

NavSoft's

2010

Nautical Almanac

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Formulae

$$\text{Dip} = 0.971 \times \text{Ht}^{1/2}$$

Ht in feet

or

$$\text{Dip} = 1.758 \times \text{Ht}^{1/2}$$

Ht in meters

$$\text{Refraction} = 0.96 / \text{Tan(Alt)}$$

Altitude > 11°

$$\text{Parallax} = \text{HP} \times \text{Cos(Alt)}$$

$$\text{Cos(Zenith Distance)} = \text{Sin(Lat)} \times \text{Sin(Dec)} + \text{Cos(Lat)} \times \text{Cos(Dec)} \times \text{Cos(LHA)}$$

$$\text{Tan(Azimuth)} = \text{Sin(LHA)} / [\text{Cos(Lat)} \times \text{Tan(Dec)} - \text{Sin(Lat)} \times \text{Cos(LHA)}]$$

ABC Tables

$$A = \text{Cos(Lat)} \times \text{Tan(Dec)}$$

$$B = \text{Sin(Lat)} \times \text{Cos(LHA)}$$

$$C = \text{Sin(LHA)} / \text{Tan(Azimuth)}$$

or

$$\text{Azimuth} = \text{Atan}[C / \text{Sin(LHA)}]$$

Increments

$$\text{Sun} = 15^\circ / \text{hour}$$

$$\text{Moon} = 15^\circ.041666' / \text{hour}$$

$$\text{Aries} = 14^\circ.316666' / \text{hour}$$

Horizontal Parallaxes and Semi-Diameters for 2010

	Sun SD	Venus		Mars		Jupiter SD	Saturn SD
		HP	SD	HP	SD		
Jan 1	16'.3	0'.09	0'.08	0'.20	0'.11	0'.27	0'.13
Jan	16'.3	0'.09	0'.08	0'.22	0'.11	0'.27	0'.14
Feb	16'.2	0'.09	0'.08	0'.21	0'.11	0'.26	0'.14
Mar	16'.1	0'.09	0'.09	0'.17	0'.09	0'.26	0'.14
Apr	15'.9	0'.10	0'.09	0'.13	0'.07	0'.27	0'.14
May	15'.8	0'.11	0'.10	0'.10	0'.06	0'.29	0'.14
Jun	15'.7	0'.12	0'.12	0'.09	0'.05	0'.31	0'.13
Jul	15'.7	0'.15	0'.14	0'.08	0'.04	0'.34	0'.12
Aug	15'.8	0'.20	0'.19	0'.07	0'.04	0'.37	0'.12
Sep	15'.9	0'.31	0'.29	0'.07	0'.04	0'.39	0'.12
Oct	16'.0	0'.49	0'.47	0'.06	0'.03	0'.38	0'.12
Nov	16'.2	0'.47	0'.45	0'.06	0'.03	0'.35	0'.12
Dec	16'.2	0'.30	0'.28	0'.06	0'.03	0'.32	0'.12
Dec 31	16'.3	0'.24	0'.23	0'.06	0'.03	0'.31	0'.13

15th day of each month unless stated

Sun's HP = 0'.15

HP for Jupiter and Saturn < 0'.05

This Almanac was compiled using AstroNav which will print pages for any dates between 9999BC and 9999AD. Further details can be found at navsoft.com/astronav.html

The supplementary tables which do not change from year to year are available at navsoft.com/downloads.html

2010 January 1, 2, 3 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS -0.8			JUPITER -2.1			SATURN +1.0			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil	1	2	3							
Friday	00	100° 32.5	181° 58.1	23° 38.5 S	318° 04.0	18° 45.1 N	131° 37.2	13° 36.5 S	275° 29.9	0° 18.6 N	Acamar	315° 19.9	40° 16.0 S	179° 10.3	23° 01.6 S	356° 04.5	3.1	23° 30.0 N	7.3	61.0	N 72°	08:23	10:40	-	-	15:25	18:36				
	01	115° 35.0	196° 57.1	38.4	333° 06.8	45.4	146° 39.2	36.4	290° 32.3	18.5	Acnarnar	335° 28.3	57° 11.3 S	194° 10.0	01.4	10° 26.6	3.2	22.7	7.4		N 70°	08:04	09:48	-	-	16:17	18:54				
	02	130° 37.4	211° 56.1	38.3	348° 09.6	45.6	161° 41.2	36.2	305° 34.7	18.5	Acruz	173° 12.3	63° 09.1 S	209° 09.7	01.2	24° 48.8	3.2	15.3	7.6		N 68°	07:49	09:16	-	13:46	16:49	19:08				
	03	145° 39.9	226° 55.2	38.2	3° 12.4	45.8	176° 43.2	36.0	320° 37.1	18.5	Adhara	255° 14.1	28° 59.2 S	224° 09.4	01.0	39° 11.0	3.3	07.7	7.8		66°	07:37	08:52	10:26	14:49	17:12	19:19				
	04	160° 42.4	241° 54.2	38.1	18° 15.2	46.0	191° 45.1	35.8	335° 39.5	18.5	Aldebaran	290° 52.0	16° 31.8 N	239° 09.1	00.8	53° 33.3	3.3	22° 59.9 N	7.9	61.1	62°	07:17	08:18	09:22	15:49	17:45	19:36				
	05	175° 44.8	256° 53.2	38.0	33° 18.0	46.2	206° 47.1	35.7	350° 41.9	18.5				254° 08.8	00.6	67° 55.6	3.4	52.0	8.2		60°	07:09	08:05	09:02	16:09	17:58	19:43				
	06	190° 47.3	271° 52.2	37.9	38° 20.9	46.5	221° 49.1	35.5	5° 44.3	18.5	Alioth	166° 22.7	55° 53.9 N	269° 08.5	00.4	82° 18.0	3.5	43.8	8.2		N 58°	07:02	07:54	08:45	16:25	18:08	19:49				
	07	205° 49.8	286° 51.3	37.8	63° 23.7	46.7	236° 51.1	35.3	20° 46.7	18.5	Alkaid	153° 00.9	49° 15.4 N	284° 08.2	00.2	96° 40.5	3.6	35.6	8.5		56°	06:55	07:44	08:31	16:39	18:18	19:54				
	08	220° 52.2	301° 50.3	37.7	78° 26.5	46.9	251° 53.0	35.1	35° 49.2	18.5	Alnair	27° 47.1	46° 54.9 S	299° 08.0	00.0	111° 03.1	3.6	27.1	8.6		54°	06:50	07:35	08:19	16:51	18:26	19:59				
	09	235° 54.7	316° 49.3	37.6	93° 29.4	47.1	266° 55.0	35.0	50° 51.6	18.4	Alnilam	275° 48.6	1° 11.7 S	314° 07.7	22° 59.8 S	125° 25.7	3.7	18.5	8.8		52°	06:44	07:28	08:08	17:01	18:33	20:03				
	10	250° 57.2	331° 48.4	37.5	108° 32.2	47.3	281° 57.0	34.8	65° 54.0	18.4	Alphard	217° 58.3	8° 42.2 S	329° 07.4	59.6	139° 48.4	3.8	09.7	8.9		50°	06:39	07:20	07:58	17:11	18:40	20:07				
	11	265° 59.6	346° 47.4	37.4	123° 35.0	47.6	296° 59.0	34.6	80° 56.4	18.4				344° 07.1	59.4	154° 11.2	3.8	00.8	9.1		50°	06:28	07:05	07:38	17:30	18:54	20:15				
	12	281° 02.1	1° 46.4	23° 37.3 S	138° 37.8	18° 47.8 N	312° 00.9	13° 34.4 S	95° 58.8	0° 18.4 N	Alphecca	126° 13.4	26° 40.6 N	359° 06.8	22° 59.2 S	168° 34.0	3.9	21° 51.7 N	9.3	61.1	N 40°	06:18	06:52	07:22	17:46	19:05	20:22				
	13	296° 04.5	16° 45.5	37.2	153° 40.7	48.0	327° 02.9	34.3	111° 01.2	18.4	Alpheratz	357° 46.2	29° 09.0 N	14° 06.5	59.0	182° 56.9	4.1	42.4	9.4		35°	06:09	06:40	07:08	17:59	19:15	20:28				
	14	311° 07.0	31° 44.5	37.1	168° 43.5	48.2	342° 04.9	34.1	126° 03.6	18.4	Altair	62° 11.0	8° 53.7 N	29° 06.2	58.8	197° 20.0	4.1	30.0	9.6		30°	06:00	06:30	06:56	18:11	19:23	20:33				
	15	326° 09.5	46° 43.5	37.0	183° 46.4	48.5	357° 06.9	33.9	141° 06.0	18.4	Ankaa	353° 18.1	42° 15.2 S	44° 05.9	58.6	211° 43.1	4.1	23.4	9.7		20°	05:44	06:11	06:35	18:31	19:38	20:42				
	16	341° 11.9	61° 42.6	36.9	198° 49.2	48.7	12° 08.8	33.7	156° 06.4	18.4	Antares	112° 29.7	26° 27.2 S	59° 05.6	58.3	226° 06.2	4.3	13.7	9.9		N 10°	05:28	05:55	06:17	18:48	19:51	20:50				
	17	356° 14.4	76° 41.6	36.8	213° 52.0	48.9	27° 10.8	33.6	171° 10.8	18.4				74° 05.3	58.1	240° 29.5	4.4	03.8	10.0		0°	05:12	05:38	06:00	19:04	20:03	20:57				
	18	11° 16.9	91° 40.6	36.7	228° 54.9	49.1	42° 12.8	33.4	186° 13.2	18.3	Arcturus	145° 58.1	19° 07.6 N	89° 05.0	57.9	254° 52.9	4.4	20° 53.8 N	10.2		S 10°	04:53	05:20	05:43	19:20	20:14	21:05				
	19	26° 19.3	106° 39.7	36.6	243° 57.7	49.4	57° 14.7	32.7	201° 15.7	18.3	Alraia	107° 34.4	69° 02.6 S	104° 04.7	57.7	269° 16.3	4.5	43.6	10.3		20°	04:31	05:00	05:23	19:37	20:27	21:12				
	20	41° 21.8	121° 38.7	36.4	259° 00.6	49.6	72° 16.7	33.0	216° 18.1	18.3	Avior	234° 18.5	59° 32.4 S	119° 04.4	57.5	283° 39.8	4.7	33.3	10.5		30°	04:03	04:36	05:03	19:56	20:41	21:21				
	21	56° 24.3	136° 37.7	36.3	274° 03.4	49.8	87° 18.7	32.9	231° 20.5	18.3	Bellatrix	278° 34.4	6° 21.5 N	134° 04.1	57.3	298° 03.5	4.7	22.8	10.6		35°	03:44	04:21	04:50	20:07	20:50	21:26				
	22	71° 26.7	151° 36.7	36.2	289° 06.2	50.0	102° 20.7	32.7	246° 22.9	18.3	Betelgeuse	271° 03.7	7° 24.5 N	149° 03.7	57.1	312° 27.2	4.8	12.2	10.7		30°	03:22	04:03	04:36	20:20	20:59	21:32				
23	86° 29.2	166° 35.8	36.1	304° 09.1	50.3	117° 22.6	32.5	261° 25.3	18.3				164° 03.6	56.8	326° 51.0	4.9	01.5	10.9		45°	02:52	03:41	04:18	20:36	21:10	21:38					
Saturday	00	101° 31.7	181° 34.8	23° 36.0 S	319° 11.9	18° 50.5 N	132° 24.6	13° 32.3 S	276° 27.7	0° 18.3 N	Canopus	263° 56.7	52° 42.4 S	179° 03.3	22° 56.6 S	341° 14.9	4.9	19° 50.6 N	11.0	61.1	S 50°	02:09	03:12	03:56	20:54	21:23	21:46				
	01	116° 34.1	196° 33.8	35.8	334° 14.8	50.7	147° 26.6	32.2	291° 30.1	18.3	Capella	280° 37.7	46° 00.6 N	194° 03.0	56.4	355° 38.8	5.1	39.6	11.2		52°	01:43	02:58	03:46	21:03	21:29	21:50				
	02	131° 36.6	211° 32.9	35.7	349° 17.7	51.0	162° 28.6	32.0	306° 32.5	18.3	Deneb	49° 33.7	45° 19.1 N	209° 02.7	56.2	10° 02.9	5.2	28.4	11.3		54°	01:03	02:40	03:34	21:12	21:36	21:54				
	03	146° 39.0	226° 31.9	35.6	4° 20.5	51.2	177° 30.5	31.8	177° 30.5	18.3	Denebola	182° 36.1	14° 30.7 N	224° 02.4	56.0	24° 27.1	5.3	17.1	11.4		56°	06:56	07:29	08:02	21:23	21:44	21:58				
	04	161° 41.5	241° 30.9	35.5	19° 23.4	51.4	192° 32.5	31.6	336° 37.4	18.2	Diphda	348° 58.4	17° 55.9 S	239° 02.1	55.7	38° 51.4	5.3	05.7	11.5		58°	-	01:52	03:04	21:36	21:52	22:03				
	05	176° 44.0	256° 30.0	35.3	34° 26.2	51.6	207° 34.5	31.5	351° 39.8	18.2				254° 01.8	55.5	53° 15.7	5.5	18° 54.2 N	11.7		S 60°	-	01:09	02:44	21:50	22:01	22:08				
	06	191° 46.4	271° 29.0	35.2	49° 29.1	51.9	222° 36.4	31.3	6° 42.2	18.2	Dubhe	193° 54.2	61° 41.4 N	269° 01.5	55.3	67° 40.2	5.5	42.5	11.8		S 62°	-	-	02:20	22:08	22:12	22:14				
	07	206° 48.9	286° 28.0	35.1	64° 31.9	52.1	237° 38.4	31.1	21° 44.6	18.2	Elnath	278° 15.4	28° 37.0 N	284° 01.2	55.1	82° 04.7	5.7	30.7	12.0												
	08	221° 51.4	301° 27.1	34.9	79° 34.8	52.3	252° 40.4	30.9	36° 47.0	18.2	Elainin	90° 47.8	51° 29.2 N	299° 00.9	54.8	96° 29.4	5.7	18.7	12.0												
	09	236° 53.8	316° 26.1	34.8	94° 37.7	52.6	267° 42.4	30.8	51° 49.4	18.2	Enif	33° 49.8	9° 55.4 N	314° 00.7	54.6	110° 54.1	5.9	06.7	12.2		Lat	Sunset	Twilight		1	Moonset					
	10	251° 56.3	331° 25.1	34.7	109° 40.5	52.8	282° 44.3	30.6	66° 51.8	18.2	Fomalhaut	15° 26.9	29° 34.2 S	329° 00.4	54.4	125° 19.0	5.9	17° 54.5 N	12.2												
	11	266° 58.8	346° 24.2	34.5	124° 43.4	53.0	297° 46.3	30.4	81° 54.2	18.2				81° 54.2	54.2	139° 43.9	6.0	42.3	12.4												
	12	282° 01.2	1° 23.2	23° 34.4 S	139° 46.3	18° 53.3 N	312° 48.3	13° 30.2 S	96° 56.6	0° 18.2 N	Gacrux	172° 03.9	57° 10.0 S	358° 59.8	22° 53.9 S	154° 08.9	6.2	17° 29.9 N	12.6	61.1	N 70°	-	13:29	15:45	-	12:34	11:20				
	13	297° 03.7	16° 22.2	34.3	154° 49.1	53.5	327° 50.2	30.1	111° 59.1	18.2	Gienah	175° 54.9	17° 35.9 S	13° 59.5	53.7	168° 34.1	6.2	17.3	12.6		68°	-	14:52	16:19	12:04	11:07	10:44				
	14	312° 06.1	31° 21.3	34.1	169° 52.0	53.7	342° 52.2	30.9	127° 01.5	18.2	Hadar	148° 51.9	60° 25.1 S	28° 59.3	5																

2010 January 4, 5, 6 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS -0.9			JUPITER -2.1			SATURN +1.0			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:20	10:30	-	21:03	23:19	25:36				
Monday	00	103° 29.9	180° 48.5	23° 28.6 S	321° 30.4	19° 01.9 N	133° 59.2	13° 23.8 S	278° 23.6	0° 17.9 N	278° 23.6	0° 17.9 N	Acamar	315° 19.9	40° 16.0 S	178° 49.5	22° 45.2 S	314° 13.2	9.4	9° 04.7 N	15.2	60.5	N 70°	08:02	09:43	-	21:08	23:14	25:20			
	01	118° 32.4	195° 47.6	28.4	336° 33.4	02.1	149° 01.1	23.7	293° 26.0	17.9	293° 26.0	17.9	Acnarnar	335° 28.3	57° 11.4 S	193° 49.2	45.0	328° 41.6	9.5	8° 49.5 N	15.2	60.4	68°	07:47	09:12	11:30	21:13	23:10	25:07			
	02	133° 34.9	210° 46.6	28.3	351° 36.3	02.4	164° 03.1	23.5	308° 28.5	17.9	308° 28.5	17.9	Acrux	173° 12.3	63° 09.1 S	208° 48.9	44.7	343° 10.1	9.6	34.3	15.2	66°	07:35	08:50	10:20	21:16	23:07	24:56				
	03	148° 37.3	225° 45.7	28.1	36° 39.2	02.6	179° 05.1	23.5	323° 30.9	17.9	323° 30.9	17.9	Adhara	255° 14.1	28° 59.2 S	223° 48.6	44.4	357° 38.7	9.6	19.1	15.3	64°	07:25	08:31	09:45	21:19	23:04	24:48				
	04	163° 39.8	240° 44.7	27.9	21° 42.1	02.9	194° 07.0	23.1	338° 33.3	17.9	338° 33.3	17.9	Aldebaran	290° 52.0	16° 31.8 N	238° 48.3	44.2	12° 07.3	9.7	03.8	15.4	62°	07:16	08:17	09:19	21:21	23:02	24:41				
	05	178° 42.3	255° 43.7	27.7	36° 45.1	03.1	209° 09.0	22.9	353° 35.7	17.9	353° 35.7	17.9					253° 48.0	43.9	26° 36.0	9.8	7° 48.4 N	15.3	60.3	60°	07:08	08:04	09:00	21:24	23:00	24:34		
	06	193° 44.7	270° 42.8	27.5	51° 48.0	03.4	224° 11.0	22.8	8° 38.1	17.9	8° 38.1	17.9	Alioth	166° 22.7	55° 53.9 N	268° 47.8	43.7	41° 04.8	9.8	33.1	15.4	60°	05:07	07:53	08:43	21:26	22:58	24:29				
	07	208° 47.2	285° 41.8	27.3	66° 50.9	03.6	239° 12.9	22.6	23° 40.6	17.8	23° 40.6	17.8	Alkaid	153° 00.9	49° 15.4 N	283° 47.5	43.4	55° 33.6	10.0	17.7	15.4	56°	06:55	07:43	08:30	21:27	22:57	24:24				
	08	223° 49.6	300° 40.9	27.1	81° 53.8	03.9	254° 14.9	22.4	38° 43.0	17.8	38° 43.0	17.8	Alnair	27° 47.1	46° 54.9 S	298° 47.2	43.1	70° 02.6	9.9	02.3	15.4	54°	06:49	07:35	08:18	21:29	22:55	24:19				
	09	238° 52.1	315° 39.9	26.9	96° 56.8	04.1	269° 16.9	22.2	53° 45.4	17.8	53° 45.4	17.8	Alnilam	275° 48.6	1° 11.7 S	313° 46.9	42.9	84° 31.5	10.1	6° 46.9 N	15.5	60.2	52°	06:44	07:27	08:10	21:30	22:54	24:16			
	10	253° 54.6	330° 38.9	26.7	111° 59.7	04.4	284° 18.8	22.1	68° 47.8	17.8	68° 47.8	17.8	Alphard	217° 58.3	8° 42.2 S	328° 46.6	42.6	99° 00.6	10.1	31.4	15.5	50°	06:39	07:20	07:58	21:32	22:53	24:12				
	11	268° 57.0	345° 38.0	26.5	127° 02.6	04.6	299° 20.8	22.9	83° 50.2	17.8	83° 50.2	17.8					343° 46.3	42.3	113° 29.7	10.2	15.9	15.5	45°	06:28	07:05	07:38	21:34	22:50	24:04			
	12	283° 59.5	0° 37.0	23° 26.3 S	142° 05.6	19° 04.9 N	314° 22.7	13° 21.7 S	98° 52.7	0° 17.8 N	98° 52.7	0° 17.8 N	Alphecca	126° 13.3	26° 40.6 N	358° 46.1	22° 42.1 S	127° 58.9	10.3	6° 00.4 N	15.5	60.2	N 40°	06:18	06:52	07:22	21:37	22:48	23:58			
	13	299° 02.0	15° 36.1	26.1	157° 08.5	05.1	329° 24.7	21.5	113° 55.1	17.8	113° 55.1	17.8	Alpheratz	357° 46.2	29° 09.0 N	13° 45.8	41.8	142° 28.2	10.3	5° 44.9 N	15.5	60.1	35°	06:09	06:41	07:09	21:39	22:46	23:53			
	14	314° 04.4	30° 35.1	25.9	172° 11.5	05.4	344° 26.7	21.3	128° 57.5	17.8	128° 57.5	17.8	Altair	62° 11.0	8° 53.7 N	28° 45.5	41.5	156° 57.5	10.4	29.4	15.6	30°	06:01	06:30	06:57	21:40	22:45	23:48				
	15	329° 06.9	45° 34.1	25.7	187° 14.4	05.6	359° 28.6	21.2	143° 59.9	17.8	143° 59.9	17.8	Ankaa	353° 18.1	42° 15.2 S	43° 45.2	41.3	171° 26.9	10.4	13.8	15.6	20°	05:45	06:12	06:36	21:43	22:42	23:40				
	16	344° 09.4	60° 33.2	25.5	202° 17.3	05.9	14° 30.6	21.0	159° 02.4	17.8	159° 02.4	17.8	Antares	112° 29.7	26° 27.2 S	58° 44.9	41.0	185° 56.3	10.5	4° 58.2 N	15.5	60.0	N 10°	05:30	05:56	06:18	21:46	22:40	23:32			
	17	359° 11.8	75° 32.2	25.3	217° 20.3	06.1	29° 32.6	20.8	174° 04.8	17.8	174° 04.8	17.8					73° 44.6	40.7	200° 25.8	10.6	42.7	15.6	0°	05:13	05:39	06:02	21:49	22:38	23:26			
	18	14° 14.3	90° 31.3	25.1	232° 23.2	06.4	44° 34.5	20.6	189° 07.2	17.8	189° 07.2	17.8	Arcturus	145° 58.1	19° 07.6 N	88° 44.4	40.5	214° 55.4	10.6	27.1	15.6	60°	04:55	05:22	05:45	21:51	22:36	23:19				
	19	29° 16.7	105° 30.3	24.9	247° 26.2	06.6	59° 36.5	20.4	204° 09.6	17.8	204° 09.6	17.8	Arctia	107° 34.3	69° 02.6 S	103° 44.1	40.2	229° 25.0	10.7	11.5	15.6	20°	04:33	05:02	05:26	21:54	22:33	23:12				
	20	44° 19.2	120° 29.4	24.7	262° 29.1	06.9	74° 38.5	20.3	219° 12.0	17.8	219° 12.0	17.8	Avior	234° 18.5	59° 32.4 S	118° 43.8	39.9	243° 54.7	10.7	3° 55.9 N	15.6	59.9	30°	04:05	04:38	05:05	21:57	22:31	23:04			
	21	59° 21.7	135° 28.4	24.5	277° 32.1	07.2	89° 40.4	20.1	234° 14.5	17.8	234° 14.5	17.8	Bellatrix	278° 34.4	6° 21.5 N	133° 43.5	39.7	258° 24.4	10.8	40.3	15.6	35°	03:47	04:23	04:53	21:59	22:29	23:00				
	22	74° 24.1	150° 27.4	24.3	292° 35.0	07.4	104° 42.4	19.9	247° 16.9	17.8	247° 16.9	17.8	Betelgeuse	271° 03.7	7° 24.5 S	148° 43.2	39.4	272° 54.2	10.8	24.7	15.6	40°	03:25	04:06	04:38	22:01	22:28	22:55				
23	89° 26.6	165° 26.5	24.1	307° 38.0	07.7	119° 44.4	19.7	264° 19.3	17.8	264° 19.3	17.8					163° 43.0	39.1	287° 24.0	10.9	09.1	15.6	59.8	45°	02:56	03:44	04:21	22:03	22:26	22:49			
Tuesday	00	104° 29.1	180° 25.5	23° 23.9 S	322° 40.9	19° 07.9 N	134° 46.3	13° 19.5 S	279° 21.7	0° 17.8 N	279° 21.7	0° 17.8 N	Capopus	263° 56.7	52° 42.1 S	178° 42.7	22° 38.8 S	301° 53.9	10.9	2° 53.5 N	15.6	59.8	S 50°	02:13	03:16	04:00	22:06	22:24	22:42			
	01	119° 31.5	195° 24.6	23.7	337° 43.9	08.2	149° 48.3	19.4	294° 24.2	17.8	294° 24.2	17.8	Canopus	180° 37.7	46° 00.6 N	193° 42.4	38.6	316° 23.8	11.0	37.9	15.6	52°	01:49	03:02	03:49	22:07	22:23	22:39				
	02	134° 34.0	210° 23.6	23.4	352° 46.8	08.4	164° 50.2	19.2	309° 26.6	17.7	309° 26.6	17.7	Deneb	49° 33.7	45° 19.1 N	208° 42.1	38.3	330° 53.8	11.1	22.3	15.6	59.7	54°	01:12	02:45	03:38	22:08	22:22	22:35			
	03	149° 36.5	225° 22.7	23.2	7° 49.8	08.7	179° 52.2	19.0	324° 29.0	17.7	324° 29.0	17.7	Denebola	182° 36.1	14° 30.7 N	223° 41.8	38.0	345° 23.9	11.1	06.7	15.6	56°	08	-	02:25	03:24	22:10	22:21	22:31			
	04	164° 38.9	240° 21.7	23.0	22° 52.8	08.9	194° 54.2	18.8	339° 31.4	17.7	339° 31.4	17.7	Diphda	348° 58.4	17° 55.9 S	238° 41.6	37.7	359° 54.0	11.1	1° 51.1 N	15.6	58°	-	01:58	03:08	22:12	22:19	22:27				
	05	179° 41.4	255° 20.7	22.8	37° 55.7	09.2	209° 56.1	18.6	354° 33.8	17.7	354° 33.8	17.7					253° 41.3	37.4	14° 24.1	11.2	35.5	15.6	59.6	S 60°	-	01:19	02:50	22:13	22:18	22:22		
	06	194° 43.9	270° 19.8	22.6	52° 58.7	09.5	224° 58.1	18.5	9° 36.3	17.7	9° 36.3	17.7	Dubhe	193° 54.2	61° 41.4 N	268° 41.0	37.2	28° 54.3	11.2	19.9	15.6	60°	-	-	02:26	22:16	22:16	22:16	22:17			
	07	209° 46.3	285° 18.8	22.4	68° 01.6	09.7	240° 00.1	18.3	24° 38.7	17.7	24° 38.7	17.7	Elnath	278° 15.4	28° 37.0 N	283° 40.7	36.9	43° 24.5	11.2	04.3	15.6	59.5	Lat	Sunset	Twilight		Moonset					
	08	224° 48.8	300° 17.9	22.1	83° 04.6	10.0	255° 02.0	18.1	39° 41.1	17.7	39° 41.1	17.7	Elainin	90° 47.8	51° 29.1 N	298° 40.5	36.6	57° 54.7	11.3	0° 48.8 N	15.5	59.5	Lat	Sunset	Civil	Nautical	4	5	6			
	09	239° 51.2	315° 16.9	21.9	98° 07.6	10.2	270° 04.0	17.9	54° 43.5	17.7	54° 43.5	17.7	Enif	33° 49.9	9° 55.3 N	313° 40.2	36.3	72° 25.0	11.4	33.2	15.5	59.5	Lat	Sunset	Civil	Nautical	4	5	6			
	10	254° 53.7	330° 16.0	21.7	113° 10.5	10.5	285° 06.0	17.7	69° 46.0	17.7	69° 46.0	17.7	Fomalhaut	15° 26.9	29° 34.2 S	328° 39.9	36.0	86° 55.4	11.4	17.7	15.5	59.5	Lat	Sunset	Civil	Nautical	4	5	6			
	11	269° 56.2	345° 15.0	21.5	128° 13.5	10.7	300° 07.9	17.6	84° 48.4	17.7	84° 48.4	17.7					343° 39.6	35.8	101° 25.8	11.4	02.2	15.5	59.5	Lat	Sunset	Civil	Nautical	4	5	6		
	12	284° 58.6	0° 14.1	23° 21.2 S	143° 16.5	19° 11.0 N	315° 09.9	13° 17.4 S	99° 50.8	0° 17.7 N	99° 50.8	0° 17.7 N	Gacrux	172° 03.8	57° 10.0 S	358° 39.3	22° 35.5 S	115° 56.2	11.4	0° 13.3 S	15.5	59.4	N 70°	-	13:41	15:52	10:43	10:14	09:45			
	13	300° 01.1	15° 13.1	21.0	158° 19.4	11.3	330° 11.8	17.2	114° 53.2	17.7	114° 53.2	17.7	Gienah	175° 54.9	17° 35.9 S	13° 39.1	35.2	130° 26.6	11.5	28.8	15.4	68°	12:41	14:59	16:24	10:28	10:13	10:00				
	14	315° 03.6	30° 12.2	20.8	173° 22.4	11.5	345° 13.8	17.0	129° 55.																							

2010 January 7, 8, 9 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS -0.9			JUPITER -2.1			SATURN +0.9			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:15	10:19	-	01:36	04:12	-				
Thurs day	00	106° 27.3	179° 39.8	23° 12.2 S	325° 04.4	19° 20.6 N	136° 20.4	13° 10.8 S	281° 18.2	0° 17.6 N	Acamar	315° 20.0	40° 16.0 S	178° 29.5	22° 24.7 S	278° 26.0	12.0	9° 08.4 S	13.9	58.2	N 70°	07:58	09:36	-	01:20	03:34	-					
	01	121° 29.8	194° 38.9	11.9	340° 07.4	20.8	151° 22.4	10.6	296° 20.7	17.6	Acemnar	335° 28.4	57° 11.4 S	193° 29.2	24.4	292° 57.0	11.9	22.3	13.9	68°	07:44	09:08	11:10	01:07	03:08	05:24						
	02	136° 32.3	209° 38.0	11.6	355° 10.4	21.1	166° 24.4	10.5	311° 23.1	17.6	Acruha	173° 12.3	63° 09.1 S	208° 28.9	24.1	307° 27.9	12.0	36.2	13.8	58.1	66°	07:33	08:46	10:13	00:56	02:48	04:45					
	03	151° 34.7	224° 37.0	11.4	10° 10.3	21.4	181° 26.3	10.3	326° 25.5	17.6	Adhara	255° 14.1	28° 59.2 S	223° 28.6	23.8	321° 58.9	12.0	50.0	13.8	64°	07:23	08:29	09:40	00:48	02:32	04:18						
	04	166° 37.2	239° 36.1	11.1	25° 16.5	21.7	196° 28.3	10.1	341° 28.0	17.6	Aldebaran	290° 52.0	16° 31.8 N	238° 28.4	23.5	336° 29.9	11.9	10° 03.8 S	13.7	62°	07:14	08:14	09:16	00:41	02:19	03:57						
	05	181° 39.7	254° 35.1	10.8	40° 19.5	21.9	211° 30.2	09.9	356° 30.4	17.6				253° 28.1	23.1	351° 00.8	12.0	17.5	13.6	58.0	60°	07:07	08:02	08:57	00:34	02:07	03:40					
	06	196° 42.1	269° 34.2	10.5	55° 22.5	22.2	226° 32.2	09.7	11° 32.8	17.6	Alioth	166° 22.7	55° 53.9 N	268° 27.8	22.8	5° 31.8	11.9	31.1	13.6	56°	07:00	07:51	08:41	00:29	01:58	03:26						
	07	211° 44.6	284° 33.2	10.2	70° 25.6	22.5	241° 34.1	09.5	26° 35.3	17.6	Alkaid	153° 00.8	49° 15.4 N	283° 27.6	22.5	20° 02.7	11.9	44.7	13.5	54°	06:54	07:42	08:28	00:24	01:50	03:14						
	08	226° 47.1	299° 32.3	10.0	85° 28.6	22.7	256° 36.1	09.4	41° 37.7	17.6	Alnair	27° 47.1	46° 54.9 S	298° 27.3	22.2	34° 33.6	11.9	58.2	13.4	57.9	54°	06:48	07:34	08:16	00:19	01:42	03:03					
	09	241° 49.5	314° 31.3	09.7	100° 31.6	23.0	271° 38.1	09.2	56° 40.1	17.6	Alnilam	275° 48.6	1° 11.8 S	313° 27.0	21.9	49° 04.5	11.9	11° 11.6 S	13.4	52°	06:43	07:26	08:06	00:16	01:36	02:54						
	10	256° 52.0	329° 30.4	09.4	115° 34.7	23.3	286° 40.0	09.0	71° 42.6	17.6	Alphard	217° 58.3	8° 42.2 S	328° 26.8	21.6	63° 35.4	11.9	25.0	13.3	50°	06:38	07:19	07:57	00:12	01:30	02:46						
	11	271° 54.4	344° 29.5	09.1	130° 37.7	23.6	301° 42.0	08.8	86° 45.1	17.6				343° 26.5	21.2	78° 06.3	11.9	38.3	13.2	57.8	45°	06:28	07:04	07:38	00:04	01:17	02:28					
	12	286° 56.9	359° 28.5	23° 08.8 S	145° 40.7	19° 23.8 N	316° 43.9	13° 08.6 S	101° 47.4	0° 17.6 N	Alphecca	126° 13.3	26° 40.6 N	358° 26.2	22° 20.9 S	92° 37.2	11.9	11° 51.5 S	13.1	57.8	N 40°	06:18	06:52	07:22	-	01:06	02:14					
	13	301° 59.4	14° 27.6	08.5	160° 43.8	24.1	331° 45.9	08.4	116° 49.9	17.6	Alpheratz	357° 46.3	29° 09.0 N	13° 26.0	20.6	107° 08.1	11.8	12° 04.6 S	13.1	35°	06:09	06:41	07:09	-	00:57	02:02						
	14	317° 01.8	29° 26.6	08.2	175° 46.8	24.4	346° 47.8	08.3	131° 52.3	17.6	Altair	62° 11.0	8° 53.7 N	28° 25.7	20.3	121° 38.9	11.9	17.7	13.0	57.7	30°	06:01	06:31	06:57	-	00:50	01:51					
	15	332° 04.3	44° 25.7	08.0	190° 49.9	24.7	1° 49.8	08.1	146° 54.7	17.6	Ankaa	353° 18.1	42° 15.3 S	43° 25.4	19.9	136° 09.8	11.8	30.7	12.9	20°	05:46	06:13	06:37	-	00:36	01:33						
	16	347° 06.8	59° 24.7	07.7	205° 52.9	24.9	16° 51.8	07.9	161° 57.2	17.6	Antares	112° 29.6	26° 27.2 S	58° 25.2	19.6	150° 40.6	11.8	43.6	12.8	N 10°	05:31	05:57	06:19	-	00:25	01:17						
	17	2° 09.2	74° 23.8	07.4	220° 55.9	25.2	31° 53.7	07.7	176° 59.6	17.6				73° 24.9	19.3	165° 11.4	11.7	56.4	12.8	57.6	0°	05:15	05:41	06:03	-	00:14	01:03					
	18	17° 11.7	89° 22.9	07.1	235° 59.0	25.5	46° 55.7	07.5	192° 02.0	17.6	Arcturus	145° 58.1	19° 07.6 N	88° 24.6	19.0	179° 42.1	11.8	13° 09.2 S	12.7	20°	04:57	05:23	05:46	-	00:03	00:49						
	19	32° 14.2	104° 21.9	06.8	251° 02.0	25.8	61° 57.6	07.3	207° 04.5	17.6	Alraia	107° 34.3	69° 02.6 S	103° 24.3	18.6	194° 12.9	11.7	21.9	12.6	20°	04:35	05:04	05:28	23:52	-	00:33						
	20	47° 16.6	119° 21.0	06.5	266° 05.1	26.1	76° 59.6	07.2	222° 06.9	17.6	Avior	234° 18.5	59° 32.5 S	118° 24.1	18.3	208° 43.6	11.7	34.5	12.5	57.5	30°	04:08	04:40	05:08	23:39	-	00:16					
	21	62° 19.1	134° 20.0	06.2	281° 08.1	26.3	92° 01.5	07.0	237° 09.3	17.6	Bellatrix	278° 34.4	6° 21.5 N	133° 23.8	18.0	223° 14.3	11.7	47.0	12.4	35°	03:50	04:26	04:55	23:32	-	00:06						
	22	77° 21.6	149° 19.1	05.9	296° 11.2	26.6	107° 03.7	06.8	252° 11.8	17.6	Betelgeuse	271° 03.7	7° 24.5 N	148° 23.5	17.7	237° 45.0	11.7	59.4	12.4	40°	03:28	04:09	04:41	23:23	23:54	24:30						
23	92° 24.0	164° 18.1	05.6	311° 14.2	26.9	122° 05.5	06.6	267° 14.2	17.6				163° 23.3	17.3	252° 15.7	11.7	14° 11.8 S	12.2	57.4	45°	03:00	03:48	04:24	23:13	23:41	24:13						
Fri day	00	107° 26.5	179° 17.2	23° 05.3 S	326° 17.3	19° 27.2 N	137° 07.4	13° 06.4 S	282° 16.7	0° 17.6 N	Canopus	263° 56.7	52° 42.4 S	178° 23.0	22° 17.0 S	266° 46.4	11.6	14° 24.0 S	12.2	57.4	S 50°	02:19	03:20	04:03	23:02	23:25	23:53					
	01	122° 28.9	194° 16.3	05.0	341° 20.4	27.4	152° 09.4	06.2	297° 19.1	17.6	Capella	280° 37.7	46° 00.6 N	193° 22.8	16.7	281° 17.0	11.6	36.2	12.1	52°	01:55	03:06	03:53	22:56	23:17	23:43						
	02	137° 31.4	209° 15.3	04.7	356° 23.4	27.7	167° 11.3	06.1	312° 21.5	17.6	Deneb	49° 33.7	45° 19.1 N	208° 22.5	16.3	295° 47.6	11.6	48.3	12.0	57.3	54°	01:22	02:50	03:42	22:50	23:09	23:32					
	03	152° 33.9	224° 14.4	04.4	11° 26.5	28.0	182° 13.3	05.9	327° 24.0	17.6	Denebola	182° 36.1	14° 30.0 N	223° 22.4	16.0	310° 18.2	11.5	15° 00.3 S	12.0	56°	-	02:30	03:29	04:22	22:44	22:59	23:20					
	04	167° 36.3	239° 13.5	04.1	26° 29.5	28.3	197° 15.2	05.7	342° 26.4	17.6	Diphda	348° 58.4	17° 55.9 S	238° 22.0	15.7	324° 48.7	11.6	12.3	11.8	58°	-	02:05	03:14	04:12	22:36	22:48	23:05					
	05	182° 38.8	254° 12.5	03.7	41° 32.6	28.6	212° 17.2	05.5	357° 28.8	17.6				253° 21.7	15.3	339° 19.3	11.5	24.1	11.8	S 60°	-	01:29	02:55	04:22	22:28	22:49						
	06	197° 41.3	269° 11.6	03.4	56° 35.7	28.8	227° 19.1	05.3	12° 31.3	17.6	Dubhe	193° 54.2	61° 41.4 N	268° 21.4	15.0	353° 49.8	11.4	35.9	11.6	57.2	S 62°	-	-	02:33	04:22	05:11	22:19	22:22				
	07	212° 43.7	284° 10.6	03.1	71° 38.7	29.1	242° 21.1	05.1	27° 33.7	17.6	Elnath	278° 15.4	28° 37.0 N	283° 21.2	14.7	8° 20.2	11.5	47.5	11.6													
	08	227° 46.2	299° 09.7	02.8	86° 41.8	29.4	257° 23.0	04.9	40° 36.1	17.6	Elainin	90° 47.8	51° 29.1 S	298° 20.9	14.3	22° 50.7	11.4	59.1	11.5													
	09	242° 48.7	314° 08.8	02.5	101° 44.9	29.7	272° 25.0	04.8	57° 38.6	17.6	Enif	33° 49.9	9° 55.3 N	313° 20.6	14.0	37° 21.1	11.4	16° 10.6 S	11.4	57.1	Lat	Sunset	Twilight		7	Moonset						
	10	257° 51.1	329° 07.8	02.2	116° 47.9	30.0	287° 27.0	04.6	72° 41.0	17.6	Fomalhaut	15° 26.9	29° 34.2 S	328° 20.4	13.7	51° 51.5	11.4	22.0	11.3													
	11	272° 53.6	344° 06.9	01.9	131° 51.0	30.3	302° 28.9	04.8	87° 43.5	17.6				343° 20.1	13.3	66° 21.9	11.3	33.3	11.3													
	12	287° 56.1	359° 05.9	23° 01.5 S	146° 54.1	19° 30.5 N	317° 30.9	13° 04.2 S	102° 45.9	0° 17.6 N	Gacrux	172° 03.8	57° 10.0 S	358° 19.8	22° 13.0 S	80° 52.2	11.3	16° 44.5 S	11.1	57.0	N 70°	-	13:55	15:59	09:11	08:17	-					
	13	302° 58.5	14° 05.0	01.2	161° 57.1	30.8	332° 32.8	04.8	117° 48.3	17.6	Gienah	175° 54.8	17° 35.9 S	13° 19.6	12.6	95° 22.5	11.3	55.6	11.0	68°	13:04	15:06	16:30	09:44	09:25	08:51						
	14	318° 01.0	29° 04.1	00.9	177° 00.2	31.1	347° 34.8	03.0	132° 50.8	17.6																						

2010 January 10, 11, 12 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS -1.0			JUPITER -2.1			SATURN +0.9			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	10	11	12	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:10	10:08	-	-	-	-					
Sunday	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:10	10:08	-	-	-	-	
	01	109° 24.8	178° 32.4	22° 49.3 S	328° 45.6	19° 40.9 N	138° 41.1	12° 57.5 S	284° 13.8	0° 17.7 N	289° 16.2	17.7	343° 48.7	48.9	Acamar	315° 20.0	40° 16.0 S	178° 10.5	22° 00.2 S	242° 42.9	10.1	22° 19.0 S	7.2	56.0	N 70°	07:53	09:29	-	-	-	-	
	02	124° 27.2	193° 31.5	48.9	343° 48.7	41.2	153° 43.1	57.3	299° 16.2	17.7	343° 48.7	48.9	343° 48.7	48.9	Acamar	335° 28.4	57° 11.4 S	193° 10.2	21° 59.9 S	257° 12.0	10.1	26.2	7.1		N 68°	07:40	09:02	10:53	-	-	-	-
	03	139° 29.7	208° 30.5	48.6	358° 51.8	41.5	168° 45.0	57.1	314° 18.7	17.8	343° 48.7	48.9	343° 48.7	48.9	Acrux	173° 12.2	63° 09.1 S	208° 10.0	59.5	271° 41.1	10.1	33.3	6.9		N 66°	07:29	08:42	10:05	07:02	-	-	-
	04	154° 32.2	223° 29.6	48.2	13° 54.9	41.8	183° 47.0	57.0	329° 21.1	17.8	343° 48.7	48.9	343° 48.7	48.9	Adhara	255° 14.1	28° 59.2 S	223° 09.7	59.1	286° 10.2	10.0	40.2	6.9		N 64°	07:20	08:25	09:34	06:06	07:56	09:27	
	05	169° 34.6	238° 28.7	47.8	28° 58.1	42.1	198° 48.9	56.8	344° 23.5	17.8	343° 48.7	48.9	343° 48.7	48.9	Aldebaran	290° 52.0	16° 31.8 N	238° 09.5	58.8	300° 39.2	10.1	47.1	6.7	55.9	N 62°	07:12	08:11	09:12	05:34	07:03	08:10	
	06	184° 37.1	253° 27.8	47.5	44° 01.2	42.4	213° 50.9	56.6	359° 26.0	17.8	343° 48.7	48.9	343° 48.7	48.9				253° 09.2	58.4	315° 08.3	10.0	53.8	6.7		N 60°	07:05	07:59	08:53	05:09	06:30	07:34	
	07	199° 39.5	268° 26.8	47.1	59° 04.3	42.6	228° 52.8	56.4	14° 28.4	17.8	343° 48.7	48.9	343° 48.7	48.9	Alioth	166° 22.6	55° 53.9 N	268° 09.0	58.0	329° 37.3	9.9	23° 00.5 S	6.4		N 58°	06:58	07:49	08:38	04:50	06:07	07:08	
	08	214° 42.0	283° 25.9	46.7	74° 07.4	42.9	243° 54.8	56.2	29° 30.9	17.8	343° 48.7	48.9	343° 48.7	48.9	Alkaid	153° 00.8	49° 15.4 N	283° 08.7	57.7	344° 06.2	9.9	06.9	6.4		N 56°	06:52	07:40	08:25	04:34	05:47	06:48	
	09	229° 44.5	298° 25.0	46.4	89° 10.6	43.2	258° 56.7	56.0	44° 33.3	17.8	343° 48.7	48.9	343° 48.7	48.9	Alnair	27° 47.1	46° 54.8 S	298° 08.5	57.3	358° 35.1	10.0	13.3	6.3	55.8	N 54°	06:47	07:32	08:14	04:21	05:31	06:31	
	10	244° 46.9	313° 24.1	46.0	103° 13.7	43.5	273° 58.7	55.8	59° 35.8	17.8	343° 48.7	48.9	343° 48.7	48.9	Alnilam	275° 48.6	1° 11.8 S	313° 08.2	56.9	13° 04.1	9.8	19.6	6.1		N 52°	06:42	07:25	08:04	04:09	05:17	06:16	
	11	259° 49.4	328° 23.1	45.6	119° 16.8	43.8	289° 00.6	55.6	74° 38.2	17.8	343° 48.7	48.9	343° 48.7	48.9	Alphard	217° 58.3	8° 42.2 S	328° 08.0	56.5	27° 32.9	9.9	25.7	6.0		N 50°	06:37	07:18	07:55	03:58	05:05	06:04	
	12	274° 51.9	343° 22.2	45.3	134° 20.0	44.1	304° 02.6	55.5	89° 40.7	17.8	343° 48.7	48.9	343° 48.7	48.9				43° 07.7	56.2	42° 01.8	9.8	31.7	5.9		N 48°	06:27	07:04	07:37	03:36	04:40	05:38	
	13	289° 54.3	358° 21.3	22° 44.9 S	149° 23.1	19° 44.4 N	319° 04.5	12° 55.3 S	104° 43.1	0° 17.8 N	343° 48.7	48.9	343° 48.7	48.9	Alphecca	126° 13.3	26° 40.6 N	358° 07.5	21° 55.8 S	56° 30.6	9.8	23° 37.6 S	5.7	55.7	N 40°	06:18	06:51	07:21	03:19	04:21	05:17	
	14	304° 56.8	13° 20.4	44.5	164° 26.3	44.7	334° 06.5	55.1	119° 45.6	17.8	343° 48.7	48.9	343° 48.7	48.9	Alpheratz	357° 46.3	29° 09.0 N	13° 07.2	55.4	70° 59.4	9.8	43.3	5.6		N 35°	06:09	06:41	07:08	03:04	04:04	05:00	
	15	319° 59.3	28° 19.5	44.1	179° 29.3	45.0	349° 08.4	54.9	179° 29.3	17.8	343° 48.7	48.9	343° 48.7	48.9	Altair	62° 11.0	8° 53.7 N	28° 07.0	55.0	85° 28.2	9.8	48.9	5.5		N 30°	06:01	06:31	06:57	02:51	03:50	04:45	
	16	335° 01.7	43° 18.5	43.7	194° 32.5	45.3	4° 10.4	54.7	149° 50.4	17.8	343° 48.7	48.9	343° 48.7	48.9	Ankaa	353° 18.2	42° 15.2 S	43° 06.7	54.7	99° 57.0	9.7	54.4	5.4		N 20°	05:47	06:14	06:37	02:30	03:26	04:20	
	17	350° 04.2	58° 17.6	43.4	209° 35.7	45.6	19° 12.3	54.5	58° 52.9	17.8	343° 48.7	48.9	343° 48.7	48.9	Antares	112° 29.6	26° 27.2 S	58° 06.4	54.3	114° 25.7	9.7	59.8	5.2		N 10°	05:32	05:58	06:20	02:11	03:05	03:58	
	18	5° 06.7	73° 16.7	43.0	224° 38.8	45.9	34° 14.3	54.3	179° 55.3	17.8	343° 48.7	48.9	343° 48.7	48.9				73° 06.2	53.9	128° 54.4	9.7	24° 05.0 S	5.1	55.6	N 0°	05:16	05:42	06:04	01:54	02:45	03:38	
	19	20° 09.1	88° 15.8	42.6	239° 42.0	46.2	49° 16.2	54.1	194° 57.8	17.8	343° 48.7	48.9	343° 48.7	48.9	Arcturus	145° 58.1	19° 07.6 N	88° 05.9	53.5	143° 23.1	9.7	10.1	5.0		S 10°	04:58	05:25	05:48	01:36	02:26	03:17	
	20	35° 11.6	103° 14.9	42.2	254° 45.1	46.5	64° 18.2	54.0	210° 00.2	17.8	343° 48.7	48.9	343° 48.7	48.9	Atria	107° 34.3	69° 02.6 S	103° 05.7	53.1	157° 51.8	9.6	15.1	4.9		N 20°	04:37	05:06	05:30	01:18	02:05	02:56	
	21	50° 14.0	118° 13.9	41.8	269° 48.3	46.8	79° 20.1	53.8	225° 02.7	17.8	343° 48.7	48.9	343° 48.7	48.9	Avior	234° 18.5	59° 32.5 S	118° 05.4	52.7	172° 20.4	9.7	20.0	4.7		N 30°	04:10	04:43	05:10	00:57	01:41	02:31	
	22	65° 16.5	133° 13.0	41.4	284° 51.4	47.1	94° 22.1	53.6	240° 05.1	17.9	343° 48.7	48.9	343° 48.7	48.9	Bellatrix	278° 34.4	6° 21.5 N	133° 05.2	52.4	186° 49.1	9.6	24.7	4.6	55.5	N 35°	03:53	04:29	04:58	00:44	01:27	02:16	
23	80° 19.0	148° 12.1	41.0	299° 54.6	47.4	109° 24.0	53.4	255° 07.6	17.9	343° 48.7	48.9	343° 48.7	48.9	Betelgeuse	271° 03.7	7° 24.5 N	148° 04.9	52.0	201° 17.7	9.6	29.3	4.5		N 40°	03:32	04:12	04:44	00:30	01:11	01:59		
24	95° 21.4	163° 11.2	40.7	314° 57.7	47.7	124° 26.0	53.2	270° 10.0	17.9	343° 48.7	48.9	343° 48.7	48.9				163° 04.7	51.6	215° 46.3	9.5	33.8	4.3		N 45°	03:04	03:52	04:28	00:13	00:52	01:38		
Monday	00	110° 23.9	178° 10.3	22° 40.3 S	330° 00.9	19° 48.0 N	139° 27.9	12° 53.0 S	285° 12.5	0° 17.9 N	289° 16.2	17.7	343° 48.7	48.9	Capella	263° 56.7	52° 42.4 S	178° 04.4	21° 51.2 S	230° 14.8	9.6	24° 38.1 S	4.3	55.5	S 50°	02:25	03:25	04:07	-	00:28	01:13	
	01	125° 26.4	193° 09.3	39.9	345° 04.0	48.3	154° 29.9	52.8	300° 14.9	17.9	343° 48.7	48.9	343° 48.7	48.9	Canopus	280° 37.7	46° 00.6 N	193° 04.2	50.8	244° 43.4	9.5	42.4	4.0		S 52°	02:03	03:11	03:58	-	00:17	01:00	
	02	140° 28.8	208° 08.4	39.5	0° 07.2	48.6	169° 31.8	52.6	315° 17.4	17.9	343° 48.7	48.9	343° 48.7	48.9	Deneb	49° 33.7	45° 19.1 N	208° 03.9	50.4	259° 11.9	9.6	46.4	4.0	55.4	N 54°	01:32	02:56	03:47	-	00:04	00:46	
	03	155° 31.3	223° 07.5	39.1	15° 10.3	48.9	184° 33.8	52.6	184° 33.8	17.9	343° 48.7	48.9	343° 48.7	48.9	Denebola	182° 36.0	14° 30.7 N	223° 03.7	50.1	273° 40.5	9.5	50.4	3.8		N 56°	00:30	02:37	03:34	23:49	-	00:29	
	04	170° 33.8	238° 06.6	38.7	30° 13.5	49.2	199° 35.7	52.3	345° 22.3	17.9	343° 48.7	48.9	343° 48.7	48.9	Diphda	348° 58.4	17° 55.9 S	238° 03.4	49.7	288° 09.0	9.5	54.2	3.7		N 58°	-	02:13	03:19	23:31	-	00:09	
	05	185° 36.2	253° 05.7	38.3	45° 16.6	49.5	214° 37.6	52.1	0° 24.7	17.9	343° 48.7	48.9	343° 48.7	48.9				253° 03.2	49.3	302° 37.5	9.5	57.9	3.6		S 60°	-	01:40	03:02	23:09	23:44	24:39	
	06	200° 38.7	268° 04.7	37.9	60° 19.8	49.8	229° 39.6	51.9	15° 27.2	17.9	343° 48.7	48.9	343° 48.7	48.9	Dubhe	193° 54.1	61° 41.4 N	268° 03.0	48.9	317° 06.0	9.5	25° 01.5 S	3.4		S 62°	-	00:33	02:40	22:42	23:09	23:11	24:06
	07	215° 41.2	283° 03.8	37.5	75° 23.0	50.1	244° 41.5	51.7	30° 29.6	17.9	343° 48.7	48.9	343° 48.7	48.9	Elnath	278° 15.4	28° 37.0 N	283° 02.7	48.5	331° 34.5	9.5	04.9	3.3	55.3	N 53°	-	01:40	03:02	23:09	23:44	24:39	
	08																															

