

# NavSoft's

# 2011

# 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 2011

	Sun SD	Venus		Mars		Jupiter SD	Saturn SD
		HP	SD	HP	SD		
Jan 1	16'.3	0'.24	0'.23	0'.06	0'.03	0'.30	0'.13
Jan	16'.3	0'.20	0'.19	0'.06	0'.03	0'.29	0'.13
Feb	16'.2	0'.15	0'.15	0'.06	0'.03	0'.27	0'.14
Mar	16'.1	0'.13	0'.12	0'.06	0'.03	0'.26	0'.14
Apr	15'.9	0'.11	0'.10	0'.06	0'.03	0'.26	0'.14
May	15'.8	0'.10	0'.09	0'.06	0'.03	0'.27	0'.14
Jun	15'.7	0'.09	0'.09	0'.06	0'.03	0'.28	0'.13
Jul	15'.7	0'.09	0'.08	0'.07	0'.04	0'.30	0'.13
Aug	15'.8	0'.08	0'.08	0'.07	0'.04	0'.33	0'.12
Sep	15'.9	0'.09	0'.08	0'.08	0'.04	0'.37	0'.12
Oct	16'.0	0'.09	0'.09	0'.09	0'.05	0'.39	0'.12
Nov	16'.2	0'.10	0'.09	0'.10	0'.05	0'.39	0'.12
Dec	16'.2	0'.11	0'.10	0'.12	0'.07	0'.36	0'.12
Dec 31	16'.3	0'.11	0'.11	0'.14	0'.07	0'.34	0'.12

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. It also includes data for all visible bodies at less than the cost of a printed Nautical Almanac. Further details and a demonstration version can be found at [navsoft.com/astronav.html](http://navsoft.com/astronav.html)

Supplementary tables, which do not change from year to year, are available at [navsoft.com/downloads.html](http://navsoft.com/downloads.html)

2011 January 1, 2, 3 (Sat, Sun, Mon)

Main table containing astronomical data for Aries, Venus, Mars, Jupiter, Saturn, Stars, Sun, and Moon. Columns include GMT, planet names, coordinates, and twilight/sunrise information. Includes a 'Moonset' column with a moon icon.

## 2011 January 4, 5, 6 (Tue, Wed, Thur)

GMT	ARIES			VENUS		MARS		JUPITER		SATURN		STARS			SUN		MOON					Twilight		Sunrise			Moonrise								
												Name			GHA		GHA					Lat	Nautical	Civil	4			5			6				
													SHA					v								4			5			6			
			Dec		Dec		Dec		Dec		Dec							d					HP				4			5			6		
Tuesday	00	103° 15'.6	228° 14'.0	15° 57'.0 S	170° 42'.9	22° 50'.2 S	105° 32'.8	2° 21'.5 S	266° 51'.6	4° 21'.5 S	266° 51'.6	4° 21'.5 S	Acamar	315° 19'.4	40° 15'.8 S	178° 51'.1	22° 46'.6 S	183° 42'.3	9.0	22° 35'.4 S	5.1	56.4	N 72°	08:20	10:31	-	-	-	-	-	11:21				
	01	118° 18'.1	243° 14'.0	57.3	185° 43'.3	49.9	120° 34'.9	21.4	281° 53'.9	21.5	281° 53'.9	21.5	Acamar	335° 27'.8	57° 11'.1 S	193° 50'.8	46.4	198° 10'.3	9.0	30.3	5.3	56.3	N 70°	08:02	09:43	-	-	-	11:28	10:44	10:50				
	02	133° 20'.6	258° 14'.0	58.1	200° 43'.7	49.6	135° 37'.1	21.2	296° 56'.3	21.5	296° 56'.3	21.5	Acrux	173° 11'.3	63° 09'.4 S	208° 50'.5	46.1	212° 38'.3	9.1	25.0	5.4	66°	07:35	08:50	10:20	10:21	10:14	10:09							
	03	148° 23'.0	273° 13'.9	58.6	215° 44'.1	49.3	150° 39'.2	21.1	311° 58'.7	21.6	255° 13'.5	28° 59'.3 S	Adhara	255° 13'.5	28° 59'.3 S	223° 50'.2	45.9	227° 06'.4	9.2	19.6	5.4	64°	07:25	08:32	09:45	09:46	09:52	09:54							
	04	163° 25'.5	288° 13'.9	59.2	230° 44'.5	49.0	165° 41'.4	20.9	327° 01'.0	21.6	327° 01'.0	21.6	Aldebaran	290° 51'.1	16° 31'.9 N	238° 49'.9	45.6	241° 34'.6	9.2	14.2	5.6	62°	07:16	08:17	09:20	09:21	09:34	09:42							
	05	178° 27'.9	303° 13'.9	59.7	245° 44'.8	48.7	180° 43'.5	20.8	342° 03'.4	21.6	342° 03'.4	21.6	Aldebaran	290° 51'.1	16° 31'.9 N	238° 49'.9	45.6	241° 34'.6	9.2	14.2	5.6	62°	07:16	08:17	09:20	09:21	09:34	09:42							
	06	193° 30'.4	318° 13'.9	16° 00'.3 S	260° 45'.2	48.4	195° 45'.6	20.6	357° 05'.8	21.7	357° 05'.8	21.7	Alioth	166° 22'.1	55° 53'.6 N	268° 49'.4	45.1	270° 31'.1	9.4	02.9	5.9	56°	07:08	08:04	09:00	09:00	09:19	09:31							
	07	208° 32'.9	333° 13'.8	00.9	275° 45'.6	48.1	210° 47'.8	20.5	12° 08'.2	21.7	12° 08'.2	21.7	Alkaid	153° 00'.3	49° 15'.1 N	283° 49'.1	44.8	284° 59'.5	9.5	21° 57.0 S	5.9	54°	06:55	07:43	08:30	08:30	08:55	09:14							
	08	223° 35'.3	348° 13'.8	01.4	290° 46'.0	47.9	225° 49'.9	20.3	27° 10'.5	21.7	27° 10'.5	21.7	Alnair	27° 46'.2	46° 54'.5 S	298° 48'.8	44.6	299° 28.0	9.5	51.1	6.0	54°	06:49	07:35	08:18	08:18	08:46	09:07							
	09	238° 37'.8	3° 13'.8	02.0	305° 46'.4	47.6	240° 52'.1	20.2	42° 12'.9	21.7	42° 12'.9	21.7	Alnilam	275° 57'.2	1° 11'.8 S	313° 48'.5	44.3	313° 56'.5	9.7	45.1	6.2	52°	06:44	07:27	08:10	08:10	08:37	09:00							
	10	253° 40'.3	18° 13'.7	02.5	320° 46'.8	47.3	255° 54'.2	20.0	57° 15'.3	21.8	57° 15'.3	21.8	Alphard	217° 57'.5	8° 42'.5 S	328° 48'.2	44.1	328° 25'.2	9.6	38.9	6.3	56.1	50°	06:39	07:20	07:58	07:57	08:29	08:54						
	11	268° 42'.7	33° 13'.7	03.1	335° 47'.1	47.0	270° 56'.3	19.9	72° 17'.6	21.8	72° 17'.6	21.8	Alphard	217° 57'.5	8° 42'.5 S	328° 48'.2	44.1	328° 25'.2	9.6	38.9	6.3	56.1	50°	06:39	07:20	07:58	07:57	08:29	08:54						
	12	283° 45'.2	48° 13'.6	16° 03'.7 S	350° 47'.5	22° 46'.7 S	285° 58'.5	2° 19.7 S	87° 20'.0	4° 21'.8 S	87° 20'.0	4° 21'.8 S	Alphecca	126° 12'.7	26° 40'.5 N	358° 47'.6	22° 43'.5 S	357° 22'.6	9.8	21° 26'.3 S	6.5	56.1	N 40°	06:18	06:52	07:22	07:20	07:59	08:31						
	13	298° 47'.7	63° 13'.6	04.2	5° 47'.9	46.4	301° 00'.6	19.6	102° 22'.4	21.8	102° 22'.4	21.8	Alpheratz	357° 45.4	29° 09'.3 N	13° 47'.4	43.3	11° 51'.4	10.0	19.8	6.6	35°	06:09	06:41	07:08	07:06	07:47	08:22							
	14	313° 50'.1	78° 13'.6	04.8	20° 48'.3	46.1	316° 02'.8	19.4	62° 10'.3	21.9	62° 10'.3	21.9	Altair	62° 10'.3	8° 53'.9 N	28° 47'.1	43.0	26° 20'.4	9.9	18.2	6.7	56.0	30°	06:01	06:30	06:57	06:54	07:37	08:14						
	15	328° 52'.6	93° 13'.5	05.3	35° 48'.7	45.8	331° 04'.9	19.3	132° 27'.1	21.9	132° 27'.1	21.9	Ankaa	353° 17.4	42° 14'.9 S	43° 46'.8	42.7	40° 49'.3	10.1	06.5	6.8	20°	05:45	06:12	06:36	06:33	07:19	08:00							
	16	343° 55'.1	108° 13'.5	05.9	50° 49'.1	45.5	346° 07'.0	19.1	147° 29'.5	21.9	58° 46'.5	42.5	Antares	112° 28'.7	26° 27'.3 S	58° 46'.5	42.5	55° 18'.4	10.2	20° 59'.7 S	6.9	14.7	N 10°	05:29	05:56	06:18	06:18	07:04	07:48						
	17	358° 57'.5	123° 13'.4	06.4	65° 49'.4	45.2	1° 09'.2	19.0	162° 31'.9	21.9	73° 46'.2	42.2	Antares	112° 28'.7	26° 27'.3 S	58° 46'.5	42.5	55° 18'.4	10.2	20° 59'.7 S	6.9	14.7	0°	05:13	05:39	06:02	05:58	06:49	07:37						
	18	14° 00'.0	138° 13'.4	07.0	80° 49'.8	44.9	16° 11'.3	18.8	177° 34'.2	22.0	177° 34'.2	22.0	Arcturus	145° 57.4	19° 07'.3 S	88° 45.9	41.9	84° 16'.8	10.3	45.8	7.1	10°	04:55	05:22	05:45	05:41	06:35	07:25							
	19	29° 02'.4	153° 13'.4	07.6	95° 50'.2	44.6	31° 13'.5	18.7	192° 36'.6	22.0	192° 36'.6	22.0	Arcturus	145° 57.4	19° 07'.3 S	88° 45.9	41.9	84° 16'.8	10.3	45.8	7.1	10°	04:55	05:22	05:45	05:41	06:35	07:25							
	20	44° 04'.9	168° 13'.3	08.1	110° 50'.6	44.3	46° 15'.6	18.5	207° 39'.0	22.0	207° 39'.0	22.0	Avior	234° 18'.2	59° 32'.7 S	118° 45'.4	41.4	113° 15'.5	10.4	31.5	7.3	30°	04:05	04:38	05:05	05:02	06:01	06:59							
	21	59° 07'.4	183° 13'.3	08.7	125° 51'.0	44.1	61° 17'.7	18.4	222° 41'.3	22.0	222° 41'.3	22.0	Bellatrix	278° 33.6	6° 21'.5 N	133° 45'.1	41.1	127° 44.9	10.6	24.2	7.4	35°	03:47	04:23	04:53	04:50	05:51	06:51							
	22	74° 09'.8	198° 13'.2	09.2	140° 51'.4	43.8	76° 19'.9	18.2	237° 43'.7	22.1	237° 43'.7	22.1	Betelgeuse	271° 02'.8	7° 24'.5 N	148° 44'.8	40.9	142° 14'.5	10.6	16.8	7.5	40°	03:25	04:06	04:38	04:36	05:39	06:41							
	23	89° 12'.3	213° 13'.2	09.8	155° 51'.8	43.5	91° 22'.0	18.1	252° 46'.1	22.1	252° 46'.1	22.1	Betelgeuse	271° 02'.8	7° 24'.5 N	148° 44'.8	40.9	142° 14'.5	10.6	16.8	7.5	40°	03:25	04:06	04:38	04:36	05:39	06:41							
Wednesday	00	104° 14'.8	228° 13'.1	16° 10'.3 S	170° 52'.1	22° 43'.2 S	106° 24'.0	2° 17.9 S	267° 48'.5	4° 22'.1 S	267° 48'.5	4° 22'.1 S	Canopus	263° 56'.4	52° 42'.2 S	178° 44.2	22° 40'.3 S	171° 13'.8	10.7	20° 01'.8 S	7.7	55.8	S 50°	02:13	03:16	03:59	03:58	05:07	06:17						
	01	119° 17'.2	243° 13'.1	10.9	185° 52'.5	42.9	121° 26'.3	17.8	282° 50'.8	22.1	282° 50'.8	22.1	Capella	280° 36.6	46° 00'.6 N	193° 44.0	40.1	185° 43'.5	10.9	19° 54'.1 S	7.8	52°	01:48	03:01	03:49	03:48	04:59	06:11							
	02	134° 19'.7	258° 13'.0	11.5	200° 52'.9	42.6	136° 28'.4	17.6	297° 53'.2	22.2	297° 53'.2	22.2	Deneb	49° 33'.1	45° 19'.4 N	208° 43'.7	39.8	200° 13'.4	10.9	46.3	7.9	54°	01:12	02:45	03:37	03:37	04:50	06:04							
	03	149° 22'.2	273° 13'.0	12.0	215° 53'.3	42.3	151° 30'.6	17.5	312° 55'.6	22.2	312° 55'.6	22.2	Denebola	182° 35.3	14° 30'.4 N	223° 43'.4	39.9	214° 43'.3	11.0	38.4	7.9	56°	00:59	02:24	03:24	03:24	04:39	05:56							
	04	164° 24'.6	288° 12'.9	12.6	230° 53'.7	42.0	166° 32'.7	17.3	327° 58'.0	22.2	327° 58'.0	22.2	Diphda	348° 57.6	17° 55'.6 S	238° 43'.1	39.2	229° 13'.3	11.1	30.5	8.1	55.7	58°	-	01:58	03:08	03:09	04:27	05:47						
	05	179° 27'.1	303° 12'.9	13.1	245° 54'.1	41.7	181° 34'.8	17.0	343° 00'.3	22.2	343° 00'.3	22.2	Diphda	348° 57.6	17° 55'.6 S	238° 43'.1	39.2	229° 13'.3	11.1	30.5	8.1	55.7	58°	-	01:58	03:08	03:09	04:27	05:47						
	06	194° 29'.6	318° 12'.8	13.7	260° 54'.4	41.4	196° 37'.0	17.2	358° 02'.7	22.3	358° 02'.7	22.3	Dubhe	193° 53.4	61° 41'.1 N	268° 42'.5	38.7	258° 13'.6	11.2	22.4	8.1	55.7	S 60°	-	01:18	02:49	02:51	04:14	05:37						
	07	209° 32'.0	333° 12'.7	14.2	275° 54'.8	41.1	211° 39'.1	16.8	13° 05'.1	22.3	13° 05'.1	22.3	Elanin	278° 14.5	28° 37'.0 N	283° 42'.3	38.4	272° 43'.8	11.3	06.1	8.3	55.6	S 62°	-	-	02:25	02:29	03:57	05:26						
	08	224° 34'.5	348° 12'.7	14.8	290° 55'.2	40.8	226° 41'.2	16.7	28° 07'.5	22.3	28° 07'.5	22.3	Elnath	90° 47'.5	51° 29'.2 N	298° 42'.0	38.1	287° 14'.1	11.4	18° 57'.8 S	8.4	55.6	S 62°	-	-	02:25	02:29	03:57	05:26						
	09	239° 36'.9	3° 12'.6	15.3	305° 55'.6	40.5	241° 43'.4	16.5	43° 09'.8	22.3	43° 09'.8	22.3	Enif	33° 49'.1	9° 55'.7 N	313° 41.7	37.9	301° 44.5	11.5	49.4	8.5	55.6	Lat	Sunset	Twilight		Moonset								
	10	254° 39'.4	18° 12'.6	15.9																															

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON			Lat	Twilight		Sunrise	Moonrise		
																							Nautical		Civil					
7 F r i d a y	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:15	10:20	-	10:45	10:20	09:59				
	106° 13.0	228° 09.6	16° 36.9 S	171° 10.7	22° 28.4 S	108° 06.5	2° 10.5 S	269° 42.5	4° 23.2 S	Acamar	315° 19.4	40° 15.8 S	178° 30.9	22° 26.4 S	148° 28.9	14.3	12° 26.8 S	11.0	54.9	N 70°	07:58	09:37	-	10:28	10:12	09:57				
	01	121° 15.5	243° 09.5	37.4	186° 11.1	28.1	123° 08.6	10.4	284° 44.9	23.3	Acemnar	335° 27.9	57° 11.1 S	193° 30.6	26.1	163° 02.2	14.4	15.8	11.0	68°	07:44	09:08	11:11	10:15	10:05	09:56				
	02	136° 18.0	258° 09.4	38.0	201° 11.5	27.8	138° 10.7	10.2	299° 47.3	23.3	Acruz	173° 11.3	63° 09.4 S	208° 30.3	25.8	177° 35.6	14.4	04.8	11.0	66°	07:33	08:46	10:13	10:04	09:59	09:55				
	03	151° 20.4	273° 09.3	38.5	216° 11.9	27.5	151° 12.9	10.1	314° 49.7	23.3	Adhara	255° 15.5	28° 59.3 S	223° 30.1	25.5	192° 09.0	14.4	11° 53.8 S	11.1	54.8	64°	07:23	08:29	09:40	09:55	09:55	09:54			
	04	166° 22.9	288° 09.2	39.0	231° 12.3	27.1	168° 15.0	09.9	329° 52.1	23.3	Aldebaran	290° 51.1	16° 31.9 N	238° 29.8	25.2	208° 42.4	14.6	42.7	11.1	62°	07:14	08:14	09:16	09:47	09:50	09:53				
	05	181° 25.4	303° 09.1	39.6	246° 12.7	26.8	183° 17.1	09.8	344° 54.5	23.4				253° 29.5	24.9	221° 16.0	14.5	31.6	11.2	60°	07:07	08:02	08:57	09:40	09:47	09:53				
	06	196° 27.8	318° 09.0	40.1	261° 13.1	26.5	198° 19.2	09.6	359° 56.8	23.4	Alioth	166° 22.1	55° 53.6 N	268° 29.3	24.6	239° 49.5	14.7	20.4	11.1	N 58°	07:00	07:51	08:41	09:34	09:43	09:52				
	07	211° 30.3	333° 08.9	40.7	276° 13.5	26.2	213° 21.4	09.4	14° 59.2	23.4	Alkaid	153° 00.3	49° 15.1 N	283° 29.0	24.2	250° 23.2	14.7	09.3	11.3	56°	06:54	07:42	08:28	09:29	09:41	09:51				
	08	226° 32.8	348° 08.8	41.2	291° 13.9	25.9	228° 23.5	09.3	30° 01.6	23.4	Alnair	27° 46.2	46° 54.5 S	298° 28.7	23.9	264° 56.9	14.7	10° 58.0 S	11.2	54°	06:48	07:34	08:16	09:24	09:38	09:51				
	09	241° 35.2	3° 08.7	41.8	306° 14.2	25.5	243° 25.6	09.1	45° 04.0	23.4	Alnilam	275° 47.8	1° 11.8 S	313° 28.4	23.6	279° 30.6	14.8	46.8	11.4	54.7	52°	06:43	07:26	08:06	09:19	09:36	09:50			
	10	256° 37.7	18° 08.6	42.3	321° 14.6	25.2	258° 27.7	09.0	60° 06.4	23.5	Alphard	217° 57.5	8° 42.5 S	328° 28.2	23.3	294° 04.4	14.9	35.4	11.3	50°	06:38	07:19	07:57	09:15	09:33	09:50				
	11	271° 40.2	33° 08.5	42.9	336° 15.0	24.9	273° 29.9	08.8	75° 08.7	23.5				343° 27.9	23.0	308° 38.3	14.9	24.1	11.4	45°	06:28	07:04	07:38	09:07	09:29	09:49				
	12	286° 42.6	48° 08.4	16° 43.4 S	351° 15.4	22° 24.6 S	288° 32.0	2° 08.7 S	90° 11.1	4° 23.5 S	Alphecca	126° 12.7	26° 40.5 N	358° 27.6	22° 22.7 S	323° 12.2	15.0	10° 12.7 S	11.4	54.7	N 40°	06:18	06:52	07:22	08:59	09:25	09:48			
	13	301° 45.1	63° 08.3	44.0	6° 15.8	24.3	303° 34.1	08.5	105° 13.5	23.5	Alpheratz	357° 45.4	29° 09.3 N	13° 27.4	22.4	337° 46.2	15.0	01.3	11.4	35°	06:09	06:41	07:09	08:53	09:21	09:48				
	14	316° 47.5	78° 08.2	44.5	21° 16.2	23.9	318° 36.2	08.3	120° 15.9	23.5	Altair	62° 10.3	8° 53.9 N	28° 27.1	22.0	352° 20.2	15.1	9° 49.9 S	11.5	30°	06:01	06:31	06:57	08:57	09:18	09:47				
	15	331° 50.0	93° 08.0	45.1	36° 16.6	23.6	333° 38.4	08.2	135° 18.3	23.6	Ankaa	353° 17.4	42° 14.9 S	43° 26.8	21.7	6° 54.3	15.1	38.4	11.5	54.6	20°	05:46	06:13	06:37	08:38	09:13	09:46			
	16	346° 52.5	108° 07.9	45.6	51° 17.0	23.3	348° 40.5	08.0	150° 20.7	23.6	Antares	112° 28.7	26° 27.3 S	58° 26.6	21.4	21° 28.4	15.2	26.9	11.5	N 10°	05:31	05:57	06:19	08:29	09:08	09:45				
	17	1° 54.9	123° 07.8	46.1	66° 17.4	23.0	3° 42.6	07.9	165° 23.0	23.6				73° 26.3	21.1	36° 02.6	15.2	15.4	11.6	0°	05:15	05:41	06:03	08:21	09:03					
	18	16° 57.4	138° 07.7	46.7	81° 17.8	22.6	18° 44.7	07.7	180° 25.4	23.6	Arcturus	145° 57.4	19° 07.3 S	88° 26.0	20.8	50° 36.8	15.3	03.8	11.6	S 10°	04:57	05:23	05:46	08:13	08:59	09:43				
	19	31° 59.9	153° 07.6	47.2	96° 18.1	22.3	33° 46.9	07.6	195° 27.8	23.7	Arctia	107° 32.6	69° 02.7 S	103° 25.7	20.4	65° 11.1	15.3	8° 52.2 S	11.6	20°	04:35	05:04	05:28	08:05	08:54	09:43				
	20	47° 02.3	168° 07.5	47.8	111° 18.5	22.0	48° 49.0	07.4	210° 30.2	23.7	Avior	234° 18.2	59° 32.7 S	118° 25.5	20.1	79° 45.4	15.3	40.6	11.7	30°	04:07	04:40	05:07	07:55	08:49	09:42				
	21	62° 04.8	183° 07.4	48.3	126° 18.9	21.6	63° 51.1	07.2	225° 32.6	23.7	Bellatrix	278° 33.6	6° 21.5 N	133° 25.2	19.8	94° 19.7	15.4	28.9	11.6	35°	03:50	04:26	04:55	07:49	08:46	09:41				
22	77° 07.3	198° 07.2	48.9	141° 19.3	21.3	78° 53.2	07.1	240° 35.0	23.7	Betelgeuse	271° 02.8	7° 24.5 N	148° 24.9	19.5	108° 54.1	15.5	17.3	11.3	54.5	40°	03:28	04:09	04:41	07:43	08:42	09:40				
23	92° 09.7	213° 07.1	49.4	156° 19.7	21.0	93° 55.3	06.9	255° 37.3	23.7				163° 24.7	19.1	123° 28.6	15.5	05.6	11.8	45°	03:00	03:48	04:24	07:35	08:38	09:40					
8 S a t u r d a y	107° 12.2	228° 07.0	16° 49.9 S	171° 20.1	22° 20.7 S	108° 57.5	2° 06.8 S	270° 39.7	4° 23.8 S	Canopus	263° 56.4	52° 42.5 S	178° 24.4	22° 18.8 S	138° 03.1	15.5	7° 53.8 S	11.7	54.5	S 50°	02:19	03:20	04:03	07:26	08:33	09:39				
	01	122° 14.6	243° 06.9	50.5	186° 20.5	20.3	123° 59.6	06.6	285° 42.1	23.8	Capella	280° 36.6	46° 00.6 N	193° 24.1	18.5	152° 37.6	15.6	42.1	11.8	52°	01:55	03:06	03:53	07:22	08:31	09:38				
	02	137° 17.1	258° 06.8	51.0	201° 20.9	20.0	139° 01.7	06.5	300° 44.5	23.8	Deneb	49° 33.1	45° 19.4 N	208° 23.9	18.2	167° 12.2	15.6	30.3	11.8	54°	01:21	02:50	03:42	07:17	08:28	09:38				
	03	152° 19.6	273° 06.7	51.6	216° 21.3	19.7	154° 03.8	06.3	315° 46.9	23.8	Denebola	182° 35.3	14° 30.4 N	223° 26.9	18.8	181° 46.8	15.7	18.5	11.8	56°	-	02:30	03:28	07:12	08:25	09:37				
	04	167° 22.0	288° 06.5	52.1	231° 21.7	19.3	169° 06.0	06.1	330° 49.3	23.8	Diphda	348° 57.6	17° 55.6 S	238° 23.3	17.5	196° 21.5	15.7	06.7	11.9	58°	-	02:05	03:13	07:06	08:22	09:37				
	05	182° 24.5	303° 06.4	52.7	246° 22.1	19.0	184° 08.1	06.0	345° 51.7	23.9				253° 23.1	17.2	210° 56.2	15.7	6° 54.8 S	11.8	S 60°	-	01:28	02:55	06:59	08:19	09:36				
	06	197° 27.0	318° 06.3	53.2	261° 22.5	18.7	199° 10.2	05.8	0° 54.0	23.9	Dubhe	193° 53.3	61° 41.1 N	268° 22.8	16.8	225° 30.9	15.8	43.0	11.9	54.4	S 62°	-	-	02:32	06:52	08:15	09:36			
	07	212° 29.4	333° 06.2	53.7	276° 22.9	18.4	214° 12.3	05.7	15° 56.4	23.9	Elnath	278° 14.5	28° 37.0 N	283° 22.5	16.5	240° 05.7	15.8	31.1	11.9											
	08	227° 31.9	348° 06.0	54.3	291° 23.2	18.0	229° 14.4	05.5	30° 58.8	23.9	Elnath	90° 47.5	51° 29.2 N	298° 22.8	16.2	254° 40.5	15.8	19.2	11.9											
	09	242° 34.4	3° 05.9	54.8	306° 23.6	17.7	244° 16.5	05.3	46° 01.2	23.9	Enif	33° 49.1	9° 55.7 N	313° 22.0	15.8	269° 15.3	15.9	07.3	11.9											
	10	257° 36.8	18° 05.8	55.4	321° 24.0	17.4	259° 18.7	05.2	61° 03.6	24.0	Fomalhaut	15° 26.1	29° 33.9 S	328° 21.7	15.5	283° 50.2	15.9	5° 55.4 S	12.0											
	11	272° 39.3	33° 05.6	55.9	336° 24.4	17.0	274° 20.8	05.0	76° 05.0	24.0				343° 21.5	15.2	298° 25.1	16.0	43.4	12.0											
	12	287° 41.8	48° 05.5	16° 56.4 S	351° 24.8	22° 16.7 S	289° 22.9	2° 04.9 S	91° 08.4	4° 24.0 S	Gacrux	172° 02.9	57° 10.3 S	358° 21.2	22° 14.8 S	313° 00.1	15.9	5° 31.4 S	11.9	54.4	N 70°	-	13:54	15:58	18:42	20:34	22:21			
	13	302° 44.2	63° 05.4	57.0	6° 25.2	16.4	304° 25.0	04.7	106° 10.7	24.0	Gienah	175° 54.0	17° 36.2 S	13° 20.9	14.5	327° 35.0	16.0	19.5	12.0	68°	13:03	15:06	16:29	19:08	20:44	22:17				
	14	317° 46.7	78° 05.3	57.5	319° 27.1	16.0	319° 27.1	04.6	121° 13.1	24.0	Hadar	148° 50.6	60° 25.4 S	28° 20.1	14.2	342° 10.0	16.1	07.5	12.1	66°	14:00	15:27	16:41	19:17	20:48	22:16				
	15	332° 49.1	93° 05.1	58.1	36° 26.0	15.7	334° 29.3	04.4	136° 15.5	24.0	Hamal	328° 02.6	23° 31.0 N	43° 20.4	13.8	356° 45.1	16.0	4° 55.4 S	12.0	54.3	64°	14:33	15:45	16:51	19:25	20:51	22:15			
	16	347° 51.6	108° 05.0	58.6	51° 26.4	15.4	349° 31.4	04.2	151° 17.9	24.1	Kaus Aust.	83° 46.5	34° 22.7 S	58° 20.1	13.5	11° 20.1	16.1	43.4	12.0	62°	14:57	15:59	16:59	19:32	20:54	22:14				
	17	2° 54.1	123° 04.9	59.1	66° 26.8	15.0	4° 33.5	04.1	166° 20.3	24.1				73° 19.9	13.1	25° 55.2	16.2	31.4	12.1	60°	15:16	16:11	17:07	19:38	20:56	22:13				
	18	17° 56.5	138° 04.7	59.7	81° 27.2	14.7	19° 35.6	03.9	181° 22.7	24.1	Kochab	137° 20.																		

