.8	N 1 19.1	13.7	55.4
	23	166 29.9	S23 08.5	53 13.3	15.8	N 1 32.8	13.7	55.4
13	0	181 29.6	S23 08.7	67 48.1	15.8	N 1 46.4	13.7	55.3
	1	196 29.3	S23 08.8	82 22.9	15.8	N 2 00.1	13.6	55.3
	2	211 29.0	S23 09.0	96 57.7	15.8	N 2 13.7	13.6	55.3
	3	226 28.8	S23 09.2	111 32.5	15.8	N 2 27.3	13.6	55.3
	4	241 28.5	S23 09.3	126 07.4	15.8	N 2 40.9	13.6	55.2
M	5	256 28.2	S23 09.5	140 42.2	15.9	N 2 54.5	13.6	55.2
O								
N	6	271 27.9	S23 09.7	155 17.1	15.9	N 3 08.0	13.5	55.2
D	7	286 27.6	S23 09.8	169 52.0	15.9	N 3 21.5	13.5	55.2
A	8	301 27.3	S23 10.0	184 26.9	15.9	N 3 35.0	13.5	55.2
Y	9	316 27.0	S23 10.2	199 01.8	15.9	N 3 48.5	13.5	55.1
	10	331 26.7	S23 10.3	213 36.7	15.9	N 4 01.9	13.4	55.1
	11	346 26.4	S23 10.5	228 11.6	15.9	N 4 15.4	13.4	55.1
	12	1 26.1	S23 10.6	242 46.5	15.9	N 4 28.8	13.4	55.1
	13	16 25.8	S23 10.8	257 21.4	15.9	N 4 42.1	13.4	55.0
	14	31 25.5	S23 11.0	271 56.3	15.9	N 4 55.5	13.3	55.0
	15	46 25.2	S23 11.1	286 31.2	15.9	N 5 08.8	13.3	55.0
	16	61 24.9	S23 11.3	301 06.1	15.9	N 5 22.1	13.3	55.0
	17	76 24.6	S23 11.4	315 41.1	15.9	N 5 35.3	13.3	55.0
	18	91 24.3	S23 11.6	330 16.0	15.9	N 5 48.6	13.2	54.9
	19	106 24.0	S23 11.7	344 50.9	15.9	N 6 01.8	13.2	54.9
	20	121 23.7	S23 11.9	359 25.8	15.9	N 6 14.9	13.2	54.9
	21	136 23.4	S23 12.0	14 00.7	15.9	N 6 28.0	13.1	54.9
	22	151 23.1	S23 12.2	28 35.6	15.9	N 6 41.1	13.1	54.9
	23	166 22.8	S23 12.3	43 10.4	15.9	N 6 54.2	13.1	54.8
14	0	181 22.5	S23 12.5	57 45.3	15.9	N 7 07.2	13.0	54.8
	1	196 22.2	S23 12.6	72 20.2	15.9	N 7 20.2	13.0	54.8
	2	211 22.0	S23 12.8	86 55.0	15.9	N 7 33.2	13.0	54.8
	3	226 21.7	S23 12.9	101 29.9	15.8	N 7 46.1	12.9	54.8
	4	241 21.4	S23 13.1	116 04.7	15.8	N 7 59.0	12.9	54.7
T	5	256 21.1	S23 13.2	130 39.5	15.8	N 8 11.8	12.8	54.7
U								
E	6	271 20.8	S23 13.4	145 14.3	15.8	N 8 24.6	12.8	54.7
S	7	286 20.5	S23 13.5	159 49.1	15.8	N 8 37.4	12.8	54.7
D	8	301 20.2	S23 13.7	174 23.9	15.8	N 8 50.1	12.7	54.7
A	9	316 19.9	S23 13.8	188 58.6	15.8	N 9 02.8	12.7	54.7
Y	10	331 19.6	S23 13.9	203 33.4	15.7	N 9 15.5	12.6	54.6
	11	346 19.3	S23 14.1	218 08.1	15.7	N 9 28.1	12.6	54.6
	12	1 19.0	S23 14.2	232 42.8	15.7	N 9 40.6	12.6	54.6
	13	16 18.7	S23 14.4	247 17.5	15.7	N 9 53.2	12.5	54.6
	14	31 18.4	S23 14.5	261 52.1	15.7	N10 05.6	12.5	54.6
	15	46 18.1	S23 14.6	276 26.8	15.6	N10 18.1	12.4	54.6
	16	61 17.8	S23 14.8	291 01.4	15.6	N10 30.4	12.4	54.6
	17	76 17.5	S23 14.9	305 35.9	15.6	N10 42.8	12.3	54.5
	18	91 17.2	S23 15.0	320 10.5	15.6	N10 55.1	12.3	54.5
	19	106 16.9	S23 15.2	334 45.0	15.5	N11 07.3	12.2	54.5
	20	121 16.6	S23 15.3	349 19.5	15.5	N11 19.5	12.2	54.5
	21	136 16.3	S23 15.4	3 54.0	15.5	N11 31.6	12.1	54.5
	22	151 16.0	S23 15.6	18 28.5	15.5	N11 43.7	12.1	54.5
	23	166 15.7	S23 15.7	33 02.9	15.4	N11 55.8	12.0	54.4
		S.D. 16.2	d 0.2	S.D.	15.2	15.0	14.9	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.3	S40 13.2
Achernar	335 21.8	S57 07.8
Acrux	173 03.1	S63 12.8
Adhara	255 07.5	S28 60.0
Albireo	67 06.4	N28 00.4
Aldebaran	290 42.2	N16 33.2
Alioth	166 15.4	N55 50.3
Alkaid	152 54.3	N49 12.1
Al Na-ir	27 36.3	S46 51.6
Alnilam	275 39.9	S 1 11.3
Alphard	217 50.0	S 8 45.1
Alphecca	126 06.2	N26 38.4
Alpheratz	357 37.3	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.5	S42 11.5
Antares	112 19.3	S26 28.7
Arcturus	145 50.5	N19 04.1
Atria	107 16.5	S69 03.9
Avior	234 15.2	S59 34.5
Bellatrix	278 25.3	N 6 22.2
Betelgeuse	270 54.5	N 7 24.7
Canopus	263 52.9	S52 42.3
Capella	280 25.1	N46 01.2
Castor	245 59.9	N31 50.4
Deneb	49 27.8	N45 21.6
Denebola	182 27.6	N14 27.0
Diphda	348 49.8	S17 52.1
Dubhe	193 44.1	N61 37.7
Elnath	278 04.7	N28 37.5
Eltanin	90 43.9	N51 29.2
Enif	33 41.4	N 9 58.5
Fomalhaut	15 17.4	S29 30.6
Gacrux	171 54.6	S57 13.8
Gienah	175 46.3	S17 39.6
Hadar	148 40.1	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 20.9	N74 03.8
Markab	13 32.4	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 00.9	S36 28.5
Miaplacidus	221 38.1	S69 48.1
Mirfak	308 31.4	N49 56.4
Nunki	75 51.3	S26 16.2
Peacock	53 10.1	S56 40.1
Polaris	316 56.2	N89 20.8
Pollux	243 20.1	N27 58.3
Procyon	244 53.2	N 5 10.2
Rasalhague	96 01.3	N12 32.7
Regulus	207 37.0	N11 51.6
Rigel	281 06.0	S 8 10.6
Rigil Kent	139 44.4	S60 55.3
Sabik	102 06.1	S15 45.1
Schedar	349 33.7	N56 39.6
Shaula	96 14.2	S37 07.1
Sirius	258 28.1	S16 44.7
Spica	158 25.1	S11 16.4
Suhail	222 47.9	S43 31.0
Vega	80 35.3	N38 48.3
Zuben-ubi	136 59.9	S16 07.8

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
15	0	83 52.2	145 33.5	S21 58.7	204 53.0	S20 20.0	113 50.5	S13 18.5	131 00.8	S18 28.7
	1	98 54.7	160 35.6	S21 58.2	219 53.6	S20 20.3	128 52.6	S13 18.3	146 03.0	S18 28.7
	2	113 57.1	175 37.7	S21 57.7	234 54.3	S20 20.7	143 54.6	S13 18.2	161 05.2	S18 28.6
	3	128 59.6	190 39.8	S21 57.2	249 54.9	S20 21.1	158 56.7	S13 18.1	176 07.5	S18 28.6
	4	144 02.1	205 41.9	S21 56.6	264 55.5	S20 21.5	173 58.8	S13 17.9	191 09.7	S18 28.5
W	5	159 04.5	220 44.0	S21 56.1	279 56.2	S20 21.9	189 00.8	S13 17.8	206 11.9	S18 28.4
E										
D	6	174 07.0	235 46.1	S21 55.6	294 56.8	S20 22.3	204 02.9	S13 17.6	221 14.1	S18 28.4
N	7	189 09.5	250 48.2	S21 55.0	309 57.5	S20 22.6	219 05.0	S13 17.5	236 16.4	S18 28.3
E	8	204 11.9	265 50.4	S21 54.5	324 58.1	S20 23.0	234 07.0	S13 17.3	251 18.6	S18 28.2
S	9	219 14.4	280 52.5	S21 54.0	339 58.8	S20 23.4	249 09.1	S13 17.2	266 20.8	S18 28.2
D	10	234 16.9	295 54.6	S21 53.5	354 59.4	S20 23.8	264 11.2	S13 17.0	281 23.0	S18 28.1
A	11	249 19.3	310 56.8	S21 52.9	10 00.0	S20 24.2	279 13.2	S13 16.9	296 25.3	S18 28.1
Y										
	12	264 21.8	325 58.9	S21 52.4	25 00.7	S20 24.5	294 15.3	S13 16.7	311 27.5	S18 28.0
	13	279 24.2	341 01.1	S21 51.9	40 01.3	S20 24.9	309 17.4	S13 16.6	326 29.7	S18 27.9
	14	294 26.7	356 03.2	S21 51.3	55 02.0	S20 25.3	324 19.4	S13 16.4	341 31.9	S18 27.9
	15	309 29.2	11 05.4	S21 50.8	70 02.6	S20 25.7	339 21.5	S13 16.3	356 34.2	S18 27.8
	16	324 31.6	26 07.5	S21 50.3	85 03.2	S20 26.1	354 23.6	S13 16.1	11 36.4	S18 27.7
	17	339 34.1	41 09.7	S21 49.8	100 03.9	S20 26.4	9 25.6	S13 16.0	26 38.6	S18 27.7
	18	354 36.6	56 11.9	S21 49.2	115 04.5	S20 26.8	24 27.7	S13 15.9	41 40.8	S18 27.6
	19	9 39.0	71 14.1	S21 48.7	130 05.2	S20 27.2	39 29.8	S13 15.7	56 43.1	S18 27.5
	20	24 41.5	86 16.2	S21 48.2	145 05.8	S20 27.6	54 31.8	S13 15.6	71 45.3	S18 27.5
	21	39 44.0	101 18.4	S21 47.6	160 06.4	S20 27.9	69 33.9	S13 15.4	86 47.5	S18 27.4
	22	54 46.4	116 20.6	S21 47.1	175 07.1	S20 28.3	84 36.0	S13 15.3	101 49.7	S18 27.4
	23	69 48.9	131 22.8	S21 46.6	190 07.7	S20 28.7	99 38.0	S13 15.1	116 51.9	S18 27.3
16	0	84 51.3	146 25.0	S21 46.1	205 08.4	S20 29.1	114 40.1	S13 15.0	131 54.2	S18 27.2
	1	99 53.8	161 27.2	S21 45.5	220 09.0	S20 29.4	129 42.1	S13 14.8	146 56.4	S18 27.2
	2	114 56.3	176 29.4	S21 45.0	235 09.6	S20 29.8	144 44.2	S13 14.7	161 58.6	S18 27.1
	3	129 58.7	191 31.6	S21 44.5	250 10.3	S20 30.2	159 46.3	S13 14.5	177 00.8	S18 27.0
	4	145 01.2	206 33.8	S21 43.9	265 10.9	S20 30.6	174 48.3	S13 14.4	192 03.1	S18 27.0
T	5	160 03.7	221 36.0	S21 43.4	280 11.6	S20 31.0	189 50.4	S13 14.2	207 05.3	S18 26.9
H										
U	6	175 06.1	236 38.3	S21 42.9	295 12.2	S20 31.3	204 52.5	S13 14.1	222 07.5	S18 26.8
R	7	190 08.6	251 40.5	S21 42.4	310 12.8	S20 31.7	219 54.5	S13 13.9	237 09.7	S18 26.8
S	8	205 11.1	266 42.7	S21 41.8	325 13.5	S20 32.1	234 56.6	S13 13.8	252 12.0	S18 26.7
D	9	220 13.5	281 45.0	S21 41.3	340 14.1	S20 32.4	249 58.7	S13 13.6	267 14.2	S18 26.7
A	10	235 16.0	296 47.2	S21 40.8	355 14.7	S20 32.8	265 00.7	S13 13.5	282 16.4	S18 26.6
Y	11	250 18.5	311 49.5	S21 40.2	10 15.4	S20 33.2	280 02.8	S13 13.3	297 18.6	S18 26.5
	12	265 20.9	326 51.7	S21 39.7	25 16.0	S20 33.6	295 04.8	S13 13.2	312 20.8	S18 26.5
	13	280 23.4	341 54.0	S21 39.2	40 16.7	S20 33.9	310 06.9	S13 13.0	327 23.1	S18 26.4
	14	295 25.8	356 56.2	S21 38.7	55 17.3	S20 34.3	325 09.0	S13 12.9	342 25.3	S18 26.3
	15	310 28.3	11 58.5	S21 38.1	70 17.9	S20 34.7	340 11.0	S13 12.7	357 27.5	S18 26.3
	16	325 30.8	27 00.8	S21 37.6	85 18.6	S20 35.1	355 13.1	S13 12.6	12 29.7	S18 26.2
	17	340 33.2	42 03.0	S21 37.1	100 19.2	S20 35.4	10 15.1	S13 12.4	27 32.0	S18 26.1
	18	355 35.7	57 05.3	S21 36.5	115 19.8	S20 35.8	25 17.2	S13 12.3	42 34.2	S18 26.1
	19	10 38.2	72 07.6	S21 36.0	130 20.5	S20 36.2	40 19.3	S13 12.1	57 36.4	S18 26.0
	20	25 40.6	87 09.9	S21 35.5	145 21.1	S20 36.5	55 21.3	S13 12.0	72 38.6	S18 25.9
	21	40 43.1	102 12.2	S21 35.0	160 21.7	S20 36.9	70 23.4	S13 11.8	87 40.8	S18 25.9
	22	55 45.6	117 14.5	S21 34.4	175 22.4	S20 37.3	85 25.4	S13 11.7	102 43.1	S18 25.8
	23	70 48.0	132 16.7	S21 33.9	190 23.0	S20 37.6	100 27.5	S13 11.5	117 45.3	S18 25.8
17	0	85 50.5	147 19.1	S21 33.4	205 23.6	S20 38.0	115 29.6	S13 11.4	132 47.5	S18 25.7
	1	100 53.0	162 21.4	S21 32.8	220 24.3	S20 38.4	130 31.6	S13 11.2	147 49.7	S18 25.6
	2	115 55.4	177 23.7	S21 32.3	235 24.9	S20 38.8	145 33.7	S13 11.1	162 51.9	S18 25.6
	3	130 57.9	192 26.0	S21 31.8	250 25.5	S20 39.1	160 35.7	S13 10.9	177 54.2	S18 25.5
	4	146 00.3	207 28.3	S21 31.3	265 26.2	S20 39.5	175 37.8	S13 10.8	192 56.4	S18 25.4
F	5	161 02.8	222 30.6	S21 30.7	280 26.8	S20 39.9	190 39.9	S13 10.6	207 58.6	S18 25.4
R										
I	6	176 05.3	237 33.0	S21 30.2	295 27.4	S20 40.2	205 41.9	S13 10.5	223 00.8	S18 25.3
D	7	191 07.7	252 35.3	S21 29.7	310 28.1	S20 40.6	220 44.0	S13 10.3	238 03.0	S18 25.2
A	8	206 10.2	267 37.6	S21 29.2	325 28.7	S20 41.0	235 46.0	S13 10.2	253 05.3	S18 25.2
Y	9	221 12.7	282 40.0	S21 28.6	340 29.3	S20 41.3	250 48.1	S13 10.0	268 07.5	S18 25.1
	10	236 15.1	297 42.3	S21 28.1	355 30.0	S20 41.7	265 50.1	S13 09.9	283 09.7	S18 25.0