2010 January 13, 14, 15 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS -1.1			JUPITER -2.1			SATURN +0.9			STARS			SUN		MOON				Twilight		Sunrise		Moonrise			
	Lat	Nautical	Civil	13	14	15	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	08:03	09:56	-	-	-	-			
Wednesday	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:03	09:56	-	-	-	-	
	01	112° 22.2	177° 26.6	22° 20.1 S	332° 33.7	20° 02.6 N	141° 01.3	12° 43.9 S	287° 10.2	0° 18.3 N	287° 10.2	0° 18.3 N	287° 10.2	0° 18.3 N	Acamar	315° 20.0	40° 16.0 S	177° 52.8	21° 31.9 S	205° 05.8	10.0	25° 32.4 S	2.0	54.6	N 70°	07:48	09:21	-	-	-	-	
	02	127° 24.6	192° 25.6	19.7	347° 36.9	02.9	156° 03.2	43.7	302° 12.6	18.3	302° 12.6	18.3	302° 12.6	18.3	Acamar	335° 28.4	57° 11.4 S	192° 52.5	31.5	219° 34.8	10.0	30.4	2.2	68°	07:36	08:56	10:38	-	-	-	10:43	
	03	142° 27.1	207° 24.7	19.2	2° 40.1	03.2	171° 05.2	43.5	317° 15.1	18.3	317° 15.1	18.3	317° 15.1	18.3	Acrux	173° 12.2	63° 09.1 S	207° 52.3	31.0	234° 03.8	10.0	28.2	2.3	66°	07:25	08:36	09:56	-	-	-	10:30	
	04	157° 29.6	222° 23.8	18.8	17° 43.3	03.5	186° 07.1	43.5	332° 17.6	18.3	186° 07.1	43.5	332° 17.6	18.3	Adhara	255° 14.1	28° 59.2 S	222° 52.0	30.6	248° 32.8	10.1	25.9	2.5	64°	07:17	08:21	09:28	09:39	09:37	10:02	10:44	
	05	172° 32.0	237° 22.9	18.3	32° 46.5	03.8	201° 09.0	43.1	347° 20.0	18.3	201° 09.0	43.1	347° 20.0	18.3	Aldebaran	290° 52.0	16° 31.8 N	237° 51.8	30.2	263° 01.9	10.1	23.4	2.5	62°	07:09	08:07	09:07	08:48	09:05	09:13	09:30	
	06	187° 34.5	252° 22.0	17.9	47° 49.8	04.1	216° 11.0	43.0	2° 22.5	18.3	216° 11.0	43.0	2° 22.5	18.3				252° 51.6	29.8	277° 31.0	10.2	20.9	2.7	60°	07:02	07:56	08:49	08:16	08:41	08:55	09:10	
	07	202° 37.0	267° 21.1	17.4	62° 53.0	04.4	231° 12.9	42.8	17° 24.9	18.3	231° 12.9	42.8	17° 24.9	18.3	Alioth	166° 22.6	55° 53.9 N	267° 51.3	29.4	292° 00.2	10.2	18.2	2.8	58°	06:56	07:46	08:35	07:53	08:22	08:40	08:50	
	08	217° 39.4	282° 20.2	16.9	77° 56.2	04.7	246° 14.9	42.6	32° 27.4	18.3	246° 14.9	42.6	32° 27.4	18.3	Alkaid	153° 00.8	49° 15.4 N	282° 51.1	28.9	306° 29.4	10.2	15.4	2.9	54.5	56°	06:50	07:38	08:22	07:33	08:05	08:28	08:40
	09	232° 41.9	297° 19.3	16.5	92° 59.4	05.0	261° 16.8	42.4	47° 29.8	18.3	261° 16.8	42.4	47° 29.8	18.3	Alnair	27° 47.1	46° 54.8 S	297° 50.9	28.5	320° 58.6	10.3	12.5	3.1	54°	06:45	07:30	08:12	07:17	07:52	08:17	08:30	
	10	247° 44.4	312° 18.4	16.0	108° 02.6	05.3	276° 18.8	42.2	62° 32.3	18.3	276° 18.8	42.2	62° 32.3	18.3	Alnilam	275° 48.6	1° 11.8 S	312° 50.6	28.1	335° 27.9	10.3	09.4	3.1	52°	06:40	07:23	08:02	07:04	07:40	08:07	08:20	
	11	262° 46.8	327° 17.6	15.6	123° 05.9	05.7	291° 20.7	42.0	77° 34.8	18.4	291° 20.7	42.0	77° 34.8	18.4	Alphard	217° 58.2	8° 42.2 S	327° 50.4	27.6	349° 57.2	10.3	06.3	3.3	50°	06:36	07:16	07:53	06:51	07:29	07:58	08:10	
	12	277° 49.3	342° 16.7	15.1	138° 09.1	06.0	306° 22.6	41.8	92° 37.2	18.4	306° 22.6	41.8	92° 37.2	18.4				342° 50.2	27.2	4° 26.5	10.4	03.0	4.5	45°	06:26	07:02	07:35	06:26	07:07	07:39	07:50	
	13	292° 51.8	357° 15.8	22° 14.7 S	153° 12.3	20° 06.3 N	321° 24.6	12° 41.6 S	107° 39.7	0° 18.4 N	321° 24.6	12° 41.6 S	107° 39.7	0° 18.4 N	Alphecca	126° 13.3	26° 40.6 N	357° 49.9	21° 26.8 S	18° 55.9	10.5	24° 59.5 S	3.5	54.5	N 40°	06:17	06:51	07:20	06:06	06:48	07:24	07:35
	14	307° 54.2	12° 14.9	14.2	168° 15.6	06.6	336° 26.5	41.4	122° 42.1	18.4	168° 15.6	06.6	122° 42.1	18.4	Alpheratz	357° 46.3	29° 09.0 N	12° 49.7	26.4	33° 25.4	10.5	56.0	3.6	35°	06:09	06:40	07:08	05:50	06:33	07:01	07:10	
	15	322° 56.7	27° 14.0	13.7	183° 18.8	06.9	351° 28.5	41.7	137° 44.6	18.4	183° 18.8	06.9	137° 44.6	18.4	Altair	62° 11.0	8° 53.7 N	27° 49.5	25.9	47° 54.9	10.5	52.4	3.8	30°	06:02	06:31	06:57	05:35	06:20	07:00	07:10	
	16	337° 59.1	42° 13.1	13.3	198° 22.0	07.2	6° 30.4	41.0	152° 47.1	18.4	6° 30.4	41.0	152° 47.1	18.4	Ankaa	353° 18.2	42° 15.2 S	42° 49.2	25.5	62° 24.4	10.6	48.6	3.9	20°	05:47	06:14	06:38	05:10	05:57	06:40	06:50	
	17	353° 01.6	57° 12.2	12.8	213° 25.2	07.5	21° 32.3	40.9	167° 49.5	18.4	21° 32.3	40.9	167° 49.5	18.4	Antares	112° 29.6	26° 27.2 S	57° 49.0	25.1	76° 54.0	10.6	44.7	4.0	54.4	N 10°	05:33	05:59	06:21	04:49	05:38	06:23	06:30
	18	8° 04.1	72° 11.3	12.3	228° 28.5	07.8	36° 34.3	40.7	182° 52.0	18.4	36° 34.3	40.7	182° 52.0	18.4				72° 48.8	24.6	91° 23.6	10.7	40.7	4.1	0°	05:17	05:43	06:05	04:29	05:20	06:07	06:15	
	19	23° 06.5	87° 10.4	11.9	243° 31.7	08.1	51° 36.2	40.5	197° 54.4	18.4	51° 36.2	40.5	197° 54.4	18.4	Arcturus	145° 58.0	19° 07.5 N	87° 48.5	24.2	105° 53.3	10.7	36.6	4.3	S 10°	05:00	05:27	05:50	04:09	05:01	05:51	06:00	
	20	38° 09.0	102° 09.5	11.4	258° 34.9	08.5	66° 38.2	40.3	212° 56.9	18.4	66° 38.2	40.3	212° 56.9	18.4	Atria	107° 34.2	69° 02.6 S	102° 48.3	23.8	120° 23.0	10.8	32.3	4.3	20°	04:40	05:08	05:32	03:48	04:41	05:34	05:40	
	21	53° 11.5	117° 08.6	10.9	273° 38.2	08.8	81° 40.1	40.1	227° 59.4	18.5	81° 40.1	40.1	227° 59.4	18.5	Avior	234° 18.5	59° 32.5 S	117° 48.1	23.3	134° 52.8	10.8	28.0	4.5	30°	04:13	04:46	05:13	03:23	04:19	05:15	05:20	
	22	68° 13.9	132° 07.7	10.4	288° 41.4	09.1	96° 42.0	39.9	243° 01.8	18.5	96° 42.0	39.9	243° 01.8	18.5	Bellatrix	278° 34.4	6° 21.5 N	132° 47.8	22.9	149° 22.6	10.9	23.5	4.6	35°	03:57	04:32	05:01	03:09	04:05	05:03	05:10	
23	83° 16.4	147° 06.8	10.0	303° 16.4	09.4	111° 44.0	39.7	258° 04.3	18.5	111° 44.0	39.7	258° 04.3	18.5	Betelgeuse	271° 03.7	7° 24.5 N	147° 47.6	20.6	163° 52.5	10.9	18.9	4.7	30°	03:56	04:16	04:47	02:52	03:50	04:50	05:00		
00	98° 18.9	162° 05.9	09.5	318° 47.9	09.7	126° 45.9	39.5	273° 06.7	18.5	126° 45.9	39.5	273° 06.7	18.5				162° 47.4	22.0	178° 22.4	10.9	14.2	4.8	45°	03:09	03:56	04:31	02:32	03:31	04:34	04:40		
Thursday	01	113° 21.3	177° 05.0	22° 09.0 S	333° 51.1	20° 10.0 N	141° 47.9	12° 39.3 S	278° 09.2	0° 18.5 N	141° 47.9	12° 39.3 S	278° 09.2	0° 18.5 N	Canopus	263° 56.7	52° 42.5 S	177° 47.1	21° 21.6 S	192° 52.3	11.1	24° 09.4 S	4.9	54.4	S 50°	02:31	03:30	04:12	02:06	03:08	04:14	04:20
	02	128° 23.8	192° 04.1	08.5	348° 54.4	10.3	156° 49.8	39.1	303° 11.7	18.5	156° 49.8	39.1	303° 11.7	18.5	Capella	280° 37.7	46° 00.6 N	192° 46.9	21.2	207° 22.4	11.1	04.5	5.1	54.3	S 52°	02:10	03:17	04:02	01:54	02:57	04:05	04:10
	03	143° 26.3	207° 03.2	08.1	3° 57.6	10.6	171° 51.8	38.9	318° 14.1	18.5	3° 57.6	10.6	318° 14.1	18.5	Deneb	49° 33.7	45° 19.1 N	207° 46.7	20.7	221° 52.5	11.1	23° 59.4 S	5.1	54°	01:42	03:02	03:52	01:40	02:44	03:55	04:55	05:00
	04	158° 28.7	222° 02.3	07.6	19° 00.9	11.0	186° 53.7	38.7	389° 16.6	18.5	19° 00.9	11.0	389° 16.6	18.5	Denebola	182° 36.0	14° 30.7 N	222° 46.5	20.3	236° 22.6	11.2	54.3	5.3	56°	00:56	02:44	03:39	01:24	02:30	03:43	04:45	04:50
	05	173° 31.2	237° 01.5	07.1	34° 04.1	11.3	201° 55.6	38.5	348° 19.0	18.6	34° 04.1	11.3	348° 19.0	18.6	Diphda	348° 58.4	17° 55.9 S	237° 46.2	19.8	250° 52.8	11.2	49.0	5.4	58°	-	02:22	03:25	01:04	02:13	03:29	04:30	04:35
	06	188° 33.6	252° 00.6	06.6	49° 07.4	11.6	216° 57.6	38.4	3° 21.5	18.6	49° 07.4	11.6	3° 21.5	18.6				252° 46.0	19.4	265° 23.0	11.3	43.6	5.5	S 60°	-	01:52	03:09	00:39	01:52	03:13	04:15	04:20
	07	203° 36.1	266° 59.7	06.1	64° 10.6	11.9	231° 59.5	38.2	8° 24.0	18.6	64° 10.6	11.9	8° 24.0	18.6	Dubhe	193° 54.1	61° 41.4 N	267° 45.8	19.0	279° 53.3	11.4	38.1	5.5	S 62°	-	01:01	02:48	00:06	01:25	02:53	03:55	04:00
	08	218° 38.6	281° 58.8	05.7	79° 13.9	12.2	247° 01.5	38.0	33° 26.4	18.6	79° 13.9</																					

2010 January 16, 17, 18 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS -1.1			JUPITER -2.1			SATURN +0.9			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:56	09:44	-	11:25	10:30	09:58		
Saturday	00	115° 19.6	176° 22.6	21° 44.8 S	336° 28.1	20° 25.2 N	143° 20.9	12° 30.0 S	290° 07.5	0° 19.1 N	2	290° 07.5	0° 19.1 N	Acamar	315° 20.0	40° 16.0 S	177° 36.4	20° 59.8 S	169° 59.3	13.9	18° 19.5 S	9.5	54.0	N 70°	07:42	09:12	11:43	10:41	10:09	09:47		
	01	130° 22.1	191° 21.8	44.3	351° 31.4	25.5	158° 22.8	29.8	305° 10.0	19.2	3	305° 10.0	19.2	Acnarnar	335° 28.4	57° 11.4 S	192° 36.2	59.3	184° 32.2	13.9	10.0	9.5		N 70°	07:42	09:12	11:43	10:41	10:09	09:47		
	02	145° 24.5	206° 20.9	43.7	6° 34.7	25.8	173° 24.8	29.6	320° 12.5	19.2	4	320° 12.5	19.2	Acrux	173° 12.1	63° 09.1 S	207° 36.0	58.8	199° 05.1	14.0	00.5	9.5		N 70°	07:42	09:12	11:43	10:41	10:09	09:47		
	03	160° 27.0	221° 20.0	43.2	21° 38.0	26.1	188° 26.7	29.5	335° 14.9	19.2	5	335° 14.9	19.2	Adhara	255° 14.1	28° 59.2 S	222° 35.8	58.4	213° 38.1	14.1	17° 51.0 S	9.7		N 70°	07:42	09:12	11:43	10:41	10:09	09:47		
	04	175° 29.5	236° 19.2	42.7	36° 41.3	26.5	203° 28.6	29.3	350° 17.4	19.2	6	350° 17.4	19.2	Aldebaran	290° 52.0	16° 31.8 N	237° 35.5	57.9	228° 11.2	14.1	41.3	9.7		N 70°	07:42	09:12	11:43	10:41	10:09	09:47		
	05	190° 31.9	251° 18.3	42.1	51° 44.6	26.8	218° 30.6	29.1	5° 19.9	19.2	7	5° 19.9	19.2				252° 35.3	57.4	242° 44.3	14.1	31.6	9.8		N 70°	07:42	09:12	11:43	10:41	10:09	09:47		
	06	205° 34.4	266° 17.4	41.6	66° 47.9	27.1	233° 32.5	28.9	20° 22.3	19.2	8	20° 22.3	19.2	Alioth	166° 22.6	55° 53.9 N	267° 35.1	56.9	257° 17.4	14.3	21.8	9.8		N 58°	06:53	07:43	08:31	08:53	09:02	09:09		
	07	220° 36.9	281° 16.5	41.1	81° 51.2	27.4	248° 34.4	28.7	35° 24.8	19.3	9	35° 24.8	19.3	Alkaid	153° 00.7	49° 15.4 N	282° 34.9	56.5	271° 50.7	14.2	11.9	9.9		N 56°	06:48	07:35	08:19	08:44	08:56	09:05		
	08	235° 39.3	296° 15.7	40.5	96° 54.5	27.7	263° 36.4	28.5	50° 27.3	19.3	10	50° 27.3	19.3	Alnair	27° 47.1	46° 54.8 S	297° 34.7	56.0	286° 23.9	14.4	02.0	10.0		N 54°	06:43	07:27	08:09	08:35	08:50	09:02		
	09	250° 41.8	311° 14.8	40.0	111° 57.8	28.1	278° 38.3	28.3	65° 29.8	19.3	11	65° 29.8	19.3	Alnilam	275° 54.7	1° 11.8 S	312° 34.5	55.5	300° 57.3	14.3	16° 52.0 S	10.1		N 52°	06:38	07:21	07:59	08:28	08:45	08:59		
	10	265° 44.2	326° 13.9	39.4	127° 01.1	28.4	293° 40.3	28.4	80° 32.2	19.3	12	80° 32.2	19.3	Alphard	217° 58.2	8° 42.3 S	327° 34.3	55.0	315° 30.6	14.5	41.9	10.1		N 50°	06:34	07:14	07:51	08:21	08:40	08:56		
	11	280° 46.7	341° 13.1	38.9	142° 04.5	28.7	308° 42.2	27.9	95° 34.7	19.3	13	95° 34.7	19.3				342° 34.0	54.6	330° 04.1	14.5	31.8	10.2		N 45°	06:25	07:01	07:34	08:06	08:29	08:50		
	12	295° 49.2	356° 12.2	21° 38.4 S	157° 07.8	20° 29.0 N	323° 44.1	12° 27.7 S	110° 37.2	0° 19.3 N	14	110° 37.2	0° 19.3 N	Alphecca	126° 13.3	26° 40.6 N	357° 33.8	20° 54.1 S	344° 37.6	14.5	16° 21.6 S	10.3	54.0	N 40°	06:16	06:50	07:19	07:54	08:21	08:44		
	13	310° 51.6	11° 11.3	37.8	172° 11.1	29.3	338° 46.1	27.5	125° 39.6	19.3	15	125° 39.6	19.3	Alpheratz	357° 46.3	29° 09.0 N	12° 33.6	53.6	359° 11.1	14.6	11.3	10.3		N 35°	06:09	06:40	07:07	07:44	08:13	08:40		
	14	325° 54.1	26° 10.5	37.3	187° 14.4	29.7	353° 48.0	27.3	140° 42.1	19.4	16	140° 42.1	19.4	Altair	62° 11.0	8° 53.7 N	27° 33.4	53.1	13° 44.7	14.7	01.0	10.0		N 30°	06:01	06:31	06:56	07:35	08:07	08:40		
	15	340° 56.6	41° 09.6	36.7	202° 17.7	30.0	8° 49.9	27.1	155° 44.6	19.4	17	155° 44.6	19.4	Ankaa	353° 18.2	42° 15.2 S	42° 33.2	52.6	28° 18.4	14.7	15° 50.6 S	10.5		N 20°	05:47	06:14	06:38	07:19	07:55	08:29		
	16	355° 59.0	56° 08.7	36.2	217° 21.0	30.3	23° 51.9	26.9	170° 47.1	19.4	18	170° 47.1	19.4	Antares	112° 29.6	26° 27.2 S	57° 33.0	52.2	42° 52.1	14.7	40.1	10.5		N 10°	05:33	05:59	06:22	07:06	07:45	08:23		
	17	11° 01.5	71° 07.9	35.6	232° 24.3	30.6	38° 53.8	26.7	185° 49.5	19.4	19	185° 49.5	19.4	Arcturus	145° 58.0	19° 07.5 N	72° 32.8	51.7	57° 25.8	14.8	29.6	10.5		N 0°	05:19	05:44	06:06	06:53	07:36	08:17		
	18	26° 04.0	86° 07.0	35.1	247° 27.6	30.9	53° 55.7	26.5	200° 52.0	19.4	20	200° 52.0	19.4	Arctria	145° 58.0	19° 07.5 N	87° 32.6	51.2	71° 59.6	14.9	19.1	10.7		S 10°	05:02	05:28	05:51	06:40	07:26	08:11		
	19	41° 06.4	101° 06.1	34.5	262° 31.0	31.3	68° 57.7	26.3	215° 54.5	19.4	21	215° 54.5	19.4	Arcturus	145° 58.0	19° 07.5 N	102° 32.3	50.7	86° 33.5	14.9	08.4	10.7		N 20°	04:42	05:10	05:34	06:26	07:16	08:05		
	20	56° 08.9	116° 05.3	34.0	277° 34.3	31.6	83° 59.6	26.1	230° 56.9	19.5	22	230° 56.9	19.5	Avior	234° 18.5	59° 32.5 S	117° 32.1	50.2	101° 07.4	15.0	14° 57.7 S	10.7		N 30°	04:16	04:49	05:15	06:10	07:05	07:58		
	21	71° 11.4	131° 04.4	33.4	292° 37.6	31.9	99° 01.5	25.9	245° 59.4	19.5	23	245° 59.4	19.5	Bellatrix	278° 34.4	6° 21.5 N	132° 31.9	49.7	115° 41.4	15.0	47.0	10.8		N 35°	04:00	04:35	05:04	06:01	06:58	07:54		
	22	86° 13.8	146° 03.5	32.8	307° 40.9	32.2	114° 03.5	25.7	261° 01.9	19.5	24	261° 01.9	19.5	Betelgeuse	271° 03.7	7° 24.5 N	147° 31.7	49.2	130° 15.4	15.0	36.2	10.9		N 40°	03:40	04:19	04:51	05:50	06:50	07:49		
23	101° 16.3	161° 02.7	32.3	322° 44.2	32.6	129° 05.4	25.5	276° 04.4	19.5	25	276° 04.4	19.5				162° 31.5	48.8	144° 49.4	15.1	25.3	10.9		N 45°	03:14	04:00	04:35	05:38	06:41	07:44			
Sunday	00	116° 18.7	176° 01.8	21° 31.7 S	337° 47.6	20° 32.9 N	144° 07.3	12° 25.3 S	291° 06.8	0° 19.5 N	2	291° 06.8	0° 19.5 N	Canopus	263° 56.7	52° 42.2 S	177° 31.3	20° 48.3 S	159° 23.5	15.2	14° 14.4 S	11.0	54.0	S 50°	02:38	03:35	04:16	05:22	06:30	07:37		
	01	131° 21.2	191° 01.0	31.2	352° 50.9	33.2	159° 09.3	25.2	306° 09.3	19.5	3	306° 09.3	19.5	Capella	280° 37.7	46° 00.6 N	192° 31.1	47.8	173° 57.7	15.2	03.4	11.0		S 50°	02:38	03:35	04:16	05:22	06:30	07:37		
	02	146° 23.7	206° 00.1	30.6	7° 54.2	33.5	174° 11.2	25.0	321° 11.8	19.6	4	321° 11.8	19.6	Deneb	49° 33.7	45° 19.1 N	207° 30.9	47.3	188° 31.9	15.3	13° 52.4 S	11.1		S 54°	01:53	03:08	03:57	05:07	06:19	07:31		
	03	161° 26.1	220° 59.2	30.0	22° 57.5	33.8	189° 13.1	24.8	336° 14.3	19.6	5	336° 14.3	19.6	Denebola	182° 36.0	14° 30.7 N	222° 30.7	46.8	203° 06.2	15.3	43.3	11.0		S 56°	01:14	02:21	03:45	04:58	06:13	07:27		
	04	176° 28.6	235° 58.4	29.5	38° 00.9	34.2	204° 15.1	24.6	351° 16.7	19.6	6	351° 16.7	19.6	Diphda	348° 58.4	17° 55.9 S	237° 30.5	46.3	217° 40.5	15.3	30.2	11.2		S 58°	-	02:30	03:32	04:48	06:06	07:23		
	05	191° 31.1	250° 57.5	28.9	53° 04.2	34.5	219° 17.0	24.2	6° 19.2	19.6	7	6° 19.2	19.6				252° 30.2	45.8	232° 14.8	15.4	19.0	11.3		S 60°	-	02:03	03:16	04:36	05:58	07:18		
	06	206° 33.5	265° 56.7	28.4	68° 07.5	34.8	234° 18.9	24.4	21° 21.7	19.6	8	21° 21.7	19.6	Dubhe	193° 54.0	61° 41.4 N	267° 30.0	45.3	246° 49.2	15.4	07.7	11.3		S 62°	-	01:21	02:57	04:22	05:49	07:13		
	07	221° 36.0	280° 55.8	27.8	83° 10.8	35.1	249° 20.9	24.0	36° 24.2	19.7	9	36° 24.2	19.7	Elnath	278° 15.4	28° 37.0 N	282° 29.8	44.8	261° 23.6	15.5	12° 56.4 S	11.3										
	08	236° 38.5	295° 54.9	27.2	98° 14.2	35.4	264° 22.8	23.8	51° 26.6	19.7	10	51° 26.6	19.7	Eltanin	90° 47.8	51° 29.1 N	297° 29.6	44.8	275° 58.1	15.5	45.1	11.4										
	09	251° 40.9	310° 54.1	26.7	113° 17.5	35.8	279° 24.7	23.6	66° 29.1	19.7	11	66° 29.1	19.7	Enif	33° 49.9	9° 55.3 N	312° 29.4	43.9	290° 32.6	15.5	33.7	11.4		Lat								
	10	266° 43.4	325° 53.2	26.1	128° 20.8	36.1																										

2010 January 22, 23, 24 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS -1.2			JUPITER -2.0			SATURN +0.9			STARS			SUN		MOON				Twilight		Sunrise			Moonrise		
	Lat	Nautical	Civil	22	23	24	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:39	09:18	-	08:08	07:10	-					
Friday	00	121° 14.4	174° 21.8	20° 16.8 S	344° 32.8	21° 11.6 N	147° 58.8	12° 01.5 S	296° 04.9	0° 22.1 N	Acamar	315° 20.0	40° 16.0 S	177° 08.4	19° 44.9 S	109° 29.9	14.7	10° 45.1 N	12.3	55.4	N 70°	07:28	08:53	10:41	08:29	07:56	-					
	01	136° 16.9	189° 21.0	16.1	359° 00.7	11.9	163° 00.7	01.3	311° 07.4	22.1	Acnarnar	335° 28.5	57° 11.4 S	192° 08.3	44.3	57.4	03.6	14.6	57.4	12.3	68°	07:18	08:33	09:57	08:45	08:26	07:50					
	02	151° 19.4	204° 20.2	15.4	14° 39.7	12.2	178° 02.6	01.1	326° 09.9	22.1	Acrux	173° 12.0	63° 09.2 S	207° 08.1	43.8	138° 37.2	14.5	11° 09.7 N	12.3	66°	07:10	08:17	09:28	08:59	08:49	08:35						
	03	166° 21.8	219° 19.3	14.7	29° 43.1	12.5	193° 04.6	00.9	341° 12.4	22.2	Adhara	255° 14.1	28° 59.3 S	222° 07.9	43.2	153° 10.7	14.5	22° 50.0 N	12.2	55.5	64°	07:03	08:04	09:06	09:10	09:07	09:05					
	04	181° 24.3	234° 18.5	14.0	44° 46.5	12.9	208° 06.5	00.7	356° 14.9	22.2	Aldebaran	290° 52.0	16° 31.8 N	237° 07.8	42.6	167° 44.2	14.3	34.2	12.2	62°	06:57	07:53	08:48	09:20	09:22	09:28						
	05	196° 26.8	249° 17.7	13.3	59° 50.0	13.2	223° 08.4	00.5	11° 17.4	22.2					252° 07.6	42.1	182° 17.5	14.4	46.4	12.1	60°	06:51	07:44	08:34	09:28	09:35	09:46					
	06	211° 29.2	264° 16.9	12.6	74° 53.4	13.5	238° 10.3	00.3	26° 19.9	22.2	Alioth	166° 22.5	55° 53.9 N	267° 07.4	41.5	196° 50.9	14.2	58.5	12.1	N 58°	06:46	07:35	08:21	09:35	09:46	10:01						
	07	226° 31.7	279° 16.1	11.9	89° 56.8	13.8	253° 12.3	00.1	41° 22.4	22.3	Alkaid	153° 00.7	49° 15.4 N	282° 07.3	40.9	211° 24.1	14.2	12° 10.6 N	12.1	55.6	56°	06:41	07:28	08:11	09:42	09:55	10:14					
	08	241° 34.1	294° 15.3	11.3	105° 00.3	14.1	268° 14.2	11° 59.9 S	56° 24.9	22.3	Alnair	27° 47.1	46° 54.8 S	297° 07.1	40.3	225° 57.3	14.1	22.7	12.0	54°	06:37	07:21	08:01	09:48	10:04	10:26						
	09	256° 36.6	309° 14.5	10.6	120° 03.7	14.5	283° 07.1	59.7	71° 27.4	22.3	Alnilam	275° 48.6	1° 11.8 S	312° 06.9	39.8	240° 30.4	14.0	34.7	12.0	52°	06:33	07:15	07:53	09:53	10:12	10:36						
	10	271° 39.1	324° 13.7	09.9	135° 07.1	14.8	298° 18.0	59.5	86° 29.9	22.3	Alphard	217° 58.2	8° 42.3 S	327° 06.8	39.2	255° 03.4	13.9	46.7	11.9	50°	06:30	07:09	07:45	09:58	10:18	10:45						
	11	286° 41.5	339° 12.9	9.7	150° 10.6	15.1	313° 20.0	59.3	93° 32.3	22.4					342° 06.6	38.6	269° 36.3	13.9	58.6	11.9	55.7	45°	06:21	06:57	07:29	10:08	10:33	11:04				
	12	301° 44.0	354° 12.1	20° 08.5 S	165° 14.0	21° 15.4 N	328° 21.9	11° 59.1 S	116° 34.8	0° 22.4 N	Alphecca	126° 13.2	26° 40.6 N	357° 06.4	19° 38.0 S	284° 09.2	13.8	13° 10.5 N	11.8	55.7	N 40°	06:14	06:47	07:16	10:17	10:46	11:20					
	13	316° 46.5	9° 11.3	07.8	180° 17.4	15.7	343° 23.8	58.9	131° 37.3	22.4	Alpheratz	357° 46.3	29° 09.0 N	12° 06.3	37.5	298° 42.0	13.7	22.3	11.9	35°	06:07	06:37	07:05	10:24	10:56	11:34						
	14	331° 48.9	24° 10.5	07.1	195° 20.9	16.1	358° 25.7	58.9	62° 11.0	22.5	Altair	62° 11.0	8° 53.7 N	27° 06.1	36.9	313° 14.7	13.6	34.2	11.7	55.8	30°	06:00	06:29	06:55	10:31	11:05	11:45					
	15	346° 51.4	39° 09.8	06.4	210° 24.3	16.4	13° 27.7	58.3	161° 42.3	22.5	Ankaa	353° 18.2	42° 15.2 S	42° 05.9	36.3	327° 47.3	13.6	45.9	11.7	20°	05:47	06:14	06:38	10:42	11:21	12:03						
	16	1° 53.9	54° 09.0	05.6	225° 27.7	16.7	28° 29.6	58.5	176° 44.8	22.5	Antares	112° 29.5	26° 27.3 S	57° 05.8	35.7	342° 19.9	13.5	57.6	11.7	N 10°	05:35	06:00	06:22	10:53	11:35	12:25						
	17	16° 56.3	69° 08.2	04.9	240° 31.2	17.0	43° 31.5	58.1	191° 47.3	22.5					72° 05.6	35.2	356° 52.4	13.3	14° 09.3 N	11.6	55.9	0°	05:21	05:46	06:08	11:02	11:49	12:39				
	18	31° 58.8	84° 07.4	04.2	255° 34.6	17.3	58° 33.4	57.9	206° 49.8	22.6	Arcturus	145° 58.0	19° 07.5 N	87° 05.4	34.6	11° 24.7	13.4	20.9	11.5	S 10°	05:05	05:31	05:54	11:12	12:02	12:56						
	19	47° 01.3	99° 06.6	03.5	270° 38.0	17.6	73° 35.3	57.7	221° 52.3	22.6	Arctia	107° 34.1	69° 02.6 S	102° 05.3	34.0	25° 57.1	13.2	32.4	11.6	20°	04:47	05:15	05:38	11:22	12:16	13:14						
	20	62° 03.7	114° 05.8	02.8	285° 41.5	18.0	88° 37.3	57.5	236° 54.8	22.6	Avior	234° 18.5	59° 32.6 S	117° 05.1	33.4	40° 29.3	13.1	44.0	11.4	30°	04:23	04:54	05:20	11:34	12:33	13:35						
	21	77° 06.2	129° 05.0	02.1	300° 44.9	18.3	103° 39.2	57.3	251° 57.3	22.6	Bellatrix	278° 34.4	6° 21.5 N	132° 04.9	32.8	55° 01.4	13.0	55.4	11.4	35°	04:07	04:42	05:10	11:41	12:42	13:47						
	22	92° 08.6	144° 04.2	01.4	315° 48.4	18.6	118° 41.1	57.1	266° 59.8	22.7	Betelgeuse	271° 03.7	7° 24.5 N	147° 04.8	32.3	69° 33.4	13.0	15° 06.8 N	11.4	40°	03:49	04:27	04:58	11:49	12:54	14:01						
23	107° 11.1	159° 03.4	00.7	330° 51.8	18.9	133° 43.0	56.9	282° 02.3	22.7					162° 04.6	31.7	84° 05.4	12.9	18.2	11.2	45°	03:25	04:09	04:44	11:58	13:07	14:17						
Saturday	00	122° 13.6	174° 02.6	20° 00.0 S	345° 55.2	21° 19.2 N	148° 45.0	11° 56.7 S	297° 04.8	22° 27.7	Canopus	263° 56.8	52° 42.2 S	177° 04.5	19° 31.1 S	98° 37.3	12.7	15° 29.4 N	11.3	56.1	S 50°	02:52	03:46	04:26	12:09	13:23	14:38					
	01	137° 16.0	189° 01.8	19° 59.3 S	0° 58.7	19.6	163° 46.9	56.6	312° 07.3	22.8	Capella	280° 37.8	46° 00.6 N	192° 04.3	30.5	113° 09.0	12.7	40.7	11.1	52°	02:35	03:35	04:18	12:15	13:30	14:48						
	02	152° 18.5	204° 01.0	18.5	16° 02.1	19.9	178° 48.8	56.3	327° 09.8	22.8	Deneb	49° 33.7	45° 19.0 N	207° 04.1	29.9	127° 40.7	12.6	51.8	11.1	54°	02:13	03:22	04:08	12:20	13:39	14:59						
	03	167° 21.0	219° 00.2	17.8	31° 05.6	20.2	193° 50.7	56.2	342° 12.3	22.8	Denebola	182° 36.0	14° 30.7 N	242° 04.0	29.4	142° 12.3	12.5	16° 02.9 N	11.1	56.2	56°	01:43	03:07	03:58	12:27	13:48	15:12					
	04	182° 23.4	233° 59.4	17.1	46° 09.0	20.5	208° 52.6	55.9	357° 14.8	22.8	Diphda	348° 58.4	17° 55.9 S	237° 03.8	28.8	156° 43.8	12.4	14.0	11.0	58°	00:54	02:48	03:46	12:34	13:59	15:27						
	05	197° 25.9	248° 58.7	16.4	61° 12.5	20.8	223° 54.6	55.7	12° 17.3	22.9					252° 03.6	28.2	171° 15.2	12.2	25.0	10.9	S 60°	-	02:25	03:31	12:42	14:11	15:44					
	06	212° 28.4	263° 57.9	15.7	76° 15.9	21.1	238° 56.5	55.5	27° 19.8	22.9	Dubhe	193° 54.0	61° 41.5 N	267° 03.5	27.6	185° 46.6	12.2	35.9	10.9	56.3	S 62°	-	01:54	03:15	12:52	14:26	16:06					
	07	227° 30.8	278° 57.1	15.0	91° 19.3	21.5	253° 58.4	55.3	42° 22.3	22.9	Elnath	278° 15.5	28° 37.0 N	282° 03.3	27.0	200° 17.8	12.1	46.8	10.8													
	08	242° 33.3	293° 56.3	14.2	106° 22.8	21.8	269° 00.3	55.1	58° 24.8	22.9	Elainin	90° 47.7	51° 29.0 N	297° 03.2	26.4	214° 48.9	12.0	57.6	10.7													
	09	257° 35.7	308° 55.5	13.5	121° 26.2	22.1	284° 02.3	54.8	72° 27.3	23.0	Enif	33° 49.9	9° 55.3 N	312° 03.0	25.8	229° 19.9	11.9	17° 08.3 N	10.6	56.4	Lat	Sunset	Twilight		22	Moonset						
	10	272° 38.2	323° 54.7	12.8	136° 29.7	22.4	299° 04.2	54.6	87° 29.8	23.0	Fomalhaut	15° 26.9	29° 34.2 S	327° 02.8	25.2	243° 50.8	11.9	18.9	10.6													
	11	287° 40.7	338° 53.9	12.1	151° 33.1	22.7	314° 06.1	54.4	102° 32.3	23.0					342° 02.7	24.7	258° 21.7	11.7	29.5	10.6												
	12	302° 43.1	353° 53.1	19° 51.3 S	166° 36.6	21° 23.1 N	329° 08.0	11° 54.2 S	117° 34.8	0° 23.1 N	Gacrux	172° 03.6	57° 10.1 S	357° 02.5	19° 24.1 S	272° 52.4	11.6	17° 40.1 N	10.4	56.5	N 70°	-	15:06	16:46	01:09	03:42	-					
	13	317° 45.6	8° 52.4	50.6	181° 40.0	23.4	344° 09.9	54.0	132° 37.3	23.1	Gienah	175° 54.7	17° 36.0 S	12° 02.4	23.5	287° 23.0	11.6	50.5	10.0	68°	14:28	15:52	17:07	00:35	02:29	04:47						
	14	332° 48.1	23° 51.6	49.9	196° 43.5	23.7	359° 11.9																									

2010 January 28, 29, 30 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS -1.3			JUPITER -2.0			SATURN +0.8			STARS			SUN			MOON					Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	28	28	28	29	30				
Thurs day	00	127° 09.3	172° 31.4	18° 27.4 S	352° 51.6	21° 56.3 N	152° 35.2	11° 32.1 S	302° 05.8	0° 26.5 N	315° 20.1	40° 16.0 S	176° 47.5	18° 16.8 S	30° 25.7	3.0	24° 39.8 N	5.1	60.6	N 70°	07:20	08:52	10:56	-	-	15:17	-	-	12:22	15:46			
	01	142° 11.7	187° 30.7	26.5	7° 55.1	56.3	167° 37.1	31.9	317° 08.3	26.5	335° 28.5	57° 11.3 S	191° 47.4	16.2	44° 47.7	3.1	34.9	5.3	68°	67°	07:11	08:31	10:03	-	-	13:31	15:08	-	-	12:22	15:46		
	02	157° 14.2	202° 30.0	25.7	22° 58.6	56.9	182° 39.0	31.7	332° 10.9	26.6	173° 11.9	63° 09.2 S	206° 47.3	15.5	59° 09.8	3.0	29.4	5.5	66°	66°	07:03	08:15	09:31	11:24	14:08	16:24	18:38	20:52	23:08	25:24	27:40		
	03	172° 16.7	217° 29.2	24.9	38° 02.1	57.2	197° 40.9	31.5	347° 13.4	26.6	255° 14.1	28° 59.3 S	221° 47.1	14.9	73° 31.8	3.1	23.9	5.6	60.7	64°	06:57	08:02	09:07	11:24	14:08	16:24	18:38	20:52	23:08	25:24	27:40		
	04	187° 19.1	232° 28.5	24.0	53° 05.6	57.5	212° 42.8	31.2	2° 15.9	26.6	290° 52.0	16° 31.8 N	236° 47.0	14.2	87° 53.9	3.1	18.3	5.9	62°	62°	06:51	07:51	08:49	12:23	14:33	16:38	18:49	20:59	23:14	25:29	27:44		
	05	202° 21.6	247° 27.8	23.2	68° 09.1	57.8	227° 44.8	31.0	17° 18.4	26.7			251° 46.9	13.6	102° 16.0	3.1	12.4	6.0	60°	60°	06:46	07:41	08:34	12:57	14:53	16:49	18:59	21:09	23:24	25:39	27:54		
	06	217° 24.1	262° 27.1	22.4	83° 12.6	58.1	242° 46.7	30.8	32° 20.9	26.7	166° 22.4	55° 53.9 N	266° 46.8	12.9	116° 38.1	3.2	06.4	6.2	60.8	N 58°	06:37	07:25	08:10	13:41	15:23	17:07	18:51	20:35	22:19	24:03	25:47		
	07	232° 26.5	277° 26.3	21.5	98° 16.1	58.4	257° 48.6	30.6	47° 23.5	26.8	153° 00.6	49° 15.4 N	281° 46.7	12.3	131° 00.3	3.2	00.2	6.4	60.8	54°	06:34	07:19	08:01	13:57	15:35	17:15	18:59	20:43	22:27	24:11	25:55		
	08	247° 29.0	292° 25.6	20.7	113° 19.5	58.7	272° 50.5	30.4	62° 26.0	26.8	27° 47.1	46° 54.8 S	296° 46.6	11.6	145° 22.5	3.2	23° 53.8 N	6.6	60.8	54°	06:30	07:13	07:52	14:11	15:45	17:21	18:59	20:43	22:27	24:11	25:55		
	09	262° 31.5	307° 24.9	19.9	128° 23.0	59.0	287° 52.4	30.2	77° 28.5	26.8	275° 48.2	1° 11.8 S	311° 46.4	10.9	159° 44.2	3.2	47.7	6.7	60.7	52°	06:27	07:08	07:45	14:23	15:54	17:27	18:59	20:43	22:27	24:11	25:55		
	10	277° 33.9	322° 24.2	19.0	143° 26.5	59.3	302° 54.3	30.0	92° 31.0	26.9			326° 46.3	10.3	174° 06.9	3.3	40.5	7.0	60.7	50°	06:24	07:03	07:38	14:34	16:02	17:32	18:59	20:43	22:27	24:11	25:55		
	11	292° 36.4	337° 23.4	18.2	158° 30.0	59.6	317° 56.2	29.8	107° 33.5	26.9			341° 46.2	09.6	188° 29.2	3.3	33.5	7.1	60.9	45°	06:16	06:52	07:23	14:56	16:19	17:44	18:59	20:43	22:27	24:11	25:55		
	12	307° 38.8	352° 22.7	18° 17.3 S	173° 33.5	21° 59.8 N	332° 58.2	11° 29.6 S	122° 36.1	0° 26.9 N	126° 13.2	26° 40.5 N	356° 46.1	18° 09.0 S	202° 51.5	3.3	23° 26.4 N	7.3	60.9	N 40°	06:10	06:43	07:11	15:14	16:33	17:53	18:59	20:43	22:27	24:11	25:55		
	13	322° 41.3	7° 22.0	16.5	188° 37.0	22° 00.1 N	348° 00.1	29.4	137° 38.6	27.0	357° 46.3	29° 08.9 N	11° 46.0	08.3	217° 13.8	3.4	19.1	7.4	35°	35°	06:04	06:34	07:01	15:29	16:45	18:01	18:59	20:43	22:27	24:11	25:55		
	14	337° 43.8	22° 21.3	15.7	203° 40.5	00° 04.0	3° 02.0	29.2	152° 41.1	27.0	62° 11.0	8° 53.6 N	26° 45.9	07.6	231° 36.2	3.4	11.7	7.7	30°	30°	05:58	06:27	06:52	15:42	16:55	18:08	18:59	20:43	22:27	24:11	25:55		
	15	352° 46.2	37° 20.6	14.8	218° 44.0	00.7	18° 03.9	29.0	167° 43.6	27.0	353° 18.2	42° 15.2 S	41° 45.7	07.0	245° 58.6	3.5	04.0	7.8	61.0	20°	05:47	06:13	06:36	16:04	17:13	18:20	18:59	20:43	22:27	24:11	25:55		
	16	7° 48.7	52° 19.8	14.0	233° 47.5	01.0	33° 05.8	28.8	182° 46.1	27.1	112° 29.5	26° 27.3 S	56° 45.6	06.3	260° 21.1	3.5	22° 56.2 N	8.0	61.0	N 10°	05:35	06:01	06:23	16:23	17:28	18:31	18:59	20:43	22:27	24:11	25:55		
	17	22° 51.2	67° 19.1	13.1	248° 51.0	01.3	48° 07.7	28.5	197° 48.7	27.1			71° 45.5	05.6	274° 43.6	3.5	48.2	8.1	0°	0°	05:23	05:48	06:10	16:41	17:42	18:40	18:59	20:43	22:27	24:11	25:55		
	18	37° 53.6	82° 18.4	12.3	263° 54.5	01.6	63° 09.6	28.3	212° 51.2	27.2	145° 57.9	19° 07.5 N	86° 45.4	05.0	289° 06.1	3.6	40.1	8.3	61.1	S 10°	05:08	05:34	05:56	16:59	17:57	18:50	18:59	20:43	22:27	24:11	25:55		
	19	52° 56.1	97° 17.7	11.4	278° 58.0	01.9	78° 11.6	28.1	227° 53.7	27.2	107° 33.9	69° 02.6 S	101° 45.3	04.3	303° 28.7	3.7	31.8	8.5	61.1	20°	04:51	05:19	05:42	17:18	18:12	19:10	18:59	20:43	22:27	24:11	25:55		
	20	67° 58.6	112° 17.0	10.6	294° 01.5	02.2	93° 13.5	27.9	242° 56.2	27.2	234° 18.5	59° 32.6 S	116° 45.2	03.7	317° 51.4	3.7	23.3	8.7	30°	30°	04:29	05:00	05:26	17:40	18:29	19:12	18:59	20:43	22:27	24:11	25:55		
	21	83° 01.0	127° 16.3	09.7	309° 05.0	02.5	108° 15.4	27.7	257° 58.7	27.3	278° 34.4	6° 21.5 N	131° 45.1	03.0	332° 14.1	3.8	14.6	8.8	35°	35°	04:15	04:48	05:16	17:52	18:39	19:19	18:59	20:43	22:27	24:11	25:55		
	22	98° 03.5	142° 15.5	08.9	324° 08.4	02.8	123° 17.3	27.5	273° 01.3	27.3	271° 03.7	7° 24.5 N	146° 44.9	02.3	346° 36.9	3.8	05.8	9.0	40°	40°	03:58	04:35	05:05	18:07	18:50	19:27	18:59	20:43	22:27	24:11	25:55		
23	113° 05.9	157° 14.8	08.1	339° 11.9	03.1	138° 19.2	27.3	288° 03.8	27.3			161° 44.8	01.7	0° 59.7	3.9	21° 56.8 N	9.2	45°	45°	03:36	04:18	04:52	18:24	19:04	19:36	18:59	20:43	22:27	24:11	25:55			
Fri day	00	128° 08.4	172° 14.1	18° 07.2 S	354° 15.4	22° 03.4 N	153° 21.1	11° 27.1 S	303° 06.3	0° 27.4 N	263° 56.8	52° 42.2 S	176° 44.7	18° 01.0 S	15° 22.6	3.9	21° 47.6 N	9.3	61.2	S 50°	03:07	03:57	04:36	18:46	19:20	19:46	18:59	20:43	22:27	24:11	25:55		
	01	143° 10.9	187° 13.4	06.4	9° 18.9	03.6	168° 23.0	26.9	318° 08.8	27.4	280° 37.8	46° 00.6 N	191° 44.6	00.3	29° 45.5	4.0	38.3	9.5	52°	52°	02:51	03:47	04:29	18:56	19:27	19:51	18:59	20:43	22:27	24:11	25:55		
	02	158° 13.3	202° 12.7	05.5	24° 22.4	03.9	183° 25.0	26.7	333° 11.4	27.4	49° 33.7	45° 19.0 N	206° 44.5	17° 59.6 S	44° 08.5	4.0	28.8	9.7	54°	54°	02:33	03:36	04:20	19:07	19:36	19:57	18:59	20:43	22:27	24:11	25:55		
	03	173° 15.8	217° 12.0	04.6	39° 25.9	04.2	198° 26.9	26.5	348° 13.9	27.5	182° 35.9	14° 30.7 N	221° 44.4	59.0	58° 31.5	4.2	19.1	9.8	56°	56°	02:10	03:22	04:11	19:20	19:45	20:03	18:59	20:43	22:27	24:11	25:55		
	04	188° 18.3	232° 11.3	03.8	54° 29.4	04.5	213° 28.8	26.3	3° 16.4	27.5	348° 58.5	17° 55.9 S	236° 44.3	58.3	72° 54.7	4.1	09.3	9.9	58°	58°	01:38	03:07	04:00	19:35	19:56	20:09	18:59	20:43	22:27	24:11	25:55		
	05	203° 20.7	247° 10.5	02.9	69° 32.9	04.8	228° 30.7	26.0	18° 18.9	27.6			251° 44.2	57.6	87° 17.8	4.3	20° 59.4 N	10.2	61.3	S 60°	-	02:47	03:48	19:53	20:08	20:17	18:59	20:43	22:27	24:11	25:55		
	06	218° 23.2	262° 09.8	02.1	84° 36.4	05.1	243° 32.6	25.8	33° 21.9	27.6	193° 53.9	61° 41.5 N	266° 44.1	57.0	101° 41.1	4.3	49.2	10.2	61.3	S 62°	-	02:22	03:33	20:14	20:22	20:25	18:59	20:43	22:27	24:11	25:55		
	07	233° 25.7	277° 09.1	01.2	99° 39.9	05.4	258° 34.5	25.6	48° 24.0	27.6	278° 15.5	28° 37.0 N	281° 44.0	56.3	116° 04.4	4.4	39.0	10.5	61.3	S 62°	-	02:02	03:13	20:14	20:22	20:25	18:59	20:43	22:27	24:11	25:55		
	08	248° 28.1	292° 08.4	00.4	114° 43.4	05.7	273° 36.4	25.4	63° 26.5	27.7	90° 47.7	51° 29.0 N	296° 43.8	55.6	130° 27.8	4.4	28.5	10.5	61.3	S 62°	-												

2010 Jan 31, Feb. 1, 2 (Sun, Mon, Tue)

Main data table with columns for planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), twilight times, sunrise, and moonrise data. Includes sub-headers for GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Nautical, Civil, Sunrise, Moonrise 1, 2.

2010 February 9, 10, 11 (Tue, Wed, Thur)

Table with 27 columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Nautical, Civil), Sunrise, Moonrise (9, 10, 11). Rows include planet data and star details for days 00-23.

2010 February 15, 16, 17 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS -0.9			JUPITER -2.0			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	15	16	17	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	06:11	07:30	08:48	07:53	07:28	07:03					
Monday	00	144° 53.8	168° 06.4	11° 15.9 S	17° 33.5	23° 31.4 N	166° 18.2	9° 59.3 S	320° 28.3	0° 47.7 N	Acamar	315° 20.2	40° 16.0 S	176° 28.0	12° 47.3 S	168° 42.4	16.4	5° 59.1 S	12.6	54.1	N 70°	06:09	07:21	08:29	07:47	07:29	07:11					
	01	159° 56.2	183° 05.9	14.7	181° 20.1	31.5	181° 20.1	59.1	335° 30.9	47.8	Acnarnar	335° 28.7	57° 11.3 S	191° 28.0	46.4	183° 37.4	16.5	46.5	12.6	68°	06:08	07:13	08:14	07:42	07:30	07:18						
	02	174° 58.7	198° 05.4	13.6	47° 40.0	31.7	196° 22.0	58.8	350° 33.5	47.9	Acrux	173° 11.8	63° 09.3 S	206° 28.0	45.6	197° 53.2	16.4	33.9	12.7	66°	06:07	07:07	08:02	07:38	07:31	07:23						
	03	190° 01.2	213° 04.9	12.4	62° 43.3	31.8	211° 23.9	58.6	5° 36.1	47.9	Adhara	255° 14.2	28° 59.4 S	221° 28.0	44.7	212° 28.6	16.4	21.2	12.7	64°	06:06	07:01	07:52	07:35	07:31	07:28						
	04	205° 03.6	228° 04.4	11.3	77° 46.6	31.9	226° 25.8	58.4	20° 38.7	48.0	Aldebaran	290° 52.1	16° 31.8 N	236° 28.1	43.9	227° 04.0	16.5	08.5	12.7	62°	06:05	06:56	07:43	07:32	07:32	07:32						
	05	220° 06.1	243° 03.9	10.2	92° 49.8	32.0	241° 27.7	58.2	35° 41.2	48.0				251° 28.1	43.0	241° 39.5	16.4	4° 55.8 S	12.7	60°	06:03	06:52	07:36	07:29	07:32	07:36						
	06	235° 08.6	258° 03.4	09.0	107° 53.1	32.2	256° 29.6	58.0	50° 43.8	48.0	Alioth	166° 22.2	55° 53.9 N	266° 28.1	42.1	256° 14.9	16.5	43.1	12.7	58°	06:02	06:48	07:29	07:26	07:32	07:39						
	07	250° 11.0	273° 02.9	07.9	122° 56.4	32.3	271° 31.5	57.7	65° 46.4	48.2	Alkaid	153° 00.4	49° 15.4 N	281° 28.2	41.3	270° 50.4	16.4	30.4	12.8	56°	06:01	06:45	07:23	07:24	07:33	07:42						
	08	265° 13.5	288° 02.4	06.7	137° 59.6	32.4	286° 33.4	57.5	80° 49.0	48.2	Alnair	27° 47.1	46° 54.7 S	296° 28.2	40.4	285° 25.8	16.5	17.6	12.7	54.2	06:00	06:41	07:18	07:22	07:33	07:44						
	09	280° 16.0	303° 01.9	05.6	153° 02.9	32.5	301° 35.3	57.3	95° 51.6	48.3	Alnilam	275° 48.7	1° 11.8 S	311° 28.2	39.6	300° 01.3	16.5	04.9	12.8	52°	05:59	06:39	07:13	07:21	07:33	07:47						
	10	295° 18.4	318° 01.4	04.4	168° 06.1	32.7	316° 37.2	57.1	110° 54.2	48.4	Alphard	217° 58.1	8° 42.3 S	326° 28.2	38.7	314° 36.8	16.5	3° 52.1 S	12.9	50°	05:58	06:36	07:09	07:19	07:34	07:49						
	11	310° 20.9	333° 00.9	03.3	183° 09.4	32.8	331° 39.1	56.9	125° 56.7	48.4				341° 28.3	37.8	329° 12.3	16.4	39.3	12.8	45°	05:55	06:30	07:00	07:15	07:34	07:53						
	12	325° 23.3	348° 00.4	11° 02.2 S	198° 12.7	23° 32.9 N	346° 41.0	9° 56.6 S	140° 59.3	0° 48.5 N	Alphecca	126° 13.0	26° 40.5 N	356° 28.3	12° 37.0 S	343° 47.7	16.5	3° 26.4 S	12.8	54.2	N 40°	05:53	06:24	06:52	07:12	07:35	07:57					
	13	340° 25.8	2° 59.9	01.0	213° 15.9	33.0	1° 42.9	56.4	156° 01.9	48.5	Alpheratz	357° 46.4	29° 08.9 N	11° 28.3	36.1	358° 23.2	16.5	13.6	12.9	35°	05:50	06:19	06:45	07:10	07:35	08:01						
	14	355° 28.3	17° 59.4	10° 59.9 S	228° 19.2	33.1	16° 44.8	56.2	171° 04.5	48.6	Altair	62° 10.9	8° 53.6 N	26° 28.4	35.3	12° 58.7	16.5	00.7	12.8	30°	05:47	06:15	06:39	07:08	07:35	08:04						
	15	10° 30.7	32° 58.9	58.7	243° 22.4	33.3	31° 46.7	56.0	186° 07.1	48.7	Ankaa	353° 18.3	42° 15.2 S	41° 28.4	34.4	27° 34.2	16.5	2° 47.9 S	12.9	20°	05:40	06:06	06:29	07:04	07:36	08:09						
	16	25° 33.2	47° 58.4	57.6	258° 25.7	33.4	46° 48.6	55.8	201° 09.7	48.7	Antares	112° 29.3	26° 27.3 S	56° 28.4	33.5	42° 09.7	16.5	35.0	12.9	N 10°	05:33	05:58	06:19	07:00	07:37	08:14						
	17	40° 35.7	62° 57.9	56.4	273° 28.9	33.5	61° 50.5	55.5	216° 12.3	48.8				71° 28.5	32.7	56° 45.2	16.5	22.1	12.9	0°	05:25	05:50	06:11	06:57	07:37	08:18						
	18	55° 38.1	77° 57.4	55.3	288° 32.2	33.6	76° 52.4	55.3	231° 14.8	48.9	Arcturus	145° 57.8	19° 07.5 N	86° 28.5	31.8	71° 20.7	16.6	09.2	13.0	S 10°	05:15	05:40	06:02	06:54	07:38	08:23						
	19	70° 40.6	92° 56.9	54.1	303° 35.4	33.8	91° 54.3	55.1	246° 17.4	48.9	Arctia	107° 33.6	69° 02.5 S	101° 28.5	30.9	85° 56.3	16.5	1° 56.2 S	12.9	20°	05:03	05:29	05:52	06:50	07:38	08:27						
	20	85° 43.1	107° 56.4	53.0	318° 38.7	33.9	106° 56.2	54.9	261° 20.0	49.0	Avior	234° 18.5	59° 32.7 S	116° 28.6	30.1	100° 31.8	16.5	43.3	12.9	54.3	30°	04:47	05:16	05:41	06:46	07:39	08:33					
	21	100° 45.5	122° 55.9	51.8	333° 41.9	34.0	121° 58.1	54.6	276° 22.6	49.0	Bellatrix	278° 34.5	6° 21.5 N	131° 28.6	29.2	115° 07.3	16.5	30.4	13.0	35°	04:36	05:08	05:35	06:44	07:40	08:36						
	22	115° 48.0	137° 55.4	50.7	348° 45.2	34.1	137° 00.0	54.4	291° 03.7	49.0	Betelgeuse	271° 03.7	7° 24.5 N	146° 28.6	28.4	129° 42.8	16.4	17.4	13.0	40°	04:24	04:59	05:27	06:41	07:40	08:40						
23	130° 50.4	152° 54.9	49.5	3° 48.4	34.2	152° 01.9	54.2	306° 27.8	49.2				161° 28.7	27.5	144° 18.2	16.5	04.4	12.9	45°	04:09	04:47	05:18	06:38	07:41	08:44							
Tuesday	00	145° 52.9	167° 54.4	10° 48.4 S	18° 51.7	23° 34.3 N	167° 03.8	9° 54.0 S	321° 30.4	0° 49.2 N	Canopus	263° 56.9	52° 42.3 S	176° 28.7	12° 26.6 S	158° 53.7	16.5	0° 51.5 S	13.0	54.3	S 50°	03:49	04:33	05:08	06:35	07:41	08:49					
	01	160° 55.4	182° 53.9	47.2	33° 54.9	34.5	182° 05.7	53.8	336° 32.9	49.3	Capella	336° 37.8	46° 00.6 N	191° 28.7	25.8	173° 29.2	16.5	38.0	13.0	52°	03:39	04:26	05:03	06:33	07:42	08:51						
	02	175° 57.8	197° 53.4	46.1	48° 58.1	34.6	197° 07.6	53.5	351° 35.5	49.4	Deneb	49° 33.6	45° 18.9 N	206° 28.8	24.9	188° 04.7	16.4	25.5	13.0	54°	03:27	04:18	04:58	06:31	07:42	08:54						
	03	191° 00.3	212° 52.9	44.9	64° 01.4	34.7	212° 09.5	53.3	6° 38.1	49.4	Denebola	182° 35.8	14° 30.7 N	221° 28.8	24.0	202° 40.2	16.5	12.5	13.0	56°	03:14	04:10	04:52	06:29	07:43	08:57						
	04	206° 02.8	227° 52.4	43.7	79° 04.6	34.8	227° 11.4	53.1	21° 40.7	49.5	Diphda	348° 58.5	17° 55.9 S	236° 28.8	23.2	217° 15.6	16.5	0° 00.5 N	13.0	58°	02:58	04:00	04:45	06:27	07:43	09:00						
	05	221° 05.2	242° 51.9	42.6	94° 07.9	34.9	242° 13.3	52.9	36° 43.3	49.5				251° 28.9	22.3	231° 51.1	16.4	13.5	13.0	S 60°	02:39	03:48	04:37	06:24	07:43	09:04						
	06	236° 07.7	257° 51.4	41.4	109° 11.1	35.0	257° 15.2	52.7	51° 45.9	49.6	Dubhe	193° 53.8	61° 41.5 N	266° 28.9	21.4	246° 26.5	16.5	26.5	13.0	54.4	S 62°	02:13	03:35	04:29	06:21	07:44	09:08					
	07	251° 10.2	272° 50.9	40.3	124° 14.3	35.2	272° 17.1	52.4	66° 48.5	49.7	Elnath	278° 15.5	28° 37.0 N	281° 28.9	20.6	261° 02.0	16.4	39.5	13.0													
	08	266° 12.6	287° 50.4	39.1	139° 17.6	35.3	287° 19.0	52.2	81° 51.1	49.7	Elainin	90° 47.5	51° 28.9 N	296° 29.0	19.7	275° 37.4	16.4	52.5	13.0													
	09	281° 15.1	302° 49.9	38.0	154° 20.8	35.4	302° 20.9	52.0	96° 53.6	49.8	Enif	33° 49.8	9° 55.3 N	311° 29.0	18.8	290° 12.8	16.4	1° 05.5 N	13.0													
	10	296° 17.6	317° 49.4	36.8	169° 24.0	35.5	317° 22.8	51.8	111° 56.2	49.9	Fomalhaut	15° 26.9	29° 34.2 S	326° 29.1	18.0	304° 48.2	16.3	18.5	13.0													
	11	311° 20.0	332° 48.9	35.9	184° 27.3	35.6	332° 24.7	51.5	126° 58.8	49.9				341° 29.1	17.1	319° 23.5	16.4	31.5	13.0													
	12	326° 22.5	347° 48.4	10° 34.5 S	199° 30.5	23° 35.7 N	347° 26.6	9° 51.3 S	142° 01.4	0° 50.0 N	Gacrux	172° 03.4	57° 10.2 S	356° 29.1	12° 16.2 S	333° 58.9	16.4	1° 44.5 N	13.0	54.4	N 70°	15:41	17:00	18:20	18:50	20:42	22:39					
	13	341° 24.9	2° 47.9	33.3	214° 33.7	35.8	2° 28.5	51.1	157° 04.0	50.1	Gienah	175° 54.6	17° 36.1 S	11° 29.2	15.4	348° 34.3	16.3	57.5	13.0	68°	16:15	17:16	18:22	18:56	20:33	22:13						
	14	356° 27.4	17° 47.5	32.2	229° 36.9	35.9	17° 30.4	50.9	172° 06.0	50.1	Hadar	148° 51.3	60° 25.																			