2011 January 10, 11, 12 (Mon, Tue, Wed)

Table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Nautical, Civil), Sunrise, Moonrise (10, 11, 12). Rows include dates 10-23 for Monday, Tuesday, and Wednesday.

2011 January 13, 14, 15 (Thur, Fri, Sat)

Main table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Civil, Nautical), Sunrise, Moonrise (13, 14, 15), Moonset (13, 14, 15). Rows include planetary data and star details for each day.

**2011 January 16, 17, 18 (Sun, Mon, Tue)**

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON			Lat	Twilight		Sunrise		Moonrise		
	-4.4			+1.1			-2.2			+0.8											Nautical	Civil	16		17	18					
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:57	09:45	-	-	-	-			
16 00	115° 05'.3	227° 27'.9	18° 28'.1 S	172° 37'.5	21° 09'.7 S	115° 40'.9	1° 34'.8 S	278° 20'.7	4° 26'.3 S	Acamar	315° 19'.4	40° 15'.8 S	177° 37'.6	21° 02'.4 S	51° 43'.1	8'.0	23° 36'.2 N	3'.1	56.9	57.7	N 70°	07:42	09:13	11:49	-	-	-	-			
01	130° 07'.8	242° 27'.9		187° 37'.9		130° 43'.0		293° 23'.1		Achernar	335° 27'.9	57° 11'.1 S	33° 37'.4		68° 10'.1	7.8	39° 3'.3	3.0			N 68°	07:31	08:49	10:25	-	-	-	-			
02	145° 10'.2	257° 27'.3		202° 38'.3		145° 45'.0		308° 25'.5		Acrux	173° 11'.2	63° 09'.5 S	207° 37'.2	01'.5	80° 36'.9	7.9	42'.3	2.8			66°	07:21	08:31	09:48	09:19	10:11	12:05				
03	160° 12'.7	272° 27'.1		217° 38'.8		160° 47'.0		323° 28'.0		Adhara	255° 13'.5	28° 59'.4 S	222° 37'.0	01'.0	95° 03'.8	7.7	45'.2	2.8	57.0	64°	64°	07:13	08:16	09:22	10:35	11:33	13:27				
04	175° 15'.2	287° 26'.8		232° 39'.2		175° 49'.2		338° 30'.4		Aldebaran	290° 51'.1	16° 31'.9 N	237° 36'.8	00'.6	109° 30'.5	7.7	47'.9	2.5			62°	07:06	08:04	09:01	11:12	12:10	13:35				
05	190° 17'.6	302° 26'.5		247° 39'.6		190° 51'.3		353° 32'.8					252° 36'.5	00'.1	123° 57'.2	7'.6	50'.4	2'.5	57.1	60°	60°	06:59	07:53	08:45	11:38	12:37	13:57				
06	205° 20'.1	317° 26'.2		262° 40'.0		205° 53'.4		8° 35'.2		Alioth	166° 22'.0	55° 53'.6 N	267° 36'.3	20° 59'.6 S	138° 23'.8	7'.5	52'.9	2'.3			N 58°	06:53	07:43	08:31	11:59	12:57	14:15				
07	220° 22'.5	332° 25'.9		277° 40'.4		220° 55'.4		23° 37'.6		Alkaid	153° 00'.2	49° 15'.1 N	282° 36'.1	59'.2	152° 50'.3	7'.5	55'.2	2'.2			56°	06:48	07:35	08:19	12:16	13:15	14:30				
08	235° 25'.0	347° 25'.6		292° 40'.8		235° 57'.5		38° 40'.0		Alnair	27° 46'.2	46° 54'.5 S	297° 35'.9	58'.7	167° 16'.8	7'.4	57'.4	2'.1	57.2	54°	54°	06:43	07:28	08:09	12:30	13:29	14:42				
09	250° 27'.5	2° 25'.3		307° 41'.3		250° 59'.6		53° 42'.5		Alnilam	275° 47'.8	1° 11'.8 S	312° 35'.7	58'.2	181° 43'.2	7'.3	59'.5	1'.9			52°	06:39	07:21	08:00	12:43	13:42	14:54				
10	265° 29'.9	17° 25'.0		322° 41'.7		266° 01'.7		68° 44'.9		Alphard	217° 57'.5	8° 42'.6 S	327° 35'.5	57'.3	196° 09'.5	7'.2	24° 01'.4 N	1'.7			50°	06:34	07:15	07:51	12:54	13:53	15:03				
11	280° 32'.4	32° 24'.7		337° 42'.1		281° 03'.8		33° 3'.9					342° 35'.3	57.7	210° 35'.7	7.2	03'.1	1'.7	57.3	45°	45°	06:25	07:01	07:34	13:17	14:16	15:24				
12	295° 34'.9	47° 24'.4	18° 33'.7 S	352° 42'.5	21° 04'.7 S	296° 05'.8	1° 32'.7 S	98° 49'.7	4° 26'.4 S	Alphecca	126° 12'.6	26° 40'.4 N	357° 35'.0	20° 56'.8 S	225° 01'.9	7'.2	24° 04'.8 N	1'.5	57.3	N 40°	06:16	06:50	07:19	13:36	14:35	15:41					
13	310° 37'.3	62° 24'.1	34.2	7° 42'.9	04.3	311° 07'.9	32.5	113° 52'.1	26.4	Alpheratz	357° 45'.5	29° 09'.3 N	12° 34'.8	56.3	239° 28'.1	7.0	06.3	1'.3	35°	35°	06:09	06:40	07:07	13:52	14:50	15:55					
14	325° 39'.8	77° 23'.8	34.6	22° 43'.3	03.9	326° 10'.0	32.4	128° 54'.6	26.4	Altair	62° 10'.3	8° 53'.9 N	27° 34'.6	55.8	253° 54'.1	7.1	07.6	1'.2	57.4	30°	06:01	06:31	06:56	14:05	15:04	16:08					
15	340° 42'.3	92° 23'.6	35.1	37° 43'.8	03.5	341° 12'.1	32.2	143° 57'.0	26.4	Ankaa	353° 17'.5	42° 14'.9 S	42° 34'.4	55.4	268° 20'.2	6.9	08.8	1'.1	20°	20°	05:47	06:14	06:38	14:29	15:27	16:29					
16	355° 44'.7	107° 23'.3	35.6	52° 44'.2	03.0	356° 14'.2	32.0	158° 59'.4	26.4	Antares	112° 28'.6	26° 27'.3 S	57° 34'.2	54.9	282° 46'.1	6.9	09.9	0'.9	N 10°	10°	05:33	05:59	06:22	14:49	15:47	16:47					
17	10° 47'.2	122° 23'.0	36.0	67° 44'.6	02.6	11° 16'.2	31.8	174° 01'.8	26.4				72° 34'.0	54.4	297° 12'.0	6.8	10.8	0'.8	57.5	0°	05:18	05:44	06:06	15:08	16:05	17:04					
18	25° 49'.6	137° 22'.7	36.5	82° 45'.0	02.2	26° 18'.3	31.7	189° 04'.2	26.4	Arcturus	145° 57'.3	19° 07'.2 N	87° 33'.8	53.9	311° 37'.8	6.8	11.6	0'.6	S 10°	10°	05:02	05:28	05:51	15:26	16:24	17:21					
19	40° 52'.1	152° 22'.4	37.0	97° 45'.4	01.8	41° 20'.4	31.5	204° 06'.7	26.4	Alraia	107° 32'.5	69° 02'.6 S	107° 33'.6	53.4	326° 03'.6	6.7	12.2	0'.5	57.6	20°	04:42	05:10	05:34	15:47	16:44	17:39					
20	55° 54'.6	167° 22'.1	37.4	112° 45'.9	01.4	56° 22'.5	31.3	219° 09'.1	26.4	Avior	234° 18'.1	59° 32'.8 S	117° 33'.3	53.0	340° 29'.3	6.7	12.7	0'.3	30°	30°	04:16	04:48	05:15	16:10	17:07	18:00					
21	70° 57.0	182° 21'.8	37.9	127° 46'.3	00.9	71° 24'.5	31.1	234° 11'.5	26.4	Bellatrix	278° 33'.6	6° 21'.5 N	132° 33'.1	52.5	354° 55'.0	6.6	13.0	0'.2	35°	35°	04:00	04:35	05:04	16:24	17:20	18:12					
22	85° 59'.5	197° 21'.5	38.3	142° 46'.7	00.5	86° 26'.6	31.0	249° 13'.9	26.4	Betelgeuse	271° 02'.8	7° 24'.5 S	147° 32'.9	52.0	9° 20'.6	6.6	13.2	0'.1	57.7	40°	03:40	04:19	04:51	16:40	17:36	18:26					
23	101° 02'.0	212° 21'.2	38.8	157° 47'.1	00.1	101° 28'.7	30.8	264° 16'.3	26.4				162° 32'.7	51.5	23° 46'.2	6.5	13'.3	0'.1	45°	45°	03:14	04:00	04:35	16:59	17:54	18:42					
17 00	116° 04'.4	227° 20'.9	18° 39'.3 S	172° 47'.5	20° 59'.7 S	116° 30'.8	1° 30'.6 S	279° 18'.8	4° 26'.4 S	Canopus	263° 56'.4	52° 42'.4 S	177° 32'.5	20° 51'.0 S	38° 11'.7	6'.5	24° 13'.2 N	0'.3	57.7	S 50°	02:38	03:35	04:16	17:23	18:17	19:12					
01	131° 06'.9	242° 20'.6	39.7	187° 47'.9	39.7	131° 32'.9	30.4	294° 21'.2	26.5	Capella	280° 36'.6	46° 00'.6 N	192° 32'.3	50.5	52° 37'.2	6.4	12.9	0'.4	57.8	52°	02:38	03:22	04:07	17:34	18:28	19:20					
02	146° 09'.4	257° 20'.2	40.2	202° 48'.4	58.8	146° 34'.9	30.3	309° 23'.6	26.5	Deneb	49° 33'.1	45° 19'.3 S	207° 32'.1	50.1	67° 02'.6	6.4	12.5	0'.6	54°	54°	01:52	03:08	03:56	17:47	18:41	19:33					
03	161° 11'.8	272° 19'.9	40.6	217° 48'.8	58.4	161° 37'.0	30.1	324° 26'.0	26.5	Denebola	182° 35'.2	14° 30'.4 N	222° 31'.9	49.6	81° 28'.0	6.3	11.9	0'.7	56°	56°	01:13	02:51	03:45	18:02	18:55	19:25					
04	176° 14'.3	287° 19'.6	41.1	232° 49'.2	58.0	176° 39'.1	29.9	339° 28'.4	26.5	Diphda	348° 57'.7	17° 55'.6 S	237° 31'.7	49.1	95° 53'.3	6.3	11.2	0'.8	57.9	58°	-	02:30	03:31	18:20	19:12	19:49					
05	191° 16'.8	302° 19'.3	41.6	247° 49'.6	57.6	191° 41'.2	29.7	354° 30'.9	26.5				252° 31'.5	48.6	110° 18'.6	6.2	10'.4	1'.0		S 60°	-	02:02	03:15	18:41	19:32	20:05					
06	206° 19'.2	317° 19'.0	42.0	262° 50'.0	57.2	206° 43'.2	29.5	9° 33'.3	26.5	Dubhe	193° 53'.2	61° 41'.1 N	267° 31'.2	48.1	124° 43'.8	6.3	09.4	1'.2	58.0	S 62°	-	01:20	02:56	19:09	19:58	20:25					
07	221° 21'.7	332° 18'.7	42.5	277° 50'.5	56.7	221° 45'.3	29.4	24° 35'.7	26.5	Elnath	278° 14'.5	28° 37'.0 N	282° 31'.0	47.6	139° 09'.1	6.1	08.2	1'.3													
08	236° 24'.1	347° 18'.4	42.9	292° 50'.9	56.3	236° 47'.4	29.2	39° 38'.1	26.5	Elainin	90° 47'.4	51° 29'.1 N	297° 30'.8	47.1	153° 34'.2	6.2	06.9	1'.4													
09	251° 26'.6	2° 18'.1	43.4	307° 51'.3	55.9	251° 49'.5	29.0	54° 40'.6	26.5	Enif	33° 49'.1	9° 55'.6 N	312° 30'.6	46.7	167° 59'.4	6.1	05.5	1'.7	58.1	Lat	Sunset	Twilight		Moonset							
10	266° 29'.1	17° 17'.8	43.8	322° 51'.7	55.5	266° 51'.5	28.8	69° 43'.0	26.5	Fomalhaut	15° 26'.1	29° 33'.9 S	327° 30'.4	46.2	182° 24'.5	6.1	03.8	1'.7													
11	281° 31'.5	32° 17'.5	44.3	337° 52'.1	55.0	281° 53'.6	28.7	84° 45'.4	26.5				342° 30'.2	45.7	196° 49'.6	6.0	02'.1	1'.9													
12	296° 34'.0	47° 17'.2	18° 44'.7 S	352° 52'.6	20° 54'.6 S	296° 55'.7	1° 28'.5 S	99° 47'.8	4° 26'.5 S	Gacrux	172° 02'.7	57° 10'.4 S	357° 30'.0	20° 45'.2 S	211° 14'.6	6'.0	24° 00'.2 N	2'.1	58.2	N 70°	12:32	15:08	16:38	-	-	-	-				
13	311° 36'.5	62° 16'.8	45.2	7° 53'.0	54.2	311° 57'.8	28.3	114° 50'.3	26.5	Gienah	175° 54'.0	17° 36'.3 S	12° 29'.8	44.7	225° 39'.6	6.0	23° 58'.1 N	2'.2	68°	68°	13:56	15:31	16:50								
14	326° 38'.9	77° 16'.5	45.7	22° 53'.4	53.8	326° 59.8	28.1	129° 52'.4	26.4	Hadar	148° 50'.5	60° 25'.4 S	27° 29'.6	44.2	240° 04'.6	6.0	53'.9	2'.4	66°	66°	14:33	15:50	17:00	08:24	09:32	09:21					
15	341° 41'.4	92° 16'.2	46.1	37° 53'.8	53.3	342° 01'.9	28.0	144° 55'.1	26.5	Hamal	328° 02'.7	23° 31'.0 N	42° 29'.4	43.7	254° 29'.6	5.9	53'.5	2'.6	58.3	64°	64°	14:59	16:05	17:08	07:08	08:09	08:38				
16	356° 43'.9	107° 15'.9	46.6	52° 54'.3	52.9	357° 04'.0	27.8	159° 57'.5	26.5	Kaus Aust.	83° 46'.5	34° 22'.7 S	57° 29'.2	43.2	268° 54'.5	5.9	50'.9	2'.7	62°	62°	15:19	16:17	17:15	06:31	07:32	08:09					
17	11° 46'.3	122° 15'.6	47.0	67° 54'.7	52.5	12° 06'.1	27.6	174° 59'.9	26.5				72° 29'.0	42.7	283° 19'.4	5.9	48'.2	2'.8		60°	60°	15:3									



2011 January 19, 20, 21 (Wed, Thur, Fri)

GMT	ARIES			VENUS -4.3			MARS +1.1			JUPITER -2.2			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°	07:49	09:32	-	-	15:21	17:59			
Wednesday	00	118° 02.7	227° 05.4	19° 00.7 S	173° 07.8	20° 39.1 S	118° 10.3	1° 22.1 S	281° 15.2	4° 26.6 S	Acamar	315° 19.5	40° 15.8 S	177° 22.8	20° 27.0 S	10° 09.4	6.1	21° 08.5 N	7.6	59.3	N 70°	07:36	09:03	11:08	-	12:58	15:53	18:12			
	01	133° 05.2	242° 05.1	01.2	188° 08.2	38.6	133° 12.3	21.9	296° 17.6	26.6	Achernar	335° 28.0	57° 11.1 S	192° 22.6	26.5	24° 34.5	6.0	00° 9	7.7	59.4	N 68°	07:25	08:42	10:11	13:58	16:16	18:23				
	02	148° 07.6	257° 04.7	01.6	203° 08.7	38.2	148° 14.4	21.7	311° 20.0	26.6	Acrux	173° 11.1	63° 09.5 S	207° 22.4	26.0	38° 59.5	6.1	20° 53.2 N	7.8	66°	66°	07:16	08:25	09:38	14:32	16:34	18:32				
	03	163° 10.1	272° 04.4	02.0	218° 09.1	37.7	163° 16.5	21.5	326° 22.5	26.6	Alhara	255° 13.5	28° 59.4 S	222° 22.2	25.5	53° 24.6	6.1	45.4	8.0	64°	64°	07:08	08:11	09:14	14:56	16:49	18:39				
	04	178° 12.6	287° 04.0	02.5	233° 09.5	37.3	178° 18.5	21.3	341° 24.9	26.6	Aldebaran	290° 51.1	16° 31.9 N	237° 22.0	25.0	67° 49.7	6.2	37.4	8.1	59.5	62°	07:02	07:59	08:55	15:16	17:01	18:46				
	05	193° 15.0	302° 03.7	02.9	248° 09.9	36.9	193° 20.6	21.2	356° 27.3	26.6				252° 21.8	24.5	82° 14.9	6.1	29.3	8.3	60°	60°	06:56	07:49	08:40	15:31	17:11	18:51				
	06	208° 17.5	317° 03.4	03.3	263° 10.4	36.4	208° 22.7	21.0	11° 29.8	26.6	Alioth	166° 21.9	55° 53.6 N	267° 21.6	23.9	96° 40.0	6.2	21.0	8.4	58°	N 58°	06:50	07:40	08:27	15:45	17:20	18:56				
	07	223° 20.0	332° 03.0	03.8	278° 10.8	36.0	223° 24.7	20.8	26° 32.2	26.6	Alkaid	153° 00.1	49° 15.1 N	282° 21.4	23.4	111° 05.2	6.3	12.6	8.5	56°	56°	06:45	07:32	08:15	15:56	17:28	19:00				
	08	238° 22.4	347° 02.7	04.2	293° 11.2	35.5	238° 28.8	20.6	41° 34.6	26.6	Alnair	27° 46.2	46° 54.5 S	297° 21.3	22.9	125° 30.5	6.3	04.1	8.7	59.6	54°	06:41	07:25	08:05	16:06	17:35	19:04				
	09	253° 24.9	2° 02.3	04.6	308° 11.7	35.1	253° 28.9	20.4	56° 37.0	26.6	Alnilam	275° 47.8	1° 11.8 S	312° 21.1	22.4	139° 55.8	6.3	19° 55.4 N	8.8	52°	52°	06:36	07:18	07:57	16:15	17:41	19:08				
	10	268° 27.4	17° 02.0	05.0	323° 12.1	34.6	268° 30.9	20.2	71° 39.5	26.6	Alphard	217° 57.5	8° 42.6 S	327° 20.9	21.9	154° 21.1	6.3	46.6	9.0	50°	50°	06:32	07:12	07:49	16:23	17:46	19:11				
	11	283° 29.8	32° 01.6	05.5	338° 12.5	34.2	283° 33.0	20.1	86° 41.9	26.6				342° 20.7	21.3	168° 46.4	6.4	37.6	9.1	45°	45°	06:23	06:59	07:32	16:40	17:58	19:17				
	12	298° 32.3	47° 01.3	19° 05.9 S	353° 12.9	20° 33.8 S	298° 35.1	1° 19.9 S	101° 44.3	4° 26.6 S	Alphecca	126° 12.6	26° 40.4 N	357° 20.5	20° 20.8 S	183° 11.8	6.4	19° 28.5 N	9.2	59.7	N 40°	06:15	06:48	07:18	16:53	18:08	19:23				
	13	313° 34.8	62° 00.9	06.3	8° 13.4	33.3	313° 37.1	19.7	116° 46.8	26.6	Alpheratz	357° 45.5	29° 09.3 N	12° 20.3	20.3	197° 37.2	6.5	19.3	9.4	35°	35°	06:08	06:39	07:06	17:05	18:16	19:28				
	14	328° 37.2	77° 00.6	06.8	23° 13.8	32.9	328° 39.2	19.5	62° 10.2	26.6	Altair	62° 10.2	8° 53.9 N	27° 20.1	19.8	212° 02.7	6.5	09.9	9.4	30°	30°	06:01	06:30	06:56	17:15	18:24	19:31				
	15	343° 39.7	92° 00.2	07.2	38° 14.2	32.4	343° 41.3	19.3	146° 51.6	26.6	Ankaa	353° 17.5	42° 14.9 S	42° 19.9	19.2	226° 28.2	6.5	00.5	9.7	20°	20°	05:47	06:14	06:38	17:33	18:37	19:39				
	16	358° 42.1	106° 59.9	07.6	53° 14.6	32.0	358° 43.3	19.2	161° 54.1	26.6	Antares	112° 28.6	26° 27.3 S	57° 19.7	18.7	240° 53.7	6.6	18° 50.8 N	9.7	59.8	N 10°	05:34	06:00	06:22	17:48	18:48	19:46				
	17	13° 44.6	121° 59.5	08.0	68° 15.1	31.5	13° 45.4	19.0	176° 56.5	26.6				72° 19.5	18.2	255° 19.3	6.6	41.1	9.9	0°	0°	05:20	05:45	06:07	18:02	18:58	19:52				
	18	28° 47.1	136° 59.2	08.5	83° 15.5	31.1	28° 47.5	18.8	191° 58.9	26.6	Arcturus	145° 57.3	19° 07.2 N	87° 19.3	17.6	269° 44.9	6.7	31.2	10.0	10°	S 10°	05:03	05:30	05:52	18:16	19:08	19:58				
	19	43° 49.5	151° 58.8	08.9	98° 15.9	30.6	43° 49.5	18.6	207° 01.4	26.6	Alraia	107° 32.4	69° 02.6 S	102° 19.2	17.1	284° 10.6	6.7	21.2	10.1	20°	20°	04:44	05:12	05:36	18:31	19:19	20:04				
	20	58° 52.0	166° 58.5	09.3	113° 16.4	30.2	58° 51.6	18.4	222° 03.8	26.6	Avior	234° 18.1	59° 32.8 S	117° 19.0	16.6	298° 36.3	6.8	11.1	10.2	59.9	30°	30°	04:19	04:51	05:18	18:48	19:32	20:11			
	21	73° 54.9	181° 58.1	09.7	128° 16.8	29.7	73° 53.7	18.3	237° 06.2	26.6	Bellatrix	278° 33.6	6° 21.5 N	132° 18.8	16.1	313° 02.1	6.8	00.9	10.4	35°	35°	04:03	04:38	05:07	18:58	19:39	20:16				
	22	88° 56.9	196° 57.7	10.1	143° 17.2	29.3	88° 55.7	18.1	252° 08.7	26.6	Betelgeuse	171° 02.8	7° 24.5 N	147° 18.6	15.5	327° 27.9	6.8	17° 50.5 N	10.5	40°	40°	03:44	04:23	04:54	19:09	19:47	20:20				
23	103° 59.4	211° 57.4	10.6	158° 17.6	28.8	103° 57.8	17.9	267° 11.1	26.6				162° 18.4	15.0	341° 53.7	6.9	40.0	10.6	45°	45°	03:19	04:04	04:39	19:22	19:56	20:26					
Thursday	00	119° 01.9	226° 57.0	19° 11.0 S	173° 18.1	20° 28.4 S	118° 59.8	1° 17.9 S	282° 13.5	4° 26.6 S	Canopus	263° 56.4	52° 42.6 S	177° 18.2	20° 14.5 S	356° 19.6	6.9	17° 29.4 N	10.7	59.9	S 50°	02:44	03:40	04:21	19:38	20:08	20:32				
	01	134° 04.3	241° 56.7	11.4	188° 18.5	27.9	134° 01.9	17.5	297° 16.0	26.6	Capella	280° 36.6	46° 00.6 N	192° 18.0	13.9	10° 45.5	7.0	18.7	10.8	60.0	52°	02:46	03:28	04:12	19:46	20:13	20:35				
	02	149° 06.8	256° 56.3	11.8	203° 18.9	27.5	149° 04.0	17.3	312° 18.4	26.6	Deneb	49° 33.1	45° 19.3 N	207° 17.8	13.4	25° 11.5	7.1	07.9	11.0	54°	54°	02:02	03:14	04:02	19:54	20:19	20:38				
	03	164° 09.2	271° 56.0	12.2	218° 19.4	27.0	164° 06.0	17.2	327° 17.8	26.6	Denebola	182° 35.2	14° 30.4 N	222° 17.7	12.9	39° 37.6	7.0	16° 56.9 N	11.1	56°	56°	01:29	02:58	03:51	20:04	20:25	20:42				
	04	179° 11.7	286° 55.6	12.7	233° 19.8	26.6	179° 08.1	17.0	342° 23.3	26.6	Diphda	348° 57.7	17° 55.6 S	237° 17.5	12.3	54° 03.6	7.2	45.8	11.2	58°	58°	-	02:38	03:38	20:14	20:32	20:46				
	05	194° 14.2	301° 55.2	13.1	248° 20.2	26.1	194° 10.2	16.8	357° 25.7	26.6				252° 17.3	11.8	68° 29.8	7.1	34.6	11.2	60.1	S 60°	-	02:13	03:23	20:26	20:40	20:50				
	06	209° 16.6	316° 54.9	13.5	263° 20.7	25.7	209° 12.2	16.6	12° 28.1	26.6	Dubhe	193° 53.2	61° 41.1 N	267° 17.1	11.3	82° 55.9	7.3	23.4	11.5	60.1	S 62°	-	01:37	03:05	20:40	20:49	20:55				
	07	224° 19.1	331° 54.5	13.9	278° 21.1	25.2	224° 14.3	16.4	27° 30.6	26.6	Elnath	278° 14.5	28° 37.0 N	282° 16.9	10.7	97° 22.2	7.3	11.9	11.5												
	08	239° 21.6	346° 54.1	14.3	293° 21.5	24.8	239° 16.4	16.3	42° 33.0	26.6	Elainin	90° 47.4	51° 29.1 N	297° 16.7	10.2	111° 48.5	7.3	00.4	11.6												
	09	254° 24.0	1° 53.8	14.8	308° 22.0	24.3	254° 18.4	16.1	57° 35.4	26.6	Enif	33° 49.1	9° 55.6 N	312° 16.5	09.7	126° 14.8	7.4	15° 48.8 N	11.7			Lat	Sunset	Twilight		Moonset					
	10	269° 26.5	16° 53.4	15.2	323° 22.4	23.9	269° 20.5	15.9	72° 37.9	26.6	Fomalhaut	15° 26.1	29° 33.9 S	327° 16.4	09.1	140° 41.2	7.4	37.1	11.8												
	11	284° 29.0	31° 53.0	15.6	338° 22.8	23.4	284° 22.5	15.7	87° 40.3	26.6				342° 16.2	08.6	155° 07.6	7.5	25.3	12.0												
	12	299° 31.4	46° 52.7	19° 16.0 S	353° 23.2	20° 23.0 S	299° 24.6	1° 15.5 S	102° 42.8	4° 26.6 S	Gacrux	172° 02.7	57° 10.4 S	357° 16.0	20° 08.0 S	169° 34.1	7.5	15° 13.3 N	12.0	60.2	N 40°	13:15	15:20	16:47	10:51	09:55	09:30				
	13	314° 33.9	61° 52.3	16.4	8° 23.7	22.5	314° 26.7	15.3	117° 45.2	26.6	Gienah	175° 53.9	17° 36.3 S	12° 15.8	07.5	184° 00.6	7.6	01.3	12.2	68°	68°	14:11	15:41	16:58	09						