	11	251 17.6	312 44.7	S21 27.6	10 30.6	S20 42.1	280 52.2	S13 09.7	298 11.9	S18 25.0
	12	266 20.1	327 47.0	S21 27.0	25 31.2	S20 42.4	295 54.3	S13 09.6	313 14.1	S18 24.9
	13	281 22.5	342 49.4	S21 26.5	40 31.9	S20 42.8	310 56.3	S13 09.4	328 16.4	S18 24.8
	14	296 25.0	357 51.8	S21 26.0	55 32.5	S20 43.2	325 58.4	S13 09.3	343 18.6	S18 24.8
	15	311 27.5	12 54.1	S21 25.5	70 33.1	S20 43.5	341 00.4	S13 09.1	358 20.8	S18 24.7
	16	326 29.9	27 56.5	S21 24.9	85 33.7	S20 43.9	356 02.5	S13 09.0	13 23.0	S18 24.7
	17	341 32.4	42 58.9	S21 24.4	100 34.4	S20 44.2	11 04.5	S13 08.8	28 25.2	S18 24.6
	18	356 34.8	58 01.3	S21 23.9	115 35.0	S20 44.6	26 06.6	S13 08.7	43 27.5	S18 24.5
	19	11 37.3	73 03.7	S21 23.4	130 35.6	S20 45.0	41 08.6	S13 08.5	58 29.7	S18 24.5
	20	26 39.8	88 06.1	S21 22.8	145 36.3	S20 45.3	56 10.7	S13 08.4	73 31.9	S18 24.4
	21	41 42.2	103 08.5	S21 22.3	160 36.9	S20 45.7	71 12.8	S13 08.2	88 34.1	S18 24.3
	22	56 44.7	118 10.9	S21 21.8	175 37.5	S20 46.1	86 14.8	S13 08.1	103 36.3	S18 24.3
	23	71 47.2	133 13.3	S21 21.3	190 38.1	S20 46.4	101 16.9	S13 07.9	118 38.6	S18 24.2
			v 2.3	d 0.5	v 0.6	d 0.4	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
15	0	181 15.4	S23 15.8	47 37.3	15.4	N12 07.8	12.0	54.4
	1	196 15.1	S23 16.0	62 11.7	15.4	N12 19.7	11.9	54.4
	2	211 14.8	S23 16.1	76 46.0	15.3	N12 31.6	11.9	54.4
	3	226 14.5	S23 16.2	91 20.3	15.3	N12 43.4	11.8	54.4
	4	241 14.2	S23 16.4	105 54.5	15.3	N12 55.2	11.8	54.4
W	5	256 13.9	S23 16.5	120 28.8	15.2	N13 06.9	11.7	54.4
E								
D	6	271 13.6	S23 16.6	135 03.0	15.2	N13 18.6	11.7	54.4
N	7	286 13.3	S23 16.7	149 37.1	15.2	N13 30.2	11.6	54.3
E	8	301 13.0	S23 16.9	164 11.3	15.1	N13 41.8	11.6	54.3
S	9	316 12.7	S23 17.0	178 45.3	15.1	N13 53.3	11.5	54.3
D	10	331 12.4	S23 17.1	193 19.4	15.1	N14 04.7	11.4	54.3
A	11	346 12.1	S23 17.2	207 53.4	15.0	N14 16.1	11.4	54.3
Y								
	12	1 11.8	S23 17.3	222 27.4	15.0	N14 27.4	11.3	54.3
	13	16 11.5	S23 17.5	237 01.3	14.9	N14 38.7	11.3	54.3
	14	31 11.2	S23 17.6	251 35.2	14.9	N14 49.8	11.2	54.3
	15	46 10.9	S23 17.7	266 09.1	14.9	N15 01.0	11.1	54.3
	16	61 10.6	S23 17.8	280 42.9	14.8	N15 12.1	11.1	54.2
	17	76 10.3	S23 17.9	295 16.6	14.8	N15 23.1	11.0	54.2
	18	91 10.0	S23 18.0	309 50.4	14.7	N15 34.0	10.9	54.2
	19	106 09.7	S23 18.2	324 24.0	14.7	N15 44.9	10.9	54.2
	20	121 09.4	S23 18.3	338 57.7	14.6	N15 55.7	10.8	54.2
	21	136 09.1	S23 18.4	353 31.3	14.6	N16 06.4	10.7	54.2
	22	151 08.8	S23 18.5	8 04.8	14.6	N16 17.1	10.7	54.2
	23	166 08.5	S23 18.6	22 38.3	14.5	N16 27.7	10.6	54.2
16	0	181 08.2	S23 18.7	37 11.8	14.5	N16 38.3	10.5	54.2
	1	196 07.9	S23 18.8	51 45.2	14.4	N16 48.7	10.5	54.2
	2	211 07.6	S23 18.9	66 18.6	14.4	N16 59.1	10.4	54.2
	3	226 07.3	S23 19.1	80 51.9	14.3	N17 09.5	10.3	54.1
	4	241 07.0	S23 19.2	95 25.2	14.3	N17 19.7	10.3	54.1
T	5	256 06.7	S23 19.3	109 58.4	14.2	N17 29.9	10.2	54.1
H								
U	6	271 06.4	S23 19.4	124 31.6	14.2	N17 40.0	10.1	54.1
R	7	286 06.0	S23 19.5	139 04.7	14.1	N17 50.0	10.0	54.1
S	8	301 05.7	S23 19.6	153 37.8	14.1	N17 60.0	10.0	54.1
D	9	316 05.4	S23 19.7	168 10.8	14.0	N18 09.9	9.9	54.1
A	10	331 05.1	S23 19.8	182 43.8	14.0	N18 19.7	9.8	54.1
Y	11	346 04.8	S23 19.9	197 16.7	13.9	N18 29.4	9.7	54.1
	12	1 04.5	S23 20.0	211 49.6	13.9	N18 39.1	9.7	54.1
	13	16 04.2	S23 20.1	226 22.4	13.8	N18 48.6	9.6	54.1
	14	31 03.9	S23 20.2	240 55.2	13.8	N18 58.1	9.5	54.1
	15	46 03.6	S23 20.3	255 27.9	13.7	N19 07.5	9.4	54.1
	16	61 03.3	S23 20.4	270 00.6	13.7	N19 16.9	9.3	54.1
	17	76 03.0	S23 20.5	284 33.2	13.6	N19 26.1	9.2	54.1
	18	91 02.7	S23 20.6	299 05.7	13.6	N19 35.3	9.2	54.0
	19	106 02.4	S23 20.7	313 38.2	13.5	N19 44.4	9.1	54.0
	20	121 02.1	S23 20.8	328 10.7	13.5	N19 53.4	9.0	54.0
	21	136 01.8	S23 20.9	342 43.1	13.4	N20 02.3	8.9	54.0
	22	151 01.5	S23 21.0	357 15.4	13.3	N20 11.1	8.8	54.0
	23	166 01.2	S23 21.1	11 47.7	13.3	N20 19.9	8.7	54.0
17	0	181 00.9	S23 21.1	26 20.0	13.2	N20 28.5	8.7	54.0
	1	196 00.6	S23 21.2	40 52.2	13.2	N20 37.1	8.6	54.0
	2	211 00.3	S23 21.3	55 24.3	13.1	N20 45.5	8.5	54.0
	3	225 60.0	S23 21.4	69 56.4	13.1	N20 53.9	8.4	54.0
	4	240 59.7	S23 21.5	84 28.4	13.0	N21 02.2	8.3	54.0
F	5	255 59.4	S23 21.6	99 00.4	13.0	N21 10.4	8.2	54.0
R								
I	6	270 59.1	S23 21.7	113 32.3	12.9	N21 18.5	8.1	54.0
D	7	285 58.8	S23 21.8	128 04.1	12.9	N21 26.6	8.0	54.0
A	8	300 58.5	S23 21.8	142 36.0	12.8	N21 34.5	7.9	54.0
Y	9	315 58.2	S23 21.9	157 07.7	12.8	N21 42.3	7.8	54.0
	10	330 57.8	S23 22.0	171 39.4	12.7	N21 50.1	7.7	54.0
	11	345 57.5	S23 22.1	186 11.1	12.6	N21 57.7	7.6	54.0
	12	0 57.2	S23 22.2	200 42.6	12.6	N22 05.2	7.5	54.0
	13	15 56.9	S23 22.3	215 14.2	12.5	N22 12.7	7.4	54.0
	14	30 56.6	S23 22.3	229 45.7	12.5	N22 20.0	7.4	54.0
	15	45 56.3	S23 22.4	244 17.1	12.4	N22 27.3	7.3	54.0
	16	60 56.0	S23 22.5	258 48.5	12.4	N22 34.4	7.2	54.0
	17	75 55.7	S23 22.6	273 19.8	12.3	N22 41.5	7.1	54.0
	18	90 55.4	S23 22.7	287 51.1	12.3	N22 48.5	7.0	54.0
	19	105 55.1	S23 22.7	302 22.3	12.2	N22 55.3	6.8	54.0
	20	120 54.8	S23 22.8	316 53.4	12.2	N23 02.0	6.7	54.0
	21	135 54.5	S23 22.9	331 24.6	12.1	N23 08.7	6.6	54.0
	22	150 54.2	S23 23.0	345 55.6	12.1	N23 15.2	6.5	54.0
	23	165 53.9	S23 23.0	0 26.6	12.0	N23 21.7	6.4	54.0
		S.D. 16.3	d 0.1	S.D.	14.8	14.7	14.7	

STARS Name	SHA	Dec
Acamar	315 13.4	S40 13.2
Achernar	335 21.8	S57 07.8
Acrux	173 03.0	S63 12.8
Adhara	255 07.5	S29 00.0
Albireo	67 06.4	N28 00.4
Aldebaran	290 42.2	N16 33.2
Alioth	166 15.4	N55 50.3
Alkaid	152 54.3	N49 12.1
Al Na-ir	27 36.3	S46 51.6
Alnilam	275 39.9	S 1 11.3
Alphard	217 50.0	S 8 45.1
Alphecca	126 06.2	N26 38.4
Alpheratz	357 37.3	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.6	S42 11.6
Antares	112 19.3	S26 28.7
Arcturus	145 50.5	N19 04.1
Atria	107 16.4	S69 03.9
Avior	234 15.2	S59 34.5
Bellatrix	278 25.2	N 6 22.2
Betelgeuse	270 54.5	N 7 24.7
Canopus	263 52.9	S52 42.4
Capella	280 25.1	N46 01.2
Castor	245 59.9	N31 50.4
Deneb	49 27.8	N45 21.6
Denebola	182 27.5	N14 27.0
Diphda	348 49.8	S17 52.1
Dubhe	193 44.0	N61 37.7
Elnath	278 04.7	N28 37.5
Eltanin	90 43.9	N51 29.1
Enif	33 41.4	N 9 58.5
Fomalhaut	15 17.4	S29 30.6
Gacrux	171 54.6	S57 13.8
Gienah	175 46.2	S17 39.6
Hadar	148 40.0	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 20.9	N74 03.7
Markab	13 32.5	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 00.9	S36 28.5
Miaplacidus	221 38.0	S69 48.1
Mirfak	308 31.4	N49 56.4
Nunki	75 51.3	S26 16.2
Peacock	53 10.1	S56 40.1
Polaris	316 56.9	N89 20.8
Pollux	243 20.1	N27 58.3
Procyon	244 53.2	N 5 10.2
Rasalhague	96 01.3	N12 32.7
Regulus	207 37.0	N11 51.6
Rigel	281 06.0	S 8 10.6
Rigil Kent	139 44.4	S60 55.2
Sabik	102 06.1	S15 45.1
Schedar	349 33.7	N56 39.6
Shaula	96 14.2	S37 07.1
Sirius	258 28.1	S16 44.7
Spica	158 25.1	S11 16.4
Suhail	222 47.8	S43 31.0
Vega	80 35.4	N38 48.3
Zuben-ubi	136 59.9	S16 07.8

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 49.6	148 15.7	S21 20.7	205 38.8	S20 46.8	116 18.9	S13 07.8	133 40.8	S18 24.1
	1	101 52.1	163 18.1	S21 20.2	220 39.4	S20 47.2	131 21.0	S13 07.6	148 43.0	S18 24.1
	2	116 54.6	178 20.5	S21 19.7	235 40.0	S20 47.5	146 23.0	S13 07.5	163 45.2	S18 24.0
	3	131 57.0	193 23.0	S21 19.2	250 40.7	S20 47.9	161 25.1	S13 07.3	178 47.4	S18 23.9
	4	146 59.5	208 25.4	S21 18.6	265 41.3	S20 48.2	176 27.1	S13 07.2	193 49.6	S18 23.9
S	5	162 01.9	223 27.8	S21 18.1	280 41.9	S20 48.6	191 29.2	S13 07.0	208 51.9	S18 23.8
A										
T	6	177 04.4	238 30.3	S21 17.6	295 42.5	S20 49.0	206 31.2	S13 06.9	223 54.1	S18 23.7
U	7	192 06.9	253 32.7	S21 17.0	310 43.2	S20 49.3	221 33.3	S13 06.7	238 56.3	S18 23.7
R	8	207 09.3	268 35.1	S21 16.5	325 43.8	S20 49.7	236 35.4	S13 06.6	253 58.5	S18 23.6
D	9	222 11.8	283 37.6	S21 16.0	340 44.4	S20 50.0	251 37.4	S13 06.4	269 00.7	S18 23.5
A	10	237 14.3	298 40.1	S21 15.5	355 45.1	S20 50.4	266 39.5	S13 06.3	284 03.0	S18 23.5
Y	11	252 16.7	313 42.5	S21 14.9	10 45.7	S20 50.8	281 41.5	S13 06.1	299 05.2	S18 23.4
	12	267 19.2	328 45.0	S21 14.4	25 46.3	S20 51.1	296 43.6	S13 06.0	314 07.4	S18 23.3
	13	282 21.7	343 47.5	S21 13.9	40 46.9	S20 51.5	311 45.6	S13 05.8	329 09.6	S18 23.3
	14	297 24.1	358 49.9	S21 13.4	55 47.6	S20 51.8	326 47.7	S13 05.7	344 11.8	S18 23.2
	15	312 26.6	13 52.4	S21 12.8	70 48.2	S20 52.2	341 49.7	S13 05.5	359 14.0	S18 23.1
	16	327 29.1	28 54.9	S21 12.3	85 48.8	S20 52.5	356 51.8	S13 05.3	14 16.3	S18 23.1
	17	342 31.5	43 57.4	S21 11.8	100 49.4	S20 52.9	11 53.8	S13 05.2	29 18.5	S18 23.0
	18	357 34.0	58 59.9	S21 11.3	115 50.1	S20 53.3	26 55.9	S13 05.0	44 20.7	S18 23.0
	19	12 36.4	74 02.4	S21 10.8	130 50.7	S20 53.6	41 57.9	S13 04.9	59 22.9	S18 22.9
	20	27 38.9	89 04.9	S21 10.2	145 51.3	S20 54.0	56 60.0	S13 04.7	74 25.1	S18 22.8
	21	42 41.4	104 07.4	S21 09.7	160 51.9	S20 54.3	72 02.0	S13 04.6	89 27.3	S18 22.8
	22	57 43.8	119 09.9	S21 09.2	175 52.5	S20 54.7	87 04.1	S13 04.4	104 29.6	S18 22.7
	23	72 46.3	134 12.4	S21 08.7	190 53.2	S20 55.0	102 06.1	S13 04.3	119 31.8	S18 22.6
19	0	87 48.8	149 14.9	S21 08.1	205 53.8	S20 55.4	117 08.2	S13 04.1	134 34.0	S18 22.6
	1	102 51.2	164 17.5	S21 07.6	220 54.4	S20 55.7	132 10.2	S13 04.0	149 36.2	S18 22.5
	2	117 53.7	179 20.0	S21 07.1	235 55.0	S20 56.1	147 12.3	S13 03.8	164 38.4	S18 22.4
	3	132 56.2	194 22.5	S21 06.6	250 55.7	S20 56.4	162 14.3	S13 03.7	179 40.6	S18 22.4
	4	147 58.6	209 25.1	S21 06.0	265 56.3	S20 56.8	177 16.4	S13 03.5	194 42.9	S18 22.3
S	5	163 01.1	224 27.6	S21 05.5	280 56.9	S20 57.2	192 18.4	S13 03.4	209 45.1	S18 22.2
U										
N	6	178 03.6	239 30.2	S21 05.0	295 57.5	S20 57.5	207 20.5	S13 03.2	224 47.3	S18 22.2