2010 February 18, 19, 20 (Thur, Fri, Sat)

GMT	ARIES		VENUS		MARS		JUPITER		SATURN		STARS			SUN		MOON				Twilight		Sunrise			Moonrise			
				-3.9		-0.9		-2.0		+0.7	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	18	19	20	18	19
18 Thurs day		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:58	07:16	08:31	06:34	05:51	-	
	00	147° 51'2	167° 31'0	9° 52'5 S	21° 25'9	23° 39'4 N	168° 34'9	9° 43'3 S	323° 34'7	0° 52'3 N	Acamar	315° 20'2	40° 16'0 S	176° 30'7	11° 44'7 S	138° 53'8	15'1	9° 25'4 N	12'4	55.0	N 70°	05:58	07:09	08:15	06:51	06:24	05:28	
	01	162° 53'6	182° 30'5	51'3	36° 29'1	39'5	183° 36'8	43'1	338° 37'3	57° 11'3 S	Acnarnar	335° 28'7	57° 11'3 S	191° 30'8	43'9	153° 27'9	15'1	37'8	12'4	68°	60°	05:58	07:02	08:10	06:52	07:04	06:48	06:22
	02	177° 56'1	197° 30'0	50'1	51° 32'3	39'6	198° 38'7	42'9	353° 39'8	52'4	Acrux	173° 11'7	63° 09'3 S	206° 30'8	43'0	168° 02'0	15'0	50'2	12'3	66°	66°	05:57	06:57	07:51	07:16	07:07	06:55	
	03	192° 58'6	212° 26'6	49'0	66° 35'5	49'0	213° 40'6	42'9	255° 14'2	52'5	Adhara	255° 14'2	28° 59'4 S	221° 30'9	42'1	182° 36'0	15'0	10° 02'5 N	12'3	64°	64°	05:57	06:52	07:42	07:25	07:22	07:20	
	04	208° 01'0	227° 29'1	47'8	81° 38'6	39'8	228° 42'5	42'4	23° 45'0	52'6	Aldebaran	290° 52'1	16° 31'8 N	236° 30'9	41'2	197° 10'0	14'9	14'8	12'3	62°	62°	05:56	06:48	07:34	07:33	07:35	07:39	
	05	223° 03'5	242° 28'6	46'6	96° 41'8	39'9	243° 44'4	42'2	38° 47'6	52'6				251° 31'0	40'3	211° 43'9	14'9	27'1	12'2	55'1	60°	05:56	06:44	07:27	07:40	07:46	07:55	
	06	238° 06'0	257° 28'1	45'4	111° 45'0	40'0	258° 46'3	42'0	53° 50'2	52'7	Alioth	166° 22'2	55° 53'9 N	266° 31'0	39'4	226° 17'8	14'8	39'3	12'3	58°	N 58°	05:55	06:41	07:27	07:46	07:56	08:09	
	07	253° 08'4	272° 27'7	44'3	126° 48'2	40'1	273° 48'2	41'8	68° 52'8	52'8	Alkaid	153° 00'4	49° 15'4 N	281° 31'1	38'6	240° 51'6	14'8	51'6	12'1	56°	56°	05:55	06:38	07:16	07:52	08:04	08:20	
	08	268° 10'9	287° 27'2	43'1	141° 51'3	40'2	288° 50'1	41'5	83° 55'4	52'8	Alnair	27° 47'1	46° 54'7 S	296° 31'1	37'7	255° 25'4	14'7	11° 03'7 N	12'2	54°	54°	05:54	06:35	07:12	07:57	08:11	08:31	
	09	283° 13'4	302° 26'7	41'9	156° 54'5	40'3	303° 52'0	41'9	98° 58'0	52'9	Alnilam	275° 48'7	1° 11'8 S	311° 31'2	36'8	269° 59'4	14'6	15'9	12'1	52°	52°	05:54	06:33	07:07	08:01	08:18	08:40	
	10	298° 15'8	317° 26'2	40'7	171° 57'7	40'4	318° 53'9	40'1	114° 00'6	52'9	Alphard	217° 58'1	8° 42'4 S	326° 31'2	35'9	284° 32'7	14'6	28'0	12'0	55'2	50°	05:53	06:30	07:03	08:05	08:24	08:48	
	11	313° 18'3	332° 25'8	39'5	187° 00'9	40'5	333° 55'8	41'9	129° 03'2	53'0				341° 31'3	35'0	299° 06'3	14'5	40'0	12'0	50°	45°	05:51	06:25	06:55	08:14	08:38	09:06	
	12	328° 20'8	347° 25'3	9° 38'4 S	202° 04'0	23° 40'5 N	348° 57'7	9° 40'7 S	144° 05'8	0° 53'1 N	Alphecca	126° 13'0	26° 40'5 N	356° 31'3	11° 34'1 S	313° 39'8	14'5	11° 52'0 N	12'0	55'2	N 40°	05:49	06:20	06:48	08:21	08:49	09:20	
	13	343° 23'2	2° 24'8	37'2	217° 07'2	40'6	3° 59'6	40'4	159° 08'4	53'1	Alpheratz	357° 46'4	29° 08'9 N	11° 31'4	33'3	328° 13'3	14'4	12° 04'0 N	11'9	35°	35°	05:47	06:16	06:42	08:28	08:58	09:33	
	14	358° 25'7	17° 24'3	36'0	232° 10'4	40'7	19° 01'4	40'2	174° 11'0	53'2	Altair	62° 10'9	8° 53'6 N	26° 31'4	32'4	342° 46'7	14'3	15'9	11'9	30°	30°	05:44	06:12	06:36	08:34	09:06	09:43	
	15	13° 28'1	32° 23'9	34'8	247° 13'5	40'8	34° 03'3	40'0	189° 13'6	53'3	Ankaa	353° 18'3	42° 15'2 S	41° 31'5	31'5	357° 20'0	14'3	27'8	11'9	55'3	20°	05:39	06:05	06:27	08:43	09:21	10:02	
	16	28° 30'6	47° 23'4	33'6	262° 16'7	40'9	49° 05'2	39'8	204° 16'2	53'3	Antares	112° 29'3	26° 27'3 S	56° 31'5	30'6	11° 53'3	14'2	39'7	11'8	55'3	N 10°	05:32	05:57	06:18	08:52	09:33	10:18	
	17	43° 33'1	62° 22'9	32'5	277° 19'9	41'0	64° 07'1	39'5	219° 18'8	53'4				71° 31'6	29'7	26° 26'5	14'1	51'5	11'7	0°	0°	05:25	05:49	06:10	09:00	09:45	10:33	
	18	58° 35'5	77° 22'5	31'3	292° 23'0	41'1	79° 09'0	39'3	234° 21'3	53'5	Arcturus	145° 57'7	19° 07'5 N	86° 31'6	28'8	40° 59'6	14'1	13° 03'2 N	11'7	19°	S 10°	05:16	05:41	06:02	09:09	09:57	10:49	
	19	73° 38'0	92° 22'0	30'1	307° 26'2	41'2	94° 10'9	39'1	249° 23'9	53'5	Alria	107° 33'5	69° 02'5 S	101° 31'7	27'9	55° 32'7	14'0	14'9	11'7	20°	20°	05:04	05:31	05:54	09:18	10:10	11:05	
	20	88° 40'5	107° 21'5	28'9	322° 29'3	41'2	109° 12'8	38'9	264° 26'5	53'6	Avior	234° 18'5	59° 32'7 S	116° 31'7	27'1	70° 05'7	13'9	26'6	11'6	55'4	30°	04:49	05:19	05:43	09:28	10:25	11:25	
	21	103° 42'9	122° 21'0	27'7	337° 32'5	41'3	124° 14'7	38'6	279° 29'1	53'7	Bellatrix	278° 34'5	6° 21'5 N	131° 31'8	26'2	84° 38'6	13'9	38'2	11'5	35°	35°	04:40	05:11	05:37	09:34	10:34	11:36	
22	118° 45'4	137° 20'6	26'5	352° 35'7	41'4	139° 16'6	38'4	294° 31'7	53'7	Betelgeuse	271° 03'7	7° 24'5 N	146° 31'9	25'3	99° 11'5	13'8	49'7	11'5	40°	40°	04:28	05:02	05:31	09:41	10:44	11:49		
23	133° 47'9	152° 20'1	25'4	7° 38'8	41'5	154° 18'5	38'2	309° 34'3	53'8				161° 31'9	24'4	113° 44'3	13'7	14° 01'2 N	11'5	45°	45°	04:14	04:52	05:23	09:49	10:55	12:04		
19 Fri day	00	148° 50'3	167° 19'6	9° 24'2 S	22° 42'0	23° 41'6 N	169° 20'4	9° 38'0 S	324° 36'9	0° 53'9 N	Canopus	263° 56'9	52° 42'6 N	176° 32'0	11° 23'5 S	128° 17'0	13'7	14° 12'7 N	11'4	55'5	S 50°	03:55	04:38	05:13	09:58	11:10	12:23	
	01	163° 52'8	182° 19'2	23'0	37° 45'1	41'7	184° 22'3	37'8	339° 39'5	53'9	Capella	280° 37'9	46° 00'6 N	191° 32'0	52'2	142° 49'7	13'5	24'1	11'3	52°	52°	03:46	04:32	05:09	10:03	11:16	12:32	
	02	178° 55'3	197° 18'7	21'8	52° 48'3	41'8	199° 24'2	37'5	354° 42'1	54'0	Deneb	49° 33'6	45° 18'9 N	206° 32'1	21'7	157° 22'2	13'5	35'4	11'3	54°	54°	03:36	04:25	05:04	10:08	11:24	12:42	
	03	193° 57'7	212° 18'2	20'6	67° 51'4	41'8	214° 26'1	37'3	9° 44'7	54'1	Denebola	182° 35'8	14° 30'7 N	221° 32'1	20'8	171° 54'7	13'5	46'7	11'3	56°	56°	03:24	04:17	04:58	10:13	11:32	12:53	
	04	209° 00'2	227° 17'8	19'4	82° 54'6	41'9	229° 28'0	37'1	24° 47'3	54'1	Diphda	348° 58'5	17° 55'9 S	236° 32'2	19'9	186° 27'2	13'3	58'0	11'1	58°	58°	03:09	04:08	04:52	10:19	11:42	13:06	
	05	224° 02'6	242° 17'3	18'2	97° 57'7	42'0	244° 29'9	36'9	39° 49'9	54'2				251° 32'3	19'1	200° 59'5	13'3	15° 09'1 N	11'2	55'6	S 60°	02:52	03:58	04:45	10:26	11:53	13:22	
	06	239° 05'1	257° 16'8	17'0	113° 00'9	42'1	259° 31'8	36'6	54° 52'5	54'3	Dubhe	193° 53'8	61° 41'5 N	266° 32'3	18'2	215° 31'8	13'2	20'3	11'0	56°	S 62°	02:30	03:45	04:37	10:34	12:05	13:41	
	07	254° 07'6	272° 16'4	15'9	128° 04'0	42'2	274° 33'7	36'4	69° 55'1	54'3	Elnath	278° 15'5	28° 37'0 N	281° 32'4	17'3	230° 04'0	13'1	31'3	11'0									
	08	269° 10'0	287° 15'9	14'7	143° 07'1	42'3	289° 35'6	36'2	90° 47'5	54'4	Elainin	90° 47'5	51° 28'9 N	296° 32'4	16'4	244° 36'1	13'1	42'3	11'0									
	09	284° 12'5	302° 15'4	13'5	158° 10'3	42'3	304° 37'5	36'0	100° 00'3	54'5	Enif	33° 49'8	9° 55'3 N	311° 32'5	15'5	259° 08'2	13'0	53'3	10'8	55'7	Lat	Sunset	Twilight	18	Moonset	20		
	10	299° 15'0	317° 15'0	12'3	173° 13'4	42'4	319° 39'4	35'7	115° 02'9	54'5	Fomalhaut	15° 26'9	29° 34'2 S	326° 32'5	14'6	273° 40'2	12'8	16° 04'1 N	10'8									
	11	314° 17'4	332° 14'5	11'1	188° 16'6	42'5	334° 41'3	35'5	130° 05'5	54'6				341° 32'6	13'7	288° 12'0	12'8	14'9	10'8									
	12	329° 19'9	347° 14'1	9° 09'9 S	203° 19'7	23° 42'6 N	349° 43'2	9° 35'3 S	145° 08'1	0° 54'7 N	Gacrux	172° 03'3	57° 10'2 S	356° 32'7	11° 12'8 S	302° 43'8	12'8	16° 25'7 N	10'7	55'7	N 70°	16:14	17:21	18:32	-	00:23	02:57	

2010 February 21, 22, 23 (Sun, Mon, Tue)

Main data table containing celestial body positions for Aries, Venus, Mars, Jupiter, Saturn, Stars, Sun, Moon, and twilight data. Includes columns for GMT, planet names, right ascension/declination, and twilight times for various latitudes.

2010 February 24, 25, 26 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS -0.7			JUPITER -2.0			SATURN +0.7			STARS			SUN		MOON				Twilight		Sunrise			Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	05:30	06:48	07:59	24	25	26				
Wednesday	00	153° 46.0	166° 26.1	6° 59.1 S	28° 50.5	23° 48.6 N	173° 08.0	9° 11.1 S	329° 49.2	1° 02.1 N	329° 49.2	1° 02.1 N	Acamar	315° 20.2	40° 16.0 S	176° 40.8	9° 34.8 S	63° 25.7	4.5	25° 11.9 N	3.1	59.3	N 72°	05:30	06:48	07:59	-	-	11:23			
	01	168° 48.5	181° 25.6	57.9	43° 53.5	48.6	188° 09.9	10.9	344° 51.8	02.2	188° 09.9	10.9	Acamar	335° 28.7	57° 11.3 S	191° 40.9	33.9	77° 49.2	4.5	08.8	3.4	68°	05:35	06:43	07:47	-	-	12:59				
	02	183° 50.9	196° 25.2	56.6	58° 56.5	48.7	203° 11.8	10.7	359° 54.0	02.2	203° 11.8	10.7	Acrux	173° 11.7	63° 09.3 S	206° 41.0	33.0	92° 12.7	4.5	05.4	3.5	66°	05:37	06:36	07:29	-	-	11:03				
	03	198° 53.4	211° 24.8	55.4	73° 59.5	48.7	218° 13.7	10.4	14° 57.0	02.3	218° 13.7	10.4	Adhara	255° 14.2	28° 59.4 S	221° 41.1	32.1	106° 36.2	4.4	01.9	3.7	59.4	64°	05:38	06:33	07:22	09:35	11:39	13:43			
	04	213° 55.9	226° 24.4	54.2	89° 02.5	48.7	233° 15.6	10.2	29° 59.6	02.4	233° 15.6	10.2	Aldebaran	290° 52.1	16° 31.8 N	236° 41.2	31.2	120° 59.6	4.5	24° 58.2 N	3.8	62°	05:39	06:31	07:16	10:18	12:05	13:59				
	05	228° 58.3	241° 23.9	52.9	104° 05.4	48.8	248° 17.5	10.0	45° 02.3	02.4	248° 17.5	10.0				251° 41.3	30.2	135° 23.1	4.4	54.4	4.1	60°	05:40	06:28	07:11	10:47	12:25	14:12				
	06	244° 00.8	256° 23.5	51.7	119° 08.4	48.8	263° 19.4	09.8	60° 04.9	02.5	263° 19.4	09.8	Alioth	166° 22.2	55° 53.9 N	266° 41.4	29.3	149° 46.5	4.5	50.3	4.2	59.5	N 58°	05:41	06:26	07:06	11:09	12:42	14:23			
	07	259° 03.3	271° 23.1	50.5	134° 11.4	48.8	278° 21.3	09.5	75° 07.5	02.6	278° 21.3	09.5	Alkaid	153° 00.3	49° 15.4 N	281° 41.5	28.4	164° 10.0	4.4	46.1	4.4	56°	05:41	06:24	07:02	11:27	12:56	14:32				
	08	274° 05.7	286° 22.7	49.2	149° 14.4	48.9	293° 23.2	09.3	90° 10.1	02.7	293° 23.2	09.3	Alnair	27° 47.1	46° 54.7 S	296° 41.6	27.5	178° 33.4	4.5	41.7	4.5	54°	05:42	06:22	06:58	11:42	13:08	14:41				
	09	289° 08.2	301° 22.2	48.0	164° 17.3	48.9	308° 25.1	09.1	105° 12.7	02.7	308° 25.1	09.1	Alnilam	275° 48.7	1° 11.8 S	311° 41.6	26.5	192° 56.9	4.4	37.2	4.8	59.6	52°	05:42	06:21	06:55	11:55	13:18	14:48			
	10	304° 10.7	316° 21.8	46.8	179° 20.3	48.9	323° 27.0	08.9	120° 15.3	02.8	323° 27.0	08.9	Alphard	217° 58.1	8° 42.4 S	326° 41.7	25.6	207° 20.3	4.5	32.4	4.9	50°	05:42	06:19	06:52	12:06	13:28	14:55				
	11	319° 13.1	331° 21.4	45.5	194° 23.3	49.0	338° 28.9	08.6	135° 17.9	02.9	338° 28.9	08.6				341° 41.8	24.7	221° 43.8	4.5	27.5	5.0	45°	05:42	06:16	06:45	12:30	13:48	15:10				
	12	334° 15.6	346° 21.0	6° 44.3 S	209° 26.3	23° 49.0 N	353° 30.8	9° 08.4 S	150° 20.5	1° 02.9 N	353° 30.8	9° 08.4 S	Alphecca	126° 12.9	26° 40.5 N	356° 41.9	9° 23.8 S	236° 07.3	4.4	24° 22.5 N	5.3	59.7	N 40°	05:41	06:12	06:40	12:49	14:04	15:21			
	13	349° 18.1	1° 20.5	43.1	224° 29.2	49.0	8° 32.7	08.2	165° 23.1	03.0	8° 32.7	08.2	Alpheratz	357° 46.4	29° 08.9 N	11° 42.0	22.8	250° 30.7	4.5	17.2	5.4	35°	05:40	06:09	06:35	13:05	14:17	15:30				
	14	4° 20.5	16° 20.1	41.8	239° 32.2	49.0	23° 34.6	07.9	180° 25.7	03.1	23° 34.6	07.9	Altair	62° 10.8	8° 53.6 N	62° 42.1	21.9	264° 54.2	4.5	11.8	5.6	30°	05:38	06:06	06:30	13:19	14:29	15:42				
	15	19° 23.0	31° 19.7	40.6	254° 35.2	49.1	38° 36.5	07.7	195° 28.4	03.1	38° 36.5	07.7	Ankaa	353° 18.3	42° 15.2 S	41° 42.2	21.0	279° 17.7	4.5	06.2	5.7	59.8	20°	05:35	06:01	06:23	13:43	14:49	15:55			
	16	34° 25.4	46° 19.3	39.4	269° 38.1	49.1	53° 38.4	07.5	201° 31.0	03.2	53° 38.4	07.5	Antares	112° 29.2	26° 27.3 S	56° 42.3	20.1	293° 41.2	4.5	00.5	6.0	60.0	N 10°	05:30	05:55	06:16	14:03	15:06	16:09			
	17	49° 27.9	61° 18.8	38.1	284° 41.1	49.1	68° 40.3	07.3	225° 33.6	03.3	68° 40.3	07.3				71° 42.4	19.1	308° 04.7	4.5	23° 54.5 N	6.1	0°	05:24	05:49	06:10	14:22	15:22	16:21				
	18	64° 30.4	76° 18.4	36.9	299° 44.1	49.1	83° 42.2	07.0	240° 36.2	03.4	83° 42.2	07.0	Arcturus	145° 57.7	19° 07.5 N	86° 42.5	18.2	322° 28.2	4.5	48.4	6.3	59.9	S 10°	05:17	05:42	06:03	14:41	15:39	16:33			
	19	79° 32.8	91° 18.0	35.7	314° 47.0	49.2	88° 44.1	06.8	255° 38.8	03.4	107° 33.4	06.8	Atropa	107° 33.4	69° 02.5 S	101° 42.6	17.3	336° 51.7	4.6	42.1	6.4	20°	05:07	05:34	05:56	15:01	15:56	16:46				
	20	94° 35.3	106° 17.6	34.4	329° 50.0	49.2	113° 46.0	06.6	270° 41.4	03.5	113° 46.0	06.6	Avior	234° 18.6	59° 32.8 S	116° 42.7	16.4	351° 15.3	4.6	35.7	6.6	30°	04:55	05:23	05:48	15:24	16:15	17:01				
	21	109° 37.8	121° 17.2	33.2	344° 52.9	49.2	128° 47.9	06.4	285° 44.0	03.6	128° 47.9	06.4	Bellatrix	278° 34.5	6° 21.5 N	131° 42.8	15.4	5° 38.9	4.6	29.1	6.8	60.0	35°	04:46	05:17	05:43	15:38	16:27	17:09			
	22	124° 40.2	136° 16.7	31.9	359° 55.9	49.3	143° 49.8	06.1	300° 46.6	03.6	143° 49.8	06.1	Betelgeuse	271° 03.8	7° 24.5 N	146° 42.9	14.5	20° 02.5	4.6	22.3	6.9	40°	04:36	05:10	05:38	15:54	16:40	17:19				
23	139° 42.7	151° 16.3	30.7	14° 58.9	49.3	158° 51.7	05.9	315° 49.2	03.7	158° 51.7	05.9				161° 43.0	13.6	34° 26.1	4.6	15.4	7.1	45°	04:24	05:01	05:31	16:13	16:55	17:30					
Thursday	00	154° 45.2	166° 15.9	6° 29.5 S	30° 01.8	23° 49.3 N	173° 53.6	9° 05.7 S	330° 51.9	1° 03.8 N	330° 51.9	1° 03.8 N	Canopus	263° 57.0	52° 42.3 S	176° 43.1	9° 12.7 S	48° 49.7	4.7	23° 08.3 N	7.3	60.1	S 50°	04:08	04:50	05:24	16:36	17:14	17:44			
	01	169° 47.6	181° 15.9	28.2	45° 04.8	49.3	188° 55.5	05.5	345° 54.5	03.9	45° 04.8	28.2	Capella	280° 37.9	46° 00.7 N	191° 43.2	11.7	63° 13.4	4.7	01.0	7.5	52°	04:00	04:44	05:20	16:47	17:23	17:50				
	02	184° 50.1	196° 15.1	27.0	60° 07.7	49.3	203° 57.4	05.0	0° 57.1	03.9	60° 07.7	27.0	Deneb	49° 33.6	45° 18.9 N	206° 43.3	10.8	77° 37.1	4.7	22° 53.5 N	7.6	54°	03:51	04:38	05:16	17:00	17:33	18:07				
	03	199° 52.6	211° 14.6	25.8	75° 10.7	49.4	218° 59.3	05.2	15° 57.9	04.0	75° 10.7	25.8	Denebola	182° 35.8	14° 30.7 N	212° 43.4	09.9	92° 00.8	4.8	45.9	7.7	60.2	56°	03:41	04:32	05:12	17:14	17:44	18:15			
	04	214° 55.0	226° 14.2	24.5	90° 13.6	49.4	234° 01.2	04.8	31° 02.3	04.1	90° 13.6	24.5	Diphda	348° 58.5	17° 55.9 S	236° 43.5	08.9	106° 24.6	4.8	38.2	8.0	58°	03:29	04:24	05:07	17:31	17:57	18:14				
	05	229° 57.5	241° 13.8	23.3	105° 16.6	49.4	249° 03.0	04.6	46° 04.9	04.2	105° 16.6	23.3				251° 43.6	08.0	120° 48.4	4.8	30.2	8.1	60.0	S 60°	03:15	04:16	05:01	17:51	18:12	18:24			
	06	244° 59.9	256° 13.4	22.0	120° 19.5	49.4	264° 04.9	04.3	61° 07.5	04.2	120° 19.5	22.0	Dubhe	193° 53.7	61° 41.5 N	266° 43.7	07.1	135° 12.2	4.9	22.1	8.2	60.3	S 62°	02:58	04:06	04:55	18:17	18:30	18:35			
	07	260° 02.4	271° 13.0	20.8	135° 22.4	49.5	279° 06.8	04.1	76° 10.1	04.3	135° 22.4	20.8	Elnath	278° 15.5	28° 37.0 N	281° 43.8	06.2	149° 36.1	4.9	13.9	8.4	60.3										
	08	275° 04.9	286° 12.6	19.6	150° 25.4	49.5	294° 08.7	03.9	91° 12.7	04.4	150° 25.4	19.6	Elainor	90° 47.5	51° 28.9 N	296° 43.9	05.2	164° 00.0	4.9	05.5	8.6											
	09	290° 07.3	301° 12.1	18.3	165° 28.3	49.5	309° 10.6	03.7	106° 15.4	04.4	165° 28.3	18.3	Enif	33° 49.8	9° 55.2 N	311° 44.0	04.3	178° 23.9	5.0	21° 56.9 N	8.8											
	10	305° 09.8	316° 11.7	17.1	180° 31.3	49.5	324° 12.5	03.4	121° 18.0	04.5	180° 31.3	17.1	Fomalhaut	15° 26.9	29° 34.1 S	326° 44.0	03.4	192° 47.9	5.0	48.1	8.8	60.4	Lat	Sunset	Twilight		Moonset					
	11	320° 12.3	331° 11.3	15.8	195° 34.2	49.5	339° 14.4	03.2	136° 20.6	04.6	195° 34.2	15.8				341° 44.1	02.4	207° 11.9	5.1	39.3	9.											

Table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), Twilight (Nautilal, Civil), Sunrise, Moonrise, and Moonset. Includes rows for days 2, 3, 4 and planetary data for M.P., v, d, and various celestial bodies.

2010 March 5, 6, 7 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS -0.5			JUPITER -2.0			SATURN +0.6			STARS			SUN		MOON					Lat		Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	04:45	06:04	07:11	-	-	-	5	6	7			
Friday	00	162° 38.3	164° 59.8	2° 27.5 S	39° 02.3	23° 47.1 N	179° 57.9	8° 22.3 S	339° 14.9	1° 18.1 N	Acamar	315° 20.3	40° 16.0 S	177° 06.0	6° 10.8 S	304° 03.7	8.8	20° 04.8 S	9.4	58.0	N 70°	04:53	06:04	07:05	-	-	-	-	-	-	-			
	01	177° 40.7	179° 59.4	26.2	54° 04.9	47.0	194° 59.8	26.2	354° 17.5	18.2	Acnarnar	335° 28.8	57° 11.2 S	172° 06.1	09.8	318° 31.5	8.8	14.2	9.2	57.9	N 68°	04:59	06:04	06:59	02:22	-	-	-	-	-	-			
	02	192° 43.2	194° 59.1	24.9	69° 07.6	47.0	210° 01.7	21.8	9° 20.2	18.3	Acrux	173° 11.6	63° 09.4 S	207° 06.3	08.8	332° 59.3	8.8	23.4	9.2	57.8	N 66°	05:04	06:03	06:55	01:35	04:10	-	-	-	-	-			
	03	207° 45.7	209° 58.7	23.6	84° 10.3	46.9	225° 03.6	21.6	24° 22.8	18.4	Adhara	255° 14.2	28° 59.4 S	222° 06.4	07.9	347° 27.1	8.8	32.6	8.9	57.8	N 64°	05:08	06:03	06:51	01:05	02:57	04:44	-	-	-	-	-		
	04	222° 48.1	224° 58.3	22.4	99° 13.0	46.9	240° 05.5	21.4	39° 25.4	18.4	Aldebaran	290° 52.2	16° 31.8 N	237° 06.6	06.9	1° 54.9	8.8	41.5	8.9	57.8	N 62°	05:12	06:03	06:47	00:42	02:21	03:47	-	-	-	-	-		
	05	237° 50.6	239° 57.9	21.1	114° 15.6	46.8	255° 07.4	21.1	54° 28.1	18.5				252° 06.7	05.9	16° 22.7	8.8	50.4	8.7	57.8	N 60°	05:15	06:03	06:44	00:24	01:56	03:15	-	-	-	-	-		
	06	252° 53.0	254° 57.6	19.8	129° 18.3	46.8	270° 09.3	20.9	69° 30.7	18.6	Alioth	166° 22.1	55° 54.0 N	267° 06.8	05.0	30° 50.5	8.7	59.1	8.6	57.7	N 58°	05:17	06:02	06:42	00:09	01:36	02:50	-	-	-	-	-		
	07	267° 55.5	269° 57.2	18.5	144° 21.0	46.7	285° 11.2	20.7	84° 33.3	18.7	Alkaid	153° 00.3	49° 15.4 N	282° 07.0	04.0	45° 18.2	8.7	21° 07.7 S	8.5	57.6	N 56°	05:19	06:02	06:39	-	01:19	02:31	-	-	-	-	-		
	08	282° 58.0	284° 56.8	17.2	159° 23.6	46.7	300° 13.1	20.5	99° 35.9	18.7	Alnair	27° 47.0	46° 54.6 S	297° 07.1	03.0	59° 45.9	8.7	16.2	8.3	57.6	N 54°	05:21	06:02	06:37	-	01:05	02:14	-	-	-	-	-		
	09	298° 00.4	299° 56.4	16.0	174° 26.3	46.7	315° 15.0	20.2	114° 38.6	18.8	Alnilam	275° 48.7	1° 11.8 S	312° 07.3	02.1	74° 13.6	8.7	24.5	8.2	57.5	N 52°	05:22	06:01	06:35	-	00:52	02:01	-	-	-	-	-		
	10	313° 02.9	314° 56.1	14.7	189° 29.0	46.6	330° 16.9	20.0	129° 41.2	18.9	Alphard	217° 58.1	8° 42.4 S	327° 07.4	01.1	88° 41.3	8.7	32.7	8.1	57.5	N 50°	05:24	06:01	06:33	-	00:41	01:48	-	-	-	-	-		
	11	328° 05.4	329° 55.7	13.4	204° 31.6	46.6	345° 18.8	19.0	144° 43.8	19.0				342° 07.5	00.1	103° 09.0	8.7	40.8	7.9	57.5	N 48°	05:26	06:00	06:29	-	00:19	01:23	-	-	-	-	-		
	12	343° 07.8	344° 55.3	2° 12.1 S	219° 34.3	23° 46.5 N	0° 20.7	8° 19.6 S	159° 46.5	1° 19.0 N	Alphecca	126° 12.9	26° 40.5 N	357° 07.7	5° 59.2 S	117° 36.7	8.6	21° 48.7 S	7.8	57.5	N 40°	05:28	05:59	06:26	-	00:01	01:03	-	-	-	-	-		
	13	358° 10.3	359° 54.9	10.9	234° 36.9	46.5	15° 22.6	19.3	174° 49.1	19.1	Alpheratz	357° 46.4	29° 08.8 N	12° 07.8	58.2	132° 04.3	8.7	56.5	7.7	57.4	N 35°	05:29	05:58	06:23	23:46	-	00:46	-	-	-	-			
	14	13° 12.8	14° 54.5	09.6	249° 39.6	46.4	30° 24.5	19.1	189° 51.7	19.2	Altair	62° 10.8	8° 53.6 N	27° 08.0	57.2	146° 32.0	8.6	22° 04.2 S	7.5	57.4	N 30°	05:29	05:57	06:21	23:32	-	00:32	-	-	-	-			
	15	28° 15.2	29° 54.2	08.3	264° 42.3	46.4	45° 26.4	18.9	204° 54.3	19.3	Ankaa	353° 18.3	42° 15.1 S	42° 08.1	56.3	160° 59.6	8.6	11.7	7.4	57.3	N 20°	05:28	05:54	06:16	23:10	-	00:07	-	-	-	-			
	16	43° 17.7	44° 53.8	07.0	279° 44.9	46.3	60° 28.3	18.6	219° 57.0	19.4	Antares	112° 29.2	26° 27.3 S	57° 08.2	55.3	175° 27.2	8.6	19.1	7.3	57.3	N 10°	05:26	05:51	06:12	22:51	23:46	24:40	-	-	-	-	-		
	17	58° 20.2	59° 53.4	05.7	294° 47.6	46.3	75° 30.2	18.4	234° 59.6	19.4				72° 08.4	54.3	189° 54.8	8.6	26.4	7.1	57.2	N 0°	05:23	05:47	06:08	22:33	23:27	24:20	-	-	-	-	-		
	18	73° 22.6	74° 53.0	04.5	309° 50.2	46.2	90° 32.1	18.2	250° 02.2	19.5	Arcturus	145° 57.6	19° 07.5 N	87° 08.5	53.4	204° 22.4	8.6	33.5	7.0	57.2	S 10°	05:18	05:43	06:04	22:15	23:07	24:00	-	-	-	-	-		
	19	88° 25.1	89° 52.7	03.2	324° 52.9	46.2	105° 34.0	18.0	265° 04.9	19.6	Atria	107° 33.2	69° 02.5 S	102° 08.7	52.4	218° 50.0	8.6	40.5	6.9	57.1	S 20°	05:11	05:37	05:59	21:56	22:46	23:38	-	-	-	-	-		
	20	103° 27.5	104° 52.3	01.9	339° 55.5	46.1	120° 35.9	17.7	280° 07.5	19.7	Avior	234° 18.6	59° 32.8 S	117° 08.8	51.4	233° 17.6	8.5	47.4	6.7	57.0	S 30°	05:02	05:30	05:54	21:34	22:22	23:14	-	-	-	-	-		
	21	118° 30.0	119° 51.9	00.6	354° 58.2	46.1	135° 37.8	17.5	295° 10.1	19.7	Bellatrix	278° 34.5	6° 21.5 N	132° 09.0	50.5	247° 45.1	8.6	54.1	6.6	57.1	S 35°	04:55	05:26	05:51	21:22	22:08	22:59	-	-	-	-	-		
	22	133° 32.5	134° 51.5	1° 59.3 S	103° 00.8	46.0	150° 39.7	17.3	310° 12.7	19.8	Betelgeuse	271° 03.8	7° 24.5 N	147° 09.1	49.5	262° 12.7	8.5	23° 00.7 S	6.5	57.0	S 40°	04:48	05:20	05:48	21:07	21:52	22:42	-	-	-	-	-		
23	148° 34.9	149° 51.2	58.1	25° 03.5	46.0	165° 41.6	17.1	325° 15.4	19.9				162° 09.2	48.5	276° 40.2	8.6	07.2	6.3	57.0	S 45°	04:38	05:14	05:44	20:50	21:32	22:22	-	-	-	-	-			
Saturday	00	163° 37.4	164° 50.8	1° 56.8 S	40° 06.1	23° 45.9 N	180° 43.5	8° 16.8 S	340° 18.0	1° 20.0 N	Canopus	263° 57.0	52° 42.4 S	177° 09.4	5° 47.6 S	291° 07.8	8.5	23° 13.5 S	6.2	57.0	S 50°	04:26	05:06	05:39	20:28	21:08	21:56	-	-	-	-	-		
	01	178° 39.9	179° 50.4	55.5	55° 08.7	45.8	195° 45.4	16.6	355° 20.6	20.1	Capella	280° 38.0	46° 00.7 N	192° 09.5	46.6	305° 35.3	8.5	19.7	6.0	56.9	S 52°	04:20	05:02	05:36	20:18	20:56	21:44	-	-	-	-	-		
	02	193° 42.3	194° 50.0	54.2	70° 11.4	45.8	210° 47.3	16.4	10° 23.3	20.1	Deneb	49° 33.6	45° 18.8 N	207° 09.7	45.6	320° 02.8	8.6	25.7	5.9	56.9	S 54°	04:13	04:58	05:34	20:07	20:43	21:30	-	-	-	-	-		
	03	208° 44.8	209° 49.7	52.9	85° 14.0	45.7	225° 49.2	16.1	25° 25.9	20.2	Denebola	182° 35.7	14° 30.7 N	222° 09.8	44.7	334° 30.4	8.5	31.6	5.8	56.8	S 56°	04:05	04:53	05:31	19:54	20:27	21:13	-	-	-	-	-		
	04	223° 47.3	224° 49.3	51.6	100° 16.7	45.7	240° 51.1	15.9	40° 28.5	20.3	Diphda	348° 58.5	17° 55.9 S	237° 10.0	43.7	348° 57.9	8.5	37.4	5.6	56.8	S 58°	03:57	04:47	05:28	19:39	20:09	20:54	-	-	-	-	-		
	05	238° 49.7	239° 48.9	50.4	115° 19.3	45.6	255° 53.0	15.7	55° 31.2	20.4				252° 10.1	42.7	3° 25.4	8.5	43.0	5.5	56.8	S 60°	03:46	04:41	05:25	19:21	19:47	20:29	-	-	-	-	-		
	06	253° 52.2	254° 48.5	49.1	130° 21.9	45.6	270° 54.9	15.5	70° 33.8	20.4	Dubhe	193° 53.7	61° 41.6 N	267° 10.3	41.8	17° 52.9	8.5	48.5	5.3	56.7	S 62°	03:34	04:34	05:21	18:59	19:18	19:56	-	-	-	-	-		
	07	268° 54.7	269° 48.2	47.8	145° 24.6	45.5	285° 56.8	15.2	85° 36.4	20.5	Elnath	278° 15.6	28° 37.0 N	282° 10.4	40.8	32° 20.4	8.6	53.8	5.2	56.7	S 64°	03:24	04:24	05:11	18:48	19:07	19:45	-	-	-	-	-		
	08	283° 57.1	284° 47.8	46.5	160° 27.2	45.5	300° 58.7	15.0	100° 39.0	20.6	Elainon	90° 47.4	51° 28.9 N	297° 10.5	39.8	46° 48.0	8.5	59.0	5.1	56.6	S 66°	03:14	04:14	05:01	18:37	19:06	19:44	-	-	-	-	-		
	09	298° 59.6	299° 47.4	45.2	175° 29.8	45.4	316° 00.6	14.8	115° 41.7	20.7	Enif	33° 49.8	9° 55.2 N	312° 10.7	38.8	61° 15.5	8.5	24° 04.1 S	4.9	56.6	S 68°	03:04	04:04	04:51	18:28	19:07	19:45	-	-	-	-	-		
	10	314° 02.0	314° 47.1	44.0	190° 32.5	45.4	331° 02																											

2010 March 17, 18, 19 (Wed, Thur, Fri)

GMT	ARIES		VENUS		MARS		JUPITER		SATURN		STARS			SUN		MOON				Twilight		Sunrise			Moonrise			
											Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	17	18	19	17	18
Wednesday	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Acamar	315° 20' 3"	40° 16' 0" S	177° 52' 4"	1° 28' 5" S	168° 13' 5"	15.2	8° 06' 1" N	12.6	55.0	N 72°	03:35	05:02	06:09	04:58	04:23	02:57	
	01	174° 27.9	163° 13.8	3° 42.2 N	50° 56' 0"	23° 21.9 N	189° 05' 9"	7° 16' 9" S	351° 54' 2"	1° 41' 0" N	Acamar	315° 20' 3"	40° 16' 0" S	177° 52' 4"	1° 28' 5" S	168° 13' 5"	15.2	8° 06' 1" N	12.6	55.0	N 70°	03:52	05:08	06:09	05:12	04:48	04:10	
	02	189° 30' 4"	178° 13' 4"	43.5	65° 58' 2"	21.8	204° 07' 8"	16.6	6° 56' 8"	41.1	Acnarnar	335° 28' 9"	57° 11' 2" S	192° 52' 6"	27.5	182° 47' 7"	15.1	18.7	12.6	68°	04:05	05:14	06:09	05:23	05:08	04:48		
	03	204° 32' 9"	193° 13' 0"	44.8	81° 00' 5"	21.6	219° 09' 7"	16.4	21° 59' 5"	41.1	Acrux	173° 11' 6"	63° 09' 5" S	207° 52' 7"	26.5	197° 21' 8"	15.0	31.3	12.5	66°	04:16	05:18	06:09	05:32	05:24	05:15		
	04	219° 35' 3"	208° 12' 7"	46.0	96° 02' 8"	21.5	234° 11' 6"	16.2	37° 02' 1"	41.2	Adhara	255° 14' 3"	28° 59' 4" S	222° 52' 9"	26.5	211° 55' 8"	15.0	43.8	12.6	64°	04:24	05:21	06:09	05:40	05:37	05:35		
	05	234° 37' 8"	223° 12' 3"	47.3	111° 05' 1"	21.4	249° 13' 5"	16.0	52° 04' 7"	41.3	Aldebaran	290° 52' 2"	16° 31' 8" N	237° 53' 1"	24.6	226° 29' 8"	14.9	56.4	12.4	55.1	62°	04:31	05:24	06:08	05:46	05:48	05:52	
	06	249° 40' 2"	238° 11' 9"	48.6	126° 07' 4"	21.3	264° 15' 4"	15.7	67° 07' 4"	41.4				252° 53' 3"	23.6	241° 03' 7"	14.9	9° 08' 8" N	12.5	60°	04:37	05:27	06:08	05:52	05:58	06:06		
	07	264° 42' 7"	253° 11' 6"	49.9	141° 09' 7"	21.1	279° 17' 3"	15.5	82° 10' 0"	41.5	Alioth	166° 22' 0"	55° 54' 0" N	267° 53' 5"	22.6	255° 37' 6"	14.8	21.3	12.4	N 58°	04:43	05:29	06:08	05:57	06:06	06:19		
	08	279° 45' 2"	268° 11' 2"	51.1	156° 11' 9"	21.0	294° 19' 2"	15.3	97° 12' 7"	41.5	Alkaid	153° 00' 2"	49° 15' 4" N	282° 53' 6"	21.6	270° 11' 4"	14.8	33.7	12.4	54°	04:47	05:31	06:08	06:02	06:14	06:29		
	09	294° 47' 6"	283° 10' 8"	52.4	171° 14' 2"	20.9	309° 21' 1"	15.1	112° 15' 3"	41.6	Alnair	27° 47' 0"	46° 54' 6" S	297° 53' 8"	20.6	284° 45' 2"	14.8	46.1	12.4	54°	04:51	05:33	06:08	06:06	06:20	06:38		
	10	309° 50' 1"	298° 10' 4"	53.7	186° 16' 5"	20.7	324° 23' 0"	14.8	127° 18' 0"	41.7	Alnilam	275° 48' 8"	1° 11' 8" S	312° 54' 0"	19.6	299° 19' 0"	14.7	58.5	12.3	52°	04:55	05:34	06:08	06:10	06:26	06:47		
	11	324° 52' 6"	313° 10' 1"	55.0	201° 18' 8"	20.6	339° 24' 9"	14.6	142° 20' 6"	41.8	Alphard	217° 58' 2"	8° 42' 4" S	327° 54' 2"	18.6	313° 52' 7"	14.6	10° 10' 8" N	12.3	55.2	50°	04:58	05:35	06:08	06:13	06:32	06:54	
	12	339° 55' 0"	328° 09' 7"	56.2	216° 21' 1"	20.5	354° 26' 8"	14.4	157° 23' 2"	41.9				342° 54' 3"	17.6	328° 26' 3"	14.6	20.8	12.2	45°	05:04	05:38	06:07	06:20	06:43	07:10		
	13	354° 57' 5"	343° 09' 3"	57.5	231° 23' 3"	20.3	369° 28' 8"	14.2	172° 25' 9"	41.9	Alphecca	126° 12' 8"	26° 40' 5" N	357° 54' 5"	1° 16' 7" S	342° 59' 9"	14.5	10° 35' 3" N	12.2	55.2	N 40°	05:09	05:40	06:07	06:27	06:53	07:24	
	14	10° 00' 0"	358° 09' 0"	58.8	246° 25' 6"	20.2	24° 30' 7"	13.9	187° 28' 5"	42.0	Alpheratz	357° 46' 4"	29° 08' 8" N	12° 54' 7"	15.7	357° 33' 4"	14.5	47.5	12.2	35°	05:12	05:42	06:07	06:32	07:02	07:35		
	15	25° 02' 4"	13° 08' 6"	4° 00' 1" N	261° 27' 9"	20.1	261° 27' 9"	20.1	261° 27' 9"	20.1	Altair	62° 10' 7"	8° 53' 6" N	12° 54' 7"	14.7	12° 06' 9"	14.4	59.7	12.2	30°	05:15	05:43	06:07	06:37	07:09	07:45		
	16	40° 04' 9"	28° 08' 2"	01.3	276° 30' 1"	20.0	54° 34' 5"	13.5	217° 33' 8"	42.3	Ankaa	353° 18' 3"	42° 15' 1" S	42° 55' 1"	13.7	26° 40' 3"	14.3	11° 11' 9" N	12.1	20°	05:19	05:44	06:06	06:45	07:22	08:02		
	17	55° 07' 3"	43° 07' 9"	02.6	291° 32' 4"	19.8	69° 36' 4"	13.2	232° 36' 5"	42.2	Antares	112° 29' 1"	26° 27' 3" S	57° 55' 2"	12.7	41° 13' 6"	14.3	24.0	12.0	55.3	N 10°	05:20	05:44	06:05	06:53	07:33	08:17	
	18	70° 09' 8"	58° 07' 5"	03.9	306° 34' 7"	19.7	84° 38' 3"	13.0	247° 39' 1"	42.3				72° 55' 4"	11.7	55° 46' 9"	14.2	36.0	12.0	0°	05:20	05:44	06:05	07:00	07:44	08:31		
	19	85° 12' 3"	73° 07' 1"	05.2	321° 36' 9"	19.6	99° 40' 2"	12.8	262° 41' 7"	42.4	Arcturus	145° 57' 6"	19° 07' 5" N	87° 55' 6"	10.7	70° 20' 1"	14.2	48.0	12.0	S 10°	05:19	05:43	06:04	07:07	07:55	08:46		
	20	100° 14' 7"	88° 06' 7"	06.4	336° 39' 2"	19.4	114° 42' 1"	12.6	277° 44' 4"	42.5	Arctia	107° 33' 0"	69° 02' 6" S	102° 55' 8"	09.7	84° 53' 3"	14.1	00.0	11.9	20°	05:16	05:41	06:03	07:14	08:06	09:01		
	21	115° 17' 2"	103° 06' 4"	07.7	351° 41' 5"	19.3	129° 44' 0"	12.3	292° 47' 0"	42.6	Avior	234° 18' 7"	59° 32' 8" S	117° 56' 0"	08.7	99° 26' 4"	14.1	12° 11' 9" N	11.9	30°	05:10	05:38	06:02	07:23	08:20	09:19		
	22	130° 19' 7"	118° 06' 0"	09.0	6° 43' 7"	19.2	144° 45' 9"	12.1	307° 49' 7"	42.7	Bellatrix	278° 34' 6"	6° 21' 5" N	132° 56' 1"	07.8	113° 59' 5"	14.0	23.8	11.8	55.4	35°	05:06	05:36	06:01	07:28	08:28	09:29	
23	145° 22' 1"	133° 05' 6"	10.3	21° 46' 0"	19.0	159° 47' 8"	11.9	322° 52' 3"	42.7	Betelgeuse	271° 03' 9"	7° 24' 5" N	147° 56' 2"	06.8	128° 32' 5"	13.9	35.6	11.8	40°	05:02	05:33	06:01	07:34	08:36	09:41			
24	160° 24' 6"	148° 05' 3"	11.5	36° 48' 3"	18.9	174° 49' 7"	11.7	337° 55' 0"	42.8				162° 56' 5"	05.8	143° 05' 4"	13.9	47.4	11.7	45°	04:56	05:30	06:00	07:40	08:47	09:55			
Thursday	00	175° 27' 1"	163° 04' 9"	4° 12' 8" N	51° 50' 5"	23° 18' 8" N	189° 51' 6"	7° 11' 4" S	352° 57' 6"	1° 42' 9" N	Canopus	263° 57' 1"	52° 24' 5" S	177° 56' 7"	1° 04' 8" S	157° 38' 3"	13.8	12° 59' 1" N	11.7	55.4	S 50°	04:48	05:26	05:58	07:48	09:00	10:12	
	01	190° 29' 5"	178° 04' 5"	14.1	66° 52' 8"	18.6	204° 53' 6"	11.2	8° 00' 2"	43.0	Capella	280° 38' 0"	46° 00' 6" N	192° 56' 9"	03.8	172° 11' 1"	13.7	13° 10' 8" N	11.7	52°	04:44	05:24	05:58	07:52	09:05	10:20		
	02	205° 32' 0"	193° 04' 1"	15.4	81° 55' 0"	18.5	219° 55' 5"	11.0	23° 02' 9"	43.1	Deneb	49° 33' 5"	45° 18' 8" N	207° 57' 0"	02.8	186° 43' 8"	13.7	22.5	11.6	54°	04:39	05:22	05:57	07:56	09:12	10:30		
	03	220° 34' 5"	208° 03' 8"	16.6	96° 57' 3"	18.4	234° 57' 4"	10.8	38° 05' 9"	43.1	Denebola	182° 35' 7"	14° 30' 7" N	222° 57' 2"	01.8	201° 16' 5"	13.6	34.1	11.5	55.5	56°	04:34	05:19	05:56	08:01	09:19	10:40	
	04	235° 36' 9"	223° 03' 4"	17.9	111° 59' 5"	18.2	249° 59' 3"	10.5	53° 08' 2"	43.2	Diphda	348° 58' 5"	17° 55' 9" S	237° 57' 4"	00.8	215° 49' 1"	13.5	45.6	11.5	58°	04:29	05:16	05:56	08:06	09:28	10:52		
	05	250° 39' 4"	238° 03' 0"	19.2	127° 01' 8"	18.1	265° 01' 2"	10.3	68° 10' 8"	43.3				252° 57' 6"	0° 59' 8" S	230° 21' 6"	13.5	57.1	11.4	S 60°	04:22	05:13	05:55	08:12	09:37	11:06		
	06	265° 41' 8"	253° 02' 7"	20.5	142° 04' 0"	18.0	280° 03' 1"	10.1	83° 13' 5"	43.4	Dubhe	193° 53' 7"	61° 41' 6" N	267° 57' 8"	58.9	244° 54' 1"	13.4	14° 08' 5" N	11.4	S 62°	04:14	05:09	05:54	08:19	09:48	11:22		
	07	280° 44' 3"	268° 02' 3"	21.7	157° 06' 3"	17.8	295° 05' 0"	09.8	98° 16' 1"	43.5	Elnath	278° 15' 7"	28° 37' 0" N	282° 57' 9"	57.9	259° 26' 5"	13.3	19.9	11.3	55.6								
	08	295° 46' 8"	283° 01' 9"	23.0	172° 08' 5"	17.7	310° 06' 9"	09.6	113° 18' 7"	43.5	Elainin	90° 47' 3"	51° 28' 9" N	297° 58' 1"	56.9	273° 58' 8"	13.3	31.2	11.2									
	09	310° 49' 2"	298° 01' 5"	24.3	187° 10' 8"	17.6	325° 08' 8"	09.4	128° 21' 4"	43.6	Enif	33° 49' 7"	9° 55' 2" N	312° 58' 3"	55.9	288° 31' 1"	13.2	42.4	11.2									
	10	325° 51' 7"	313° 01' 2"	25.5	202° 13' 0"	17.4	340° 10' 7"	09.2	143° 24' 0"	43.7	Fomalhaut	15° 26' 9"	29° 34' 1" S	327° 58' 5"	54.9	303° 03' 3"	13.1	53.6	11.2									
	11	340° 54' 2"	328° 00' 8"	26.8	217° 15' 3"	17.3	355° 12' 6"	09.9	158° 26' 7"	43.8				342° 58' 7"	53.9	317° 35' 4"	13.0	15° 04' 8" N	11.0									
	12	355° 56' 6"	343° 00' 4"	4° 28' 1" N	232° 17' 5"	23° 17' 2" N	10° 14' 6"	7° 08' 7" S	173° 29' 3"	1° 43' 9" N	G																	

2010 March 29, 30, 31 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.1			JUPITER -2.0			SATURN +0.5			STARS			SUN		MOON				Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	29	30	31	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	02:02	03:54	05:07	19:04	21:38	-		
Monday	00	186° 17.6	161° 21.5	9° 40.9 N	61° 07.0	22° 35.7 N	198° 17.3	6° 12.1 S	4° 35.5	2° 03.8 N	Acamar	315° 20.4	40° 15.9 S	178° 46.0	3° 15.0 N	14° 33.1	9.9	1° 24.2 S	15.9	60.5	N 70°	02:37	04:09	05:13	18:54	21:12	23:56				
	01	201° 20.0	176° 21.0	42.1	76° 09.0	35.5	213° 19.2	11.9	19° 38.1	03.9	Acnarnar	335° 28.9	57° 11.1 S	193° 38.1	2° 16.0	29° 02.0	9.9	40° 12.0	15.9	68°	N 68°	03:02	04:20	05:18	18:46	20:53	23:10				
	02	216° 22.5	191° 20.6	43.3	91° 11.0	35.3	228° 21.1	11.6	34° 40.8	04.0	Acruz	173° 11.5	63° 09.5 S	208° 46.4	17.0	43° 30.9	9.9	56.0	15.9	66°	N 66°	03:20	04:29	05:23	18:39	20:37	22:40				
	03	231° 25.0	206° 20.2	44.5	106° 12.9	35.1	243° 23.0	11.4	49° 43.4	04.1	Adhara	255° 14.4	28° 59.4 S	223° 46.6	18.0	57° 59.8	9.9	2° 11.8 S	15.9	68°	N 64°	03:35	04:37	05:26	18:34	20:25	22:18				
	04	246° 27.4	221° 19.8	45.7	121° 14.9	35.0	258° 25.0	11.2	64° 46.1	04.1	Aldebaran	290° 52.3	16° 31.8 N	238° 46.8	18.9	72° 28.7	9.9	27.7	15.8	62°	N 62°	03:47	04:44	05:29	18:29	20:14	22:00				
	05	261° 29.9	236° 19.4	46.9	136° 16.9	34.8	273° 26.9	11.0	79° 48.7	04.2					253° 47.0	19.9	86° 57.6	9.9	43.5	15.8	60°	N 60°	03:57	04:49	05:32	18:25	20:05	21:46			
	06	276° 32.4	251° 18.9	48.1	151° 18.8	34.6	288° 28.8	10.7	94° 51.3	04.3	Alioth	166° 22.0	55° 54.1 N	268° 47.1	20.9	101° 26.5	9.9	59.3	15.7	60°	N 58°	04:05	04:54	05:34	18:21	19:58	21:33				
	07	291° 34.8	266° 18.5	49.3	166° 20.8	34.4	303° 30.7	10.5	109° 54.0	04.4	Alkaid	153° 00.1	49° 15.5 N	283° 47.3	21.9	115° 55.4	9.9	3° 15.0 S	15.8	60.4	N 56°	04:13	04:59	05:36	18:18	19:51	21:23				
	08	306° 37.3	281° 18.1	50.5	181° 22.8	34.2	318° 32.6	10.3	124° 56.6	04.5	Alnair	27° 46.9	46° 54.5 S	298° 47.5	22.8	130° 24.3	9.9	30.8	15.7	54°	N 54°	04:19	05:02	05:38	18:15	19:45	21:13				
	09	321° 39.8	296° 17.7	51.7	196° 24.7	34.0	333° 34.6	10.1	139° 59.3	04.5	Alnilam	275° 48.8	1° 11.8 S	313° 47.7	23.8	144° 53.2	9.9	46.5	15.7	52°	N 52°	04:25	05:06	05:40	18:12	19:39	21:05				
	10	336° 42.2	311° 17.2	52.9	211° 26.7	33.8	348° 36.5	09.9	155° 01.9	04.6	Alphard	217° 58.2	8° 42.4 S	328° 47.9	24.8	159° 22.1	9.8	4° 02.2 S	15.6	50°	N 50°	04:30	05:09	05:42	18:10	19:34	20:57				
	11	351° 44.7	326° 16.8	54.1	226° 28.6	33.6	3° 38.4	09.6	170° 04.6	04.7					343° 48.1	25.7	173° 50.9	9.9	17.8	15.7	45°	N 45°	04:40	05:15	05:45	18:05	19:24	20:42			
	12	6° 47.2	341° 16.4	9° 55.3 N	241° 30.6	22° 33.4 N	18° 40.3	6° 09.4 S	185° 07.2	2° 04.8 N	Alphecca	126° 12.7	26° 40.5 N	358° 48.3	3° 26.7 N	188° 19.8	9.8	4° 33.5 S	15.6	60.4	N 40°	04:48	05:20	05:48	18:01	19:15	20:29				
	13	21° 49.6	356° 16.0	56.5	256° 32.6	33.2	33° 42.3	09.2	200° 09.8	04.8	Alpheratz	357° 46.4	29° 08.8 N	13° 48.5	27.7	202° 48.6	9.9	49.1	15.5	35°	N 35°	04:55	05:25	05:50	17:57	19:08	20:18				
	14	36° 52.1	11° 15.5	57.7	271° 34.5	33.0	48° 44.2	09.0	215° 12.5	04.9	Altair	62° 10.6	8° 53.6 N	28° 48.7	28.7	217° 17.5	9.9	5° 04.6 S	15.5	60.3	N 30°	05:00	05:28	05:52	17:54	19:01	20:18				
	15	51° 54.5	26° 15.1	58.9	286° 36.5	32.8	63° 46.1	08.7	230° 15.1	05.0	Ankaa	353° 18.3	42° 15.0 S	43° 48.8	29.6	231° 46.3	9.8	20.1	15.5	20°	N 20°	05:08	05:33	05:56	17:48	18:50	19:52				
	16	66° 57.0	41° 14.7	10° 00.1 N	301° 38.4	32.6	78° 48.0	08.5	245° 17.8	05.1	Antares	112° 29.0	26° 27.3 S	58° 49.0	30.6	246° 15.1	9.8	35.6	15.5	10°	N 10°	05:13	05:37	05:59	17:44	18:40	19:38				
	17	81° 59.5	56° 14.3	01.3	316° 40.4	32.4	93° 50.0	08.3	260° 20.4	05.1					260° 43.9	9.8	51.1	15.4	0°	N 0°	05:16	05:41	06:01	17:39	18:31	19:25					
	18	97° 01.9	71° 13.8	02.5	331° 42.3	32.2	108° 51.9	08.1	275° 23.0	05.2	Arcturus	145° 57.5	19° 07.5 N	88° 49.4	32.6	275° 12.7	9.8	6° 06.5 S	15.3	60.2	S 10°	05:18	05:43	06:04	17:35	18:22	19:11				
	19	112° 04.4	86° 13.4	03.7	346° 44.3	32.0	107° 32.8	07.9	290° 25.7	05.3	Arctia	107° 32.8	69° 02.6 S	103° 49.6	33.5	289° 41.5	9.7	21.8	15.3	20°	N 20°	05:19	05:44	06:06	17:30	18:13	18:58				
	20	127° 06.9	101° 13.0	04.9	1° 46.2	31.8	138° 55.7	07.6	305° 28.3	05.4	Avior	234° 18.8	59° 32.9 S	118° 49.8	34.5	304° 10.2	9.8	37.1	15.3	30°	N 30°	05:18	05:45	06:09	17:25	18:02	18:42				
	21	142° 09.3	116° 12.6	06.1	16° 48.2	31.7	153° 57.7	07.4	320° 31.0	05.5	Bellatrix	278° 34.6	6° 21.5 N	133° 50.0	35.5	318° 39.0	9.7	52.4	15.2	35°	N 35°	05:16	05:46	06:11	17:22	17:56	18:33				
	22	157° 11.8	131° 12.1	07.3	31° 50.1	31.5	168° 59.6	07.2	335° 33.6	05.5	Betelgeuse	271° 03.9	7° 24.5 N	148° 50.2	36.4	333° 07.7	9.7	7° 07.6 S	15.2	40°	N 40°	05:14	05:46	06:13	17:19	17:49	18:22				
23	172° 14.3	146° 11.7	08.4	46° 52.1	31.3	184° 01.5	07.0	350° 36.3	05.6					163° 50.4	37.4	347° 36.4	9.7	22.8	15.1	45°	N 45°	05:11	05:46	06:15	17:15	17:41	18:10				
Tuesday	00	187° 16.7	161° 11.3	10° 09.6 N	61° 54.0	22° 31.1 N	199° 03.4	6° 06.7 S	2° 05.7 N	Canopus	263° 57.2	52° 42.4 S	178° 50.5	3° 38.4 N	2° 05.1	9.7	7° 37.9 S	15.1	60.2	S 50°	05:07	05:45	06:17	17:10	17:31	17:56					
	01	202° 19.2	176° 10.9	10.8	76° 56.0	30.9	214° 05.4	06.5	20° 41.5	05.8	Capella	280° 38.1	46° 00.6 N	193° 50.7	39.4	16° 33.8	9.6	53.0	15.0	50°	N 50°	05:05	05:45	06:18	17:08	17:27	17:49				
	02	217° 21.6	191° 10.4	12.0	91° 57.9	30.7	229° 07.3	06.3	35° 44.2	05.8	Deneb	49° 33.4	45° 18.8 N	208° 50.9	40.3	31° 02.4	9.6	8° 08.0 S	14.9	60.1	N 54°	05:03	05:44	06:20	17:06	17:22	17:42				
	03	232° 24.1	206° 10.0	13.2	106° 59.9	30.5	244° 09.2	06.3	50° 46.8	05.9	Denebola	182° 35.7	14° 30.7 N	223° 51.1	41.3	45° 31.0	9.7	22.9	14.9	56°	N 56°	05:00	05:44	06:21	17:03	17:17	17:33				
	04	247° 26.6	221° 09.6	14.4	122° 01.8	30.3	259° 11.1	05.9	65° 49.5	06.0	Diphda	348° 58.5	17° 55.8 S	238° 51.3	42.3	59° 59.7	9.6	37.8	14.8	58°	N 58°	04:57	05:43	06:22	17:01	17:11	17:24				
	05	262° 29.0	236° 09.1	15.6	137° 03.8	30.1	274° 13.1	06.1	80° 52.1	06.1					253° 51.5	43.2	74° 28.3	9.5	52.6	14.8	60°	N 60°	04:54	05:42	06:24	16:58	17:04	17:13			
	06	277° 31.5	251° 08.7	16.8	152° 05.7	29.9	289° 15.0	05.4	95° 54.7	06.1	Dubhe	193° 53.7	61° 41.7 N	268° 51.7	44.2	88° 56.8	9.6	9° 07.4 S	14.7	60.0	S 62°	04:50	05:42	06:26	16:54	16:57	17:01				
	07	292° 34.0	266° 08.3	18.0	167° 07.6	29.7	304° 16.9	05.2	110° 57.4	06.2	Elnath	278° 15.7	28° 37.0 N	283° 51.9	45.2	103° 25.4	9.5	22.1	14.6	60.0	N 60°										
	08	307° 36.4	281° 07.9	19.2	182° 09.6	29.5	319° 18.8	05.0	126° 00.0	06.3	Elainin	90° 47.1	51° 28.9 N	298° 52.1	46.2	117° 53.9	9.5	36.7	14.6												
	09	322° 38.9	296° 07.4	20.4	197° 11.5	29.3	334° 20.8	04.7	141° 02.7	06.4	Enif	33° 49.7	9° 55.2 N	313° 52.2	47.1	132° 22.4	9.5	51.3	14.5												
	10	337° 41.4	311° 07.0	21.5	212° 13.5	29.1	349° 22.7	04.5	156° 05.3	06.5	Fomalhaut	15° 26.8	29° 34.0 S	328° 52.4	48.1	146° 50.9	9.4	10° 05.8 S	14.5	59.9	N 59°										
	11	352° 43.8	326° 06.6	22.7	227° 15.4	28.9	4° 24.6	04.3	171° 08.0	06.5					161° 19.3	9.5	20.3	14.3													
	12	7° 46.3	341° 06.1	10° 23.9 N	242° 17.3	22° 28.7 N	19° 26.5	6° 04.1 S	186° 10.6	2° 06.6 N	Gacrux	172° 03.1	57° 10.4 S	358° 52.8	3° 50.0 N	175° 47.8	9.4	10° 34.6 S	14.3	59.9	N 70°	18:58	20:04	21:37	04:40	04:19	03:52				
	13	22° 48.8	356° 05.7	25.1	257° 19.3	28.5	34° 28.5	03.9	201° 13.2	06.7	Gienah	175° 54.4	17° 36.2 S	13° 53.0	51.0	190° 16.2	9.														