**2011 January 22, 23, 24 (Sat, Sun, Mon)**

GMT	ARIES			VENUS -4.3			MARS +1.1			JUPITER -2.2			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°	07:40	09:19	-	20:19	22:34	24:55				
22 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 Dec			GHA Dec			GHA Dec			GHA Dec			GHA Dec			GHA Dec			GHA Dec		GHA v Dec d HP				N 72°		07:40 09:19		-		20:19 22:34 24:55		
	121° 00'.1	226° 39.0	19° 30'.5 S	173° 38'.9	20° 06'.4 S	120° 38'.7	1° 08'.9 S	284° 10'.5	4° 26'.5 S	177° 09'.6	19° 48'.2 S	Acamar	315° 19'.5	40° 15'.8 S	329° 59'.7	9'.2	7° 09'.0 N	14'.6	60'.4	N 70°	07:28	08:53	10:43	20:21	22:27	24:26							
	136° 02'.6	241° 38'.0	30'.9	188° 39'.3	05'.9	135° 40'.8	08'.7	299° 13'.0	26'.5	344° 27'.9	47'.6	Acnarnar	335° 28'.0	57° 11'.1 S	335° 28'.0	9'.3	6° 54'.4 N	14'.7	68°	N 70°	07:19	08:34	09:58	20:24	22:22	24:31							
	151° 05'.1	256° 38'.2	31'.2	203° 39'.8	05'.5	150° 42'.8	08'.5	314° 15'.4	26'.5	358° 56'.2	47'.1	Acrux	173° 11'.1	63° 09'.5 S	207° 09'.3	47'.1	358° 56'.2	9'.2	39'.7	14'.6	66°	N 70°	07:10	08:18	09:28	20:26	22:17	24:09					
	166° 07'.5	271° 37'.8	31'.6	218° 40'.2	05'.0	165° 44'.8	08'.3	329° 17'.9	26'.5	222° 09'.1	46'.5	Adhara	255° 13'.5	28° 59'.4 S	222° 09'.1	46'.5	13° 24'.4	9'.4	25'.1	14'.7	64°	N 70°	07:03	08:05	09:06	20:27	22:14	23:59					
	181° 10'.0	286° 37'.4	32'.0	233° 40'.6	04'.5	180° 46'.9	08'.2	344° 20'.3	26'.5	237° 08'.9	45'.9	Aldebaran	290° 51'.1	16° 31'.9 N	237° 08'.9	45'.9	27° 52'.8	9'.3	10'.4	14'.7	62°	N 70°	06:57	07:54	08:49	20:29	22:10	23:51					
	196° 12'.5	301° 37'.0	32'.4	248° 41'.1	04'.0	195° 49'.0	08'.0	359° 22'.8	26'.5	252° 08'.8	45'.4					42° 21'.1	9'.4	5° 55'.7 N	14'.8	60°	N 70°	06:51	07:44	08:34	20:30	22:07	23:44						
	211° 14'.9	316° 36'.6	32'.8	263° 41'.5	03'.6	210° 51'.0	07.8	14° 25'.2	26'.5	267° 08'.6	44'.8	Alioth	166° 21'.9	55° 53'.6 N	267° 08'.6	44'.8	56° 49'.5	9'.4	40'.9	14'.8	N 58°	N 58°	06:46	07:35	08:22	20:31	22:05	23:38					
	226° 17'.4	331° 36'.2	33'.2	278° 41'.9	03'.1	225° 53'.1	07.6	29° 27'.6	26'.5	282° 08'.4	44'.2	Alkaid	153° 00'.1	49° 15'.1 N	282° 08'.4	44'.2	71° 17'.9	9'.5	26'.1	14'.8	56°	N 58°	06:42	07:28	08:11	20:32	22:03	23:32					
	241° 19'.8	346° 35'.9	33'.6	293° 42'.4	02'.6	240° 55'.1	07.4	44° 30'.1	26'.5	297° 08'.3	43'.7	Alnair	27° 46'.2	46° 54'.5 S	297° 08'.3	43'.7	85° 46'.4	9'.5	11'.3	14'.9	54°	N 58°	06:38	07:21	08:02	20:33	22:01	23:27					
	256° 22'.3	1° 35'.5	34'.0	308° 42'.8	02'.2	255° 57'.2	07.2	59° 32'.5	26'.5	312° 08'.1	43'.1	Alnilam	275° 47'.2	1° 11'.8 S	312° 08'.1	43'.1	100° 14'.9	9'.5	4° 56'.4 N	14'.9	52°	N 58°	06:34	07:15	07:53	20:34	21:59	23:23					
	271° 24'.8	16° 35'.1	34'.3	323° 43'.3	01'.7	270° 59'.2	07.0	74° 35'.0	26'.5	327° 07'.9	42'.5	Alphard	217° 57'.4	8° 42'.6 S	327° 07'.9	42'.5	114° 43'.4	9'.5	4'.5	14'.9	50°	N 58°	06:30	07:10	07:46	20:34	21:57	23:19					
	286° 27'.2	31° 34'.7	34'.7	338° 43'.7	01'.2	286° 01'.3	06.9	89° 37'.4	26'.5	342° 07'.8	41'.9					129° 11'.9	9'.6	26'.6	14'.9	45°	N 58°	06:21	06:57	07:29	20:36	21:54	23:10						
	301° 29'.7	46° 34'.3	19° 35'.1 S	353° 44'.1	20° 00'.7 S	301° 03'.4	1° 06'.7 S	104° 39'.9	4° 26'.5 S	357° 07'.6	19° 41'.4 S	Alphecca	126° 12'.6	26° 40'.4 N	357° 07'.6	19° 41'.4 S	143° 40'.5	9'.6	4° 11'.7 N	14'.9	60'.4	N 40°	06:14	06:47	07:16	20:37	21:51	23:03					
	316° 32'.2	61° 33'.9	35'.5	8° 44'.6	00'.3	316° 05'.4	06'.5	119° 42'.3	26'.5	158° 09'.1	9'.6	Alpheratz	357° 45'.5	29° 09'.3 N	12° 07'.4	40'.8	158° 09'.1	9'.6	3° 56'.8 N	15'.0	35°	N 40°	06:07	06:38	07:05	20:38	21:48	22:52					
	331° 34'.6	76° 33'.9	35'.9	23° 45'.0	19° 59'.8 S	331° 07'.5	06'.3	134° 44'.8	26'.5	27° 07'.2	40'.2	Altair	62° 10'.2	8° 53'.9 N	27° 07'.2	40'.2	41'.8	15'.0	30'.0	60'.0	35°	N 40°	06:00	06:29	06:55	20:39	21:46	22:57					
	346° 37'.1	91° 33'.0	36'.3	38° 45'.5	59'.3	346° 09'.5	06'.1	149° 47'.2	26'.5	42° 07'.1	39'.7	Ankaa	353° 17'.5	42° 14'.9 S	42° 07'.1	39'.7	187° 06'.4	9'.7	26'.8	15'.0	20°	N 40°	05:47	06:14	06:38	20:41	21:42	22:42					
	1° 39'.6	106° 32'.6	36'.6	53° 45'.9	58'.9	1° 11'.6	05.9	164° 49'.6	26'.5	57° 06'.9	39'.1	Antares	112° 28'.6	26° 27'.3 S	57° 06'.9	39'.1	201° 35'.1	9'.7	11'.8	15'.0	N 10°	N 10°	05:35	06:00	06:22	20:43	21:39	22:34					
	16° 42'.0	121° 32'.2	37'.0	68° 46'.3	58'.4	16° 13'.6	05.7	179° 52'.1	26'.4	72° 06'.8	38'.5					216° 03'.8	9'.8	2° 56'.8 N	15'.0	0°	N 10°	05:21	05:46	06:08	20:44	21:36	22:27						
	31° 44'.5	136° 31'.8	37'.4	83° 46'.8	57'.9	31° 15'.7	05.5	194° 54'.5	26'.4	87° 06'.6	37'.9	Arcturus	145° 57'.3	19° 07'.2 N	87° 06'.6	37'.9	230° 32'.6	9'.7	41'.8	15'.0	S 10°	N 10°	05:05	05:31	05:54	20:46	21:32	22:20					
	46° 47'.0	151° 31'.4	37'.8	98° 47'.2	57'.4	46° 17'.7	05.4	209° 57'.0	26'.4	102° 06'.4	37'.4	Arctia	107° 32'.4	69° 02'.6 S	102° 06'.4	37'.4	105° 01'.3	9'.8	26'.8	15'.0	20°	N 10°	04:46	05:14	05:38	20:47	21:29	22:12					
	61° 49'.4	166° 31'.0	38'.2	113° 47'.7	57'.0	61° 19'.8	05.2	224° 59'.4	26'.4	117° 06'.3	36'.8	Avior	234° 18'.1	59° 32'.8 S	117° 06'.3	36'.8	259° 30'.1	9'.8	11'.7	15'.0	30°	N 10°	04:22	04:54	05:20	20:49	21:26	22:03					
	76° 51'.9	181° 30'.6	38'.5	128° 48'.1	56'.5	76° 21'.8	05.0	240° 01'.9	26'.4	132° 06'.1	36.2	Bellatrix	278° 33'.6	6° 21'.5 N	132° 06'.1	36.2	273° 58'.9	9'.9	1° 56'.7 N	15'.1	35°	N 10°	04:07	04:41	05:10	20:50	21:24	21:58					
91° 54'.3	196° 30'.2	38'.9	143° 48'.5	56'.0	91° 23'.9	04.8	255° 04'.3	26'.4	147° 05'.9	35'.6	Betelgeuse	271° 02'.8	7° 24'.5 S	147° 05'.9	35'.6	41'.6	15'.0	15'.1	60'.3	40°	N 10°	03:48	04:27	04:58	20:51	21:21	21:52						
106° 56'.8	211° 29'.8	39'.3	158° 49'.0	55'.5	106° 25'.9	04.6	270° 06'.8	26'.4	162° 05'.8	35.1					302° 56'.6	9'.9	26'.6	15'.1	45°	N 10°	03:24	04:09	04:43	20:53	21:19	21:46							
23 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 Dec			GHA Dec			GHA Dec			GHA Dec			GHA Dec			GHA Dec		GHA v Dec d HP				S 50°		02:52 03:45		04:26 20:54		21:16 21:38					
	121° 59'.3	226° 29'.4	19° 39'.7 S	173° 49'.4	19° 55'.1 S	121° 28'.0	0° 42.4	285° 09'.2	4° 26'.4 S	177° 05'.6	19° 34'.5 S	Canopus	263° 56'.4	52° 42'.6 N	177° 05'.6	19° 34'.5 S	317° 25'.5	9'.9	1° 11'.5 N	15'.0	60'.3	S 50°	02:52	03:45	04:26	20:54	21:16	21:38					
	137° 01'.7	241° 29'.0	40'.0	188° 49'.9	54'.6	136° 30'.0	04.0	300° 11'.6	26'.4	192° 05'.4	33'.9	Capella	280° 36'.6	46° 00'.6 N	192° 05'.4	33'.9	331° 54'.4	9'.9	0° 56'.5 N	15'.1	50°	S 50°	02:34	03:34	04:17	20:55	21:14	21:34					
	152° 04'.2	256° 28'.6	40'.4	203° 50'.3	54'.1	151° 32'.1	04.1	315° 14'.1	26'.4	207° 05'.3	33'.3	Deneb	49° 33'.1	45° 19'.3 N	207° 05'.3	33'.3	346° 23'.3	9'.9	41'.4	15'.1	54°	S 50°	02:12	03:21	04:08	20:56	21:13	21:30					
	167° 06'.7	271° 28'.2	40'.8	218° 50'.7	53'.6	162° 35'.2	04.9	330° 16'.5	26'.4	222° 05'.1	32'.0	Denebola	182° 35'.2	14° 30'.3 N	222° 05'.1	32'.0	0° 52'.2	10'.0	26'.3	15'.0	56°	S 50°	01:43	03:06	03:57	20:57	21:11	21:26					
	182° 09'.1	286° 27'.8	41'.2	233° 51'.2	53'.1	181° 36'.2	03.7	345° 19'.0	26'.4	237° 04'.9	32.2	Diphda	348° 57'.7	17° 55'.6 S	237° 04'.9	32.2	15° 21'.2	9'.9	11'.3	15'.1	58°	S 50°	00:51	02:48	03:45	20:58	21:09	21:21					
	197° 11'.6	301° 27'.3	41'.5	248° 51'.6	52'.7	196° 38'.2	03.5	0° 21'.4	26'.4	252° 04'.8	31'.6					29° 50'.1	10'.0	0° 03'.8 S	15'.0	S 60°	-	-	02:24	03:31	20:59	21:07	21:16						
	212° 14'.1	316° 26'.9	41'.9	263° 52'.1	52'.2	211° 40'.3	03.3	15° 23'.9	26'.4	267° 04'.6	31'.0	Dubhe	193° 53'.1	61° 41'.1 N	267° 04'.6	31'.0	44° 19'.1	10'.0	18'.8	15'.0	S 62°	-	01:53	03:14	21:00	21:05	21:10						
	227° 16'.5	331° 26'.5	42'.3	278° 52'.5	51'.7	226° 42'.3	03.1	30° 26'.3	26'.4	282° 04'.5	30'.4	Elnath	278° 14'.5	28° 37'.0 N	282° 04'.5	30'.4	58° 48'.1	10'.0	33'.8	15'.1	60'.2	-	-	-	-	-	-	-					
	242° 19'.0	346° 26'.1	42'.6	293° 53'.0	51'.2	241° 44'.4	02.9	45° 28'.8	26'.4	297° 04'.3	29'.8	Elainin	90° 47'.4	51° 29'.1 N	297° 04'.3	29'.8	73° 17'.1	10'.0	48'.9	15'.0	60'.2	-	-	-	-	-	-	-					
	257° 21'.4	1° 25'.7	43'.0	308° 53'.4	50'.7	256° 46'.4	02.7	60° 31'.2	26'.4	312° 04'.1	29'.2	Enif	33° 49'.1	9° 55'.6 N	312° 04'.1	29'.2	87° 46'.1	10'.0	1° 03'.9 S	15'.0	-	-	-	-	-	-	-	-					
	272° 23'.9	16° 25'.3	43'.4	323° 53'.8	50'.3	271° 48'.5	02.6	75° 33'.7	26'.4	327° 04'.0																							

**2011 January 25, 26, 27 (Tue, Wed, Thur)**

GMT	ARIES			VENUS -4.3			MARS +1.1			JUPITER -2.2			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	19° 31.7' S	GHA	Dec	0° 55.4' S	GHA	Dec	4° 26.1' S	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:31	09:06	11:47	00:55	03:41	-			
25 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	123° 57.5	226° 09.0	19° 56.9 S	174° 10.8	19° 31.7' S	123° 06.2	0° 55.4' S	287° 06.8	4° 26.1' S	Acamar	315° 19.5	40° 15.8 S	176° 58.1	19° 06.0 S	292° 37.4	9.8	10° 23.9 S	13.3	59.5	N 70°	07:20	08:43	10:23	00:36	02:55	-						
	139° 00.0	241° 08.6	57.2	189° 11.2	31.2	138° 08.3	55.2	302° 09.3	26.1	Acnarnar	335° 28.0	57° 11.1 S	191° 58.0	05.4	307° 06.2	9.7	37.2	13.3	68°	68°	07:12	08:25	09:45	00:21	02:25	04:44						
	154° 02.5	256° 08.1	57.6	204° 11.7	30.7	153° 10.3	55.0	317° 11.7	26.1	Acrux	173° 11.0	63° 09.5 S	206° 57.8	04.8	321° 34.9	9.7	50.5	13.2	66°	66°	07:04	08:10	09:18	00:09	02:03	04:02						
	169° 04.9	271° 07.7	57.9	219° 12.1	30.2	168° 12.4	54.8	323° 14.2	26.0	Adhara	255° 13.5	28° 59.4 S	221° 57.7	04.2	336° 03.6	9.7	11° 03.7 S	13.1	64°	64°	06:58	07:58	08:58	-	01:46	03:33						
	184° 07.4	286° 07.2	58.2	234° 12.6	29.7	183° 14.4	54.6	347° 16.6	26.0	Aldebaran	290° 51.1	16° 31.9 N	236° 57.5	03.6	350° 32.3	9.7	16.8	13.0	59.4	62°	62°	06:52	07:48	08:42	-	01:32	03:11					
	199° 09.9	301° 06.8	58.6	249° 13.0	29.2	198° 16.4	54.4	2° 19.1	26.0				251° 57.4	02.9	5° 01.0	9.7	29.8	12.9	60°	60°	06:47	07:39	08:28	-	01:20	02:54						
	214° 12.3	316° 06.3	58.9	264° 13.5	28.7	213° 18.5	54.2	17° 21.5	26.0	Alioth	166° 21.9	55° 53.6 N	266° 57.2	02.3	19° 29.7	9.6	42.7	12.9	58°	58°	06:42	07:31	08:16	-	01:10	02:39						
	229° 14.8	331° 05.9	59.2	279° 13.9	28.2	228° 20.5	54.0	32° 24.0	26.0	Alkaid	153° 00.1	49° 15.1 N	281° 57.1	01.7	33° 58.3	9.6	55.6	12.8	56°	56°	06:38	07:24	08:06	-	01:01	02:27						
	244° 17.3	346° 05.4	59.6	294° 14.4	27.7	243° 22.6	53.8	47° 26.5	26.0	Alnair	27° 46.2	46° 54.5 S	296° 57.0	01.1	48° 26.9	9.6	12° 08.4 S	12.7	54°	54°	06:34	07:17	07:57	-	00:53	02:16						
	259° 19.7	1° 05.0	59.9	309° 14.8	27.2	258° 24.6	53.6	62° 28.9	26.0	Alnilam	275° 47.8	1° 11.8 S	311° 56.8	00.5	62° 55.5	9.5	21.1	12.7	59.3	52°	52°	06:30	07:12	07:49	-	00:46	02:06					
	274° 22.2	16° 04.6	20° 00.3 S	324° 15.3	26.7	273° 26.6	53.5	77° 31.4	26.0	Alphard	217° 57.4	8° 42.6 S	326° 56.7	18° 59.9 S	77° 24.0	9.5	33.8	12.5	50°	50°	06:27	07:06	07:42	-	00:39	01:58						
	289° 24.7	31° 04.1	20° 00.9 S	339° 15.7	26.2	288° 28.7	53.3	92° 33.8	26.0				341° 56.5	59.3	91° 52.5	9.5	46.3	12.5	45°	45°	06:19	06:55	07:27	-	00:26	01:40						
	304° 27.1	46° 03.7	20° 00.9 S	354° 16.2	19° 25.7 S	303° 30.7	0° 53.1 S	107° 36.3	4° 26.0 S	Alphecca	126° 12.5	26° 40.4 N	356° 56.4	18° 58.6 S	106° 21.0	9.5	12° 58.8 S	12.4	59.3	N 40°	06:12	06:45	07:14	-	00:15	01:25						
	319° 29.6	61° 03.2	01.3	3° 16.6	25.2	318° 32.8	52.9	122° 38.7	26.0	Alpheratz	357° 45.5	29° 09.3 N	11° 56.2	58.0	120° 49.5	9.4	13° 11.2 S	12.3	59.2	35°	06:06	06:36	07:03	-	00:05	01:13						
	334° 32.0	76° 02.8	01.6	24° 17.1	24.7	333° 34.8	52.7	137° 41.2	25.9	Altair	62° 10.7	8° 53.9 N	26° 56.1	57.4	135° 17.9	9.4	23.5	12.2	30°	30°	05:59	06:28	06:54	23:57	-	01:02						
	349° 34.5	91° 02.3	01.9	39° 17.5	24.2	348° 36.9	52.5	152° 43.6	25.9	Ankaa	353° 17.5	42° 14.9 S	41° 56.0	56.8	149° 46.3	9.4	35.7	12.2	20°	20°	05:47	06:14	06:37	23:43	-	00:43						
	4° 37.0	106° 01.9	02.2	54° 18.0	23.7	5° 38.9	52.3	178° 46.1	25.9	Antares	112° 28.6	26° 27.3 S	56° 55.8	56.2	164° 14.7	9.4	47.9	12.0	59.1	N 10°	05:35	06:00	06:23	23:31	-	00:28						
	19° 39.4	121° 01.4	02.6	69° 18.4	23.2	18° 40.9	52.1	182° 48.6	25.9				71° 55.7	55.6	178° 43.1	9.3	59.9	12.0	59.1	0°	05:22	05:47	06:09	23:19	-	00:13						
	34° 41.9	136° 01.0	02.9	84° 18.9	22.7	33° 43.0	51.9	197° 51.0	25.9	Arcturus	145° 57.3	19° 07.2 N	86° 55.5	54.9	193° 11.4	9.3	14° 11.9 S	11.8		S 10°	05:07	05:33	05:55	23:08	23:58	24:50						
	49° 44.4	151° 00.5	03.2	99° 19.3	22.2	48° 45.0	51.7	212° 53.5	25.9	Arctia	107° 32.3	69° 02.6 S	101° 55.4	54.3	207° 39.7	9.2	23.7	11.8		20°	04:49	05:17	05:40	22:52	23:42	24:32						
	64° 46.8	166° 00.1	03.6	114° 19.8	21.7	63° 47.0	51.5	227° 55.9	25.9	Avior	234° 18.1	59° 32.8 S	116° 55.2	53.7	222° 07.9	9.3	35.5	11.7	30°	30°	04:25	04:57	05:23	22:46	23:24	24:11						
	79° 49.3	180° 59.6	03.9	129° 20.2	21.2	78° 49.1	51.3	242° 58.4	25.9	Bellatrix	278° 33.6	6° 21.5 N	131° 55.1	53.1	236° 36.2	9.1	47.2	11.6	59.0	35°	04:11	04:45	05:13	22:34	23:14	23:59						
	94° 51.8	195° 59.1	04.2	144° 20.7	20.7	93° 51.1	51.2	258° 00.9	25.9	Betelgeuse	271° 02.9	7° 24.4 N	146° 55.0	52.5	251° 04.3	9.2	58.8	11.4		40°	03:53	04:31	05:01	22:25	23:02	23:44						
109° 54.2	210° 58.7	04.5	159° 21.1	20.2	108° 53.2	51.0	273° 03.3	25.9				161° 54.8	51.8	265° 32.5	9.1	15° 10.2 S	11.4	45°	45°	03:30	04:13	04:47	22:15	22:48	23:28							
26 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	124° 56.7	225° 58.2	20° 04.9 S	174° 21.6	19° 19.7 S	123° 55.2	0° 50.8 S	288° 05.8	4° 25.8 S	Canopus	263° 56.4	52° 42.3 S	176° 54.7	18° 51.2 S	280° 00.6	9.1	15° 21.6 S	11.3	59.0	S 50°	02:59	03:51	04:31	22:02	22:32	23:07						
	139° 59.2	240° 57.8	05.2	189° 22.0	19.2	138° 57.2	50.6	303° 08.2	25.8	Capella	280° 36.6	46° 00.6 N	191° 54.5	50.6	294° 28.7	9.1	32.9	11.2	58.9	52°	02:42	03:40	04:23	21:57	22:24	22:58						
	155° 01.6	255° 57.3	05.5	204° 22.5	18.7	153° 59.3	50.4	318° 10.7	25.8	Deneb	49° 33.1	45° 19.3 N	206° 54.4	50.0	308° 56.8	9.0	44.1	11.1	54°	54°	02:23	03:28	04:14	21:50	22:15	22:47						
	170° 04.1	270° 56.9	05.8	219° 22.9	18.2	169° 01.3	50.2	333° 13.1	25.8	Denebola	182° 35.2	14° 30.3 N	221° 54.3	49.3	323° 24.8	9.0	55.2	10.4	56°	56°	01:57	03:14	04:04	21:43	22:05	22:34						
	185° 06.5	285° 56.4	06.2	234° 23.4	17.7	184° 03.4	50.0	348° 15.6	25.8	Diphda	348° 57.7	17° 55.6 S	236° 54.1	48.7	337° 52.8	9.0	16° 06.2 S	10.9	58°	58°	01:17	02:57	03:52	21:35	21:54	22:20						
	200° 09.0	300° 55.9	06.5	249° 23.9	17.2	199° 05.4	49.8	3° 18.1	25.8				251° 54.0	48.1	352° 20.8	8.9	17.1	10.8	58.8	S 60°	-	02:35	03:39	21:26	21:41	22:03						
	215° 11.5	315° 55.5	06.8	264° 24.3	16.7	214° 07.4	49.6	18° 20.5	25.8	Dubhe	193° 53.1	61° 41.1 N	266° 53.9	47.5	6° 48.7	8.9	27.9	10.7		S 62°	-	02:07	03:23	21:16	21:26	21:43						
	230° 13.9	330° 55.0	07.1	279° 24.8	16.2	229° 05.9	49.4	33° 23.0	25.8	Elnath	278° 14.5	28° 37.0 N	281° 53.7	46.8	21° 16.6	8.8	38.6	10.6														
	245° 16.4	345° 54.6	07.4	294° 25.2	15.7	244° 11.5	49.2	48° 25.4	25.8	Elainon	90° 47.4	51° 29.1 N	296° 53.6	46.2	35° 44.4	8.9	49.2	10.5														
	260° 18.9	0° 54.1	07.8	309° 25.7	15.2	259° 13.5	49.0	63° 27.9	25.7	Enif	33° 49.1	9° 55.6 N	311° 53.4	45.6	50° 12.3	8.7	59.7	10.3	58.7	Lat	Sunset	Twilight		Moonset								
	275° 21.3	15° 53.6	08.1	324° 26.1	14.7	274° 15.6	48.8	78° 30.4	25.7	Fomalhaut	15° 26.1	29° 33.9 S	326° 53.3	45.0	64° 40.0	8.8	17° 10.0 S	10.3														
	290° 23.8	30° 53.2	08.4	339° 26.6	14.2	289° 17.6	48.7	93° 32.8	25.7				341° 53.2	44.3	79° 07.8	8.7	20.3	10.1														
	305° 26.3	45° 52.7	20° 08.7 S	354° 27.0	19° 13.6 S	304° 19.7	0° 48.5 S	108° 35.3	4° 25.7 S	Gacrux	172° 02.6	57° 10.4 S	356° 53.0	18° 43.7 S	93° 35.5	8.7	17° 30.4 S	10.1	58.7	N 70°	12:39	15:20	16:55	07:58	07:02	-						
	320° 28.7	60° 52.3	09.0	9° 27.5	13.1	319° 21.7	48.3	123° 37.7	25.7	Gienah	175° 53.9	17° 36.3 S	11° 52.9	43.1	108° 03.2	8.7	40.5	9.9	58.6	68°	14:41	16:01	17:14	08:35	08:21	07:54						
	335° 31.2	75° 51.8	09.3	24° 27.9	12.6	334° 23.7	48.1	138° 40.2	25.7	Hadar	148° 50.4	60° 25.4 S	16° 52.8	42.4	122° 30.9	8.6	50.4	9.9	66°	66°	15:08	16:16	17:22	08:49	08:44	08:38						
	350° 33.6	90° 51.3	09.6	39° 28.4	12.1	349° 25.8	47.9	153° 42.7	25.7	Hamal	328° 02.7	23° 31.0 N	41° 52.6	41.8	136° 58.5	8.6	18° 00.3 S	9.7	64°	64°	15:28	16:28	17:28	09:00	09:02	09:07						
	5° 36.1	105° 50.9	10.0	54° 27.8	11.6	4° 27.8	47.7	168° 45.1	25.7	Kaus Aust.	83° 46.4	34° 22.7 S	56° 52.5	41.2	151° 26.1	8.5	10.0	9.6	62°	62°	15:44	16:38	17:34	09:10	09:17	09:30						
	20° 38.6	120° 50.4	10.3	69° 29.3	11.1	19° 29.8	47.5	183° 47.6	25.7				71° 52.4	40.5	165° 53.6	8.5	19.6	9.4	58.5</													