D	7	193 06.0	254 32.7	S21 04.5	310 58.2	S20 57.9	222 22.5	S13 03.0	239 49.5	S18 22.1
A	8	208 08.5	269 35.3	S21 03.9	325 58.8	S20 58.2	237 24.6	S13 02.9	254 51.7	S18 22.0
Y	9	223 10.9	284 37.8	S21 03.4	340 59.4	S20 58.6	252 26.6	S13 02.7	269 53.9	S18 22.0
	10	238 13.4	299 40.4	S21 02.9	356 00.0	S20 58.9	267 28.7	S13 02.6	284 56.2	S18 21.9
	11	253 15.9	314 43.0	S21 02.4	11 00.6	S20 59.3	282 30.7	S13 02.4	299 58.4	S18 21.8
	12	268 18.3	329 45.6	S21 01.9	26 01.3	S20 59.6	297 32.8	S13 02.3	315 00.6	S18 21.8
	13	283 20.8	344 48.1	S21 01.3	41 01.9	S20 60.0	312 34.8	S13 02.1	330 02.8	S18 21.7
	14	298 23.3	359 50.7	S21 00.8	56 02.5	S21 00.3	327 36.9	S13 02.0	345 05.0	S18 21.6
	15	313 25.7	14 53.3	S21 00.3	71 03.1	S21 00.7	342 38.9	S13 01.8	0 07.2	S18 21.6
	16	328 28.2	29 55.9	S20 59.8	86 03.7	S21 01.0	357 41.0	S13 01.7	15 09.4	S18 21.5
	17	343 30.7	44 58.5	S20 59.2	101 04.4	S21 01.4	12 43.0	S13 01.5	30 11.7	S18 21.4
	18	358 33.1	60 01.1	S20 58.7	116 05.0	S21 01.7	27 45.0	S13 01.3	45 13.9	S18 21.4
	19	13 35.6	75 03.7	S20 58.2	131 05.6	S21 02.1	42 47.1	S13 01.2	60 16.1	S18 21.3
	20	28 38.1	90 06.3	S20 57.7	146 06.2	S21 02.4	57 49.1	S13 01.0	75 18.3	S18 21.2
	21	43 40.5	105 09.0	S20 57.2	161 06.8	S21 02.8	72 51.2	S13 00.9	90 20.5	S18 21.2
	22	58 43.0	120 11.6	S20 56.6	176 07.5	S21 03.1	87 53.2	S13 00.7	105 22.7	S18 21.1
	23	73 45.4	135 14.2	S20 56.1	191 08.1	S21 03.5	102 55.3	S13 00.6	120 24.9	S18 21.0
20	0	88 47.9	150 16.8	S20 55.6	206 08.7	S21 03.8	117 57.3	S13 00.4	135 27.2	S18 21.0
	1	103 50.4	165 19.5	S20 55.1	221 09.3	S21 04.1	132 59.4	S13 00.3	150 29.4	S18 20.9
	2	118 52.8	180 22.1	S20 54.5	236 09.9	S21 04.5	148 01.4	S13 00.1	165 31.6	S18 20.8
	3	133 55.3	195 24.8	S20 54.0	251 10.5	S21 04.8	163 03.5	S12 60.0	180 33.8	S18 20.8
	4	148 57.8	210 27.4	S20 53.5	266 11.2	S21 05.2	178 05.5	S12 59.8	195 36.0	S18 20.7
M	5	164 00.2	225 30.1	S20 53.0	281 11.8	S21 05.5	193 07.5	S12 59.6	210 38.2	S18 20.6
O										
N	6	179 02.7	240 32.7	S20 52.5	296 12.4	S21 05.9	208 09.6	S12 59.5	225 40.4	S18 20.6
D	7	194 05.2	255 35.4	S20 51.9	311 13.0	S21 06.2	223 11.6	S12 59.3	240 42.7	S18 20.5
A	8	209 07.6	270 38.1	S20 51.4	326 13.6	S21 06.6	238 13.7	S12 59.2	255 44.9	S18 20.4
Y	9	224 10.1	285 40.7	S20 50.9	341 14.2	S21 06.9	253 15.7	S12 59.0	270 47.1	S18 20.4
	10	239 12.6	300 43.4	S20 50.4	356 14.9	S21 07.3	268 17.8	S12 58.9	285 49.3	S18 20.3
	11	254 15.0	315 46.1	S20 49.9	11 15.5	S21 07.6	283 19.8	S12 58.7	300 51.5	S18 20.2
	12	269 17.5	330 48.8	S20 49.3	26 16.1	S21 07.9	298 21.9	S12 58.5	315 53.7	S18 20.2
	13	284 19.9	345 51.5	S20 48.8	41 16.7	S21 08.3	313 23.9	S12 58.4	330 55.9	S18 20.1
	14	299 22.4	0 54.2	S20 48.3	56 17.3	S21 08.6	328 25.9	S12 58.2	345 58.1	S18 20.0
	15	314 24.9	15 56.9	S20 47.8	71 17.9	S21 09.0	343 28.0	S12 58.1	1 00.4	S18 20.0
	16	329 27.3	30 59.6	S20 47.3	86 18.6	S21 09.3	358 30.0	S12 57.9	16 02.6	S18 19.9
	17	344 29.8	46 02.3	S20 46.8	101 19.2	S21 09.6	13 32.1	S12 57.8	31 04.8	S18 19.8
	18	359 32.3	61 05.0	S20 46.2	116 19.8	S21 10.0	28 34.1	S12 57.6	46 07.0	S18 19.8
	19	14 34.7	76 07.7	S20 45.7	131 20.4	S21 10.3	43 36.2	S12 57.5	61 09.2	S18 19.7
	20	29 37.2	91 10.5	S20 45.2	146 21.0	S21 10.7	58 38.2	S12 57.3	76 11.4	S18 19.6
	21	44 39.7	106 13.2	S20 44.7	161 21.6	S21 11.0	73 40.2	S12 57.1	91 13.6	S18 19.6
	22	59 42.1	121 15.9	S20 44.2	176 22.2	S21 11.4	88 42.3	S12 57.0	106 15.8	S18 19.5
	23	74 44.6	136 18.7	S20 43.6	191 22.8	S21 11.7	103 44.3	S12 56.8	121 18.1	S18 19.4
			v 2.6	d 0.5	v 0.6	d 0.4	v 2.0	d 0.2	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA	Dec
	° '	° '	° '	'	° '	'	'		° '	° '
18 0	180 53.6	S23 23.1	14 57.6	12.0	N23 28.0	6.3	54.0	Acamar	315 13.4	S40 13.2
1	195 53.3	S23 23.2	29 28.5	11.9	N23 34.2	6.2	54.0	Achernar	335 21.8	S57 07.9
2	210 53.0	S23 23.2	43 59.3	11.9	N23 40.4	6.1	54.0	Acrux	173 03.0	S63 12.8
3	225 52.7	S23 23.3	58 30.2	11.8	N23 46.4	6.0	54.0	Adhara	255 07.5	S29 00.0
4	240 52.3	S23 23.4	73 00.9	11.8	N23 52.3	5.9	54.0	Albireo	67 06.4	N28 00.4
S 5	255 52.0	S23 23.4	87 31.6	11.7	N23 58.1	5.8	54.0			
A								Aldebaran	290 42.2	N16 33.2
T 6	270 51.7	S23 23.5	102 02.3	11.7	N24 03.8	5.7	54.0	Alioth	166 15.4	N55 50.3
U 7	285 51.4	S23 23.6	116 32.9	11.6	N24 09.3	5.6	54.0	Alkaid	152 54.3	N49 12.1
R 8	300 51.1	S23 23.6	131 03.4	11.6	N24 14.8	5.5	54.0	Al Na-ir	27 36.3	S46 51.6
D 9	315 50.8	S23 23.7	145 34.0	11.5	N24 20.2	5.4	54.0	Alnilam	275 39.9	S 1 11.3
A 10	330 50.5	S23 23.8	160 04.4	11.5	N24 25.4	5.2	54.0			
Y 11	345 50.2	S23 23.8	174 34.9	11.4	N24 30.5	5.1	54.0	Alphard	217 50.0	S 8 45.1
								Alphecca	126 06.2	N26 38.4
12	0 49.9	S23 23.9	189 05.2	11.4	N24 35.6	5.0	54.0	Alpheratz	357 37.3	N29 12.8
13	15 49.6	S23 24.0	203 35.6	11.3	N24 40.5	4.9	54.0	Altair	62 02.7	N 8 55.6
14	30 49.3	S23 24.0	218 05.8	11.3	N24 45.3	4.8	54.0	Ankaa	353 09.6	S42 11.6
15	45 49.0	S23 24.1	232 36.1	11.2	N24 49.9	4.7	54.0			
16	60 48.7	S23 24.1	247 06.3	11.2	N24 54.5	4.6	54.0	Antares	112 19.3	S26 28.7
17	75 48.4	S23 24.2	261 36.4	11.2	N24 58.9	4.4	54.0	Arcturus	145 50.4	N19 04.1
								Atria	107 16.4	S69 03.9
18	90 48.1	S23 24.3	276 06.6	11.1	N25 03.3	4.3	54.0	Avior	234 15.2	S59 34.6
19	105 47.7	S23 24.3	290 36.6	11.1	N25 07.5	4.2	54.0	Bellatrix	278 25.2	N 6 22.2
20	120 47.4	S23 24.4	305 06.7	11.0	N25 11.6	4.1	54.0			
21	135 47.1	S23 24.4	319 36.7	11.0	N25 15.6	4.0	54.0	Betelgeuse	270 54.5	N 7 24.7
22	150 46.8	S23 24.5	334 06.6	11.0	N25 19.4	3.9	54.0	Canopus	263 52.9	S52 42.4
23	165 46.5	S23 24.5	348 36.5	10.9	N25 23.2	3.7	54.0	Capella	280 25.1	N46 01.2
								Castor	245 59.9	N31 50.4
19 0	180 46.2	S23 24.6	3 06.4	10.9	N25 26.8	3.6	54.0	Deneb	49 27.8	N45 21.6
1	195 45.9	S23 24.6	17 36.3	10.8	N25 30.3	3.5	54.0			
2	210 45.6	S23 24.7	32 06.1	10.8	N25 33.7	3.4	54.0	Denebola	182 27.5	N14 27.0
3	225 45.3	S23 24.7	46 35.9	10.8	N25 37.0	3.3	54.0	Diphda	348 49.8	S17 52.1
4	240 45.0	S23 24.8	61 05.6	10.7	N25 40.1	3.1	54.0	Dubhe	193 44.0	N61 37.7
S 5	255 44.7	S23 24.8	75 35.3	10.7	N25 43.1	3.0	54.0	Elnath	278 04.7	N28 37.5
U								Eltanin	90 43.9	N51 29.1
N 6	270 44.4	S23 24.9	90 05.0	10.7	N25 46.0	2.9	54.0			
D 7	285 44.1	S23 24.9	104 34.6	10.6	N25 48.8	2.8	54.0	Enif	33 41.4	N 9 58.5
A 8	300 43.7	S23 25.0	119 04.2	10.6	N25 51.4	2.7	54.0	Fomalhaut	15 17.4	S29 30.6
Y 9	315 43.4	S23 25.0	133 33.8	10.6	N25 54.0	2.5	54.0	Gacrux	171 54.5	S57 13.8
10	330 43.1	S23 25.1	148 03.4	10.6	N25 56.4	2.4	54.0	Gienah	175 46.2	S17 39.6
11	345 42.8	S23 25.1	162 32.9	10.5	N25 58.7	2.3	54.0	Hadar	148 40.0	S60 28.4
12	0 42.5	S23 25.1	177 02.4	10.5	N26 00.8	2.2	54.0	Hamal	327 53.8	N23 34.0
13	15 42.2	S23 25.2	191 31.9	10.5	N26 02.9	2.0	54.1	Kaus Austr.	83 36.3	S34 22.5
14	30 41.9	S23 25.2	206 01.4	10.5	N26 04.8	1.9	54.1	Kochab	137 20.9	N74 03.7
15	45 41.6	S23 25.3	220 30.8	10.4	N26 06.6	1.8	54.1	Markab	13 32.5	N15 19.4
16	60 41.3	S23 25.3	235 00.2	10.4	N26 08.2	1.7	54.1	Menkar	314 08.5	N 4 10.5
17	75 41.0	S23 25.4	249 29.6	10.4	N26 09.8	1.5	54.1			
								Menkent	148 00.8	S36 28.5
18	90 40.7	S23 25.4	263 59.0	10.4	N26 11.2	1.4	54.1	Miaplacidus	221 38.0	S69 48.1
19	105 40.4	S23 25.4	278 28.3	10.3	N26 12.4	1.3	54.1	Mirfak	308 31.4	N49 56.4
20	120 40.0	S23 25.5	292 57.6	10.3	N26 13.6	1.2	54.1	Nunki	75 51.2	S26 16.2
21	135 39.7	S23 25.5	307 27.0	10.3	N26 14.6	1.0	54.1	Peacock	53 10.1	S56 40.1
22	150 39.4	S23 25.5	321 56.3	10.3	N26 15.5	0.9	54.1			
23	165 39.1	S23 25.6	336 25.5	10.3	N26 16.3	0.8	54.1	Polaris	316 57.5	N89 20.8
								Pollux	243 20.0	N27 58.3
20 0	180 38.8	S23 25.6	350 54.8	10.3	N26 16.9	0.6	54.1	Procyon	244 53.2	N 5 10.1
1	195 38.5	S23 25.6	5 24.1	10.3	N26 17.5	0.5	54.1	Rasalhague	96 01.3	N12 32.7
2	210 38.2	S23 25.7	19 53.3	10.2	N26 17.9	0.4	54.1	Regulus	207 37.0	N11 51.6
3	225 37.9	S23 25.7	34 22.5	10.2	N26 18.1	0.3	54.1			
4	240 37.6	S23 25.7	48 51.8	10.2	N26 18.3	0.1	54.1	Rigel	281 05.9	S 8 10.6
M 5	255 37.3	S23 25.8	63 21.0	10.2	N26 18.3	0.0	54.2	Rigil Kent	139 44.3	S60 55.2
O								Sabik	102 06.0	S15 45.1
N 6	270 37.0	S23 25.8	77 50.2	10.2	N26 18.2	0.1	54.2	Schedar	349 33.7	N56 39.6
D 7	285 36.7	S23 25.8	92 19.4	10.2	N26 17.9	0.2	54.2	Shaula	96 14.2	S37 07.1
A 8	300 36.3	S23 25.8	106 48.6	10.2	N26 17.5	0.4	54.2			
Y 9	315 36.0	S23 25.9	121 17.8	10.2	N26 17.0	0.5	54.2	Sirius	258 28.1	S16 44.7
10	330 35.7	S23 25.9	135 47.0	10.2	N26 16.4	0.6	54.2	Spica	158 25.1	S11 16.4
11	345 35.4	S23 25.9	150 16.2	10.2	N26 15.6	0.8	54.2	Suhail	222 47.8	S43 31.0
								Vega	80 35.3	N38 48.3
12	0 35.1	S23 25.9	164 45.4	10.2	N26 14.7	0.9	54.2	Zuben-ubi	136 59.8	S16 07.8
13	15 34.8	S23 26.0	179 14.5	10.2	N26 13.7	1.0	54.2			
14	30 34.5	S23 26.0	193 43.7	10.2	N26 12.6	1.1	54.2			
15	45 34.2	S23 26.0	208 12.9	10.2	N26 11.3	1.3	54.2			
16	60 33.9	S23 26.0	222 42.1	10.2	N26 09.9	1.4	54.2			
17	75 33.6	S23 26.0	237 11.3	10.2	N26 08.4	1.5	54.3			
18	90 33.3	S23 26.1	251 40.5	10.2	N26 06.7	1.7	54.3			
19	105 32.9	S23 26.1	266 09.8	10.2	N26 04.9	1.8	54.3			
20	120 32.6	S23 26.1	280 39.0	10.2	N26 03.0	1.9	54.3			
21	135 32.3	S23 26.1	295 08.2	10.2	N26 01.0	2.0	54.3			
22	150 32.0	S23 26.1	309 37.5	10.2	N25 58.8	2.2	54.3			
23	165 31.7	S23 26.1	324 06.7	10.3	N25 56.5	2.3	54.3			
	S.D. 16.3	d 0.0	S.D.	14.7	14.7	14.8				

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
21	0	89 47.1	151 21.4	S20 43.1	206 23.5	S21 12.0	118 46.4	S12 56.7	136 20.3	S18 19.4
	1	104 49.5	166 24.2	S20 42.6	221 24.1	S21 12.4	133 48.4	S12 56.5	151 22.5	S18 19.3
	2	119 52.0	181 26.9	S20 42.1	236 24.7	S21 12.7	148 50.4	S12 56.4	166 24.7	S18 19.2