2010 April 1, 2, 3 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.2			JUPITER -2.0			SATURN +0.6			STARS			SUN		MOON				Twilight		Sunrise		Moonrise									
	GHA	GHA	Dec	GHA	Dec	22° 21.4' N	GHA	Dec	5° 56.1' S	GHA	Dec	2° 09.3' N	GHA	Dec	17° 31.8' S	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	01:27	03:36	04:51	-	-	-						
Thurs day	00	189° 15.0	160° 50.4	11° 06.4' N	63° 26.4	22° 21.4' N	200° 35.9	5° 56.1' S	7° 45.7	2° 09.3' N	Acamar	315° 20.4	40° 15.9' S	178° 59.6	4° 24.9' N	336° 31.7	8.4	18° 12.0' S	10.7	58.9	N 70°	02:14	03:53	04:59	-	-	-	-	-	-	-	-	-					
	01	204° 17.5	175° 50.0	07.5	78° 28.3	21.2	215° 37.8	55.9	22° 48.3	09.4	Acnarnar	335° 28.9	57° 11.1' S	350° 59.1	8.2	22.7	10.6	58.8	68°	02:43	04:06	05:06	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	02	219° 19.9	190° 49.6	08.7	93° 30.2	21.0	230° 39.7	55.7	37° 50.9	09.5	Acrux	173° 11.5	63° 09.5' S	208° 59.9	26.8	5° 26.3	8.3	33.3	10.5	66°	03:05	04:17	05:11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03	234° 22.4	205° 49.1	09.9	108° 32.1	20.8	245° 41.7	50.8	52° 53.6	09.6	Adhara	255° 14.4	28° 59.4' S	224° 00.1	27.8	19° 53.6	8.2	43.8	10.4	58.7	64°	03:21	04:26	05:16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04	249° 24.9	220° 48.7	11.1	123° 34.0	20.6	260° 43.6	55.2	67° 56.2	09.6	Aldebaran	290° 52.3	16° 31.8' N	239° 00.3	28.8	34° 20.8	8.2	54.2	10.2	62°	03:35	04:33	05:19	23:44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05	264° 27.3	235° 48.2	12.2	138° 35.9	20.4	275° 45.5	55.0	82° 58.9	09.7						254° 00.5	29.7	48° 48.0	8.2	19° 04.4' S	10.1	60°	03:46	04:40	05:23	23:23	-	-	-	-	-	-	-	-	-	-	-	
	06	279° 29.8	250° 47.8	13.4	153° 37.8	20.1	290° 47.4	54.8	98° 01.5	09.8	Alioth	166° 22.0	55° 54.1' N	269° 00.7	30.7	63° 15.2	8.1	14.5	10.0	58.6	N 58°	03:56	04:46	05:26	23:05	-	-	-	-	-	-	-	-	-	-	-	-	-
	07	294° 32.2	265° 47.3	14.6	168° 39.7	19.9	305° 49.4	54.6	113° 04.1	09.9	Alkaid	153° 00.1	49° 15.5' N	284° 00.9	31.6	77° 42.3	8.2	24.5	9.9	56°	04:04	04:50	05:28	22:51	-	-	-	-	-	-	-	-	-	-	-	-	-	
	08	309° 34.7	280° 46.9	15.7	183° 41.6	19.7	320° 51.3	54.3	128° 06.8	10.0	Alnair	27° 46.9	46° 54.5' S	299° 01.1	32.6	92° 09.5	8.0	34.4	9.8	54°	04:11	04:55	05:31	22:38	23:55	24:59	-	-	-	-	-	-	-	-	-	-	-	-
	09	324° 37.2	295° 46.4	16.9	198° 43.5	19.5	335° 53.2	54.1	143° 09.4	10.0	Alnilam	275° 48.8	1° 11.8' S	314° 01.3	33.6	106° 36.5	8.1	44.2	9.6	58.5	52°	04:17	04:59	05:33	22:27	23:41	24:45	-	-	-	-	-	-	-	-	-	-	-
	10	339° 39.6	310° 46.0	18.1	213° 45.4	19.3	350° 55.2	53.9	158° 12.1	10.1	Alphard	217° 58.2	8° 42.4' S	329° 01.4	34.5	121° 03.6	8.0	53.8	9.5	50°	04:23	05:02	05:35	22:17	23:30	24:32	-	-	-	-	-	-	-	-	-	-	-	
	11	354° 42.1	325° 45.6	19.2	228° 47.3	19.1	5° 57.1	53.7	173° 14.7	10.2						344° 01.6	35.5	135° 30.6	8.1	20° 03.3' S	9.2	55°	04:34	05:10	05:39	21:57	23:06	24:07	-	-	-	-	-	-	-	-	-	
	12	9° 44.6	340° 45.1	11° 20.4' N	243° 49.2	22° 18.9' N	20° 59.0	5° 53.5' S	188° 17.3	2° 10.3' N	Alphecca	126° 12.7	26° 40.5' N	359° 01.8	4° 36.5' N	149° 57.7	7.9	20° 12.6' S	9.2	58.4	N 40°	04:43	05:15	05:43	21:40	22:47	23:47	-	-	-	-	-	-	-	-	-	-	
	13	24° 47.0	355° 44.7	21.6	258° 51.1	18.7	36° 00.9	53.2	203° 20.0	10.3	Alpheratz	357° 46.3	29° 08.8' N	14° 02.0	37.4	164° 24.6	8.0	21.8	9.1	35°	04:50	05:20	05:46	21:26	22:31	23:30	-	-	-	-	-	-	-	-	-	-		
	14	39° 49.5	10° 44.2	22.7	273° 53.0	18.5	51° 02.9	53.0	218° 22.6	10.4	Altair	62° 10.6	8° 53.6' N	29° 02.2	38.4	178° 51.6	7.9	30.9	9.0	30°	04:56	05:24	05:48	21:14	22:17	23:15	-	-	-	-	-	-	-	-	-	-		
	15	54° 52.0	25° 43.8	23.9	288° 54.9	18.3	66° 04.8	52.8	233° 25.3	10.5	Ankaa	353° 18.3	42° 15.0' S	44° 02.4	39.4	193° 18.5	8.0	39.9	8.8	58.3	20°	05:05	05:31	05:53	20:53	21:53	22:51	-	-	-	-	-	-	-	-	-		
	16	69° 54.4	40° 43.3	25.1	303° 56.8	18.1	81° 06.7	52.6	248° 27.9	10.6	Antares	112° 29.0	26° 27.3' S	59° 02.6	40.3	207° 45.5	7.9	48.7	8.7	58.0	N 10°	05:11	05:36	05:57	20:36	21:33	22:29	-	-	-	-	-	-	-	-	-	-	
	17	84° 56.9	55° 42.9	26.2	318° 58.7	17.9	96° 08.7	52.4	263° 30.5	10.6						74° 02.7	41.3	222° 12.4	7.8	57.4	8.6	0°	05:15	05:40	06:00	20:19	21:14	22:10	-	-	-	-	-	-	-	-	-	
	18	99° 59.3	70° 42.4	27.4	334° 00.6	17.6	111° 10.6	52.1	278° 33.2	10.7	Arcturus	145° 57.5	19° 07.5' N	89° 02.9	42.3	236° 39.2	7.9	21° 06.0' S	8.4	58.2	S 10°	05:18	05:43	06:04	20:03	20:56	21:50	-	-	-	-	-	-	-	-	-		
	19	115° 01.8	85° 42.0	28.5	349° 02.4	17.4	126° 12.5	51.9	293° 35.8	10.8	Atria	107° 32.7	69° 02.6' S	104° 03.1	43.2	251° 06.1	7.8	14.4	8.3	20°	05:20	05:45	06:07	19:45	20:36	21:29	-	-	-	-	-	-	-	-	-			
	20	130° 04.3	100° 41.5	29.7	4° 04.3	17.2	141° 14.4	51.7	308° 38.4	10.9	Avior	234° 18.9	59° 32.9' S	119° 03.3	44.2	265° 32.9	7.8	22.7	8.1	58.1	30°	05:19	05:47	06:11	19:25	20:13	21:04	-	-	-	-	-	-	-	-	-		
	21	145° 06.7	115° 41.1	30.9	19° 06.2	17.0	156° 16.4	51.5	323° 41.1	10.9	Betatrix	278° 34.6	6° 21.5' N	134° 03.5	45.1	279° 59.7	7.8	30.8	8.0	35°	05:19	05:48	06:13	19:14	19:59	20:50	-	-	-	-	-	-	-	-	-			
	22	160° 09.2	130° 40.6	32.0	34° 08.1	16.8	171° 18.3	51.3	337° 03.9	11.0	Beltegeuse	271° 03.9	7° 24.5' N	149° 03.7	46.1	294° 26.5	7.8	38.8	7.9	40°	05:17	05:49	06:16	19:00	19:44	20:33	-	-	-	-	-	-	-	-	-	-		
23	175° 11.7	145° 40.2	33.2	49° 10.0	16.6	186° 20.2	51.0	353° 46.4	11.1						164° 03.9	47.1	308° 53.3	7.7	46.7	7.7	58.0	45°	05:15	05:49	06:19	18:45	19:25	20:13	-	-	-	-	-	-	-	-		
Fri day	00	190° 14.1	160° 39.7	11° 34.4' N	64° 11.9	22° 16.4' N	201° 22.2	5° 50.8' S	8° 49.0	2° 11.2' N	Canopus	263° 57.3	52° 42.4' S	179° 04.0	4° 48.0' N	323° 20.0	7.8	21° 54.4' S	7.6	58.0	S 50°	05:12	05:50	06:22	18:25	19:02	19:48	-	-	-	-	-	-	-	-			
	01	205° 16.6	175° 39.3	35.5	79° 13.8	16.2	216° 24.1	56.2	23° 51.6	11.2	Capella	280° 38.1	46° 00.6' N	194° 04.2	49.0	337° 46.8	7.7	22° 02.0' S	7.5	52°	05:11	05:50	06:23	18:16	18:52	19:36	-	-	-	-	-	-	-	-	-			
	02	220° 19.1	190° 38.8	36.7	94° 15.6	16.0	231° 26.0	50.4	38° 54.3	11.3	Deneb	49° 33.4	45° 18.8' N	209° 04.4	50.0	352° 13.5	7.7	09.5	7.3	57.9	54°	05:09	05:50	06:25	18:06	18:39	19:23	-	-	-	-	-	-	-	-	-		
	03	235° 21.5	205° 38.4	37.8	109° 17.5	15.7	246° 27.9	50.1	50° 51.2	11.4	Denebola	182° 35.7	14° 30.7' N	224° 04.6	50.9	6° 40.2	7.7	16.8	7.0	57.8	56°	05:07	05:50	06:27	17:55	18:25	19:07	-	-	-	-	-	-	-	-	-		
	04	250° 24.0	220° 37.9	39.0	124° 19.4	15.5	261° 29.9	49.9	68° 59.6	11.5	Diphda	348° 58.5	17° 55.8' S	239° 04.8	51.9	21° 06.9	7.7	24.0	7.0	57.8	58°	05:04	05:50	06:29	17:42	18:09	18:48	-	-	-	-	-	-	-	-	-		
	05	265° 26.5	235° 37.5	40.1	139° 21.3	15.3	276° 31.8	49.7	84° 02.2	11.5						254° 05.0	52.8	35° 33.6	7.7	31.0	6.9	58.0	S 60°	05:01	05:50	06:31	17:27	17:49	18:25	-	-	-	-	-	-	-	-	
	06	280° 28.9	250° 37.0	41.3	154° 23.1	15.1	291° 33.7	49.5	99° 04.8	11.6	Dubhe	193° 53.7	61° 41.7' N	269° 05.2	53.8	50° 00.3	7.6	37.9	6.7	57.7	S 62°	04:58	05:49	06:34	17:09	17:24	17:54	-	-	-	-	-	-	-	-	-		
	07	295° 31.4	265° 36.6	42.5	169° 25.0	14.9	306° 35.7	49.3	114° 07.5	11.7	Elathar	278° 15.7	28° 37.0' N	284° 05.3	54.8	64° 26.9	7.7	44.6	6.7	57.7	57°	05:07	05:48	06:24	17:00	17:15	17:40											

2010 April 19, 20, 21 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -2.1			SATURN +0.6			STARS			SUN		MOON				Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	19	20	21	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	00:58	03:10	-	-	-	19	20	21		
Monday	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	00:58	03:10	-	-	-
	01	206° 59.5	157° 02.9	18° 38.1 N	75° 56.6	20° 33.8 N	214° 36.1	4° 23.3 S	26° 40.7	2° 38.7 N	26° 40.7	2° 38.7 N	26° 40.7	2° 38.7 N	Acamar	315° 20.4	40° 15.9 S	180° 11.3	11° 03.7 N	124° 16.9	6.0	25° 07.5 N	1.1	58.0	N 70°	-	01:58	03:31	-	-	-
	02	222° 02.0	172° 02.3	39.0	90° 58.2	33.5	229° 38.1	23.1	41° 43.3	38.8	41° 43.3	38.8	41° 43.3	38.8	Acnarnar	335° 28.9	57° 11.0 S	195° 11.5	04.6	138° 41.9	5.9	06.4	1.3	68°	-	02:32	03:48	-	-	07:33	
	03	237° 04.4	187° 01.7	39.9	105° 59.8	33.2	244° 40.0	22.9	56° 45.9	38.8	56° 45.9	38.8	56° 45.9	38.8	Acrux	173° 11.5	63° 09.6 S	210° 11.6	05.4	153° 06.8	5.9	05.1	1.5	66°	00:50	02:56	04:01	-	-	05:52	
	04	252° 06.9	202° 01.1	40.8	121° 01.3	39.9	259° 42.0	22.9	57° 48.5	38.9	57° 48.5	38.9	57° 48.5	38.9	Adhara	255° 14.5	28° 59.4 S	225° 11.7	06.3	167° 31.7	5.9	03.6	1.6	58.1	64°	01:43	03:14	04:12	05:08	06:49	08:15
	05	267° 09.3	217° 00.4	41.7	136° 02.9	32.6	274° 44.0	22.5	86° 51.1	39.0	86° 51.1	39.0	86° 51.1	39.0	Aldebaran	290° 52.3	16° 31.8 N	240° 11.9	07.2	181° 56.6	5.9	02.0	1.8	62°	02:14	03:29	04:21	05:55	07:22	09:04	
	06	282° 11.8	231° 59.8	42.6	151° 04.5	32.3	289° 45.9	22.3	101° 53.7	39.0	101° 53.7	39.0	101° 53.7	39.0				255° 12.0	08.0	196° 21.5	5.9	00.2	1.9	60°	02:36	03:42	04:29	06:25	07:47	09:21	
	07	297° 14.3	246° 59.2	43.4	166° 06.1	32.0	304° 47.9	22.1	116° 56.3	39.1	116° 56.3	39.1	116° 56.3	39.1	Alioth	166° 22.0	55° 54.1 N	270° 12.1	08.9	210° 46.4	5.9	24° 58.3 N	2.1	58°	02:53	03:52	04:36	06:28	08:06	09:36	
	08	312° 16.7	261° 58.6	44.3	181° 07.7	31.7	319° 49.9	21.9	131° 58.9	39.1	131° 58.9	39.1	131° 58.9	39.1	Alkaid	153° 00.1	49° 15.6 N	285° 12.3	09.8	225° 11.3	5.9	56.2	2.3	56°	03:08	04:01	04:43	07:07	08:22	09:48	
	09	327° 19.2	276° 58.0	45.2	196° 09.3	31.4	334° 51.8	21.7	147° 01.6	39.2	147° 01.6	39.2	147° 01.6	39.2	Alnair	27° 46.7	46° 54.5 S	300° 12.4	10.6	239° 36.2	5.9	53.9	2.4	58.2	03:20	04:09	04:48	07:22	08:36	09:59	
	10	342° 21.7	291° 57.3	46.1	211° 10.9	31.1	349° 53.8	21.5	162° 04.2	39.3	162° 04.2	39.3	162° 04.2	39.3	Alnilam	275° 48.9	1° 11.8 S	315° 12.5	11.5	254° 01.1	5.9	51.5	2.6	52°	03:30	04:16	04:53	07:36	08:48	10:08	
	11	357° 24.1	306° 56.7	47.0	226° 12.5	30.8	4° 55.7	21.3	177° 06.8	39.3	177° 06.8	39.3	177° 06.8	39.3	Alphard	217° 58.3	8° 42.4 S	330° 12.7	12.4	268° 26.0	5.9	48.9	2.7	50°	03:40	04:23	04:58	07:48	08:59	10:17	
	12	12° 26.6	321° 56.1	47.9	241° 14.1	30.5	19° 57.7	21.0	192° 09.4	39.4	192° 09.4	39.4	192° 09.4	39.4				345° 12.8	13.2	282° 50.9	5.9	46.2	2.9	45°	03:58	04:36	05:07	08:12	09:21	10:35	
	13	27° 29.1	336° 55.4	18° 48.7 N	256° 15.6	20° 30.3 N	34° 59.7	4° 20.8 S	207° 12.0	2° 39.4 N	207° 12.0	2° 39.4 N	207° 12.0	2° 39.4 N	Alphecca	126° 12.6	26° 40.6 N	0° 12.9	11° 14.1 N	297° 15.8	5.9	24° 43.3 N	3.0	58.2	N 40°	04:13	04:47	05:15	08:32	09:38	10:49
	14	42° 31.5	351° 54.8	49.6	271° 17.2	30.0	50° 01.6	20.6	222° 14.6	39.5	222° 14.6	39.5	222° 14.6	39.5	Alpheratz	357° 46.3	29° 08.8 N	15° 13.1	15.0	311° 40.7	6.0	40.3	3.2	35°	04:24	04:56	05:22	08:49	09:53	11:02	
	15	57° 34.0	6° 54.2	50.5	286° 18.8	29.7	65° 03.6	20.4	307° 17.2	39.5	307° 17.2	39.5	307° 17.2	39.5	Altair	62° 10.5	8° 53.6 N	326° 05.7	5.9	326° 05.7	5.9	37.1	3.4	58.3	30°	04:34	05:03	05:28	09:03	10:06	11:12
	16	72° 36.5	21° 53.6	51.4	301° 20.4	29.4	80° 05.6	20.2	252° 19.8	39.6	252° 19.8	39.6	252° 19.8	39.6	Ankaa	353° 18.3	42° 14.9 S	45° 13.3	16.7	340° 30.6	6.0	33.7	3.5	20°	04:49	05:16	05:38	09:27	10:28	11:31	
	17	87° 38.9	36° 52.9	52.3	316° 22.0	29.1	95° 07.5	20.0	267° 22.4	39.7	267° 22.4	39.7	267° 22.4	39.7	Antares	112° 28.8	26° 27.3 S	60° 13.5	17.5	354° 55.6	5.9	30.2	3.7	N 10°	05:01	05:26	05:47	09:48	10:47	11:47	
	18	102° 41.4	51° 52.3	53.1	331° 23.6	28.8	110° 09.5	19.8	282° 25.0	39.7	282° 25.0	39.7	282° 25.0	39.7				75° 13.6	18.4	9° 20.5	6.0	26.5	3.8	0°	05:10	05:34	05:56	10:07	11:05	12:02	
	19	117° 43.8	66° 51.7	54.0	346° 25.1	28.5	125° 11.5	19.6	297° 27.6	39.8	297° 27.6	39.8	297° 27.6	39.8	Arcturus	145° 57.5	19° 07.5 N	90° 13.7	19.3	23° 45.5	6.0	22.7	4.0	S 10°	05:18	05:42	06:04	10:27	11:23	12:16	
	20	132° 46.3	81° 51.0	54.9	1° 26.7	28.2	140° 13.4	19.4	312° 32.4	39.8	312° 32.4	39.8	312° 32.4	39.8	Arctria	107° 32.4	69° 02.6 S	107° 32.4	20.1	38° 10.5	6.1	18.7	4.2	58.4	20°	05:24	05:50	06:12	10:47	11:42	12:32
	21	147° 48.8	96° 50.4	55.8	16° 28.3	27.9	155° 15.4	19.2	327° 32.9	39.9	327° 32.9	39.9	327° 32.9	39.9	Avior	234° 19.0	59° 32.9 S	120° 14.0	21.0	52° 35.6	6.0	14.5	4.2	30°	05:30	05:58	06:22	11:12	12:04	12:50	
	22	162° 51.2	111° 49.8	56.6	31° 29.9	27.6	170° 17.4	19.0	342° 35.5	39.9	342° 35.5	39.9	342° 35.5	39.9	Bellatrix	278° 34.7	6° 21.5 N	135° 14.1	21.9	67° 00.6	6.1	10.3	4.5	35°	05:32	06:02	06:28	11:26	12:16	13:01	
23	177° 53.7	126° 49.2	57.5	46° 31.5	27.3	185° 19.3	18.8	357° 38.1	40.0	357° 38.1	40.0	357° 38.1	40.0	Betelgeuse	271° 04.0	7° 24.5 N	150° 14.4	23.6	81° 25.7	6.1	05.8	4.6	40°	05:35	06:06	06:34	11:42	12:31	13:13		
24	192° 56.2	141° 48.5	58.4	61° 33.0	27.0	200° 21.3	18.6	12° 40.7	40.1	12° 40.7	40.1	12° 40.7	40.1				165° 14.4	23.6	95° 50.8	6.1	01.2	4.8	45°	05:37	06:11	06:41	12:02	12:48	13:27		
Tuesday	00	207° 58.6	156° 47.9	18° 59.3 N	76° 34.6	20° 26.7 N	215° 23.3	4° 18.4 S	27° 43.3	2° 40.1 N	27° 43.3	2° 40.1 N	27° 43.3	2° 40.1 N	Canopus	263° 57.4	52° 42.4 S	180° 14.5	11° 24.4 N	110° 15.9	6.1	23° 56.4 N	4.9	58.4	S 50°	05:39	06:17	06:50	12:26	13:10	13:44
	01	223° 01.1	171° 47.3	19° 00.1 N	91° 36.2	26.4	230° 25.3	18.2	42° 45.9	40.2	42° 45.9	40.2	42° 45.9	40.2	Capella	280° 38.2	46° 00.6 N	195° 14.7	25.3	124° 41.0	6.2	51.5	5.0	58.5	S 52°	05:40	06:19	06:54	12:38	13:20	13:52
	02	238° 03.6	186° 46.6	01.0	106° 37.8	26.1	245° 27.2	18.0	57° 48.5	40.2	57° 48.5	40.2	57° 48.5	40.2	Deneb	49° 33.2	45° 18.8 N	210° 14.8	26.2	139° 06.2	6.2	46.5	5.2	54°	05:40	06:22	06:58	12:51	13:31	14:01	
	03	253° 06.0	201° 46.0	01.9	121° 39.4	25.8	260° 29.2	17.8	72° 51.1	40.3	72° 51.1	40.3	72° 51.1	40.3	Denebola	182° 35.7	14° 30.7 N	225° 14.4	27.0	153° 31.4	6.3	41.3	5.4	56°	05:41	06:24	07:03	13:07	13:45	14:11	
	04	268° 08.5	216° 45.4	02.7	136° 40.9	25.5	275° 31.2	17.5	87° 53.7	40.3	87° 53.7	40.3	87° 53.7	40.3	Diphda	348° 58.5	17° 55.8 S	240° 15.1	27.9	167° 56.7	6.2	35.9	5.5	58°	05:42	06:28	07:08	13:25	14:00	14:22	
	05	283° 10.9	231° 44.7	03.6	151° 42.5	25.2	290° 33.1	17.3	102° 56.3	40.4	102° 56.3	40.4	102° 56.3	40.4				255° 15.2	28.7	182° 21.9	6.3	30.4	5.7	S 60°	05:42	06:31	07:14	13:47	14:18	14:35	
	06	298° 13.4	246° 44.1	04.5	166° 44.1	24.9	305° 35.1	17.1	117° 58.9	40.5	117° 58.9	40.5	117° 58.9	40.5	Dubhe	193° 53.8	61° 41.8 N	270° 15.3	29.6	196° 47.2	6.3	24.7	5.8	S 52°	05:43	06:35	07:21	14:17	14:39	14:50	
	07	313° 15.9	261° 43.4	05.3	181° 45.7	24.6	320° 37.1	16.9	133° 01.5	40.5	133° 01.5	40.5	133° 01.5	40.5	Elmath	278° 15.8	28° 37.0 N	285° 15.5	30.4	211° 12.5	6.4	18.9	6.0	58.6							
	08	328° 18.3	276° 42.8	06.2	196° 47.2	24.3	335° 39.1	16.7	148° 04.1	40.6	148° 04.1	40.6	148° 04.1																		

2010 April 22, 23, 24 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -2.1			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise			
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	22	23	24	22	23	24			
Thurs day	00	209° 56.9	156° 17.0	19° 40.1 N	77° 49.8	20° 12.3 N	216° 57.9	4° 08.5 S	29° 48.3	2° 42.8 N	Acamar	315° 20.4	40° 15.8 S	180° 20.7	12° 05.3 N	83° 10.6	8.4	17° 22.0 N	11.2	59.2	N 70°	-	-	02:51	08:52	11:38	13:58						
	01	224° 59.4	171° 16.3	40.9	92° 51.3	12.0	231° 59.8	08.3	44° 50.9	42.8	Acnarnar	335° 28.9	57° 11.0 S	195° 20.8	06.2	97° 38.0	8.5	10.8	11.1	68°	-	01:31	03:16	09:32	11:54	14:03							
	02	240° 01.8	186° 15.7	41.8	107° 52.9	11.7	247° 01.8	08.1	59° 53.5	42.9	Acrux	173° 11.5	63° 09.7 S	210° 20.9	07.0	112° 05.5	8.5	16° 59.4 N	11.5	66°	-	02:41	03:49	10:19	12:16	14:09							
	03	255° 04.3	201° 15.0	42.6	122° 54.4	11.4	262° 03.8	07.9	74° 56.1	43.0	Adhara	255° 14.5	28° 59.4 S	225° 21.1	07.8	126° 33.0	8.6	47.9	11.6	64°	01:19	03:02	04:02	10:36	12:25	14:12							
	04	270° 06.8	216° 14.4	43.4	137° 56.0	11.1	277° 05.7	07.7	89° 58.7	43.0	Aldebaran	290° 52.3	16° 31.8 N	240° 21.2	08.7	141° 00.6	8.6	36.3	11.7	59.3	62°	01:57	03:18	04:12	10:49	12:32	14:14						
	05	285° 09.2	231° 13.7	44.2	152° 57.5	10.8	292° 07.7	07.5	105° 01.3	43.1				255° 21.3	09.5	155° 28.2	8.7	24.6	11.8	60°	02:23	03:32	04:21	11:00	12:39	14:16							
	06	300° 11.7	246° 13.1	45.1	167° 59.1	10.4	307° 09.7	07.3	120° 03.9	43.1	Alioth	166° 22.0	55° 54.2 N	270° 21.4	10.4	169° 55.9	8.7	12.8	11.9	58°	02:42	03:43	04:28	11:10	12:44	14:18							
	07	315° 14.2	261° 12.4	45.9	183° 00.6	10.1	322° 11.7	07.1	135° 06.5	43.2	Alkaid	153° 00.1	49° 15.6 N	285° 21.5	11.2	184° 23.6	8.8	00.9	12.0	56°	02:58	03:53	04:35	11:18	12:49	14:19							
	08	330° 16.6	276° 11.7	46.7	198° 02.2	09.8	337° 13.6	06.9	150° 09.1	43.2	Alnair	27° 46.7	46° 54.4 S	300° 21.7	12.1	198° 51.4	8.8	15° 48.9 N	12.1	54°	03:11	04:02	04:41	11:26	12:53	14:21							
	09	345° 19.1	291° 11.1	47.5	213° 03.7	09.5	352° 15.6	06.7	165° 11.7	43.3	Alnilam	275° 48.9	1° 11.8 S	315° 21.8	12.9	213° 19.2	8.9	36.8	12.2	52°	03:23	04:10	04:47	11:32	12:57	14:22							
	10	0° 21.5	306° 10.4	48.3	228° 05.3	09.2	7° 17.6	06.5	180° 14.3	43.3	Alphard	217° 58.3	8° 42.4 S	330° 21.9	13.7	227° 47.1	9.0	24.6	12.2	50°	03:32	04:16	04:52	11:39	13:01	14:23							
	11	15° 24.0	321° 09.8	49.2	243° 06.8	08.9	22° 19.6	06.3	195° 17.0	43.4				345° 22.0	14.6	242° 15.1	9.0	12.4	12.4	45°	03:52	04:31	05:02	11:51	13:09	14:25							
	12	30° 26.5	336° 09.1	19° 50.0 N	258° 08.4	20° 08.6 N	37° 21.5	4° 06.1 S	210° 19.6	2° 43.4 N	Alphecca	126° 12.6	26° 40.6 N	0° 22.2	12° 15.4 N	256° 43.1	9.0	15° 00.0 N	12.5	59.4	N 40°	04:08	04:42	05:11	12:02	13:15	14:28						
	13	45° 28.9	351° 08.4	50.8	273° 09.9	08.3	52° 23.5	05.9	225° 22.2	43.5	Alpheratz	357° 46.3	29° 08.8 N	15° 22.3	16.2	271° 11.1	9.2	47.5	12.7	35°	04:20	04:52	05:18	12:11	13:20	14:29							
	14	60° 31.4	6° 07.8	51.6	288° 11.5	08.0	67° 25.5	05.7	240° 24.8	43.6	Altair	62° 10.4	8° 53.6 N	30° 22.4	17.1	285° 39.3	9.1	35.0	12.5	30°	04:31	05:00	05:25	12:19	13:25	14:31							
	15	75° 33.9	21° 07.1	52.4	303° 13.0	07.7	82° 27.5	05.5	255° 27.0	43.6	Ankaa	353° 18.2	42° 14.9 S	45° 22.5	17.9	300° 07.4	9.2	22.3	12.7	20°	04:47	05:14	05:36	12:33	13:34	14:34							
	16	90° 36.3	36° 06.5	53.3	318° 14.6	07.4	97° 29.4	05.3	270° 30.4	43.7	Antares	112° 28.8	26° 27.4 S	60° 22.6	18.8	314° 35.6	9.3	09.6	12.8	10°	04:59	05:24	05:46	12:45	13:41	14:36							
	17	105° 38.8	51° 05.8	54.1	333° 16.1	07.1	112° 31.4	05.1	285° 32.6	43.7				75° 22.8	19.6	329° 03.9	9.3	13° 56.8 N	12.9	0°	05:09	05:34	05:55	12:56	13:48	14:38							
	18	120° 41.3	66° 05.1	54.9	348° 17.7	06.8	127° 33.4	04.9	300° 35.2	43.8	Arcturus	145° 57.5	19° 07.5 N	90° 22.9	20.4	343° 32.2	9.3	43.9	13.0	S 10°	05:18	05:42	06:04	13:07	13:54	14:40							
	19	135° 43.7	81° 04.5	55.7	3° 19.2	06.4	142° 35.4	04.7	315° 37.8	43.8	Arctia	107° 32.4	69° 02.6 S	105° 23.0	21.3	358° 00.5	9.4	30.9	13.1	30°	05:25	05:51	06:13	13:19	14:02	14:43							
	20	150° 46.2	96° 03.8	56.5	18° 20.7	06.1	157° 37.3	04.5	330° 40.4	43.9	Avior	234° 19.1	59° 32.9 S	120° 23.1	22.1	12° 28.9	9.5	17.8	13.1	30°	05:31	05:59	06:24	13:32	14:10	14:46							
	21	165° 48.7	111° 03.2	57.3	33° 22.3	05.8	172° 39.3	04.3	345° 43.0	43.9	Bellatrix	278° 34.7	6° 21.5 N	135° 23.2	22.9	26° 57.4	9.5	04.7	13.3	35°	05:34	06:04	06:30	13:40	14:15	14:47							
	22	180° 51.1	126° 02.5	58.1	48° 23.8	05.5	187° 41.3	04.5	0° 45.6	44.0	Betelgeuse	271° 04.0	7° 24.5 N	150° 23.4	23.8	41° 25.9	9.5	12° 51.4 N	13.3	59.5	05:37	06:09	06:37	13:48	14:20	14:49							
23	195° 53.6	141° 01.8	58.9	63° 25.4	05.2	202° 43.3	03.9	15° 48.2	44.0				165° 23.5	24.6	55° 54.4	9.6	38.1	13.3	45°	05:40	06:15	06:45	13:59	14:26	14:51								
Fri day	00	210° 56.0	156° 01.2	19° 59.7 N	78° 26.9	20° 04.9 N	217° 45.2	4° 03.7 S	30° 50.8	2° 44.1 N	Canopus	263° 57.4	52° 42.4 S	180° 23.6	12° 25.5 N	70° 23.0	9.7	12° 24.8 N	13.5	59.5	S 50°	05:43	06:21	06:54	14:11	14:33	14:53						
	01	225° 58.5	171° 00.5	20° 00.5 N	93° 28.5	04.6	232° 47.2	03.5	45° 53.4	44.1	Capella	280° 38.2	46° 00.6 N	195° 23.7	26.3	84° 51.7	9.7	11.3	13.5	52°	05:44	06:24	06:59	14:17	14:37	14:55							
	02	241° 01.0	185° 59.8	01.4	108° 30.0	04.3	247° 49.2	03.3	60° 56.0	44.2	Deneb	49° 33.2	45° 18.8 N	210° 23.8	27.1	99° 20.4	9.7	11° 57.8 N	13.6	54°	05:45	06:27	07:03	14:23	14:40	14:56							
	03	256° 03.4	200° 59.2	02.2	123° 31.5	04.0	262° 51.2	03.6	75° 58.6	44.2	Denebola	182° 35.7	14° 30.7 N	225° 24.0	28.0	113° 49.1	9.8	44.2	13.7	56°	05:46	06:30	07:09	14:30	14:44	14:57							
	04	271° 05.9	215° 58.5	03.0	138° 33.1	03.7	277° 53.1	02.9	91° 01.2	44.3	Diphda	348° 58.5	17° 55.8 S	240° 24.1	28.8	128° 17.9	9.8	30.5	13.7	58°	05:48	06:34	07:15	14:37	14:49	14:59							
	05	286° 08.4	230° 57.8	03.8	153° 34.6	03.4	292° 55.1	02.7	106° 03.8	44.4				255° 24.2	29.6	142° 46.7	9.8	16.8	13.8	S 60°	05:49	06:38	07:22	14:46	14:54	15:00							
	06	301° 10.8	245° 57.2	04.6	168° 36.2	03.0	307° 57.1	02.4	121° 06.4	44.4	Dubhe	193° 53.8	61° 41.8 N	270° 24.3	30.5	157° 15.5	9.9	03.0	13.9	S 52°	05:50	06:42	07:29	14:56	15:00	15:02							
	07	316° 13.3	260° 56.5	05.4	183° 37.7	02.7	322° 59.1	02.0	136° 09.0	44.5	Elnath	278° 15.8	28° 37.0 N	285° 24.4	31.3	171° 44.4	10.0	10° 49.1 N	13.9	59.6	Lat	Sunset	Twilight		Moonset								
	08	331° 15.8	275° 55.8	06.2	198° 39.2	02.4	338° 01.0	02.4	151° 11.6	44.5	Elainin	90° 46.9	51° 29.0 N	300° 24.6	32.1	186° 13.4	9.9	35.2	14.1	59.6				22	23	24							
	09	346° 18.2	290° 55.2	07.0	213° 40.8	02.1	353° 03.0	01.8	166° 14.2	44.6	Enif	33° 49.5	9° 55.3 N	315° 24.7	33.0	200° 42.3	10.1	21.1	14.0														
	10	1° 20.7	305° 54.5	07.8	228° 42.3	01.8	8° 05.0	01.6	181° 16.7	44.6	Fomalhaut	15° 26.7	29° 33.9 S	330° 24.8	33.8	215° 11.4	10.0	07.1	14.1														
	11	16° 23.2	320° 53.8	08.6	243° 43.8	01.5	23° 07.0	01.4																									

Main data table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight, Sunrise, Moonrise. Includes sub-headers for specific data points and a detailed twilight section.

2010 May 1, 2, 3 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -2.1			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise													
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	Sunrise	1	2	3	1	2	3	1	2	3									
1 S a t u r d a y	00	218° 49.2	153° 45.4	22° 16.9 N	83° 14.3	19° 02.0 N	224° 06.7	3° 25.7 S	39° 07.7	2° 53.2 N	Acamar	315° 20.4	40° 15.8 S	180° 42.7	14° 58.7 N	328° 54.1	7.4	24° 52.4 S	1.9	56.9	N 70°	-	-	01:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	01	233° 51.6	168° 44.7	17.5	98° 15.7	01.6	239° 08.7	25.5	54° 10.3	53.3	Acnarnar	335° 28.9	57° 10.9 S	195° 42.8	59.5	343° 20.5	7.4	54.2	1.9	68°	N 68°	-	-	00:57	02:26	02:53	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	02	248° 54.1	183° 43.9	18.2	113° 17.2	01.3	254° 10.7	25.3	69° 12.9	53.3	Acrux	173° 11.5	63° 09.7 S	210° 42.9	15° 00.3 S	357° 46.9	7.5	56.2	1.6	56.8	N 66°	-	-	01:50	03:14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03	263° 56.5	198° 43.2	18.8	128° 18.7	00.9	269° 12.7	25.1	84° 15.4	53.3	Adhara	255° 14.5	28° 59.4 S	225° 42.9	01.0	12° 13.4	7.4	57.8	1.5	64°	N 64°	-	-	02:21	03:31	00:59	01:56	02:11	00:59	01:56	02:11	00:59	01:56	02:11	00:59	01:56	02:11	00:59	01:56	02:11	00:59	01:56	02:11
	04	278° 59.0	213° 42.4	19.4	143° 20.1	00.6	284° 14.7	24.9	99° 18.0	53.4	Aldebaran	290° 52.3	16° 31.8 N	240° 43.0	01.8	26° 39.8	7.6	59.3	1.4	62°	N 62°	00:50	02:44	03:44	00:10	01:07	01:36	00:10	01:07	01:36	00:10	01:07	01:36	00:10	01:07	01:36	00:10	01:07	01:36	00:10	01:07	01:36	
	05	294° 01.5	228° 41.7	20.0	158° 21.6	00.3	299° 16.7	24.7	114° 20.6	53.4				255° 43.1	02.5	41° 06.4	7.5	25° 00.7 S	1.3	56.7	N 60°	01:38	03:02	03:56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	06	309° 03.9	243° 40.9	20.6	173° 23.0	18° 59.9 N	314° 18.7	24.5	129° 23.2	53.5	Alioth	166° 22.0	55° 54.2 N	270° 43.2	03.3	55° 32.9	7.6	02.0	1.0	60°	N 58°	02:06	03:17	04:06	04:06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	07	324° 06.4	258° 40.2	21.2	188° 24.5	59.6	329° 20.7	24.3	144° 25.7	53.5	Alkaid	153° 00.1	49° 15.6 N	285° 43.2	04.0	69° 59.5	7.6	03.0	1.0	54°	N 54°	02:28	03:30	04:14	23:53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	08	339° 08.9	273° 39.4	21.8	203° 25.9	59.2	344° 22.7	24.2	159° 28.3	53.5	Alnair	27° 46.6	46° 54.4 S	300° 43.3	04.8	84° 26.1	7.6	04.0	0.8	56.6	N 54°	02:45	03:40	04:22	23:38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	09	354° 11.3	288° 38.7	22.4	218° 27.9	59.2	359° 24.7	24.0	174° 30.9	53.6	Alnilam	275° 48.9	1° 11.8 S	315° 43.4	05.6	98° 52.7	7.7	04.8	0.6	52°	N 52°	02:59	03:50	04:29	23:24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10	9° 13.8	303° 37.9	23.0	233° 28.8	58.5	14° 26.7	23.8	189° 33.5	53.6	Alphard	217° 58.3	8° 42.4 S	330° 43.5	06.3	113° 19.4	7.7	05.4	0.5	50°	N 50°	03:11	03:58	04:35	23:12	23:56	24:31	23:12	23:56	24:31	23:12	23:56	24:31	23:12	23:56	24:31	23:12	23:56	24:31	23:12	23:56	24:31	
	11	24° 16.3	318° 37.2	23.6	248° 30.3	58.2	29° 28.7	23.6	204° 36.0	53.7				345° 43.6	07.1	127° 46.1	7.7	05.9	0.4	45°	N 45°	03:36	04:16	04:48	22:47	23:33	24:11	22:47	23:33	24:11	22:47	23:33	24:11	22:47	23:33	24:11	22:47	23:33	24:11	22:47	23:33	24:11	
	12	39° 18.7	333° 36.4	22° 24.2 N	263° 31.7	18° 57.8 N	44° 30.7	3° 23.4 S	219° 38.6	2° 53.7 N	Alphecca	126° 12.6	26° 40.6 N	0° 43.6	15° 07.8 N	142° 12.8	7.8	25° 06.3 S	0.2	56.5	N 40°	03:54	04:30	04:59	22:27	23:15	23:55	22:27	23:15	23:55	22:27	23:15	23:55	22:27	23:15	23:55	22:27	23:15	23:55	22:27	23:15	23:55	
	13	54° 21.2	348° 35.7	24.8	278° 33.2	57.5	59° 32.7	23.2	234° 41.2	53.8	Alpheratz	357° 46.2	29° 08.8 N	15° 43.7	08.6	156° 39.6	7.8	06.5	0.1	35°	N 35°	04:09	04:41	05:08	22:11	22:59	23:49	22:11	22:59	23:49	22:11	22:59	23:49	22:11	22:59	23:49	22:11	22:59	23:49	22:11	22:59	23:49	
	14	69° 23.7	3° 34.9	25.5	293° 34.6	57.1	74° 34.7	23.0	249° 43.8	53.8	Altair	62° 10.4	8° 53.6 N	30° 43.8	09.3	171° 06.4	7.8	06.6	0.1	30°	N 30°	04:21	04:51	05:16	21:56	22:46	23:24	21:56	22:46	23:24	21:56	22:46	23:24	21:56	22:46	23:24	21:56	22:46	23:24	21:56	22:46	23:24	
	15	84° 26.1	18° 34.2	26.1	308° 36.1	56.8	89° 36.7	22.8	264° 46.3	53.8	Ankaa	353° 18.2	42° 14.8 S	45° 43.9	10.1	185° 33.2	7.9	06.5	0.2	56.4	N 20°	04:40	05:07	05:30	21:32	22:23	23:09	21:32	22:23	23:09	21:32	22:23	23:09	21:32	22:23	23:09	21:32	22:23	23:09	21:32	22:23	23:09	
	16	99° 28.6	33° 33.4	26.7	323° 37.5	56.4	104° 38.7	22.6	279° 48.9	53.9	Antares	112° 28.8	26° 27.4 S	60° 43.9	10.8	200° 00.1	8.0	06.3	0.2	56.4	N 10°	04:55	05:21	05:42	21:11	22:03	22:51	21:11	22:03	22:51	21:11	22:03	22:51	21:11	22:03	22:51	21:11	22:03	22:51	21:11	22:03	22:51	
	17	114° 31.0	48° 32.7	27.3	338° 39.0	56.1	119° 40.7	22.4	294° 51.5	53.9				75° 44.0	11.6	214° 27.1	8.0	06.0	0.5	56.3	N 0°	05:07	05:32	05:54	20:51	21:44	22:35	20:51	21:44	22:35	20:51	21:44	22:35	20:51	21:44	22:35	20:51	21:44	22:35	20:51	21:44	22:35	
	18	129° 33.5	63° 31.9	27.9	353° 40.4	55.7	134° 42.7	22.2	309° 54.1	54.0	Arcturus	145° 57.4	19° 07.6 N	90° 44.1	12.3	228° 54.1	8.0	05.5	0.6	56.3	S 10°	05:18	05:43	06:05	20:32	21:26	22:18	20:32	21:26	22:18	20:32	21:26	22:18	20:32	21:26	22:18	20:32	21:26	22:18	20:32	21:26	22:18	
	19	144° 36.0	78° 31.2	28.4	8° 41.9	55.4	149° 44.7	22.0	324° 56.6	54.0	Atria	107° 32.2	69° 02.7 S	105° 44.1	13.1	243° 21.1	8.1	04.9	0.8	56.3	N 20°	05:27	05:53	06:16	20:11	21:06	22:00	20:11	21:06	22:00	20:11	21:06	22:00	20:11	21:06	22:00	20:11	21:06	22:00	20:11	21:06	22:00	
	20	159° 38.4	93° 30.4	29.0	23° 43.3	55.0	164° 46.7	21.9	339° 59.2	54.0	Avior	234° 19.2	59° 32.9 S	120° 44.2	13.8	257° 48.2	8.1	04.1	0.9	56.3	N 30°	05:36	06:05	06:29	19:46	20:43	21:40	19:46	20:43	21:40	19:46	20:43	21:40	19:46	20:43	21:40	19:46	20:43	21:40	19:46	20:43	21:40	
	21	174° 40.9	108° 29.7	29.6	38° 44.8	54.7	179° 48.7	21.7	355° 01.8	54.1	Bellatrix	278° 34.7	6° 21.5 N	135° 44.3	14.6	272° 15.3	8.2	03.2	1.1	56.2	N 35°	05:41	06:11	06:37	19:32	20:29	21:28	19:32	20:29	21:28	19:32	20:29	21:28	19:32	20:29	21:28	19:32	20:29	21:28	19:32	20:29	21:28	
	22	189° 43.4	123° 28.9	30.2	53° 46.2	54.3	194° 50.7	21.5	194° 50.7	54.1	Betelgeuse	271° 04.0	7° 24.5 N	150° 44.4	15.3	286° 42.5	8.2	02.1	1.1	56.2	N 40°	05:45	06:17	06:46	19:15	20:13	21:14	19:15	20:13	21:14	19:15	20:13	21:14	19:15	20:13	21:14	19:15	20:13	21:14	19:15	20:13	21:14	
23	204° 45.8	138° 28.1	30.8	68° 47.7	54.0	209° 52.7	21.3	25° 06.9	54.2				165° 44.4	16.1	301° 09.7	8.3	01.0	1.4	45°	N 45°	05:50	06:25	06:56	18:56	19:55	20:57	18:56	19:55	20:57	18:56	19:55	20:57	18:56	19:55	20:57	18:56	19:55	20:57	18:56	19:55	20:57		
2 S u n d a y	00	219° 48.3	153° 27.4	22° 31.4 N	83° 49.1	18° 53.6 N	224° 54.7	3° 21.1 S	40° 09.5	2° 54.2 N	Capella	263° 57.5	52° 42.3 S	180° 44.5	15° 16.8 N	315° 37.0	8.3	24° 59.6 S	1.4	56.2	S 50°	05:55	06:34	07:08	18:31	19:31	20:37	18:31	19:31	20:37	18:31	19:31	20:37	18:31	19:31	20:37	18:31	19:31	20:37	18:31	19:31	20:37	
	01	234° 50.8	168° 26.6	32.0	98° 50.6	53.3	239° 56.7	20.9	55° 12.1	54.2	Canopus	280° 38.2	46° 00.6 N	195° 44.6	17.6	330° 04.3	8.4	58.2	1.6	56.1	S 5																						

2010 May 7, 8, 9 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +0.8			JUPITER -2.2			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	7	8	9					
Friday	00	224° 44.0	151° 54.2	23° 34.5 N	86° 40.0	18° 10.3 N	228° 55.9	2° 58.5 S	45° 17.3	2° 58.6 N	Acamar	315° 20.4	40° 15.8 S	180° 51.4	16° 43.5 N	258° 20.1	15.9	9° 53.7 S	11.7	54.2	N 70°	-	-	00:28	02:54	02:29	02:05					
	01	229° 46.5	166° 53.4	34.9	101° 41.4	09.9	243° 57.9	58.4	60° 19.9	58.6	Acnarnar	335° 28.8	57° 10.9 S	195° 51.5	44.2	272° 55.0	15.8	42.0	11.7	68°	N 70°	-	-	01:47	02:40	02:22	02:06					
	02	254° 48.9	181° 52.6	35.4	116° 42.8	09.5	259° 00.0	58.2	75° 22.4	58.6	Acrux	173° 11.6	63° 09.7 S	210° 51.5	44.9	287° 29.8	16.0	30.3	11.7	66°	N 68°	-	01:05	02:50	02:19	02:13	02:07					
	03	269° 51.4	196° 51.8	35.8	131° 44.2	09.2	274° 02.0	58.0	90° 25.0	58.6	Adhara	255° 14.5	28° 59.4 S	225° 51.6	45.6	302° 04.8	15.9	18.6	11.8	64°	N 64°	-	01:51	03:10	02:11	02:09	02:07					
	04	284° 53.8	211° 51.0	36.3	146° 45.6	08.8	289° 04.0	57.8	105° 27.5	58.7	Aldebaran	290° 52.3	16° 31.8 N	240° 51.6	46.3	316° 39.7	16.0	06.8	11.9	62°	N 62°	-	02:21	03:26	02:04	02:06	02:07					
	05	299° 56.3	226° 50.2	36.7	161° 47.0	08.4	304° 06.0	57.6	120° 30.1	58.7				255° 51.7	47.0	331° 14.7	16.0	8° 54.9 S	11.8	54.3	60°	00:58	02:42	03:40	01:58	02:03	02:07					
	06	314° 58.8	241° 49.4	37.2	176° 48.4	08.1	319° 08.0	57.4	135° 32.7	58.7	Alioth	166° 22.0	55° 54.2 N	270° 51.7	47.6	345° 49.7	16.1	43.1	11.9	58°	N 58°	01:40	03:00	03:51	01:53	02:00	02:07					
	07	330° 01.2	256° 48.6	37.6	191° 49.8	07.7	334° 10.1	57.3	150° 35.2	58.8	Alkaid	153° 00.1	49° 15.6 N	285° 51.7	48.3	0° 24.8	16.0	31.2	11.9	56°	N 56°	02:07	03:14	04:01	01:48	01:58	02:08					
	08	345° 03.7	271° 47.8	38.1	206° 51.2	07.3	349° 12.1	57.1	165° 37.8	58.8	Alnair	27° 46.6	46° 54.4 S	300° 51.8	49.0	14° 59.8	16.1	19.3	12.0	54°	N 54°	02:27	03:27	04:10	01:44	01:56	02:08					
	09	0° 06.2	286° 47.0	38.5	221° 52.6	06.9	4° 14.1	56.9	180° 40.3	58.8	Alnilam	275° 48.9	1° 11.8 S	315° 51.8	49.7	29° 34.9	16.1	07.3	12.0	52°	N 52°	02:44	03:38	04:18	01:40	01:54	02:08					
	10	15° 08.6	301° 46.2	39.0	236° 54.0	06.6	19° 16.1	56.7	195° 42.9	58.9	Alphard	217° 58.3	8° 42.4 S	330° 51.9	50.4	44° 10.0	16.1	7° 55.3 S	12.0	50°	N 50°	02:58	03:47	04:25	01:36	01:53	02:08					
	11	30° 11.1	316° 45.4	39.4	251° 55.4	06.2	34° 18.1	56.5	210° 45.4	58.9				345° 51.9	51.1	58° 45.1	16.2	43.3	12.1	45°	N 45°	03:25	04:07	04:40	01:29	01:49	02:08					
	12	45° 13.6	331° 44.6	23° 39.9 N	266° 56.8	18° 05.8 N	49° 20.2	2° 56.3 S	225° 48.0	2° 58.9 N	Alphecca	126° 12.5	26° 40.6 N	0° 51.9	16° 51.8 N	73° 20.3	16.1	7° 31.2 S	12.1	54.3	N 40°	03:45	04:22	04:52	01:22	01:46	02:09					
	13	60° 16.0	346° 43.8	40.3	281° 58.2	05.4	64° 22.2	56.2	240° 50.5	59.0	Alpheratz	357° 46.2	29° 08.8 N	15° 52.0	52.5	87° 55.4	16.2	19.1	12.1	35°	N 35°	04:02	04:35	05:03	01:17	01:43	02:09					
	14	75° 18.5	1° 43.0	40.7	296° 59.6	05.1	79° 24.2	56.0	255° 53.1	59.0	Altair	62° 10.3	8° 53.6 N	30° 52.0	53.2	102° 30.6	16.2	07.0	12.1	30°	N 30°	04:15	04:46	05:12	01:12	01:41	02:09					
	15	90° 21.0	16° 42.2	41.2	312° 01.0	04.7	94° 26.2	55.8	270° 55.7	59.0	Ankaa	353° 18.2	42° 14.8 S	45° 52.1	53.8	117° 05.8	16.2	6° 54.9 S	12.2	20°	N 20°	04:36	05:04	05:27	01:03	01:36	02:09					
	16	105° 23.4	31° 41.4	41.6	327° 02.4	04.3	109° 28.2	55.6	285° 58.2	59.0	Antares	112° 28.7	26° 27.4 S	60° 52.1	54.5	131° 41.0	16.3	42.7	12.2	10°	N 10°	04:53	05:18	05:41	00:56	01:33	02:10					
	17	120° 25.9	46° 40.6	42.1	342° 03.8	03.9	124° 30.3	55.4	301° 00.8	59.1				75° 52.1	55.2	146° 16.3	16.2	30.5	12.3	0°	N 0°	05:06	05:31	05:53	00:48	01:29	02:10					
	18	135° 28.3	61° 39.8	42.5	357° 05.2	03.6	139° 32.3	55.2	316° 03.3	59.1	Arcturus	145° 57.4	19° 07.6 N	90° 52.2	55.9	160° 51.5	16.3	18.2	12.2	10°	S 10°	05:18	05:43	06:05	00:41	01:26	02:10					
	19	150° 30.8	76° 39.0	42.9	12° 06.6	03.2	154° 34.3	55.1	331° 05.9	59.2	Alraia	107° 32.2	69° 02.7 S	105° 52.2	56.6	175° 26.8	16.3	06.0	12.2	20°	S 20°	05:29	05:55	06:18	00:34	01:22	02:11					
	20	165° 33.3	91° 38.2	43.4	27° 08.0	02.8	169° 36.3	54.9	346° 08.4	59.2	Avior	234° 19.2	59° 32.9 S	120° 52.3	57.3	190° 02.1	16.3	5° 53.7 S	12.3	30°	S 30°	05:40	06:08	06:33	00:25	01:18	02:11					
	21	180° 35.7	106° 37.4	43.8	42° 09.4	02.4	184° 38.3	54.7	1° 11.0	59.2	Bellatrix	278° 34.7	6° 21.5 N	135° 52.3	58.0	204° 37.4	16.3	41.4	12.3	35°	S 35°	05:45	06:15	06:42	00:20	01:15	02:11					
	22	195° 38.2	121° 36.6	44.2	57° 10.8	02.1	199° 40.0	54.5	16° 13.5	59.2	Betelgeuse	271° 04.0	7° 24.5 N	150° 52.3	58.6	219° 12.7	16.3	29.1	12.4	40°	S 40°	05:50	06:23	06:52	00:14	01:13	02:12					
23	210° 40.7	136° 35.8	44.7	72° 12.2	01.7	214° 42.4	54.3	31° 16.1	59.3				165° 52.4	59.3	233° 48.0	16.3	16.7	12.4	45°	S 45°	05:56	06:32	07:03	00:07	01:09	02:12						
Saturday	00	225° 43.1	151° 35.0	23° 45.1 N	87° 13.6	18° 01.3 N	229° 44.4	2° 54.1 S	46° 18.6	2° 59.3 S	Canopus	263° 57.5	52° 42.3 S	180° 52.4	17° 00.0 N	248° 23.3	16.3	5° 04.3 S	12.4	54.3	S 50°	06:03	06:42	07:17	-	01:06	02:12					
	01	240° 45.6	166° 34.2	45.5	102° 15.0	00.9	244° 46.4	54.0	61° 21.2	49.3	Capella	280° 38.2	46° 00.6 N	195° 52.4	40.7	262° 58.6	16.4	4° 51.9 S	12.4	54.4	S 52°	06:06	06:46	07:23	-	01:04	02:12					
	02	255° 48.1	181° 33.4	46.0	117° 16.4	00.5	259° 48.4	53.8	76° 23.7	49.4	Deneb	49° 33.0	45° 18.8 N	210° 52.5	01.4	277° 34.0	16.3	39.5	12.5	54°	S 54°	06:09	06:51	07:30	-	01:02	02:13					
	03	270° 50.5	196° 32.6	46.4	132° 17.8	00.2	274° 50.5	53.6	91° 26.3	49.4	Denebola	182° 35.7	14° 30.7 N	225° 52.5	02.1	292° 09.3	16.4	27.0	12.4	56°	S 56°	06:12	06:57	07:38	-	01:00	02:13					
	04	285° 53.0	211° 31.8	46.8	147° 19.2	17° 59.8 N	289° 52.5	53.4	106° 28.9	49.4	Diphda	348° 58.4	17° 55.7 S	240° 52.5	02.7	306° 44.7	16.3	14.6	12.5	58°	S 58°	06:15	07:03	07:47	-	00:57	02:13					
	05	300° 55.4	226° 31.0	47.2	162° 20.6	59.0	304° 54.5	53.2	121° 31.4	49.5				255° 52.6	03.4	321° 20.0	16.4	02.1	12.6	60°	S 60°	06:19	07:10	07:57	-	00:55	02:13					
	06	315° 57.9	241° 30.2	47.7	177° 22.0	59.4	319° 56.5	53.0	136° 34.0	49.5	Dubhe	193° 54.0	61° 41.8 N	270° 52.6	04.1	335° 55.4	16.3	3° 49.6 S	12.5	62°	S 62°	06:23	07:17	08:09	-	00:52	02:14					
	07	331° 00.4	256° 29.4	48.1	192° 23.4	58.7	334° 58.6	52.9	151° 36.5	49.5	Elnath	278° 15.8	28° 37.0 N	285° 52.7	04.8	350° 30.7	16.4	37.0	12.5	64°	S 64°	06:26	07:20	08:12	-	00:50	02:14					
	08	346° 02.8	271° 28.6	48.5	207° 24.8	58.3	350° 00.6	52.7	166° 39.1	49.6	Elainin	90° 46.8	51° 29.0 N	300° 52.7	05.5	5° 06.1	16.4	24.5	12.6	66°	S 66°	06:29	07:23	08:15	-	00:48	02:14					
	09	1° 05.3	286° 27.8	48.9	222° 26.1	57.9	5° 02.6	52.5	181° 41.6	49.6	Enif	33° 49.4	9° 55.3 N	315° 52.7	06.1	19° 41.5	16.3	11.9	12.6	68°	S 68°	06:32	07:26	08:18	-	00:46	02:14					
	10	16° 07.8	301° 26.9	49.3	237° 27.5	57.5	20° 04.6	52.3	196° 44.2	49.6	Fomalhaut	15° 26.6	29° 33.9 S	330° 52.8	06.8	34° 16.8	16.4	2° 59.3 S	12.6	70°	S 70°	06:35	07:29	08:21	-	00:44	02:14					
	11	31° 10.2	316° 26.1	49.8	252° 28.9	57.1	35° 06.6	52.1	211° 46.7	49.6				345° 52.8	07.5	48° 52.2	16.3	46.7	12.6	72°	S 72°	06:38	07:32	08:24	-	00:42	02:14					
	12	46° 12.7	331° 25.3	23° 50.2 N	267° 30.3	17° 56.8 N	50° 08.7	2° 52.0 S	226° 49.3	2° 59.7 N	Gacrux	172° 03.2	57° 10.6 S	0° 52.8	17° 08.2 N	63° 27.5	16.4	2° 34.1 S	12.6	54.5	N 72°	-	-	-	11:27	13:19	15:09					
	13	61° 15.2	346° 24.5	50.6	282° 31.7	56.4	65° 10.7	51.8	241° 51.8	49.7	Gienah	175° 5																				

2010 May 10, 11, 12 (Mon, Tue, Wed)

Main table with 27 columns: GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN), STARS, SUN, MOON, and twilight/sunrise data. Includes a 24x27 grid of astronomical data.