**2011 January 28, 29, 30 (Fri, Sat, Sun)**

GMT	ARIES			VENUS -4.3			MARS +1.1			JUPITER -2.2			SATURN +0.7			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°	07:21	08:53	10:59	-	-	-	28	29	30	
28 <b>Fri</b> <b>day</b>	00	126° 55.0	225° 35.7	20° 19.6 S	174° 43.5	18° 55.1 S	125° 32.9	0° 41.5 S	290° 04.0	4° 25.3 S	230° 04.0	15° 19.5	40° 15.8 S	Acamar	315° 19.5	57° 11.1 S	176° 48.4	18° 20.6 S	253° 52.2	7.7	22° 16.5 S	5.6	57.8	N 70°	07:12	08:32	10:04	-	-	-	-	-	-	
	01	141° 57.4	240° 35.2	19.9	189° 44.0	54.6	140° 34.9	41.3	305° 06.4	25.2	181° 48.3	20.0	57° 11.1 S	Acnarnar	335° 28.0	57° 11.1 S	268° 18.9	7.6	22.1	5.4	57.7	68°	07:04	08:16	09:32	-	-	-	-	-	-	-		
	02	156° 59.9	255° 34.7	20.2	204° 44.4	54.1	155° 36.9	41.1	320° 08.9	25.2	173° 11.0	63° 09.5 S	206° 48.1	19.3	Acrux	173° 11.0	63° 09.5 S	282° 45.5	7.6	27.5	5.3	66°	06:57	08:02	09:08	06:06	-	-	-	06:06	-	-	09:02	
	03	172° 02.4	270° 34.2	20.4	219° 44.9	53.5	170° 39.0	40.9	335° 11.4	25.2	255° 13.5	28° 59.4 S	221° 48.0	18.7	Adhara	255° 13.5	28° 59.4 S	297° 12.1	7.6	32.8	5.2	64°	06:52	07:51	08:49	05:16	06:42	07:33	07:33	-	-	-	-	
	04	187° 04.8	285° 33.7	20.7	234° 45.4	53.0	185° 41.0	40.7	350° 13.8	25.2	290° 51.1	16° 31.9 N	236° 47.9	18.0	Aldebaran	290° 51.1	16° 31.9 N	311° 38.7	7.6	38.0	5.0	62°	06:47	07:42	08:34	04:45	06:02	06:55	06:55	-	-	-	-	
	05	202° 07.3	300° 33.2	21.0	249° 45.8	52.5	200° 43.0	40.5	5° 16.3	25.2	320° 04.0	15° 19.5	251° 47.8	17.4					326° 05.3	7.5	43.0	4.9	57.6	60°	06:42	07:33	08:22	04:21	05:35	06:29	-	-	-	-
	06	217° 09.8	315° 32.7	21.3	264° 46.3	52.0	215° 45.1	40.3	20° 18.8	25.2	166° 21.8	55° 53.6 N	266° 47.6	16.7	Alioth	166° 21.8	55° 53.6 N	340° 31.8	7.6	47.9	4.7	57.2	N 58°	06:38	07:26	08:11	04:02	05:13	06:08	06:08	-	-	-	-
	07	232° 12.2	330° 32.3	21.6	279° 46.7	51.4	230° 47.1	40.1	35° 21.3	25.2	153° 00.1	49° 15.1 N	281° 47.5	16.1	Alkaid	153° 00.1	49° 15.1 N	354° 58.4	7.5	52.6	4.7	56°	06:34	07:19	08:01	03:47	04:56	05:50	05:50	-	-	-	-	
	08	247° 14.7	345° 31.8	21.9	294° 47.2	50.9	245° 49.1	39.9	50° 23.7	25.1	27° 46.2	46° 54.5 S	296° 47.4	15.4	Alnair	27° 46.2	46° 54.5 S	9° 24.9	7.5	57.3	4.4	54°	06:30	07:13	07:53	03:33	04:41	05:36	05:36	-	-	-	-	
	09	262° 17.1	0° 31.3	22.1	309° 47.7	50.4	260° 51.1	39.7	65° 26.2	25.1	311° 47.3	14° 8.1 S	311° 47.3	14.8	Alnilam	275° 47.8	11° 11.8 S	23° 51.4	7.6	23° 01.7 S	4.4	57.5	52°	06:27	07:08	07:45	03:22	04:28	05:23	05:23	-	-	-	-
	10	277° 19.6	15° 30.8	22.4	324° 48.1	49.9	275° 53.2	39.5	80° 28.7	25.1	217° 57.4	8° 42.6 S	326° 47.2	14.1	Alphard	217° 57.4	8° 42.6 S	38° 18.0	7.5	06.1	4.2	50°	06:24	07:03	07:38	03:11	04:17	05:12	05:12	-	-	-	-	
	11	292° 22.1	30° 30.3	22.7	339° 48.6	49.3	290° 55.2	39.3	95° 31.1	25.1	279° 03.8	24.9	341° 47.0	13.4					52° 44.5	7.5	10.3	4.0	45°	06:17	06:52	07:24	02:50	03:53	04:49	04:49	-	-	-	-
	12	307° 24.5	45° 29.8	20° 23.0 S	354° 49.0	18° 48.8 S	305° 57.2	0° 39.1 S	110° 33.6	4° 25.1 S	126° 12.5	26° 40.4 N	356° 46.9	18° 12.8 S	Alphecca	126° 12.5	26° 40.4 N	67° 11.0	7.4	23° 14.3 S	3.9	57.5	N 40°	06:10	06:43	07:12	02:32	03:35	04:30	04:30	-	-	-	-
	13	322° 27.0	60° 29.3	23.3	9° 49.5	48.3	320° 59.3	38.9	125° 36.1	25.1	357° 45.5	29° 09.3 S	11° 46.8	12.1	Alpheratz	357° 45.5	29° 09.3 S	81° 37.4	7.5	18.2	3.8	57.4	35°	06:04	06:34	07:01	02:18	03:19	04:14	04:14	-	-	-	-
	14	337° 29.5	75° 28.8	23.5	24° 50.0	47.8	336° 01.3	38.7	140° 38.5	25.1	62° 10.2	8° 53.9 N	26° 46.7	11.5	Altair	62° 10.2	8° 53.9 N	96° 03.9	7.5	22.0	3.6	50°	05:58	06:27	06:52	02:05	03:05	04:01	04:01	-	-	-	-	
	15	352° 31.9	90° 28.3	23.8	39° 50.4	47.2	351° 03.3	38.5	155° 41.0	25.0	353° 17.5	42° 14.9 S	41° 46.6	10.8	Ankaa	353° 17.5	42° 14.9 S	110° 30.4	7.5	25.6	3.5	20°	05:47	06:13	06:36	01:44	02:42	03:37	03:37	-	-	-	-	
	16	7° 34.4	105° 27.8	24.1	54° 50.9	46.7	6° 05.4	38.3	170° 43.5	25.0	112° 28.5	26° 27.3 S	56° 46.4	10.1	Antares	112° 28.5	26° 27.3 S	124° 56.9	7.4	29.1	3.4	50°	05:35	06:01	06:23	01:25	02:22	03:17	03:17	-	-	-	-	
	17	22° 36.9	120° 27.3	24.4	69° 51.4	46.2	21° 07.4	38.1	185° 45.9	25.0			71° 46.3	09.5	Arcturus	145° 57.2	19° 07.2 N	153° 49.8	7.5	35.7	3.1	57.3	S 10°	05:08	05:34	05:56	00:50	01:45	02:40	02:40	-	-	-	-
	18	37° 39.3	135° 26.9	24.6	84° 51.8	45.7	36° 09.4	38.0	200° 48.4	25.0	107° 32.3	69° 02.6 S	101° 46.1	08.2	Arctia	107° 32.3	69° 02.6 S	168° 16.3	7.4	38.8	2.9	20°	04:51	05:19	05:42	00:32	01:25	02:20	02:20	-	-	-	-	
	19	52° 41.8	150° 26.4	24.9	99° 52.3	45.1	51° 11.4	37.8	215° 50.9	25.0	234° 18.1	59° 32.8 S	116° 46.0	07.5	Avior	234° 18.1	59° 32.8 S	182° 42.7	7.5	41.7	2.8	30°	04:28	05:00	05:26	00:11	01:02	01:57	01:57	-	-	-	-	
	20	67° 44.2	165° 25.9	25.2	114° 52.8	44.6	66° 13.5	37.6	230° 53.4	25.0	278° 33.6	6° 21.5 N	131° 45.9	06.8	Bellatrix	278° 33.6	6° 21.5 N	197° 09.2	7.5	44.5	2.7	57.2	35°	04:14	04:48	05:16	-	00:48	01:43	01:43	-	-	-	-
	21	82° 46.7	180° 25.4	25.5	129° 53.2	44.1	81° 15.5	37.4	245° 55.8	25.0	271° 02.9	7° 24.4 N	146° 45.7	06.2	Betelgeuse	271° 02.9	7° 24.4 N	211° 35.7	7.5	47.2	2.5	50°	03:57	04:35	05:05	-	00:33	01:27	01:27	-	-	-	-	
	22	97° 49.2	195° 24.9	25.7	144° 53.7	43.5	96° 17.5	37.2	260° 57.3	24.9	296° 00.8	24.9	161° 45.6	05.5					226° 02.2	7.4	49.7	2.3	45°	03:35	04:18	04:52	-	00:14	01:09	01:09	-	-	-	-
23	112° 51.6	210° 24.4	26.0	159° 54.1	43.0	111° 19.5	37.0	271° 03.8	24.9													50°	03:06	03:57	04:36	23:52	-	00:45	00:45	-	-	-	-	
29 <b>Sat</b> <b>urday</b>	00	127° 54.1	225° 23.9	20° 26.3 S	174° 54.6	18° 42.5 S	126° 21.6	0° 36.8 S	297° 00.2	4° 24.9 S	Canopus	263° 56.4	52° 42.3 S	176° 45.5	18° 04.8 S	240° 28.6	7.5	23° 52.0 S	2.3	57.2	S 52°	03:06	03:57	04:36	23:52	-	00:34	00:34	-	-	-	-		
	01	142° 56.6	240° 23.4	26.5	189° 55.1	42.0	141° 23.6	36.6	306° 05.7	24.9	Capella	280° 36.6	46° 00.6 N	191° 45.4	04.2	254° 55.1	7.5	54.3	2.1	57.1	50°	02:51	03:47	04:28	23:41	-	00:45	00:45	-	-	-	-		
	02	157° 59.0	255° 22.9	26.8	204° 55.5	41.4	156° 25.6	36.4	321° 08.2	24.9	Deneb	49° 33.1	45° 19.3 N	206° 45.3	03.5	269° 21.6	7.5	56.4	1.9	54°	02:32	03:35	04:20	23:28	-	00:21	00:21	-	-	-	-			
	03	173° 01.5	270° 22.4	27.1	219° 56.0	40.9	171° 27.7	36.2	336° 10.6	24.9	Denebola	182° 35.1	14° 30.3 N	221° 45.2	02.8	283° 48.1	7.5	58.3	1.8	56°	02:09	03:22	04:10	23:14	-	00:07	00:07	-	-	-	-			
	04	188° 04.0	285° 21.9	27.3	234° 56.5	40.4	186° 29.7	36.0	351° 13.1	24.8	Diphda	348° 57.7	17° 55.6 S	236° 45.1	02.2	298° 14.6	7.5	24° 00.1 S	1.7	58°	01:36	03:06	04:00	22:57	23:49	24:56	24:56	-	-	-	-			
	05	203° 06.4	300° 21.4	27.6	249° 56.9	39.8	201° 31.7	35.8	6° 15.6	24.8			251° 44.9	01.5	312° 41.1	7.6	01.8	1.5	60°	-	02:46	03:47	22:37	23:28	24:37	24:37	-	-	-	-				
	06	218° 08.9	315° 20.9	27.9	264° 57.4	39.3	216° 33.7	35.6	21° 18.1	24.8	Dubhe	193° 53.1	61° 41.1 N	266° 44.8	00.8	327° 07.7	7.5	03.3	1.4	57.0	S 62°	-	02:21	03:32	22:12	23:02	24:13	24:13	-	-	-	-		
	07	233° 11.4	330° 20.4	28.1	279° 57.9	38.8	231° 35.8	35.4	36° 20.5	24.8	Elnath	278° 14.5	28° 37.0 N	281° 44.7	00.2	341° 34.2	7.6	04.7	1.2															
	08	248° 13.8	345° 19.9	28.4	294° 58.3	38.2	246° 37.8	35.2	51° 23.0	24.8	Enif	90° 47.3	51° 09.1 N	296° 44.6	17° 59.5 S	356° 00.8	7.5	05																

**2011 Jan 31, Feb. 1, 2 (Mon, Tue, Wed)**

GMT	ARIES			VENUS -4.3			MARS +1.1			JUPITER -2.2			SATURN +0.7			STARS			SUN			MOON						Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	Sunrise	31	1	2	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:11	08:40	10:30	-	-	09:55				
Monday	00	129° 52.4	224° 59.4	20° 38.3 S	175° 17.1	18° 16.6 S	127° 58.7	0° 27.3 S	293° 02.0	4° 24.1 S	Acamar	315° 19.5	40° 45.8 S	176° 40.4	17° 32.3 S	214° 08.2	9.1	23° 04.0 S	4.2	56.1	N 70°	07:03	08:21	09:47	-	-	10:14	09:13						
	01	144° 54.9	239° 58.8	38.5	190° 17.6	16.1	143° 00.7	27.1	308° 04.5	24.1	Acnarnar	335° 28.1	57° 11.0 S	191° 40.3	31.6	228° 36.3	9.2	22° 59.8 S	4.3	68°	66°	06:56	08:06	09:19	-	-	09:05	08:45						
	02	159° 57.3	254° 58.3	38.7	205° 18.1	15.5	158° 02.7	26.9	323° 07.0	24.1	Acrux	173° 10.9	63° 09.5 S	206° 40.2	30.9	243° 04.5	9.2	55.5	4.4	66°	66°	06:50	07:54	08:57	08:36	08:29	08:23							
	03	174° 59.8	269° 57.8	39.0	220° 18.5	15.0	173° 04.8	26.9	338° 09.5	24.0	Adhara	255° 13.5	28° 59.4 S	221° 40.1	30.2	257° 32.7	9.3	51.1	4.6	56.0	64°	66°	06:45	07:44	08:40	07:54	08:03	08:06						
	04	190° 02.2	284° 57.3	39.2	235° 19.0	14.4	188° 06.8	26.5	353° 12.0	24.0	Aldebaran	290° 51.1	16° 31.9 N	236° 40.0	29.5	272° 01.0	9.3	46.5	4.7	62°	62°	06:41	07:35	08:27	07:25	07:42	07:52							
	05	205° 04.7	299° 56.8	39.4	250° 19.5	13.9	203° 08.8	26.3	8° 14.4	24.0				251° 39.9	28.8	286° 29.3	9.4	41.8	4.8	60°	60°	06:37	07:27	08:15	07:04	07:25	07:40							
	06	220° 07.2	314° 56.2	39.6	265° 20.0	13.3	218° 10.8	26.1	23° 16.9	24.0	Alioth	166° 21.8	55° 53.6 N	266° 39.8	28.1	300° 57.7	9.5	37.0	4.9	58°	N 58°	06:33	07:20	08:04	06:46	07:11	07:29							
	07	235° 09.6	329° 55.7	39.9	280° 20.4	12.8	233° 12.8	25.9	38° 19.4	24.0	Alkaid	153° 00.0	49° 15.1 N	281° 39.7	27.4	315° 26.2	9.6	32.1	5.0	54°	54°	06:29	07:14	07:56	06:31	06:59	07:20							
	08	250° 12.1	344° 55.2	40.1	295° 20.9	12.2	248° 14.8	25.7	53° 21.9	23.9	Alnair	27° 46.2	46° 54.5 S	296° 39.6	26.7	329° 54.8	9.6	27.1	5.1	55.9	54°	66°	06:26	07:09	07:48	06:18	06:49	07:12						
	09	265° 14.6	359° 54.6	40.3	310° 21.4	11.7	263° 16.9	25.5	68° 24.4	23.9	Alnilam	275° 47.8	1° 11.8 S	311° 39.5	26.0	344° 23.4	9.6	22.0	5.3	52°	62°	06:23	07:04	07:41	06:06	06:39	07:05							
	10	280° 17.0	14° 54.1	40.5	325° 21.9	11.1	278° 18.9	25.0	83° 26.8	23.9	Alphard	217° 57.4	8° 42.6 S	326° 39.4	25.3	358° 52.0	9.8	16.7	5.3	50°	50°	06:20	06:59	07:34	05:56	06:31	06:58							
	11	295° 19.5	29° 53.6	40.8	340° 22.3	10.6	293° 20.9	25.2	89° 29.3	23.9				341° 39.3	24.6	13° 20.8	9.7	11.4	5.5	45°	45°	06:14	06:49	07:20	05:35	06:12	06:44							
	12	310° 22.0	44° 53.1	20° 41.0 S	355° 22.8	18° 10.0 S	308° 22.9	0° 24.8 S	113° 31.8	4° 23.9 S	Alphecca	126° 12.5	26° 40.4 N	356° 39.2	17° 23.9 S	27° 49.5	9.9	22° 05.9 S	5.6	55.9	N 40°	06:08	06:40	07:09	05:17	05:58	06:32							
	13	325° 24.4	59° 52.5	41.2	10° 23.3	09.5	323° 24.9	24.6	128° 34.3	23.8	Alpheratz	357° 45.5	29° 09.3 S	11° 39.1	23.2	42° 18.4	9.9	00.3	5.7	55.8	35°	06:02	06:33	06:59	05:03	05:45	06:22							
	14	340° 26.9	74° 52.0	41.4	25° 23.8	08.9	338° 27.0	24.4	143° 36.8	23.8	Altair	62° 10.2	8° 53.9 N	26° 39.1	22.5	56° 47.3	10.0	21° 54.6 S	5.8	30°	30°	05:57	06:25	06:51	04:50	05:34	06:13							
	15	355° 29.3	89° 51.5	41.6	40° 24.2	08.4	353° 29.0	24.2	158° 39.3	23.8	Ankaa	353° 17.5	42° 14.9 S	41° 39.0	21.8	71° 16.3	10.1	48.8	5.9	20°	20°	05:46	06:13	06:36	04:29	05:15	05:58							
	16	10° 31.8	104° 50.9	41.9	55° 24.7	07.8	8° 31.0	24.0	173° 41.7	23.8	Antares	112° 28.5	26° 27.3 S	56° 38.9	21.1	85° 45.4	10.1	42.9	6.0	N 10°	10°	05:35	06:01	06:22	04:10	04:59	05:44							
	17	25° 34.3	119° 50.4	42.1	70° 25.2	07.3	23° 33.0	23.8	188° 44.2	23.8				71° 38.8	20.4	100° 14.5	10.2	36.9	6.2	0°	0°	05:23	05:48	06:10	03:52	04:43	05:31							
	18	40° 36.7	134° 49.9	42.3	85° 25.7	06.7	38° 35.0	23.6	203° 46.7	23.7	Arcturus	145° 57.2	19° 07.2 N	86° 38.7	19.7	114° 43.7	10.2	30.7	6.2	55.7	S 10°	05:09	05:35	05:57	03:35	04:28	05:19							
	19	55° 39.2	149° 49.3	42.5	100° 26.1	06.2	53° 37.0	23.4	218° 49.2	23.7	Alraia	107° 32.2	69° 02.6 S	101° 38.6	19.0	129° 12.9	10.4	24.5	6.3	20°	20°	04:53	05:21	05:44	03:16	04:11	05:05							
	20	70° 41.7	164° 48.8	42.7	115° 26.6	05.6	68° 39.1	23.2	233° 51.7	23.7	Avior	234° 18.1	59° 32.9 S	116° 38.5	18.3	143° 42.3	10.4	18.2	6.5	30°	30°	04:32	05:02	05:28	02:54	03:52	04:50							
	21	85° 44.1	179° 48.3	42.9	130° 27.1	05.1	83° 41.1	23.0	248° 54.2	23.7	Bellatrix	278° 33.6	6° 21.5 N	131° 38.4	17.6	158° 11.7	10.4	11.7	6.5	35°	35°	04:18	04:51	05:19	02:41	03:41	04:41							
	22	100° 46.6	194° 47.8	43.1	145° 27.6	04.5	98° 43.1	23.8	263° 56.6	23.7	Betelgeuse	271° 02.9	7° 24.4 N	146° 38.0	16.9	172° 41.1	10.6	00.7	6.7	40°	40°	04:02	04:39	05:09	02:26	03:28	04:30							
23	115° 49.1	209° 47.2	43.4	160° 28.0	04.0	113° 45.1	22.6	278° 59.1	23.6				161° 38.2	16.2	187° 10.7	10.6	20° 58.5 S	6.7	45°	45°	03:41	04:23	04:56	02:09	03:13	04:18								
Tuesday	00	130° 51.5	224° 46.7	20° 43.6 S	175° 28.5	18° 03.4 S	128° 47.1	0° 22.4 S	294° 01.6	4° 23.6 S	Canopus	263° 56.4	52° 42.3 S	176° 38.1	17° 15.5 S	201° 40.3	10.6	20° 51.8 S	6.9	55.6	S 50°	03:13	04:03	04:41	01:47	02:54	04:03							
	01	145° 54.0	239° 46.1	20.9	190° 29.0	12.9	143° 49.1	22.2	309° 04.1	23.6	Capella	280° 36.6	46° 00.6 N	191° 38.4	14.8	216° 09.9	10.8	44.9	6.9	52°	52°	02:59	03:53	04:34	01:37	02:45	03:56							
	02	160° 56.5	254° 45.6	44.0	205° 29.5	02.3	158° 51.2	22.0	324° 06.6	23.6	Deneb	49° 33.1	45° 19.2 N	206° 38.0	14.1	230° 39.7	10.8	38.0	7.1	54°	54°	02:42	03:42	04:26	01:25	02:35	03:48							
	03	175° 58.9	269° 45.1	44.2	220° 30.0	01.7	173° 53.2	21.8	329° 09.1	23.6	Denebola	182° 35.1	14° 30.3 N	221° 37.9	13.4	245° 09.5	10.9	30.9	7.1	56°	56°	02:21	03:30	04:17	01:11	02:24	03:39							
	04	191° 01.4	284° 44.5	44.4	235° 30.4	01.2	188° 55.2	21.6	354° 11.5	23.5	Diphda	348° 57.7	17° 55.6 S	236° 37.8	12.7	259° 39.4	10.9	23.8	7.2	58°	58°	01:53	03:15	04:07	00:56	02:11	03:30							
	05	206° 03.8	299° 44.0	44.6	250° 30.9	00.6	203° 57.2	21.4	9° 14.0	23.5				251° 37.7	12.0	274° 09.3	11.0	16.6	7.4	55.5	S 60°	01:07	02:57	03:55	00:37	01:56	03:18							
	06	221° 06.3	314° 43.5	44.8	265° 31.4	00.1	218° 59.2	21.2	24° 16.5	23.5	Dubhe	193° 53.0	61° 41.1 N	266° 37.6	11.3	288° 39.3	11.1	09.2	7.4	52°	S 62°	-	02:35	03:42	00:13	01:37	03:05							
	07	236° 08.8	329° 42.9	45.0	280° 31.9	17° 59.5 S	234° 01.2	21.0	39° 19.0	23.5	Elnath	278° 14.5	28° 37.0 N	281° 37.5	10.6	303° 09.4	11.2	01.8	7.5															
	08	251° 11.2	344° 42.4	45.2	295° 32.3	59.0	249° 03.2	20.8	54° 21.5	23.5	Elainin	90° 47.3	51° 29.0 N	296° 37.4	09.9	317° 39.6	11.2	19° 54.3 S	7.6															
	09	266° 13.7	359° 41.9	45.4	310° 32.8	58.4	264° 05.3	20.6	69° 24.0	23.4	Enif	33° 49.1	9° 55.6 N	311° 37.3	09.2	332° 09.8	11.3	46.7	7.7															
	10	281° 16.2	14° 41.3	45.6	325° 33.3	57.8	279° 07.3	20.4	84° 26.4	23.4	Fomalhaut	15° 26.1	29° 33.9 S	326° 37.3	08.5	346° 40.1	11.4	39.0	7.8															
	11	296° 18.6	29° 40.8	45.8	340° 33.8	57.3	294° 09.3	20.2	99° 28.9	23.4				341° 37.2	07.7	1° 10.5	11.4	31.2	7.9	55.4														
	12	311° 21.1	44° 40.2	20° 46.0 S	355° 34.3	17° 56.7 S	309° 11.3	0° 20.0 S	114° 31.4	4° 23.4 S	Gacrux	172° 02.6	57° 10.4 S	356° 37.1	17° 07.0 S	15° 40.9	11.5	19° 23.3 S	8.0	55.4	N 40°	13:58	15:49	17:18	-	-	13:49							
	13	326° 23.6	59° 39.7	46.2	10° 34.7	56.2	324° 13.3	19.8	129° 33.9	23.3	Gienah	175° 53.8	17° 36.3 S	11° 37.0	06.3	30° 11.4	11.6	15.3	8.0															