	3	134 54.4	196 29.7	S20 41.6	251 25.3	S21 13.0	163 52.5	S12 56.2	181 26.9	S18 19.2
	4	149 56.9	211 32.4	S20 41.1	266 25.9	S21 13.4	178 54.5	S12 56.0	196 29.1	S18 19.1
T	5	164 59.4	226 35.2	S20 40.5	281 26.5	S21 13.7	193 56.6	S12 55.9	211 31.3	S18 19.0
U										
E	6	180 01.8	241 38.0	S20 40.0	296 27.1	S21 14.1	208 58.6	S12 55.7	226 33.5	S18 19.0
S	7	195 04.3	256 40.7	S20 39.5	311 27.7	S21 14.4	224 00.7	S12 55.6	241 35.7	S18 18.9
D	8	210 06.8	271 43.5	S20 39.0	326 28.4	S21 14.7	239 02.7	S12 55.4	256 38.0	S18 18.8
A	9	225 09.2	286 46.3	S20 38.5	341 29.0	S21 15.1	254 04.7	S12 55.3	271 40.2	S18 18.8
Y	10	240 11.7	301 49.1	S20 38.0	356 29.6	S21 15.4	269 06.8	S12 55.1	286 42.4	S18 18.7
	11	255 14.2	316 51.9	S20 37.4	11 30.2	S21 15.7	284 08.8	S12 54.9	301 44.6	S18 18.6
	12	270 16.6	331 54.7	S20 36.9	26 30.8	S21 16.1	299 10.8	S12 54.8	316 46.8	S18 18.5
	13	285 19.1	346 57.5	S20 36.4	41 31.4	S21 16.4	314 12.9	S12 54.6	331 49.0	S18 18.5
	14	300 21.6	2 00.3	S20 35.9	56 32.0	S21 16.7	329 14.9	S12 54.5	346 51.2	S18 18.4
	15	315 24.0	17 03.1	S20 35.4	71 32.6	S21 17.1	344 17.0	S12 54.3	1 53.4	S18 18.3
	16	330 26.5	32 05.9	S20 34.9	86 33.2	S21 17.4	359 19.0	S12 54.1	16 55.6	S18 18.3
	17	345 28.9	47 08.8	S20 34.4	101 33.8	S21 17.8	14 21.0	S12 54.0	31 57.9	S18 18.2
	18	0 31.4	62 11.6	S20 33.8	116 34.5	S21 18.1	29 23.1	S12 53.8	47 00.1	S18 18.1
	19	15 33.9	77 14.4	S20 33.3	131 35.1	S21 18.4	44 25.1	S12 53.7	62 02.3	S18 18.1
	20	30 36.3	92 17.3	S20 32.8	146 35.7	S21 18.8	59 27.2	S12 53.5	77 04.5	S18 18.0
	21	45 38.8	107 20.1	S20 32.3	161 36.3	S21 19.1	74 29.2	S12 53.4	92 06.7	S18 17.9
	22	60 41.3	122 22.9	S20 31.8	176 36.9	S21 19.4	89 31.2	S12 53.2	107 08.9	S18 17.9
	23	75 43.7	137 25.8	S20 31.3	191 37.5	S21 19.7	104 33.3	S12 53.0	122 11.1	S18 17.8
22	0	90 46.2	152 28.6	S20 30.8	206 38.1	S21 20.1	119 35.3	S12 52.9	137 13.3	S18 17.7
	1	105 48.7	167 31.5	S20 30.2	221 38.7	S21 20.4	134 37.3	S12 52.7	152 15.5	S18 17.7
	2	120 51.1	182 34.4	S20 29.7	236 39.3	S21 20.7	149 39.4	S12 52.6	167 17.7	S18 17.6
	3	135 53.6	197 37.2	S20 29.2	251 39.9	S21 21.1	164 41.4	S12 52.4	182 20.0	S18 17.5
	4	150 56.0	212 40.1	S20 28.7	266 40.5	S21 21.4	179 43.5	S12 52.2	197 22.2	S18 17.5
W	5	165 58.5	227 43.0	S20 28.2	281 41.1	S21 21.7	194 45.5	S12 52.1	212 24.4	S18 17.4
E										
D	6	181 01.0	242 45.9	S20 27.7	296 41.8	S21 22.1	209 47.5	S12 51.9	227 26.6	S18 17.3
N	7	196 03.4	257 48.8	S20 27.2	311 42.4	S21 22.4	224 49.6	S12 51.8	242 28.8	S18 17.3
E	8	211 05.9	272 51.7	S20 26.7	326 43.0	S21 22.7	239 51.6	S12 51.6	257 31.0	S18 17.2
S	9	226 08.4	287 54.6	S20 26.1	341 43.6	S21 23.1	254 53.6	S12 51.4	272 33.2	S18 17.1
D	10	241 10.8	302 57.5	S20 25.6	356 44.2	S21 23.4	269 55.7	S12 51.3	287 35.4	S18 17.1
A	11	256 13.3	318 00.4	S20 25.1	11 44.8	S21 23.7	284 57.7	S12 51.1	302 37.6	S18 17.0
Y										
	12	271 15.8	333 03.3	S20 24.6	26 45.4	S21 24.0	299 59.7	S12 51.0	317 39.8	S18 16.9
	13	286 18.2	348 06.2	S20 24.1	41 46.0	S21 24.4	315 01.8	S12 50.8	332 42.0	S18 16.8
	14	301 20.7	3 09.1	S20 23.6	56 46.6	S21 24.7	330 03.8	S12 50.6	347 44.3	S18 16.8
	15	316 23.2	18 12.0	S20 23.1	71 47.2	S21 25.0	345 05.8	S12 50.5	2 46.5	S18 16.7
	16	331 25.6	33 15.0	S20 22.6	86 47.8	S21 25.3	0 07.9	S12 50.3	17 48.7	S18 16.6
	17	346 28.1	48 17.9	S20 22.1	101 48.4	S21 25.7	15 09.9	S12 50.2	32 50.9	S18 16.6
	18	1 30.5	63 20.8	S20 21.5	116 49.0	S21 26.0	30 11.9	S12 50.0	47 53.1	S18 16.5
	19	16 33.0	78 23.8	S20 21.0	131 49.6	S21 26.3	45 14.0	S12 49.8	62 55.3	S18 16.4
	20	31 35.5	93 26.7	S20 20.5	146 50.2	S21 26.6	60 16.0	S12 49.7	77 57.5	S18 16.4
	21	46 37.9	108 29.7	S20 20.0	161 50.8	S21 27.0	75 18.0	S12 49.5	92 59.7	S18 16.3
	22	61 40.4	123 32.6	S20 19.5	176 51.4	S21 27.3	90 20.1	S12 49.4	108 01.9	S18 16.2
	23	76 42.9	138 35.6	S20 19.0	191 52.0	S21 27.6	105 22.1	S12 49.2	123 04.1	S18 16.2
23	0	91 45.3	153 38.6	S20 18.5	206 52.6	S21 27.9	120 24.1	S12 49.0	138 06.3	S18 16.1
	1	106 47.8	168 41.5	S20 18.0	221 53.2	S21 28.3	135 26.2	S12 48.9	153 08.5	S18 16.0
	2	121 50.3	183 44.5	S20 17.5	236 53.8	S21 28.6	150 28.2	S12 48.7	168 10.8	S18 16.0
	3	136 52.7	198 47.5	S20 17.0	251 54.4	S21 28.9	165 30.2	S12 48.6	183 13.0	S18 15.9
	4	151 55.2	213 50.5	S20 16.5	266 55.0	S21 29.2	180 32.3	S12 48.4	198 15.2	S18 15.8
T	5	166 57.7	228 53.5	S20 15.9	281 55.6	S21 29.6	195 34.3	S12 48.2	213 17.4	S18 15.8
H										
U	6	182 00.1	243 56.5	S20 15.4	296 56.2	S21 29.9	210 36.3	S12 48.1	228 19.6	S18 15.7
R	7	197 02.6	258 59.5	S20 14.9	311 56.8	S21 30.2	225 38.4	S12 47.9	243 21.8	S18 15.6
S	8	212 05.0	274 02.5	S20 14.4	326 57.4	S21 30.5	240 40.4	S12 47.8	258 24.0	S18 15.5
D	9	227 07.5	289 05.5	S20 13.9	341 58.1	S21 30.8	255 42.4	S12 47.6	273 26.2	S18 15.5
A	10	242 10.0	304 08.5	S20 13.4	356 58.7	S21 31.2	270 44.5	S12 47.4	288 28.4	S18 15.4
Y	11	257 12.4	319 11.5	S20 12.9	11 59.3	S21 31.5	285 46.5	S12 47.3	303 30.6	S18 15.3
	12	272 14.9	334 14.5	S20 12.4	26 59.9	S21 31.8	300 48.5	S12 47.1	318 32.8	S18 15.3
	13	287 17.4	349 17.5	S20 11.9	42 00.5	S21 32.1	315 50.6	S12 46.9	333 35.0	S18 15.2
	14	302 19.8	4 20.6	S20 11.4	57 01.1	S21 32.4	330 52.6	S12 46.8	348 37.2	S18 15.1
	15	317 22.3	19 23.6	S20 10.9	72 01.7	S21 32.8	345 54.6	S12 46.6	3 39.4	S18 15.1
	16	332 24.8	34 26.6	S20 10.4	87 02.3	S21 33.1	0 56.6	S12 46.5	18 41.6	S18 15.0
	17	347 27.2	49 29.7	S20 09.9	102 02.9	S21 33.4	15 58.7	S12 46.3	33 43.9	S18 14.9
	18	2 29.7	64 32.7	S20 09.4	117 03.4	S21 33.7	31 00.7	S12 46.1	48 46.1	S18 14.9
	19	17 32.2	79 35.8	S20 08.9	132 04.0	S21 34.0	46 02.7	S12 46.0	63 48.3	S18 14.8
	20	32 34.6	94 38.9	S20 08.4	147 04.6	S21 34.4	61 04.8	S12 45.8	78 50.5	S18 14.7
	21	47 37.1	109 41.9	S20 07.8	162 05.2	S21 34.7	76 06.8	S12 45.7	93 52.7	S18 14.6
	22	62 39.5	124 45.0	S20 07.3	177 05.8	S21 35.0	91 08.8	S12 45.5	108 54.9	S18 14.6
	23	77 42.0	139 48.1	S20 06.8	192 06.4	S21 35.3	106 10.8	S12 45.3	123 57.1	S18 14.5
			v 2.9	d 0.5	v 0.6	d 0.3	v 2.0	d 0.2	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	180 31.4	S23 26.1	338 36.0	10.3	N25 54.1	2.4	54.3
	1	195 31.1	S23 26.2	353 05.2	10.3	N25 51.6	2.5	54.3
	2	210 30.8	S23 26.2	7 34.5	10.3	N25 48.9	2.7	54.3
	3	225 30.5	S23 26.2	22 03.8	10.3	N25 46.1	2.8	54.3
	4	240 30.2	S23 26.2	36 33.2	10.3	N25 43.2	2.9	54.4
T	5	255 29.9	S23 26.2	51 02.5	10.3	N25 40.1	3.1	54.4
U								
E	6	270 29.5	S23 26.2	65 31.9	10.4	N25 36.9	3.2	54.4
S	7	285 29.2	S23 26.2	80 01.2	10.4	N25 33.6	3.3	54.4
D	8	300 28.9	S23 26.2	94 30.6	10.4	N25 30.2	3.4	54.4
A	9	315 28.6	S23 26.2	109 00.1	10.4	N25 26.6	3.6	54.4
Y	10	330 28.3	S23 26.2	123 29.5	10.4	N25 22.9	3.7	54.4
	11	345 28.0	S23 26.2	137 59.0	10.5	N25 19.1	3.8	54.4
	12	0 27.7	S23 26.2	152 28.4	10.5	N25 15.2	3.9	54.4
	13	15 27.4	S23 26.2	166 58.0	10.5	N25 11.2	4.1	54.5
	14	30 27.1	S23 26.2	181 27.5	10.5	N25 07.0	4.2	54.5
	15	45 26.8	S23 26.3	195 57.0	10.6	N25 02.7	4.3	54.5
	16	60 26.4	S23 26.3	210 26.6	10.6	N24 58.3	4.4	54.5
	17	75 26.1	S23 26.2	224 56.2	10.6	N24 53.7	4.5	54.5
	18	90 25.8	S23 26.2	239 25.9	10.6	N24 49.1	4.7	54.5
	19	105 25.5	S23 26.2	253 55.6	10.7	N24 44.3	4.8	54.5
	20	120 25.2	S23 26.2	268 25.3	10.7	N24 39.4	4.9	54.5
	21	135 24.9	S23 26.2	282 55.0	10.7	N24 34.3	5.0	54.6
	22	150 24.6	S23 26.2	297 24.8	10.8	N24 29.2	5.1	54.6
	23	165 24.3	S23 26.2	311 54.5	10.8	N24 23.9	5.3	54.6
22	0	180 24.0	S23 26.2	326 24.4	10.8	N24 18.5	5.4	54.6
	1	195 23.7	S23 26.2	340 54.2	10.9	N24 13.0	5.5	54.6
	2	210 23.3	S23 26.2	355 24.1	10.9	N24 07.4	5.6	54.6
	3	225 23.0	S23 26.2	9 54.1	10.9	N24 01.7	5.7	54.6
	4	240 22.7	S23 26.2	24 24.0	11.0	N23 55.8	5.9	54.7
W	5	255 22.4	S23 26.2	38 54.0	11.0	N23 49.8	6.0	54.7
E								
D	6	270 22.1	S23 26.2	53 24.0	11.0	N23 43.8	6.1	54.7
N	7	285 21.8	S23 26.2	67 54.1	11.1	N23 37.5	6.2	54.7
E	8	300 21.5	S23 26.1	82 24.2	11.1	N23 31.2	6.3	54.7
S	9	315 21.2	S23 26.1	96 54.4	11.1	N23 24.8	6.4	54.7
D	10	330 20.9	S23 26.1	111 24.5	11.2	N23 18.2	6.5	54.7
A	11	345 20.6	S23 26.1	125 54.8	11.2	N23 11.6	6.7	54.8
Y								
	12	0 20.2	S23 26.1	140 25.0	11.3	N23 04.8	6.8	54.8
	13	15 19.9	S23 26.1	154 55.3	11.3	N22 57.9	6.9	54.8
	14	30 19.6	S23 26.1	169 25.7	11.3	N22 50.9	7.0	54.8
	15	45 19.3	S23 26.0	183 56.0	11.4	N22 43.8	7.1	54.8
	16	60 19.0	S23 26.0	198 26.5	11.4	N22 36.6	7.2	54.8
	17	75 18.7	S23 26.0	212 56.9	11.5	N22 29.3	7.3	54.9
	18	90 18.4	S23 26.0	227 27.4	11.5	N22 21.8	7.4	54.9
	19	105 18.1	S23 26.0	241 57.9	11.5	N22 14.3	7.5	54.9
	20	120 17.8	S23 25.9	256 28.5	11.6	N22 06.6	7.7	54.9
	21	135 17.5	S23 25.9	270 59.2	11.6	N21 58.9	7.8	54.9
	22	150 17.1	S23 25.9	285 29.8	11.7	N21 51.0	7.9	54.9
	23	165 16.8	S23 25.9	300 00.5	11.7	N21 43.0	8.0	55.0
23	0	180 16.5	S23 25.8	314 31.3	11.7	N21 34.9	8.1	55.0
	1	195 16.2	S23 25.8	329 02.1	11.8	N21 26.7	8.2	55.0
	2	210 15.9	S23 25.8	343 32.9	11.8	N21 18.5	8.3	55.0
	3	225 15.6	S23 25.7	358 03.8	11.9	N21 10.1	8.4	55.0
	4	240 15.3	S23 25.7	12 34.7	11.9	N21 01.6	8.5	55.0
T	5	255 15.0	S23 25.7	27 05.6	12.0	N20 53.0	8.6	55.1
H								
U	6	270 14.7	S23 25.7	41 36.6	12.0	N20 44.3	8.7	55.1
R	7	285 14.4	S23 25.6	56 07.7	12.0	N20 35.5	8.8	55.1
S	8	300 14.0	S23 25.6	70 38.7	12.1	N20 26.6	8.9	55.1
D	9	315 13.7	S23 25.6	85 09.9	12.1	N20 17.6	9.0	55.1
A	10	330 13.4	S23 25.5	99 41.0	12.2	N20 08.5	9.1	55.2
Y	11	345 13.1	S23 25.5	114 12.2	12.2	N19 59.3	9.2	55.2
	12	0 12.8	S23 25.5	128 43.5	12.2	N19 50.0	9.3	55.2
	13	15 12.5	S23 25.4	143 14.8	12.3	N19 40.6	9.4	55.2
	14	30 12.2	S23 25.4	157 46.1	12.3	N19 31.1	9.5	55.2
	15	45 11.9	S23 25.3	172 17.5	12.4	N19 21.5	9.6	55.3
	16	60 11.6	S23 25.3	186 48.9	12.4	N19 11.9	9.7	55.3