2010 May 13, 14, 15 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.2			SATURN +0.8			STARS			SUN		MOON					Lat		Twilight		Sunrise		13			Moonrise				
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	Sunrise	13	14	15	13	14	15								
Thurs day	00	230° 38.8	149° 56.9	24° 28.2 N	89° 58.7	17° 14.8 N	233° 48.1	2° 32.7 S	51° 24.0	3° 02.5 N	Acamar	315° 20.4	40° 15.7 S	180° 55.0	18° 18.2 N	195° 15.9	10.3	18° 56.2 N	9.4	56.7	N 70°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	01	245° 41.3	164° 56.1	28.5	105° 00.1	14.4	248° 50.1	32.5	66° 26.5	02.5	58° 10.9 S	335° 28.8	57° 10.9 S	209° 45.2	10.3	19° 05.6 N	9.2	56.8	68°	-	-	-	00:55	00:20	-	-	-	-	-	-	-	-	-	-	-	-	-		
	02	260° 43.7	179° 55.3	28.8	120° 01.4	14.0	263° 52.1	32.4	81° 29.1	02.5	63° 09.7 S	173° 11.6	63° 09.7 S	210° 55.0	19.5	224° 14.5	10.1	14.8	9.2	66°	-	-	-	02:27	01:39	01:26	-	-	-	-	-	-	-	-	-	-	-	-	
	03	275° 46.2	194° 54.5	29.1	135° 02.8	13.6	278° 54.2	32.2	96° 31.6	02.6	58° 59.4 S	255° 14.6	28° 59.4 S	225° 55.0	20.1	238° 43.6	10.1	24.0	9.1	64°	-	-	01:16	02:51	02:02	02:05	02:17	-	-	-	-	-	-	-	-	-	-	-	
	04	290° 48.7	209° 53.6	29.4	150° 04.1	13.2	293° 56.2	32.0	111° 34.1	02.6	58° 31.8 N	290° 52.3	16° 31.8 N	240° 55.0	20.7	253° 12.7	9.9	33.1	9.0	62°	-	-	01:56	03:10	02:20	02:32	02:57	-	-	-	-	-	-	-	-	-	-	-	
	05	305° 51.1	224° 52.8	29.7	165° 05.5	12.8	308° 58.3	31.8	126° 36.7	02.6	58° 31.8 N	290° 52.3	16° 31.8 N	255° 55.0	21.3	267° 41.6	9.9	42.1	8.9	56.9	60°	-	-	02:23	03:25	02:36	02:54	03:25	-	-	-	-	-	-	-	-	-	-	
	06	320° 53.6	239° 52.0	29.9	180° 06.8	12.4	324° 00.3	31.7	141° 39.2	02.6	58° 31.8 N	290° 52.3	16° 31.8 N	270° 55.0	22.0	282° 10.5	9.7	51.0	8.8	58°	01:08	01:08	02:43	03:38	02:49	03:11	03:46	-	-	-	-	-	-	-	-	-	-	-	
	07	335° 56.1	254° 51.1	30.2	195° 08.2	12.0	339° 02.3	31.5	156° 41.7	02.7	58° 31.8 N	290° 52.3	16° 31.8 N	285° 55.0	22.6	298° 39.2	9.7	59.8	8.7	56°	01:45	01:45	03:00	03:49	03:00	03:26	04:04	-	-	-	-	-	-	-	-	-	-		
	08	350° 58.5	269° 50.3	30.5	210° 09.6	11.6	354° 04.4	31.3	171° 44.3	02.7	58° 31.8 N	290° 52.3	16° 31.8 N	300° 55.0	23.2	311° 07.9	9.6	20° 08.5 N	8.6	54°	02:10	02:10	03:14	03:59	03:10	03:39	04:19	-	-	-	-	-	-	-	-	-	-	-	
	09	6° 01.0	284° 49.5	30.8	225° 10.9	11.2	9° 06.4	31.1	186° 46.8	02.7	58° 31.8 N	290° 52.3	16° 31.8 N	315° 55.0	23.8	325° 36.5	9.5	17.1	8.5	57.0	52°	02:29	03:26	04:08	03:19	03:50	04:32	-	-	-	-	-	-	-	-	-	-	-	
	10	21° 03.5	299° 48.6	31.1	240° 12.3	10.8	24° 08.5	31.0	201° 49.3	02.7	58° 31.8 N	290° 52.3	16° 31.8 N	330° 55.0	24.4	340° 05.0	9.4	25.6	8.4	50°	02:45	03:37	04:16	03:27	04:00	04:44	-	-	-	-	-	-	-	-	-	-	-	-	
	11	36° 05.9	314° 47.8	31.3	255° 13.6	10.4	39° 10.5	31.8	201° 49.3	02.7	58° 31.8 N	290° 52.3	16° 31.8 N	345° 55.0	25.0	354° 33.4	9.3	34.0	8.3	45°	03:15	03:58	04:32	03:44	04:21	05:08	-	-	-	-	-	-	-	-	-	-	-	-	
	12	51° 08.4	329° 47.0	24° 31.6 N	270° 15.0	17° 10.0 N	54° 12.6	2° 30.6 S	231° 54.4	3° 02.8 N	58° 31.8 N	290° 52.3	16° 31.8 N	0° 55.0	18° 25.7 N	9° 01.7	9.2	20° 42.3 N	8.2	57.0	N 40°	03:38	04:15	04:46	03:58	04:38	05:27	-	-	-	-	-	-	-	-	-	-	-	
	13	66° 10.8	344° 46.2	31.9	285° 16.3	09.6	69° 14.6	30.4	246° 56.9	02.8	58° 31.8 N	290° 52.3	16° 31.8 N	15° 55.0	26.3	23° 29.9	9.1	50.5	8.0	57.1	35°	03:55	04:29	04:57	04:10	04:53	05:43	-	-	-	-	-	-	-	-	-	-	-	
	14	81° 13.3	359° 45.3	32.2	300° 17.7	09.2	84° 16.6	30.3	261° 59.5	02.8	58° 31.8 N	290° 52.3	16° 31.8 N	30° 55.0	26.9	37° 58.0	9.0	58.5	8.0	57.0	30°	04:10	04:41	05:07	04:21	05:06	05:57	-	-	-	-	-	-	-	-	-	-	-	
	15	96° 15.8	14° 44.5	32.4	315° 19.0	08.7	99° 18.7	30.1	277° 02.0	02.8	58° 31.8 N	290° 52.3	16° 31.8 N	45° 55.0	27.5	52° 26.0	9.0	21° 06.5 N	7.9	57.0	20°	04:33	05:01	05:24	04:39	05:27	06:21	-	-	-	-	-	-	-	-	-	-	-	
	16	111° 18.2	29° 43.7	32.7	330° 20.4	08.3	114° 20.7	29.9	292° 04.5	02.8	58° 31.8 N	290° 52.3	16° 31.8 N	60° 55.0	28.1	66° 54.0	8.8	14.4	7.7	57.0	N 10°	04:51	05:17	05:39	04:55	05:46	06:41	-	-	-	-	-	-	-	-	-	-	-	
	17	126° 20.7	44° 42.8	33.0	345° 21.7	07.9	129° 22.8	29.7	307° 07.1	02.9	58° 31.8 N	290° 52.3	16° 31.8 N	75° 55.0	28.7	81° 21.8	8.7	22.1	7.7	57.2	0°	05:06	05:31	05:53	05:10	06:04	07:01	-	-	-	-	-	-	-	-	-	-	-	
	18	141° 23.2	59° 42.0	33.2	0° 23.1	07.5	144° 24.8	29.6	322° 09.6	02.9	58° 31.8 N	290° 52.3	16° 31.8 N	90° 55.0	29.3	95° 49.5	8.7	29.8	7.5	57.0	S 10°	05:19	05:44	06:06	06:06	06:21	07:20	-	-	-	-	-	-	-	-	-	-	-	
	19	156° 25.6	74° 41.2	33.5	15° 24.4	07.1	159° 26.8	29.4	337° 12.1	02.9	58° 31.8 N	290° 52.3	16° 31.8 N	110° 55.0	29.9	110° 17.2	8.6	37.3	7.4	57.0	20°	05:31	05:58	06:21	05:41	06:41	07:41	-	-	-	-	-	-	-	-	-	-	-	
	20	171° 28.1	89° 40.3	33.8	30° 25.8	06.7	174° 28.9	29.2	352° 14.7	02.9	58° 31.8 N	290° 52.3	16° 31.8 N	120° 55.0	30.6	124° 44.8	8.4	44.7	7.3	57.0	30°	05:43	06:12	06:37	06:00	07:03	08:05	-	-	-	-	-	-	-	-	-	-	-	
	21	186° 30.6	104° 39.5	34.0	45° 27.2	06.3	189° 30.9	29.1	7° 17.2	03.0	58° 31.8 N	290° 52.3	16° 31.8 N	135° 55.0	31.2	139° 12.2	8.4	52.0	7.2	57.3	35°	05:49	06:20	06:46	06:11	07:16	08:19	-	-	-	-	-	-	-	-	-	-	-	
	22	201° 33.0	119° 38.7	34.3	60° 28.5	05.9	204° 33.0	29.9	22° 19.7	03.0	58° 31.8 N	290° 52.3	16° 31.8 N	150° 55.0	31.8	153° 39.6	8.3	59.2	7.1	57.0	40°	05:55	06:28	06:57	06:24	07:31	08:36	-	-	-	-	-	-	-	-	-	-	-	
23	216° 35.5	134° 37.8	34.5	75° 29.9	05.5	219° 35.0	28.7	37° 22.3	03.0	58° 31.8 N	290° 52.3	16° 31.8 N	165° 55.0	32.4	168° 06.9	8.2	22° 06.3 N	6.9	57.0	45°	06:02	06:38	07:10	06:39	07:49	08:56	-	-	-	-	-	-	-	-	-	-	-		
Fri day	00	231° 38.0	149° 37.0	24° 34.8 N	90° 31.2	17° 05.1 N	234° 37.1	2° 28.5 S	52° 24.8	3° 03.0 N	Canopus	263° 57.6	52° 42.3 S	180° 55.0	18° 33.0 N	182° 34.1	8.1	22° 13.2 N	6.8	57.3	S 50°	06:10	06:49	07:25	06:57	08:11	09:20	-	-	-	-	-	-	-	-	-	-		
	01	246° 40.4	164° 36.2	35.1	105° 32.6	04.7	249° 39.1	28.4	67° 27.3	03.0	58° 31.8 N	290° 52.3	16° 31.8 N	195° 55.0	33.6	197° 01.2	8.1	20.0	6.7	57.4	52°	06:13	06:55	07:32	07:06	08:22	09:32	-	-	-	-	-	-	-	-	-	-	-	
	02	261° 42.9	179° 35.3	35.3	120° 33.9	04.3	264° 41.2	28.2	82° 29.9	03.1	58° 31.8 N	290° 52.3	16° 31.8 N	210° 55.0	34.2	211° 28.3	7.9	26.7	6.6	57.0	54°	06:17	07:00	07:40	07:15	08:34	09:46	-	-	-	-	-	-	-	-	-	-	-	-
	03	276° 45.3	194° 34.5	35.6	135° 35.3	03.9	279° 43.2	28.0	97° 32.4	03.1	58° 31.8 N	290° 52.3	16° 31.8 N	225° 55.0	34.8	225° 55.2	7.8	33.3	6.4	57.0	56°	06:21	07:07	07:49	07:27	08:48	10:02	-	-	-	-	-	-	-	-	-	-	-	-
	04	291° 47.8	209° 33.7	35.8	150° 36.6	03.5	294° 45.2	27.8	112° 34.9	03.1	58° 31.8 N	290° 52.3	16° 31.8 N	240° 55.0	35.4	240° 22.0	7.8	39.7	6.3	57.0	58°	06:25	07:14	07:59	07:39	09:04	10:21	-	-	-	-	-	-	-	-	-	-	-	
	05	306° 50.3	224° 32.8	36.1	165° 38.0	03.1	309° 47.3	27.7	127° 37.4	03.1	58° 31.8 N	290° 52.3	16° 31.8 N	255° 55.0	36.0	254° 48.8	7.7	46.0	6.2	57.5	S 60°	06:30	07:21	08:11	07:54	09:24	10:44	-	-	-	-	-	-	-	-	-	-	-	
	06	321° 52.7	239° 32.0	36.3	180° 39.3	02.7	324° 49.3	27.5																															

2010 June 9, 10, 11 (Wed, Thur, Fri)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Twilight		Sunrise			Moonrise						
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	Sunrise	9	10	11						
Wednesday	00	257° 15.6	141° 19.3	23° 18.4 N	103° 50.6	12° 19.9 N	256° 27.4	0° 56.5 S	78° 13.7	3° 02.0 N				Acamar	315° 20.3	40° 15.6 S	180° 13.1	22° 54.2 N	226° 46.2	11.2	17° 33.7 N	10.0	56.5	N 70°	-	-	-	-	-	-	-	-	-			
	01	272° 18.6	156° 18.6	17.9	118° 51.8	19.4	271° 29.6	56.3	93° 16.1	01.9				Acnarnar	335° 28.6	57° 10.7 S	195° 13.0	13.0	241° 16.4	11.2	43.7	9.9		68°	-	-	-	-	-	22:56	-	-	-	-		
	02	287° 20.5	171° 17.9	17.4	133° 53.0	18.9	286° 31.7	56.2	108° 18.5	01.9				Acrux	173° 11.8	63° 09.8 S	210° 12.9	54.7	255° 46.6	11.1	53.6	9.9		66°	-	-	00:29	23:44	23:22	-	-	-	-	-		
	03	302° 23.0	186° 17.2	17.0	148° 54.2	18.4	301° 33.9	56.1	123° 21.0	01.9				Adhara	255° 14.6	28° 59.3 S	225° 12.7	54.9	270° 16.7	11.0	225° 03.5 N	9.8	56.6	64°	-	-	-	01:40	00:13	00:14	00:21	-	-	-	-	-
	04	317° 25.4	201° 16.5	16.5	163° 55.5	17.9	316° 36.0	56.0	138° 23.4	01.9				Aldebaran	290° 52.3	16° 31.8 N	240° 12.6	55.1	284° 46.7	10.9	13.3	9.6		62°	-	-	02:14	00:28	00:37	00:56	-	-	-	-	-	
	05	332° 27.9	216° 15.8	16.0	178° 56.7	17.4	331° 38.2	55.9	153° 25.8	01.8							255° 12.5	55.3	299° 16.6	10.8	22.9	9.6		60°	-	01:03	02:39	00:41	00:56	01:21	-	-	-	-		
	06	347° 30.4	231° 15.1	15.5	193° 57.9	16.8	346° 40.4	55.8	168° 28.3	01.8				Alioth	166° 22.2	55° 54.3 N	270° 12.4	55.5	313° 46.4	10.7	32.5	9.6	56.7	N 58°	-	01:46	02:59	00:53	01:12	01:41	01:42	-	-	-	-	
	07	2° 32.8	246° 14.4	15.0	208° 59.1	16.3	1° 42.5	55.6	183° 30.7	01.8				Alkaid	153° 00.2	49° 15.8 N	285° 12.3	55.7	328° 16.1	10.6	42.1	9.4		56°	-	02:14	03:15	01:03	01:25	01:57	-	-	-	-		
	08	17° 35.3	261° 13.8	14.5	224° 00.4	15.8	16° 44.7	55.5	198° 33.1	01.8				Alnair	27° 46.2	46° 54.3 S	300° 12.1	55.9	342° 45.7	10.5	51.5	9.3		54°	00:57	02:35	03:29	01:12	01:37	02:12	-	-	-	-		
	09	32° 37.8	276° 13.1	14.0	239° 01.6	15.3	31° 46.9	55.4	213° 35.6	01.7				Alnilam	275° 48.9	1° 11.7 S	315° 12.0	56.1	357° 15.2	10.3	19° 00.8 N	9.3	56.8	52°	01:37	02:53	03:41	01:19	01:47	02:24	-	-	-	-		
	10	47° 40.2	291° 12.4	13.5	254° 02.8	14.8	46° 49.0	55.3	228° 38.0	01.7				Alphard	217° 58.4	8° 42.4 S	330° 11.9	56.3	11° 44.5	10.3	10.1	9.2		50°	02:03	03:07	03:51	01:27	01:56	02:35	-	-	-	-		
	11	62° 42.7	306° 11.7	13.0	269° 04.0	14.3	61° 51.2	55.2	243° 40.4	01.7							345° 11.8	56.5	26° 13.8	10.2	19.3	9.1		45°	02:47	03:36	04:13	01:42	02:15	02:58	-	-	-	-		
	12	77° 45.1	321° 11.0	12.5 N	284° 05.3	12° 13.8 N	76° 53.4	0° 55.0 S	258° 42.8	3° 01.7 N				Alphecca	126° 12.5	26° 40.8 N	0° 11.6	22° 56.7 N	40° 43.0	10.1	19° 28.4 N	9.0	56.8	N 40°	03:17	03:58	04:31	01:55	02:31	03:16	-	-	-	-		
	13	92° 47.6	336° 10.3	12.0	299° 06.5	13.3	91° 55.5	54.9	273° 45.3	01.6				Alpheratz	357° 45.9	29° 08.8 N	15° 11.5	56.9	55° 12.1	10.0	37.4	8.9	56.9	35°	03:40	04:16	04:46	02:05	02:45	03:32	-	-	-	-		
	14	107° 50.1	351° 09.6	11.5	314° 50.7	12.8	106° 57.7	54.8	288° 47.7	01.6				Altair	62° 10.1	8° 53.8 N	30° 11.4	57.1	69° 41.1	9.9	36.3	8.8		30°	03:58	04:31	04:58	02:15	02:57	03:45	-	-	-	-		
	15	122° 52.5	6° 08.9	11.0	329° 08.9	12.3	121° 59.9	54.7	303° 50.1	01.6				Ankaa	353° 17.9	42° 14.7 S	45° 11.3	57.3	84° 10.0	9.7	55.1	8.7		20°	04:26	04:55	05:20	02:31	03:17	04:08	-	-	-	-		
	16	137° 55.0	21° 08.3	10.4	344° 10.2	11.8	137° 02.0	54.6	318° 52.6	01.6				Antares	112° 28.6	26° 27.4 S	60° 11.1	57.5	98° 38.7	9.7	20° 03.8 N	8.6	57.0	N 10°	04:49	05:16	05:39	02:46	03:35	04:28	-	-	-	-		
	17	152° 57.5	36° 07.6	09.9	359° 11.4	11.2	152° 04.2	54.5	333° 55.0	01.5							75° 11.0	57.8	113° 07.4	9.6	12.4	8.5		0°	05:07	05:33	05:56	02:59	03:51	04:47	-	-	-	-		
	18	167° 59.9	51° 06.9	09.4	44° 12.6	10.7	167° 06.4	54.3	348° 57.4	01.5				Arcturus	145° 57.5	19° 07.7 N	90° 10.9	58.0	127° 36.0	9.5	20.9	8.4		S 10°	05:24	05:50	06:13	03:13	04:08	05:06	-	-	-	-		
	19	183° 02.4	66° 06.2	08.9	29° 13.8	10.2	182° 08.5	54.2	3° 59.8	01.5				Atريا	107° 31.9	69° 02.8 S	105° 10.8	58.2	142° 04.5	9.3	29.3	8.4	57.1	20°	05:40	06:07	06:31	03:28	04:26	05:26	-	-	-	-		
	20	198° 04.9	81° 05.5	08.4	44° 15.1	09.7	197° 10.7	54.1	19° 02.3	01.5				Avior	234° 19.5	59° 32.9 S	120° 10.6	58.4	156° 32.8	9.3	37.7	8.2		30°	05:56	06:26	06:52	03:45	04:47	05:50	-	-	-	-		
	21	213° 07.3	96° 04.8	07.9	59° 16.3	09.2	212° 12.9	54.0	34° 04.7	01.4				Bellatrix	278° 34.7	6° 21.5 N	135° 10.5	58.6	171° 01.1	9.1	45.9	8.1		35°	06:04	06:36	07:04	03:55	04:59	06:04	-	-	-	-		
	22	228° 09.8	111° 04.2	07.4	74° 17.5	08.7	227° 15.0	53.9	47° 07.1	01.4				Betelgeuse	271° 04.0	7° 24.2 S	150° 10.4	58.7	185° 29.2	9.1	54.0	8.0	57.2	40°	06:13	06:47	07:18	04:06	05:13	06:20	-	-	-	-		
23	243° 12.3	126° 03.5	06.9	89° 18.7	08.2	242° 17.2	53.8	64° 09.6	01.4							165° 10.3	58.9	199° 57.3	9.0	21° 02.0 N	7.9		45°	06:24	07:01	07:34	04:19	05:30	06:39	-	-	-	-			
Thursday	00	258° 14.7	141° 02.8	23° 06.3 N	104° 19.9	12° 07.7 N	257° 19.4	0° 53.6 S	79° 12.0	3° 01.4 N				Canopus	263° 57.7	52° 42.2 S	180° 10.1	22° 59.1 N	214° 25.3	8.8	21° 09.9 N	7.8	57.2	S 50°	06:35	07:16	07:55	04:36	05:50	07:03	-	-	-	-		
	01	273° 17.2	156° 02.1	05.8	119° 21.5	07.2	272° 21.5	53.8	94° 14.4	01.3				Capella	280° 38.2	46° 00.5 N	195° 10.0	59.3	228° 53.1	8.8	17.7	7.7	57.3	52°	06:40	07:24	08:04	04:44	06:00	07:14	-	-	-	-		
	02	288° 19.6	171° 01.4	05.3	134° 22.4	06.6	287° 23.7	53.4	109° 16.8	01.3				Deneb	49° 32.7	45° 18.9 N	210° 09.9	59.5	243° 20.9	8.6	25.4	7.6		54°	06:46	07:32	08:15	04:52	06:12	07:28	-	-	-	-		
	03	303° 22.1	186° 00.8	04.8	149° 23.6	06.1	302° 25.9	53.3	124° 19.3	01.3				Denebola	182° 35.8	14° 30.8 N	225° 09.8	59.7	257° 48.5	8.5	33.0	7.4		56°	06:52	07:40	08:27	05:02	06:24	07:43	-	-	-	-		
	04	318° 24.6	201° 00.1	04.3	164° 24.8	05.6	317° 28.0	53.2	139° 21.7	01.3				Diphda	348° 58.2	17° 55.6 S	240° 09.6	59.9	272° 16.0	8.5	40.4	7.4	57.4	58°	06:58	07:50	08:42	05:13	06:39	08:01	-	-	-	-		
	05	333° 27.0	215° 59.4	03.8	179° 26.0	05.1	332° 30.2	53.1	154° 24.1	01.2							255° 09.5	23° 00.1 N	286° 43.5	8.3	47.8	7.2		S 60°	07:05	08:02	08:58	05:26	06:57	08:23	-	-	-	-		
	06	348° 29.5	230° 58.7	03.2	194° 27.3	04.6	347° 32.4	52.9	169° 26.6	01.2				Dubhe	193° 54.3	61° 41.9 N	270° 09.4	60.3	301° 10.8	8.3	55.0	7.1														
	07	3° 32.0	245° 58.1	02.7	209° 28.5	04.1	2° 34.5	52.8	184° 29.0	01.2				Elnath	278° 15.8	28° 36.9 N	285° 09.3	60.5	315° 38.1	8.1	22° 02.1 N	7.0	57.5	S 62°	07:13	08:15	09:19	05:42	07:19	08:52	-	-	-	-		
	08	18° 34.4	260° 57.4	02.2	224° 29.7	03.6	17° 36.7	52.7	199° 31.4	01.1				Enif	90° 46.6	51° 29.2 N	300° 09.1	60.7	330° 05.2	8.1	09.1	6.9														
	09	33° 36.9	275° 56.7	01.7	239° 30.9	03.1	32° 38.9	52.6	214° 33.8	01																										

2010 June 21, 22, 23 (Mon, Tue, Wed)

Table with columns for planetary positions (GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON) and twilight/sunrise data (Lat, Nautical, Civil, Sunrise, Moonrise, Moonset).

2010 July 15, 16, 17 (Thur, Fri, Sat)

Main table containing astronomical data for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, and twilight/sunrise/moonrise times across multiple days (GMT 00-23).

2010 July 24, 25, 26 (Sat, Sun, Mon)

Table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and various astronomical data including RA, Dec, Mag, and twilight times. Includes a vertical label 'Saturday' on the left and a Moon phase icon on the right.

2010 July 27, 28, 29 (Tue, Wed, Thur)

Table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and various astronomical data including Right Ascension, Declination, Magnitude, and Positional information (Lat, Longitude, Sunrise, Moonset).

2010 August 2, 3, 4 (Mon, Tue, Wed)

Table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN), STARS, SUN, MOON, and various astronomical parameters like Lat, Nautil, Civil, Sunrise, Moonrise, Moonset, and Moon Age/Vis. Includes a detailed list of stars and planets with their coordinates and magnitudes.

Table with columns for planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), astronomical data (GHA, Dec, SHA, Dec, GHA, v, Dec, d, HP), and twilight/sunrise data (Lat, Nautical, Civil, Sunrise, Moonrise 11, 12, 13).

2010 August 17, 18, 19 (Tue, Wed, Thur)

Table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Civil, Nautical), Sunrise, Moonrise (17, 18, 19), and Moonset (17, 18, 19). Rows include planetary data for Aries, Venus, Mars, Jupiter, Saturn, and detailed star data for Tuesday, Wednesday, and Thursday.

2010 August 20, 21, 22 (Fri, Sat, Sun)

Main data table with columns for planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), twilight (Nautical, Civil), sunrise, moonrise, and moonset. Includes rows for days 00-23 of each month.

2010 September 1, 2, 3 (Wed, Thur, Fri)

Main table containing astronomical data for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, and twilight/sunrise times. Includes columns for GMT, planet names, coordinates, and various astronomical parameters.

Main data table containing astronomical information for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, and twilight/sunrise data across dates 25-27. Includes columns for GMT, planet/star names, coordinates (GHA, Dec), altitudes (v), and times (Sunset, Sunrise, Moonset).

2010 September 28, 29, 30 (Tue, Wed, Thur)

Table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Nautical/Civil), Sunrise, 28, Moonrise (29/30), Day, Eqn. of Time, Mer. Pass., Moonset (29/30), Mer. Pass., Age/Vis.

2010 October 1, 2, 3 (Fri, Sat, Sun)

Table with 26 columns: GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and Twilight/Sunrise/Moonrise data. Rows are organized by day (Friday, Saturday, Sunday) and include star names like GHA, SHA, and Dec, as well as twilight and sunrise times.

Table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and various astronomical data including Right Ascension, Declination, Magnitude, and Time. It includes daily data for Sun, Monday, and Tuesday, and a detailed section for the Moon's phases and position.

Table with columns: GMT, ARIES, VENUS (-4.4), MARS (+1.5), JUPITER (-2.9), SATURN (+0.9), STARS, SUN, MOON, Lat, Twilight (Nautical, Civil), Sunrise, 13, Moonrise (14, 15). Rows include planetary positions and star data for days 00-23.

2010 October 16, 17, 18 (Sat, Sun, Mon)

GMT	ARIES			VENUS <small>-4.3</small>			MARS <small>+1.5</small>			JUPITER <small>-2.9</small>			SATURN <small>+0.9</small>			STARS			SUN		MOON					Lat		Twilight		Sunrise		Moonrise						
																Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:03	06:22	07:33	16:40	16:07	15:43						
	GHA	GHA	Dec	GHA	Dec	Dec	GHA	Dec	Dec	GHA	Dec	Dec	GHA	Dec	Dec																							
16 Saturday	GHA GHA Dec			GHA Dec			GHA Dec			GHA Dec			GHA Dec			Name SHA Dec			GHA Dec		GHA v Dec d HP					N 72°	05:03	06:22	07:33	16:40	16:07	15:43						
	24° 24'.5	167° 12'.8	22° 23'.4 S	155° 40'.0	18° 29'.1 S	28° 02'.6	170° 40'.7	29° 43'.7	17.3	199° 47'.1	47'.8	27.8	183° 34'.5	8° 45'.9 S	18° 37'.2 S	Acamar	315° 19'.3	40° 15'.5 S	183° 34'.5	8° 45'.9 S	183° 34'.5	8° 45'.9 S	77° 51'.7	13'.7	16° 41'.3 S	9'.4	54'.7	N 70°	05:06	06:17	07:21	16:12	15:52	15:36				
	01	24° 27.0	182° 16.0	23.1	170° 40.7	29.6	39° 05.3	17.3	209° 47.1	47.8	27.8	198° 34.5	8° 45.9 S	18° 37.2 S	Acarnar	335° 27.5	57° 10.8 S	198° 34.5	8° 45.9 S	198° 34.5	8° 45.9 S	92° 24.4	13.8	31.9	9.5	54.6	N 70°	05:06	06:17	07:21	16:12	15:52	15:36					
	02	54° 29.4	197° 19.3	22.8	185° 41.4	30.1	58° 08.0	17.4	224° 49.3	47.9	47.9	213° 34.8	47.8	47.8	Acrux	173° 12.4	63° 09.0 S	213° 34.8	47.8	213° 34.8	47.8	106° 57.2	13.8	22.4	9.5		66°	05:10	06:09	07:02	15:35	15:30	15:25					
	03	69° 31.9	212° 22.5	22.5	200° 42.1	30.6	73° 10.7	17.5	239° 51.4	48.1	48.1	228° 34.9	48.7	48.7	Adhara	255° 14.0	28° 59.5 S	228° 34.9	48.7	228° 34.9	48.7	121° 30.0	13.9	12.9	9.6		64°	05:11	06:06	06:55	15:22	15:22	15:21					
	04	84° 34.3	227° 25.7	22.2	215° 42.8	31.1	88° 13.4	17.6	254° 53.6	48.2	48.2	243° 35.1	49.6	49.6	Aldebaran	290° 51.4	16° 31.9 N	243° 35.1	49.6	243° 35.1	49.6	136° 02.9	13.9	03.3	9.6		62°	05:12	06:04	06:49	15:10	15:14	15:17					
	05	99° 36.8	242° 29.0	22.0	230° 43.4	31.5	103° 16.1	17.7	269° 55.8	48.3	48.3	258° 35.2	50.5	50.5	Alhena	315° 21.5	17° 13.0 S	258° 35.2	50.5	258° 35.2	50.5	150° 35.8	14.0	15° 53.7 S	9.7		60°	05:13	06:01	06:44	15:01	15:08	15:14					
	06	114° 39.3	257° 32.2	21.7	245° 44.1	32.0	118° 18.8	17.8	284° 58.0	48.4	48.4	273° 35.4	51.4	51.4	Alioth	166° 22.8	55° 54.0 N	273° 35.4	51.4	273° 35.4	51.4	165° 08.8	14.1	44.0	9.8		N 58°	05:14	05:59	06:39	14:52	15:02	15:11					
	07	129° 41.7	272° 35.5	21.4	260° 44.8	32.5	133° 21.5	17.9	300° 00.2	48.5	48.5	288° 35.5	52.4	52.4	Alkaid	153° 00.8	49° 15.6 N	288° 35.5	52.4	288° 35.5	52.4	179° 41.9	14.1	34.2	9.8	54.5	54°	05:14	05:57	06:35	14:44	14:57	15:09					
	08	144° 44.2	287° 38.7	21.0	275° 45.5	33.0	148° 24.2	18.0	315° 02.4	48.6	48.6	303° 35.6	53.3	53.3	Alnair	27° 45.8	46° 54.5 S	303° 35.6	53.3	303° 35.6	53.3	194° 15.0	14.2	24.4	9.9		54°	05:14	05:55	06:31	14:38	14:53	15:06					
	09	159° 46.7	302° 42.0	20.7	290° 46.2	33.5	163° 26.9	18.1	330° 04.5	48.8	48.8	318° 35.8	54.2	54.2	Alnilam	275° 48.2	1° 11.6 S	318° 35.8	54.2	318° 35.8	54.2	208° 48.2	14.3	14.5	9.9		52°	05:15	05:54	06:28	14:31	14:49	15:04					
	10	174° 49.1	317° 45.3	20.4	305° 46.8	34.0	178° 29.6	18.2	345° 06.7	48.9	48.9	333° 35.9	55.1	55.1	Alphard	217° 58.1	8° 42.3 S	333° 35.9	55.1	333° 35.9	55.1	223° 21.5	14.3	04.6	10.0		50°	05:15	05:52	06:25	14:26	14:45	15:02					
	11	189° 51.6	332° 48.5	20.1	320° 47.5	34.4	193° 32.3	18.3	0° 08.9	49.0	49.0	348° 36.0	56.0	56.0	Alpheratz	357° 45.2	29° 09.3 S	348° 36.0	56.0	348° 36.0	56.0	237° 54.8	14.4	14° 54.6 S	10.1		45°	05:14	05:48	06:18	14:14	14:37	14:58					
	12	204° 54.1	347° 51.8	22° 19.8 S	335° 48.2	18° 34.9 S	208° 35.0	3° 18.4 S	15° 11.1	1° 49.1 S	1° 49.1 S	Alphecca	126° 12.9	26° 40.8 N	3° 36.2	8° 56.9 S	252° 28.2	14.5	14° 44.5 S	10.1	252° 28.2	14.5	14° 44.5 S	10.1	54.5	N 40°	05:14	05:45	06:12	14:04	14:30	14:55						
	13	219° 56.5	2° 55.1	19.5	350° 48.9	35.4	223° 37.7	18.5	30° 13.3	49.2	49.2	18° 36.3	57.9	57.9	Alpheratz	357° 45.2	29° 09.3 S	18° 36.3	57.9	18° 36.3	57.9	267° 01.7	14.4	34.4	10.1	54.4	35°	05:12	05:42	06:07	13:55	14:25	14:52					
	14	234° 59.0	17° 58.4	19.2	5° 49.6	35.9	238° 40.4	18.6	45° 15.5	49.2	49.2	33° 36.4	58.8	58.8	Altair	62° 10.1	8° 54.0 N	33° 36.4	58.8	33° 36.4	58.8	281° 35.1	14.6	24.3	10.0		30°	05:11	05:39	06:03	13:48	14:19	14:49					
	15	250° 01.5	33° 01.6	18.9	20° 50.2	36.4	253° 43.1	18.7	60° 17.7	49.4	49.4	48° 36.6	59.7	59.7	Ankaa	353° 17.1	42° 14.7 S	48° 36.6	59.7	48° 36.6	59.7	296° 08.7	14.6	14.1	10.3		20°	05:07	05:33	05:55	13:35	14:11	14:44					
	16	265° 03.9	48° 04.9	18.5	268° 45.9	36.8	268° 45.9	18.8	75° 19.8	49.6	49.6	63° 36.7	9° 00.6 S	9° 00.6 S	Antares	112° 28.9	26° 27.4 S	63° 36.7	9° 00.6 S	63° 36.7	9° 00.6 S	310° 42.3	14.7	03.8	10.3		N 10°	05:03	05:27	05:49	13:23	14:03	14:40					
	17	280° 06.4	63° 08.2	18.2	50° 51.6	37.3	283° 48.6	18.9	90° 22.0	49.7	49.7	78° 36.8	01.5	01.5	Arcturus	145° 57.8	19° 07.6 N	78° 36.8	01.5	78° 36.8	01.5	325° 16.0	14.7	13° 53.5 S	10.4		0°	04:57	05:21	05:42	13:13	13:55	14:36					
	18	295° 08.8	78° 11.5	17.9	65° 52.3	37.8	298° 51.3	19.0	105° 24.2	49.8	49.8	93° 36.9	02.5	02.5	Arcturus	145° 57.8	19° 07.6 N	93° 36.9	02.5	93° 36.9	02.5	339° 49.7	14.8	43.1	10.4		S 10°	04:49	05:14	05:35	13:02	13:48	14:32					
	19	310° 11.3	93° 14.8	17.6	80° 52.9	38.3	313° 54.0	19.0	120° 26.4	49.9	49.9	108° 37.1	03.4	03.4	Arctus	107° 32.9	69° 03.0 S	108° 37.1	03.4	108° 37.1	03.4	354° 23.5	14.8	32.7	10.3		20°	04:40	05:06	05:28	12:50	13:40	14:28					
	20	325° 13.8	108° 18.1	17.2	95° 53.6	38.8	328° 56.7	19.1	135° 28.6	50.0	50.0	123° 37.2	04.3	04.3	Avior	234° 19.0	59° 32.4 S	123° 37.2	04.3	123° 37.2	04.3	8° 57.3	14.9	22.2	10.5		30°	04:27	04:56	05:20	12:37	13:31	14:24					
	21	340° 16.2	123° 21.4	16.9	110° 54.3	39.2	343° 59.4	19.2	150° 30.8	50.3	50.3	138° 37.3	05.2	05.2	Bellatrix	278° 33.9	6° 21.7 N	138° 37.3	05.2	138° 37.3	05.2	23° 31.2	14.9	11.7	10.6	54.3	35°	04:18	04:49	05:15	12:29	13:26	14:21					
	22	355° 18.7	138° 24.7	16.6	125° 55.0	39.7	359° 02.1	19.3	165° 32.9	50.3	50.3	153° 37.5	06.1	06.1	Betelgeuse	271° 03.2	7° 24.6 N	153° 37.5	06.1	153° 37.5	06.1	38° 05.1	15.0	01.1	10.6		40°	04:08	04:42	05:10	12:20	13:20	14:18					
23	10° 21.2	153° 28.0	16.2	140° 55.7	40.2	14° 04.8	19.4	180° 35.1	50.4	50.4	168° 37.6	07.0	07.0				168° 37.6	07.0	168° 37.6	07.0	52° 39.1	15.0	12° 50.5 S	10.7		45°	03:56	04:33	05:03	12:10	13:13	14:14						
17 Sunday	GHA GHA Dec			GHA Dec			GHA Dec			GHA Dec			Name SHA Dec			GHA Dec		GHA v Dec d HP					N 72°	05:03	06:22	07:33	16:40	16:07	15:43									
	25° 23.6	168° 31.3	22° 15.9 S	155° 56.3	18° 40.7 S	29° 07.5	3° 19.5 S	195° 37.3	1° 50.5 S	1° 50.5 S	Capopus	263° 56.8	52° 41.8 S	183° 37.7	9° 08.0 S	67° 13.1	15.1	12° 39.8 S	10.7	54.3	S 50°	03:40	04:22	04:56	11:58	13:04	14:10											
	01	40° 26.1	183° 34.6	15.5	170° 57.0	41.2	44° 10.2	19.6	210° 39.5	50.6	50.6	280° 37.0	46° 00.4 N	198° 37.9	08.9	81° 47.2	15.2	29.1	10.8	198° 37.9	08.9	81° 47.2	15.2	29.1	10.8	52°	03:32	04:16	04:52	11:52	13:00	14:08						
	02	55° 28.6	198° 38.0	15.2	185° 57.7	41.6	59° 12.9	19.7	225° 41.7	50.7	50.7	49° 32.7	45° 19.5 N	213° 38.0	09.8	96° 21.4	15.1	18.3	10.8	213° 38.0	09.8	96° 21.4	15.1	18.3	10.8	54°	03:23	04:10	04:48	11:45	12:56	14:06						
	03	70° 31.0	213° 41.3	14.8	200° 58.4	42.1	74° 15.6	19.8	240° 43.9	50.8	50.8	182° 35.9	14° 30.7 N	228° 38.1	10.7	110° 55.5	15.3	07.5	10.8	228° 38.1	10.7	110° 55.5	15.3	07.5	10.8	56°	03:13	04:04	04:44	11:38	12:51	14:03						
	04	85° 33.5	228° 44.6	14.5	215° 59.0	42.6	89° 18.3	19.9	255° 46.0	51.0	51.0	243° 38.3	11.6	11.6	Diphda	348° 57.5	17° 55.4 S	243° 38.3	11.6	243° 38.3	11.6	125° 29.8	15.2	11° 56.7 S	10.9		58°	03:01	03:56	04:39	11:30	12:46	1					

2010 October 22, 23, 24 (Fri, Sat, Sun)

Main data table containing astronomical information for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, twilight, sunrise, and moonrise data across multiple days.

2010 October 25, 26, 27 (Mon, Tue, Wed)

Table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and Time (Lat, Nautil, Civil, Sunrise, Moonrise). Rows are categorized by day (25, 26, 27) and time of day (Morning, Afternoon, Evening, Night).

2010 October 28, 29, 30 (Thu, Fri, Sat)

GMT	ARIES			VENUS -4.0			MARS +1.4			JUPITER -2.8			SATURN +0.9			STARS			SUN		MOON					Lat	Twilight		Sunrise	28	Moonrise	
	GHA	Dec	20° 37.7 S	GHA	Dec	20° 37.7 S	GHA	Dec	20° 37.7 S	GHA	Dec	20° 37.7 S	GHA	Dec	20° 37.7 S	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:54	07:15	08:38	-	-	20:53
28 00	36° 14.2'	184° 33.8'	19° 22.9 S	158° 45.0'	20° 37.7 S	40° 51.8'	51° 40.6 S	220° 15.1'	2° 20.3 S	Acamar	315° 19.3'	40° 15.5 S	184° 02.4'	13° 00.4 S	303° 22.2'	7.4	23° 34.4 N	3.7	57.4	N 70°	05:51	07:04	08:15	-	-	18:44	21:47			21:24		
01	36° 16.6'	199° 37.6'	22.0 S	173° 45.6'	20.0	55° 54.4'	40.8	220° 17.3'	20.0	Acnamar	335° 27.5'	57° 10.8 S	199° 02.5'	01.2	317° 48.6'	7.3	30.7	3.9	68°	05:48	06:55	07:58	-	-	19:36	21:47			21:24			
02	66° 19.1'	214° 41.4'	21.0	188° 46.2'	38.5	70° 57.1'	40.7	235° 19.5'	20.5	Acrux	173° 12.3'	63° 09.0 S	214° 02.5'	02.1	332° 14.9'	7.4	26.8	3.9	57.5	66°	05:46	06:47	07:44	18:07	20:08	22:04						
03	81° 21.5'	229° 45.2'	20.1	203° 46.8'	38.9	85° 59.7'	40.8	255° 21.7'	20.6	Adhara	255° 13.9'	28° 59.4 S	229° 02.6'	02.9	346° 41.3'	7.4	22.9	4.1	64°	05:44	06:40	07:32	18:47	20:32	22:18							
04	96° 24.0'	244° 49.1'	19.2	218° 47.4'	39.3	101° 02.3'	40.8	285° 23.9'	20.8	Aldebaran	290° 51.3'	16° 31.9 N	244° 02.6'	03.8	1° 07.7'	7.4	18.8	4.3	62°	05:42	06:35	07:22	19:14	20:50	22:30							
05	111° 26.5'	259° 52.9'	18.2	233° 48.0'	39.7	116° 05.0'	40.9	280° 26.1'	20.9				259° 02.7'	04.6	15° 34.1'	7.4	14.5	4.4	60°	05:40	06:30	07:14	19:35	21:05	22:40							
06	126° 28.9'	274° 56.7'	17.3	248° 48.6'	40.1	131° 07.6'	41.0	295° 28.3'	21.0	Alioth	166° 22.8'	55° 53.9 N	274° 02.7'	05.4	30° 00.5'	7.5	10.1	4.5	57.6	N 58°	05:39	06:25	07:07	19:52	21:18	22:49						
07	141° 31.4'	290° 00.5'	16.4	263° 49.2'	40.5	146° 10.2'	41.0	310° 30.5'	21.1	Alkaid	153° 00.8'	49° 15.5 N	289° 02.8'	06.3	44° 27.0'	7.4	05.6	4.7	56°	05:37	06:21	07:00	20:06	21:29	22:56							
08	156° 33.9'	305° 04.3'	15.5	278° 49.8'	40.9	161° 12.9'	41.1	325° 32.7'	21.2	Alnair	27° 45.8'	46° 54.5 S	304° 02.8'	07.1	58° 53.4'	7.5	00.9	4.8	54°	05:36	06:17	06:54	20:19	21:39	23:03							
09	171° 36.3'	320° 08.1'	14.5	293° 50.4'	41.3	176° 15.5'	41.2	340° 34.9'	21.3	Alnilam	275° 48.1'	1° 11.6 S	319° 02.9'	07.9	73° 19.9'	7.5	22° 56.1 N	4.9	52°	05:34	06:14	06:49	20:30	21:48	23:09							
10	186° 38.8'	335° 11.9'	13.6	308° 51.0'	41.7	191° 18.1'	41.2	355° 37.1'	21.4	Alphard	217° 58.1'	8° 42.3 S	334° 02.9'	08.8	87° 46.4'	7.5	5.1	5.2	50°	05:33	06:11	06:44	20:40	21:55	23:15							
11	201° 41.3'	350° 15.7'	12.6	323° 51.6'	42.1	206° 20.7'	41.3	10° 39.3'	21.5				349° 03.0'	09.6	102° 12.9'	7.5	46.1	5.1	57.7	45°	05:29	06:04	06:34	21:00	22:12	23:26						
12	216° 43.7'	5° 19.6'	19° 11.7 S	338° 52.2'	20° 42.5 S	221° 23.4'	3° 41.3 S	25° 41.5'	2° 21.6 S	Alphecca	126° 12.9'	26° 40.8 N	4° 03.0'	13° 10.4 S	116° 39.4'	7.5	22° 40.9 N	5.4	57.7	N 40°	05:26	05:57	06:25	21:17	22:25	23:36						
13	231° 46.2'	20° 23.4'	10.8	353° 52.8'	42.9	236° 26.0'	41.4	40° 43.7'	21.7	Alpheratz	357° 45.2'	29° 09.3 N	19° 03.1'	11.3	131° 05.9'	7.6	35.5	5.6	35°	05:22	05:52	06:18	21:30	22:37	23:44							
14	246° 48.6'	35° 27.2'	09.8	8° 53.3'	43.3	251° 28.6'	41.5	55° 45.9'	21.9	Altair	62° 10.2'	8° 54.0 N	34° 03.1'	12.1	145° 32.5'	7.6	30.0	5.5	30°	05:19	05:47	06:11	21:42	22:46	23:51							
15	261° 51.1'	50° 31.0'	08.9	23° 53.9'	43.7	266° 31.3'	41.5	70° 48.0'	22.0	Ankaa	353° 17.1'	42° 14.8 S	49° 03.2'	13.0	159° 59.1'	7.6	24.4	5.8	57.8	20°	05:11	05:37	06:00	22:03	23:03	24:04						
16	276° 53.6'	65° 34.8'	07.9	381° 54.5'	44.1	281° 33.9'	41.6	85° 50.2'	22.1	Antares	112° 28.9'	26° 27.3 S	64° 03.2'	13.8	174° 25.7'	7.6	18.6	5.9	N 10°	05:03	05:28	05:50	22:21	23:18	24:15							
17	291° 56.0'	80° 38.6'	07.0	53° 55.1'	44.5	296° 36.5'	41.7	100° 52.4'	22.2				79° 03.3'	14.6	188° 52.3'	7.7	12.7	6.0	0°	04:54	05:19	05:40	22:38	23:32	24:25							
18	306° 58.5'	95° 42.4'	06.0	68° 55.7'	44.9	311° 39.1'	41.7	115° 54.6'	22.3	Arcturus	145° 57.8'	19° 07.6 N	94° 03.3'	15.5	203° 19.0'	7.7	06.7	6.2	S 10°	04:44	05:09	05:31	22:54	23:46	24:35							
19	322° 01.0'	110° 46.2'	05.1	83° 56.3'	45.3	326° 41.8'	41.8	130° 56.8'	22.4	Atria	107° 33.0'	69° 02.9 S	109° 03.4'	16.3	217° 45.7'	7.7	00.5	6.3	20°	04:31	04:57	05:20	23:12	-	00:00							
20	337° 03.4'	125° 50.0'	04.1	98° 56.9'	45.7	341° 44.4'	41.8	145° 59.0'	22.5	Avior	234° 18.9'	59° 32.4 S	124° 03.4'	17.1	232° 12.4'	7.7	21° 54.2 N	6.5	57.9	30°	04:13	04:43	05:08	23:32	-	00:17						
21	352° 05.9'	140° 53.8'	03.2	113° 57.5'	46.1	356° 47.0'	41.9	161° 01.2'	22.6	Bellatrix	278° 33.8'	6° 21.6 N	139° 03.5'	18.0	246° 39.1'	7.8	47.7	6.5	35°	04:02	04:34	05:01	23:44	-	00:27							
22	7° 08.4'	155° 57.6'	02.2	128° 58.4'	46.5	11° 49.7'	42.2	176° 03.6'	22.7	Betelgeuse	271° 03.2'	7° 24.6 N	154° 03.5'	18.8	261° 05.9'	7.8	41.2	6.8	40°	03:49	04:24	04:53	23:58	-	00:38							
23	22° 10.8'	171° 01.5'	01.3	143° 58.7'	46.9	26° 52.3'	42.0	191° 05.6'	22.8				169° 03.6'	19.6	275° 32.7'	7.8	34.4	6.8	45°	03:33	04:12	04:44	-	-	00:14	00:51						
29 00	37° 13.3'	186° 05.3'	19° 00.3 S	158° 59.3'	20° 47.3 S	41° 54.9'	3° 42.1 S	226° 10.7'	2° 22.9 S	Canopus	263° 56.7'	52° 41.6 N	184° 03.6'	13° 20.5 S	289° 59.5'	7.9	21° 27.6 N	7.0	58.0	S 50°	03:12	03:57	04:32	-	-	00:34	01:06					
01	52° 15.8'	201° 09.1'	18° 59.4 S	173° 59.9'	47.7	56° 57.5'	42.1	201° 07.8'	23.1	Capella	280° 36.9'	46° 00.4 N	199° 03.6'	21.3	304° 26.4'	7.8	20.6	7.1	52°	03:01	03:49	04:20	00:04	00:43	01:14							
02	67° 18.2'	216° 12.9'	58.4	189° 00.5'	48.1	72° 00.2'	42.2	236° 12.2'	23.2	Deneb	49° 32.8'	45° 19.5 N	214° 03.7'	22.1	318° 53.2'	7.9	13.5	7.2	54°	02:49	03:41	04:21	00:16	00:53	01:22							
03	82° 20.7'	231° 16.7'	57.5	204° 01.1'	48.5	87° 02.8'	42.3	251° 14.4'	23.3	Denebola	182° 35.8'	14° 30.6 N	229° 03.7'	22.9	333° 20.1'	8.0	06.3	7.4	56°	02:35	03:32	04:14	00:30	01:05	01:31							
04	97° 23.1'	246° 20.5'	56.5	219° 01.7'	48.9	102° 05.4'	42.3	266° 16.6'	23.4	Diphda	348° 57.5'	17° 55.5 S	244° 03.8'	23.8	347° 47.1'	8.0	20° 58.9 N	7.4	58.1	58°	02:17	03:21	04:07	00:46	01:19	01:41						
05	112° 25.6'	261° 24.3'	55.5	234° 02.3'	49.3	117° 08.0'	42.4	281° 18.8'	23.5				259° 03.8'	24.6	2° 14.1'	8.0	51.5	7.7	S 60°	01:56	03:08	03:59	01:06	01:35	01:53							
06	127° 28.1'	276° 28.1'	54.6	249° 02.9'	49.7	132° 10.7'	42.4	296° 21.0'	23.6	Dubhe	193° 54.3'	61° 41.3 N	274° 03.9'	25.4	16° 41.1'	8.0	43.8	7.7	S 62°	01:26	02:54	03:49	01:31	01:54	02:07							
07	142° 30.5'	291° 31.9'	53.6	264° 03.5'	50.1	147° 13.3'	42.5	311° 23.2'	23.7	Elath	278° 14.8'	28° 37.0 N	289° 03.9'	26.3	31° 08.1'	8.1	36.1	7.9														
08	157° 33.0'	306° 35.7'	52.6	279° 04.1'	50.5	162° 15.9'	42.6	326° 25.4'	23.8	Elnath	90° 47.4'	51° 29.5 N	304° 03.9'	27.1	45° 35.2'	8.1	28.2	8.0														
09	172° 35.5'	321° 39.5'	51.7	294° 04.6'	50.9	177° 18.5'	42.6	341° 27.6'	23.9	Enif	33° 48.9'	9° 55.7 N	319° 04.0'	27.9	60° 02.3'	8.2	20.2	8.1	58.2	Lat	Sunset	Twilight		Moonset								
10	187° 37.9'	336° 43.3'	50.7	309° 05.2'	51.3	192° 21.2'	42.7	356° 29.7'	24.0	Fomalhaut	15° 25.8'	29° 33.8 S	334° 04.0'	28.7	74° 29.5'	8.1	12.1	8.2														
11	202° 40.4'	351° 47.1'	49.7	324° 05.8'	51.7	207° 23.8'	42.7	11° 31.9'	24.1				349° 04.0'	29.6	88° 56.6'	8.3	03.9	8.4														

Main table containing astronomical data for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, twilight, sunrise, moonset, and moon phase. Includes columns for GMT, planet names, coordinates, magnitudes, and various astronomical parameters.

2010 November 3, 4, 5 (Wed, Thur, Fri)

GMT	ARIES			VENUS ^{-4.2}			MARS ^{+1.4}			JUPITER ^{-2.7}			SATURN ^{+0.9}			STARS			SUN		MOON					Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	Dec	Mag	GHA	Dec	Mag	GHA	Dec	Mag	Name	SHA	Dec	GHA	Dec	GHA	Mag	Dec	Mag	Phase	HP	N	Nautical	Civil	Time	3	4	5		
3 00	42° 09.0	193° 33.2	16° 59.4 S	160° 08.6	21° 32.7 S	47° 07.9	210° 31.5	2° 35.8 S	210° 31.5	2° 35.8 S	210° 31.5	2° 35.8 S	Acamar	315° 19.3	40° 15.5 S	184° 06.5	14° 57.5 S	227° 08.7	10.0	3° 20.7 S	14.9	60.2	N 72°	06:17	07:42	09:15	03:55	06:19	09:17			
01	42° 09.0	193° 33.2	16° 59.4 S	160° 08.6	21° 32.7 S	47° 07.9	210° 31.5	2° 35.8 S	210° 31.5	2° 35.8 S	210° 31.5	2° 35.8 S	Acamar	315° 19.3	40° 15.5 S	184° 06.5	14° 57.5 S	227° 08.7	10.0	3° 20.7 S	14.9	60.2	N 70°	06:12	07:27	08:45	03:49	06:00	08:27			
02	42° 09.0	193° 33.2	16° 59.4 S	160° 08.6	21° 32.7 S	47° 07.9	210° 31.5	2° 35.8 S	210° 31.5	2° 35.8 S	210° 31.5	2° 35.8 S	Acamar	315° 19.3	40° 15.5 S	184° 06.5	14° 57.5 S	227° 08.7	10.0	3° 20.7 S	14.9	60.2	N 68°	06:07	07:16	08:23	03:44	05:45	07:56			
03	72° 13.9	223° 40.4	57.3	190° 09.8	33.5	77° 13.1	48.4	240° 35.9	36.0	190° 09.8	33.5	77° 13.1	Acrux	173° 12.2	63° 09.4 S	214° 06.5	59.0	256° 06.6	10.0	50.5	14.9	66°	66°	06:03	07:06	08:06	03:39	05:33	07:33			
04	87° 16.4	238° 44.0	56.3	205° 10.3	33.8	92° 15.7	48.5	255° 38.1	36.2	205° 10.3	33.8	92° 15.7	Adhara	255° 38.1	28° 59.0 S	229° 06.5	59.8	270° 35.6	9.9	4° 05.4 S	14.9	64°	64°	06:00	06:57	07:51	03:35	05:24	07:15			
05	102° 18.8	253° 47.7	55.3	220° 10.9	34.2	107° 18.3	48.5	270° 40.3	36.3	220° 10.9	34.2	107° 18.3	Aldebaran	290° 51.3	16° 31.9 N	244° 06.5	15° 00.6 S	285° 04.5	9.8	20.3	14.9	62°	62°	05:57	06:50	07:40	03:32	05:15	07:00			
06	117° 21.3	268° 51.3	54.2	235° 11.4	34.5	122° 20.9	48.6	285° 42.5	36.4	235° 11.4	34.5	122° 20.9	Aldebaran	290° 51.3	16° 31.9 N	244° 06.5	15° 00.6 S	285° 04.5	9.8	20.3	14.9	62°	62°	05:57	06:50	07:40	03:32	05:15	07:00			
07	132° 23.8	283° 54.9	53.2	250° 12.0	34.9	137° 23.5	48.6	300° 44.7	36.5	250° 12.0	34.9	137° 23.5	Alioth	166° 22.7	55° 53.9 N	274° 06.5	02.2	314° 02.2	9.8	50.0	14.8	60°	60°	05:54	06:44	07:29	03:29	05:08	06:48			
08	147° 26.2	298° 58.5	52.1	265° 12.6	35.2	152° 26.1	48.7	315° 46.9	36.6	265° 12.6	35.2	152° 26.1	Alkaid	153° 00.8	49° 15.5 N	289° 06.5	02.9	328° 31.0	9.8	5° 04.8 S	14.8	58°	58°	05:48	06:33	07:13	03:25	04:56	06:28			
09	162° 28.7	314° 02.1	51.1	280° 13.1	35.6	167° 28.7	48.7	330° 49.1	36.7	280° 13.1	35.6	167° 28.7	Alnair	27° 45.9	46° 54.6 S	304° 06.5	03.7	342° 59.8	9.8	19.6	14.7	54°	54°	05:46	06:28	07:06	03:23	04:51	06:20			
10	177° 31.2	329° 05.7	50.1	295° 13.7	36.0	182° 31.2	48.7	345° 51.3	36.8	295° 13.7	36.0	182° 31.2	Alnilam	275° 48.0	1° 11.6 S	319° 06.5	04.5	357° 28.6	9.7	34.3	14.8	52°	52°	05:44	06:24	07:00	03:21	04:47	06:13			
11	192° 33.6	344° 09.3	49.0	310° 14.2	36.3	197° 33.8	48.8	370° 51.3	36.9	310° 14.2	36.3	197° 33.8	Alphard	217° 58.0	8° 42.3 S	334° 06.5	05.3	11° 57.3	9.7	49.1	14.7	50°	50°	05:42	06:20	06:54	03:19	04:43	06:07			
12	207° 36.1	359° 12.9	48.0	325° 14.8	36.7	212° 36.4	48.8	15° 55.7	37.0	325° 14.8	36.7	212° 36.4	Alphard	217° 58.0	8° 42.3 S	334° 06.5	05.3	11° 57.3	9.7	49.1	14.7	50°	50°	05:42	06:20	06:54	03:19	04:43	06:07			
13	222° 38.6	14° 16.5	16° 47.0 S	340° 15.3	21° 37.0 S	227° 39.0	3° 48.9 S	30° 58.0	2° 37.1 S	340° 15.3	21° 37.0 S	227° 39.0	Alphecca	126° 13.0	26° 40.8 N	4° 06.5	15° 06.8 S	40° 54.6	9.6	6° 18.4 S	14.7	60.2	N 40°	05:32	06:04	06:32	03:13	04:27	05:41			
14	237° 41.0	29° 20.1	45.9	355° 15.9	37.4	242° 41.6	48.9	46° 00.2	37.2	29° 20.1	45.9	355° 15.9	Alpheratz	357° 45.2	29° 09.3 S	19° 06.5	07.6	55° 23.2	9.6	33.1	14.6	35°	35°	05:27	05:57	06:24	03:10	04:21	05:32			
15	252° 43.5	44° 23.7	44.9	10° 16.5	37.7	67° 10.2	48.9	61° 02.4	37.3	44° 23.7	44.9	10° 16.5	Altair	62° 10.2	8° 54.0 N	34° 06.5	08.4	69° 51.8	9.5	47.7	14.5	30°	30°	05:23	05:51	06:16	03:08	04:15	05:23			
16	267° 45.9	59° 27.3	43.9	25° 17.0	38.1	272° 46.8	49.0	76° 04.6	37.4	59° 27.3	43.9	25° 17.0	Ankaa	353° 17.2	42° 14.8 S	49° 06.5	09.2	84° 20.3	9.5	7° 02.2 S	14.5	20°	20°	05:14	05:40	06:03	03:04	04:06	05:09			
17	282° 48.4	74° 30.8	42.8	40° 17.6	38.4	287° 49.4	49.0	91° 06.8	37.5	74° 30.8	42.8	40° 17.6	Antares	112° 28.9	26° 27.3 S	64° 06.5	10.0	98° 48.8	9.5	16.7	14.5	N 10°	05:04	05:29	05:51	03:01	03:58	04:56				
18	297° 50.9	89° 34.4	41.8	55° 18.1	38.8	302° 51.9	49.1	106° 09.0	37.6	89° 34.4	41.8	55° 18.1	Antares	112° 28.9	26° 27.3 S	64° 06.5	10.0	98° 48.8	9.5	16.7	14.5	0°	0°	04:54	05:19	05:40	02:58	03:50	04:45			
19	312° 53.3	104° 38.0	40.8	70° 18.7	39.2	317° 54.5	49.1	121° 11.2	37.7	104° 38.0	40.8	70° 18.7	Arcturus	145° 57.8	19° 07.6 N	94° 06.5	11.5	127° 45.7	9.4	45.6	14.4	S 10°	04:42	05:07	05:29	02:55	03:43	04:33				
20	327° 55.8	119° 41.6	39.7	85° 19.2	39.5	332° 57.1	49.2	136° 13.4	37.8	119° 41.6	39.7	85° 19.2	Arcturus	145° 57.8	19° 07.6 N	94° 06.5	11.5	127° 45.7	9.4	45.6	14.4	20°	20°	04:27	04:54	05:17	02:52	03:35	04:21			
21	342° 58.3	134° 45.2	38.7	100° 19.8	39.9	347° 59.7	49.2	151° 15.6	37.9	134° 45.2	38.7	100° 19.8	Avior	234° 18.8	59° 32.4 S	124° 06.5	13.1	156° 42.4	9.3	14.4	14.3	30°	30°	04:07	04:38	05:03	02:49	03:26	04:07			
22	358° 00.7	149° 48.7	37.7	115° 20.3	40.2	3° 02.3	49.3	166° 17.8	38.0	149° 48.7	37.7	115° 20.3	Bellatrix	278° 33.8	6° 21.6 N	139° 06.5	13.8	171° 10.7	9.2	28.7	14.2	35°	35°	03:55	04:28	04:55	02:47	03:21	03:59			
23	13° 03.2	164° 52.3	36.6	130° 20.9	40.6	18° 04.9	49.3	181° 20.0	38.2	164° 52.3	36.6	130° 20.9	Betelgeuse	271° 03.1	7° 24.6 N	154° 06.5	14.6	185° 38.9	9.2	42.9	14.2	40°	40°	03:41	04:16	04:46	02:44	03:16	03:50			
00	28° 05.7	179° 55.9	35.6	145° 21.5	40.9	33° 07.5	49.3	196° 22.2	38.3	179° 55.9	35.6	145° 21.5	Betelgeuse	271° 03.1	7° 24.6 N	154° 06.5	14.6	185° 38.9	9.2	42.9	14.2	45°	45°	03:22	04:02	04:35	02:42	03:09	03:39			
4 01	43° 08.1	194° 59.4	16° 34.6 S	160° 22.0	21° 41.3 S	48° 10.0	3° 49.4 S	211° 24.4	2° 38.4 S	160° 22.0	21° 41.3 S	48° 10.0	Canopus	263° 56.7	52° 41.4 N	184° 06.5	15° 16.2 S	214° 35.3	9.1	9° 11.2 S	14.1	60.2	S 50°	02:58	03:45	04:22	02:39	03:01	03:27			
02	58° 10.6	210° 03.0	34.5	175° 22.6	41.6	63° 12.6	49.4	226° 26.6	38.5	210° 03.0	34.5	175° 22.6	Capella	280° 36.9	46° 00.4 N	199° 06.5	16.9	229° 03.4	9.1	25.3	14.0	52°	52°	02:46	03:36	04:15	02:37	02:58	03:21			
03	73° 13.0	225° 06.6	32.5	190° 23.1	42.0	78° 15.2	49.5	241° 28.8	38.6	190° 23.1	42.0	78° 15.2	Deneb	49° 32.9	45° 19.5 N	214° 06.4	17.7	243° 31.5	9.0	39.3	14.0	54°	54°	02:32	03:27	04:09	02:36	02:54	03:14			
04	88° 15.5	240° 10.1	31.5	205° 23.7	42.3	93° 17.8	49.5	256° 31.0	38.7	240° 10.1	31.5	205° 23.7	Denebola	182° 35.8	14° 30.6 N	229° 06.4	18.5	257° 59.5	9.0	53.3	13.9	56°	56°	02:14	03:16	04:01	02:34	02:49	03:07			
05	103° 18.0	255° 13.7	30.4	220° 24.2	42.7	108° 20.4	49.5	271° 33.2	38.8	255° 13.7	30.4	220° 24.2	Diphda	348° 57.5	17° 55.5 S	244° 06.4	19.2	272° 27.5	8.9	10° 07.2 S	13.9	58°	58°	01:53	03:04	03:52	02:32	02:44	02:59			
06	118° 20.4	270° 17.2	29.4	235° 24.8	43.0	123° 22.9	49.6	286° 35.4	38.9	270° 17.2	29.4	235° 24.8	Diphda	348° 57.5	17° 55.5 S	244° 06.4	19.2	272° 27.5	8.9	10° 07.2 S	13.9	58°	58°	01:53	03:04	03:52	02:32	02:44	02:59			
07	133° 22.9	285° 20.8	28.4	250° 25.3	43.4	138° 25.5	49.6	301° 37.6	39.0	285° 20.8	28.4	250° 25.3	Dubhe	193° 54.2	61° 41.2 N	274° 06.4	20.8	301° 23.3	8.8	34.8	13.8	S 62°	00:37	02:31	03:31	02:28	02:33	02:40				
08	148° 25.4	300° 24.3	27.3	265° 25.9	43.7	153° 28.1	49.7	316° 39.8	39.1	300° 24.3	27.3	265° 25.9	Elnath	278° 14.7	28° 37.0 N	289° 06.4	21.6															

2010 November 6, 7, 8 (Sat, Sun, Mon)

Main table containing astronomical data for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, and twilight information. Includes columns for GMT, planet/star names, coordinates, and times.