2011 February 3, 4, 5 (Thur, Fri, Sat)

GMT	ARIES			VENUS -4.2			MARS +1.1			JUPITER -2.2			SATURN +0.7			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°	07:00	08:26	10:06	09:10	08:42	08:20		
Thurs day	00	132° 49.8	224° 20.5	20° 52.7 S	175° 51'.6	17° 36.4 S	130° 23.7	0° 12.7 S	296° 01.0	4° 22.6 S	216° 01.0	4° 22.6 S	Acamar	315° 19.5	40° 15.8 S	176° 34.2	16° 41.1 S	178° 42.8	13.9	13° 48.5 S	10.5	54.8	N 70°	06:53	08:10	09:31	08:49	08:31	08:16			
	01	147° 52.3	239° 19.9	52.8	180° 52.1	35.8	145° 25.7	12.5	311° 03.5	22.5	150° 11.0	0° 11.0 S	Acamar	335° 28.1	57° 11.0 S	193° 15.7	40.4	193° 15.7	14.0	38.0	10.6	68°	06:47	07:56	09:06	08:36	08:22	08:13				
	02	162° 54.7	254° 19.4	53.0	205° 52.6	35.2	160° 27.7	12.3	326° 06.0	22.5	160° 27.7	12.3	Acruz	173° 10.9	63° 09.6 S	206° 34.1	39.7	207° 48.7	14.1	27.4	10.6	66°	06:42	07:45	08:47	08:19	08:14	08:10				
	03	177° 57.2	269° 18.8	53.2	220° 53.1	34.7	175° 29.7	12.1	341° 08.5	22.5	175° 29.7	12.1	Adhara	255° 13.5	28° 59.5 S	221° 34.0	38.9	222° 21.8	14.1	16.8	10.6	64°	06:38	07:36	08:31	08:08	08:08	08:08				
	04	192° 59.7	284° 18.3	53.3	235° 53.6	34.1	190° 31.8	11.9	356° 11.0	22.5	190° 31.8	11.9	Aldebaran	290° 51.1	16° 31.9 N	236° 33.9	38.2	236° 54.9	14.1	06.2	10.7	62°	06:34	07:28	08:18	07:58	08:02	08:05				
	05	208° 02.1	299° 17.7	53.5	250° 54.1	33.5	205° 33.8	11.7	11° 13.5	22.4	205° 33.8	11.7		251° 33.9	37.5	251° 33.9	37.5	251° 28.0	14.2	12° 55.5 S	10.7	60°	06:31	07:21	08:08	07:50	07:57	08:04				
	06	223° 04.6	314° 17.2	53.7	265° 54.6	33.0	220° 35.8	11.5	26° 16.0	22.4	220° 35.8	11.5	Alioth	166° 21.7	55° 53.6 N	266° 33.8	36.7	266° 01.2	14.3	44.8	10.8	54.7	N 58°	06:28	07:15	07:58	07:42	07:53	08:02			
	07	238° 07.1	329° 16.6	53.8	280° 55.0	32.4	235° 37.8	11.3	41° 18.5	22.4	235° 37.8	11.3	Alkaid	153° 00.0	49° 15.1 N	281° 33.7	36.0	280° 34.5	14.3	34.0	10.8	56°	06:25	07:09	07:50	07:36	07:49	08:00				
	08	253° 09.5	344° 16.0	54.0	295° 55.5	31.8	250° 39.8	11.1	56° 21.0	22.4	250° 39.8	11.1	Alnair	27° 46.2	46° 54.5 S	296° 33.7	35.3	295° 07.8	14.4	23.2	10.9	54°	06:22	07:04	07:42	07:30	07:45	07:59				
	09	268° 12.0	359° 15.5	54.2	310° 56.0	31.2	265° 41.8	10.9	71° 23.4	22.3	265° 41.8	10.9	Alnilam	275° 47.8	1° 11.8 S	311° 33.6	34.5	309° 41.2	14.5	12.3	10.9	52°	06:19	06:59	07:36	07:25	07:42	07:58				
	10	283° 14.4	14° 14.9	54.3	325° 56.5	30.7	280° 43.8	10.7	86° 25.9	22.3	280° 43.8	10.7	Alphard	217° 57.4	8° 42.6 S	326° 33.5	33.8	324° 14.7	14.4	01.4	11.0	50°	06:17	06:55	07:30	07:20	07:39	07:57				
	11	298° 16.9	29° 14.4	54.5	340° 57.0	30.1	295° 45.8	10.5	101° 28.4	22.3	295° 45.8	10.5		341° 33.4	33.1	341° 33.4	33.1	338° 48.1	14.6	11° 50.4 S	11.0	45°	06:11	06:46	07:17	07:10	07:33	07:54				
	12	313° 19.4	44° 13.8	20° 54.6 S	355° 57.5	17° 29.5 S	310° 47.8	0° 10.3 S	116° 30.9	4° 22.3 S	116° 30.9	4° 22.3 S	Alphecca	126° 12.5	26° 40.4 N	356° 33.4	16° 32.3 S	353° 21.7	14.6	11° 39.4 S	11.1	54.7	N 40°	06:05	06:38	07:06	07:01	07:28	07:52			
	13	328° 21.8	59° 13.2	54.8	10° 58.0	28.9	325° 49.8	10.1	131° 33.4	22.2	325° 49.8	10.1	Alpheratz	357° 45.5	29° 09.3 N	11° 33.3	31.6	7° 55.3	14.6	28.3	11.1	54.6	35°	06:00	06:30	06:57	06:54	07:23	07:50			
	14	343° 24.3	74° 12.7	54.9	25° 58.5	28.4	340° 51.8	10.8	146° 35.9	22.2	340° 51.8	10.8	Altair	62° 10.0	8° 53.8 N	26° 33.5	30.9	22° 28.9	14.7	17.2	11.1	30°	05:55	06:24	06:49	06:47	07:19	07:49				
	15	358° 26.8	89° 12.1	55.1	40° 59.0	27.8	355° 53.8	09.6	161° 38.4	22.2	355° 53.8	09.6	Ankaa	353° 17.5	42° 14.9 S	41° 33.2	30.1	37° 02.6	14.8	06.1	11.2	20°	05:45	06:12	06:35	06:36	07:12	07:46				
	16	13° 29.2	104° 11.6	55.3	55° 59.4	27.2	10° 55.8	09.4	176° 40.9	22.2	10° 55.8	09.4	Antares	112° 28.5	26° 27.4 S	56° 33.1	29.4	51° 36.4	14.8	10° 54.9 S	11.2	N 10°	05:35	06:00	06:22	06:26	07:06	07:43				
	17	28° 31.7	119° 11.0	55.4	70° 59.9	26.6	25° 57.9	09.2	191° 43.4	22.1	25° 57.9	09.2		191° 43.4	22.1	71° 33.0	28.6	66° 10.2	14.9	43.7	11.2	0°	05:24	05:49	06:10	06:17	07:00	07:41				
	18	43° 34.2	134° 10.4	55.6	86° 00.4	26.1	40° 59.9	09.0	206° 45.9	22.1	40° 59.9	09.0	Arcturus	145° 57.2	19° 07.2 N	86° 33.0	27.9	80° 44.1	14.9	32.5	11.3	S 10°	05:11	05:37	05:58	06:07	06:54	07:39				
	19	58° 36.6	149° 09.9	55.7	101° 00.9	25.5	101° 00.9	25.5	56° 01.9	08.8	101° 00.9	25.5	Arctus	107° 32.1	69° 02.6 S	101° 32.9	27.2	95° 18.0	14.9	21.2	11.4	20°	04:55	05:22	05:46	05:57	06:48	07:36				
	20	73° 39.1	164° 09.3	55.9	116° 01.4	24.9	71° 03.9	08.6	236° 50.9	22.1	71° 03.9	08.6	Avior	234° 18.1	59° 32.9 S	116° 32.8	26.4	109° 51.9	15.0	09.8	11.3	54.5	30°	04:35	05:05	05:31	05:46	06:40	07:34			
	21	88° 41.6	179° 08.7	56.0	131° 01.9	24.3	86° 05.9	08.4	251° 53.4	22.0	86° 05.9	08.4	Bellatrix	278° 33.6	6° 21.5 N	131° 32.8	25.7	124° 25.9	15.1	9° 58.5 S	11.4	35°	04:22	04:55	05:22	05:39	06:36	07:32				
	22	103° 44.0	194° 08.2	56.2	146° 02.4	23.7	101° 07.9	08.2	266° 55.9	22.0	101° 07.9	08.2	Betelgeuse	271° 02.9	7° 24.4 N	146° 32.7	25.0	139° 00.0	15.0	47.1	11.4	40°	04:06	04:43	05:12	05:32	06:32	07:30				
23	118° 46.5	209° 07.6	56.3	161° 02.9	23.2	116° 09.9	08.0	281° 58.4	22.0	116° 09.9	08.0		281° 58.4	22.0	161° 32.6	24.2	153° 34.0	15.2	35.7	11.5	45°	03:46	04:28	05:01	05:23	06:26	07:28					
Fri day	00	133° 48.9	224° 07.0	20° 56.5 S	176° 03.4	17° 22.6 S	131° 11.9	0° 07.8 S	297° 00.9	4° 22.0 S	131° 11.9	0° 07.8 S	Canopus	263° 56.5	52° 42.3 S	176° 32.6	16° 23.5 S	168° 08.2	15.2	9° 24.2 S	11.5	54.5	S 50°	03:20	04:09	04:46	05:12	06:19	07:26			
	01	148° 51.4	239° 06.5	56.6	191° 03.8	22.0	146° 13.9	07.6	312° 03.4	22.0	146° 13.9	07.6	Capella	280° 36.6	46° 00.6 N	191° 32.5	22.7	182° 42.4	15.2	12.7	11.5	52°	03:07	04:00	04:40	04:40	05:07	06:16	07:24			
	02	163° 53.9	254° 05.9	56.8	206° 04.3	21.4	161° 15.9	07.4	327° 05.9	21.9	161° 15.9	07.4	Deneb	49° 33.1	45° 19.2 N	206° 32.5	22.0	197° 16.6	15.3	01.2	11.5	54°	02:51	03:50	04:32	05:01	06:13	07:23				
	03	178° 56.3	269° 05.3	56.9	221° 04.8	20.9	176° 17.9	07.2	342° 08.4	21.9	176° 17.9	07.2	Denebola	182° 35.1	14° 30.3 N	211° 32.4	21.9	211° 50.9	15.3	8° 49.7 S	11.6	56°	02:32	03:38	04:24	04:55	06:09	07:22				
	04	193° 58.8	284° 04.8	57.1	236° 05.3	20.3	191° 19.9	07.0	357° 10.8	21.9	191° 19.9	07.0	Diphda	348° 57.7	17° 55.6 S	236° 32.3	20.5	226° 25.2	15.3	38.1	11.6	54.4	58°	02:08	03:24	04:14	04:48	06:05	07:20			
	05	209° 01.3	299° 04.2	57.2	251° 05.8	19.7	206° 21.9	06.8	12° 13.3	21.8	206° 21.9	06.8		12° 13.3	21.8	251° 32.3	19.8	240° 59.5	15.4	26.5	11.7	S 60°	01:32	03:08	04:04	04:40	06:00	07:19				
	06	224° 03.7	314° 03.6	57.3	266° 06.3	19.1	221° 23.9	06.6	27° 15.8	21.8	221° 23.9	06.6	Dubhe	193° 53.0	61° 41.1 N	266° 32.2	19.0	255° 33.9	15.5	14.8	11.6	S 62°	-	02:47	03:51	04:31	05:55	07:17				
	07	239° 06.2	329° 03.1	57.5	281° 06.8	18.5	236° 25.9	06.4	42° 18.3	21.8	236° 25.9	06.4	Elnath	278° 14.5	28° 37.0 N	281° 32.1	18.3	270° 08.4	15.4	03.2	11.7											
	08	254° 08.7	344° 02.5	57.6	296° 07.3	17.9	251° 27.9	06.2	57° 20.8	21.8	251° 27.9	06.2	Elainin	90° 47.3	51° 29.0 N	296° 32.1	17.5	284° 42.8	15.5	7° 51.5 S	11.7											
	09	269° 11.1	359° 01.9	57.8	311° 07.8	17.4	266° 29.9	05.9	72° 23.3	21.7	266° 29.9	05.9	Enif	33° 49.1	9° 55.6 N	311° 32.0	16.8	299° 17.3	15.6	39.8	11.8											
	10	284° 13.6	14° 01.4	57.9	326° 08.3	16.8	281° 31.9	05.7	87° 25.8	21.7	281° 31.9	05.7	Fomalhaut	15° 26.1	29° 33.8 S	326° 32.0	16.0	313° 51.9	15.6	28.0	11.7											
	11	299° 16.0	29° 00.8	58.0	341° 08.8	16.2																										

# 2011 February 6, 7, 8 (Sun, Mon, Tue)

GMT	ARIES			VENUS -4.2			MARS +1.1			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	06:48	08:13	09:45	08:00	07:40	07:15				
Sunday	00	135° 47.2	223° 39.4	21° 02.5 S	176° 27.1	16° 54.4 S	132° 48.0	0° 02.1 N	299° 00.9	4° 20.7 S	299° 00.9	Acamar	315° 19.6	40° 15.8 S	176° 29.9	15° 47.3 S	148° 05.3	16.4	0° 08.6 N	12.1	54.1	N 72°	06:48	08:13	09:45	08:00	07:40	07:15				
	01	150° 49.7	238° 38.8	02.6	191° 27.6	53.9	147° 50.0	02.3	191° 27.6	53.9	147° 50.0	Acamar	335° 28.1	57° 11.0 S	191° 29.8	46.6	162° 40.7	16.4	20.7	12.1		N 70°	06:43	07:58	09:15	08:02	07:48	07:33				
	02	165° 52.1	253° 38.3	02.7	206° 28.1	53.3	162° 52.0	02.5	329° 05.9	20.6	329° 05.9	Acrux	173° 10.9	63° 09.6 S	206° 29.8	45.8	177° 16.1	16.5	32.8	12.1		68°	06:38	07:46	08:53	08:04	07:56	07:46				
	03	180° 54.6	268° 37.7	02.8	221° 28.6	52.7	177° 54.0	02.7	344° 08.4	20.6	344° 08.4	Adhara	255° 13.5	28° 59.5 S	221° 29.8	45.0	191° 51.6	16.4	44.9	12.1		64°	06:31	07:28	08:22	08:07	08:07	08:07				
	04	195° 57.1	283° 37.1	02.9	236° 29.1	52.1	192° 56.0	03.0	359° 10.9	20.6	359° 10.9	Aldebaran	290° 51.2	16° 31.9 N	236° 29.7	44.3	206° 27.0	16.4	57.0	12.1		62°	06:28	07:21	08:10	08:08	08:11	08:15				
	05	210° 59.5	298° 36.5	03.0	251° 29.6	51.5	207° 58.0	03.2	14° 13.4	20.5	14° 13.4				251° 29.7	43.5	221° 02.4	16.5	1° 09.1 N	12.1		60°	06:25	07:14	08:00	08:09	08:15	08:22				
	06	226° 02.0	313° 35.9	03.1	266° 30.1	50.9	223° 00.0	03.4	29° 15.9	20.5	29° 15.9	Alioth	166° 21.7	55° 53.6 N	266° 29.6	42.7	237° 37.9	16.4	21.2	12.0		N 58°	06:22	07:09	07:51	08:10	08:19	08:29				
	07	241° 04.5	328° 35.3	03.2	281° 30.6	50.3	238° 02.0	03.6	44° 18.4	20.5	44° 18.4	Alkaid	153° 00.0	49° 15.1 N	281° 29.6	42.0	250° 13.3	16.4	33.2	12.1	54.0	N 56°	06:19	07:04	07:44	08:11	08:22	08:34				
	08	256° 06.9	343° 34.7	03.3	296° 31.1	49.7	253° 04.0	03.8	59° 20.9	20.4	59° 20.9	Alnair	27° 46.2	46° 54.4 S	296° 29.5	41.2	264° 48.7	16.5	45.3	12.0		54°	06:17	06:59	07:37	08:12	08:25	08:39				
	09	271° 09.4	358° 34.2	03.4	311° 31.6	49.1	268° 06.0	04.0	74° 23.4	20.4	74° 23.4	Alnilam	275° 47.9	1° 11.8 S	311° 29.5	40.4	279° 24.2	16.4	57.3	12.1		52°	06:15	06:55	07:31	08:12	08:27	08:44				
	10	286° 11.9	1° 33.6	03.5	326° 32.1	48.5	283° 08.0	04.2	89° 25.9	20.4	89° 25.9	Alphard	217° 57.4	8° 42.6 S	326° 29.4	39.7	293° 59.6	16.5	2° 09.4 N	12.0		50°	06:12	06:51	07:25	08:13	08:30	08:48				
	11	301° 14.3	28° 33.0	03.6	341° 32.6	47.9	298° 10.0	04.4	284° 28.4	20.4	284° 28.4				341° 29.4	38.9	308° 35.1	16.4	21.4	12.0		45°	06:07	06:42	07:13	08:14	08:35	08:57				
	12	316° 16.8	43° 32.4	21° 03.7 S	356° 33.1	16° 47.3 S	313° 12.0	0° 04.6 N	119° 30.9	4° 20.3 S	119° 30.9	Alphecca	126° 12.4	26° 40.4 N	356° 29.4	15° 38.1 S	323° 10.5	16.4	2° 33.4 N	12.0	54.0	N 40°	06:03	06:35	07:03	08:16	08:39	09:04				
	13	331° 19.3	58° 31.8	03.8	11° 33.6	46.7	328° 14.0	04.8	134° 33.4	20.3	134° 33.4	Alpheratz	357° 45.5	29° 09.3 N	11° 29.3	37.4	337° 45.9	16.4	45.4	12.0		35°	05:58	06:28	06:54	08:17	08:43	09:11				
	14	346° 21.7	73° 31.2	03.9	26° 34.1	46.1	343° 16.0	05.0	149° 35.9	20.3	149° 35.9	Altair	62° 10.2	8° 53.8 N	26° 29.9	36.6	352° 21.3	16.5	57.4	12.0		30°	05:53	06:22	06:47	08:17	08:46	09:17				
	15	1° 24.2	88° 30.6	04.0	41° 34.6	45.5	358° 18.0	05.2	164° 38.4	20.2	164° 38.4	Ankaa	353° 17.6	42° 14.9 S	41° 29.2	35.8	6° 56.8	16.4	3° 09.4 N	12.0		20°	05:44	06:11	06:33	08:19	08:52	09:27				
	16	16° 26.6	103° 30.0	04.1	56° 35.1	44.9	13° 20.0	05.1	179° 41.0	20.2	179° 41.0	Antares	112° 28.5	26° 27.4 S	56° 29.2	35.0	21° 32.2	16.4	21.4	11.9		N 10°	05:35	06:00	06:22	08:20	08:57	09:35				
	17	31° 29.1	118° 29.4	04.2	71° 35.6	44.3	28° 22.0	05.7	194° 43.5	20.2	194° 43.5				71° 29.1	34.3	36° 07.6	16.4	33.3	12.0		0°	05:24	05:49	06:11	08:22	09:02	09:44				
	18	46° 31.6	133° 28.9	04.2	86° 36.1	43.7	43° 24.0	05.9	209° 46.0	20.1	209° 46.0	Arcturus	145° 57.2	19° 07.2 N	86° 29.1	33.5	50° 43.0	16.4	45.3	11.9		S 10°	05:12	05:38	05:59	08:23	09:07	09:52				
	19	61° 34.0	148° 28.3	04.3	101° 36.6	43.1	58° 26.0	06.1	224° 48.5	20.1	224° 48.5	Alraia	107° 32.1	69° 02.6 S	101° 29.1	32.7	65° 18.4	16.3	57.2	11.9		20°	04:57	05:24	05:47	08:24	09:12	10:01				
	20	76° 36.5	163° 27.7	04.4	116° 37.1	42.5	73° 27.9	06.3	239° 51.0	20.1	239° 51.0	Avior	234° 18.1	59° 32.9 S	116° 29.0	32.0	79° 53.7	16.4	4° 09.1 N	11.9		30°	04:38	05:08	05:33	08:26	09:18	10:11				
	21	91° 39.0	178° 27.1	04.5	131° 37.6	41.9	88° 29.9	06.5	254° 53.5	20.1	254° 53.5	Bellatrix	278° 33.6	6° 21.5 N	131° 29.0	31.2	94° 29.1	16.4	21.0	11.9		35°	04:25	04:58	05:25	08:27	09:22	10:17				
	22	106° 41.4	193° 26.5	04.6	146° 38.1	41.3	103° 31.9	06.7	269° 56.0	20.0	269° 56.0	Betelgeuse	271° 02.9	7° 24.4 N	146° 28.9	30.4	109° 04.5	16.3	32.9	11.8		40°	04:11	04:46	05:16	08:28	09:26	10:24				
23	121° 43.9	208° 25.9	04.7	161° 38.6	40.7	118° 33.9	06.9	284° 58.5	20.0	284° 58.5				161° 28.9	29.6	123° 39.8	16.3	44.7	11.8		45°	03:52	04:32	05:05	08:29	09:31	10:32					
Monday	00	136° 46.4	223° 25.3	21° 04.8 S	176° 39.1	16° 40.1 S	133° 35.9	0° 07.3 N	300° 01.0	4° 20.0 S	Canopus	263° 56.5	52° 42.4 S	176° 28.9	15° 28.9 S	138° 15.1	16.3	4° 56.5 N	11.9	54.0	S 50°	03:27	04:15	04:52	08:31	09:36	10:42					
	01	151° 48.8	238° 24.7	04.8	191° 39.6	54.8	148° 37.9	07.1	315° 03.5	19.9	315° 03.5	Capella	280° 36.7	46° 00.6 N	191° 28.8	28.1	152° 50.4	16.4	5° 08.4 N	11.7		S 52°	03:15	04:06	04:45	08:32	09:39	10:46				
	02	166° 51.3	253° 24.1	04.9	206° 40.1	38.9	163° 39.9	07.5	330° 06.0	19.9	330° 06.0	Deneb	49° 33.1	45° 19.2 N	206° 28.8	27.3	167° 25.8	16.2	20.1	11.8		54°	03:01	03:57	04:38	08:33	09:42	10:51				
	03	181° 53.7	268° 23.5	05.0	221° 40.7	38.3	178° 41.9	07.8	345° 08.5	19.9	345° 08.5	Denebola	182° 35.1	14° 30.3 N	221° 28.7	26.5	182° 01.0	16.3	31.9	11.8		56°	02:43	03:46	04:31	08:33	09:45	10:51				
	04	196° 56.2	283° 22.9	05.1	236° 41.2	37.7	193° 43.9	08.0	0° 11.0	19.8	0° 11.0	Diphda	348° 57.7	17° 55.6 S	236° 28.7	25.8	196° 36.3	16.3	43.7	11.7		58°	02:22	03:33	04:22	08:34	09:48	11:03				
	05	211° 58.7	298° 22.3	05.2	251° 41.7	37.1	208° 45.9	08.2	15° 13.6	19.8	15° 13.6				251° 28.7	25.0	211° 11.6	16.2	55.4	11.7		S 60°	01:52	03:18	04:12	08:35	09:52	11:10				
	06	227° 01.1	313° 21.8	05.2	266° 42.2	36.5	223° 47.9	08.4	30° 16.1	19.8	30° 16.1	Dubhe	193° 53.0	61° 41.1 N	266° 28.6	24.2	225° 46.8	16.2	6° 07.1 N	11.7		S 62°	01:00	03:00	04:00	08:37	09:57	11:18				
	07	242° 03.6	328° 21.2	05.3	281° 42.7	35.9	238° 49.9	08.6	45° 18.6	19.8	45° 18.6	Elath	278° 14.5	28° 37.0 N	281° 28.6	23.4	240° 22.0	16.2	18.8	11.6												
	08	257° 06.1	343° 20.6	05.4	296° 43.2	35.3	253° 51.9	08.7	60° 21.1	19.7	60° 21.1	Elnath	90° 47.3	51° 29.0 N	296° 28.6	22.6	254° 57.2	16.2	30.4	11.6												
	09	272° 08.5	358° 20.0	05.5	311° 43.7	34.7	268° 53.9	09.0	75° 23.6	19.7	75° 23.6	Enif	33° 49.1	9° 55.6 N	311° 28.5	21.9	269° 32.4	16.1	42.1	11.6												
	10	287° 11.0	1° 13.9	05.6	326° 44.2	34.1	283° 55.9	09.2	90° 26.1	19.7	90° 26.1	Fomalhaut	15° 26.1	29° 33.8 S	326° 28.5	21.1	284° 07.5	16.2	53.7	11.6												
	11	302° 13.5	28° 18.8	05.6	341° 44.7	33.5	298° 57.9	09.4	105° 28.6	19.6	105° 28.6				341° 28.4	20.3	298° 42.7	16.1	7° 05.3 N	11.5												
	12	317° 15.9	43° 18.2	21° 05.7 S	356° 45.2	16° 32.9 S	313° 59.9	0° 09.6 N	1																							