	17	75 11.3	S23 25.3	201 20.4	12.5	N19 02.1	9.8	55.3
	18	90 10.9	S23 25.2	215 51.9	12.5	N18 52.2	9.9	55.3
	19	105 10.6	S23 25.2	230 23.4	12.5	N18 42.3	10.0	55.3
	20	120 10.3	S23 25.1	244 55.0	12.6	N18 32.3	10.0	55.4
	21	135 10.0	S23 25.1	259 26.6	12.6	N18 22.1	10.1	55.4
	22	150 09.7	S23 25.1	273 58.2	12.7	N18 11.9	10.2	55.4
	23	165 09.4	S23 25.0	288 29.9	12.7	N18 01.6	10.3	55.4
		S.D. 16.3	d 0.0	S.D. 14.8	14.9	15.0		

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.4	S40 13.2
Achernar	335 21.8	S57 07.9
Acrux	173 02.9	S63 12.8
Adhara	255 07.4	S29 00.0
Albireo	67 06.4	N28 00.4
Aldebaran	290 42.2	N16 33.2
Alioth	166 15.3	N55 50.3
Alkaid	152 54.3	N49 12.1
Al Na-ir	27 36.3	S46 51.6
Alnilam	275 39.9	S 1 11.3
Alphard	217 50.0	S 8 45.1
Alphecca	126 06.2	N26 38.4
Alpheratz	357 37.3	N29 12.8
Altair	62 02.7	N 8 55.6
Ankaa	353 09.6	S42 11.6
Antares	112 19.3	S26 28.7
Arcturus	145 50.4	N19 04.1
Atria	107 16.4	S69 03.9
Avior	234 15.1	S59 34.6
Bellatrix	278 25.2	N 6 22.2
Betelgeuse	270 54.4	N 7 24.7
Canopus	263 52.9	S52 42.4
Capella	280 25.1	N46 01.2
Castor	245 59.9	N31 50.4
Deneb	49 27.8	N45 21.6
Denebola	182 27.5	N14 27.0
Diphda	348 49.8	S17 52.1
Dubhe	193 43.9	N61 37.7
Elnath	278 04.7	N28 37.5
Eltanin	90 43.9	N51 29.1
Enif	33 41.4	N 9 58.5
Fomalhaut	15 17.4	S29 30.6
Gacrux	171 54.5	S57 13.8
Gienah	175 46.2	S17 39.6
Hadar	148 39.9	S60 28.4
Hamal	327 53.8	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 20.8	N74 03.7
Markab	13 32.5	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 00.8	S36 28.5
Miaplacidus	221 38.0	S69 48.1
Mirfak	308 31.4	N49 56.4
Nunki	75 51.2	S26 16.2
Peacock	53 10.1	S56 40.1
Polaris	316 58.4	N89 20.9
Pollux	243 20.0	N27 58.3
Procyon	244 53.1	N 5 10.1
Rasalhague	96 01.3	N12 32.7
Regulus	207 36.9	N11 51.6
Rigel	281 05.9	S 8 10.6
Rigil Kent	139 44.3	S60 55.2
Sabik	102 06.0	S15 45.1
Schedar	349 33.7	N56 39.6
Shaula	96 14.2	S37 07.1
Sirius	258 28.1	S16 44.7
Spica	158 25.1	S11 16.4
Suhail	222 47.8	S43 31.0
Vega	80 35.3	N38 48.2
Zuben-ubi	136 59.8	S16 07.9

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	92 44.5	154 51.1	S20 06.3	207 07.0	S21 35.6	121 12.9	S12 45.2	138 59.3	S18 14.4
	1	107 46.9	169 54.2	S20 05.8	222 07.6	S21 35.9	136 14.9	S12 45.0	154 01.5	S18 14.4
	2	122 49.4	184 57.3	S20 05.3	237 08.2	S21 36.3	151 16.9	S12 44.8	169 03.7	S18 14.3
	3	137 51.9	200 00.4	S20 04.8	252 08.8	S21 36.6	166 19.0	S12 44.7	184 05.9	S18 14.2
	4	152 54.3	215 03.5	S20 04.3	267 09.4	S21 36.9	181 21.0	S12 44.5	199 08.1	S18 14.2
F	5	167 56.8	230 06.6	S20 03.8	282 10.0	S21 37.2	196 23.0	S12 44.4	214 10.3	S18 14.1
R										
I	6	182 59.3	245 09.7	S20 03.3	297 10.6	S21 37.5	211 25.0	S12 44.2	229 12.5	S18 14.0
D	7	198 01.7	260 12.8	S20 02.8	312 11.2	S21 37.8	226 27.1	S12 44.0	244 14.7	S18 14.0
A	8	213 04.2	275 15.9	S20 02.3	327 11.8	S21 38.1	241 29.1	S12 43.9	259 16.9	S18 13.9
Y	9	228 06.6	290 19.0	S20 01.8	342 12.4	S21 38.4	256 31.1	S12 43.7	274 19.1	S18 13.8
	10	243 09.1	305 22.1	S20 01.3	357 13.0	S21 38.8	271 33.2	S12 43.5	289 21.3	S18 13.7
	11	258 11.6	320 25.3	S20 00.8	12 13.6	S21 39.1	286 35.2	S12 43.4	304 23.6	S18 13.7
	12	273 14.0	335 28.4	S20 00.3	27 14.2	S21 39.4	301 37.2	S12 43.2	319 25.8	S18 13.6
	13	288 16.5	350 31.5	S19 59.8	42 14.8	S21 39.7	316 39.2	S12 43.0	334 28.0	S18 13.5
	14	303 19.0	5 34.7	S19 59.3	57 15.4	S21 40.0	331 41.3	S12 42.9	349 30.2	S18 13.5
	15	318 21.4	20 37.8	S19 58.8	72 16.0	S21 40.3	346 43.3	S12 42.7	4 32.4	S18 13.4
	16	333 23.9	35 41.0	S19 58.3	87 16.6	S21 40.6	1 45.3	S12 42.6	19 34.6	S18 13.3
	17	348 26.4	50 44.1	S19 57.8	102 17.2	S21 40.9	16 47.3	S12 42.4	34 36.8	S18 13.3
	18	3 28.8	65 47.3	S19 57.3	117 17.8	S21 41.3	31 49.4	S12 42.2	49 39.0	S18 13.2
	19	18 31.3	80 50.4	S19 56.8	132 18.4	S21 41.6	46 51.4	S12 42.1	64 41.2	S18 13.1
	20	33 33.8	95 53.6	S19 56.3	147 18.9	S21 41.9	61 53.4	S12 41.9	79 43.4	S18 13.0
	21	48 36.2	110 56.8	S19 55.8	162 19.5	S21 42.2	76 55.4	S12 41.7	94 45.6	S18 13.0
	22	63 38.7	125 60.0	S19 55.3	177 20.1	S21 42.5	91 57.5	S12 41.6	109 47.8	S18 12.9
	23	78 41.1	141 03.1	S19 54.8	192 20.7	S21 42.8	106 59.5	S12 41.4	124 50.0	S18 12.8
25	0	93 43.6	156 06.3	S19 54.3	207 21.3	S21 43.1	122 01.5	S12 41.2	139 52.2	S18 12.8
	1	108 46.1	171 09.5	S19 53.8	222 21.9	S21 43.4	137 03.5	S12 41.1	154 54.4	S18 12.7
	2	123 48.5	186 12.7	S19 53.3	237 22.5	S21 43.7	152 05.6	S12 40.9	169 56.6	S18 12.6
	3	138 51.0	201 15.9	S19 52.8	252 23.1	S21 44.0	167 07.6	S12 40.8	184 58.8	S18 12.6
	4	153 53.5	216 19.1	S19 52.3	267 23.7	S21 44.3	182 09.6	S12 40.6	200 01.0	S18 12.5
S	5	168 55.9	231 22.3	S19 51.8	282 24.3	S21 44.6	197 11.6	S12 40.4	215 03.2	S18 12.4
A										
T	6	183 58.4	246 25.5	S19 51.3	297 24.9	S21 44.9	212 13.7	S12 40.3	230 05.4	S18 12.3
U	7	199 00.9	261 28.7	S19 50.8	312 25.5	S21 45.3	227 15.7	S12 40.1	245 07.6	S18 12.3
R	8	214 03.3	276 32.0	S19 50.3	327 26.1	S21 45.6	242 17.7	S12 39.9	260 09.8	S18 12.2
D	9	229 05.8	291 35.2	S19 49.9	342 26.6	S21 45.9	257 19.7	S12 39.8	275 12.0	S18 12.1
A	10	244 08.3	306 38.4	S19 49.4	357 27.2	S21 46.2	272 21.8	S12 39.6	290 14.2	S18 12.1
Y	11	259 10.7	321 41.7	S19 48.9	12 27.8	S21 46.5	287 23.8	S12 39.4	305 16.4	S18 12.0
	12	274 13.2	336 44.9	S19 48.4	27 28.4	S21 46.8	302 25.8	S12 39.3	320 18.6	S18 11.9
	13	289 15.6	351 48.1	S19 47.9	42 29.0	S21 47.1	317 27.8	S12 39.1	335 20.8	S18 11.9
	14	304 18.1	6 51.4	S19 47.4	57 29.6	S21 47.4	332 29.8	S12 38.9	350 23.0	S18 11.8
	15	319 20.6	21 54.6	S19 46.9	72 30.2	S21 47.7	347 31.9	S12 38.8	5 25.2	S18 11.7
	16	334 23.0	36 57.9	S19 46.4	87 30.8	S21 48.0	2 33.9	S12 38.6	20 27.5	S18 11.6
	17	349 25.5	52 01.2	S19 45.9	102 31.4	S21 48.3	17 35.9	S12 38.4	35 29.7	S18 11.6
	18	4 28.0	67 04.4	S19 45.4	117 32.0	S21 48.6	32 37.9	S12 38.3	50 31.9	S18 11.5
	19	19 30.4	82 07.7	S19 44.9	132 32.5	S21 48.9	47 40.0	S12 38.1	65 34.1	S18 11.4
	20	34 32.9	97 11.0	S19 44.4	147 33.1	S21 49.2	62 42.0	S12 38.0	80 36.3	S18 11.4
	21	49 35.4	112 14.2	S19 43.9	162 33.7	S21 49.5	77 44.0	S12 37.8	95 38.5	S18 11.3
	22	64 37.8	127 17.5	S19 43.4	177 34.3	S21 49.8	92 46.0	S12 37.6	110 40.7	S18 11.2
	23	79 40.3	142 20.8	S19 42.9	192 34.9	S21 50.1	107 48.0	S12 37.5	125 42.9	S18 11.2
26	0	94 42.7	157 24.1	S19 42.5	207 35.5	S21 50.4	122 50.1	S12 37.3	140 45.1	S18 11.1
	1	109 45.2	172 27.4	S19 42.0	222 36.1	S21 50.7	137 52.1	S12 37.1	155 47.3	S18 11.0
	2	124 47.7	187 30.7	S19 41.5	237 36.7	S21 51.0	152 54.1	S12 37.0	170 49.5	S18 10.9
	3	139 50.1	202 34.0	S19 41.0	252 37.2	S21 51.3	167 56.1	S12 36.8	185 51.7	S18 10.9
	4	154 52.6	217 37.3	S19 40.5	267 37.8	S21 51.6	182 58.1	S12 36.6	200 53.9	S18 10.8
S	5	169 55.1	232 40.6	S19 40.0	282 38.4	S21 51.9	198 00.2	S12 36.5	215 56.1	S18 10.7
U										
N	6	184 57.5	247 43.9	S19 39.5	297 39.0	S21 52.2	213 02.2	S12 36.3	230 58.3	S18 10.7
D	7	199 60.0	262 47.3	S19 39.0	312 39.6	S21 52.5	228 04.2	S12 36.1	246 00.5	S18 10.6
A	8	215 02.5	277 50.6	S19 38.5	327 40.2	S21 52.8	243 06.2	S12 36.0	261 02.7	S18 10.5
Y	9	230 04.9	292 53.9	S19 38.0	342 40.8	S21 53.1	258 08.2	S12 35.8	276 04.9	S18 10.4
	10	245 07.4	307 57.3	S19 37.6	357 41.4	S21 53.4	273 10.3	S12 35.6	291 07.1	S18 10.4
	11	260 09.9	323 00.6	S19 37.1	12 41.9	S21 53.7	288 12.3	S12 35.5	306 09.3	S18 10.3
	12	275 12.3	338 03.9	S19 36.6	27 42.5	S21 54.0	303 14.3	S12 35.3	321 11.5	S18 10.2
	13	290 14.8	353 07.3	S19 36.1	42 43.1	S21 54.3	318 16.3	S12 35.1	336 13.7	S18 10.2
	14	305 17.2	8 10.6	S19 35.6	57 43.7	S21 54.6	333 18.3	S12 35.0	351 15.9	S18 10.1
	15	320 19.7	23 14.0	S19 35.1	72 44.3	S21 54.9	348 20.3	S12 34.8	6 18.1	S18 10.0
	16	335 22.2	38 17.4	S19 34.6	87 44.9	S21 55.2	3 22.4	S12 34.6	21 20.3	S18 09.9
	17	350 24.6	53 20.7	S19 34.1	102 45.4	S21 55.4	18 24.4	S12 34.5	36 22.5	S18 09.9
	18	5 27.1	68 24.1	S19 33.7	117 46.0	S21 55.7	33 26.4	S12 34.3	51 24.7	S18 09.8
	19	20 29.6	83 27.5	S19 33.2	132 46.6	S21 56.0	48 28.4	S12 34.1	66 26.9	S18 09.7
	20	35 32.0	98 30.8	S19 32.7	147 47.2	S21 56.3	63 30.4	S12 34.0	81 29.1	S18 09.7
	21	50 34.5	113 34.2	S19 32.2	162 47.8	S21 56.6	78 32.5	S12 33.8	96 31.3	S18 09.6
	22	65 37.0	128 37.6	S19 31.7	177 48.4	S21 56.9	93 34.5	S12 33.6	111 33.5	S18 09.5
	23	80 39.4	143 41.0	S19 31.2	192 48.9	S21 57.2	108 36.5	S12 33.5	126 35.7	S18 09.4
			v 3.2	d 0.5	v 0.6	d 0.3	v 2.0	d 0.2	v 2.2	d 0.1

G.M.T	SUN		MOON						STARS		
d h	GHA	Dec	GHA	v	Dec	d	HP		Name	SHA	Dec
	° '	° '	° '	'	° '	'	'			° '	° '
24 0	180 09.1	S23 25.0	303 01.7	12.7	N17 51.2	10.4	55.5		Acamar	315 13.4	S40 13.2
1	195 08.8	S23 24.9	317 33.4	12.8	N17 40.7	10.5	55.5		Achernar	335 21.9	S57 07.9
2	210 08.5	S23 24.9	332 05.2	12.8	N17 30.1	10.6	55.5		Acrux	173 02.9	S63 12.8
3	225 08.2	S23 24.8	346 37.1	12.8	N17 19.5	10.7	55.5		Adhara	255 07.4	S29 00.1
4	240 07.8	S23 24.8	1 09.0	12.9	N17 08.7	10.7	55.5		Albireo	67 06.4	N28 00.3
F 5	255 07.5	S23 24.7	15 40.9	12.9	N16 57.9	10.8	55.6				
R									Aldebaran	290 42.2	N16 33.2
I 6	270 07.2	S23 24.7	30 12.9	13.0	N16 47.0	10.9	55.6		Alioth	166 15.3	N55 50.3
D 7	285 06.9	S23 24.6	44 44.9	13.0	N16 36.0	11.0	55.6		Alkaid	152 54.2	N49 12.0
A 8	300 06.6	S23 24.6	59 16.9	13.0	N16 24.9	11.1	55.6		Al Na-ir	27 36.3	S46 51.6
Y 9	315 06.3	S23 24.5	73 48.9	13.1	N16 13.7	11.2	55.7		Alnilam	275 39.9	S 1 11.3
10	330 06.0	S23 24.5	88 21.0	13.1	N16 02.5	11.2	55.7				
11	345 05.7	S23 24.4	102 53.2	13.1	N15 51.2	11.3	55.7		Alphard	217 49.9	S 8 45.1
									Alphecca	126 06.2	N26 38.4
12	0 05.4	S23 24.4	117 25.3	13.2	N15 39.8	11.4	55.7		Alpheratz	357 37.4	N29 12.8