GMT	ARIES			VENUS			-4.4			MARS			+1.4			JUPITER			-2.7			SATURN			+0.9			STARS			SUN		MOON					Lat		Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	06:40	08:10	10:01	-	-	-										
g 00	48° 03' 8	201° 45' 0	14° 34' 5 S	161° 26' 6	22° 20' 9 S	53° 17' 7	3° 53' 2 S	215° 49' 1	2° 50' 7 S	Acamar	315° 19' 3	40° 15' 6 S	184° 03' 2	16° 45' 8 S	146° 16' 5	6' 9	24° 13' 0 S	1' 1	57' 5	N 70°	06:32	07:51	09:18	-	-	-																				
01	63° 06' 3	216° 48' 2	33' 6	176° 27' 1	21' 2	68° 20' 3	53' 3	230° 51' 3	50' 8	Acnarnar	335° 27' 5	57° 10' 9 S	199° 03' 1	46' 5	160° 42' 4	6' 9	11' 9	1' 3	57' 4	N 70°	06:32	07:51	09:18	-	-	-																				
02	78° 08' 7	231° 51' 4	32' 6	191° 27' 7	21' 5	83° 22' 8	53' 3	245° 53' 5	50' 9	Acruz	173° 12' 1	63° 09' 4 S	214° 03' 1	47' 2	175° 08' 3	7' 0	10' 6	1' 4	57' 4	N 66°	06:20	07:24	08:28	14:20	14:00	13:53																				
03	93° 11' 2	246° 54' 5	31' 7	206° 28' 2	21' 8	98° 25' 4	53' 3	255° 55' 7	51' 0	Adhara	255° 13' 8	28° 59' 1 S	229° 03' 0	47' 9	189° 34' 3	7' 0	09' 2	1' 5	57' 3	N 64°	06:15	07:14	08:11	13:06	13:23	13:29																				
04	108° 13' 7	261° 57' 7	30' 7	221° 28' 7	22' 1	113° 27' 9	53' 3	275° 57' 9	51' 1	Aldebaran	290° 51' 2	16° 31' 9 N	244° 03' 0	48' 6	204° 00' 3	7' 1	07' 7	1' 7	57' 3	N 62°	06:11	07:05	07:57	12:30	12:56	13:10																				
05	123° 16' 1	277° 00' 9	29' 8	236° 29' 2	22' 4	128° 30' 5	53' 4	291° 00' 1	51' 2	Alger	259° 02' 9	49' 4	218° 26' 4	7' 2	218° 26' 4	7' 2	06' 0	1' 9	57' 3	N 60°	06:06	06:57	07:45	12:03	12:35	12:54																				
06	138° 18' 6	292° 04' 0	28' 9	251° 29' 7	22' 7	143° 33' 0	53' 4	306° 02' 4	51' 3	Alioth	166° 22' 7	55° 53' 8 N	274° 02' 9	50' 1	232° 52' 6	7' 2	04' 1	1' 9	57' 3	N 58°	06:03	06:51	07:35	11:43	12:18	12:41																				
07	153° 21' 1	307° 07' 2	27' 9	266° 30' 3	23' 0	158° 35' 6	53' 4	321° 04' 6	51' 4	Alkaid	153° 00' 8	49° 15' 4 N	289° 02' 8	50' 8	247° 18' 8	7' 3	02' 2	2' 1	57' 2	N 56°	05:59	06:44	07:26	11:26	12:03	12:30																				
08	168° 23' 5	322° 10' 3	27' 0	281° 30' 8	23' 3	173° 38' 1	53' 4	336° 06' 8	51' 5	Alnair	27° 45' 9	46° 54' 6 S	304° 02' 7	51' 5	261° 45' 1	7' 4	00' 1	2' 3	57' 2	N 54°	05:56	06:39	07:18	11:11	11:51	12:20																				
09	183° 26' 0	337° 13' 5	26' 0	296° 31' 3	23' 6	188° 40' 6	53' 5	351° 09' 0	51' 6	Alnilam	275° 48' 0	6° 11' 6 S	319° 02' 7	52' 2	276° 11' 5	7' 4	23° 57' 8 S	2' 4	57' 2	N 52°	05:53	06:34	07:11	10:59	11:40	12:11																				
10	198° 28' 5	352° 16' 6	25' 1	311° 31' 8	23' 9	203° 43' 2	53' 5	6° 11' 2	51' 7	Alphard	217° 58' 0	8° 42' 3 S	334° 02' 6	52' 9	290° 37' 9	7' 5	55' 4	2' 5	57' 1	N 50°	05:50	06:29	07:04	10:48	11:30	12:03																				
11	213° 30' 9	7° 19' 8	24' 2	326° 32' 3	24' 2	218° 45' 7	53' 5	2° 13' 4	51' 8	Alresata	349° 02' 6	53' 6	305° 04' 4	7' 5	52' 9	2' 0	9	2' 6	57' 1	N 45°	05:44	06:19	06:51	10:25	11:09	11:45																				
12	228° 33' 4	22° 22' 9	14° 23' 2 S	341° 32' 9	22° 24' 5 S	233° 48' 3	3° 53' 5 S	36° 15' 6	2° 51' 9 S	Alphecca	126° 13' 0	26° 40' 7 N	4° 02' 5	16° 54' 4 S	319° 30' 9	7' 7	23° 50' 3 S	2' 8	57' 1	N 40°	05:38	06:10	06:39	10:06	10:52	11:31																				
13	243° 35' 9	37° 26' 0	22' 3	356° 33' 4	24' 8	248° 50' 8	53' 5	51° 17' 8	52' 0	Alpheratz	357° 45' 2	29° 09' 3 N	19° 02' 5	55' 1	333° 57' 6	7' 7	47' 5	3' 0	57' 0	N 35°	05:32	06:03	06:29	09:50	10:38	11:19																				
14	258° 38' 3	52° 29' 2	21' 4	11° 33' 9	25' 1	263° 53' 3	53' 6	66° 20' 0	52' 1	Altair	62° 10' 2	8° 54' 0 N	34° 02' 4	55' 8	348° 24' 3	7' 8	44' 5	3' 0	57' 0	N 30°	05:27	05:56	06:21	09:37	10:26	11:09																				
15	273° 40' 8	67° 32' 3	20' 5	26° 34' 4	25' 4	278° 55' 9	53' 6	81° 22' 3	52' 2	Ankaa	353° 17' 2	42° 14' 8 S	49° 02' 4	56' 5	2° 51' 1	7' 8	41' 5	3' 2	57' 0	N 20°	05:16	05:43	06:06	09:14	10:05	10:50																				
16	288° 43' 2	82° 35' 4	19' 5	41° 34' 9	25' 8	293° 58' 4	53' 6	96° 24' 5	52' 3	Antares	112° 28' 9	26° 27' 3 S	64° 02' 3	57' 2	17° 17' 9	8' 0	38' 3	3' 3	56' 9	N 10°	05:06	05:31	05:53	08:54	09:46	10:35																				
17	303° 45' 7	97° 38' 5	18' 6	56° 35' 5	26' 1	309° 01' 0	53' 6	111° 26' 7	52' 4	Arcturus	145° 57' 8	19° 07' 5 N	94° 02' 2	58' 6	46° 11' 9	8' 1	31' 5	3' 6	56' 8	N 0°	04:54	05:19	05:40	08:35	09:29	10:20																				
18	318° 48' 2	112° 41' 6	17' 7	71° 36' 0	26' 4	324° 03' 5	53' 6	126° 28' 9	52' 5	Arcturus	145° 57' 8	19° 07' 5 N	94° 02' 2	58' 6	46° 11' 9	8' 1	31' 5	3' 6	56' 8	S 10°	04:40	05:06	05:28	08:16	09:12	10:05																				
19	333° 50' 6	127° 44' 7	16' 8	86° 36' 5	26' 7	339° 06' 0	53' 7	141° 31' 1	52' 6	Arcturus	145° 57' 8	19° 07' 5 N	94° 02' 2	58' 6	46° 11' 9	8' 1	31' 5	3' 6	56' 8	S 20°	04:24	04:51	05:14	07:56	08:53	09:49																				
20	348° 53' 1	142° 47' 8	15' 8	101° 37' 0	27' 0	354° 08' 6	53' 7	156° 33' 3	52' 7	Avior	234° 18' 7	59° 32' 4 S	124° 02' 1	17° 00' 0 S	75° 06' 1	8' 3	24' 2	3' 8	56' 8	S 30°	04:02	04:33	04:59	07:33	08:32	09:30																				
21	3° 55' 6	157° 50' 9	14' 9	116° 37' 5	27' 3	9° 11' 1	53' 7	171° 35' 5	52' 8	Bellatrix	278° 33' 7	6° 21' 6 N	139° 02' 0	00' 7	89° 33' 4	8' 3	20' 4	4' 0	56' 8	S 35°	03:49	04:22	04:50	07:19	08:19	09:20																				
22	18° 58' 0	172° 54' 0	14' 0	131° 38' 0	27' 6	24° 13' 7	53' 7	186° 37' 1	52' 9	Betelgeuse	271° 03' 1	7° 24' 9 S	154° 02' 0	01' 5	104° 00' 7	8' 4	16' 4	4' 1	56' 7	S 40°	03:33	04:09	04:39	07:04	08:05	09:07																				
23	34° 00' 5	187° 57' 1	13' 1	146° 38' 6	27' 9	39° 16' 2	53' 8	201° 39' 9	53' 0	Betelgeuse	271° 03' 1	7° 24' 9 S	154° 02' 0	01' 5	104° 00' 7	8' 4	16' 4	4' 1	56' 7	S 45°	03:12	03:54	04:27	06:45	07:48	08:53																				
10 00	49° 03' 0	203° 00' 2	14° 12' 2 S	161° 39' 1	22° 28' 2 S	54° 18' 7	3° 53' 8 S	216° 42' 2	2° 53' 1 S	Canopus	263° 56' 6	52° 41' 6 N	184° 01' 9	17° 02' 9 S	132° 55' 6	8' 5	23° 08' 1 S	4' 3	56' 7	S 50°	02:45	03:34	04:12	06:22	07:27	08:35																				
01	64° 05' 4	218° 03' 3	11' 3	176° 39' 6	21' 8	69° 21' 3	53' 8	231° 44' 4	53' 2	Capella	280° 36' 8	46° 00' 5 N	199° 01' 8	03' 6	147° 23' 1	8' 7	03' 8	4' 5	56' 6	S 52°	02:31	03:25	04:05	06:11	07:16	08:26																				
02	79° 07' 9	233° 06' 4	10' 3	191° 40' 1	28' 8	84° 23' 8	53' 8	246° 46' 6	53' 3	Deneb	49° 32' 9	45° 19' 5 N	214° 01' 8	04' 3	161° 50' 8	8' 7	22° 59' 3 S	4' 6	56' 4	S 54°	02:14	03:14	03:57	05:58	07:05	08:17																				
03	94° 10' 3	248° 09' 5	09' 4	206° 40' 6	28' 1	99° 26' 3	53' 8	261° 48' 8	53' 4	Denebola	182° 31' 7	05' 0	229° 01' 7	05' 0	176° 18' 5	8' 8	54° 30' 4	4' 6	56' 4	S 56°	01:54	03:01	03:48	05:43	06:52	08:06																				
04	109° 12' 8	263° 12' 5	08' 5	221° 41' 1	29' 4	114° 28' 9	53' 9	276° 51' 0	53' 5	Diphda	348° 57' 5	17° 55' 5 S	244° 01' 6	05' 7	190° 46' 3	8' 9	50' 0	4' 8	56' 5	S 58°	01:26	02:47	03:38	05:26	06:36	07:54																				
05	124° 15' 3	278° 15' 6	07' 6	236° 41' 7	29' 7	129° 31' 4	53' 9	291° 53' 2	53' 6	Diphda	348° 57' 5	17° 55' 5 S	244° 01' 6	05' 7	190° 46' 3	8' 9	50' 0	4' 8	56' 5	S 60°	00:43	02:29	03:27	05:05	06:18	07:39																				
06	139° 17' 7	293° 18' 7	06' 7	251° 42' 2	30' 0	144° 33' 9	53' 9	306° 55' 4	53' 7	Dubhe	193° 54' 1	61° 41' 2 N	274° 01' 5	07' 1	219° 42' 2	9' 1	40' 3	5' 1	56' 4	S 62°	-	02:07	03:13	04:38	05:56	07:22																				
07	154° 20' 2	308° 21' 8	05' 8	266° 42' 7	30' 3	159° 36' 5	53' 9	321° 57' 6	53' 8	Elnath	278° 14' 7	28° 37' 0 N	289° 01' 5	07' 8	234° 10' 3	9' 1	35' 2	5' 2	56' 4	S 62°	-	02:07	03:13	04:38	05:56	07:22																				
08	169° 22' 7	323° 24' 8	04' 9	281° 43' 2	30' 5	174° 39' 0	53' 9	336° 59' 9	53' 9	Elnath	278° 14' 7	28° 37' 0 N	289° 01' 5	07' 8	234° 10' 3	9' 1	35' 2	5' 2	56' 4	S 62°	-	02:07	03:13	04:38	05:56	07:22																				
09	184° 25' 1	338° 27' 9	04' 0	296° 43' 7	30' 8	189° 41' 6	53' 9	352° 02' 1	54' 0	Enif	33° 48' 9	9° 55' 7 N	319° 01' 3	09' 2	263° 06' 6	9' 4	24' 8	5' 4	56' 3	S 62°	-	02:07	03:13	04:38	05:56	07:22																				
10	199° 27' 6	353° 30' 9	03' 1	311° 44' 2	31' 1	204° 44' 1	54' 0	7° 04' 3	54' 1	Fomalhaut	15° 25' 9	29° 33' 8 S	334° 01' 3	09' 9	277° 35' 0	9' 4	19' 4	5' 5	56' 3	S 62°	-	02:07	03:13	04:38	05:56	07:22																				
11	214° 30' 1	8° 34' 0	02' 2	326° 44' 7	31' 4	219° 46' 6	54' 0	22° 06' 5	54' 2	Fomalhaut	15° 25' 9	29° 33' 8 S	334° 01' 3	09' 9	277° 35' 0	9' 4	19' 4	5' 5	56' 3	S 62°	-	02:07	03:13	04:38	05:56	07:22																				
12	229° 32' 5	23° 37' 0	14° 01' 3 S	341° 45' 3	22° 31' 7 S	234° 49' 2	3° 54' 0 S	37° 08' 7	2° 54' 3 S	Gacrux	172° 03' 6	57° 10' 3 S	4° 01' 1	17° 11' 3 S	306° 31' 9	9' 5	22° 08' 2 S	5' 7	56' 3	N 70°	13:25	15:16	16:46	-	-	-																				
13	244° 35' 0	38° 40' 1	00' 4	356° 45' 8	32' 0	249° 51' 7	54' 0	52° 10' 9	54' 4	Gienah	175° 54' 5	17° 36' 1 S	19° 01' 1	12' 0	321° 00' 4	9' 7	02' 5	5' 8	56' 2	N 70°	14:09	15:35	16:54	-	-	18:02																				
14	259° 37' 5	53° 43' 1	13° 59' 5 S	11° 46' 3	32' 3																																									

GMT	ARIES			VENUS -4.5		MARS +1.4		JUPITER -2.7		SATURN +0.9		STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise					
	GHA			GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Nautical	Civil		12	13	14			
Fri 12	00	51° 01' 2	205° 24' 1	13° 30' 0	S	162° 03' 6	22° 42' 1	56° 20' 1	3° 54' 6	218° 28' 4	2° 57' 9	S	Acamar	315° 19' 3	40° 15' 6	183° 58' 7	17° 36' 2	108° 35' 7	12' 6	17° 41' 0	S	55.2	N 72°	06:52	08:24	10:31	15:06	14:27	14:01	
	01	66° 03' 7	220° 27' 0	29.1		177° 04' 1	42.4	71° 22' 7	54.2	233° 30' 6	57.9	S	Achernar	335° 27' 5	57° 10' 9	198° 58' 6	36.9	130° 07' 3	12.8	32.0	9.0			N 70°	06:42	08:03	09:36	14:31	14:08	13:52
	02	81° 06' 2	235° 29' 8	28.3		192° 04' 6	42.7	86° 25' 2	54.6	248° 32' 8	58.0	S	Acruz	173° 12' 1	63° 09' 4	213° 58' 5	37.5	137° 39' 1	12.8	23.0	9.1			N 68°	06:35	07:47	09:03	14:06	13:54	13:44
	23	36° 57' 9	191° 29' 8	11.0		147° 15' 1	48.5	42° 18' 0	54.8	204° 19' 4	00.1	S	Saturn	167° 21' 2	09:21			SD	16' 2	d	0' 7			SD	15' 0	14' 9	14' 8	17:18	14:44	18:42

GMT	ARIES	VENUS -4.5			MARS +1.4			JUPITER -2.7			SATURN +0.9			STARS			SUN			MOON					Twilight		Sunrise			Moonrise		
		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	Lat	Nautical	Civil	11:25	15	16	17	15	16	17	
Monday	00		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:02	08:38	11:25	13:39	13:19	12:57				
	01	53° 58'.7	208° 43'.0	12° 33'.9 S	162° 39'.3	23° 01'.4 S	59° 20'.8	3° 55'.2 S	221° 08'.1	3° 04'.8 S	Acamar	315° 19'.3	40° 15'.6 S	183° 52'.3	18° 23'.8 S	77° 13'.8	16'.3	4° 45'.4 S	12'.0	54'.2	N 70°	06:52	08:15	09:55	13:37	13:23	13:08					
	02	69° 01'.1	223° 45'.6	33'.2	177° 39'.8	01'.7	74° 23'.3	55'.2	236° 10'.3	04'.9	Achernar	335° 27'.5	57° 10'.9 S	199° 52'.2	24'.5	91° 49'.1	16'.4	33°.4	11'.9	68°	68°	06:43	07:57	09:17	13:34	13:26	13:16					
	03	84° 03'.6	238° 48'.2	32.4	192° 40'.3	01.9	89° 25'.8	55'.2	251° 12'.5	05.0	Acrux	173° 12'.1	63° 09'.4 S	213° 52'.1	25.1	106° 24'.5	16'.3	21°.5	12'.0	66°	66°	06:36	07:42	08:50	13:33	13:28	13:24					
	04	99° 06'.0	253° 50'.8	31.7	207° 40'.0	02.2	104° 28'.3	55'.2	266° 14'.7	05.1	Adhara	255° 13'.8	28° 59'.1 S	228° 52'.0	25.8	120° 59'.8	16'.4	09°.5	12'.0	64°	64°	06:29	07:30	08:30	13:31	13:30	13:30					
	05	114° 08'.5	268° 53'.4	31.0	222° 41'.3	02.4	119° 30'.8	55'.2	281° 17'.0	05.2	Aldebaran	290° 51'.2	16° 31'.9 N	243° 51'.9	26.4	135° 35'.2	16'.4	3° 57'.5 S	12'.0	62°	62°	06:24	07:20	08:14	13:29	13:32	13:35					
	06	129° 11'.0	283° 56'.0	30.3	237° 41'.7	02.7	134° 33'.3	55'.2	296° 19'.2	05.3											60°	06:19	07:11	08:00	13:28	13:34	13:40					
	07	144° 13'.4	298° 58'.6	29.6	252° 42'.2	02.9	149° 35'.8	55'.2	311° 21'.4	05.4	Alioth	166° 22'.6	55° 53'.8 N	273° 51'.7	27.7	164° 46'.1	16'.4	33°.4	12'.0	N 58°	06:14	07:03	07:48	13:27	13:35	13:44						
	08	159° 15'.9	314° 01'.2	28.9	267° 42'.7	03.2	164° 38'.3	55'.2	326° 23'.6	05.5	Alkaid	153° 00'.7	49° 15'.4 N	288° 51'.6	28.3	179° 21'.5	16'.4	21°.4	12'.1	56°	06:10	06:56	07:38	13:26	13:36	13:48						
	09	174° 18'.4	329° 03'.8	28.2	282° 43'.2	03.4	179° 40'.8	55'.2	341° 25'.8	05.6	Alnair	27° 45'.9	46° 54'.6 S	303° 51'.5	29.0	193° 56'.9	16'.5	09°.3	12'.1	54°	06:06	06:49	07:29	13:25	13:38	13:51						
	10	189° 20'.8	344° 06'.4	27.5	297° 43'.7	03.7	194° 43'.3	55'.2	356° 28'.1	05.7	Alnilam	275° 58'.0	1° 11'.6 S	318° 51'.4	29.6	208° 32'.4	16'.4	2° 57'.2 S	12'.0	52°	06:02	06:44	07:21	13:24	13:39	13:54						
	11	204° 23'.3	359° 09'.0	26.8	312° 44'.2	03.9	209° 45'.8	55'.2	1° 30'.3	05.8	Alphard	217° 57'.9	8° 42'.3 S	333° 51'.3	30.2	223° 07'.8	16'.5	45°.2	12'.1	50°	05:59	06:38	07:14	13:23	13:40	13:57						
	12	219° 25'.8	14° 11'.6	26.1	327° 44'.7	04.2	224° 48'.3	55'.2	26° 32'.6	05.8										45°	05:51	06:27	06:59	13:22	13:42	14:03						
	13	234° 28'.2	29° 14'.1	12° 25'.4 S	342° 45'.1	23° 04'.4 S	239° 50'.8	3° 55'.2 S	41° 34'.7	3° 05'.9 S	Alphecca	126° 12'.9	26° 40'.7 N	3° 51'.1	18° 31'.5 S	252° 18'.8	16'.4	2° 21'.0 S	12'.1	54'.2	N 40°	05:44	06:17	06:46	13:20	13:44	14:08					
	14	249° 30'.7	44° 16'.7	24.8	357° 45'.6	04.9	254° 53'.3	55'.2	56° 37'.0	06.0	Alpheratz	357° 45'.3	29° 09'.3 N	18° 51'.0	32.1	266° 54'.2	16'.5	08°.9	12'.2	35°	05:38	06:08	06:35	13:19	13:45	14:12						
	15	264° 33'.1	59° 19'.3	24.1	12° 46'.1	04.7	269° 55'.8	55'.2	71° 39'.2	06.1	Altair	62° 10'.2	8° 54'.0 N	33° 50'.9	32.8	281° 29'.7	16'.5	1° 56'.7 S	12'.1	30°	05:31	06:00	06:26	13:18	13:47	14:16						
	16	279° 35'.6	74° 21'.8	23.4	27° 46'.6	05.2	284° 58'.3	55'.2	86° 41'.4	06.2	Ankaa	353° 17'.2	42° 14'.8 S	48° 50'.8	33.4	296° 05'.2	16'.5	44°.6	12'.1	20°	05:19	05:46	06:09	13:16	13:49	14:23						
	17	294° 38'.1	89° 24'.4	22.7	42° 47'.1	05.4	300° 00'.3	55'.2	101° 43'.6	06.3	Antares	112° 28'.9	26° 27'.3 S	63° 50'.7	34.0	310° 40'.7	16'.5	32°.5	12'.2	N 10°	05:07	05:33	05:55	13:15	13:51	14:29						
	18	309° 40'.5	104° 26'.9	22.0	57° 47'.6	05.7	315° 03'.2	55'.2	116° 45'.8	06.4										0°	04:54	05:19	05:41	13:13	13:54	14:35						
	19	324° 43.0	119° 29'.5	21.3	72° 48'.0	05.9	330° 05'.7	55'.2	131° 48'.1	06.5	Arcturus	145° 57'.7	19° 07'.5 N	93° 50'.4	35.3	339° 51'.7	16'.5	08°.2	12'.2	S 10°	04:39	05:05	05:27	13:12	13:56	14:40						
	20	339° 45.5	134° 32.0	20.7	87° 48'.5	06.2	345° 08'.2	55'.2	146° 50'.3	06.6	Atria	107° 33.0	69° 02'.9 S	108° 50'.3	35.9	354° 27'.2	16'.5	0° 56'.7 S	12'.1	20°	04:21	04:49	05:13	13:10	13:58	14:47						
	21	354° 47.9	149° 34'.6	20.0	102° 49'.0	06.4	0° 10'.7	55.2	161° 52'.5	06.7	Avior	234° 18'.6	59° 32'.4 S	123° 50'.2	36.6	9° 02'.7	16'.5	43'.9	12'.2	30°	03:58	04:29	04:55	13:08	14:01	14:54						
	22	9° 50'.4	164° 37'.1	19.3	117° 49'.5	06.7	15° 13'.2	55.2	176° 54'.7	06.8	Bellatrix	278° 33.7	6° 21'.6 N	138° 50'.1	37.2	23° 38'.2	16'.5	31'.7	12'.2	35°	03:43	04:17	04:45	13:07	14:02	15:58						
23	24° 52'.9	179° 39.7	18.7	132° 50'.0	06.9	30° 15'.7	55.2	191° 56'.9	06.9	Betelgeuse	271° 03'.0	7° 24'.6 N	153° 50'.1	37.8	38° 13'.7	16'.4	19°.5	12'.1	40°	03:26	04:03	04:34	13:06	14:04	15:02							
00	39° 55'.3	194° 42'.2	18.0	147° 50'.5	07.2	45° 18'.2	55.2	206° 59'.2	07.0										45°	03:03	03:46	04:20	13:04	14:06	15:08							
Tuesday	01	54° 57'.8	209° 44'.7	12° 17'.3 S	162° 50'.9	23° 07'.4 S	60° 20'.7	3° 55'.2 S	222° 01'.4	3° 07'.1 S	Canopus	263° 56'.6	52° 41'.6 S	183° 49'.8	18° 39'.1 S	67° 24'.6	16'.5	0° 04'.8 N	12'.2	54'.2	S 50°	02:32	03:24	04:04	13:03	14:08	15:14					
	02	70° 00'.3	224° 47'.2	16.6	177° 51'.9	07.7	75° 23'.2	55'.2	237° 03'.6	07.2	Capella	280° 36'.8	46° 00'.5 N	198° 49'.7	39.7	82° 00'.1	16.5	17°.0	12.2	52°	02:16	03:14	03:56	13:02	14:09	15:17						
	03	85° 02'.7	239° 49'.8	16.0	192° 51'.9	07.9	90° 25'.7	55.2	252° 05'.8	07.3	Deneb	49° 32'.9	45° 19'.5 N	213° 49'.6	40.3	96° 35'.6	16'.4	29°.2	12'.1	54°	01:57	03:02	03:47	13:01	14:11	15:21						
	04	100° 05'.2	254° 52'.3	15.3	207° 52'.4	08.1	105° 28'.2	55.2	182° 35.7	14.0	Denebola	182° 35.7	14° 30'.6 N	228° 49'.5	41.0	111° 11'.0	16.5	41°.3	12.2	56°	01:32	02:47	03:37	13:00	14:12	15:25						
	05	115° 07'.6	269° 54'.8	14.7	222° 52'.9	08.4	120° 30'.6	55.2	282° 10'.3	07.4	Diphda	348° 57'.5	17° 55'.5 S	243° 49'.3	41.6	125° 46'.5	16'.4	53°.5	12.2	58°	00:54	02:31	03:26	12:59	14:13	15:29						
	06	130° 10'.1	284° 57'.3	14.0	237° 53'.4	08.6	135° 33'.1	55.2	297° 12'.5	07.5										S 60°	-	02:10	03:12	12:58	14:15	15:33						
	07	145° 12'.6	299° 59'.8	13.4	252° 53'.8	08.9	150° 35'.6	55.2	312° 14'.7	07.6	Dubhe	193° 54'.1	61° 41'.2 N	273° 49'.1	42.9	154° 57'.4	16'.4	17°.9	12'.1	S 62°	-	01:43	02:57	12:57	14:17	15:39						
	08	160° 15'.0	315° 02'.3	12.7	267° 54'.3	09.1	165° 38'.1	55.2	327° 17'.0	07.7	Elnath	278° 14'.7	28° 37'.0 S	288° 49'.0	43.5	169° 32'.8	16'.4	30°.0	12.2													
	09	175° 17'.5	330° 04'.8	12.0	282° 54'.8	09.4	180° 46'.0	55.2	342° 19'.2	07.8	Elnath	90° 47'.5	51° 29'.5 N	303° 48'.9	44.1	184° 08'.2	16'.4	42°.2	12.2													
	10	190° 20'.0	345° 07'.3	11.4	297° 55'.3	09.6	195° 43'.1	55.2	357° 21'.4	07.9	Enif	33° 49'.0	9° 55'.7 N	318° 48'.8	44.7	198° 43'.6	16'.4	54°.4	12.2	54'.3	Lat	Sunset	Twilight		Moonset							
	11	205° 22'.4	0° 09'.8	10.8	312° 55'.8	09.8	210° 45'.6	55.2	12° 23'.6	08.0	Fomalhaut	15° 25'.9	29° 33'.9 S	333° 48'.7	45.3	213° 19'.0	16'.3	2° 06'.6 N	12'.1					15	16	17						
	12	220° 24'.9	15° 12'.3	10.1	327° 56'.2	10.1	225° 48'.1	55.2	27° 25'.8	08.1																						
	13	235° 27'.4	30° 14'.7	12° 09'.5 S	342° 56'.7	23° 10'.3 S	240° 50'.5	3° 55'.2 S	42° 28'.1	3° 08'.2 S	Gacrux	172° 03'.5	57° 10'.3 S	3° 48'.4	18° 46'.6 S	242° 29'.7	16'.3	2° 30'.9 N	12'.1	54'.3	N 70°	12:04	14:50	16:26	-	01:37	03:25					
	14	250° 29'.8	45° 17'.2	08.8	357° 57'.2	10.6	255° 53'.0	55.2	57° 30'.3	08.3	Gienah	175° 54'.5	17° 36'.1 S	18° 48'.3	47.2	257° 05'.0	16.3	43°.0	12.2	68°	14:12	15:32	16:45	00:03	01:36	03:10						
	15	265° 32'.3	60° 19'.7	08.2	12° 57'.7	10.8	270° 55'.5	55.2	72° 32'.5	08.4	Hadar	148° 51'.3	60° 25'.4 S	33° 48'.2	47.8	271° 40'.3	16.3	52°.2	12.2	66°	14:38	15:46	16:53	00:08	01:36	03:04						
	16	280° 34'.8	75° 22'.2	07.5	27° 58'.1	11.0	285° 58'.0	55.2	87° 34'.7	08.5	Hamal	328° 02'.6	23° 31'.0 N	48° 48'.1	48.5	286° 15'.6	16'.3	3° 07'.3 N	12.1	64°	14:59	15:59	16:59	00:12	01:35	03:00						
	17	295° 37'.2	90° 24'.6	06.9	42° 58'.6	11.3	301° 00'.5	55.2	102° 37'.0	08.6	Kaus Aust.	83° 46'.6	34° 22'.8 S	63° 48'.0	49.1	300° 50'.9	16.2	19°.4	12.2	62°	15:15	16:09	17:05	00:15	01:35	02:56						
	18	310° 39'.7	105° 27'.1	06.3	57° 59'.1	11.5	316° 03'.0	55.1	117° 39'.2	08.7										60°	15:29	16:18	17:10	00:18	01:35	02:52						
	19	325° 42'.1	120° 29'.5	05.6	72° 59'.6	11.8	331° 05'.5																									

2010 November 18, 19, 20 (Thur, Fri, Sat)

GMT	ARIES			VENUS -4.6			MARS +1.4			JUPITER -2.6			SATURN +0.9			STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise					
18 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:13	08:53	-	12:30	11:48	-					
		56° 56' 1"	211° 41' 4"	11° 47' 6" S	163° 13' 8"	23° 18' 7" S	62° 19' 8"	3° 55' 0" S	223° 48' 2"	3° 11' 5" S	Acamar	315° 19' 3"	40° 15' 6" S	183° 44' 1"	19° 08' 6" S	47° 23' 3"	15' 1"	9° 39' 6" N	11' 4"	54' 7"			N 70°	07:01	08:27	10:17	12:50	12:27	11:34					
		71° 58' 5"	226° 43' 8"	47' 1"	178° 14' 3"	18' 9"	77° 22' 3"	55' 0"	238° 50' 4"	11' 6"	Acemnar	335° 27' 5"	57° 10' 9" S	198° 44' 0"	09' 2"	61° 57' 4"	15' 0"	51' 0"	11' 5"	68°	68°	06:52	08:07	09:31	13:06	12:54	12:35							
		87° 01' 0"	241° 46' 1"	46' 5"	193° 14' 8"	19' 2"	92° 24' 8"	55' 0"	253° 52' 6"	11' 7"	Acrux	173° 12' 0"	63° 09' 4" S	213° 43' 9"	09' 8"	76° 31' 4"	15' 0"	10° 02' 5" N	11' 4"	66°	66°	06:43	07:51	09:02	13:19	13:15	13:10							
		102° 03' 5"	256° 48' 4"	45' 9"	208° 15' 2"	19' 4"	107° 27' 2"	55' 0"	268° 54' 9"	11' 8"	Adhara	255° 13' 7"	28° 59' 1" S	228° 43' 7"	10' 4"	91° 05' 4"	14' 9"	13' 9"	11' 4"	64°	64°	06:36	07:38	08:40	13:30	13:31	13:35							
		117° 05' 9"	271° 50' 8"	45' 4"	223° 15' 7"	19' 6"	122° 29' 7"	55' 0"	283° 57' 1"	11' 9"	Aldebaran	290° 51' 2"	16° 31' 9" N	243° 43' 6"	11' 0"	105° 39' 3"	14' 9"	25' 3"	11' 4"	62°	62°	06:30	07:27	08:22	13:39	13:45	13:55							
		132° 08' 4"	286° 53' 1"	44' 8"	238° 16' 2"	19' 8"	137° 32' 2"	54' 9"	298° 59' 3"	12' 0"				258° 43' 5"	11' 6"	120° 13' 2"	14' 8"	36' 7"	11' 3"	60°	60°	06:25	07:17	08:07	13:47	13:57	14:12							
		147° 10' 8"	301° 55' 4"	44' 3"	253° 16' 6"	20' 0"	152° 34' 7"	54' 9"	314° 01' 5"	12' 1"	Alioth	166° 22' 6"	55° 53' 8" N	273° 43' 3"	12' 2"	134° 47' 0"	14' 7"	48' 0"	11' 3"	54' 8"	N 58°	54' 8"	06:20	07:09	07:55	13:54	14:07	14:25						
		162° 13' 3"	316° 57' 7"	43' 7"	268° 17' 1"	20' 3"	167° 37' 1"	54' 9"	329° 03' 8"	12' 2"	Alkaid	153° 00' 7"	49° 15' 4" N	288° 43' 2"	12' 8"	149° 20' 7"	14' 7"	59' 3"	11' 2"	56°	56°	06:15	07:01	07:44	14:00	14:16	14:37							
		177° 15' 8"	332° 00' 0"	43' 1"	283° 17' 6"	20' 5"	182° 39' 6"	54' 9"	344° 06' 0"	12' 3"	Alnair	27° 46' 0"	46° 54' 6" S	303° 43' 1"	13' 4"	163° 54' 4"	14' 7"	11° 10' 5" N	11' 2"	54°	54°	06:11	06:55	07:35	14:06	14:24	14:48							
		192° 18' 2"	347° 02' 3"	42' 6"	298° 18' 1"	20' 7"	197° 42' 1"	54' 9"	359° 08' 2"	12' 4"	Alnilam	275° 48' 0"	1° 11' 6" S	318° 42' 9"	14' 0"	178° 28' 1"	14' 6"	21' 7"	11' 2"	52°	52°	06:07	06:48	07:26	14:11	14:31	14:57							
		207° 20' 7"	2° 04' 6"	42' 0"	313° 18' 5"	20' 9"	212° 44' 5"	54' 9"	14° 10' 4"	12' 5"	Alphard	217° 57' 9"	8° 42' 3" S	333° 42' 8"	14' 6"	193° 01' 7"	14' 5"	32' 9"	11' 1"	50°	50°	06:03	06:43	07:19	14:16	14:38	15:06							
		222° 23' 2"	17° 06' 9"	41' 5"	328° 19' 0"	21' 2"	227° 47' 0"	54' 9"	29° 12' 7"	12' 5"				348° 42' 7"	15' 2"	207° 35' 2"	14' 5"	44' 0"	11' 1"	45°	45°	05:55	06:31	07:03	14:26	14:52	15:23							
		237° 25' 6"	32° 09' 2"	11° 40' 9" S	343° 19' 5"	23° 21' 4" S	242° 49' 5"	3° 54' 9" S	44° 14' 9"	3° 12' 6" S	Alphecca	126° 12' 9"	26° 40' 7" N	3° 42' 6"	19° 15' 8" S	222° 08' 7"	14' 4"	11° 55' 1" N	11' 1"	54' 9"	N 40°	54' 9"	05:47	06:20	06:49	14:34	15:04	15:38						
		252° 28' 1"	47° 11' 5"	40' 4"	358° 19' 9"	21' 6"	257° 52' 0"	54' 9"	59° 17' 1"	12' 7"	Alpheratz	357° 45' 3"	29° 09' 3" N	18° 42' 4"	16' 3"	236° 42' 1"	14' 3"	12° 06' 2" N	11' 0"	35°	35°	05:40	06:11	06:38	14:41	15:14	15:51							
		267° 30' 6"	62° 13' 8"	39' 9"	13° 20' 4"	21' 8"	272° 54' 4"	54' 9"	74° 19' 4"	12' 8"	Altair	62° 10' 2"	8° 54' 0" N	33° 42' 9"	16' 9"	251° 15' 4"	14' 3"	17' 2"	10' 9"	30°	30°	05:34	06:03	06:28	14:48	15:22	16:01							
		282° 33' 0"	77° 16' 1"	39' 3"	28° 20' 9"	22' 0"	287° 56' 9"	54' 9"	89° 21' 6"	12' 9"	Ankaa	353° 17' 2"	42° 14' 8" S	48° 42' 2"	17' 5"	265° 48' 7"	14' 2"	28' 1"	10' 9"	20°	20°	05:21	05:48	06:11	14:59	15:37	16:20							
		297° 35' 5"	92° 18' 4"	38' 8"	403° 21' 3"	22' 3"	302° 59' 4"	54' 9"	104° 23' 8"	13' 0"	Antares	112° 28' 9"	26° 27' 3" S	63° 42' 0"	18' 1"	280° 21' 9"	14' 2"	39' 0"	10' 9"	N 10°	10°	05:08	05:34	05:56	15:08	15:51	16:37							
		312° 38' 0"	107° 20' 6"	38' 2"	58° 21' 8"	22' 5"	318° 01' 8"	54' 8"	119° 26' 0"	13' 1"				78° 41' 9"	18' 7"	294° 55' 1"	14' 1"	49' 9"	10' 8"	55' 0"	0°	04:54	05:20	05:42	15:18	16:03	16:52							
		327° 40' 4"	122° 22' 9"	37' 7"	73° 22' 3"	22' 7"	333° 03' 4"	54' 8"	134° 28' 3"	13' 2"	Arcturus	145° 57' 7"	19° 07' 5" N	93° 41' 8"	19' 3"	309° 28' 2"	14' 0"	13° 00' 7" N	10' 8"	S 10°	10°	04:39	05:05	05:27	15:27	16:16	17:08							
		342° 42' 9"	137° 25' 2"	37' 2"	88° 22' 7"	22' 9"	149° 30' 5"	13' 3"	149° 30' 5"	13' 3"	Arctua	107° 33' 0"	69° 02' 9" S	108° 41' 6"	19' 9"	324° 01' 2"	14' 0"	11' 5"	10' 8"	20°	20°	04:20	04:48	05:12	15:37	16:29	17:24							
		357° 45' 3"	152° 27' 4"	36' 6"	103° 23' 2"	23' 1"	3° 09' 2"	54' 8"	164° 32' 7"	13' 4"	Avior	234° 18' 6"	59° 32' 4" S	123° 41' 5"	20' 5"	338° 34' 2"	13' 9"	22' 2"	10' 7"	30°	30°	03:56	04:28	04:54	15:48	16:45	17:44							
		1° 12' 47' 8"	167° 29' 7"	36' 1"	118° 23' 7"	23' 3"	18° 11' 7"	54' 8"	179° 34' 9"	13' 5"	Bellatrix	278° 33' 7"	6° 21' 6" N	138° 41' 4"	21' 1"	353° 07' 1"	13' 8"	32' 9"	10' 6"	35°	35°	03:41	04:15	04:44	15:55	16:54	17:55							
	27° 50' 3"	182° 32' 0"	35' 6"	133° 24' 2"	23' 6"	33° 14' 2"	54' 8"	194° 37' 2"	13' 6"	Betelgeuse	271° 03' 0"	7° 24' 9" S	153° 41' 7"	21' 7"	7° 39' 9"	13' 8"	43' 9"	10' 6"	40°	40°	03:23	04:01	04:32	16:03	17:05	18:08								
	42° 52' 7"	197° 34' 2"	35' 1"	148° 24' 6"	23' 8"	48° 16' 6"	54' 8"	209° 39' 4"	13' 6"				168° 41' 1"	22' 2"	22° 12' 7"	13' 7"	54' 1"	10' 5"	55' 1"	45°	02:59	03:43	04:17	16:12	17:17	18:23								
19 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		57° 55' 2"	212° 36' 5"	11° 34' 5" S	163° 25' 1"	23° 24' 0" S	63° 19' 1"	3° 54' 8" S	224° 41' 6"	3° 13' 7" S	Canopus	263° 56' 5"	52° 41' 6" N	183° 41' 0"	19° 22' 8" S	36° 45' 4"	13' 6"	14° 04' 6" N	10' 5"	55' 1"	S 50°	55' 1"	02:26	03:20	04:00	16:22	17:32	18:42						
		72° 57' 7"	227° 38' 7"	14° 30' 0"	178° 25' 4"	24' 2"	78° 21' 6"	54' 8"	239° 43' 9"	13' 8"	Capella	280° 36' 8"	46° 00' 5" N	198° 40' 8"	23' 4"	51° 18' 0"	13' 6"	15' 1"	10' 4"	52°	52°	02:09	03:09	03:52	16:27	17:39	18:51							
		88° 00' 1"	242° 40' 9"	33' 5"	193° 26' 0"	24' 4"	93° 24' 0"	54' 7"	254° 46' 1"	13' 9"	Deneb	49° 33' 0"	45° 19' 5" N	213° 40' 7"	24' 0"	65° 50' 6"	13' 5"	25' 5"	10' 4"	54°	54°	01:48	02:56	03:42	16:33	17:47	19:01							
		103° 02' 6"	257° 43' 2"	33' 0"	208° 26' 5"	24' 6"	108° 26' 5"	54' 7"	269° 48' 3"	14' 0"	Denebola	182° 35' 7"	14° 30' 6" N	228° 40' 5"	24' 6"	80° 23' 1"	13' 4"	35' 9"	10' 3"	56°	56°	01:20	02:41	03:32	16:39	17:56	19:13							
		118° 05' 1"	272° 45' 4"	32' 5"	223° 26' 9"	24' 9"	123° 29' 0"	54' 7"	284° 50' 5"	14' 1"	Diphda	348° 57' 5"	17° 55' 5" S	243° 40' 4"	25' 2"	94° 55' 5"	13' 4"	46' 2"	10' 2"	55' 2"	58°	00:32	02:23	03:20	16:46	18:06	19:26							
		133° 07' 5"	287° 47' 6"	32' 0"	238° 27' 4"	25' 1"	138° 31' 4"	54' 7"	299° 52' 8"	14' 2"				258° 40' 3"	25' 8"	109° 27' 9"	13' 2"	56' 4"	10' 2"	S 60°	-	-	02:00	03:06	04:06	16:54	18:17	19:42						
		148° 10' 0"	302° 49' 9"	31' 5"	253° 27' 9"	25' 3"	153° 33' 9"	54' 7"	314° 55' 0"	14' 3"	Dubhe	193° 54' 0"	61° 41' 2" N	273° 40' 1"	26' 3"	124° 00' 1"	13' 2"	15° 06' 6" N	10' 1"	S 62°	-	01:30	02:49	03:49	17:03	18:31	20:00							
		163° 12' 5"	317° 52' 1"	30' 9"	268° 28' 3"	25' 5"	168° 36' 4"	54' 7"	329° 57' 2"	14' 4"	Elath	278° 14' 6"	28° 37' 0" N	288° 40' 0"	26' 9"	138° 32' 3"	13' 2"	16' 7"	10' 1"	S 62°	-	-	-	-	-	-	-	-						
		178° 14' 9"	332° 54' 3"	30' 4"	283° 28' 8"	25' 7"	183° 38' 8"	54' 7"	344° 59' 5"	14' 5"	Elnath	90° 47' 5"	51° 29' 4" N	303° 39' 9"	27' 5"	153° 04' 5"	13' 0"	26' 8"	10' 0"	55' 3"	-	-	-	-	-	-	-	-						
		193° 17' 4"	347° 56' 5"	29' 9"	298° 29' 3"	25' 9"	198° 41' 3"	54' 7"	0° 01' 7"	14' 6"	Enif	33° 49' 0"	9° 55' 7" N	318° 39' 7"	28' 1"	167° 36' 5"	13' 0"	36' 8																

2010 November 21, 22, 23 (Sun, Mon, Tue)

Main table with columns: GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN), STARS (Name, SHA, Dec), SUN (GHA, Dec), MOON (GHA, v, Dec, d, HP), and Sunrise/Moonrise data. Includes rows for Sun (S), Monday (M), and Tuesday (T) for each day.

2010 November 24, 25, 26 (Wed, Thur, Fri)

GMT	ARIES		VENUS		MARS		JUPITER		SATURN		STARS			SUN		MOON				Twilight		Sunrise		Moonrise				
				-4.6		+1.3		-2.6		+0.9	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	72°	07:33	09:21	-	-	-	18:18
24 00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	70°	07:19	08:49	11:28	-	-	15:43	18:58
01	62° 50.9	216° 39.6	10° 46.7 S	164° 19.5	23° 46.9 S	68° 12.7	3° 52.4 S	229° 09.7	3° 24.3 S	Acamar	315° 19.3	40° 15.6 S	183° 22.2	20° 28.7 S	333° 36.2	6.7	23° 46.0 N	3.0	57.7	N	70°	07:19	08:49	11:28	-	-	15:43	18:58
02	77° 53.4	231° 41.5	46.4	179° 20.0	47.1	83° 15.1	52.4	244° 11.9	24.4	Acnarnar	335° 27.6	57° 11.0 S	200° 22.0	29.2	348° 01.9	6.8	43° 0.0	3.1	68°	68°	07:07	08:26	10:02	-	-	17:10	19:25	
03	92° 55.8	246° 43.3	46.2	194° 20.4	47.3	98° 17.5	52.3	259° 14.2	24.5	Acrux	173° 12.0	63° 09.4 S	213° 21.8	29.7	2° 27.7	6.7	39.9	3.2	66°	66°	06:58	08:08	09:24	15:45	17:48	19:45		
04	107° 58.3	261° 45.1	45.9	209° 20.9	47.4	113° 19.9	52.3	274° 16.4	24.6	Adhara	255° 13.7	28° 59.1 S	228° 21.7	30.2	16° 53.4	6.8	36.7	3.4	64°	64°	06:49	07:53	08:58	16:31	18:14	20:01		
05	123° 00.8	276° 46.9	45.6	224° 21.3	47.6	128° 22.4	52.3	289° 18.7	24.7	Aldebaran	290° 51.2	16° 31.9 N	243° 21.5	30.7	31° 19.2	6.8	33.3	3.6	62°	62°	06:42	07:40	08:38	17:00	18:35	20:14		
06	138° 03.2	291° 48.7	45.3	239° 21.7	47.7	143° 24.8	52.3	304° 20.9	24.8				258° 21.3	31.2	45° 45.0	6.8	29.7	3.7	57.8	60°	06:36	07:29	08:22	17:23	18:52	20:26		
07	153° 05.7	306° 55.5	45.1	254° 22.2	47.9	158° 27.2	52.2	319° 23.1	24.9	Alioth	166° 22.6	55° 53.8 N	273° 21.1	31.7	60° 10.8	6.8	26.0	3.8		N	58°	06:30	07:20	08:08	17:41	19:06	20:35	
08	168° 08.2	321° 52.3	44.8	269° 22.6	48.1	173° 29.6	52.2	334° 25.4	24.9	Alkaid	153° 00.7	49° 15.3 N	288° 20.9	32.2	74° 36.6	6.8	22.2	4.0		56°	06:25	07:12	07:56	17:56	19:18	20:44		
09	183° 10.6	336° 54.0	44.5	284° 23.1	48.2	188° 32.1	52.2	349° 27.6	25.0	Alnair	27° 46.0	46° 54.6 S	303° 20.8	32.7	89° 02.4	6.8	18.2	4.1		54°	06:20	07:04	07:46	18:09	19:28	20:51		
10	198° 13.1	351° 55.8	44.3	299° 23.5	48.4	203° 34.5	52.1	4° 29.9	25.1	Alnilam	275° 47.9	1° 11.7 S	318° 20.6	33.2	103° 28.2	6.9	14.1	4.2		52°	06:15	06:57	07:36	18:21	19:37	20:58		
11	213° 15.5	6° 57.6	44.0	314° 23.9	48.6	218° 36.9	52.1	19° 32.1	25.2	Alphard	217° 57.8	8° 42.3 S	333° 20.4	33.8	117° 54.1	6.8	09.9	4.5	57.9	50°	06:11	06:51	07:28	18:31	19:46	21:04		
12	228° 18.0	21° 59.4	43.8	329° 24.4	48.7	233° 39.3	52.1	34° 34.3	25.3				348° 20.2	34.3	132° 19.9	6.9	05.4	4.5		45°	06:02	06:38	07:10	18:52	20:03	21:17		
13	243° 20.5	37° 01.2	10° 43.5 S	344° 24.8	23° 48.9 S	248° 41.8	3° 52.1 S	49° 36.6	3° 25.4 S	Alphecca	126° 12.9	26° 40.7 N	3° 20.0	20° 34.8 S	146° 45.8	7.0	23° 00.9 N	4.7	57.9	N	40°	05:53	06:26	06:56	19:09	20:17	21:28	
14	258° 22.9	52° 02.9	43.3	359° 25.3	49.0	263° 44.2	52.0	64° 38.8	25.5	Alpheratz	357° 45.3	29° 09.3 N	18° 19.9	35.3	161° 11.8	6.9	22° 56.2 N	4.8		35°	05:45	06:16	06:44	19:23	20:30	21:37		
15	273° 25.4	67° 04.7	43.0	14° 25.7	49.2	278° 46.6	52.0	79° 41.1	25.5	Altair	62° 10.3	8° 54.0 N	33° 19.7	35.8	175° 37.7	7.0	51.4	5.0		30°	05:38	06:07	06:33	19:36	20:40	21:45		
16	288° 27.9	82° 06.5	42.7	29° 26.1	49.4	293° 49.0	52.0	94° 43.3	25.6	Ankaa	353° 17.2	42° 14.9 S	48° 19.5	36.3	190° 03.7	6.9	46.4	5.1		20°	05:24	05:51	06:15	19:57	20:58	21:59		
17	303° 30.3	97° 08.2	42.5	44° 26.6	49.5	308° 51.4	52.0	109° 45.5	25.7	Antares	112° 28.9	26° 27.3 S	63° 19.3	36.8	204° 29.6	7.1	41.3	5.3	58.0	N	10°	05:10	05:36	05:59	20:16	21:14	22:11	
18	318° 32.8	112° 10.0	42.3	59° 27.0	49.7	323° 53.9	51.9	124° 47.8	25.8				78° 19.1	37.3	218° 55.7	7.0	36.0	5.4		0°	04:55	05:21	05:43	20:33	21:28	22:22		
19	333° 35.3	127° 11.8	42.0	74° 27.4	49.8	338° 56.3	51.9	139° 50.0	25.9	Arcturus	145° 57.7	19° 07.5 N	93° 19.0	37.8	233° 21.7	7.1	30.6	5.5		S	10°	04:39	05:05	05:28	20:50	21:43	22:33	
20	348° 37.7	142° 13.5	41.8	89° 27.9	50.0	353° 58.7	51.8	154° 52.3	26.0	Alraia	107° 33.0	69° 02.8 S	108° 18.8	38.3	247° 47.8	7.1	25.1	5.7		20°	04:19	04:47	05:11	21:08	21:58	22:45		
21	3° 40.2	157° 15.3	41.5	104° 28.3	50.2	9° 01.1	51.8	169° 54.5	26.0	Avior	234° 18.5	59° 32.5 S	123° 18.6	38.8	262° 13.9	7.1	19.4	5.8		30°	03:53	04:26	04:52	21:30	22:16	22:58		
22	18° 42.7	172° 17.0	41.3	119° 28.8	50.3	24° 03.5	51.8	184° 56.8	26.1	Bellatrix	278° 33.7	6° 21.6 N	138° 18.4	39.3	276° 40.0	7.2	13.6	6.0		35°	03:37	04:12	04:41	21:42	22:27	23:06		
23	33° 45.1	187° 18.8	41.1	134° 29.2	50.5	39° 06.0	51.8	199° 59.0	26.2	Betelgeuse	271° 03.0	7° 24.5 S	153° 18.9	39.8	291° 06.2	7.2	07.6	6.0	58.1	40°	03:17	03:56	04:28	21:56	22:38	23:15		
24	48° 47.6	202° 20.5	40.8	149° 29.6	50.6	54° 08.4	51.7	215° 01.2	26.3				168° 18.0	40.2	305° 32.4	7.2	01.6	6.3		45°	02:52	03:37	04:13	22:13	22:52	23:25		
25 00	63° 50.0	217° 22.2	10° 40.6 S	164° 30.1	23° 50.8 S	69° 10.8	3° 51.7 S	230° 03.5	3° 26.4 S	Canopus	263° 56.5	52° 41.6 N	183° 17.8	20° 40.7 S	319° 58.6	7.3	21° 55.3 N	6.3	58.1	S	50°	02:16	03:12	03:53	22:33	23:09	23:37	
01	78° 52.5	232° 24.0	40.4	179° 30.5	50.9	84° 13.2	51.7	245° 05.7	26.4	Capella	280° 36.7	46° 00.5 N	198° 17.7	41.2	334° 24.9	7.3	49.0	6.5		52°	01:56	03:00	03:44	22:43	23:17	23:43		
02	93° 55.0	247° 25.7	40.1	194° 30.9	51.1	99° 15.6	51.6	260° 08.0	26.6	Deneb	49° 33.0	45° 19.5 S	213° 17.5	41.7	348° 51.2	7.3	42.5	6.7		54°	01:31	02:46	03:34	22:54	23:25	23:56		
03	108° 57.4	262° 27.4	39.9	209° 31.4	51.2	114° 18.1	51.6	275° 10.2	26.6	Denebola	182° 35.7	14° 30.5 N	228° 17.3	42.2	3° 17.5	7.4	35.8	6.7		56°	00:54	02:29	03:23	23:07	23:35	23:49		
04	123° 59.9	277° 29.1	39.7	224° 31.8	51.4	129° 20.5	51.6	290° 12.4	26.7	Diphda	348° 57.5	17° 55.5 S	243° 17.1	42.7	17° 43.9	7.4	29.1	6.9	58.2	S	58°	-	02:08	03:09	23:21	23:46	24:04	
05	139° 02.4	292° 30.9	39.5	239° 32.3	51.6	144° 22.9	51.5	305° 14.7	26.8				258° 16.9	43.2	32° 10.3	7.5	22.2	7.0		S	60°	-	01:41	02:54	23:38	23:59	24:13	
06	154° 04.8	307° 32.6	39.2	254° 32.7	51.7	159° 25.3	51.5	320° 16.9	26.9	Dubhe	193° 53.9	61° 41.2 N	273° 16.7	43.7	46° 36.8	7.5	15.2	7.2		S	62°	-	01:01	02:35	23:59	-	00:14	
07	169° 07.3	322° 34.3	39.0	269° 33.1	51.9	174° 27.7	51.5	335° 19.2	27.0	Elnath	278° 14.6	28° 37.0 N	288° 16.5	44.2	61° 03.3	7.5	08.0	7.3										
08	184° 09.8	337° 36.0	38.8	284° 33.6	52.0	189° 30.1	52.0	350° 21.4	27.1	Elainin	90° 47.5	51° 29.4 N	303° 16.4	44.7	75° 29.8	7.6	00.7	7.4										
09	199° 12.2	352° 37.7	38.6	299° 34.0	52.2	204° 32.6	51.4	5° 23.7	27.1	Enif	33° 49.0	9° 55.7 N	318° 16.2	45.2	89° 56.4	7.7	20° 53.3 N	7.5										
10	214° 14.7	7° 39.4	38.4	314° 34.4	52.3	219° 35.0	51.4	20° 25.9	27.2	Fomalhaut	15° 25.9	29° 33.9 S	333° 16.0	45.7	104° 23.1	7.6	45.8	7.7	58.3									
11	229° 17.1	22° 41.1	38.2	329° 34.9	52.5	234° 37.4	51.3	25° 38.1	27.3				348° 15.8	46.1	118° 49.7	7.8	38° 1.8	7.8										
12	244° 19.6	37° 42.8	10° 37.9 S	344° 35.3	23° 52.6 S	249° 39.8	3° 51.3 S	50° 30.4	3° 27.4 S	Gacrux	172° 03.4	57° 10.3 S	3° 15.6	20° 46.6 S	133° 16.5	7.7	20° 30.3 N	7.9	58.3	N	70°	12:05	14:44	16:14	-	14:59	13:38	
13	259° 22																											