2011 February 9, 10, 11 (Wed, Thur, Fri)

GMT	ARIES			VENUS -4.2			MARS +1.1			JUPITER -2.1			SATURN +0.7			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°	06:37	07:59	09:26	06:41	-	-						
Wednesday	00	138° 44'.6	222° 56'.5	21° 07'.6 S	177° 03'.5	16° 10'.9 S	135° 11'.6	07° 17'.2 N	302° 01'.6	4° 18'.4 S	Acamar	315° 19'.6	40° 15'.8 S	176° 27'.4	14° 51'.1 S	117° 59'.3	14'.6	13° 49'.4 N	10'.1	54'.3	N 70°	06:33	07:46	09:00	07:13	06:39	-	-						
	01	153° 47'.1	237° 55'.9	07.8	192° 04'.0	10'.3	150° 13'.6	17.4	317° 04'.1	18.4	Acnhar	335° 28'.1	57° 11'.0 S	191° 27'.4	50'.3	132° 32'.9	14'.7	59'.5	10'.0	68°	N 60°	06:29	07:36	08:41	07:36	07:21	06:51	-	-					
	02	168° 49'.6	252° 55'.3	07.7	207° 04'.6	09.7	165° 15'.6	17.6	332° 06'.6	18.4	Acrux	173° 10'.9	63° 09'.6 S	206° 27'.3	49'.5	147° 06'.6	14'.5	14° 09'.5 N	10'.0	66°	N 60°	06:26	07:27	08:25	07:54	07:50	07:46	-	-					
	03	183° 52'.0	267° 54'.7	07.7	222° 05'.1	09.1	180° 17'.5	19.1	347° 09'.1	18.3	Adhara	255° 13'.5	28° 59'.5 S	221° 27'.3	48'.7	161° 40'.1	14'.5	19'.5	9'.9	64°	N 60°	06:23	07:20	08:12	08:08	08:12	08:19	08:19	-	-				
	04	198° 54'.5	282° 54'.1	07.8	237° 05'.6	08.4	195° 19'.5	18.1	2° 11'.7	18.3	Aldebaran	290° 51'.2	16° 31'.9 N	236° 27'.3	47.9	176° 13'.6	14'.5	29'.4	9'.9	54'.4	N 62°	06:20	07:13	08:02	08:21	08:29	08:43	-	-					
	05	213° 57'.0	297° 53'.5	07.8	252° 06'.1	07.8	210° 21'.5	18.3	17° 14'.2	18.3				251° 27'.3	47.1	190° 47'.1	14'.4	39'.3	9'.8	60°	N 60°	06:18	07:07	07:52	08:31	08:44	09:03	-	-					
	06	228° 59'.4	312° 52'.9	07.8	267° 06'.6	07.2	225° 23'.5	18.5	32° 16'.7	18.2	Alioth	166° 21'.7	55° 53'.6 N	266° 27'.3	46.3	205° 20'.5	14'.3	49'.1	9'.8	58°	N 58°	06:16	07:02	07:44	08:41	08:57	09:19	-	-					
	07	244° 01'.9	327° 52'.3	07.9	282° 07'.1	06.6	240° 25'.5	18.7	47° 19'.2	18.2	Alkaid	152° 59'.9	49° 15'.1 N	281° 27'.2	45.5	219° 53'.8	14'.3	58'.9	9'.7	56°	N 56°	06:14	06:58	07:37	08:49	09:08	09:33	-	-					
	08	259° 04'.3	342° 51'.7	07.9	297° 07'.6	06.0	255° 27'.5	18.9	62° 21'.7	18.2	Alnair	27° 46'.2	46° 54'.4 S	296° 27'.2	44.7	234° 27'.1	14'.2	15° 08'.6 N	9'.7	54°	N 54°	06:12	06:54	07:31	08:56	09:17	09:45	-	-					
	09	274° 06'.8	357° 51'.0	07.9	312° 08'.2	05.4	270° 29'.5	19.1	77° 24'.2	18.1	Alnilam	275° 47'.9	1° 11'.8 S	311° 27'.2	43.9	249° 00'.3	14'.2	18'.3	9'.6	52°	N 52°	06:10	06:50	07:25	09:03	09:26	09:55	-	-					
	10	289° 09'.3	12° 50'.4	07.9	327° 08'.7	04.7	285° 31'.5	19.3	92° 26'.8	18.1	Alphard	217° 57'.4	8° 42'.6 S	326° 27'.2	43.1	263° 33'.5	14'.1	27.9	9'.5	50°	N 50°	06:08	06:46	07:20	09:09	09:33	10:05	-	-					
	11	304° 11'.7	27° 49'.8	08.0	342° 09'.2	04.1	300° 33'.5	19.6	107° 29'.3	18.1				341° 27'.2	42.3	278° 06'.6	14'.1	37.4	9'.5	54'.5	N 45°	06:04	06:38	07:09	09:21	09:50	10:24	-	-					
	12	319° 14'.2	42° 49'.2	21° 08'.0 S	357° 09'.7	16° 03'.5 S	315° 35'.4	0° 19'.8 N	122° 31'.8	4° 18'.0 S	Alphecca	126° 12'.4	26° 40'.4 N	356° 27'.1	14° 41'.5 S	292° 39'.7	13'.9	15° 46'.9 N	9'.4	54'.5	N 40°	06:00	06:31	07:00	09:32	10:04	10:41	-	-					
	13	334° 16'.7	57° 48'.6	08.0	12° 10'.2	02.9	330° 37'.4	20.0	137° 34'.3	18.0	Alpheratz	357° 45'.5	29° 09'.2 N	11° 27'.1	40.7	307° 12'.6	14'.0	56'.3	9'.3	35°	N 35°	05:55	06:25	06:51	09:41	10:15	10:54	-	-					
	14	349° 19'.1	72° 48'.0	08.0	27° 10'.7	02.3	345° 39'.4	20.2	152° 36'.8	18.0	Altair	62° 10'.2	8° 53'.8 N	26° 27'.1	39.9	321° 45'.6	13'.8	16° 05'.6 N	9'.3	30°	N 30°	05:51	06:20	06:44	09:49	10:25	11:06	-	-					
	15	4° 21'.6	87° 47'.4	08.1	42° 11'.2	01.6	0° 41'.4	20.4	167° 39'.4	17.9	Ankaa	353° 17'.6	42° 14'.9 S	41° 27'.1	39.1	336° 18'.4	13'.8	14'.9	9'.2	20°	N 20°	05:43	06:09	06:32	10:03	10:43	11:27	-	-					
	16	19° 24'.1	102° 46'.8	08.1	57° 11'.8	01.0	15° 43'.4	20.6	182° 41'.9	17.9	Antares	112° 28'.4	26° 27'.4 S	56° 27'.1	38.3	350° 51'.2	13'.8	24'.1	9'.2	10°	N 10°	05:34	05:59	06:21	10:15	10:58	11:45	-	-					
	17	34° 26'.5	117° 46'.2	08.1	72° 12'.3	00.4	30° 45'.4	20.8	197° 44'.4	17.9				71° 27'.1	37.5	5° 24'.0	13'.6	33'.3	9'.1	54'.6	N 0°	05:25	05:49	06:11	10:27	11:13	12:02	-	-					
	18	49° 29'.0	132° 45'.6	08.1	87° 12'.8	15° 59'.8 S	45° 47'.4	21.0	212° 46'.9	17.8	Arcturus	145° 57'.1	19° 07'.2 N	86° 27'.0	36.7	19° 56'.6	13'.6	42.4	9'.0	10°	S 10°	05:13	05:39	06:00	10:39	11:27	12:18	-	-					
	19	64° 31'.4	147° 44'.9	08.2	102° 13'.3	59.2	60° 49'.4	21.3	227° 49'.4	17.8	Atria	107° 32'.0	62° 06'.6 S	101° 27'.0	35.9	34° 29'.2	13'.6	51'.4	9'.0	20°	N 20°	04:59	05:26	05:49	10:51	11:43	12:37	-	-					
	20	79° 33'.9	162° 44'.3	08.2	117° 13'.8	58.5	75° 51'.3	21.5	242° 51'.9	17.8	Avior	234° 18'.1	59° 32'.9 S	116° 27'.0	35.1	49° 01'.8	13'.5	17° 00'.4 N	8'.9	30°	N 30°	04:41	05:11	05:36	11:05	12:01	12:57	-	-					
	21	94° 36'.4	177° 43'.7	08.2	132° 14'.3	57.9	90° 53'.3	21.7	257° 54'.5	17.7	Bellatrix	278° 33'.6	6° 21'.5 N	131° 27'.0	34.3	63° 34'.3	13'.4	09.3	8'.8	35°	N 35°	04:29	05:01	05:28	11:14	12:11	13:10	-	-					
	22	109° 38'.8	192° 43'.1	08.2	147° 14'.9	57.3	105° 55'.3	21.9	272° 07'.0	17.7	Betelgeuse	271° 02'.9	7° 24'.4 S	146° 27'.0	33.5	78° 06'.7	13'.3	18'.1	8'.7	54'.7	N 40°	04:15	04:50	05:20	11:23	12:23	13:24	-	-					
23	124° 41'.3	207° 42'.5	08.2	162° 15'.4	56.7	120° 57'.3	22.1	287° 59'.5	17.7				161° 27'.0	32.7	92° 39'.0	13'.3	26.8	8'.7	45°	N 45°	03:57	04:37	05:09	11:35	12:38	13:41	-	-						
Thursday	00	139° 43'.8	222° 41'.9	21° 08'.2 S	177° 15'.9	15° 56'.1 S	135° 59'.3	0° 22'.3 N	303° 02'.0	4° 17'.6 S	Canopus	263° 56'.5	52° 42'.6 N	176° 27'.0	14° 31'.9 S	107° 11'.3	13'.2	17° 35'.5 N	8'.6	54'.7	S 50°	03:34	04:21	04:57	11:48	12:55	14:02	-	-					
	01	154° 46'.2	237° 41'.3	08.2	192° 16'.4	58.2	151° 01'.3	22.5	318° 04'.5	17.6	Capella	280° 36'.7	46° 00'.0 N	191° 26'.9	31.1	121° 43'.5	13'.1	44'.1	8'.6	52°	S 52°	03:23	04:13	04:50	11:55	13:04	14:12	-	-					
	02	169° 48'.7	252° 40'.7	08.3	207° 16'.9	54.8	166° 03'.3	22.7	333° 07'.1	17.6	Deneb	49° 33'.1	45° 19'.2 N	206° 26'.9	30.3	136° 15'.6	13'.1	52'.7	8'.4	54°	S 54°	03:10	04:04	04:45	12:02	13:13	14:23	-	-					
	03	184° 51'.2	267° 40'.0	08.3	222° 17'.4	54.2	181° 05'.2	23.0	348° 09'.6	17.5	Denebola	182° 35'.1	14° 30'.3 N	221° 26'.9	29.5	150° 47'.7	13'.0	18° 01'.1 N	8'.4	56°	S 56°	02:54	03:54	04:38	12:10	13:23	14:36	-	-					
	04	199° 53'.6	282° 39'.4	08.3	237° 18'.0	53.6	196° 07'.2	23.2	3° 12'.1	17.5	Diphda	348° 57'.7	17° 55'.6 S	236° 26'.9	28.7	165° 19'.7	12'.9	09'.5	8'.4	54'.8	S 58°	02:34	03:42	04:29	12:19	13:35	14:51	-	-					
	05	214° 56'.1	297° 38'.8	08.3	252° 18'.5	52.9	211° 09'.2	23.4	18° 14'.6	17.5				251° 26'.9	27.8	179° 51'.6	12'.9	17'.9	8'.2	54'.8	S 60°	02:09	03:28	04:20	12:29	13:49	15:08	-	-					
	06	229° 58'.6	312° 38'.2	08.3	267° 19'.0	52.3	226° 11'.2	23.6	33° 17'.1	17.4	Dubhe	193° 53'.0	61° 41'.2 N	266° 26'.9	27.0	194° 23'.5	12'.8	26'.1	8'.2	54'.9	S 62°	01:31	03:11	04:10	12:41	14:06	15:30	-	-					
	07	245° 01'.0	327° 37'.6	08.3	282° 19'.5	51.7	241° 13'.2	23.8	48° 19'.7	17.4	Elnath	278° 14'.5	28° 37'.0 N	281° 26'.9	26.2	208° 55'.3	12'.7	34.3	8'.1	54'.9	S 62°	01:31	03:11	04:10	12:41	14:06	15:30	-	-					
	08	260° 03'.5	342° 30'.7	08.3	297° 20'.0	51.1	256° 15'.2	24.0	63° 22'.2	17.3	Elainin	90° 47'.2	51° 29'.0 N	296° 26'.9	25.4	223° 27'.0	12'.6	42.4	8'.0	54'.9	S 62°	01:31	03:11	04:10	12:41	14:06	15:30	-	-					
	09	275° 05'.9	357° 36'.3	08.3	312° 20'.6	50.4	271° 17'.2	24.2	78° 24'.7	17.3	Enif	33° 49'.1	9° 55'.6 N	311° 26'.8	24.6	237° 58'.6	12'.6	50.4	7'.9	54'.9	S 62°	01:31	03:11	04:10	12:41	14:06	15:30	-	-					
	10	290° 08'.4	12° 35'.7	08.3	327° 21'.1	49.8	286° 19'.1	24.4	93° 27'.2	17.3	Fomalhaut	15° 26'.1	29° 33'.8 S	326° 26'.8	23.8	252° 30'.2	12'.5	58'.3	7'.9	54'.9	S 62°	01:31	03:11	04:10	12:41	14:06	15:30	-	-					
	11	305° 10'.9	27° 35'.1	08.3	342° 21'.6	49.2	301° 21'.1	24.7	108° 29'.8	17.2				341° 26'.8	23.0	267° 01'.7	12'.4	19° 06'.2 N	7'.7	54'.9	S 62°													



**2011 February 12, 13, 14 (Sat, Sun, Mon)**

GMT	ARIES			VENUS -4.2			MARS +1.1			JUPITER -2.1			SATURN +0.6			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°	06:24	07:45	09:07	-	-	-		
12 S a t u r d a y	00	141° 42.0	222° 12.2	21° 07.8 S	177° 40.9	15° 25.9 S	137° 34.5	0° 32.6 N	305° 03.2	4° 15.9 S	320° 05.7	15.8	Acamar	315° 19.6	40° 15.8 S	176° 26.7	13° 52.7 S	83° 33.7	9.6	22° 52.7 N	4.2	55.9	N 70°	06:22	07:34	08:45	-	-	-			
	01	156° 44.5	237° 11.5	07.8	192° 41.5	25.2	152° 36.5	32.8	320° 05.7	15.8	320° 05.7	15.8	Acnarnar	335° 28.2	57° 11.0 S	191° 32.0	51.9	98° 02.3	9.5	56.9	4.0	56.0	N 68°	06:19	07:25	08:28	-	-	-			
	02	171° 47.0	252° 10.9	07.7	207° 42.0	24.6	167° 38.5	33.0	335° 08.2	15.8	335° 08.2	15.8	Acruz	173° 10.8	63° 09.6 S	206° 26.7	51.0	112° 30.8	9.5	23° 00.9 N	4.0	66°	06:17	07:17	08:14	07:43	07:50	09:35				
	03	186° 49.4	267° 10.3	07.2	222° 42.5	24.0	182° 40.4	33.2	350° 10.8	15.8	350° 10.8	15.8	Adhara	255° 13.5	28° 59.5 S	221° 26.7	50.2	126° 59.3	9.3	04.9	3.8	64°	06:15	07:11	08:03	08:36	09:15	10:30				
	04	201° 51.9	282° 09.7	07.7	237° 43.0	23.3	197° 42.4	33.4	5° 13.3	15.7	5° 13.3	15.7	Aldebaran	290° 51.2	16° 31.9 N	236° 26.7	49.4	141° 27.6	9.4	08.7	3.7	56.1	62°	06:13	07:05	07:53	09:08	09:53	11:03			
	05	216° 54.4	297° 09.0	07.6	252° 43.6	22.7	212° 44.4	33.7	20° 15.8	15.7	20° 15.8	15.7					251° 26.7	48.5	155° 56.0	9.2	12.4	3.6	60°	06:11	07:00	07:45	09:32	10:19	11:27			
	06	231° 56.8	312° 08.4	07.6	267° 44.1	22.0	227° 46.4	33.9	35° 18.3	15.7	35° 18.3	15.7	Alioth	166° 21.7	55° 53.6 N	266° 26.7	47.7	170° 24.2	9.1	16.0	3.4		N 58°	06:10	06:56	07:37	09:52	10:40	11:46			
	07	246° 59.3	327° 07.8	07.6	282° 44.6	21.4	242° 48.4	34.1	50° 20.9	15.6	50° 20.9	15.6	Alkaid	152° 59.9	49° 15.1 N	281° 26.7	46.9	184° 52.3	9.1	19.4	3.4	56.2	56°	06:08	06:52	07:31	10:08	10:57	12:02			
	08	262° 01.8	342° 07.2	07.5	297° 45.1	20.8	257° 50.3	34.3	65° 23.4	15.6	65° 23.4	15.6	Alnair	27° 46.2	46° 54.4 S	296° 26.7	46.1	199° 20.4	9.0	22.8	3.2	54°	06:06	06:48	07:25	10:22	11:12	12:16				
	09	277° 04.2	357° 06.5	07.5	312° 45.7	20.1	272° 52.3	34.5	80° 25.9	15.5	80° 25.9	15.5	Alnilam	275° 47.9	1° 11.8 S	311° 26.7	45.2	213° 48.4	9.0	26.0	3.1	52°	06:05	06:44	07:20	10:34	11:24	12:28				
	10	292° 06.7	12° 05.9	07.4	327° 46.2	19.5	287° 54.3	34.7	95° 28.5	15.5	95° 28.5	15.5	Alphard	217° 57.4	8° 42.6 S	326° 26.7	44.4	228° 16.4	8.9	29.1	3.0	56.3	50°	06:03	06:41	07:15	10:44	11:35	12:39			
	11	307° 09.2	27° 05.3	07.4	342° 46.7	18.9	302° 56.3	34.9	110° 31.0	15.5	110° 31.0	15.5					341° 26.7	43.6	242° 44.3	8.8	32.1	2.8	45°	06:00	06:34	07:05	11:07	11:59	13:01			
	12	322° 11.6	42° 04.6	21° 07.4 S	357° 47.3	15° 18.2 S	317° 58.3	0° 35.2 N	125° 33.5	4° 15.4 S	125° 33.5	4° 15.4 S	Alphecca	126° 12.4	26° 40.3 N	356° 26.7	13° 42.7 S	257° 12.1	8.7	23° 34.9 N	2.7	56.3	N 40°	05:56	06:28	06:56	11:25	12:17	13:18			
	13	337° 14.1	57° 04.0	07.3	12° 47.8	17.6	333° 00.2	35.4	140° 36.0	15.4	140° 36.0	15.4	Alpheratz	357° 45.5	29° 09.2 N	11° 26.7	41.9	271° 39.8	8.7	37.6	2.6	56.4	35°	05:53	06:23	06:49	11:40	12:33	13:33			
	14	352° 16.5	72° 03.4	07.3	27° 48.3	16.9	348° 02.2	35.6	155° 38.6	15.3	155° 38.6	15.3	Altair	62° 10.2	8° 53.8 N	26° 26.8	41.1	286° 07.5	8.6	40.0	2.5	30°	05:49	06:17	06:42	11:53	12:47	13:46				
	15	7° 19.0	87° 02.8	07.2	42° 48.8	16.3	3° 04.2	35.8	170° 41.1	15.3	170° 41.1	15.3	Ankaa	353° 17.6	42° 14.9 S	41° 26.8	40.2	300° 35.1	8.5	42.7	2.3	20°	05:42	06:08	06:31	12:16	13:10	14:08				
	16	22° 21.5	102° 02.1	07.2	57° 49.4	15.7	18° 06.2	36.0	185° 43.6	15.3	185° 43.6	15.3	Antares	112° 28.4	26° 27.4 S	56° 26.8	39.4	315° 02.6	8.5	45.0	2.3	56.5	N 10°	05:34	05:59	06:20	12:35	13:30	14:28			
	17	37° 23.9	117° 01.5	07.1	72° 49.9	15.0	33° 08.1	36.2	200° 46.2	15.2	200° 46.2	15.2					71° 26.8	38.6	329° 30.1	8.4	47.3	2.0	0°	05:25	05:50	06:11	12:54	13:49	14:46			
	18	52° 26.4	132° 00.9	07.1	87° 50.4	14.4	48° 10.1	36.5	215° 48.7	15.2	215° 48.7	15.2	Arcturus	145° 57.1	19° 07.2 N	86° 26.8	37.7	343° 57.5	8.3	49.3	2.0	56.6	S 10°	05:14	05:39	06:01	13:12	14:07	15:03			
	19	67° 28.9	147° 00.3	07.0	102° 51.0	13.7	63° 12.1	36.7	230° 51.2	15.2	63° 12.1	15.2	Alraia	107° 32.0	69° 02.6 S	101° 26.8	36.9	358° 24.8	8.3	51.3	1.8	20°	05:01	05:28	05:51	13:32	14:27	15:22				
	20	82° 31.3	161° 59.6	07.0	117° 51.5	13.1	78° 14.1	36.9	245° 53.8	15.1	245° 53.8	15.1	Avior	234° 18.1	59° 32.9 S	116° 26.8	36.1	12° 52.1	8.2	53.1	1.7	30°	04:44	05:13	05:38	13:55	14:51	15:44				
	21	97° 33.8	176° 59.0	06.9	132° 52.0	12.5	93° 16.1	37.1	260° 56.3	15.1	260° 56.3	15.1	Bellatrix	278° 33.6	6° 21.5 N	131° 26.8	35.2	27° 19.3	8.1	54.8	1.6	56.7	35°	04:33	05:05	05:31	14:08	15:04	15:57			
	22	112° 36.3	191° 58.4	06.9	147° 52.5	11.8	108° 18.0	37.0	275° 58.8	15.0	275° 58.8	15.0	Betelgeuse	271° 02.9	7° 24.4 N	146° 26.8	34.4	41° 46.4	8.1	56.4	1.4	40°	04:19	04:54	05:23	14:23	15:20	16:12				
23	127° 38.7	206° 57.7	06.8	162° 53.1	11.2	123° 20.0	37.5	291° 01.4	15.0	291° 01.4	15.0					161° 26.8	33.6	56° 13.5	8.0	57.8	1.3	45°	04:03	04:42	05:14	14:42	15:39	16:30				
13 S u n d a y	00	142° 41.2	221° 57.1	21° 06.8 S	177° 53.6	15° 10.5 S	138° 22.0	0° 37.7 N	306° 03.9	4° 15.0 S	306° 03.9	4° 15.0 S	Canopus	263° 56.5	52° 42.6 N	176° 26.8	13° 32.7 S	70° 40.5	8.0	23° 59.1 N	1.2	56.8	S 50°	03:41	04:26	05:02	15:05	16:02	16:51			
	01	157° 43.7	236° 56.5	06.7	192° 54.1	10.9	153° 24.0	38.0	321° 06.4	14.9	321° 06.4	14.9	Capella	180° 36.7	46° 00.6 N	191° 26.9	31.9	85° 07.5	7.9	24° 00.3 N	1.0	52°	52°	03:31	04:19	04:57	15:16	16:14	17:02			
	02	172° 46.1	251° 55.9	06.6	207° 54.7	09.2	168° 25.9	38.2	336° 09.0	14.9	336° 09.0	14.9	Deneb	49° 33.1	45° 19.2 N	206° 26.9	31.1	99° 34.4	7.8	01.3	0.9	54°	03:18	04:11	04:51	15:29	16:26	17:13				
	03	187° 48.6	266° 55.2	06.6	222° 55.2	08.6	182° 35.1	38.4	351° 11.5	14.8	351° 11.5	14.8	Denebola	182° 35.1	14° 30.3 N	221° 26.9	30.2	114° 01.2	7.8	02.2	0.8	56.9	56°	03:04	04:01	04:44	15:43	16:41	17:27			
	04	202° 51.0	281° 54.6	06.5	237° 55.7	08.0	198° 29.9	38.6	6° 14.0	14.8	6° 14.0	14.8	Diphda	348° 57.7	17° 55.6 S	236° 26.9	29.4	128° 28.0	7.7	03.0	0.6	58°	02:46	03:50	04:37	16:00	16:58	17:42				
	05	217° 53.5	296° 54.0	06.5	252° 56.3	07.3	213° 31.9	39.0	21° 16.5	14.8	21° 16.5	14.8					251° 26.9	28.5	142° 54.7	7.7	03.6	0.5	57.0	S 60°	02:24	03:38	04:28	16:21	17:20	18:01		
	06	232° 56.0	311° 53.3	06.4	267° 56.8	06.7	228° 33.9	39.8	36° 19.1	14.7	36° 19.1	14.7	Dubhe	193° 53.0	61° 41.2 N	266° 26.9	27.7	157° 21.4	7.7	04.1	0.3		S 62°	01:53	03:23	04:19	16:47	17:46	18:23			
	07	247° 58.4	326° 52.7	06.3	282° 57.3	06.0	243° 35.8	39.3	51° 21.6	14.7	51° 21.6	14.7	Elnath	278° 14.5	28° 37.0 N	281° 26.9	26.9	171° 48.1	7.5	04.4	0.2											
	08	263° 00.9	341° 52.1	06.3	297° 57.9	05.4	258° 37.8	39.5	66° 24.1	14.6	66° 24.1	14.6	Enif	90° 47.2	21° 29.0 N	296° 26.9	26.0	186° 14.6	7.5	04.6	0.1	57.1										
	09	278° 03.4	356° 51.4	06.2	312° 58.4	04.7	273° 39.8	39.7	81° 26.7	14.6	81° 26.7	14.6	Enif	33° 49.1	9° 55.6 N	311° 27.0	25.2	200° 41.1	7.5	04.7	0.1		Lat									
	10	293° 05.8	11° 50.8	06.1	327° 58.9	04.1	288° 41.8	39.9	96° 29.2	14.6	96° 29.2	14.6	Fomalhaut	15° 26.1	29° 33.8 S	326° 27.0	24.4	215° 07.6	7.4	04.6	0.2	57.2										
	11	308° 08.3	26° 50.2	06.1	342° 59.5	03.4	303° 43.7	40.1	111° 31.7	14.5	111° 31.7	14.5					341° 27.0	23.5	229° 34.0	7.4	04.4	0.0										
	12	323° 10.8	41° 49.5	21° 06.0 S	358° 00.0	15° 02.8 S	318° 45.7	0° 40.3 N	126° 34.3	4° 14.5 S	126° 34.3	4° 14.5 S	Gacrux	172° 02.4	57° 10.5 S	356° 27.0	13° 22.7 S	244° 00.4	7.3	24° 04.1 N	0.5	57.2	N 70°	15:45	16:56	18:09	-	-	-			
	13	338° 13.2	56° 48.9	05.9	13° 00.1	02.2	333° 47.7	40.6	141° 36.8	14.4	141° 36.8	14.4	Gienah	175° 53.8	17° 36.4 S	11° 27.0	21.8	258° 26.7	7.3	03.6	0.7	57.3	N 68°	16:02	17:05	18:11	-	-	-			
	14	353° 15.7	71° 48.3	05.9	28° 01.5	01.5	348° 49.7	40.8	156° 39.3	14.4	156° 39.3	14.4	Hadar	148° 50.1	60° 25.5 S	26° 26.8	21.0	272° 53.0	7.2													