13	15 05.1	S23 24.3	131 57.5	13.2	N15 28.3	11.5	55.8		Altair	62 02.7	N 8 55.5
14	30 04.7	S23 24.2	146 29.8	13.2	N15 16.7	11.6	55.8		Ankaa	353 09.6	S42 11.6
15	45 04.4	S23 24.2	161 02.0	13.3	N15 05.1	11.6	55.8				
16	60 04.1	S23 24.1	175 34.3	13.3	N14 53.4	11.7	55.8		Antares	112 19.3	S26 28.7
17	75 03.8	S23 24.1	190 06.6	13.3	N14 41.6	11.8	55.9		Arcturus	145 50.4	N19 04.0
									Atria	107 16.3	S69 03.9
18	90 03.5	S23 24.0	204 39.0	13.4	N14 29.7	11.9	55.9		Avior	234 15.1	S59 34.6
19	105 03.2	S23 24.0	219 11.4	13.4	N14 17.8	11.9	55.9		Bellatrix	278 25.2	N 6 22.2
20	120 02.9	S23 23.9	233 43.8	13.4	N14 05.8	12.0	55.9				
21	135 02.6	S23 23.8	248 16.2	13.4	N13 53.7	12.1	56.0		Betelgeuse	270 54.4	N 7 24.7
22	150 02.3	S23 23.8	262 48.7	13.5	N13 41.5	12.2	56.0		Canopus	263 52.9	S52 42.4
23	165 02.0	S23 23.7	277 21.2	13.5	N13 29.3	12.2	56.0		Capella	280 25.1	N46 01.2
25 0	180 01.7	S23 23.6	291 53.7	13.5	N13 17.0	12.3	56.0		Castor	245 59.9	N31 50.4
1	195 01.3	S23 23.6	306 26.2	13.5	N13 04.7	12.4	56.1		Deneb	49 27.9	N45 21.6
2	210 01.0	S23 23.5	320 58.8	13.6	N12 52.2	12.4	56.1				
3	225 00.7	S23 23.4	335 31.4	13.6	N12 39.7	12.5	56.1		Denebola	182 27.5	N14 27.0
4	240 00.4	S23 23.4	350 04.0	13.6	N12 27.2	12.6	56.1		Diphda	348 49.8	S17 52.1
S 5	255 00.1	S23 23.3	4 36.6	13.6	N12 14.5	12.6	56.2		Dubhe	193 43.9	N61 37.7
A									Elnath	278 04.7	N28 37.5
T 6	269 59.8	S23 23.2	19 09.2	13.6	N12 01.8	12.7	56.2		Eltanin	90 43.9	N51 29.1
U 7	284 59.5	S23 23.2	33 41.9	13.7	N11 49.1	12.8	56.2		Enif	33 41.4	N 9 58.5
R 8	299 59.2	S23 23.1	48 14.6	13.7	N11 36.2	12.8	56.3		Fomalhaut	15 17.4	S29 30.6
D 9	314 58.9	S23 23.0	62 47.3	13.7	N11 23.4	12.9	56.3		Gacrux	171 54.4	S57 13.8
A 10	329 58.6	S23 22.9	77 20.0	13.7	N11 10.4	13.0	56.3		Gienah	175 46.2	S17 39.6
Y 11	344 58.2	S23 22.9	91 52.7	13.7	N10 57.4	13.0	56.3		Hadar	148 39.9	S60 28.4
12	359 57.9	S23 22.8	106 25.5	13.8	N10 44.3	13.1	56.4		Hamal	327 53.9	N23 34.0
13	14 57.6	S23 22.7	120 58.3	13.8	N10 31.2	13.1	56.4		Kaus Austr.	83 36.3	S34 22.5
14	29 57.3	S23 22.6	135 31.0	13.8	N10 18.0	13.2	56.4		Kochab	137 20.8	N74 03.7
15	44 57.0	S23 22.6	150 03.8	13.8	N10 04.7	13.2	56.5		Markab	13 32.5	N15 19.4
16	59 56.7	S23 22.5	164 36.6	13.8	N 9 51.4	13.3	56.5		Menkar	314 08.5	N 4 10.5
17	74 56.4	S23 22.4	179 09.5	13.8	N 9 38.1	13.4	56.5				
									Menkent	148 00.8	S36 28.5
18	89 56.1	S23 22.3	193 42.3	13.8	N 9 24.7	13.4	56.5		Miaplacidus	221 37.9	S69 48.1
19	104 55.8	S23 22.2	208 15.1	13.8	N 9 11.2	13.5	56.6		Mirfak	308 31.5	N49 56.5
20	119 55.5	S23 22.2	222 48.0	13.8	N 8 57.7	13.5	56.6		Nunki	75 51.2	S26 16.2
21	134 55.2	S23 22.1	237 20.8	13.8	N 8 44.1	13.6	56.6		Peacock	53 10.2	S56 40.1
22	149 54.8	S23 22.0	251 53.7	13.9	N 8 30.4	13.6	56.7				
23	164 54.5	S23 21.9	266 26.5	13.9	N 8 16.8	13.7	56.7		Polaris	316 59.4	N89 20.9
26 0	179 54.2	S23 21.8	280 59.4	13.9	N 8 03.0	13.7	56.7		Pollux	243 20.0	N27 58.3
1	194 53.9	S23 21.7	295 32.3	13.9	N 7 49.2	13.8	56.8		Procyon	244 53.1	N 5 10.1
2	209 53.6	S23 21.7	310 05.1	13.9	N 7 35.4	13.8	56.8		Rasalhague	96 01.2	N12 32.7
3	224 53.3	S23 21.6	324 38.0	13.9	N 7 21.5	13.9	56.8		Regulus	207 36.9	N11 51.6
4	239 53.0	S23 21.5	339 10.9	13.9	N 7 07.6	13.9	56.8				
S 5	254 52.7	S23 21.4	353 43.7	13.9	N 6 53.6	14.0	56.9		Rigel	281 05.9	S 8 10.6
U									Rigil Kent	139 44.3	S60 55.2
N 6	269 52.4	S23 21.3	8 16.6	13.9	N 6 39.6	14.0	56.9		Sabik	102 06.0	S15 45.1
D 7	284 52.1	S23 21.2	22 49.4	13.9	N 6 25.5	14.1	56.9		Schedar	349 33.7	N56 39.6
A 8	299 51.8	S23 21.1	37 22.3	13.9	N 6 11.4	14.1	57.0		Shaula	96 14.2	S37 07.1
Y 9	314 51.5	S23 21.0	51 55.1	13.8	N 5 57.3	14.2	57.0		Sirius	258 28.1	S16 44.8
10	329 51.1	S23 20.9	66 28.0	13.8	N 5 43.1	14.2	57.0		Spica	158 25.0	S11 16.4
11	344 50.8	S23 20.9	81 00.8	13.8	N 5 28.9	14.2	57.1		Suhail	222 47.8	S43 31.0
									Vega	80 35.3	N38 48.2
12	359 50.5	S23 20.8	95 33.6	13.8	N 5 14.6	14.3	57.1		Zuben-ubi	136 59.8	S16 07.9
13	14 50.2	S23 20.7	110 06.5	13.8	N 5 00.3	14.3	57.1				
14	29 49.9	S23 20.6	124 39.3	13.8	N 4 45.9	14.4	57.2				
15	44 49.6	S23 20.5	139 12.1	13.8	N 4 31.5	14.4	57.2				
16	59 49.3	S23 20.4	153 44.8	13.8	N 4 17.1	14.4	57.2				
17	74 49.0	S23 20.3	168 17.6	13.8	N 4 02.7	14.5	57.3				
18	89 48.7	S23 20.2	182 50.3	13.7	N 3 48.2	14.5	57.3				
19	104 48.4	S23 20.1	197 23.1	13.7	N 3 33.6	14.5	57.3				
20	119 48.1	S23 20.0	211 55.8	13.7	N 3 19.1	14.6	57.4				
21	134 47.8	S23 19.9	226 28.5	13.7	N 3 04.5	14.6	57.4				
22	149 47.4	S23 19.8	241 01.1	13.7	N 2 49.9	14.6	57.4				
23	164 47.1	S23 19.7	255 33.8	13.6	N 2 35.2	14.7	57.5				
	S.D. 16.3	d 0.1	S.D.	15.2	15.4	15.6					

G.M.T		ARIES	VENUS		MARS		JUPITER		SATURN	
d	h	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec
		° '	° '	° '	° '	° '	° '	° '	° '	° '
27	0	95 41.9	158 44.4	S19 30.7	207 49.5	S21 57.5	123 38.5	S12 33.3	141 37.9	S18 09.4
	1	110 44.4	173 47.8	S19 30.3	222 50.1	S21 57.8	138 40.5	S12 33.1	156 40.1	S18 09.3
	2	125 46.8	188 51.2	S19 29.8	237 50.7	S21 58.1	153 42.5	S12 33.0	171 42.3	S18 09.2
	3	140 49.3	203 54.6	S19 29.3	252 51.3	S21 58.4	168 44.6	S12 32.8	186 44.5	S18 09.2
	4	155 51.7	218 58.0	S19 28.8	267 51.9	S21 58.7	183 46.6	S12 32.6	201 46.7	S18 09.1
M	5	170 54.2	234 01.4	S19 28.3	282 52.4	S21 59.0	198 48.6	S12 32.4	216 48.9	S18 09.0
O										
N	6	185 56.7	249 04.8	S19 27.8	297 53.0	S21 59.2	213 50.6	S12 32.3	231 51.1	S18 08.9
D	7	200 59.1	264 08.3	S19 27.4	312 53.6	S21 59.5	228 52.6	S12 32.1	246 53.3	S18 08.9
A	8	216 01.6	279 11.7	S19 26.9	327 54.2	S21 59.8	243 54.6	S12 31.9	261 55.5	S18 08.8
Y	9	231 04.1	294 15.1	S19 26.4	342 54.8	S22 00.1	258 56.6	S12 31.8	276 57.7	S18 08.7
	10	246 06.5	309 18.6	S19 25.9	357 55.3	S22 00.4	273 58.7	S12 31.6	291 59.9	S18 08.7
	11	261 09.0	324 22.0	S19 25.4	12 55.9	S22 00.7	289 00.7	S12 31.4	307 02.1	S18 08.6
	12	276 11.5	339 25.5	S19 24.9	27 56.5	S22 01.0	304 02.7	S12 31.3	322 04.3	S18 08.5
	13	291 13.9	354 28.9	S19 24.5	42 57.1	S22 01.3	319 04.7	S12 31.1	337 06.5	S18 08.4
	14	306 16.4	9 32.4	S19 24.0	57 57.7	S22 01.5	334 06.7	S12 30.9	352 08.7	S18 08.4
	15	321 18.8	24 35.8	S19 23.5	72 58.2	S22 01.8	349 08.7	S12 30.8	7 10.9	S18 08.3
	16	336 21.3	39 39.3	S19 23.0	87 58.8	S22 02.1	4 10.7	S12 30.6	22 13.1	S18 08.2
	17	351 23.8	54 42.7	S19 22.5	102 59.4	S22 02.4	19 12.8	S12 30.4	37 15.3	S18 08.2
	18	6 26.2	69 46.2	S19 22.1	117 60.0	S22 02.7	34 14.8	S12 30.3	52 17.5	S18 08.1
	19	21 28.7	84 49.7	S19 21.6	133 00.6	S22 03.0	49 16.8	S12 30.1	67 19.7	S18 08.0
	20	36 31.2	99 53.2	S19 21.1	148 01.1	S22 03.3	64 18.8	S12 29.9	82 21.9	S18 07.9
	21	51 33.6	114 56.6	S19 20.6	163 01.7	S22 03.5	79 20.8	S12 29.7	97 24.1	S18 07.9
	22	66 36.1	130 00.1	S19 20.2	178 02.3	S22 03.8	94 22.8	S12 29.6	112 26.3	S18 07.8
	23	81 38.6	145 03.6	S19 19.7	193 02.9	S22 04.1	109 24.8	S12 29.4	127 28.5	S18 07.7
28	0	96 41.0	160 07.1	S19 19.2	208 03.5	S22 04.4	124 26.9	S12 29.2	142 30.7	S18 07.7
	1	111 43.5	175 10.6	S19 18.7	223 04.0	S22 04.7	139 28.9	S12 29.1	157 32.8	S18 07.6
	2	126 46.0	190 14.1	S19 18.2	238 04.6	S22 05.0	154 30.9	S12 28.9	172 35.0	S18 07.5
	3	141 48.4	205 17.6	S19 17.8	253 05.2	S22 05.2	169 32.9	S12 28.7	187 37.2	S18 07.4
	4	156 50.9	220 21.1	S19 17.3	268 05.8	S22 05.5	184 34.9	S12 28.6	202 39.4	S18 07.4
T	5	171 53.3	235 24.6	S19 16.8	283 06.3	S22 05.8	199 36.9	S12 28.4	217 41.6	S18 07.3
U										
E	6	186 55.8	250 28.2	S19 16.3	298 06.9	S22 06.1	214 38.9	S12 28.2	232 43.8	S18 07.2
S	7	201 58.3	265 31.7	S19 15.9	313 07.5	S22 06.4	229 40.9	S12 28.1	247 46.0	S18 07.2
D	8	217 00.7	280 35.2	S19 15.4	328 08.1	S22 06.7	244 43.0	S12 27.9	262 48.2	S18 07.1
A	9	232 03.2	295 38.7	S19 14.9	343 08.6	S22 06.9	259 45.0	S12 27.7	277 50.4	S18 07.0
Y	10	247 05.7	310 42.3	S19 14.4	358 09.2	S22 07.2	274 47.0	S12 27.5	292 52.6	S18 06.9
	11	262 08.1	325 45.8	S19 14.0	13 09.8	S22 07.5	289 49.0	S12 27.4	307 54.8	S18 06.9
	12	277 10.6	340 49.4	S19 13.5	28 10.4	S22 07.8	304 51.0	S12 27.2	322 57.0	S18 06.8
	13	292 13.1	355 52.9	S19 13.0	43 11.0	S22 08.1	319 53.0	S12 27.0	337 59.2	S18 06.7
	14	307 15.5	10 56.4	S19 12.6	58 11.5	S22 08.3	334 55.0	S12 26.9	353 01.4	S18 06.6
	15	322 18.0	26 00.0	S19 12.1	73 12.1	S22 08.6	349 57.0	S12 26.7	8 03.6	S18 06.6
	16	337 20.5	41 03.6	S19 11.6	88 12.7	S22 08.9	4 59.0	S12 26.5	23 05.8	S18 06.5
	17	352 22.9	56 07.1	S19 11.1	103 13.3	S22 09.2	20 01.1	S12 26.4	38 08.0	S18 06.4
	18	7 25.4	71 10.7	S19 10.7	118 13.8	S22 09.4	35 03.1	S12 26.2	53 10.2	S18 06.4
	19	22 27.8	86 14.3	S19 10.2	133 14.4	S22 09.7	50 05.1	S12 26.0	68 12.4	S18 06.3
	20	37 30.3	101 17.8	S19 09.7	148 15.0	S22 10.0	65 07.1	S12 25.8	83 14.6	S18 06.2
	21	52 32.8	116 21.4	S19 09.3	163 15.5	S22 10.3	80 09.1	S12 25.7	98 16.8	S18 06.1
	22	67 35.2	131 25.0	S19 08.8	178 16.1	S22 10.6	95 11.1	S12 25.5	113 19.0	S18 06.1
	23	82 37.7	146 28.6	S19 08.3	193 16.7	S22 10.8	110 13.1	S12 25.3	128 21.2	S18 06.0
29	0	97 40.2	161 32.2	S19 07.8	208 17.3	S22 11.1	125 15.1	S12 25.2	143 23.4	S18 05.9
	1	112 42.6	176 35.8	S19 07.4	223 17.8	S22 11.4	140 17.1	S12 25.0	158 25.6	S18 05.9
	2	127 45.1	191 39.4	S19 06.9	238 18.4	S22 11.7	155 19.1	S12 24.8	173 27.8	S18 05.8
	3	142 47.6	206 43.0	S19 06.4	253 19.0	S22 11.9	170 21.1	S12 24.6	188 30.0	S18 05.7
	4	157 50.0	221 46.6	S19 06.0	268 19.6	S22 12.2	185 23.2	S12 24.5	203 32.2	S18 05.6
W	5	172 52.5	236 50.2	S19 05.5	283 20.1	S22 12.5	200 25.2	S12 24.3	218 34.4	S18 05.6
E										
D	6	187 54.9	251 53.8	S19 05.0	298 20.7	S22 12.7	215 27.2	S12 24.1	233 36.6	S18 05.5
N	7	202 57.4	266 57.4	S19 04.6	313 21.3	S22 13.0	230 29.2	S12 24.0	248 38.7	S18 05.4