2010 November 27, 28, 29 (Sat, Sun, Mon)

GMT	ARIES	VENUS -4.6			MARS +1.3		JUPITER -2.6		SATURN +0.9		STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise		
		Nautical	Civil	Sunrise	27	29	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	27	29	Mer. Pass.		Upper	Lower		Age/Vis		
Saturday	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:42	09:35	-	20:56	23:11	25:22
	65° 48'.3	218° 41'.8	10° 31'.6 S	164° 50'.8	23° 57'.8 S	71° 06'.5	3° 50'.0 S	231° 51'.2	3° 30'.4 S	Acamar	315° 19'.3	40° 15'.6 S	183° 08'.6	21° 03'.7 S	293° 51'.0	9'6	14° 34'.0 N	11'.7	58.8	N 70°	07:27	09:00	-	21:13	23:17	25:18
	80° 50'.8	233° 43'.4	31.5	179° 51'.3	57.9	86° 08'.9	50.0	246° 53'.4	30.5	335° 27'.6	57° 11'.0 S	198° 08'.4	04.2	308° 19'.6	9.6	22.3	11.9	68°	68°	07:15	08:35	10:18	21:26	23:22	25:16	
	95° 53'.3	248° 44'.9	31.4	194° 51'.7	58.0	101° 11'.3	49.9	261° 55'.7	30.5	Acruz	173° 11'.9	63° 09'.4 S	213° 08'.2	04.6	322° 48'.2	9.7	10.4	11.9	66°	66°	07:04	08:15	09:36	21:37	23:26	25:13
	110° 55'.7	263° 46'.5	31.2	209° 52'.1	58.2	116° 13'.7	49.9	276° 57'.9	30.6	Ahrax	257° 11'.9	28° 59'.1 S	228° 08'.0	05.1	337° 16'.9	9.7	13° 58'.5 N	11'.9	64°	64°	06:55	08:00	09:07	21:46	23:29	25:11
	125° 58'.2	278° 48'.1	31.1	224° 52'.6	58.3	131° 16'.1	49.9	292° 00'.2	30.7	Aldebaran	290° 51'.2	16° 31'.9 N	243° 07'.8	05.6	351° 45'.6	9.7	46.6	12.1	62°	62°	06:48	07:46	08:46	21:54	23:32	25:10
	141° 00'.6	293° 49'.6	30.9	239° 53'.0	58.4	146° 18'.5	49.8	307° 02'.4	30.8				258° 07'.6	06.0	6° 14'.3	9.8	34.5	12.2	60°	60°	06:41	07:35	08:28	22:00	23:34	25:08
	156° 03'.1	308° 51'.2	30.8	254° 53'.4	58.6	161° 20'.9	49.8	322° 04'.7	30.9	Alioth	166° 22'.5	55° 53'.7 N	273° 07'.4	06.5	20° 43'.1	9.9	22.3	12.2	N 58°	58°	06:35	07:25	08:14	22:06	23:37	25:07
	171° 05'.6	323° 52'.8	30.7	269° 53'.8	58.7	176° 23'.3	49.7	337° 06'.9	31.0	Alkaid	153° 00'.7	49° 15'.3 N	288° 07'.2	06.9	35° 12'.0	9.8	10.1	12.3	58.9	58°	06:29	07:17	08:01	22:11	23:39	25:06
	186° 08'.0	338° 54'.3	30.6	284° 54'.3	58.8	191° 25'.7	49.7	352° 09'.2	31.0	Alnair	27° 46'.0	46° 54'.6 S	303° 07'.0	07.4	49° 40'.8	10.0	12° 57'.8 N	12'.3	54°	54°	06:24	07:09	07:51	22:16	23:40	25:05
	201° 10'.5	353° 55'.9	30.4	299° 54'.7	59.0	206° 28'.1	49.7	7° 11'.4	31.1	Alnilam	275° 47'.2	1° 11'.7 S	318° 06'.8	07.7	64° 09'.8	10.0	45.5	12.5	52°	52°	06:19	07:02	07:41	22:20	23:42	25:04
	216° 13'.0	8° 57'.4	30.3	314° 55'.1	59.1	221° 30'.5	49.6	22° 13'.7	31.2	Alphard	217° 57'.8	8° 42'.4 S	333° 06'.6	08.3	78° 38'.8	10.0	33.0	12.5	50°	50°	06:15	06:55	07:32	22:24	23:43	25:03
	231° 15'.4	23° 59.0	30.2	329° 55.5	59.2	236° 32.9	49.6	37° 15.9	31.3				348° 06.3	08.7	93° 07.8	10.0	20.5	12.6	45°	45°	06:05	06:41	07:14	22:32	23:47	25:01
	246° 17.9	39° 00'.5	10° 30'.1 S	344° 56'.0	23° 59'.3 S	251° 35'.3	3° 49'.5 S	52° 18'.2	3° 31'.4 S	Alphecca	126° 12'.9	26° 40'.7 N	3° 06'.1	21° 09.2 S	107° 36'.8	10.1	12° 07.9 N	12.7	58.9	N 40°	05:56	06:29	06:59	22:39	23:49	25:00
	261° 20.4	54° 02'.1	29.9	359° 56'.4	59.5	266° 37.7	49.5	67° 20'.4	31.4	Alpheratz	357° 45.3	29° 09.3 N	18° 05.9	09.7	122° 05.9	10.2	11° 55.2 N	12.7	35°	35°	05:48	06:19	06:47	22:44	23:52	24:59
	276° 22.8	69° 03'.6	29.8	14° 56.8	59.6	281° 40'.1	49.5	82° 22.7	31.5	Altair	62° 10'.3	8° 54.0 N	33° 05.7	10.1	136° 35.1	10.2	4.2	12.8	30°	30°	05:40	06:10	06:36	22:50	23:54	24:57
	291° 25.3	84° 05'.2	29.7	29° 57.2	59.7	296° 42.5	49.4	97° 24.9	31.6	Ankaa	353° 17.2	42° 14.9 S	48° 05.5	10.6	151° 04.3	10.2	29.7	12.9	20°	20°	05:26	05:53	06:17	22:58	23:57	24:56
	306° 27.7	99° 06'.7	29.6	44° 57.7	59.9	311° 44.9	49.4	112° 27.2	31.7	Antares	112° 28.9	26° 27.3 S	63° 05.3	11.0	165° 33.5	10.3	16.8	12.9	N 10°	10°	05:11	05:37	06:00	23:06	-	00:00
	321° 30.2	114° 08'.2	29.5	59° 58'.1	24° 00.0 S	326° 47.3	49.3	127° 29.4	31.8	Arcturus	145° 57.7	19° 07.5 N	78° 05.1	11.5	180° 02.8	10.3	03.9	13.0	59.0	0°	04:56	05:22	05:44	23:13	-	00:03
	336° 32.7	129° 09.8	29.4	74° 58'.5	00.1	341° 49.7	49.3	142° 31.6	31.9	Arcturus	145° 57.7	19° 07.5 N	93° 04.9	11.9	194° 32.1	10.3	10° 50.9 N	13.1	S 10°	10°	04:39	05:06	05:28	23:20	-	00:06
	351° 35.1	144° 11.3	29.3	89° 59.0	00.2	356° 52.1	49.3	157° 33.9	31.9	Arctia	107° 33.0	69° 02.8 S	108° 04.7	12.4	209° 01.4	10.4	37.8	13.1	20°	20°	04:19	04:47	05:11	23:28	-	00:09
	6° 37'.6	159° 12.8	29.2	104° 59.4	00.4	11° 54'.5	49.2	172° 36'.1	32.0	Avior	234° 18'.5	59° 32.5 S	123° 04.5	12.8	223° 30.8	10.4	24.7	13.2	30°	30°	03:52	04:25	04:52	23:36	-	00:12
	21° 40'.1	174° 14.3	29.0	119° 59.8	00.5	26° 56'.9	49.2	187° 38'.4	32.1	Bellatrix	278° 33.7	6° 21.6 N	138° 04.3	13.3	238° 00.2	10.5	11.5	13.3	35°	35°	03:36	04:11	04:40	23:41	-	00:14
	36° 42'.5	189° 15.8	28.9	135° 00.2	00.6	41° 59'.3	49.1	202° 40.6	32.2	Betelgeuse	271° 03.0	7° 24.5 N	153° 04.1	13.7	252° 29.7	10.5	9° 58.3 N	13.3	40°	40°	03:15	03:55	04:27	23:47	-	00:17
51° 45.0	204° 17.3	28.8	150° 00.6	00.7	57° 01'.7	49.1	217° 42.9	32.3				168° 03.9	14.2	266° 59.2	10.5	45.0	13.4	45°	45°	02:49	03:35	04:11	23:53	-	00:19	
Sunday	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	S 50°	02:11	03:09	03:51	-	00:01	00:22
	66° 47.5	219° 18.9	10° 28.7 S	165° 01.1	24° 00.9 S	72° 04.1	3° 49.0 S	232° 45.1	3° 32.3 S	Canopus	263° 56.5	52° 42.0 S	183° 03.7	21° 14.6 S	281° 28.7	10.6	9° 31.6 N	13.4	59.0	S 50°	02:11	03:09	03:51	-	00:01	00:22
	81° 49.9	234° 20.4	28.6	180° 01.5	01.0	87° 06.5	49.0	247° 47.4	32.4	Capella	280° 36.7	46° 00.5 N	198° 03.5	15.0	295° 58.3	10.6	18.2	13.4	52°	52°	01:50	02:56	03:41	-	00:05	00:24
	96° 52.4	249° 21.9	28.5	195° 01.9	01.1	102° 08.9	49.0	262° 49.6	32.5	Deneb	49° 33.0	45° 19.5 N	213° 03.2	15.5	310° 27.9	10.6	04.8	13.6	54°	54°	01:23	02:41	03:31	-	00:09	00:25
	111° 54.9	264° 23.4	28.5	210° 02.3	01.2	117° 11.3	48.9	277° 51.9	32.6	Denebola	182° 35.6	14° 30.5 S	228° 03.9	15.9	324° 57.5	10.7	8° 51.2 N	13.5	59.1	56°	00:39	02:24	03:19	-	00:13	00:27
	126° 57.3	279° 24.9	28.4	225° 02.8	01.4	132° 13.7	48.9	292° 54.1	32.7	Diphda	348° 57.5	17° 55.5 S	243° 02.8	16.4	339° 27.2	10.7	37.7	13.7	58°	58°	-	02:02	03:05	00:04	00:18	00:29
	141° 59.8	294° 26.4	28.3	240° 03.2	01.5	147° 16.1	48.8	307° 56.4	32.7				258° 02.6	16.8	353° 56.9	10.7	24.0	13.6	S 60°	60°	-	01:32	02:48	00:13	00:23	00:31
	157° 02.2	309° 27.9	28.2	255° 03.6	01.6	162° 18.5	48.8	322° 58.6	32.8	Dubhe	193° 53.9	61° 41.1 N	273° 02.4	17.3	8° 26.6	10.7	10.4	13.7	S 62°	62°	-	00:44	02:28	00:23	00:29	00:34
	172° 04.7	324° 29.3	28.1	270° 04.0	01.7	177° 20.9	48.8	338° 00.9	32.9	Elainath	278° 14.6	28° 37.4 N	288° 02.2	17.7	22° 56.3	10.8	7° 56.7 N	13.8								
	187° 07.2	339° 30.8	28.0	285° 04.5	01.9	192° 23.3	48.7	353° 03.1	33.0	Elnun	90° 47.5	51° 29.0 N	303° 02.0	18.1	37° 26.1	10.8	42.9	13.8								
	202° 09.6	354° 32.3	27.9	300° 04.9	02.0	207° 25.7	48.7	8° 05.4	33.1	Enif	33° 49.0	9° 55.7 N	318° 01.8	18.6	51° 55.9	10.8	29.1	13.9								
	217° 12.1	9° 33.8	27.8	315° 05.3	02.1	222° 28.0	48.6	23° 07.6	33.1	Fomalhaut	15° 25.9	29° 33.9 S	333° 01.6	19.0	66° 25.7	10.9	15.2	13.8			Lat	Sunset	Twilight		Moonset	
	232° 14.6	24° 35.3	27.8	330° 05.7	02.2	237° 30.4	48.6	38° 09.9	33.2				348° 01.9	19.5	80° 55.6	10.9	01.4	14.0			Civil	Nautical	27	28	29	
	247° 17.0	39° 36.7	10° 27.7 S	345° 06.2	24° 02.3 S	252° 32.8	3° 48.5 S	53° 12.1	3° 33.3 S	Gacrux	172° 03.4	57° 10.3 S	3° 01.1	21° 19.9 S	95° 25.5	10.9	6° 47.4 N	14.0	59.1	N 72°	-	14:00	15:53	13:30	13:01	12:37
	262° 19.5	54° 38.2	27.6	0° 06.6	02.5	267° 35.2	48.5	68° 14.4	33.4	Gienah	175° 54.4	17° 36.1 S	18° 00.9	20.3	109° 55.4	10.9	33.4	14.0	68°	68°	13:17	15:00	16:21	12:56	12:45	12:35
	277° 22.0	69° 39.7	27.5	15° 07.0	02.6	282° 37.6	48.5	83° 16.6	33.5	Hadar	148° 51.2	60° 25.4 S	33° 00.7	20.8	124° 25.3	10.9	19.4	14.0	66°	66°	14:00	15:20	16:31	12:43	12:39	12:34
	292° 24.4	84° 41.2	27.5	30° 07.4	02.7	297° 40.0	48.4	98° 18.9	33.6	Hamal	328° 02.6	23° 31.0 N	48° 00.5	21.2	138° 55.2	11.0	05.4	14.1	64°	64°	14:28	15:36	16:40	12:33	12:33	12:34
	307° 26.9	99° 42.6	27.4	45° 07.8	02.8	312° 42.4	48.4	113° 21.1	33.6	Kaus Aust.	83° 46.6	34° 22.8 S	63° 00.3	21.6	153° 25.2	11.0	5° 51.3 N	14.1	59.2	62°	14:50	15:49	16:48	12:24	12:29	12:33
	322° 29.4	114° 44.1	27.3	60° 08.3	02.9	327° 44.8	48.3	128° 23.4	33.7				78° 00.1	22.1	167° 55.2	11.0	37.2	14.2	60°	60°	15:07	16:00	16:55	12:16	12:25	12:33
	337° 31.8	129° 45.5																								

2010 Nov 30, Dec. 1, 2 (Tue, Wed, Thur)

GMT	ARIES			VENUS			-4.7			MARS			+1.3			JUPITER			-2.6			SATURN			+0.9			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise																																												
	GHA			GHA			Dec			GHA			Dec			GHA			Dec			GHA			Dec			Name			SHA			Dec				GHA			v			Dec			d			HP			Nautical	Civil	30			Moonrise																											
30	68° 45'.7			220° 27'.9			10° 26'.0			S			165° 21'.2			24° 06'.3			S			73° 58'.7			3° 46'.9			S			234° 33'.2			3° 36'.2			S			182° 53'.3			21° 35'.2			S			257° 28'.9			11° 1'			1° 50'.5			S			14'.5			59'.3			N 72°			07:51		09:50		-			01:22			03:36			06:08		
01	68° 48'.2			220° 27'.9			26.0			165° 21'.2			06.4			180° 21'.7			06.4			89° 01'.1			46.8			249° 35'.5			36.2			182° 53'.3			21° 35'.2			S			257° 28'.9			11° 1'			1° 50'.5			S			14'.5			59'.3			N 70°			07:34		09:10		-			01:18			03:22			05:36								
02	98° 50'.7			250° 30'.6			25.9			195° 22'.1			06.5			104° 03'.5			46.8			264° 37'.7			36.3			173° 11'.9			63° 09'.4			212° 52'.8			36.0			286° 29'.0			11° 1'			19.6			14'.5			66°			07:10		08:23		09:46			01:13			03:02			04:56																	
03	113° 53'.1			265° 32'.0			25.9			210° 22'.5			06.6			119° 05'.8			46.7			279° 40'.0			36.4			255° 13'.7			28° 59'.1			227° 52'.6			36.4			300° 59'.1			11° 1'			34.1			14'.5			64°			07:01		08:06		09:16			01:11			02:55			04:41																	
04	128° 55'.6			280° 33'.4			25.9			225° 22'.9			06.7			134° 08'.2			46.7			294° 42'.2			36.5			290° 51'.1			16° 31'.9			242° 52'.4			36.8			315° 29'.1			11° 0'			48.6			14'.5			62°			06:53		07:52		08:53			01:10			02:48			04:29																	
05	143° 58'.1			295° 34'.7			25.9			240° 23'.3			06.8			149° 10'.6			46.6			309° 44'.5			36.6			309° 44'.5			36.6			257° 52'.2			37.2			329° 59'.1			11° 0'			3° 03'.1			S			14'.4			60°			06:46		07:40		08:35			01:08			02:43			04:19														
06	159° 00'.5			310° 36'.1			25.9			255° 23'.7			06.9			164° 13'.0			46.6			324° 46'.7			36.6			324° 46'.7			36.6			272° 51'.9			37.6			344° 29'.1			11° 0'			17.5			14'.5			58°			06:39		07:30		08:19			01:07			02:38			04:10																	
07	174° 03'.0			325° 37'.4			25.9			270° 24'.1			07.0			179° 15'.4			46.5			339° 49'.0			36.7			153° 00'.6			49° 15'.3			287° 51'.7			38.0			358° 59'.1			10'.9			32.0			14'.4			56°			06:33		07:21		08:07			01:06			02:34			04:03																	
08	189° 05'.5			340° 38'.8			25.9			285° 24'.6			07.1			194° 17'.7			46.5			354° 51'.2			36.8			27° 46'.0			46° 54'.6			302° 51'.5			38.5			13° 29'.0			11° 0'			46.4			14'.5			54°			06:28		07:13		07:55			01:05			02:30			03:56																	
09	204° 07'.9			355° 40'.1			25.9			300° 25'.0			07.2			209° 20'.1			46.4			9° 53'.5			36.9			275° 47'.9			1° 11'.7			317° 51'.3			38.9			27° 59'.0			10'.9			4° 00'.9			S			14'.4			52°			06:23		07:06		07:45			01:04			02:27			03:50														
10	219° 10'.4			10° 41'.5			25.9			315° 25'.4			07.3			224° 22'.5			46.4			24° 55'.8			37.0			217° 57'.8			8° 42'.4			332° 51'.0			39.3			42° 28'.9			10'.8			15.3			14'.3			50°			06:18		06:59		07:36			01:03			02:23			03:44																	
11	234° 12'.8			25° 42'.8			25.9			330° 25'.8			07.4			239° 24'.9			46.3			29° 58'.0			37.0			217° 57'.8			8° 42'.4			347° 50'.8			39.7			56° 58'.7			10'.9			29.6			14'.4			45°			06:08		06:45		07:18			01:01			02:17			03:33																	
12	249° 15'.3			40° 44'.2			10° 25'.9			345° 26'.2			24° 07'.5			254° 27'.2			3° 46'.3			S			55° 00'.3			3° 37'.1			S			2° 50'.6			21° 40'.1			S			71° 28'.6			10'.8			4° 44'.0			S			14'.3			59'.4			N 40°		05:59		06:32		07:02			01:00			02:11			03:23									
13	264° 17'.8			55° 45'.5			25.9			0° 26'.6			07.6			269° 29'.6			46.2			70° 02'.5			37.2			357° 45'.3			29° 09'.3			17° 50'.4			40.5			85° 58'.4			10'.8			58.3			14'.3			35°			05:50		06:22		06:49			00:59			02:06			03:15																	
14	279° 20'.2			70° 46'.8			25.9			15° 27'.0			07.7			284° 32'.0			46.2			85° 04'.8			37.3			62° 10'.3			8° 54'.0			32° 50'.1			40.9			100° 28'.2			10'.8			5° 12'.6			S			30'.0			05:43		06:12		06:38			00:57			02:02			03:07																	
15	294° 22'.7			85° 48'.2			25.9			30° 27'.5			07.8			299° 34'.4			46.1			100° 07'.0			37.3			353° 17'.2			42° 14'.9			47° 49'.9			41.3			114° 58'.0			10'.8			26.9			14'.3			20°			05:28		05:55		06:19			00:56			01:55			02:55																	
16	309° 25'.2			100° 49'.5			25.9			45° 27'.9			07.9			315° 36'.7			46.4			115° 09'.3			37.4			112° 28'.9			26° 27'.3			62° 49'.7			41.7			129° 27'.8			10'.7			41.2			14'.2			N 10°			05:13		05:39		06:01			00:54			01:48			02:44																	
17	324° 27'.6			115° 50'.8			25.9			60° 28'.3			08.0			329° 39'.1			46.0			130° 11'.5			37.5			145° 57'.7			19° 07'.4			92° 49'.2			42.5			158° 27'.2			10'.6			6° 09'.6			S			14'.1			20°			04:40		05:06		05:29			00:51			01:37			02:24														
18	339° 30'.1			130° 52'.1			25.9			75° 28'.7			08.1			344° 41'.5			46.0			145° 13'.8			37.6			107° 33'.0			60° 02'.8			107° 49'.0			42.9			172° 56'.8			10'.6			23.7			14'.1			20°			04:19		04:47		05:12			00:49			01:30			02:10																	
19	354° 32'.6			145° 53'.5			25.9			90° 29'.1			08.2			359° 43'.9			45.9			160° 16'.1			37.7			234° 18'.5			59° 32'.5			122° 48'.8			43.3			187° 26'.4			10'.6			37.8			14'.1			30°			03:52		04:24		04:51			00:48			01:24			02:02																	
20	9° 35'.0			160° 54'.8			26.0			105° 29'.5			08.3			14° 46'.2			45.9			175° 18'.3			37.7			234° 18'.5			59° 32'.5			122° 48'.8			43.3			187° 26'.4			10'.6			37.8			14'.1			30°			03:52		04:24		04:51			00:48			01:24			02:02																	
21	24° 37'.5			175° 56'.1			26.0			120° 29'.9			08.4			29° 48'.6			45.8			190° 20'.6			37.8			278° 33'.6			6° 21'.6			137° 48'.5			43.7			201° 56'.0			10'.6			51.9			14'.1			35°			03:35		04:10		04:39			00:47			01:20			01:55																	
22	39° 39'.9			190° 57'.4			26.0			135° 30'.4			08.5			44° 51'.0			45.8			205° 22'.8			37.9			271° 03'.0			7° 24'.5			152° 48'.3			44.1			216° 25'.6			10'.5			7° 06'.0			S			14'.0			30°			03:35		03:54		04:26			00:46			01:15			01:47														
23	54° 42'.4			205° 58'.7			26.0			150° 30'.8			08.6			59° 53'.4			45.7			220° 25'.1			38.0			167° 48'.1			44.5			230° 55'.1			10'.5			20.0			14'.0			45°			02:46		03:33		04:09			00:44			01:10			01:38																							
1	69° 44'.9			221° 00'.0			10° 26'.0			165° 31'.2			24° 08'.7			74° 55'.7			3° 45'.7			S			235° 27'.3			3° 38'.0			S			182° 47'.8			21° 44'.9			S			245° 24'.6			10'.5			7° 34'.0			S			13'.9			59'.4			S 50°		02:07		03:06		03:49			00:43			01:04			01:27									
01	84° 47'.3			231° 01'.3			26.1			180° 31'.6			08.8			89° 58'.1			45.7			250° 29'.6			38.1			263° 56'.5			52° 42'.0			182° 47'.8			21° 44'.9			S			245° 24'.6			10'.5			7° 34'.0			S			13'.9			59'.4			S 52°		01:45		02:53		03:39			00:42			01:01			01:22									
02	99° 49'.8			251° 02'.6			26.1			195° 32'.0			08.9			105° 00'.5			45.6			265° 31'.8			38.2			49° 33'.0			45° 19'.5			212° 47'.4			45.6			274° 23'.5			10'.3			8° 01'.8			S			13'.8			54°			01:15		02:38		03:28			00:41			00:58			01:17														
03	114° 52'.3			266° 03'.9			26.1			210° 32'.4			09.0			120° 02'.8			45.5			280° 34'.1			38.3			182° 35'.6			14° 30'.5			227° 47'.1			46.0			288° 52'.8			10'.4			15.6			13'.8			59'.3			56°		00:18		02:19		03:16			00:41			00:55			01:11															
04	129° 54'.7			281° 05'.2			26.1			225° 32'.8			09.1			135° 05'.2			45.5			295° 36'.4			38.3			348° 57'.5			17° 55'.6			242° 46'.9			46.4			303° 22'.2			10'.3			29.4			13'.8			58°			-		01:55		03:01			00:40			00:51			01:04																	
05	144° 57'.2			296° 06'.5			26.2			240° 33'.2			09.1			150° 07'.6			45.4			310° 38'.6			38.4			310° 38'.6			38.4			257° 46'.7			46.8			317° 51'.5			10'.2			43.2			13'.7			S 60°			-		01:23		02:44			00:39			00:47			00:56																	
06	159° 59'.7			311° 07'.8			26.2			255° 33'.6			09.2			165° 10'.0			45.4			325° 40'.9			38.5			193° 53'.9			61° 41'.1			272° 46'.4			47.2			332° 20'.7			10'.2			56.9																																							

2010 December 3, 4, 5 (Fri, Sat, Sun)

Table with 27 columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, and twilight data (Sunset, Civil, Nautical). Includes planetary positions and star details for Aries, Venus, Mars, Jupiter, Saturn, Sun, and Moon across three days.

2010 December 9, 10, 11 (Thur, Fri, Sat)

Main data table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and astronomical events (Twilight, Sunrise, Moonrise, Moonset). Includes a detailed table for the Moon's position and phases.

2010 December 15, 16, 17 (Wed, Thur, Fri)

Table with columns: GMT, ARIES, VENUS (-4.6), MARS (+1.3), JUPITER (-2.4), SATURN (+0.9), STARS, SUN, MOON, Lat, Twilight (Nautical, Civil), Sunrise, 15, Moonrise (16, 17). Rows include planetary data for Aries, Venus, Mars, Jupiter, Saturn, and various stars, along with solar and lunar data.

2010 December 18, 19, 20 (Sat, Sun, Mon)

GMT	ARIES			VENUS -4.6			MARS +1.3			JUPITER -2.4			SATURN +0.9			STARS			SUN			MOON					Lat	Twilight		Sunrise	Moonrise		
	GHA	Dec	S	GHA	Dec	S	GHA	Dec	S	GHA	Dec	S	GHA	Dec	S	Name	SHA	Dec	GHA	Dec	S	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	18	19	20	
18 00	86° 30' 2	226° 48' 3	12° 18' 3 S	168° 09' 9	24° 08' 3 S	90° 37' 6	3° 13' 5 S	250° 58' 0	4° 04' 9 S	Acamar	315° 19' 3	40° 15' 7 S	180° 55' 2	23° 22' 5 S	44° 58' 7	10' 7	20° 07' 3 N	7' 5	56' 0	N 70°	08:24	10:55	-	-	-	-							
01	101° 32' 7	241° 48' 8	18' 8	183° 10' 3	08' 2	105° 39' 9	13' 4	266° 00' 3	05' 0	Acnarnar	335° 27' 7	57° 11' 0 S	195° 28' 4	22' 6	59° 28' 4	10' 5	14' 8	7' 4	68°	N 70°	08:04	09:53	-	-	-	-							
02	116° 35' 2	256° 49' 3	19' 3	198° 10' 6	08' 1	120° 42' 1	13' 3	281° 02' 6	05' 0	Acrux	173° 11' 6	63° 09' 4 S	210° 54' 6	22' 7	73° 57' 9	10' 5	22' 2	7' 4	66°	N 70°	07:48	09:18	-	-	-	-							
03	131° 37' 6	271° 49' 8	19' 7	213° 11' 0	08' 0	135° 44' 4	13' 2	296° 04' 9	05' 0	Adhara	255° 13' 6	28° 59' 2 S	225° 54' 3	22' 8	88° 27' 4	10' 4	29' 6	7' 2	64°	N 70°	07:35	08:52	10:33	11:18	11:12	-							
04	146° 40' 1	286° 50' 2	20' 2	228° 11' 4	07' 9	150° 46' 6	13' 1	311° 07' 2	05' 1	Aldebaran	290° 51' 1	16° 31' 9 N	240° 54' 0	22' 8	102° 56' 8	10' 3	36' 8	7' 1	56' 1	N 70°	07:24	08:33	09:51	11:51	12:07	12:47							
05	161° 42' 6	301° 50' 7	20' 7	243° 11' 8	07' 8	165° 48' 9	13' 0	326° 09' 5	05' 2				255° 53' 7	22' 9	117° 26' 1	10' 2	43' 9	7' 1	60°	N 70°	07:14	08:16	09:22	12:15	12:40	13:25							
06	176° 45' 0	316° 51' 2	21' 1	258° 12' 1	07' 7	180° 51' 1	12' 9	341° 11' 8	05' 2	Alioth	166° 22' 3	55° 53' 6 N	270° 53' 4	23' 0	131° 55' 3	10' 2	51' 0	6' 9	N 58°	N 70°	07:06	08:03	09:01	12:34	13:04	13:52							
07	191° 47' 5	331° 51' 7	21' 6	273° 12' 5	07' 6	195° 53' 4	12' 8	356° 14' 1	05' 3	Alkaid	153° 00' 5	49° 15' 2 N	285° 53' 1	23' 1	146° 24' 5	10' 0	57' 9	6' 8	56' 2	N 58°	06:52	07:41	08:28	13:04	13:40	14:31							
08	206° 50' 0	346° 52' 1	22' 1	288° 12' 9	07' 5	210° 55' 6	12' 7	11° 16' 4	05' 4	Alnair	27° 46' 1	46° 54' 6 S	300° 52' 8	23' 1	160° 53' 5	9' 9	21° 04' 7 N	6' 8	54°	N 58°	06:46	07:32	08:16	13:16	13:54	14:45							
09	221° 52' 4	1° 52' 6	22' 5	303° 13' 2	07' 4	225° 57' 9	12' 6	26° 18' 7	05' 4	Alnilam	275° 47' 8	1° 11' 7 S	315° 52' 5	23' 2	175° 22' 4	9' 9	11' 5	6' 6	52°	N 58°	06:40	07:24	08:05	13:26	14:06	14:58							
10	236° 54' 9	16° 53' 1	23' 0	318° 13' 6	07' 3	241° 00' 1	12' 5	41° 21' 0	05' 5	Alphard	217° 57' 7	8° 42' 4 S	330° 52' 2	23' 3	189° 51' 3	9' 8	18' 1	6' 5	50°	N 58°	06:35	07:16	07:55	13:36	14:17	15:10							
11	251° 57' 4	31° 53' 5	23' 5	333° 14' 0	07' 2	256° 02' 4	12' 4	56° 23' 5	05' 5				345° 51' 9	23' 3	204° 20' 1	9' 7	24' 6	6' 4	56' 3	N 58°	06:23	07:00	07:34	13:56	14:39	15:33							
12	266° 59' 8	46° 54' 0	12° 23' 9 S	348° 14' 4	24° 07' 1 S	271° 04' 6	3° 12' 3 S	71° 25' 7	4° 05' 6 S	Alphecca	126° 12' 8	26° 40' 6 N	0° 51' 6	23° 23' 4 S	218° 48' 8	9' 6	21° 31' 0 N	6' 3	56' 3	N 40°	06:12	06:46	07:17	14:12	14:58	15:52							
13	282° 02' 3	61° 54' 4	24' 4	3° 14' 7	07' 0	286° 06' 8	12' 0	86° 28' 0	05' 6	Alpheratz	357° 45' 4	29° 09' 3 N	15° 51' 3	23' 5	233° 17' 4	9' 5	37' 3	6' 2	35°	N 40°	06:03	06:35	07:03	14:26	15:13	16:08							
14	297° 04' 7	76° 54' 9	24' 9	18° 15' 1	06' 9	301° 09' 1	12' 2	101° 30' 3	05' 7	Altair	62° 10' 3	8° 54' 0 N	30° 50' 9	23' 5	247° 45' 9	9' 4	43' 0	6' 1	56' 4	N 40°	05:54	06:24	06:51	14:37	15:26	16:21							
15	312° 07' 2	91° 55' 4	25' 3	33° 15' 5	06' 8	316° 11' 3	11' 9	116° 32' 6	05' 7	Ankaa	353° 17' 3	42° 14' 9 S	45° 50' 6	23' 6	262° 14' 3	9' 4	49' 6	6' 0	20°	N 40°	05:38	06:05	06:29	14:58	15:49	16:45							
16	327° 09' 7	106° 55' 8	25' 8	48° 15' 9	06' 7	331° 13' 6	11' 8	131° 34' 9	05' 8	Antares	112° 28' 8	26° 27' 3 S	60° 50' 3	23' 7	276° 42' 7	9' 2	55' 6	5' 9	N 10°	N 40°	05:22	05:48	06:11	15:16	16:09	17:05							
17	342° 12' 1	121° 56' 3	26' 3	63° 16' 2	06' 6	346° 15' 8	11' 7	146° 37' 2	05' 8				75° 50' 0	23' 7	291° 10' 9	9' 2	22° 01' 5 N	5' 7	0°	N 10°	05:05	05:31	05:53	15:33	16:27	17:24							
18	357° 14' 6	136° 56' 7	26' 8	78° 16' 6	06' 5	1° 18' 1	11' 6	161° 39' 5	05' 9	Arcturus	145° 57' 6	19° 07' 4 N	90° 49' 7	23' 8	305° 39' 1	9' 1	07' 2	5' 7	56' 5	S 10°	04:46	05:13	05:36	15:50	16:45	17:43							
19	12° 17' 1	151° 57' 2	27' 2	93° 17' 0	06' 4	16° 20' 3	11' 5	176° 41' 8	05' 9	Alraia	107° 32' 9	69° 02' 7 S	105° 49' 4	23' 9	320° 07' 2	9' 0	12' 9	5' 5	30°	S 10°	04:23	04:52	05:17	16:08	17:05	18:03							
20	27° 19' 5	166° 57' 6	27' 7	108° 17' 4	06' 3	31° 22' 6	11' 4	191° 44' 1	06' 0	Avior	234° 18' 3	59° 32' 6 S	120° 49' 1	23' 9	334° 35' 2	8' 9	18' 4	5' 4	30°	S 10°	03:54	04:27	04:55	16:29	17:28	18:27							
21	42° 22' 0	181° 58' 1	28' 2	123° 17' 7	06' 2	46° 24' 8	11' 3	206° 46' 5	06' 0	Bellatrix	278° 33' 6	6° 21' 6 N	135° 48' 8	24' 0	349° 03' 1	8' 9	23' 8	5' 3	35°	S 10°	03:35	04:12	04:42	16:41	17:42	18:40							
22	57° 24' 5	196° 58' 5	28' 7	138° 18' 1	06' 1	61° 27' 0	11' 2	221° 18' 8	06' 1	Betelgeuse	271° 02' 9	7° 24' 5 S	150° 48' 5	24' 0	3° 31' 0	8' 7	29' 0	5' 2	40°	S 10°	03:12	03:54	04:27	16:55	17:58	18:56							
23	72° 26' 9	211° 59' 0	29' 1	153° 18' 5	06' 0	76° 29' 3	11' 1	236° 51' 1	06' 1				165° 48' 2	24' 1	17° 58' 7	8' 7	34' 3	5' 1	45°	S 10°	02:41	03:31	04:09	17:12	18:16	19:15							
19 00	87° 29' 4	226° 59' 4	12° 29' 6 S	168° 18' 9	24° 05' 9 S	91° 31' 5	3° 11' 0 S	251° 53' 4	4° 06' 2 S	Canopus	263° 56' 4	52° 42' 1 S	180° 47' 9	23° 24' 2 S	32° 26' 4	8' 6	22° 39' 4 N	4' 9	56' 7	S 50°	01:56	03:01	03:46	17:33	18:40	19:39							
01	102° 31' 9	241° 59' 9	30' 1	183° 19' 2	05' 7	106° 33' 8	10' 9	266° 55' 7	06' 3	Capella	280° 36' 6	46° 00' 5 N	195° 47' 6	24' 2	46° 54' 0	8' 5	44' 3	4' 9	52°	S 50°	01:28	02:46	03:35	17:43	18:51	19:51							
02	117° 34' 3	257° 00' 3	30' 6	198° 19' 6	05' 6	121° 36' 0	10' 8	281° 58' 0	06' 3	Deneb	49° 33' 1	45° 19' 4 N	210° 47' 3	24' 3	61° 21' 5	8' 5	49' 2	4' 7	54°	S 50°	00:41	02:28	03:23	17:54	19:04	20:03							
03	132° 36' 8	272° 00' 8	31' 0	213° 20' 0	05' 5	136° 38' 2	10' 7	297° 00' 3	06' 4	Denebola	182° 35' 5	14° 30' 5 N	225° 47' 0	24' 3	75° 49' 0	8' 3	53' 9	4' 5	56°	S 50°	-	02:06	03:09	18:07	19:18	20:18							
04	147° 39' 2	287° 01' 2	31' 5	228° 20' 3	05' 4	151° 40' 5	10' 5	312° 02' 6	06' 4	Diphda	348° 57' 6	17° 55' 6 S	240° 46' 7	24' 4	90° 16' 3	8' 3	58' 4	4' 5	56' 8	S 50°	-	01:36	02:52	18:22	19:35	20:36							
05	162° 41' 7	302° 01' 6	32' 0	243° 20' 7	05' 3	166° 42' 7	10' 4	327° 04' 9	06' 5				255° 46' 3	24' 4	104° 43' 6	8' 2	23° 02' 9 N	4' 3	56' 8	S 60°	-	00:46	02:31	18:40	19:57	20:57							
06	177° 44' 2	317° 02' 1	32' 5	258° 21' 1	05' 2	181° 45' 0	10' 3	342° 07' 2	06' 5	Dubhe	193° 53' 6	61° 41' 1 N	270° 46' 0	24' 5	119° 10' 8	8' 1	07' 2	4' 2	56' 7	S 62°	-	-	02:05	19:02	20:24	21:25							
07	192° 46' 6	332° 02' 5	33' 0	273° 21' 5	05' 1	196° 47' 2	10' 2	357° 09' 6	06' 6	Elnath	278° 14' 5	28° 37' 0 N	285° 45' 7	24' 6	133° 37' 9	8' 1	11' 4	4' 1	56' 9	S 62°	-	-	-	-	-	-							
08	207° 49' 1	347° 02' 9	33' 4	288° 21' 8	05' 0	211° 49' 4	10' 1	121° 11' 9	06' 6	Elainor	90° 47' 5	51° 29' 3 N	300° 45' 4	24' 6	148° 05' 0	8' 0	15' 5	4' 0		S 62°	-	-	-	-	-	-							
09	222° 51' 6	2° 03' 4	33' 9	303° 22' 2	04' 9	226° 51' 7	10' 0	27° 14' 2	06' 7	Enif	33° 49' 1	9° 55' 7 N	315° 45' 1	24' 7	162° 32' 0	7' 9	19' 5	3' 8		Lat	Sunset	Twilight		18	Moonset								
10	237° 54' 0	17° 03' 8	34' 4	318° 22' 6	04' 8	241° 53' 9	09' 9	42° 16' 5	06' 7	Fomalhaut	15° 26' 0	29° 33' 9 S	330° 44' 8	24' 7	176° 58' 9	7' 8	23' 3	3' 7		18	Sunset	Civil	Nautical	18	19	20							
11	252° 56' 5	32° 04' 2	34' 9	333° 23' 0	04' 6	256° 56' 2	10' 6	57° 18' 8	06' 8				345° 44' 5	24' 8	191° 25' 7	7' 7	27' 0	3' 5	57' 0	18	-	12:59	15:30	-	-	-							
12	267° 59' 0	47° 04' 7	12° 35' 4 S	348° 23' 3	24° 04' 5 S	271° 58' 4	3° 09' 7 S	72° 21' 1	4° 06' 8 S	Gacrux	172° 03' 1	57° 10' 3 S	0° 44' 2	23° 24' 8 S	205° 52' 4	7' 7	23° 30' 5 N	3' 4	57' 0	N 70°	-	-	-	-	-	-							
13	283° 01' 4	62° 05' 1	35' 9	3° 23' 7	04' 3	287° 00' 6	09' 6	87° 23' 4	06' 9	Gienah	175° 54' 2	17° 36' 2 S	15° 43' 9	24' 9	220° 19' 1	7' 6	33' 9	3' 3	68°	N 70°	-	14:01	15:50	-	-	-							
14	298° 03' 9	77° 05' 6	36' 3	18° 24' 1	04' 0	302° 02' 9	09' 5	102° 25' 7	06' 9	Hadar	30° 102' 6	60° 25' 4 S	30° 43' 6	24' 9	234° 45' 7	7' 6	37' 2	3' 2	57' 1	N 70°	13:21	15:02	16:19	17:10	09:08	-							
15	313° 06' 3	92° 05' 9	36' 8	33° 24' 5	04' 2	317° 05' 1	09' 4	117° 28' 1	07' 0	Hamal	328° 02' 6	23° 31' 0 N	45° 43' 0	24' 9	249° 12' 3	7' 5																	

2010 December 21, 22, 23 (Tue, Wed, Thur)

GMT	ARIES			VENUS -4.6			MARS +1.2			JUPITER -2.4			SATURN +0.9			STARS			SUN		MOON					Twilight		Sunrise			Moonrise													
Tuesday	GHA			GHA Dec			GHA Dec			GHA Dec			GHA Dec			Name SHA Dec			GHA Dec		GHA v Dec d HP					N 72°	08:26	10:58	-	-	-	15:14												
	00	89° 27.7	227° 19.1	12° 53.1 S	168° 36.8	24° 00.2 S	93° 18.8	3° 05.7 S	253° 44.5	4° 08.6 S	253° 44.5	4° 08.6 S	253° 44.5	4° 08.6 S	Acamar	315° 19.3	40° 15.7 S	180° 33.1	23° 26.0 S	5° 18.6	6.1	24° 04.4 N	1.8	58.0	N 70°	08:06	09:55	-	-	-	16:17													
	Wednesday	GHA			GHA Dec			GHA Dec			GHA Dec			GHA Dec			Name SHA Dec			GHA Dec		GHA v Dec d HP					N 72°	08:26	10:58	-	-	-	15:14											
		01	104° 30.1	242° 19.5	53.6	183° 37.1	00.0	108° 21.0	05.6	268° 46.8	08.7	268° 46.8	08.7	268° 46.8	08.7	Acernar	335° 27.7	57° 11.0 S	195° 32.8	26.1	19° 43.7	6.0	02.6	1.9	58.1	68°	07:50	09:19	-	-	-	14:22												
		Thursday	GHA			GHA Dec			GHA Dec			GHA Dec			GHA Dec			Name SHA Dec			GHA Dec		GHA v Dec d HP					N 72°	08:26	10:58	-	-	-	15:14										
			02	119° 32.6	257° 19.9	54.1	198° 37.5	23° 59.9 S	123° 23.2	05.5	283° 49.1	08.7	283° 49.1	08.7	283° 49.1	08.7	Acrux	173° 11.5	63° 09.4 S	210° 32.5	26.1	34° 08.7	6.0	00.7	2.2	66°	07:37	08:54	10:35	13:07	15:15	17:17												
			03	134° 35.1	272° 20.2	54.6	213° 37.9	59.8	138° 25.5	05.8	298° 51.4	08.8	298° 51.4	08.8	298° 51.4	08.8	Adhara	255° 13.6	28° 59.2 S	225° 32.2	26.1	48° 33.7	6.0	23° 58.5 N	2.2	64°	07:26	08:34	09:52	14:04	15:47	17:37												
			04	149° 37.5	287° 20.6	55.1	228° 38.3	59.6	153° 27.7	05.2	313° 53.7	08.8	313° 53.7	08.8	313° 53.7	08.8	Aldebaran	290° 51.1	16° 31.9 N	240° 31.8	26.1	62° 58.7	6.0	56.3	2.5	62°	07:16	08:18	09:24	14:38	16:11	17:52												
			05	164° 40.0	302° 21.0	55.7	243° 38.6	59.5	168° 29.9	05.1	328° 56.0	08.9	328° 56.0	08.9	328° 56.0	08.9	Alnilam	275° 47.8	1° 11.7 S	255° 31.5	26.1	77° 23.7	6.0	53.8	2.5	58.2	60°	07:08	08:05	09:02	15:02	16:30	18:05											
			06	179° 42.5	317° 21.3	56.2	258° 39.0	59.4	183° 32.1	05.0	343° 58.4	08.9	343° 58.4	08.9	343° 58.4	08.9	Alioth	166° 22.3	55° 53.6 N	270° 31.2	26.1	91° 48.7	6.0	51.3	2.8	N 58°	07:00	07:53	08:45	15:22	16:45	18:16												
			07	194° 44.9	332° 21.7	56.7	273° 39.4	59.2	198° 34.4	04.9	359° 00.7	09.0	359° 00.7	09.0	359° 00.7	09.0	Alkaid	153° 00.5	49° 15.2 N	285° 30.9	26.1	106° 13.7	5.9	48.5	2.9	54°	06:53	07:43	08:30	15:38	16:58	18:26												
			08	209° 47.4	347° 22.1	57.2	288° 39.7	59.1	213° 36.6	04.8	14° 03.0	09.0	14° 03.0	09.0	14° 03.0	09.0	Alnair	27° 46.1	46° 54.6 S	300° 30.6	26.2	120° 38.6	6.0	45.6	3.0	56°	06:47	07:33	08:17	15:52	17:10	18:35												
			09	224° 49.8	2° 22.4	57.7	303° 40.1	59.0	228° 38.8	04.7	29° 05.3	09.1	29° 05.3	09.1	29° 05.3	09.1	Alnilam	275° 47.8	1° 11.7 S	255° 31.5	26.2	77° 23.7	6.0	53.8	2.5	58.2	60°	07:08	08:05	09:02	15:02	16:30	18:05											
			10	239° 52.3	17° 22.8	58.2	318° 40.5	58.8	243° 41.0	04.5	44° 07.6	09.1	44° 07.6	09.1	44° 07.6	09.1	Alphard	217° 57.6	8° 42.4 S	330° 30.0	26.2	149° 28.6	6.0	39.4	3.3	50°	06:36	07:18	07:56	16:14	17:29	18:49												
			11	254° 54.8	32° 23.2	58.7	333° 40.9	58.7	258° 43.3	04.4	59° 10.0	09.2	59° 10.0	09.2	59° 10.0	09.2	Alphecca	126° 12.8	26° 40.5 N	0° 29.4	23° 26.2 S	178° 18.5	6.0	23° 32.6 N	3.7	58.3	N 40°	06:14	06:48	07:19	16:55	18:04	19:16											
			12	269° 57.2	47° 23.5	59.2	348° 41.2	58.6	273° 45.5	3° 04.3 S	74° 12.3	09.2	74° 12.3	09.2	74° 12.3	09.2	Alpheratz	357° 45.4	29° 09.3 N	15° 29.1	26.2	192° 43.5	6.0	28.9	3.8	58.4	35°	06:05	06:36	07:04	17:10	18:17	19:26											
			13	284° 59.7	62° 23.9	59.7	3° 41.6	58.4	288° 47.7	04.2	89° 14.6	09.3	89° 14.6	09.3	89° 14.6	09.3	Altair	104° 16.9	09.3	62° 10.3	26.3	30° 28.8	26.2	20.7	8.0	30°	05:56	06:26	06:52	17:23	18:28	19:35												
			14	300° 02.2	77° 24.2	13° 00.2 S	18° 42.0	58.3	303° 50.0	04.0	104° 16.9	09.3	104° 16.9	09.3	104° 16.9	09.3	Ankaa	353° 17.3	42° 14.9 S	45° 28.4	26.2	221° 33.5	6.0	21.2	4.2	20°	05:39	06:07	06:31	17:45	18:47	19:50												
			15	315° 04.6	92° 24.6	00.7	33° 42.4	58.2	318° 52.2	04.0	119° 19.2	09.4	119° 19.2	09.4	119° 19.2	09.4	Antares	112° 28.8	26° 27.3 S	60° 28.1	26.2	235° 58.5	6.0	17.0	4.2	N 10°	05:23	05:49	06:12	18:04	19:04	20:03												
			16	330° 07.1	107° 24.9	01.2	48° 02.7	58.0	333° 54.4	03.9	134° 21.6	09.4	134° 21.6	09.4	134° 21.6	09.4	Arcturus	145° 57.5	19° 07.3 N	90° 27.5	26.2	264° 48.5	6.0	08.4	4.6	58.5	S 10°	04:47	05:14	05:37	18:40	19:36	20:28											
			17	345° 09.6	122° 25.3	01.7	63° 43.1	57.9	348° 56.6	03.7	149° 23.9	09.5	149° 23.9	09.5	149° 23.9	09.5	Atria	107° 32.8	69° 02.7 S	105° 27.2	26.3	279° 13.5	6.0	03.8	4.7	20°	04:24	04:54	05:18	18:59	19:52	20:41												
			18	0° 12.0	137° 25.7	02.2	78° 43.5	57.7	3° 58.8	03.6	164° 26.2	09.5	164° 26.2	09.5	164° 26.2	09.5	Avior	234° 18.3	59° 32.6 S	120° 26.9	26.3	293° 38.5	6.1	22° 59.1 N	4.9	30°	03:55	04:29	04:56	19:22	20:11	20:56												
			19	15° 14.5	152° 26.0	02.8	93° 43.8	57.6	19° 01.1	03.5	179° 28.5	09.6	179° 28.5	09.6	179° 28.5	09.6	Bellatrix	278° 33.6	6° 21.6 N	135° 26.6	26.3	308° 03.6	6.1	54.2	5.0	35°	03:36	04:13	04:43	19:34	20:23	21:05												
20			30° 17.0	167° 26.3	03.3	108° 44.2	57.5	34° 03.3	03.4	194° 30.8	09.6	194° 30.8	09.6	194° 30.8	09.6	Betelgeuse	271° 02.9	7° 24.5 N	150° 26.3	26.3	322° 28.7	6.1	49.2	5.1	58.6	40°	03:13	03:55	04:28	19:49	20:35	21:15												
21			45° 19.4	182° 26.7	03.8	123° 44.6	57.3	49° 05.5	03.2	209° 33.2	09.7	209° 33.2	09.7	209° 33.2	09.7	Canopus	263° 56.4	52° 42.1 S	180° 25.7	23° 26.3 S	351° 18.9	6.1	22° 38.8 N	5.5	58.6	S 50°	01:57	03:03	03:47	20:29	21:09	21:40												
22	60° 21.9		197° 27.0	04.3	138° 45.0	57.2	64° 07.7	03.0	224° 35.5	09.7	224° 35.5	09.7	224° 35.5	09.7	Capella	260° 36.6	46° 00.6 N	195° 25.3	26.3	5° 44.0	6.2	33.3	6.8	52°	01:29	02:47	03:36	20:39	21:17	21:47														
23	75° 24.3		212° 27.4	04.8	153° 45.3	57.0	79° 10.0	03.1	239° 37.8	09.8	239° 37.8	09.8	239° 37.8	09.8	Deneb	49° 33.1	45° 19.4 N	210° 25.0	26.3	20° 09.2	6.2	27.7	5.8	54°	00:42	02:29	03:24	20:51	21:27	21:54														
00	90° 26.8	227° 27.7	13° 05.3 S	168° 45.7	23° 56.9 S	94° 12.2	3° 02.9 S	254° 40.1	4° 09.8 S	254° 40.1	4° 09.8 S	254° 40.1	4° 09.8 S	Canopus	263° 56.4	52° 42.1 S	180° 25.7	23° 26.3 S	351° 18.9	6.1	22° 38.8 N	5.5	58.6	S 50°	01:57	03:03	03:47	20:29	21:09	21:40														
01	105° 29.3	242° 28.1	05.8	183° 46.1	57.8	109° 14.4	05.8	269° 42.4	09.9	269° 42.4	09.9	269° 42.4	09.9	Capella	260° 36.6	46° 00.6 N	195° 25.3	26.3	5° 44.0	6.2	33.3	6.8	52°	01:29	02:47	03:36	20:39	21:17	21:47															
02	120° 31.7	257° 28.4	06.3	198° 46.4	56.6	124° 16.6	02.7	284° 44.8	09.9	284° 44.8	09.9	284° 44.8	09.9	Deneb	49° 33.1	45° 19.4 N	210° 25.0	26.3	20° 09.2	6.2	27.7	5.8	54°	00:42	02:29	03:24	20:51	21:27	21:54															
03	135° 34.2	272° 28.8	06.9	213° 46.8	56.5	139° 18.8	02.6	299° 47.1	09.9	299° 47.1	09.9	299° 47.1	09.9	Denebola	182° 35.4	14° 30.4 N	225° 24.7	26.3	34° 34.4	6.2	21.9	5.9	58.7	56°	06:01	06:27	06:53	21:04	21:38	22:02														
04	150° 36.7	287° 29.1	07.4	228° 47.2	56.3	154° 21.1	02.5	314° 49.4	10.0	314° 49.4	10.0	314° 49.4	10.0	Diphda	348° 57.6	17° 55.6 S	240° 24.4	26.3	48° 59.6	6.2	16.0	6.0	58°	-	01:37	02:53	21:20	21:50	22:11															
05	165° 39.1	302° 29.4	07.9	243° 47.6	56.2	169° 23.3	02.4	329° 51.7	10.0	329° 51.7	10.0	329° 51.7	10.0	Diphda	348° 57.6	17° 55.6 S																												