**2011 February 15, 16, 17 (Tue, Wed, Thur)**

GMT	ARIES			VENUS -4.2			MARS +1.1			JUPITER -2.1			SATURN +0.6			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	06:12	07:31	08:50	15	16	17				
Tuesday	00	144° 39'.5	221° 26.7	21° 03.0 S	178° 19.3	14° 39.4 S	139° 56.8	0° 48.2 N	308° 05.6	4° 13.0 S	Acamar	315° 19.6	40° 15.8 S	176° 27.7	12° 52.2 S	43° 27.4	6.4	22° 14.0 N	5.8	58.7	N 70°	06:10	07:22	08:31	-	-	11:40	14:51				
	01	159° 41.9	236° 26.1	02.9	193° 19.8	38.7	154° 58.8	48.4	323° 08.1	13.0	Acnhar	335° 28.2	57° 11.0 S	191° 27.8	51.3	57° 52.8	6.4	08.2	5.9	68°	N 70°	06:09	07:14	08:15	10:47	13:17	15:29					
	02	174° 44.4	251° 25.4	02.7	208° 20.4	38.1	170° 00.7	48.6	338° 10.7	12.9	Acrux	173° 10.8	63° 09.6 S	206° 27.8	50.5	72° 18.2	6.5	02.3	6.1	58.8	N 66°	06:08	07:08	08:03	11:39	13:42	15:43					
	03	189° 46.9	266° 24.8	02.6	223° 20.9	37.4	185° 02.7	48.6	353° 13.2	12.9	Adhara	255° 13.5	28° 59.5 S	221° 27.8	49.6	86° 43.7	6.4	21° 56.2 N	6.2	64°	N 66°	06:06	07:02	07:53	12:11	14:01	15:53					
	04	204° 49.3	281° 24.2	02.5	238° 21.4	36.8	200° 04.7	49.0	8° 15.7	12.8	Aldebaran	290° 51.2	16° 31.9 N	236° 27.8	48.8	101° 09.1	6.4	50.0	6.4	62°	N 62°	06:05	06:57	07:44	12:34	14:17	16:03					
	05	219° 51.8	296° 23.5	02.4	253° 22.0	36.1	215° 06.7	49.2	23° 18.3	12.8				251° 27.9	47.9	115° 34.5	6.4	43.6	6.6	58.9	N 60°	06:04	06:53	07:36	12:53	14:30	16:11					
	06	234° 54.3	311° 22.9	02.3	268° 22.5	35.5	230° 08.6	49.5	38° 20.8	12.8	Alioth	166° 21.6	55° 53.6 N	266° 27.9	47.1	129° 59.9	6.5	37.0	6.6	58°	N 58°	06:03	06:49	07:30	13:09	14:41	16:17					
	07	249° 56.7	326° 22.2	02.2	283° 23.1	34.8	245° 10.6	49.7	53° 23.4	12.7	Alkaid	152° 59.9	49° 15.1 N	281° 27.9	46.2	144° 25.4	6.4	30.4	6.9	59.0	N 56°	06:02	06:45	07:24	13:22	14:50	16:24					
	08	264° 59.2	341° 21.6	02.1	298° 23.6	34.1	260° 12.6	49.9	68° 25.9	12.7	Alnair	27° 46.2	46° 54.4 S	296° 28.0	45.3	158° 50.8	6.4	23.5	6.9	54°	N 54°	06:01	06:42	07:19	13:33	14:59	16:24					
	09	280° 01.6	356° 21.0	02.0	313° 24.1	33.5	275° 14.5	50.1	83° 28.4	12.6	Alnilam	275° 47.9	1° 11.8 S	311° 28.0	44.5	173° 16.2	6.5	16.6	7.1	52°	N 52°	06:00	06:39	07:14	13:43	15:07	16:39					
	10	295° 04.1	11° 20.3	01.9	328° 24.7	32.8	290° 16.5	50.3	98° 31.0	12.6	Alphard	217° 57.4	8° 42.6 S	326° 28.0	43.6	187° 41.7	6.5	09.5	7.3	59.1	N 50°	05:58	06:36	07:09	13:52	15:13	16:38					
	11	310° 06.6	26° 19.7	01.8	343° 25.2	32.2	305° 18.5	50.6	113° 33.5	12.5				341° 28.0	42.8	202° 07.2	6.4	02.2	7.4	45°	N 45°	05:56	06:30	07:00	14:11	15:28	16:48					
	12	325° 09.0	41° 19.0	21° 01.6 S	358° 25.8	14° 31.5 S	320° 20.5	0° 50.8 N	128° 36.1	4° 12.5 S	Alphecca	126° 12.4	26° 40.3 N	356° 28.1	12° 41.9 S	216° 32.6	6.5	20° 54.8 N	7.5	59.1	N 40°	05:53	06:24	06:52	14:27	15:40	16:56					
	13	340° 11.5	56° 18.4	01.5	13° 26.3	30.9	335° 22.4	51.0	143° 38.6	12.5	Alpheratz	357° 45.5	29° 09.2 N	11° 28.1	41.1	230° 58.1	6.5	43.3	7.7	59.2	N 35°	05:50	06:20	06:45	14:40	15:50	17:02					
	14	355° 14.0	71° 17.8	01.4	28° 26.9	30.2	350° 24.4	51.2	158° 41.2	12.4	Altair	62° 10.1	8° 53.8 N	26° 28.1	40.2	245° 23.6	6.5	37.6	7.8	30°	N 30°	05:47	06:15	06:39	14:51	15:59	17:08					
	15	10° 16.4	86° 17.1	01.3	43° 27.4	29.5	5° 26.4	51.4	173° 43.7	12.4	Ankaa	353° 17.6	42° 14.9 S	41° 28.2	39.3	259° 49.1	6.5	31.8	8.0	59.3	N 20°	05:40	06:06	06:29	15:11	16:14	17:18					
	16	25° 18.9	101° 16.5	01.2	58° 27.9	28.9	20° 28.3	51.7	188° 46.2	12.3	Antares	112° 28.4	26° 27.4 S	56° 28.2	38.5	274° 14.6	6.5	23.8	8.1	59.0	N 10°	05:33	05:58	06:20	15:27	16:28	17:27					
	17	40° 21.4	116° 15.9	01.1	73° 28.5	28.2	35° 30.3	51.9	203° 48.8	12.3				71° 28.2	37.6	288° 40.1	6.6	15.7	8.3	0°	N 0°	05:25	05:50	06:11	15:43	16:40	17:36					
	18	55° 23.8	131° 15.2	00.9	88° 29.0	27.6	50° 32.3	52.1	218° 51.3	12.2	Arcturus	145° 57.1	19° 07.2 N	86° 28.3	36.8	303° 05.7	6.5	07.4	8.3	59.4	S 10°	05:15	05:40	06:02	15:59	16:52	17:44					
	19	70° 26.3	146° 14.6	00.8	103° 29.6	26.9	65° 34.3	52.3	233° 53.9	12.2	Alraia	107° 31.9	69° 02.6 S	101° 28.3	35.9	317° 31.2	6.6	19° 59.1 N	8.6	20°	N 20°	05:03	05:29	05:52	16:15	17:05	17:53					
	20	85° 28.8	161° 13.9	00.7	118° 30.1	26.2	80° 36.2	52.5	248° 56.4	12.2	Avior	234° 18.2	59° 32.9 S	116° 28.3	35.0	331° 56.8	6.6	50.5	8.6	59.5	N 30°	04:46	05:16	05:41	16:34	17:20	18:03					
	21	100° 31.2	176° 13.3	00.6	133° 30.7	25.6	95° 38.2	52.7	263° 58.9	12.1	Bellatrix	278° 33.6	6° 21.5 N	131° 28.4	34.2	346° 22.4	6.6	41.9	8.8	35°	N 35°	04:36	05:08	05:34	16:46	17:29	18:09					
	22	115° 33.7	191° 12.7	00.5	148° 31.2	24.9	110° 40.2	53.0	279° 01.5	12.1	Betelgeuse	271° 02.9	7° 24.4 N	146° 28.4	33.3	0° 48.0	6.7	33.1	9.0	40°	N 40°	04:24	04:58	05:27	16:58	17:39	18:15					
23	130° 36.1	206° 12.0	00.3	163° 31.7	24.3	125° 42.1	53.2	294° 04.0	12.0				161° 28.4	32.5	15° 13.7	6.6	24.1	9.0	59.6	N 45°	04:08	04:47	05:18	17:13	17:50	18:23						
Wednesday	00	145° 38.6	221° 11.4	21° 00.2 S	178° 32.3	14° 23.6 S	140° 44.1	0° 53.4 N	309° 06.6	4° 12.0 S	Canopus	263° 56.5	52° 42.4 S	176° 28.5	12° 31.6 S	29° 39.3	6.7	19° 15.1 N	9.2	59.6	S 50°	03:48	04:32	05:08	17:32	18:44	18:32					
	01	160° 41.1	236° 10.7	00.1	193° 32.8	32.9	155° 46.1	53.6	324° 09.1	11.9	Capella	280° 36.7	46° 00.7 N	191° 28.5	30.7	44° 05.0	6.7	05.9	9.4	52°	S 52°	03:38	04:25	05:03	17:40	18:11	18:36					
	02	175° 43.5	251° 10.1	20° 59.9 S	208° 33.4	22.3	170° 48.0	53.8	339° 11.7	11.9	Deneb	49° 33.1	45° 19.2 N	206° 28.5	29.9	58° 30.7	6.7	18° 56.5 N	9.4	59.7	S 54°	03:27	04:18	04:57	17:50	18:18	18:40					
	03	190° 46.0	266° 09.4	59.8	223° 33.9	21.6	185° 50.4	54.1	354° 14.2	11.8	Denebola	182° 35.0	14° 30.3 N	221° 28.6	29.0	72° 56.4	6.7	47.1	9.6	56°	S 56°	03:13	04:09	04:51	18:01	18:26	18:45					
	04	205° 48.5	281° 08.8	59.7	238° 34.5	21.0	200° 52.0	54.3	9° 16.7	11.8	Diphda	348° 57.7	17° 55.6 S	236° 28.6	28.1	87° 22.1	6.8	37.5	9.8	58°	S 58°	02:58	03:59	04:44	18:13	18:35	18:51					
	05	220° 50.9	296° 08.2	59.6	253° 35.0	20.3	215° 54.0	54.5	24° 19.3	11.8				251° 28.6	27.3	101° 47.9	6.8	27.7	9.8	59.8	S 60°	02:38	03:47	04:37	18:27	18:45	18:57					
	06	235° 53.4	311° 07.5	59.4	268° 35.6	19.6	230° 55.9	54.7	39° 21.8	11.7	Dubhe	193° 52.9	61° 41.2 N	266° 28.7	26.4	116° 13.7	6.8	17.9	10.0	59.0	S 62°	02:12	03:34	04:28	18:44	18:57	19:05					
	07	250° 55.9	326° 06.9	59.3	283° 36.1	19.0	245° 57.9	54.9	54° 24.4	11.7	Elnath	278° 14.5	28° 37.0 N	281° 28.7	25.6	130° 39.5	6.8	07.9	10.1	59.0												
	08	265° 58.3	341° 06.2	59.2	298° 36.6	18.3	260° 59.9	55.2	69° 26.9	11.6	Elainin	90° 47.2	51° 29.0 N	296° 28.7	24.7	145° 05.3	6.9	17° 57.8 N	10.3	59.9												
	09	281° 00.8	356° 05.6	59.0	313° 37.2	17.6	276° 01.8	55.4	84° 29.5	11.6	Enif	33° 49.1	9° 55.6 N	311° 28.8	23.8	159° 31.2	6.9	47.5	10.3													
	10	296° 03.2	11° 05.0	58.9	328° 37.7	17.0	291° 03.8	55.6	99° 32.0	11.5	Fomalhaut	15° 26.1	29° 33.8 S	326° 28.8	23.0	173° 57.1	6.9	37.2	10.5	60.0												
	11	311° 05.7	26° 04.3	58.7	343° 38.3	16.3	306° 05.8	55.8	114° 34.6	11.5				341° 28.9	22.1	188° 23.0	7.0	26.7	10.6	60.0												
	12	326° 08.2	41° 03.7	20° 58.6 S	358° 38.8	14° 15.7 S	321° 07.7	0° 56.0 N	129° 37.1	4° 11.5 S	Gacrux	172° 02.4	57° 10.5 S	356° 28.9	12° 21.2 S	202° 49.0	7.0	17° 16.1 N	10.7	60.0	N 70°	15:59	17:08	18:20	-	08:26	07:54					
	13	341° 10.6	56° 03.0	58.5	13° 39.4	15.0	336° 09.7	56.2	144° 39.6	11.4	Gienah	175° 53.8	17° 36.4 S	11° 28.9	20.4	217° 15.0	7.0	05.4	10.0	68°	N 68°	1										



**2011 February 21, 22, 23 (Mon, Tue, Wed)**

GMT	ARIES			VENUS -4.1			MARS +1.1			JUPITER -2.1			SATURN +0.6			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	05:45	07:03	08:16	21	22	23				
Monday	00	150° 34'.3	219° 53'.9	20° 37'.8 S	179° 38'.8	13° 02'.6 S	144° 39'.7	1° 19'.9 N	314° 12'.8	4° 06'.3 S	4	Acamar	315° 19'.7	40° 15'.8 S	176° 34'.7	10° 45'.8 S	323° 54'.8	8'.6	8° 19'.8 S	14'.3	60.8	N 70°	05:46	06:57	08:02	-	00:08	02:53				
	01	165° 36'.8	234° 53'.3	37'.6	194° 39'.4	01'.9	159° 39'.4	20'.9	329° 15'.4	06'.3	3	Acnarnar	335° 28'.2	57° 11'.0 S	191° 34'.8	44'.9	338° 22'.4	8'.6	34°.1	14'.2	60.7	N 70°	05:47	06:52	07:50	23:46	-	02:01				
	02	180° 39'.2	249° 52'.6	37'.3	209° 40'.0	01'.2	174° 43'.6	20'.4	344° 17'.9	06'.2	2	Acruz	173° 10'.7	63° 09'.7 S	206° 34'.9	44'.0	352° 50'.0	8'.6	48'.3	14'.2	60.7	N 66°	05:48	06:47	07:41	23:29	-	01:29				
	03	195° 41'.7	264° 52'.0	37'.1	224° 40'.5	00'.5	189° 45'.6	20'.6	359° 20'.5	06'.2	1	Adhara	255° 13'.6	28° 59'.5 S	221° 34'.9	43'.1	7° 17'.6	8'.5	9° 02'.5 S	14'.2	60.7	N 64°	05:49	06:43	07:33	23:15	-	01:06				
	04	210° 44'.2	279° 51'.3	36'.8	239° 41'.1	12° 59'.8 S	204° 47'.6	20'.8	14° 23'.1	06'.1	1	Aldebaran	290° 51'.2	16° 31'.9 N	236° 35'.0	42'.2	21° 45'.1	8'.6	16'.7	14'.0	60.7	N 62°	05:49	06:40	07:26	23:04	-	00:47				
	05	225° 46'.6	294° 50'.7	36'.6	254° 41'.7	59'.1	219° 49'.5	21'.0	29° 25'.6	06'.1	1		251° 35'.1	41'.3	36° 12'.7	8'.5	30'.7	14'.0	60.7	N 60°	05:49	06:37	07:20	22:54	-	00:32						
	06	240° 49'.1	309° 50'.0	36'.3	269° 42'.2	58'.4	234° 51'.5	21'.3	44° 28'.2	06'.0	1	Alioth	166° 21'.6	55° 53'.6 N	266° 35'.2	40'.4	50° 40'.2	8'.5	44'.7	13'.9	60.6	N 58°	05:49	06:34	07:14	22:45	-	00:19				
	07	255° 51'.5	324° 49'.4	36'.1	284° 42'.8	57'.7	249° 53'.4	21'.5	59° 30'.7	06'.0	1	Alkaid	152° 59'.8	49° 15'.1 N	281° 35'.2	39'.5	65° 07'.7	8'.5	58'.6	13'.8	60.6	N 56°	05:49	06:32	07:10	22:38	-	00:08				
	08	270° 54'.0	339° 48'.7	35'.8	299° 43'.4	57'.0	264° 55'.4	21'.7	74° 33'.3	05'.9	1	Alnair	27° 46'.2	46° 54'.4 S	296° 35'.3	38'.6	79° 35'.2	8'.4	10° 12'.4 S	13'.8	60.6	N 54°	05:48	06:29	07:06	22:31	23:58	25:20				
	09	285° 56'.5	354° 48'.1	35'.6	314° 43'.9	56'.3	279° 57'.3	21'.9	89° 35'.9	05'.9	1	Alnilam	275° 47'.3	1° 11'.8 S	311° 35'.4	37'.7	94° 02'.6	8'.5	26° 12'.3	13'.7	60.6	N 52°	05:48	06:27	07:02	22:25	23:50	25:09				
	10	300° 58'.9	9° 47'.4	35'.3	329° 44'.5	55'.6	294° 59'.3	22'.2	104° 38'.4	05'.8	1	Alphard	217° 57'.4	8° 42'.7 S	326° 35'.4	36'.8	108° 30'.1	8'.4	39'.9	13'.6	60.5	N 50°	05:48	06:25	06:58	22:20	23:42	24:59				
	11	316° 01'.4	24° 46'.8	35'.0	344° 45'.1	55'.0	310° 01'.3	22'.4	119° 41'.0	05'.8	1		341° 35'.5	35'.9	341° 35'.5	35'.9	122° 57'.5	8'.4	53'.5	13'.5	60.5	N 45°	05:47	06:21	06:51	22:08	23:26	24:39				
	12	331° 03'.9	39° 46'.1	20° 34'.8 S	359° 45'.6	12° 54'.3 S	325° 03'.2	1° 22'.6 N	134° 43'.6	4° 05'.7 S	1	Alphecca	126° 12'.3	26° 40'.3 N	356° 35'.6	10° 35'.0 S	137° 24'.9	8'.4	11° 07'.0 S	13'.5	60.5	N 40°	05:45	06:17	06:44	21:59	23:12	24:23				
	13	346° 06'.3	54° 45'.5	34'.5	14° 46'.2	53'.6	340° 05'.2	22'.8	149° 46'.1	05'.7	1	Alpheratz	357° 45'.5	29° 09'.2 N	11° 35'.7	34'.1	151° 52'.3	8'.3	20'.5	13'.4	60.5	N 35°	05:44	06:13	06:39	21:51	23:01	24:07				
	14	1° 08'.8	69° 44'.8	34'.3	29° 46'.8	34'.3	355° 07'.1	23'.1	164° 48'.7	05'.6	1	Altair	62° 10'.1	8° 53'.8 N	62° 35'.7	33'.2	166° 19'.6	8'.4	30'.9	13'.3	60.4	N 30°	05:42	06:09	06:34	21:44	22:51	23:59				
	15	16° 11'.3	84° 44'.2	34'.0	44° 47'.3	52'.2	10° 09'.1	23'.3	179° 51'.2	05'.6	1	Ankaa	353° 17'.6	42° 14'.8 S	41° 35'.8	32'.2	180° 47'.0	8'.3	47'.2	13'.2	60.4	N 20°	05:37	06:03	06:25	21:31	22:34	23:36				
	16	31° 13'.7	99° 43'.5	33'.7	59° 47'.9	51'.5	25° 11'.0	23'.5	194° 53'.8	05'.5	1	Antares	112° 28'.3	26° 27'.4 S	56° 35'.9	31'.3	195° 14'.3	8'.2	12° 00'.4 S	13'.1	60.4	N 10°	05:31	05:56	06:17	21:21	22:20	23:19				
	17	46° 16'.2	114° 42'.9	33'.5	74° 48'.5	50'.8	40° 13'.0	23'.7	209° 56'.4	05'.5	1		71° 36'.0	30'.4	209° 41'.5	8'.3	13'.5	13'.0	60.4	N 0°	05:25	05:49	06:10	21:11	22:06	23:02						
	18	61° 18'.6	129° 42'.2	33'.2	89° 49'.0	50'.1	55° 14'.9	24'.0	224° 58'.9	05'.4	1	Arcturus	145° 57'.0	19° 07'.2 N	86° 36'.0	29'.5	224° 08'.8	8'.2	26'.5	12'.9	60.3	S 10°	05:16	05:41	06:03	21:01	21:53	22:46				
	19	76° 21'.1	144° 41'.6	32'.9	104° 49'.6	49'.4	70° 16'.9	24'.2	240° 01'.5	05'.4	1	Alraia	107° 31'.8	69° 02'.6 S	107° 36'.1	28'.6	238° 36'.0	8'.2	39'.4	12'.9	60.3	S 20°	05:06	05:32	05:55	20:51	21:38	22:28				
	20	91° 23'.6	159° 40'.9	32'.7	119° 50'.2	48'.7	85° 18'.9	24'.4	255° 04'.1	05'.3	1	Avior	234° 18'.2	59° 33'.0 S	116° 36'.2	27'.7	253° 03'.2	8'.2	52'.3	12'.8	60.3	S 30°	04:52	05:21	05:45	20:39	21:22	22:08				
	21	106° 26'.0	174° 40'.3	32'.4	134° 50'.7	48'.0	100° 20'.8	24'.6	270° 06'.6	05'.3	1	Bellatrix	278° 33'.7	6° 21'.5 N	131° 36'.3	26'.8	267° 30'.4	8'.2	13° 05'.1 S	12'.6	60.2	S 35°	04:43	05:14	05:40	20:33	21:13	21:57				
	22	121° 28'.5	189° 39'.6	32'.1	149° 51'.3	47'.3	115° 22'.8	24'.8	285° 03'.2	05'.2	1	Betelgeuse	171° 02'.9	7° 24'.4 N	146° 36'.9	25'.9	281° 57'.6	8'.1	17'.7	12'.6	60.2	S 40°	04:32	05:06	05:34	20:25	21:02	21:43				
23	136° 31'.0	204° 39'.0	31'.9	164° 51'.9	46'.6	130° 24'.7	25'.1	300° 11'.7	05'.2	1		161° 36'.4	25'.0	296° 24'.7	8'.1	30'.3	12'.5	60.2	S 45°	04:18	04:56	05:27	20:16	20:49	21:28							
Tuesday	00	151° 33'.4	219° 38'.3	20° 31'.6 S	179° 52'.4	12° 45'.9 S	145° 26'.7	1° 25'.3 N	315° 14'.3	4° 05'.1 S	1	Canopus	263° 56'.6	52° 42'.4 S	176° 36'.5	10° 24'.1 S	310° 51'.8	8'.1	13° 42'.8 S	12'.4	60.2	S 50°	04:01	04:44	05:18	20:06	20:34	21:09				
	01	166° 35'.9	234° 37'.7	31'.3	194° 53'.0	44'.5	160° 28'.6	25'.3	330° 16'.9	05'.1	1	Capella	280° 36'.7	46° 00'.7 N	191° 36'.6	23'.2	325° 18'.9	8'.1	55'.2	12'.2	60.1	S 52°	03:53	04:38	05:14	20:01	20:27	21:00				
	02	181° 38'.4	249° 37'.0	31'.1	209° 53'.6	44'.5	175° 30'.6	25'.7	345° 19'.4	05'.0	1	Deneb	49° 33'.1	45° 19'.1 N	206° 36'.6	22'.3	339° 46'.0	8'.0	14° 07'.4 S	12'.2	60.1	S 54°	03:43	04:31	05:09	19:56	20:19	20:50				
	03	196° 40'.8	264° 36'.4	30'.8	224° 54'.2	43'.9	190° 32'.5	26'.0	30° 22'.0	05'.0	1	Denebola	182° 35'.0	14° 30'.3 N	221° 36'.7	21'.4	354° 13'.0	8'.0	19°.0	12'.1	60.1	S 56°	03:32	04:24	05:05	19:50	20:11	20:38				
	04	211° 43'.3	279° 35'.7	30'.5	239° 54'.7	43'.2	205° 34'.5	26'.2	15° 24'.6	04'.9	1	Diphda	348° 57'.8	17° 55'.6 S	236° 36'.8	20'.5	8° 40'.0	8'.0	31'.7	12'.0	60.1	S 58°	03:19	04:16	04:59	19:43	20:01	20:25				
	05	226° 45'.8	294° 35'.1	30'.2	254° 55'.3	42'.5	220° 36'.5	26'.4	30° 27'.1	04'.9	1		251° 36'.9	19'.6	23° 07'.0	7'.9	43'.7	11'.9	60.0	S 60°	03:03	04:06	04:53	19:36	19:50	20:10						
	06	241° 48'.2	309° 34'.5	30'.0	269° 55'.9	41'.8	235° 38'.4	26'.6	45° 29'.7	04'.8	1	Dubhe	193° 52'.9	61° 41'.2 N	266° 36'.9	18'.6	37° 33'.9	7'.9	55'.6	11'.7	60.0	S 62°	02:43	03:55	04:46	19:27	19:37	19:52				
	07	256° 50'.7	324° 33'.8	29'.7	284° 56'.4	41'.1	250° 40'.4	26'.9	60° 32'.3	04'.8	1	Elnath	278° 14'.6	28° 37'.0 N	281° 37'.0	17'.7	52° 00'.8	7'.9	15° 07'.3 S	11'.7	59.9	S 62°	02:43	03:55	04:46	19:27	19:37	19:52				
	08	271° 53'.1	339° 33'.2	29'.4	299° 57'.0	40'.4	265° 42'.3	27'.1	75° 34'.8	04'.7	1	Eltanin	90° 47'.1	51° 29'.0 N	296° 37'.1	16'.8	66° 27'.7	7'.9	19°.0	11'.6	59.9	S 62°	02:43	03:55	04:46	19:27	19:37	19:52				
	09	286° 55'.6	354° 32'.5	29'.1	314° 57'.6	39'.7	280° 44'.3	27'.3	90° 37'.4	04'.6	1	Enif	33° 49'.1	9° 55'.6 N	311° 37'.2	15'.9	80° 54'.6	7'.8	30'.6	11'.4	59.9	S 62°	02:43	03:55	04:46	19:27	19:37	19:52				
	10	301° 58'.1	9° 31'.9	28'.9	329° 58'.1	39'.0	295° 46'.2	27'.5	105° 40'.0	04'.6	1	Fomalhaut	15° 26'.1	29° 33'.8 S	326° 37'.3	15'.0	95° 21'.4	7'.8	42'.0	11'.4	59.9	S 62°	02:43	03:55	04:46	19:27	19:37	19:52				
	11	317° 00'.5	24° 31'.2	28'.6	344° 58'.7	38'.3	310° 48'.2	27'.8	120° 42'.5	04'.5	1		341° 37'.3	14'.1	109° 48'.2	7'.8	53'.4	11'.2	59.8	S 62°	02:43	03:55	04:46	19:27	19:37	19:52						
	12	332° 03'.0	39° 30'.6	20° 28'.3 S	359° 59'.3	12° 37'.6 S	325° 50'.1	1° 28'.0 N	135° 45'.1	4° 04'.5 S	1	Gacrux	1																			