E	8	217 59.9	282 01.0	S19 04.1	328 21.8	S22 13.3	245 31.2	S12 23.8	263 40.9	S18 05.3
S	9	233 02.3	297 04.6	S19 03.6	343 22.4	S22 13.6	260 33.2	S12 23.6	278 43.1	S18 05.3
D	10	248 04.8	312 08.3	S19 03.2	358 23.0	S22 13.8	275 35.2	S12 23.4	293 45.3	S18 05.2
A	11	263 07.3	327 11.9	S19 02.7	13 23.6	S22 14.1	290 37.2	S12 23.3	308 47.5	S18 05.1
Y										
	12	278 09.7	342 15.5	S19 02.2	28 24.1	S22 14.4	305 39.2	S12 23.1	323 49.7	S18 05.1
	13	293 12.2	357 19.2	S19 01.8	43 24.7	S22 14.6	320 41.2	S12 22.9	338 51.9	S18 05.0
	14	308 14.7	12 22.8	S19 01.3	58 25.3	S22 14.9	335 43.2	S12 22.8	353 54.1	S18 04.9
	15	323 17.1	27 26.5	S19 00.8	73 25.8	S22 15.2	350 45.2	S12 22.6	8 56.3	S18 04.8
	16	338 19.6	42 30.1	S19 00.4	88 26.4	S22 15.5	5 47.2	S12 22.4	23 58.5	S18 04.8
	17	353 22.1	57 33.8	S18 59.9	103 27.0	S22 15.7	20 49.2	S12 22.2	39 00.7	S18 04.7
	18	8 24.5	72 37.4	S18 59.5	118 27.6	S22 16.0	35 51.3	S12 22.1	54 02.9	S18 04.6
	19	23 27.0	87 41.1	S18 59.0	133 28.1	S22 16.3	50 53.3	S12 21.9	69 05.1	S18 04.5
	20	38 29.4	102 44.7	S18 58.5	148 28.7	S22 16.5	65 55.3	S12 21.7	84 07.3	S18 04.5
	21	53 31.9	117 48.4	S18 58.1	163 29.3	S22 16.8	80 57.3	S12 21.6	99 09.5	S18 04.4
	22	68 34.4	132 52.1	S18 57.6	178 29.8	S22 17.1	95 59.3	S12 21.4	114 11.7	S18 04.3
	23	83 36.8	147 55.8	S18 57.1	193 30.4	S22 17.3	111 01.3	S12 21.2	129 13.9	S18 04.2
			v 3.5	d 0.5	v 0.6	d 0.3	v 2.0	d 0.2	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	179 46.8	S23 19.6	270 06.4	13.6	N 2 20.5	14.7	57.5
	1	194 46.5	S23 19.5	284 39.0	13.6	N 2 05.8	14.7	57.5
	2	209 46.2	S23 19.4	299 11.6	13.6	N 1 51.1	14.7	57.6
	3	224 45.9	S23 19.2	313 44.1	13.5	N 1 36.3	14.8	57.6
	4	239 45.6	S23 19.1	328 16.6	13.5	N 1 21.5	14.8	57.6
M	5	254 45.3	S23 19.0	342 49.1	13.5	N 1 06.7	14.8	57.7
O								
N	6	269 45.0	S23 18.9	357 21.6	13.5	N 0 51.9	14.8	57.7
D	7	284 44.7	S23 18.8	11 54.0	13.4	N 0 37.0	14.9	57.7
A	8	299 44.4	S23 18.7	26 26.4	13.4	N 0 22.1	14.9	57.8
Y	9	314 44.1	S23 18.6	40 58.7	13.4	N 0 07.2	14.9	57.8
	10	329 43.8	S23 18.5	55 31.1	13.3	S 0 07.7	14.9	57.8
	11	344 43.5	S23 18.4	70 03.3	13.3	S 0 22.6	14.9	57.9
	12	359 43.1	S23 18.3	84 35.6	13.2	S 0 37.6	14.9	57.9
	13	14 42.8	S23 18.1	99 07.8	13.2	S 0 52.5	15.0	57.9
	14	29 42.5	S23 18.0	113 39.9	13.2	S 1 07.5	15.0	58.0
	15	44 42.2	S23 17.9	128 12.1	13.1	S 1 22.5	15.0	58.0
	16	59 41.9	S23 17.8	142 44.1	13.1	S 1 37.5	15.0	58.1
	17	74 41.6	S23 17.7	157 16.2	13.0	S 1 52.5	15.0	58.1
	18	89 41.3	S23 17.6	171 48.2	13.0	S 2 07.5	15.0	58.1
	19	104 41.0	S23 17.4	186 20.1	12.9	S 2 22.6	15.0	58.2
	20	119 40.7	S23 17.3	200 52.0	12.9	S 2 37.6	15.0	58.2
	21	134 40.4	S23 17.2	215 23.8	12.8	S 2 52.7	15.0	58.2
	22	149 40.1	S23 17.1	229 55.6	12.8	S 3 07.7	15.1	58.3
	23	164 39.8	S23 16.9	244 27.3	12.7	S 3 22.8	15.1	58.3
28	0	179 39.5	S23 16.8	258 59.0	12.7	S 3 37.8	15.1	58.3
	1	194 39.2	S23 16.7	273 30.6	12.6	S 3 52.9	15.1	58.4
	2	209 38.9	S23 16.6	288 02.2	12.6	S 4 07.9	15.1	58.4
	3	224 38.5	S23 16.4	302 33.7	12.5	S 4 23.0	15.1	58.4
	4	239 38.2	S23 16.3	317 05.1	12.4	S 4 38.1	15.1	58.5
T	5	254 37.9	S23 16.2	331 36.5	12.4	S 4 53.1	15.1	58.5
U								
E	6	269 37.6	S23 16.1	346 07.8	12.3	S 5 08.2	15.0	58.6
S	7	284 37.3	S23 15.9	0 39.1	12.3	S 5 23.2	15.0	58.6
D	8	299 37.0	S23 15.8	15 10.3	12.2	S 5 38.2	15.0	58.6
A	9	314 36.7	S23 15.7	29 41.4	12.1	S 5 53.3	15.0	58.7
Y	10	329 36.4	S23 15.5	44 12.5	12.1	S 6 08.3	15.0	58.7
	11	344 36.1	S23 15.4	58 43.5	12.0	S 6 23.3	15.0	58.7
	12	359 35.8	S23 15.3	73 14.4	11.9	S 6 38.3	15.0	58.8
	13	14 35.5	S23 15.1	87 45.2	11.8	S 6 53.2	15.0	58.8
	14	29 35.2	S23 15.0	102 16.0	11.8	S 7 08.2	15.0	58.8
	15	44 34.9	S23 14.9	116 46.7	11.7	S 7 23.1	14.9	58.9
	16	59 34.6	S23 14.7	131 17.3	11.6	S 7 38.1	14.9	58.9
	17	74 34.3	S23 14.6	145 47.9	11.5	S 7 53.0	14.9	58.9
	18	89 34.0	S23 14.5	160 18.4	11.5	S 8 07.9	14.9	59.0
	19	104 33.7	S23 14.3	174 48.7	11.4	S 8 22.7	14.9	59.0
	20	119 33.4	S23 14.2	189 19.0	11.3	S 8 37.5	14.8	59.1
	21	134 33.1	S23 14.0	203 49.3	11.2	S 8 52.4	14.8	59.1
	22	149 32.7	S23 13.9	218 19.4	11.1	S 9 07.1	14.8	59.1
	23	164 32.4	S23 13.8	232 49.5	11.1	S 9 21.9	14.8	59.2
29	0	179 32.1	S23 13.6	247 19.4	11.0	S 9 36.6	14.7	59.2
	1	194 31.8	S23 13.5	261 49.3	10.9	S 9 51.3	14.7	59.2
	2	209 31.5	S23 13.3	276 19.1	10.8	S10 05.9	14.7	59.3
	3	224 31.2	S23 13.2	290 48.8	10.7	S10 20.6	14.6	59.3
	4	239 30.9	S23 13.0	305 18.4	10.6	S10 35.1	14.6	59.3
W	5	254 30.6	S23 12.9	319 47.9	10.5	S10 49.7	14.5	59.4
E								
D	6	269 30.3	S23 12.7	334 17.4	10.4	S11 04.2	14.5	59.4
N	7	284 30.0	S23 12.6	348 46.7	10.3	S11 18.6	14.5	59.4
E	8	299 29.7	S23 12.4	3 15.9	10.2	S11 33.1	14.4	59.5
S	9	314 29.4	S23 12.3	17 45.1	10.1	S11 47.4	14.4	59.5
D	10	329 29.1	S23 12.1	32 14.1	10.0	S12 01.7	14.3	59.5
A	11	344 28.8	S23 12.0	46 43.0	9.9	S12 16.0	14.3	59.6
Y								
	12	359 28.5	S23 11.8	61 11.9	9.8	S12 30.2	14.2	59.6
	13	14 28.2	S23 11.7	75 40.6	9.7	S12 44.4	14.2	59.6
	14	29 27.9	S23 11.5	90 09.2	9.6	S12 58.5	14.1	59.7
	15	44 27.6	S23 11.4	104 37.8	9.5	S13 12.6	14.1	59.7
	16	59 27.3	S23 11.2	119 06.2	9.4	S13 26.6	14.0	59.7
	17	74 27.0	S23 11.1	133 34.5	9.3	S13 40.5	13.9	59.8
	18	89 26.7	S23 10.9	148 02.7	9.2	S13 54.4	13.9	59.8
	19	104 26.4	S23 10.7	162 30.8	9.1	S14 08.2	13.8	59.8
	20	119 26.1	S23 10.6	176 58.8	9.0	S14 21.9	13.7	59.9
	21	134 25.8	S23 10.4	191 26.7	8.9	S14 35.6	13.7	59.9
	22	149 25.5	S23 10.3	205 54.5	8.8	S14 49.2	13.6	59.9
	23	164 25.2	S23 10.1	220 22.1	8.7	S15 02.8	13.5	60.0
		S.D. 16.3	d 0.1	S.D.	15.8	16.0	16.2	

STARS Name	SHA ° '	Dec ° '
Acamar	315 13.4	S40 13.3
Achernar	335 21.9	S57 07.9
Acrux	173 02.8	S63 12.8
Adhara	255 07.4	S29 00.1
Albireo	67 06.4	N28 00.3
Aldebaran	290 42.2	N16 33.2
Alioth	166 15.3	N55 50.3
Alkaid	152 54.2	N49 12.0
Al Na-ir	27 36.3	S46 51.6
Alnilam	275 39.9	S 1 11.3
Alphard	217 49.9	S 8 45.2
Alphecca	126 06.1	N26 38.4
Alpheratz	357 37.4	N29 12.8
Altair	62 02.7	N 8 55.5
Ankaa	353 09.6	S42 11.6
Antares	112 19.2	S26 28.7
Arcturus	145 50.4	N19 04.0
Atria	107 16.3	S69 03.9
Avior	234 15.1	S59 34.6
Bellatrix	278 25.2	N 6 22.1
Betelgeuse	270 54.4	N 7 24.7
Canopus	263 52.9	S52 42.4
Capella	280 25.1	N46 01.2
Castor	245 59.8	N31 50.4
Deneb	49 27.9	N45 21.6
Denebola	182 27.4	N14 26.9
Diphda	348 49.8	S17 52.2
Dubhe	193 43.9	N61 37.7
Elnath	278 04.7	N28 37.5
Eltanin	90 43.9	N51 29.1
Enif	33 41.4	N 9 58.5
Fomalhaut	15 17.4	S29 30.6
Gacrux	171 54.4	S57 13.8
Gienah	175 46.1	S17 39.6
Hadar	148 39.9	S60 28.4
Hamal	327 53.9	N23 34.0
Kaus Austr.	83 36.3	S34 22.5
Kochab	137 20.7	N74 03.7
Markab	13 32.5	N15 19.4
Menkar	314 08.5	N 4 10.5
Menkent	148 00.7	S36 28.5
Miaplacidus	221 37.9	S69 48.1
Mirfak	308 31.5	N49 56.5
Nunki	75 51.2	S26 16.2
Peacock	53 10.2	S56 40.1
Polaris	317 00.4	N89 20.9
Pollux	243 20.0	N27 58.3
Procyon	244 53.1	N 5 10.1
Rasalhague	96 01.2	N12 32.7
Regulus	207 36.9	N11 51.6
Rigel	281 05.9	S 8 10.6
Rigil Kent	139 44.2	S60 55.2
Sabik	102 06.0	S15 45.1
Schedar	349 33.8	N56 39.6
Shaula	96 14.2	S37 07.1
Sirius	258 28.1	S16 44.8
Spica	158 25.0	S11 16.4
Suhail	222 47.7	S43 31.1
Vega	80 35.3	N38 48.2
Zuben-ubi	136 59.8	S16 07.9

G.M.T d	h	ARIES GHA ° '	VENUS GHA ° '	VENUS Dec ° '	MARS GHA ° '	MARS Dec ° '	JUPITER GHA ° '	JUPITER Dec ° '	SATURN GHA ° '	SATURN Dec ° '
30	0	98 39.3	162 59.4	S18 56.7	208 31.0	S22 17.6	126 03.3	S12 21.0	144 16.1	S18 04.2
	1	113 41.8	178 03.1	S18 56.2	223 31.5	S22 17.9	141 05.3	S12 20.9	159 18.3	S18 04.1
	2	128 44.2	193 06.8	S18 55.8	238 32.1	S22 18.1	156 07.3	S12 20.7	174 20.4	S18 04.0
	3	143 46.7	208 10.5	S18 55.3	253 32.7	S22 18.4	171 09.3	S12 20.5	189 22.6	S18 04.0
	4	158 49.2	223 14.2	S18 54.8	268 33.2	S22 18.7	186 11.3	S12 20.3	204 24.8	S18 03.9
T	5	173 51.6	238 17.9	S18 54.4	283 33.8	S22 18.9	201 13.3	S12 20.2	219 27.0	S18 03.8
H										
U	6	188 54.1	253 21.6	S18 53.9	298 34.4	S22 19.2	216 15.3	S12 20.0	234 29.2	S18 03.7
R	7	203 56.6	268 25.3	S18 53.5	313 34.9	S22 19.5	231 17.3	S12 19.8	249 31.4	S18 03.7
S	8	218 59.0	283 29.0	S18 53.0	328 35.5	S22 19.7	246 19.3	S12 19.7	264 33.6	S18 03.6
D	9	234 01.5	298 32.7	S18 52.6	343 36.1	S22 20.0	261 21.3	S12 19.5	279 35.8	S18 03.5
A	10	249 03.9	313 36.4	S18 52.1	358 36.6	S22 20.3	276 23.3	S12 19.3	294 38.0	S18 03.4
Y	11	264 06.4	328 40.1	S18 51.6	13 37.2	S22 20.5	291 25.3	S12 19.1	309 40.2	S18 03.4
	12	279 08.9	343 43.9	S18 51.2	28 37.8	S22 20.8	306 27.3	S12 19.0	324 42.4	S18 03.3
	13	294 11.3	358 47.6	S18 50.7	43 38.3	S22 21.0	321 29.3	S12 18.8	339 44.6	S18 03.2
	14	309 13.8	13 51.3	S18 50.3	58 38.9	S22 21.3	336 31.3	S12 18.6	354 46.8	S18 03.1
	15	324 16.3	28 55.0	S18 49.8	73 39.5	S22 21.6	351 33.3	S12 18.4	9 49.0	S18 03.1
	16	339 18.7	43 58.8	S18 49.4	88 40.0	S22 21.8	6 35.4	S12 18.3	24 51.2	S18 03.0
	17	354 21.2	59 02.5	S18 48.9	103 40.6	S22 22.1	21 37.4	S12 18.1	39 53.3	S18 02.9
	18	9 23.7	74 06.3	S18 48.5	118 41.2	S22 22.3	36 39.4	S12 17.9	54 55.5	S18 02.9
	19	24 26.1	89 10.0	S18 48.0	133 41.7	S22 22.6	51 41.4	S12 17.7	69 57.7	S18 02.8
	20	39 28.6	104 13.8	S18 47.6	148 42.3	S22 22.9	66 43.4	S12 17.6	84 59.9	S18 02.7
	21	54 31.1	119 17.5	S18 47.1	163 42.9	S22 23.1	81 45.4	S12 17.4	100 02.1	S18 02.6
	22	69 33.5	134 21.3	S18 46.6	178 43.4	S22 23.4	96 47.4	S12 17.2	115 04.3	S18 02.6
	23	84 36.0	149 25.0	S18 46.2	193 44.0	S22 23.6	111 49.4	S12 17.0	130 06.5	S18 02.5
31	0	99 38.4	164 28.8	S18 45.7	208 44.6	S22 23.9	126 51.4	S12 16.9	145 08.7	S18 02.4
	1	114 40.9	179 32.6	S18 45.3	223 45.1	S22 24.2	141 53.4	S12 16.7	160 10.9	S18 02.3
	2	129 43.4	194 36.3	S18 44.8	238 45.7	S22 24.4	156 55.4	S12 16.5	175 13.1	S18 02.3