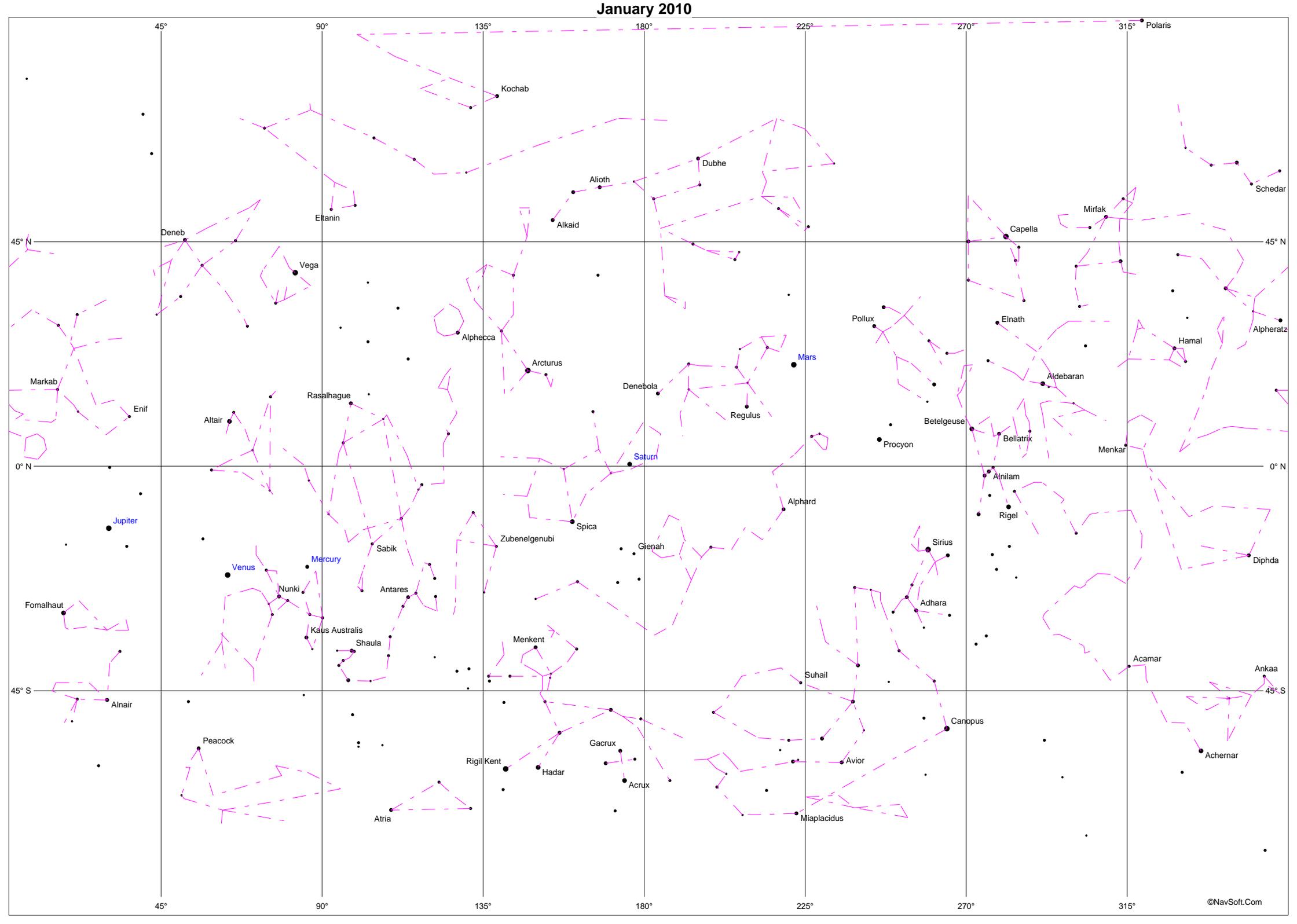
2010 December 24, 25, 26 (Fri, Sat, Sun)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON					Lat	Twilight		Sunrise	Moonrise		
																					Nautical		Civil		24		25			26		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:27	10:57	-	18:22	20:44	22:56				
24 F r i d a y	00	92° 25'.1	227° 42'.6	13° 30'.4 S	169° 03'.6	23° 49'.6 S	95° 58'.5	2° 57'.2 S	256° 31'.7	4° 12'.0 S	Acamar	315° 19'.3	40° 15'.8 S	180° 10'.8	23° 25'.3 S	324° 11'.1	8'.3	15° 45'.6 N	11'.5	59'.3	N 70°	08:07	09:55	-	18:44	20:53	22:55					
	01	107° 27'.6	242° 42'.9	30'.9	184° 04'.0	49'.4	111° 00'.7	57'.1	271° 34'.0	12'.1	195° 10'.5	25'.3	57° 11'.0 S	190° 10'.5	25'.3	338° 38'.4	8'.5	34'.1	11'.6	59'.4	N 70°	07:51	09:20	-	19:00	21:00	22:55					
	02	122° 30'.0	257° 43'.1	31'.5	199° 04'.3	49'.3	126° 02'.9	57'.0	286° 36'.3	12'.1	210° 10'.2	25'.2	63° 09'.4 S	210° 10'.2	25'.2	353° 05'.9	8'.4	22'.5	11'.6	66°	66°	07:38	08:55	10:35	19:14	21:06	22:54					
	03	137° 32'.5	272° 43'.4	32'.0	214° 04'.7	49'.1	141° 05'.1	57'.0	301° 38'.7	12'.2	225° 09'.9	25'.2	7° 33'.3	225° 09'.9	25'.2	7° 33'.3	8'.6	10'.9	11'.8	64°	64°	07:27	08:35	09:53	19:25	21:11	22:54					
	04	152° 34'.9	287° 43'.7	32'.5	229° 05'.1	48'.9	156° 07'.3	56'.8	316° 41'.0	12'.2	240° 09'.5	25'.1	16° 31'.9 N	240° 09'.5	25'.1	22° 00'.9	8'.6	14° 59'.1 N	11'.8	62°	62°	07:17	08:19	09:25	19:34	21:15	22:54					
	05	167° 37'.4	302° 44'.0	33'.1	244° 05'.4	48'.8	171° 09'.5	56'.6	331° 43'.3	12'.2	255° 09'.2	25'.1	36° 28'.5	255° 09'.2	25'.1	36° 28'.5	8'.6	47'.3	11'.9	60°	60°	07:09	08:06	09:03	19:43	21:19	22:53					
	06	182° 39'.9	317° 44'.2	33'.6	259° 05'.8	48'.6	186° 11'.8	56'.5	346° 45'.7	12'.3	270° 08'.9	25'.1	55° 53'.6 N	270° 08'.9	25'.1	50° 56'.1	8'.7	35'.4	12'.0	N 58°	N 58°	07:01	07:54	08:46	19:50	21:22	22:53					
	07	197° 42'.3	332° 44'.5	34'.1	274° 06'.2	48'.4	201° 14'.0	56'.4	1° 48'.0	12'.3	285° 08'.6	25'.0	65° 23'.8	285° 08'.6	25'.0	65° 23'.8	8'.8	23'.4	12'.1	56°	56°	06:55	07:44	08:31	19:56	21:25	22:53					
	08	212° 44'.8	347° 44'.8	34'.7	289° 06'.6	48'.3	216° 16'.2	56'.3	16° 50'.3	12'.4	300° 08'.3	25'.0	79° 51'.6	300° 08'.3	25'.0	79° 51'.6	8'.8	11'.3	12'.2	54°	54°	06:48	07:35	08:19	20:01	21:27	22:53					
	09	227° 47'.3	2° 45'.0	35'.2	304° 06'.9	48'.1	231° 18'.4	56'.2	31° 52'.6	12'.4	315° 08'.2	24'.9	94° 19'.4	315° 08'.2	24'.9	94° 19'.4	8'.9	13° 59'.1 N	12'.3	52°	52°	06:43	07:26	08:07	20:06	21:30	22:52					
	10	242° 49'.7	17° 45'.3	35'.7	319° 07'.3	47'.9	246° 20'.6	56'.0	46° 55'.0	12'.5	330° 07'.7	24'.9	108° 47'.3	330° 07'.7	24'.9	108° 47'.3	8'.9	46'.8	12'.3	50°	50°	06:37	07:19	07:58	20:11	21:32	22:52					
	11	257° 52'.2	32° 45'.6	36'.3	334° 07'.7	47'.8	261° 22'.8	55'.9	61° 57'.3	12'.5	345° 07'.4	24'.8	123° 15'.2	345° 07'.4	24'.8	123° 15'.2	9'.0	34'.5	12'.5	45°	45°	06:26	07:03	07:37	20:20	21:37	22:52					
	12	272° 54'.7	47° 45'.8	13° 36'.8 S	349° 08'.1	23° 47'.6 S	276° 25'.0	2° 55'.8 S	76° 59'.6	4° 12'.6 S	Alphecca	126° 12'.8	26° 40'.5 N	0° 07'.1	23° 24'.8 S	137° 43'.2	9'.0	13° 22'.0 N	12'.5	59'.4	N 40°	06:15	06:49	07:20	20:28	21:40	22:52					
	13	287° 57'.1	62° 46'.1	37'.3	4° 08'.4	47'.4	291° 27'.2	55'.7	92° 02'.0	12'.6	15° 06'.8	24'.7	152° 11'.2	15° 06'.8	24'.7	152° 11'.2	9'.1	09'.5	12'.6	35°	35°	06:06	06:38	07:06	20:35	21:44	22:51					
	14	302° 59'.6	77° 46'.4	37'.9	19° 08'.8	47'.3	306° 29'.4	55'.5	107° 04'.3	12'.6	30° 06'.4	24'.7	166° 39'.3	30° 06'.4	24'.7	166° 39'.3	9'.2	12° 56'.9 N	12'.6	59'.5	59'.5	30°	05:57	06:27	06:53	20:41	21:47	22:51				
	15	318° 02'.1	92° 46'.6	38'.4	34° 09'.2	47'.1	321° 31'.6	55'.4	122° 06'.6	12'.7	45° 06'.1	24'.6	181° 07'.5	45° 06'.1	24'.6	181° 07'.5	9'.2	44'.3	12'.8	20°	20°	05:41	06:08	06:32	20:52	21:52	22:51					
	16	333° 04'.5	107° 46'.9	38'.9	49° 09'.5	46'.9	336° 33'.8	55'.3	137° 09'.0	12'.7	60° 05'.8	24'.6	195° 35'.7	60° 05'.8	24'.6	195° 35'.7	9'.3	31'.5	12'.8	N 10°	N 10°	05:25	05:51	06:14	21:01	21:56	22:51					
	17	348° 07'.0	122° 47'.1	39'.5	64° 09'.9	46'.7	351° 36'.0	55'.2	152° 11'.3	12'.8	75° 05'.5	24'.5	210° 04'.0	75° 05'.5	24'.5	210° 04'.0	9'.3	18'.7	12'.8	0°	0°	05:07	05:34	05:56	21:09	22:00	22:50					
	18	3° 09'.4	137° 47'.4	40'.0	79° 10'.3	46'.6	6° 38'.2	55'.0	167° 13'.6	12'.8	Arcturus	145° 57'.5	19° 07'.3 N	90° 05'.2	24'.5	224° 32'.3	9'.3	05'.9	13'.0	S 10°	S 10°	04:49	05:16	05:39	21:18	22:05	22:50					
	19	18° 11'.9	152° 47'.6	40'.6	94° 10'.7	46'.4	21° 40'.4	54'.9	182° 15'.9	12'.9	105° 04'.9	24'.4	105° 04'.9	105° 04'.9	24'.4	105° 04'.9	9'.5	11° 52'.9 N	13'.0	20°	20°	04:26	04:55	05:20	21:27	22:09	22:50					
	20	33° 14'.4	167° 47'.9	41'.1	109° 11'.0	46'.2	36° 42'.6	54'.8	197° 18'.3	12'.9	120° 04'.6	24'.4	253° 29'.1	120° 04'.6	24'.4	253° 29'.1	9'.4	39'.9	13'.1	30°	30°	03:57	04:30	04:58	21:37	22:14	22:50					
	21	48° 16'.8	182° 48'.1	41'.6	124° 11'.4	46'.0	51° 44'.8	54'.7	212° 20'.6	13'.0	Bellatrix	278° 33'.6	6° 21'.5 N	135° 04'.3	24'.3	267° 57'.5	9'.5	26'.8	13'.2	35°	35°	03:38	04:15	04:45	21:43	22:17	22:50					
	22	63° 19'.3	197° 48'.4	42'.2	139° 11'.8	45'.9	66° 47'.0	54'.6	271° 02'.9	13'.0	Betelgeuse	271° 02'.9	7° 24'.5 N	150° 04'.2	24'.2	282° 26'.0	9'.6	13'.6	13'.2	40°	40°	03:15	03:57	04:30	21:49	22:20	22:49					
23	78° 21'.8	212° 48'.6	42'.7	154° 12'.2	45'.7	81° 49'.2	54'.4	242° 25'.3	13'.0	165° 03'.7	24'.2	296° 54'.6	165° 03'.7	24'.2	296° 54'.6	9'.6	00'.4	13'.3	45°	45°	02:44	03:34	04:12	21:57	22:24	22:49						
25 S a t u r d a y	00	93° 24'.2	227° 48'.9	13° 43'.2 S	169° 12'.5	23° 45'.5 S	96° 51'.4	2° 54'.3 S	257° 27'.6	4° 13'.1 S	Canopus	263° 56'.4	52° 42'.4 S	180° 03'.4	23° 24'.1 S	311° 23'.2	9'.7	10° 47'.1 N	13'.3	59'.5	S 50°	01:59	03:04	03:49	22:06	22:28	22:49					
	01	108° 26'.7	242° 49'.1	43'.8	184° 12'.9	45'.4	111° 53'.6	54'.5	272° 29'.9	13'.1	Capella	280° 36'.6	46° 00'.6 N	195° 03'.0	24'.1	325° 51'.9	9'.7	37'.8	13'.4	52°	52°	01:31	02:49	03:38	22:10	22:31	22:49					
	02	123° 29'.2	257° 49'.4	44'.3	199° 13'.3	45'.2	126° 55'.8	54'.9	287° 32'.3	13'.2	Deneb	49° 33'.1	45° 19'.4 N	210° 02'.7	24'.0	340° 20'.6	9'.8	20'.4	13'.5	54°	54°	00:44	02:31	03:26	22:15	22:33	22:49					
	03	138° 31'.6	272° 49'.6	44'.9	214° 13'.6	45'.0	141° 58'.1	54'.3	302° 34'.6	13'.2	Denebola	182° 35'.4	14° 30'.4 N	225° 02'.4	24'.0	354° 49'.4	9'.8	06'.9	13'.5	56°	56°	-	02:09	03:12	22:20	22:35	22:49					
	04	153° 34'.1	287° 49'.9	45'.4	229° 14'.0	44'.8	157° 00'.3	53'.8	317° 36'.9	13'.3	Diphda	348° 57'.6	17° 55'.6 S	240° 02'.1	23'.9	9° 18'.2	9'.9	9° 53'.4 N	13'.6	58°	58°	-	01:39	02:55	22:26	22:38	22:49					
	05	168° 36'.6	302° 50'.1	45'.9	244° 14'.4	44'.6	172° 02'.5	53'.7	332° 39'.3	13'.3	255° 01'.8	23'.8	23° 47'.1	255° 01'.8	23'.8	23° 47'.1	9'.9	39'.8	13'.6	S 60°	S 60°	-	00:49	02:34	22:32	22:41	22:49					
	06	183° 39'.0	317° 50'.3	46'.5	259° 14'.8	44'.5	187° 04'.7	53'.6	347° 41'.6	13'.3	Dubhe	193° 53'.5	61° 41'.1 N	270° 01'.5	23'.8	38° 16'.0	9'.9	26'.2	13'.7	S 62°	S 62°	-	-	02:08	22:40	22:44	22:49					
	07	198° 41'.5	332° 50'.6	47'.0	274° 15'.1	44'.3	202° 06'.9	53'.4	2° 43'.9	13'.4	Elnath	278° 14'.5	28° 37'.0 N	285° 01'.2	23'.7	52° 44'.9	10'.0	12'.5	13'.7													
	08	213° 43'.9	347° 50'.8	47'.6	289° 15'.5	44'.1	217° 09'.1	53'.3	17° 46'.3	13'.4	Elainin	90° 47'.5	51° 29'.3 N	300° 00'.9	23'.6	67° 13'.9	10'.1	8° 58'.8 N	13'.8													
	09	228° 46'.4	2° 51'.1	48'.1	304° 15'.9	43'.9	232° 11'.3	53'.2	32° 48'.6	13'.5	Enif	33° 49'.1	9° 55'.7 N	315° 00'.6	23'.6	81° 43'.0	10'.0	45'.0	13'.8													
	10	243° 48'.9	17° 51'.3	48'.7	319° 16'.2	43'.8	247° 13'.5	53'.1	47° 50'.9	13'.5	Fomalhaut	15° 26'.0	29° 33'.9 S	330° 00'.3	23'.5	96° 12'.0	10'.2	31'.2	13'.9													
	11	258° 51'.3	32° 51'.5	49'.2	334° 16'.6	43'.6	262° 15'.7	52'.9	62° 53'.3	13'.6	344° 59'.9	23'.4	110° 41'.2	344° 59'.9	23'.4	110° 41'.2	10'.1	17'.3	13'.9													
	12	273° 53'.8	47° 51'.8	13° 49'.7 S	349° 17'.0	23° 43'.4 S	277° 17'.9	2° 52'.8 S	77° 55'.6	4° 13'.6 S	Gacrux	172° 03'.0	57° 10'.3 S	359° 59'.6	23° 23'.4 S	125° 10'.3	10'.2	8° 03'.4 N	14'.0	59'.5	N 70°	-	14:05	15:53	11:30	11:10	10:53					
	13	288° 56'.3	62° 52'.0	50'.3	4° 17'.4	43'.2	292° 20'.1	52'.7	92° 57'.9	13'.6	Gienah	175° 54'.1	17° 36'.2 S	14° 59'.3	23'.3	139° 39'.5	10'.3	7° 49'.4 N	14'.0	68°	68°	-	14:40	16:09	11:12	11:00	10:50					
	14	303° 58'.7	77° 52'.2	50'.8	19° 17'.7	43'.0	307° 22'.3	52'.6	108° 00'.3	13'.7	Hadar	148° 50'.8	60° 25'.4 S	29° 59'.0	23'.2	154° 08'.8	10'.3	35'.4	14'.1	66°	66°	13:25	15:05	16:22	10:57	10:52	10:48					
	15	319° 01'.2	92° 52'.4	51'.4	34° 18'.1	42'.9	322° 24'.5	52'.4	123° 02'.6	13'.7	Hamal	328° 02'.6	23° 31'.0 N	44° 58'.7	23'.2	168° 38'.1	10'.3	21'.3	14'.0	64°	64°	14:07	15:2									

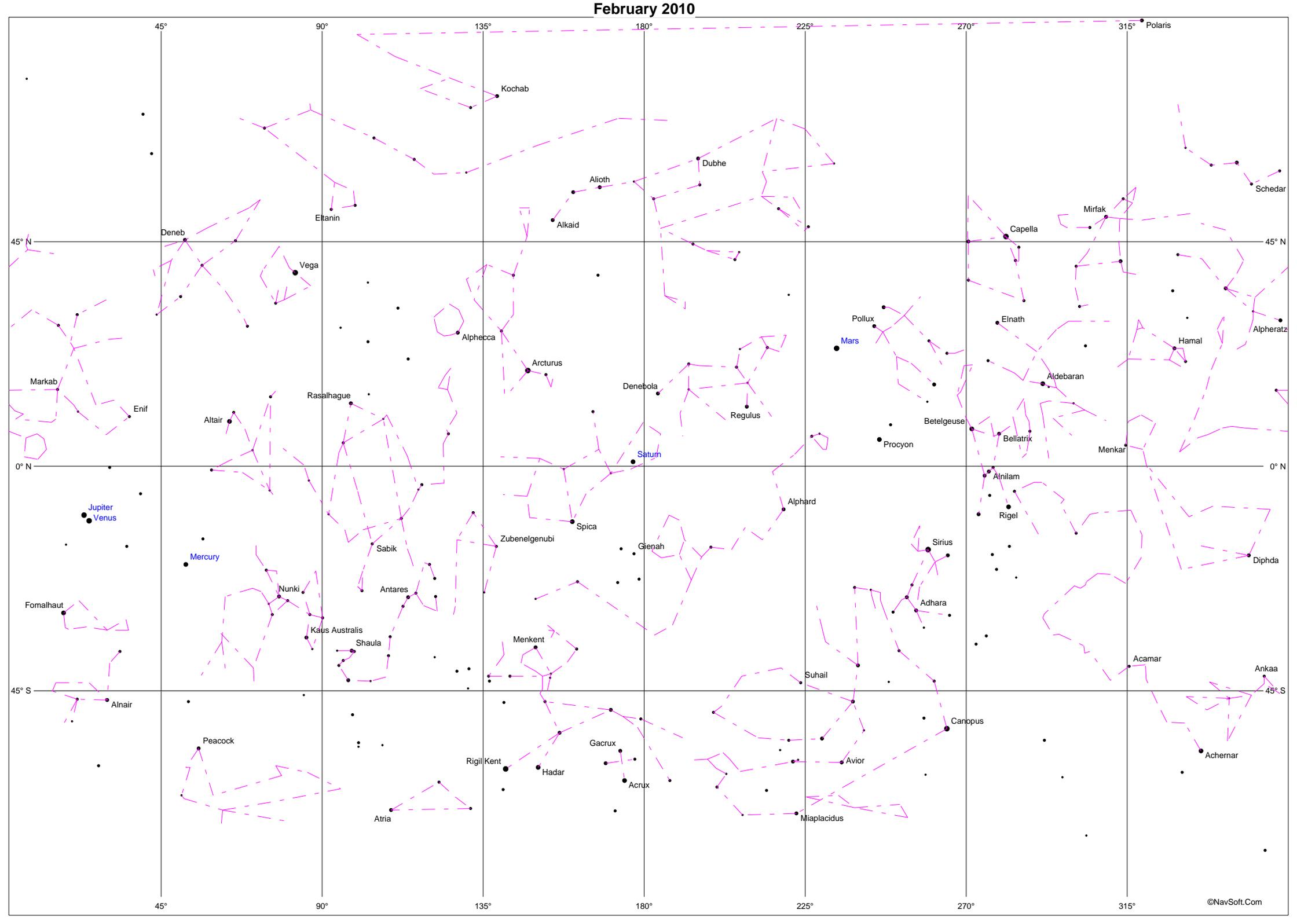
2010 Dec 30, 31, Jan. 1 (Thur, Fri, Sat)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Twilight		Sunrise		Moonrise														
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:25	10:46	-	06:57	-	-													
30	00	98° 19.9	228° 09.6	14° 49.5 S	169° 57.4	23° 21.2 S	101° 13.9	2° 38.7 S	262° 08.5	4° 17.8 S	Acamar	315° 19.4	40° 45.8 S	179° 26.5	23° 11.2 S	250° 19.5	9.1	16° 26.6 S	10.7	58.6	N 70°	08:06	09:51	-	05:32	-	-																
	01	113° 22.4	243° 09.7	50.1	184° 57.8	20.9	116° 16.1	38.5	277° 10.8	17.8	Acnarnar	335° 27.8	57° 11.1 S	194° 26.2	11.0	264° 47.6	9.1	37.3	10.6	68°	N 70°	07:50	09:18	-	04:53	07:27	-																
	02	128° 24.9	258° 09.8	50.6	199° 58.2	20.7	131° 18.2	38.4	292° 13.2	17.8	Acruz	173° 11.4	63° 09.4 S	209° 25.9	10.9	279° 15.7	9.0	47.9	10.5	66°	N 70°	07:38	08:54	10:30	04:27	06:27	08:39																
	03	143° 27.3	273° 09.9	51.2	214° 58.5	20.5	146° 20.4	38.3	300° 15.5	17.9	Adhara	255° 13.5	28° 59.3 S	224° 25.6	10.7	293° 43.7	9.0	58.4	10.4	58.5	64°	N 70°	07:27	08:35	09:51	04:06	05:53	07:34															
	04	158° 29.8	288° 10.0	51.7	229° 58.9	20.2	161° 22.6	38.1	322° 17.9	17.9	Aldebaran	290° 51.1	16° 31.9 N	239° 25.3	10.5	308° 11.7	8.9	17° 08.8 S	10.3		62°	N 70°	07:18	08:19	09:24	03:50	05:29	06:59															
	05	173° 32.2	303° 10.1	52.3	244° 59.3	20.0	176° 24.8	38.0	337° 20.2	17.9											60°	N 70°	07:09	08:06	09:03	03:36	05:09	06:34															
	06	188° 34.7	318° 10.2	52.9	259° 59.7	19.8	191° 26.9	37.8	352° 22.6	18.0	Alioth	166° 22.2	55° 53.6 N	269° 24.7	10.2	327° 07.5	8.8	29.2	10.1		58°	N 58°	07:02	07:54	08:46	03:25	04:53	06:14															
	07	203° 37.2	333° 10.3	53.4	275° 00.0	19.5	206° 29.1	37.7	7° 24.9	18.0	Alkaid	153° 00.4	49° 15.2 N	284° 24.4	10.1	351° 35.3	8.8	39.3	10.0		56°	N 58°	06:56	07:44	08:31	03:15	04:40	05:58															
	08	218° 39.6	348° 10.4	54.0	290° 00.4	19.3	221° 31.3	37.6	22° 27.3	18.1	Alnair	27° 46.2	46° 54.6 S	299° 24.1	09.9	6° 03.1	8.7	49.3	9.8		54°	N 58°	06:50	07:36	08:19	03:06	04:28	05:43															
	09	233° 42.1	3° 10.5	54.6	305° 00.8	19.1	236° 33.4	37.4	37° 29.6	18.1	Alnilam	275° 47.8	1° 11.8 S	314° 23.8	09.7	20° 30.8	8.7	59.1	9.8	58.4	52°	N 58°	06:44	07:28	08:08	02:58	04:17	05:31															
	10	248° 44.6	18° 10.6	55.1	320° 01.2	18.8	251° 35.6	37.3	52° 32.0	18.1	Alphard	217° 57.6	8° 42.5 S	329° 23.5	09.6	34° 58.5	8.6	18° 08.9 S	9.7		50°	N 58°	06:39	07:20	07:59	02:51	04:08	05:20															
	11	263° 47.0	33° 10.7	55.7	335° 01.5	18.6	266° 37.8	37.2	67° 34.3	18.2											45°	N 58°	06:27	07:05	07:38	02:36	03:49	04:58															
	12	278° 49.5	48° 10.8	14° 56.2 S	350° 01.9	23° 18.4 S	281° 39.9	2° 37.0 S	82° 36.7	4° 18.2 S	Alphecca	126° 12.7	26° 40.5 N	359° 22.9	23° 09.2 S	63° 53.7	8.5	18° 28.1 S	9.4	58.4	N 40°	N 40°	06:17	06:51	07:22	02:24	03:33	04:40															
	13	293° 52.0	63° 10.9	56.8	5° 02.3	18.1	296° 42.1	36.9	97° 39.0	18.2	Alpheratz	357° 45.4	29° 09.3 N	14° 22.6	09.9	78° 21.2	8.5	37.5	9.3		35°	N 40°	06:08	06:40	07:08	02:13	03:20	04:25															
	14	308° 54.4	78° 10.9	57.4	20° 02.7	17.9	311° 44.3	36.7	112° 41.4	18.3	Altair	62° 10.3	8° 53.9 N	29° 22.3	08.9	92° 48.7	8.4	46.8	9.2		30°	N 40°	05:59	06:29	06:56	02:04	03:08	04:12															
	15	323° 56.9	93° 11.0	57.9	35° 03.0	17.7	326° 46.4	36.6	127° 43.7	18.3	Ankaa	353° 17.4	42° 14.9 S	44° 22.0	08.7	107° 16.1	8.4	56.0	9.1		20°	N 40°	05:43	06:11	06:35	01:48	02:49	03:49															
	16	338° 59.3	108° 11.1	58.5	50° 03.4	17.4	341° 48.6	36.5	142° 46.1	18.3	Antares	112° 28.8	26° 27.3 S	59° 21.7	08.6	121° 43.5	8.4	19° 05.1 S	9.0	58.3	N 10°	N 10°	05:27	05:54	06:16	01:35	02:32	03:30															
	17	354° 01.8	123° 11.2	59.0	65° 03.8	17.2	356° 50.8	36.3	157° 48.4	18.4											0°	N 10°	05:11	05:37	05:59	01:22	02:16	03:12															
	18	9° 04.3	138° 11.3	59.6	80° 04.2	16.9	11° 53.0	36.2	172° 50.8	18.4	Arcturus	145° 57.5	19° 07.3 N	89° 21.1	08.2	150° 38.2	8.2	23.0	8.7		S 10°	S 10°	04:52	05:19	05:42	01:10	02:01	02:54															
	19	24° 06.7	153° 11.4	15° 00.2 S	95° 04.6	16.7	26° 55.1	36.0	187° 53.1	18.4	Arctia	107° 32.7	69° 02.7 S	104° 20.8	08.1	165° 05.4	8.2	31.7	8.6		20°	S 10°	04:30	04:59	05:23	00:56	01:44	02:35															
	20	39° 09.2	168° 11.4	00.7	110° 04.9	16.5	41° 57.3	35.9	202° 55.5	18.5	Avior	234° 18.2	59° 32.7 S	119° 20.5	07.9	179° 32.6	8.2	40.3	8.5		30°	S 10°	04:01	04:34	05:01	00:41	01:25	02:13															
	21	54° 11.7	183° 11.5	01.3	125° 05.3	16.2	56° 59.5	35.8	217° 57.8	18.5	Bellatrix	278° 33.6	6° 21.5 N	134° 20.2	07.7	193° 59.8	8.1	48.8	8.4		35°	S 10°	03:42	04:19	04:49	00:33	01:14	02:00															
	22	69° 14.1	198° 11.6	01.9	140° 05.7	16.0	72° 01.6	35.6	233° 00.2	18.5	Betelgeuse	271° 02.9	7° 24.2 S	149° 19.9	07.5	208° 26.9	8.0	57.2	8.3	58.2	40°	S 10°	03:20	04:01	04:34	00:23	01:01	01:46															
23	84° 16.6	213° 11.7	02.4	155° 06.1	15.7	87° 03.8	35.5	248° 02.5	18.6											45°	S 10°	02:50	03:39	04:16	00:11	00:46	01:28																
31	00	99° 19.1	228° 11.7	15° 03.0 S	170° 06.4	23° 15.5 S	102° 06.0	2° 35.4 S	263° 04.9	4° 18.6 S	Canopus	263° 56.4	52° 42.2 S	179° 19.3	23° 07.2 S	237° 20.9	8.0	20° 13.6 S	8.0	58.2	S 50°	S 50°	02:05	03:10	03:54	-	00:28	01:07															
	01	114° 21.5	243° 11.8	03.5	185° 06.8	15.3	117° 08.1	35.2	278° 07.3	18.6	Capella	280° 36.6	46° 00.6 N	194° 19.0	07.0	251° 47.9	8.0	21.6	7.9		52°	S 50°	01:39	02:55	03:43	-	00:20	00:56															
	02	129° 24.0	258° 11.9	04.1	200° 07.2	15.0	132° 10.3	35.1	293° 09.6	18.7	Deneb	49° 33.1	45° 19.4 N	209° 18.7	06.8	266° 14.9	7.8	29.5	7.8		54°	S 50°	00:57	02:37	03:31	-	00:10	00:45															
	03	144° 26.5	273° 12.0	04.7	215° 07.6	14.8	147° 12.5	34.9	308° 12.0	18.0	Denebola	182° 35.4	14° 30.4 N	224° 18.4	06.7	280° 41.7	7.9	37.3	7.7		56°	S 50°	00:57	02:37	03:31	-	00:10	00:45															
	04	159° 28.9	288° 12.0	05.2	230° 08.0	14.5	162° 14.6	34.8	323° 14.3	18.7	Diphda	348° 57.6	17° 55.6 S	239° 18.1	06.5	295° 08.6	7.8	45.0	7.5	58.1	58°	S 50°	00:57	02:37	03:31	-	00:10	00:45															
	05	174° 31.4	303° 12.1	05.8	245° 08.3	14.3	177° 16.8	34.7	338° 16.7	18.8											58°	S 50°	00:57	02:37	03:31	-	00:10	00:45															
	06	189° 33.8	318° 12.2	06.4	260° 08.7	14.0	192° 18.9	34.5	353° 19.0	18.8	Dubhe	193° 53.4	61° 41.																														

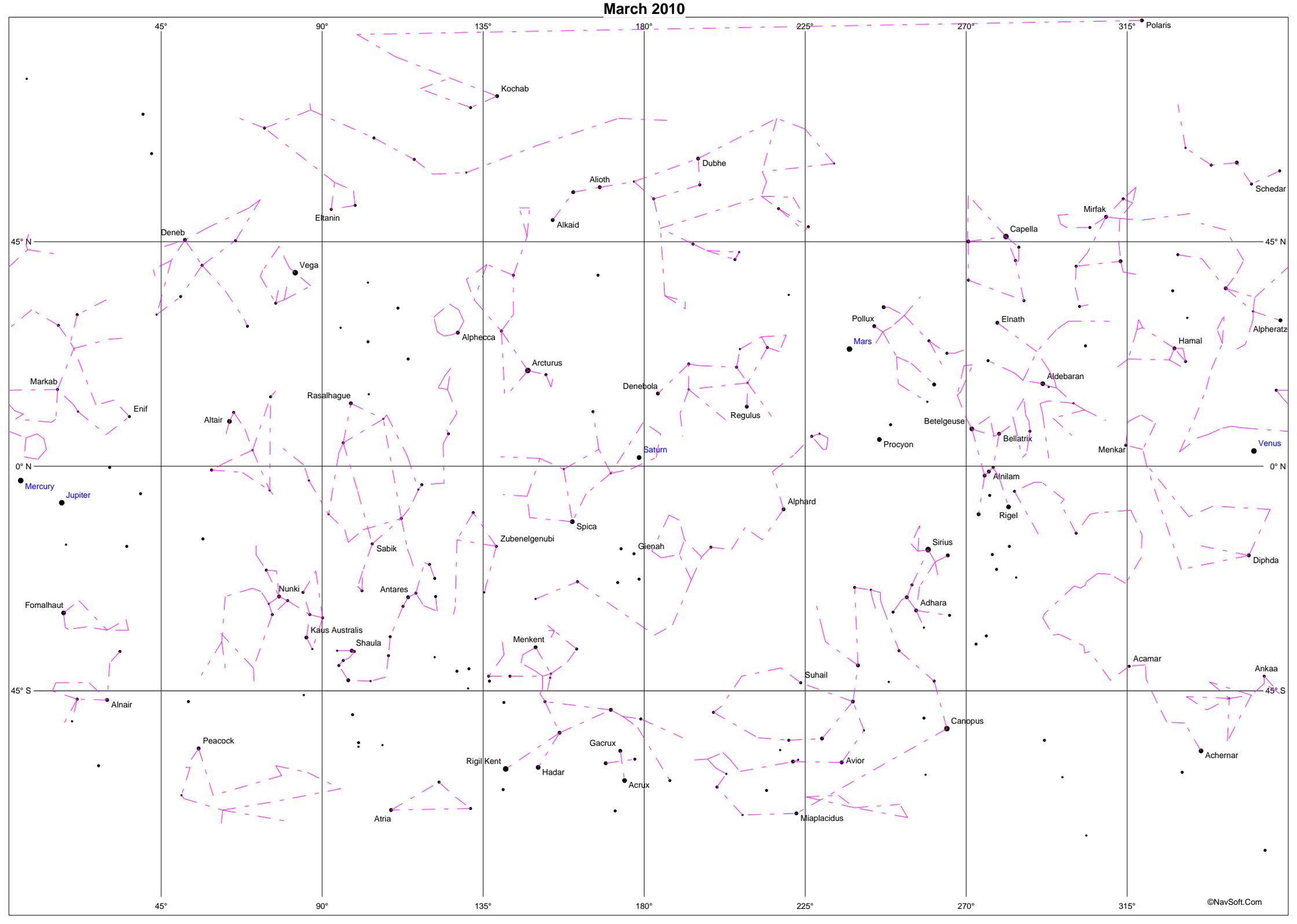
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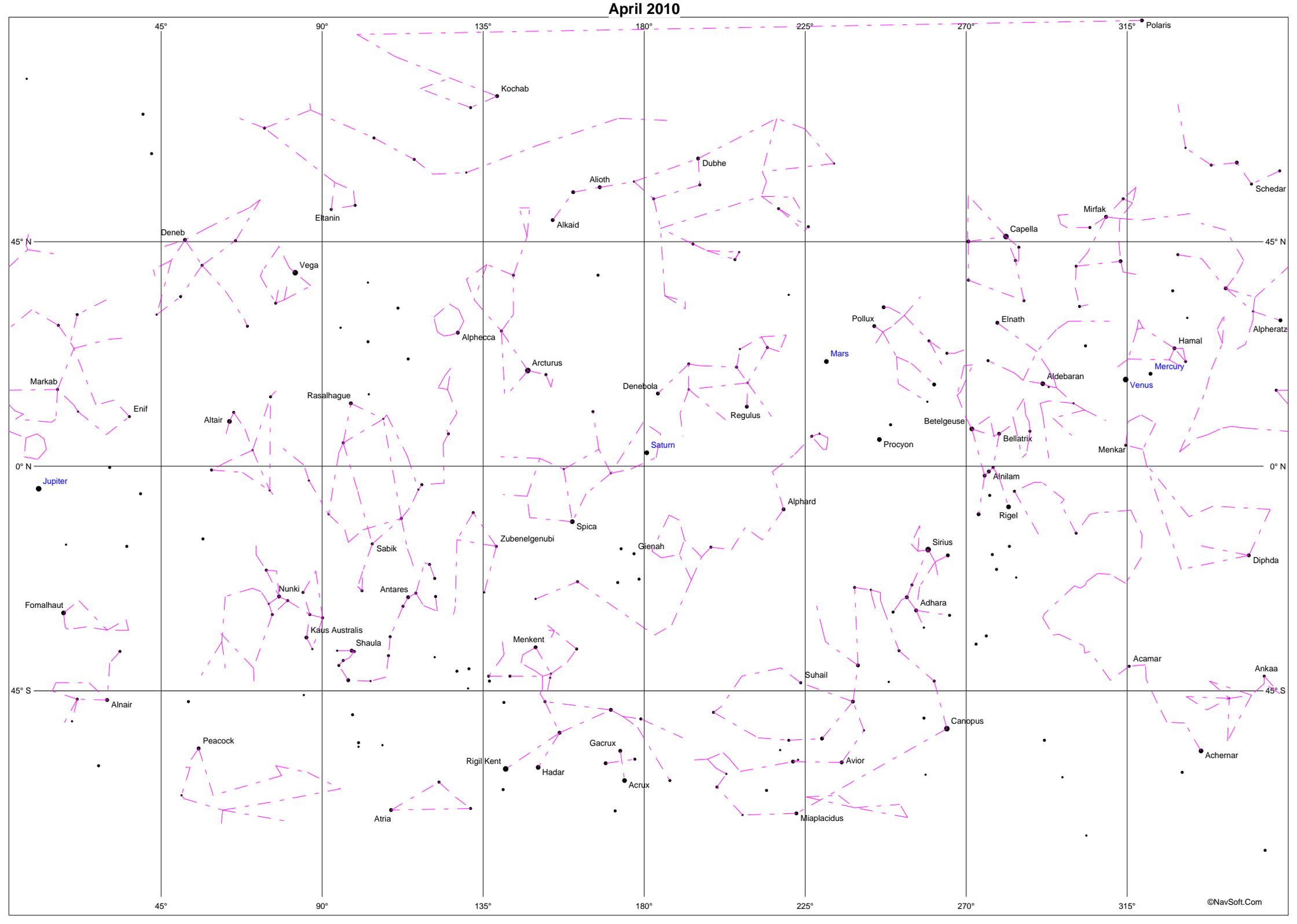
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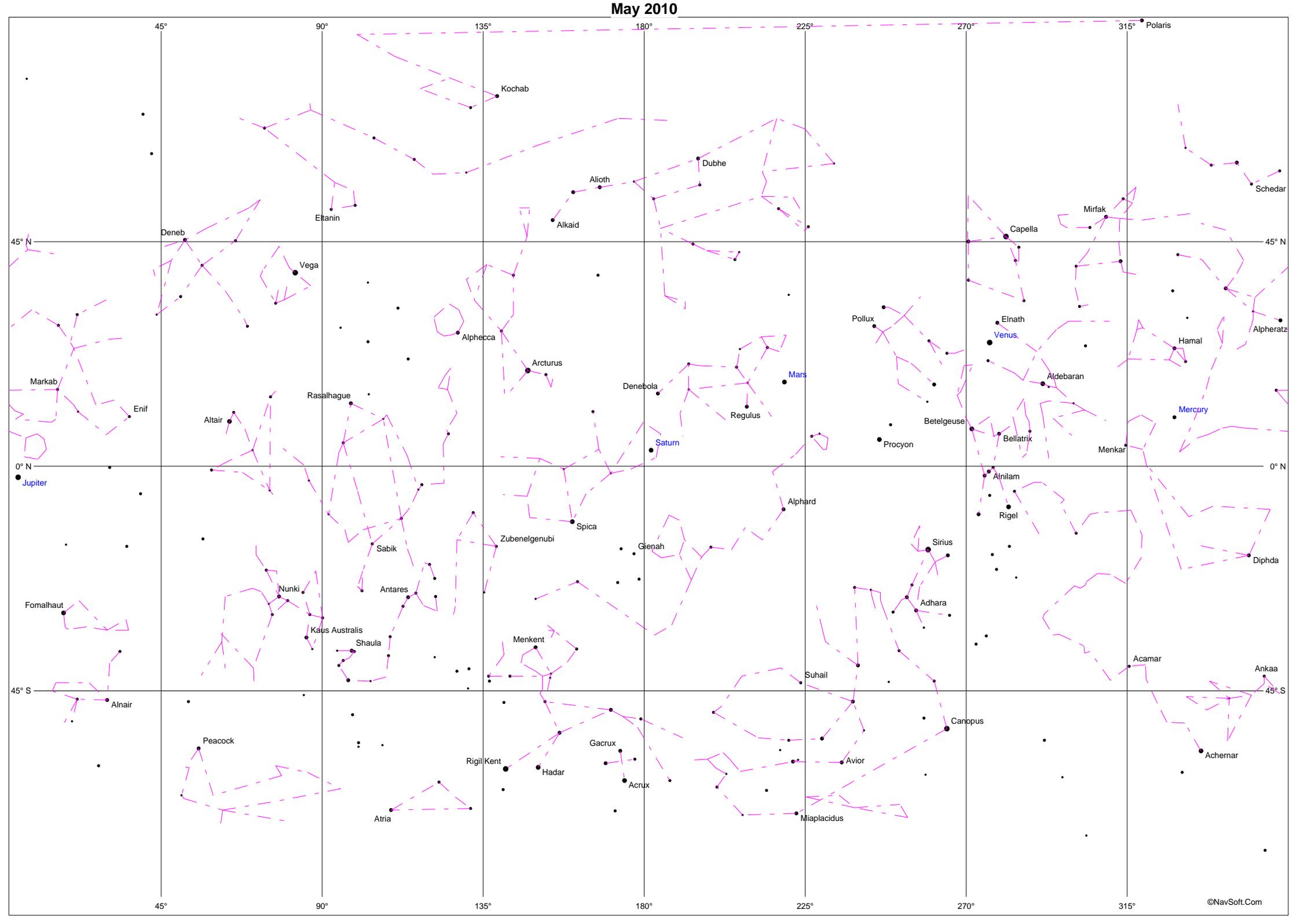
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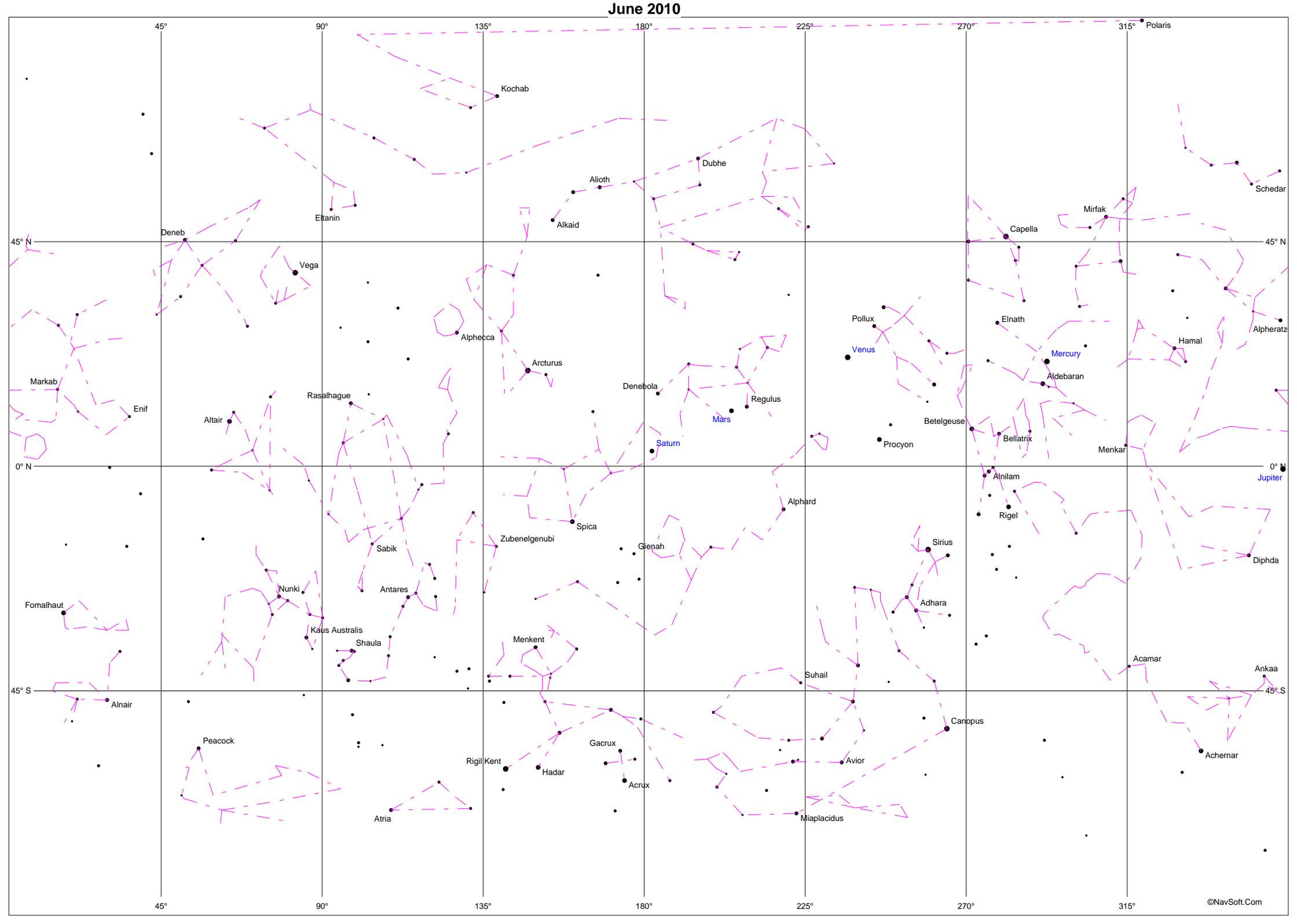
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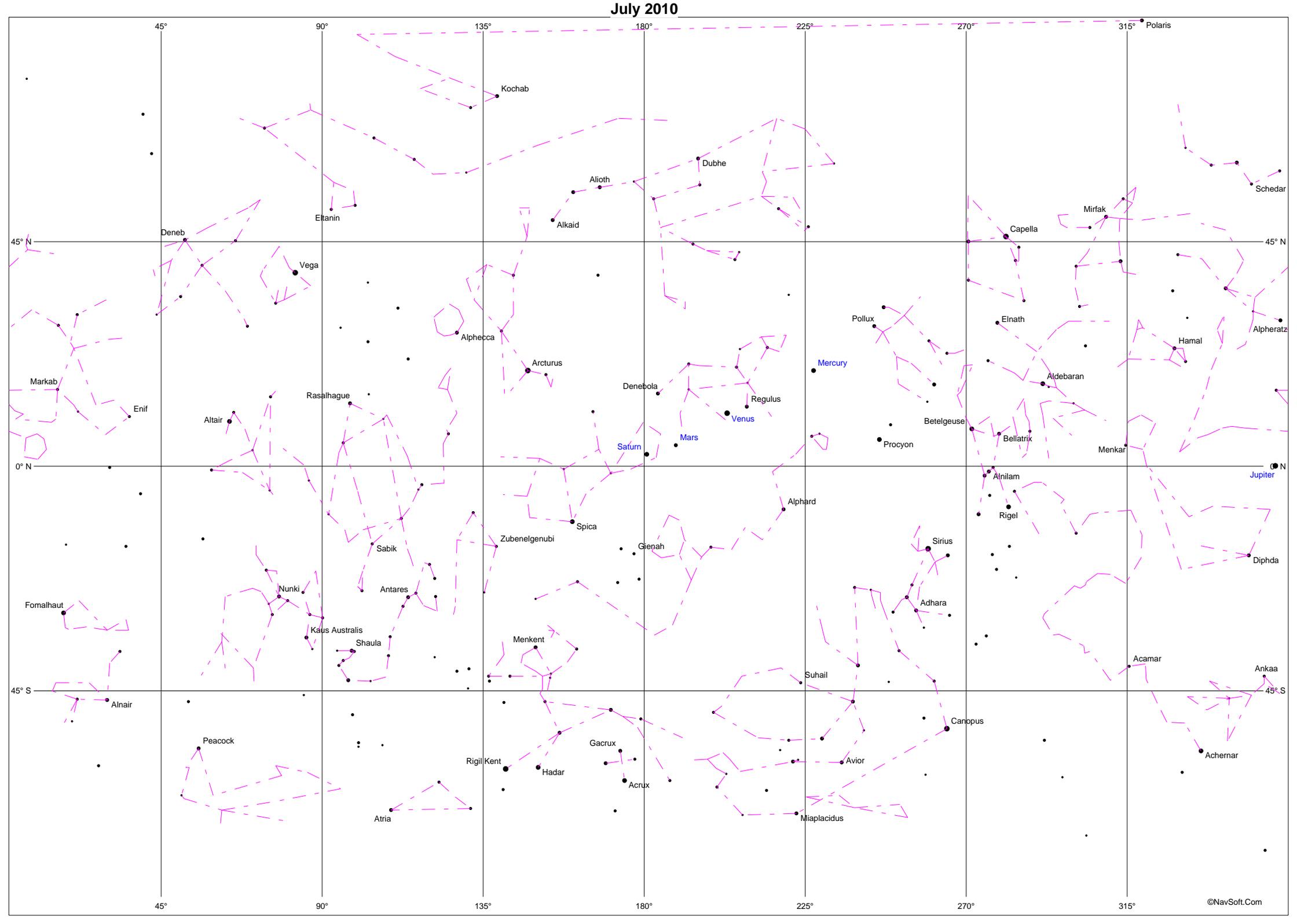
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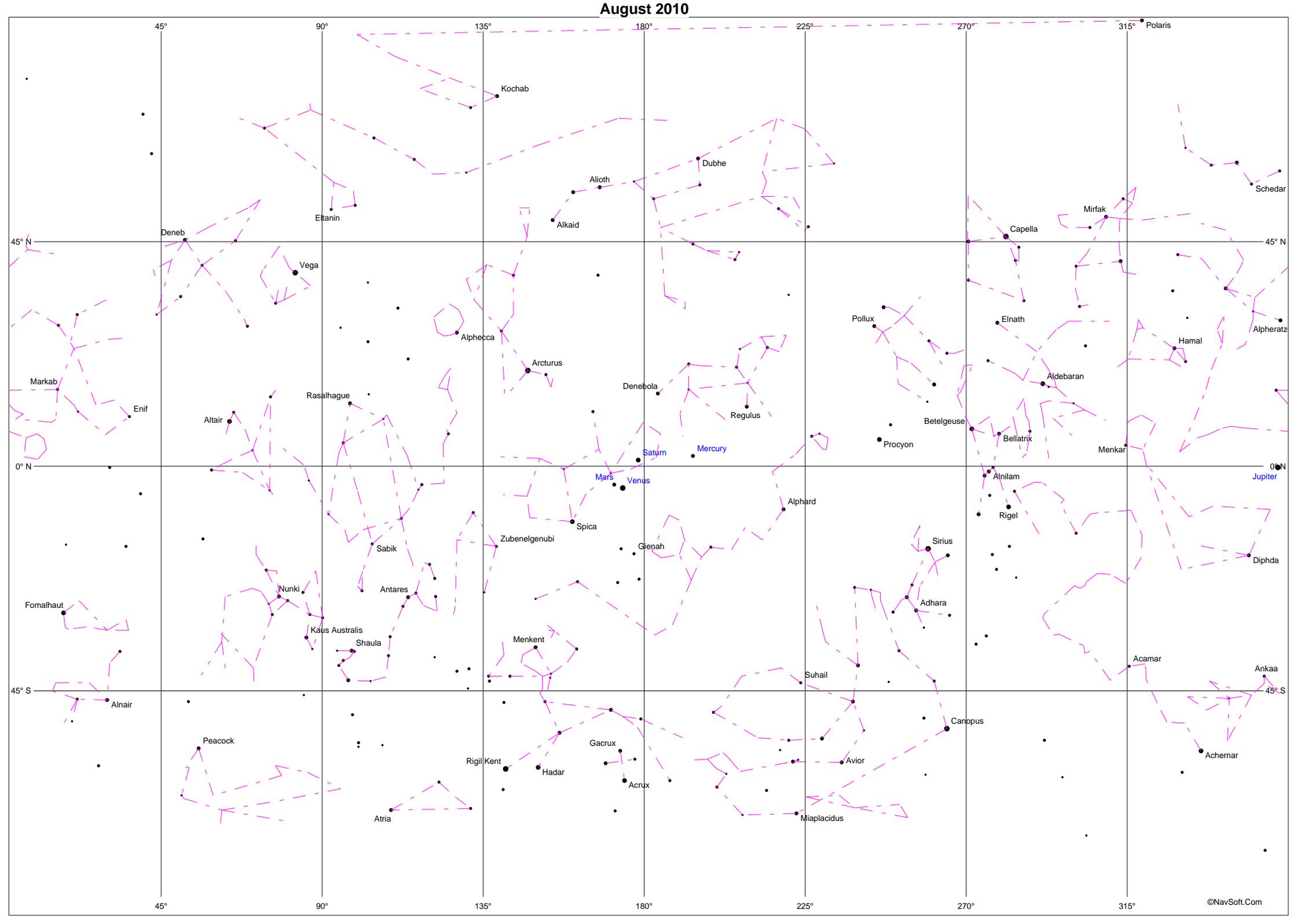
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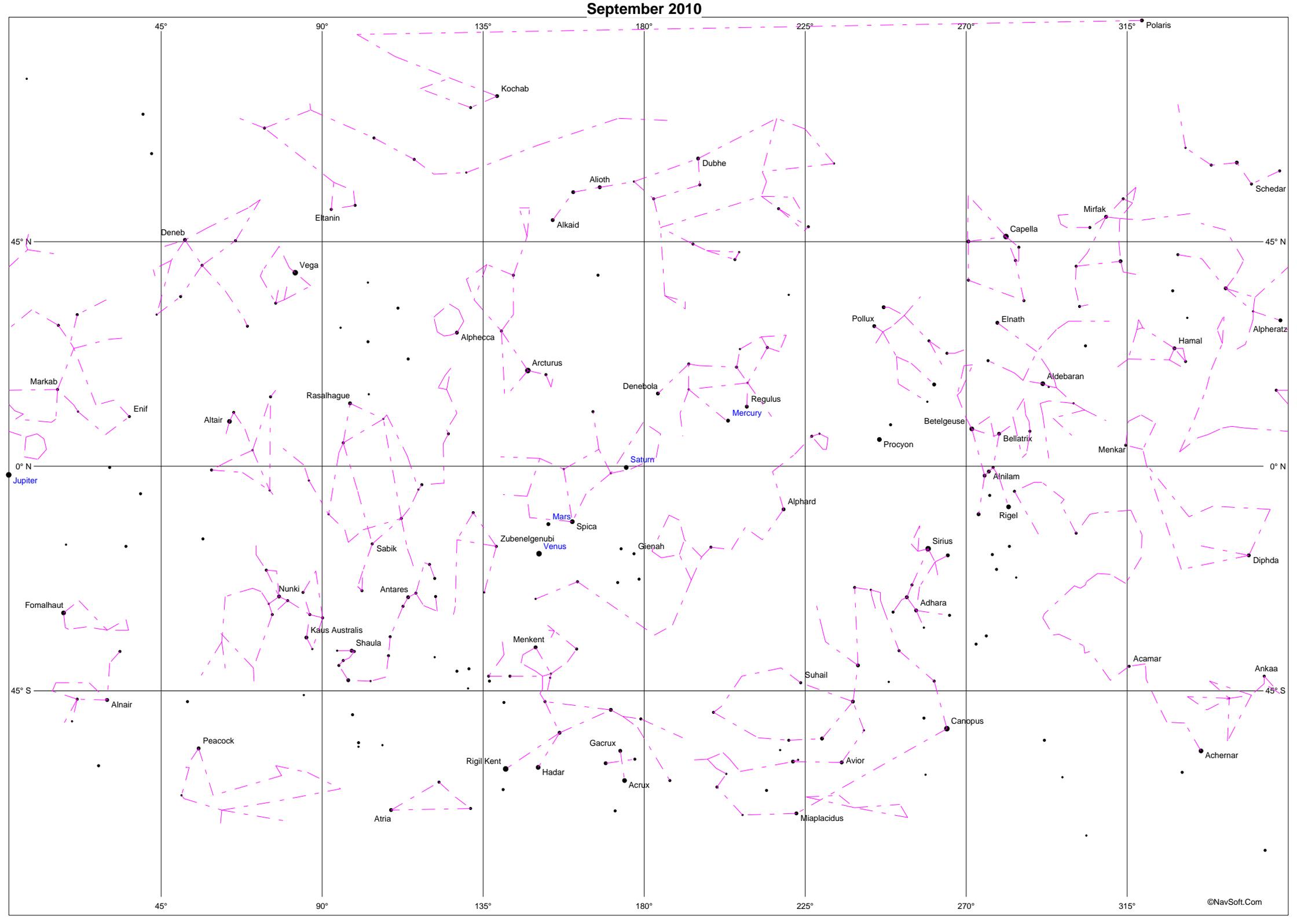
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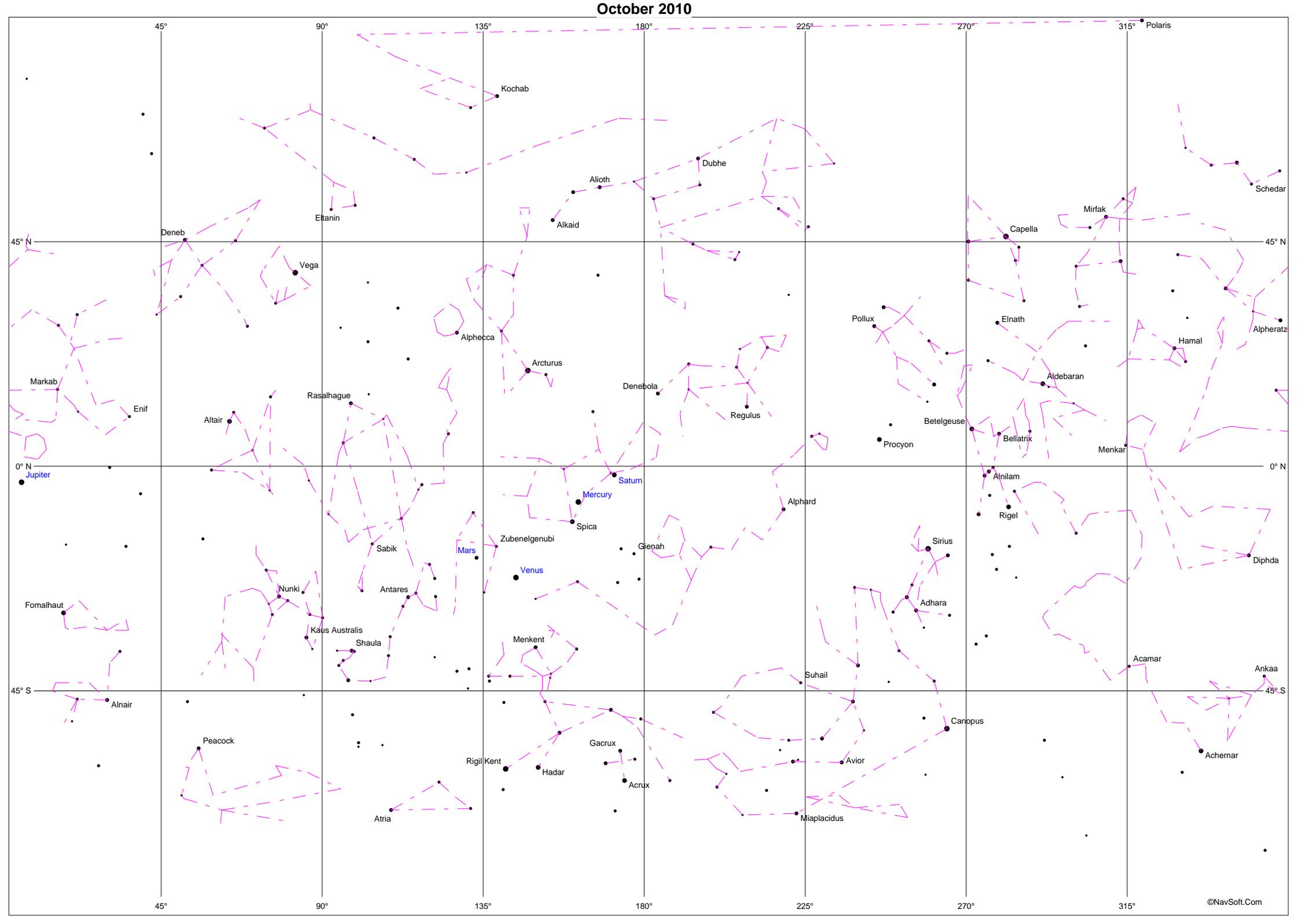
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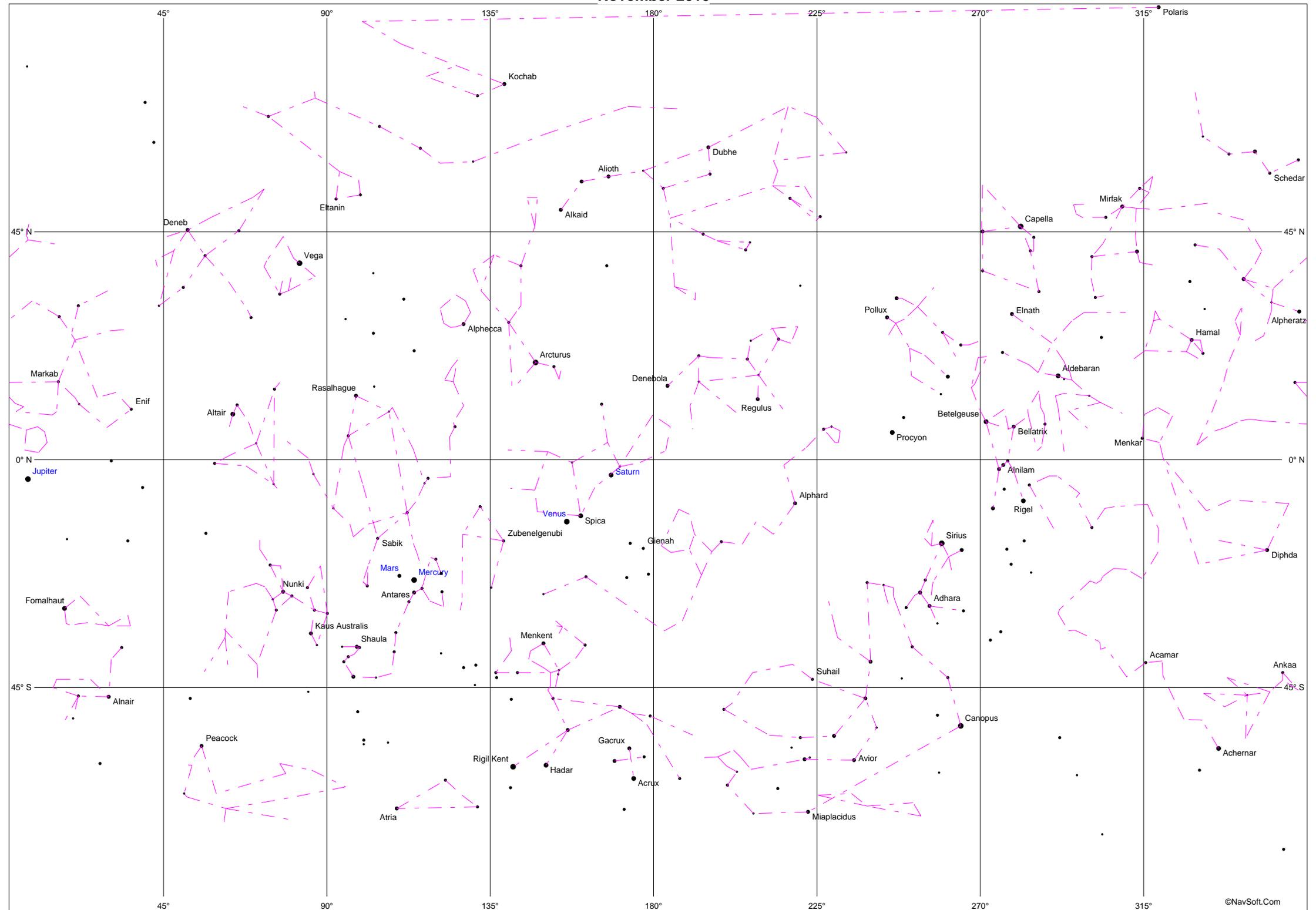
September 2010



October 2010



November 2010



December 2010