	3	144 45.8	209 40.1	S18 44.4	253 46.2	S22 24.7	171 57.4	S12 16.3	190 15.3	S18 02.2
	4	159 48.3	224 43.9	S18 43.9	268 46.8	S22 24.9	186 59.4	S12 16.2	205 17.5	S18 02.1
F	5	174 50.8	239 47.6	S18 43.5	283 47.4	S22 25.2	202 01.4	S12 16.0	220 19.7	S18 02.0
R										
I	6	189 53.2	254 51.4	S18 43.0	298 47.9	S22 25.4	217 03.4	S12 15.8	235 21.9	S18 02.0
D	7	204 55.7	269 55.2	S18 42.6	313 48.5	S22 25.7	232 05.4	S12 15.6	250 24.0	S18 01.9
A	8	219 58.2	284 59.0	S18 42.1	328 49.1	S22 26.0	247 07.4	S12 15.5	265 26.2	S18 01.8
Y	9	235 00.6	300 02.8	S18 41.7	343 49.6	S22 26.2	262 09.4	S12 15.3	280 28.4	S18 01.7
	10	250 03.1	315 06.6	S18 41.3	358 50.2	S22 26.5	277 11.4	S12 15.1	295 30.6	S18 01.7
	11	265 05.5	330 10.4	S18 40.8	13 50.7	S22 26.7	292 13.4	S12 14.9	310 32.8	S18 01.6
	12	280 08.0	345 14.2	S18 40.4	28 51.3	S22 27.0	307 15.4	S12 14.8	325 35.0	S18 01.5
	13	295 10.5	0 18.0	S18 39.9	43 51.9	S22 27.2	322 17.4	S12 14.6	340 37.2	S18 01.4
	14	310 12.9	15 21.8	S18 39.5	58 52.4	S22 27.5	337 19.4	S12 14.4	355 39.4	S18 01.4
	15	325 15.4	30 25.6	S18 39.0	73 53.0	S22 27.7	352 21.4	S12 14.2	10 41.6	S18 01.3
	16	340 17.9	45 29.4	S18 38.6	88 53.6	S22 28.0	7 23.4	S12 14.1	25 43.8	S18 01.2
	17	355 20.3	60 33.2	S18 38.1	103 54.1	S22 28.2	22 25.4	S12 13.9	40 46.0	S18 01.2
	18	10 22.8	75 37.1	S18 37.7	118 54.7	S22 28.5	37 27.4	S12 13.7	55 48.1	S18 01.1
	19	25 25.3	90 40.9	S18 37.2	133 55.2	S22 28.7	52 29.4	S12 13.5	70 50.3	S18 01.0
	20	40 27.7	105 44.7	S18 36.8	148 55.8	S22 29.0	67 31.4	S12 13.4	85 52.5	S18 00.9
	21	55 30.2	120 48.5	S18 36.4	163 56.4	S22 29.3	82 33.4	S12 13.2	100 54.7	S18 00.9
	22	70 32.7	135 52.4	S18 35.9	178 56.9	S22 29.5	97 35.4	S12 13.0	115 56.9	S18 00.8
	23	85 35.1	150 56.2	S18 35.5	193 57.5	S22 29.8	112 37.4	S12 12.8	130 59.1	S18 00.7
1	0	100 37.6	166 00.1	S18 35.0	208 58.0	S22 30.0	127 39.4	S12 12.7	146 01.3	S18 00.6
	1	115 40.0	181 03.9	S18 34.6	223 58.6	S22 30.3	142 41.4	S12 12.5	161 03.5	S18 00.6
	2	130 42.5	196 07.7	S18 34.1	238 59.2	S22 30.5	157 43.4	S12 12.3	176 05.7	S18 00.5
	3	145 45.0	211 11.6	S18 33.7	253 59.7	S22 30.7	172 45.4	S12 12.1	191 07.9	S18 00.4
	4	160 47.4	226 15.4	S18 33.3	269 00.3	S22 31.0	187 47.4	S12 12.0	206 10.1	S18 00.3
S	5	175 49.9	241 19.3	S18 32.8	284 00.8	S22 31.2	202 49.4	S12 11.8	221 12.2	S18 00.3
A										
T	6	190 52.4	256 23.2	S18 32.4	299 01.4	S22 31.5	217 51.3	S12 11.6	236 14.4	S18 00.2
U	7	205 54.8	271 27.0	S18 32.0	314 01.9	S22 31.7	232 53.3	S12 11.4	251 16.6	S18 00.1
R	8	220 57.3	286 30.9	S18 31.5	329 02.5	S22 32.0	247 55.3	S12 11.3	266 18.8	S18 00.0
D	9	235 59.8	301 34.7	S18 31.1	344 03.1	S22 32.2	262 57.3	S12 11.1	281 21.0	S17 60.0
A	10	251 02.2	316 38.6	S18 30.6	359 03.6	S22 32.5	277 59.3	S12 10.9	296 23.2	S17 59.9
Y	11	266 04.7	331 42.5	S18 30.2	14 04.2	S22 32.7	293 01.3	S12 10.7	311 25.4	S17 59.8
	12	281 07.2	346 46.4	S18 29.8	29 04.7	S22 33.0	308 03.3	S12 10.5	326 27.6	S17 59.7
	13	296 09.6	1 50.2	S18 29.3	44 05.3	S22 33.2	323 05.3	S12 10.4	341 29.8	S17 59.7
	14	311 12.1	16 54.1	S18 28.9	59 05.8	S22 33.5	338 07.3	S12 10.2	356 32.0	S17 59.6
	15	326 14.5	31 58.0	S18 28.5	74 06.4	S22 33.7	353 09.3	S12 10.0	11 34.2	S17 59.5
	16	341 17.0	47 01.9	S18 28.0	89 07.0	S22 34.0	8 11.3	S12 09.8	26 36.3	S17 59.4
	17	356 19.5	62 05.8	S18 27.6	104 07.5	S22 34.2	23 13.3	S12 09.7	41 38.5	S17 59.4
	18	11 21.9	77 09.7	S18 27.2	119 08.1	S22 34.4	38 15.3	S12 09.5	56 40.7	S17 59.3
	19	26 24.4	92 13.6	S18 26.7	134 08.6	S22 34.7	53 17.3	S12 09.3	71 42.9	S17 59.2
	20	41 26.9	107 17.5	S18 26.3	149 09.2	S22 34.9	68 19.3	S12 09.1	86 45.1	S17 59.1
	21	56 29.3	122 21.4	S18 25.9	164 09.7	S22 35.2	83 21.3	S12 09.0	101 47.3	S17 59.1
	22	71 31.8	137 25.3	S18 25.4	179 10.3	S22 35.4	98 23.3	S12 08.8	116 49.5	S17 59.0
	23	86 34.3	152 29.2	S18 25.0	194 10.8	S22 35.6	113 25.3	S12 08.6	131 51.7	S17 58.9
			v 3.8	d 0.4	v 0.6	d 0.3	v 2.0	d 0.2	v 2.2	d 0.1

G.M.T	SUN		MOON					STARS	
d h	GHA	Dec	GHA	v	Dec	d	HP	Name	SHA Dec
30 0	179 24.9	S23 09.9	234 49.7	8.5	S15 16.2	13.5	60.0	Acamar	315 13.4 S40 13.3
1	194 24.6	S23 09.8	249 17.1	8.4	S15 29.6	13.4	60.0	Achernar	335 21.9 S57 07.9
2	209 24.3	S23 09.6	263 44.4	8.3	S15 42.9	13.3	60.1	Acrux	173 02.8 S63 12.8
3	224 24.0	S23 09.5	278 11.6	8.2	S15 56.1	13.2	60.1	Adhara	255 07.4 S29 00.1
4	239 23.7	S23 09.3	292 38.7	8.1	S16 09.3	13.1	60.1	Albireo	67 06.4 N28 00.3
T 5	254 23.3	S23 09.1	307 05.7	8.0	S16 22.4	13.1	60.1		
H								Aldebaran	290 42.2 N16 33.2
U 6	269 23.0	S23 09.0	321 32.5	7.9	S16 35.3	13.0	60.2	Alioth	166 15.2 N55 50.3
R 7	284 22.7	S23 08.8	335 59.3	7.7	S16 48.2	12.9	60.2	Alkaid	152 54.2 N49 12.0
S 8	299 22.4	S23 08.6	350 25.9	7.6	S17 01.0	12.8	60.2	Al Na-ir	27 36.3 S46 51.6
D 9	314 22.1	S23 08.4	4 52.4	7.5	S17 13.7	12.7	60.3	Alnilam	275 39.9 S 1 11.3
A 10	329 21.8	S23 08.3	19 18.7	7.4	S17 26.4	12.6	60.3		
Y 11	344 21.5	S23 08.1	33 45.0	7.3	S17 38.9	12.5	60.3	Alphard	217 49.9 S 8 45.2
								Alphecca	126 06.1 N26 38.4
12	359 21.2	S23 07.9	48 11.1	7.1	S17 51.3	12.4	60.4	Alpheratz	357 37.4 N29 12.8
13	14 20.9	S23 07.8	62 37.2	7.0	S18 03.6	12.3	60.4	Altair	62 02.7 N 8 55.5
14	29 20.6	S23 07.6	77 03.1	6.9	S18 15.8	12.2	60.4	Ankaa	353 09.6 S42 11.6
15	44 20.3	S23 07.4	91 28.8	6.8	S18 27.9	12.1	60.4		
16	59 20.0	S23 07.2	105 54.5	6.7	S18 40.0	12.0	60.5	Antares	112 19.2 S26 28.7
17	74 19.7	S23 07.1	120 20.0	6.5	S18 51.9	11.9	60.5	Arcturus	145 50.4 N19 04.0
								Atria	107 16.3 S69 03.8
18	89 19.4	S23 06.9	134 45.4	6.4	S19 03.6	11.8	60.5	Avior	234 15.1 S59 34.6
19	104 19.1	S23 06.7	149 10.7	6.3	S19 15.3	11.7	60.5	Bellatrix	278 25.2 N 6 22.1
20	119 18.8	S23 06.5	163 35.9	6.2	S19 26.9	11.6	60.6		
21	134 18.5	S23 06.4	178 00.9	6.0	S19 38.3	11.4	60.6	Betelgeuse	270 54.4 N 7 24.6
22	149 18.2	S23 06.2	192 25.8	5.9	S19 49.6	11.3	60.6	Canopus	263 52.9 S52 42.4
23	164 17.9	S23 06.0	206 50.6	5.8	S20 00.8	11.2	60.6	Capella	280 25.1 N46 01.2
31 0	179 17.6	S23 05.8	221 15.3	5.7	S20 11.9	11.1	60.7	Castor	245 59.8 N31 50.4
1	194 17.3	S23 05.6	235 39.9	5.6	S20 22.9	11.0	60.7	Deneb	49 27.9 N45 21.6
2	209 17.0	S23 05.4	250 04.3	5.4	S20 33.7	10.8	60.7		
3	224 16.7	S23 05.3	264 28.6	5.3	S20 44.4	10.7	60.7	Denebola	182 27.4 N14 26.9
4	239 16.4	S23 05.1	278 52.8	5.2	S20 55.0	10.6	60.8	Diphda	348 49.8 S17 52.2
F 5	254 16.1	S23 04.9	293 16.9	5.1	S21 05.4	10.4	60.8	Dubhe	193 43.8 N61 37.7
R								Elnath	278 04.7 N28 37.5
I 6	269 15.8	S23 04.7	307 40.8	5.0	S21 15.7	10.3	60.8	Eltanin	90 43.9 N51 29.0
D 7	284 15.5	S23 04.5	322 04.7	4.8	S21 25.8	10.2	60.8		
A 8	299 15.2	S23 04.3	336 28.4	4.7	S21 35.8	10.0	60.8	Enif	33 41.4 N 9 58.5
Y 9	314 14.9	S23 04.1	350 52.0	4.6	S21 45.7	9.9	60.9	Fomalhaut	15 17.4 S29 30.6
10	329 14.6	S23 03.9	5 15.4	4.5	S21 55.4	9.7	60.9	Gacrux	171 54.4 S57 13.8
11	344 14.3	S23 03.8	19 38.8	4.4	S22 05.0	9.6	60.9	Gienah	175 46.1 S17 39.6
								Hadar	148 39.8 S60 28.4
12	359 14.0	S23 03.6	34 02.1	4.3	S22 14.4	9.4	60.9		
13	14 13.7	S23 03.4	48 25.2	4.1	S22 23.7	9.3	60.9	Hamal	327 53.9 N23 34.0
14	29 13.4	S23 03.2	62 48.2	4.0	S22 32.8	9.1	60.9	Kaus Austr.	83 36.3 S34 22.5
15	44 13.2	S23 03.0	77 11.1	3.9	S22 41.8	9.0	61.0	Kochab	137 20.7 N74 03.7
16	59 12.9	S23 02.8	91 33.9	3.8	S22 50.6	8.8	61.0	Markab	13 32.5 N15 19.4
17	74 12.6	S23 02.6	105 56.6	3.7	S22 59.2	8.7	61.0	Menkar	314 08.5 N 4 10.5
								Menkent	148 00.7 S36 28.5
18	89 12.3	S23 02.4	120 19.2	3.6	S23 07.7	8.5	61.0	Miaplacidus	221 37.9 S69 48.2
19	104 12.0	S23 02.2	134 41.7	3.5	S23 16.1	8.3	61.0	Mirfak	308 31.5 N49 56.5
20	119 11.7	S23 02.0	149 04.1	3.4	S23 24.2	8.2	61.0	Nunki	75 51.2 S26 16.2
21	134 11.4	S23 01.8	163 26.3	3.3	S23 32.2	8.0	61.1	Peacock	53 10.2 S56 40.1
22	149 11.1	S23 01.6	177 48.5	3.2	S23 40.0	7.8	61.1		
23	164 10.8	S23 01.4	192 10.6	3.1	S23 47.7	7.7	61.1	Polaris	317 01.2 N89 20.9
1 0	179 10.5	S23 01.2	206 32.5	3.0	S23 55.2	7.5	61.1	Pollux	243 20.0 N27 58.3
1	194 10.2	S23 01.0	220 54.4	2.9	S24 02.5	7.3	61.1	Procyon	244 53.1 N 5 10.1
2	209 09.9	S23 00.8	235 16.2	2.8	S24 09.6	7.1	61.1	Rasalhague	96 01.2 N12 32.6
3	224 09.6	S23 00.6	249 37.9	2.7	S24 16.6	7.0	61.1	Regulus	207 36.9 N11 51.6
4	239 09.3	S23 00.4	263 59.5	2.6	S24 23.4	6.8	61.1		
S 5	254 09.0	S23 00.2	278 21.0	2.5	S24 30.0	6.6	61.2	Rigel	281 05.9 S 8 10.6
A								Rigil Kent	139 44.2 S60 55.2
T 6	269 08.7	S22 60.0	292 42.4	2.4	S24 36.4	6.4	61.2	Sabik	102 06.0 S15 45.1
U 7	284 08.4	S22 59.8	307 03.8	2.3	S24 42.6	6.2	61.2	Schedar	349 33.8 N56 39.6
R 8	299 08.1	S22 59.6	321 25.0	2.3	S24 48.6	6.0	61.2	Shaula	96 14.1 S37 07.1
D 9	314 07.8	S22 59.4	335 46.2	2.2	S24 54.5	5.9	61.2	Sirius	258 28.1 S16 44.8
A 10	329 07.5	S22 59.2	350 07.3	2.1	S25 00.2	5.7	61.2	Spica	158 25.0 S11 16.4
Y 11	344 07.2	S22 58.9	4 28.3	2.0	S25 05.6	5.5	61.2	Suhail	222 47.7 S43 31.1
								Vega	80 35.3 N38 48.2
12	359 06.9	S22 58.7	18 49.3	2.0	S25 10.9	5.3	61.2	Zuben-ubi	136 59.7 S16 07.9
13	14 06.6	S22 58.5	33 10.2	1.9	S25 16.0	5.1	61.2		
14	29 06.3	S22 58.3	47 31.0	1.8	S25 20.9	4.9	61.2		
15	44 06.0	S22 58.1	61 51.7	1.8	S25 25.6	4.7	61.2		
16	59 05.7	S22 57.9	76 12.4	1.7	S25 30.1	4.5	61.2		
17	74 05.4	S22 57.7	90 33.1	1.6	S25 34.5	4.3	61.2		
18	89 05.2	S22 57.5	104 53.6	1.6	S25 38.6	4.1	61.2		
19	104 04.9	S22 57.2	119 14.2	1.5	S25 42.5	3.9	61.2		
20	119 04.6	S22 57.0	133 34.6	1.5	S25 46.2	3.7	61.2		
21	134 04.3	S22 56.8	147 55.1	1.4	S25 49.7	3.5	61.2		
22	149 04.0	S22 56.6	162 15.5	1.4	S25 53.0	3.3	61.2		
23	164 03.7	S22 56.4	176 35.8	1.3	S25 56.2	3.1	61.2		
	S.D. 16.3	d 0.2	S.D.	16.4	16.6	16.7			