GMT	ARIES			VENUS			MARS			JUPITER			SATURN			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 72°	05:17	06:34	07:44	-	-	08:33											
Sunday	00	156° 29'.1	218° 20'.2	19° 52'.0 S	181° 01'.9	11° 21'.1 S	149° 20'.6	1° 52'.4 N	320° 23'.0	3° 58'.5 S	Acamar	315° 19'.7	40° 15'.8 S	176° 47'.5	8° 33'.3 S	243° 54'.1	9.0	23° 14'.6 S	3.5	56.3	N 70°	05:21	06:31	07:34	-	-	07:35										
	01	171° 31'.6	233° 20'.2	51'.6	196° 02'.5	20'.4	164° 22'.6	52'.6	335° 25'.6	58'.3	Acnarnar	335° 28'.3	57° 11'.0 S	191° 47'.6	32'.4	258° 22'.1	9.0	11'.1	3.5	56.2	N 68°	05:24	06:29	07:25	-	-	07:25										
	02	186° 34'.1	248° 19'.6	51.2	211° 03'.1	19.6	179° 24'.5	52.9	350° 28'.2	58.4	Acrux	173° 10'.7	63° 09'.7 S	206° 47'.7	31'.4	272° 50'.1	9.1	07.6	3.7	66°	05:27	06:26	07:18	06:46	06:41	06:36											
	03	201° 36'.5	263° 18'.9	50.8	226° 03'.7	18.9	194° 26'.5	53.1	5° 30'.8	58.4	Adhara	255° 13'.6	28° 59'.5 S	221° 47'.8	30'.5	287° 18'.2	9.1	03.9	3.8	64°	05:29	06:24	07:12	05:59	06:11	06:17											
	04	216° 39'.0	278° 18'.3	50.4	241° 04'.3	18.2	209° 28'.4	53.3	20° 33'.4	58.3	Aldebaran	290° 51'.2	16° 31'.9 N	236° 47'.9	29.6	301° 46'.3	9.3	00.1	4.0	62°	05:31	06:22	07:07	05:28	05:49	06:01											
	05	231° 41'.5	293° 17'.7	50.0	256° 04'.9	17.5	224° 30'.3	53.5	35° 35'.9	58.3				251° 48'.0	28.6	316° 14'.6	9.3	22° 56'.1 S	4.0	56.1	N 60°	05:33	06:21	07:03	05:05	05:31	05:47										
	06	246° 43'.9	308° 17'.0	49.6	271° 05'.5	16.8	239° 32'.3	53.8	50° 38'.5	58.2	Alioth	166° 21'.5	55° 53'.6 N	266° 48'.1	27.7	330° 42'.9	9.3	52.1	4.2	2	N 58°	05:34	06:19	06:59	04:46	05:16	05:36										
	07	261° 46'.4	323° 16'.4	49.2	286° 06'.1	16.0	254° 34'.2	54.0	65° 41'.1	58.1	Alkaid	152° 59'.8	49° 15'.1 N	281° 48'.2	26.8	345° 11'.2	9.4	47.9	4.3	54°	05:35	06:18	06:55	04:31	05:03	05:26											
	08	276° 48'.8	338° 15'.7	48.8	301° 06'.7	15.3	269° 36'.2	54.2	80° 43'.7	58.1	Alnair	27° 46'.1	46° 54'.4 S	296° 48'.3	25.8	359° 39'.6	9.5	43.6	4.4	54°	05:35	06:16	06:52	04:17	04:51	05:17											
	09	291° 51'.3	353° 15'.1	48.4	316° 07'.3	14.6	284° 37'.1	54.4	95° 46'.3	58.0	Alnilam	275° 47'.9	1° 11'.9 S	311° 48'.4	24.9	14° 08'.1	9.5	39.2	4.5	56.0	52°	05:36	06:15	06:49	04:06	04:41	05:09										
	10	306° 53'.8	8° 14'.5	48.0	331° 07'.8	13.9	299° 40'.1	54.7	110° 48'.9	58.0	Alphard	217° 57'.4	8° 42'.7 S	326° 48'.5	23.9	28° 36'.6	9.6	34.7	4.6	50°	05:36	06:14	06:46	03:55	04:32	05:02											
	11	321° 56'.2	23° 13'.8	47.6	346° 08'.4	13.2	314° 42'.0	54.9	125° 51'.4	57.9				341° 48'.7	23.0	43° 05'.2	9.7	30.1	4.8	45°	05:37	06:11	06:40	03:33	04:13	04:46											
	12	336° 58'.7	38° 13'.2	19° 47'.2 S	1° 09'.0	11° 12'.4 S	329° 44'.0	1° 55'.1 N	140° 54'.0	3° 57.9 S	Alphecca	126° 12'.3	26° 40'.3 N	356° 48'.8	8° 22'.1 S	57° 33'.9	9.8	22° 25'.3 S	4.8	55.9	N 40°	05:37	06:08	06:36	03:16	03:58	04:34										
	13	352° 01'.2	53° 12'.5	46.8	16° 09'.6	11.7	344° 45'.9	55.4	155° 56'.6	57.8	Alpheratz	357° 45'.5	29° 09'.2 N	11° 48'.9	21.1	72° 02'.7	9.8	20.5	5.0	35°	05:37	06:06	06:31	03:01	03:45	04:23											
	14	7° 03'.6	68° 11'.9	46.4	31° 10'.2	11.0	359° 47.8	55.6	170° 59'.2	57.7	Altair	62° 10'.1	8° 53'.8 N	26° 49'.0	20.2	86° 31'.5	9.8	15.5	5.1	30°	05:36	06:03	06:28	02:48	03:33	04:13											
	15	22° 06'.1	83° 11'.3	46.0	46° 10'.8	10.3	14° 49'.8	55.8	186° 01'.8	57.7	Ankaa	353° 17'.6	42° 14'.8 S	41° 49'.1	19.2	101° 00'.3	10.0	10.4	5.2	20°	05:33	05:59	06:21	02:26	03:14	03:57											
	16	37° 08'.6	98° 10'.6	45.6	61° 11'.4	09.5	29° 51'.7	56.0	56° 49'.2	57.6	Antares	112° 28'.3	26° 27'.4 S	105° 49'.2	18.3	115° 29'.3	10.0	05.2	5.2	55.8	N 10°	05:29	05:54	06:15	02:07	02:56	03:42										
	17	52° 11'.0	113° 10'.0	45.2	76° 12'.0	08.8	44° 53'.7	56.3	216° 06'.9	57.6				71° 49'.3	17.4	129° 58'.3	10.1	22° 00'.0 S	5.5	50°	05:24	05:48	06:09	01:49	02:40	03:29											
	18	67° 13'.5	128° 09'.3	44.8	91° 12'.6	08.1	59° 55'.6	56.5	231° 09'.5	57.5	Arcturus	145° 57.0	19° 07'.2 N	86° 49'.4	16.4	144° 27'.4	10.1	54.5	5.5	5	S 10°	05:17	05:42	06:03	01:31	02:24	03:15										
	19	82° 15'.9	143° 08'.7	44.4	106° 13'.2	07.4	74° 57'.6	56.7	246° 12.1	57.4	Arctia	107° 31'.7	69° 02'.6 S	101° 49'.5	15.5	158° 56'.5	10.3	49.0	5.6	20°	05:09	05:35	05:57	01:12	02:07	03:01											
	20	97° 18'.4	158° 08'.1	44.0	121° 13'.8	06.7	89° 59'.5	57.0	261° 14'.7	57.4	Avior	234° 18'.2	59° 33'.0 S	116° 49'.6	14.5	173° 25'.8	10.3	43.4	5.7	30°	04:57	05:26	05:50	00:49	01:47	02:44											
	21	112° 20'.9	173° 07'.4	43.6	136° 14'.3	05.9	105° 01'.4	57.2	276° 17'.3	57.3	Bellatrix	278° 33'.7	6° 21'.5 N	131° 49'.8	13.6	187° 55'.1	10.3	37.7	5.8	35°	04:49	05:20	05:46	00:36	01:35	02:34											
	22	127° 23'.3	188° 06'.8	43.2	151° 14'.9	05.2	120° 03'.4	57.4	291° 19'.9	57.3	Betelgeuse	271° 02'.9	7° 24'.4 N	146° 49'.9	12.6	202° 24'.4	10.5	31.9	6.0	40°	04:40	05:13	05:41	00:21	01:22	02:23											
23	142° 25'.8	203° 06'.1	42.7	166° 15'.5	04.5	135° 05'.3	57.6	306° 22'.4	57.2				161° 50'.0	11.7	216° 53'.9	10.5	25.9	6.0	45°	04:28	05:05	05:35	00:04	01:06	02:10												
Monday	00	157° 28'.3	218° 05'.5	19° 42'.3 S	181° 16'.1	11° 03'.8 S	150° 07'.3	1° 57'.9 N	321° 25'.0	3° 57.1 S	Canopus	263° 56'.6	52° 42'.4 S	176° 50'.1	8° 10'.8 S	231° 23'.4	10.5	21° 19'.9 S	6.1	55.7	S 50°	04:14	04:55	05:28	-	-	00:46										
	01	172° 30'.7	233° 04'.9	41.9	196° 16.7	03.0	165° 09.2	58.1	336° 27'.6	57.1	Capella	130° 36'.8	46° 00'.7 N	191° 50'.2	09.8	245° 52'.9	10.7	13.8	6.3	55.6	52°	04:06	04:50	05:25	-	-	00:37										
	02	187° 33'.2	248° 04'.2	41.5	211° 17'.3	02.3	180° 11'.2	58.3	351° 30'.2	57.0	Deneb	49° 33'.0	45° 19'.1 N	206° 50'.3	08.9	260° 22'.6	10.7	07.5	6.3	54°	03:58	04:44	05:22	-	-	00:27											
	03	202° 35'.7	263° 03'.6	41.1	226° 17.9	01.6	195° 13'.1	58.6	6° 32'.8	57.0	Denebola	182° 35.0	14° 30'.3 N	221° 50'.4	07.9	274° 52'.3	10.8	01.2	6.5	56°	03:49	04:38	05:18	-	-	00:15											
	04	217° 38'.1	278° 03'.0	40.7	241° 18'.5	00.9	210° 15'.0	58.8	21° 35'.4	56.9	Diphda	348° 57.8	17° 55'.6 S	236° 50'.5	07.0	289° 22'.1	10.8	20° 54'.7 S	6.5	58°	03:38	04:31	05:13	-	-	00:01											
	05	232° 40'.6	293° 02'.3	40.3	256° 19'.1	00.1	225° 17'.0	59.0	36° 37'.9	56.9				251° 50'.7	06.0	303° 51'.9	10.9	48.2	6.6	55.5	S 60°	03:25	04:24	05:09	23:45	-	01:05										
	06	247° 43'.1	308° 01'.7	39.8	271° 19'.7	10° 59'.4 S	240° 18'.9	59.2	51° 40'.5	56.8	Dubhe	193° 52.9	61° 41'.2 N	266° 50'.8	05.1	318° 21'.8	11.0	41.6	6.8	5	S 62°	03:10	04:14	05:03	23:25	-	00:50										
	07	262° 45'.5	323° 01'.1	39.4	286° 20'.3	58.7	255° 20'.9	59.5	66° 43'.1	56.7	Elnath	278° 14'.6	28° 37'.0 N	281° 50'.9	04.2	332° 51'.8	11.1	34.8	6.8	6																	
	08	277° 48'.0	338° 00'.4	39.0	301° 20'.9	58.0	270° 22.8	59.7	90° 47'.1	56.7	Elainn	90° 47'.1	51° 29'.0 N	296° 51'.0	03.7	347° 21'.9	11.1	28.0	6.9	6																	
	09	292° 50'.4	352° 59'.8	38.6	316° 21'.5	57.2	285° 24'.7	59.9	96° 48'.3	56.6	Enif	33° 49'.0	9° 55'.6 N	311° 51'.1	02.3	1° 52.0	11.3	21.1	7.0	5	Lat	Sunset	Twilight														
	10	307° 52'.9	7° 59'.1	38.2	331° 22'.1	56.5	300° 26.7	60.0	2° 00'.2 N	111° 50'.9	Fomalhaut	15° 26'.1	29° 33'.8 S	326° 51'.2	01.3	16° 22'.3	11.2	14.1	7.1	55.4																	
	11	322° 55'.4	22° 58'.5	37.7	346° 22'.7	55.8	315° 28'.6	60.4	126° 53'.5	56.5				341° 51'.3	00.4	30° 52'.5	11.4	07.0	7.2																		
	12	337° 57'.8	37° 57'.9	19° 37'.3 S	1° 23'.2	10° 55'.1 S	330° 30'.6	2° 00'.6 N	141° 56'.0	3° 56'.4 S	Gacrux	172° 02'.3	57° 10'.6 S	356° 51'.4	7° 59'.4 S	45° 22'.9	11.4	19° 59'.8 S	7.3	55.4	N 70°	16:43	17:53	19:11	-	-	11:04										
	13	353° 00'.3	52° 57'.2	36.9	16° 23'.8	54.3	345° 32'.5	00.8	156° 58'.6	56.4	Gienah	175° 53'.7	17° 36'.4 S	11° 51'.6	58.5	59° 53'.3	11.5	52.5	7.4	68°	17:02	17:58	19:03	-	-	10:31											
	14	8° 02'.8	67° 56'.6	36.5	31° 24'.4	53.6																															







**2011 March 8, 9, 10 (Tue, Wed, Thur)**

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			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	Lat	Nautical	Civil	Sunrise	8		Moonrise																
Tuesday	00	165° 21'.4	216° 06'.5	18° 05'.6 S	183° 12'.7	8° 41'.8 S	156° 18'.8	2° 42'.1 N	329° 43'.4	3° 45'.0 S	Acamar	315° 19'.7	40° 15'.8 S	177° 15'.4	5° 06'.5 S	147° 36'.0	15.0	12° 32'.8 N	10.3	54.1	N 72°	04:30	05:50	06:57	05:11	04:20	-	-	-	-	-	-	-	-	-							
	01	180° 23'.8	231° 05'.9	05.0	198° 13'.4	41.1	171° 20'.7	42.3	344° 46'.0	45.0	Acnhar	335° 28'.3	57° 10'.9 S	162° 15'.5	05.5	162° 10'.0	15.0	43.1	10.3	60°	N 70°	04:40	05:51	06:52	05:36	05:11	05:43	05:25	-	-	-	-	-	-	-	-	-					
	02	195° 26'.3	246° 05'.3	04.4	213° 14'.0	40.3	186° 22'.6	42.6	359° 48'.6	44.9	Acrux	173° 10'.6	63° 09'.7 S	207° 15'.7	04.5	176° 44'.0	14.9	53.4	10.2	66°	N 68°	04:47	05:52	06:48	05:55	05:43	06:04	06:07	06:04	-	-	-	-	-	-	-	-	-				
	03	210° 28'.8	261° 04'.7	03.8	228° 14'.6	39.6	201° 24'.5	42.8	255° 13'.6	44.8	Adhara	251° 13'.6	28° 59'.5 S	222° 15'.8	03.5	191° 17'.9	14.9	13° 03'.6 N	10.2	64°	N 66°	04:53	05:53	06:44	06:10	06:07	06:25	06:32	06:32	06:25	06:32	06:25	06:32	06:25	06:32	06:25	06:32	06:25	06:32	06:25		
	04	225° 31'.2	276° 04'.1	03.2	243° 15'.2	38.8	216° 26'.5	43.0	29° 53'.8	44.8	Aldebaran	290° 51'.3	16° 31'.9 N	237° 16'.0	02.6	205° 51'.8	14.8	13.8	10.1	62°	N 62°	05:03	05:54	06:38	06:33	06:41	06:53	06:53	06:41	06:53	06:41	06:53	06:41	06:53	06:41	06:53	06:41	06:53	06:41	06:53		
	05	240° 33'.7	291° 03'.5	02.6	258° 15'.8	38.1	231° 28'.4	43.3	44° 56'.4	44.7				252° 16'.1	01.6	220° 25'.6	14.8	23.9	10.0	60°	N 60°	05:06	05:55	06:36	06:42	06:54	07:10	07:10	07:10	07:10	07:10	07:10	07:10	07:10	07:10	07:10	07:10	07:10	07:10			
	06	255° 36'.2	306° 02.9	02.0	273° 16'.5	37.3	246° 30.3	43.5	59° 59.1	02.0	Alioth	166° 21'.5	55° 53'.6 N	267° 16.3	00.6	234° 59.4	14.8	33.9	10.1	58°	N 58°	05:09	05:55	06:34	06:50	07:05	07:25	07:25	07:25	07:25	07:25	07:25	07:25	07:25	07:25	07:25	07:25	07:25	07:25	07:25		
	07	270° 38'.6	321° 02.3	01.4	288° 17.1	36.6	261° 32.3	43.7	75° 01.7	44.6	Alkaid	152° 59.7	49° 15.1 N	282° 16.4	4° 59.6 S	249° 33.2	14.7	44.0	9.9	56°	N 56°	05:12	05:55	06:32	06:58	07:15	07:37	07:37	07:37	07:37	07:37	07:37	07:37	07:37	07:37	07:37	07:37	07:37	07:37	07:37		
	08	285° 41'.1	336° 01.7	00.8	303° 17.7	35.8	276° 34.2	44.0	90° 04.3	44.5	Alnair	27° 46.1	46° 54.3 S	297° 16.6	58.7	264° 06.9	14.6	53.9	9.9	54°	N 54°	05:14	05:55	06:30	07:04	07:23	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	07:48	
	09	300° 43'.5	351° 01.1	00.2	318° 18.3	35.1	291° 36.1	44.2	105° 06.9	44.4	Alnilam	275° 48.0	1° 11.9 S	312° 16.7	57.7	278° 40.5	14.6	14° 03.8 N	9.9	52°	N 52°	05:16	05:55	06:29	07:10	07:31	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	07:58	
	10	315° 46.0	6° 00'.5	17° 59.6 S	333° 19.0	34.3	306° 38.0	44.4	120° 09.5	44.4	Alphard	217° 57.4	8° 42.7 S	327° 16.9	56.7	293° 14.1	14.5	13.7	9.8	54.2	N 50°	05:18	05:55	06:28	07:15	07:38	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	08:07	
	11	330° 48'.5	20° 59.9	59.0	348° 19.6	33.6	321° 40.0	44.7	135° 12.1	44.3				342° 17.0	55.7	307° 47.6	14.5	23.5	9.7	50°	N 50°	05:21	05:55	06:24	07:26	07:53	08:25	08:25	08:25	08:25	08:25	08:25	08:25	08:25	08:25	08:25	08:25	08:25	08:25	08:25		
	12	345° 50'.9	35° 59.3	17° 58.4 S	3° 20'.2	8° 32'.8 S	336° 41.9	2° 44.9 N	150° 14.7	3° 44.2 S	Alphecca	126° 12'.2	26° 40.3 N	357° 17.2	4° 54.8 S	322° 21.1	14.5	14° 33.2 N	9.7	54.2	N 40°	05:24	05:55	06:22	07:36	08:06	08:40	08:40	08:40	08:40	08:40	08:40	08:40	08:40	08:40	08:40	08:40	08:40	08:40	08:40		
	13	0° 53.4	50° 58.7	57.8	18° 20.8	32.0	351° 43.8	45.1	165° 17.3	44.2	Alpheratz	357° 45.6	29° 09.2 N	12° 17.3	53.8	336° 54.6	14.4	42.9	9.7	35°	S 35°	05:25	05:54	06:20	07:44	08:16	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	08:53	
	14	15° 55.9	65° 58.1	57.2	33° 21.5	31.3	6° 45.7	45.3	180° 19.9	44.1	Altair	62° 10.5	8° 53.8 N	27° 17.5	52.8	351° 28.0	14.3	52.6	9.5	30°	S 30°	05:26	05:54	06:17	07:51	08:26	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	09:04	
	15	30° 58.3	80° 57.6	56.6	48° 22.1	30.5	21° 47.7	45.6	195° 22.5	44.0	Ankaa	353° 17.6	42° 14.8 S	42° 17.7	51.8	6° 01.3	14.3	15° 02.1 N	9.5	20°	S 20°	05:26	05:52	06:14	08:03	08:42	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	09:24	
	16	46° 00.8	95° 57.0	56.0	63° 22.7	29.8	36° 49.6	45.8	201° 25.1	44.0	Antares	112° 28.2	26° 27.4 S	57° 17.8	50.9	20° 34.6	14.2	11.6	9.1	10°	N 10°	05:25	05:50	06:11	08:14	08:56	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	09:40	
	17	61° 03.3	110° 56.4	55.4	78° 23.3	29.0	51° 51.5	46.0	225° 27.7	43.9				72° 18.0	49.9	35° 07.8	14.2	21.1	9.4	0°	S 0°	05:23	05:47	06:07	08:25	09:09	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	09:56	
	18	76° 05.7	125° 55.8	54.7	93° 23.9	28.3	66° 53.5	46.3	240° 30.4	43.8	Arcturus	145° 56.9	19° 07.2 N	87° 18.1	48.9	49° 41.0	14.2	30.5	9.3	10°	S 10°	05:18	05:43	06:04	08:35	09:23	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	10:12	
	19	91° 08.2	140° 55.2	54.1	108° 24.6	27.5	81° 55.4	46.5	255° 33.0	43.8	Alraia	107° 31.5	69° 02.6 S	102° 18.3	47.9	64° 14.2	14.0	39.8	9.3	20°	S 20°	05:12	05:38	06:00	08:46	09:37	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	10:29	
	20	106° 10.7	155° 54.6	53.5	123° 25.2	26.8	96° 57.3	46.7	270° 35.6	43.7	Avior	234° 18.3	59° 33.1 S	117° 18.4	47.0	78° 47.2	14.1	49.1	9.2	54.3	S 30°	05:04	05:32	05:56	08:59	09:53	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49	10:49
	21	121° 13.1	170° 54.0	52.9	138° 25.8	26.0	111° 59.2	47.0	285° 38.2	43.6	Bellatrix	278° 33.7	6° 21.5 N	132° 18.6	46.0	93° 20.3	13.9	58.3	9.1	35°	S 35°	04:58	05:28	05:54	09:06	10:03	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00
	22	136° 15.6	185° 53.4	52.3	153° 26.4	27.2	127° 01.2	47.2	300° 40.8	43.6	Betelgeuse	271° 03.0	7° 24.4 N	147° 18.7	45.0	107° 53.2	13.9	16° 07.4 N	9.1	40°	S 40°	04:51	05:23	05:51	09:15	10:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14	11:14
23	151° 18.0	200° 52.8	51.7	168° 27.1	24.5	142° 03.1	47.4	315° 43.4	43.5				162° 18.9	44.0	122° 26.1	13.9	16.5	9.0	45°	S 45°	04:42	05:18	05:47	09:25	10:27	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30			
Wednesday	00	166° 20.5	215° 52.2	17° 51.1 S	183° 27.7	8° 23.7 S	157° 05.0	2° 47.7 N	330° 46.0	3° 43.4 S	Canopus	263° 56.7	52° 42.5 S	177° 19.0	4° 43.1 S	136° 59.0	13.8	16° 25.5 N	8.9	54.3	S 50°	04:31	05:10	05:43	09:37	10:43	11:49	11:49	11:49	11:49	11:49	11:49	11:49	11:49	11:49	11:49	11:49	11:49	11:49	11:49		
	01	181° 23.0	230° 51.6	50.5	198° 28.3	23.0	172° 06.9	47.9	345° 48.6	43.4	Capella	280° 36.8	46° 00.7 N	192° 19.2	42.1	151° 31.8	13																									







**2011 March 20, 21, 22 (Sun, Mon, Tue)**

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
																										Nautical	Civil		20	21	22
Sunday		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	03:17	04:47	05:55	21:26	-	00:27				
	00	177° 11.0	213° 26.6	14° 40.0 S	186° 17.1	5° 00.5 S	165° 31.7	3° 49.4 N	342° 17.9	3° 24.6 S	Acamar	315° 19.8	40° 15.8 S	178° 04.3	0° 23.1 S	356° 51.0	8.1	5° 34.7 S	15.0	61.5	N 70°	03:37	04:55	05:56	21:07	23:36	-				
	01	192° 13.5	228° 26.1	39.2	201° 17.8	4° 59.7 S	180° 33.7	49.7	357° 20.6	24.5	Acnarnar	335° 28.4	57° 10.9 S	173° 04.5	22.1	11° 18.1	8.0	49.7	15.0		N 68°	03:52	05:02	05:57	20:52	23:04	25:32				
	02	207° 16.0	243° 25.6	38.3	216° 18.5	58.9	195° 35.6	49.9	12° 23.2	24.4	Acrux	173° 10.6	63° 09.8 S	208° 04.7	21.1	25° 45.1	8.0	6° 04.7 S	15.0		N 66°	04:04	05:07	05:58	20:40	22:41	24:46				
	03	222° 18.4	258° 25.1	37.5	231° 19.1	58.1	210° 37.5	50.1	27° 25.8	24.4	Adhara	255° 13.7	28° 59.6 S	223° 04.9	20.1	40° 12.1	8.0	19.7	14.9		N 64°	04:13	05:11	05:59	20:29	22:23	24:16				
	04	237° 20.9	273° 24.6	36.7	246° 19.8	57.3	225° 39.4	50.4	42° 28.5	24.3	Aldebaran	290° 51.3	16° 31.9 N	238° 05.1	19.1	54° 39.1	7.9	34.6	14.8		N 62°	04:22	05:15	05:59	20:21	22:08	23:53				
	05	252° 23.4	288° 24.1	35.9	261° 20.4	56.5	240° 41.3	50.6	57° 31.1	24.2				253° 05.2	18.1	69° 06.0	8.0	49.4	14.8		N 60°	04:28	05:18	06:00	20:14	21:56	23:35				
	06	267° 25.8	303° 23.6	35.0	276° 21.1	55.8	255° 43.2	50.8	72° 33.7	24.1	Alioth	166° 21.4	55° 53.7 N	268° 05.4	17.1	83° 33.0	7.9	7° 04.2 S	14.8		N 58°	04:34	05:21	06:00	20:07	21:45	23:20				
	07	282° 28.3	318° 23.0	34.2	291° 21.7	55.0	270° 45.1	51.1	87° 36.4	24.1	Alkaid	152° 59.6	49° 15.1 N	283° 05.6	16.2	97° 59.9	7.8	19.0	14.7		N 56°	04:39	05:24	06:01	20:02	21:36	23:07				
	08	297° 30.7	333° 22.5	33.4	306° 22.4	54.2	285° 47.1	51.3	102° 39.0	24.0	Alnair	27° 46.1	46° 54.3 S	298° 05.8	15.2	112° 26.7	7.8	33.7	14.7	61.4	N 54°	04:44	05:26	06:01	19:57	21:28	22:56				
	09	312° 33.2	348° 22.0	32.5	321° 23.1	53.4	300° 49.0	51.5	117° 41.6	23.9	Alnilam	275° 50.9	1° 11.9 N	313° 06.0	14.2	126° 53.5	7.8	48.4	14.6		N 52°	04:48	05:28	06:01	19:52	21:21	22:46				
	10	327° 35.7	3° 21.5	31.7	336° 23.7	52.6	315° 50.9	51.8	132° 44.2	23.8	Alphard	217° 57.4	8° 42.7 S	328° 06.2	13.2	141° 20.3	7.8	8° 03.0 S	14.5		N 50°	04:51	05:29	06:02	19:48	21:14	22:37				
	11	342° 38.1	18° 21.0	30.9	351° 24.4	51.9	330° 52.8	51.9	147° 46.9	23.8				343° 06.4	12.2	155° 47.1	7.7	17.5	14.5		N 45°	04:59	05:33	06:02	19:39	21:00	22:19				
	12	357° 40.6	33° 20.5	14° 30.0 S	6° 25.0	4° 51.1 S	345° 54.7	3° 52.2 N	162° 49.5	3° 23.7 S	Alphecca	126° 12.1	26° 40.3 N	358° 06.5	0° 11.2 S	170° 13.8	7.7	8° 32.0 S	14.4	61.4	N 40°	05:04	05:36	06:03	19:32	20:49	22:04				
	13	12° 43.1	48° 20.0	29.2	21° 25.7	50.3	0° 56.6	52.5	177° 52.1	23.6	Alpheratz	357° 45.6	29° 09.1 N	13° 06.7	10.2	184° 40.5	7.7	46.4	14.4		N 35°	05:08	05:38	06:03	19:26	20:39	21:51				
	14	27° 45.5	63° 19.5	28.3	36° 26.3	49.5	15° 58.5	52.7	192° 54.8	23.6	Altair	62° 09.9	8° 53.8 N	28° 06.9	09.2	199° 07.2	7.6	9° 00.8 S	14.3		N 30°	05:12	05:39	06:03	19:20	20:31	21:40				
	15	42° 48.0	78° 19.0	27.5	51° 27.0	48.7	31° 00.4	52.9	207° 57.4	23.5	Ankaa	353° 17.6	42° 14.7 S	43° 07.1	08.3	213° 33.8	7.6	15.1	14.3		N 20°	05:16	05:42	06:04	19:11	20:16	21:21				
	16	57° 50.5	93° 18.5	26.7	66° 27.7	48.0	46° 02.4	53.2	223° 00.0	23.4	Antares	112° 28.1	26° 27.4 S	58° 07.3	07.3	228° 00.4	7.6	29.4	14.3		N 10°	05:19	05:43	06:04	19:03	20:03	21:05				
	17	72° 52.9	108° 18.0	25.8	81° 28.3	47.2	61° 04.3	53.4	238° 02.7	23.3				73° 07.5	06.3	242° 27.0	7.5	43.5	14.1		0°	05:19	05:43	06:04	18:55	19:52	20:50				
	18	87° 55.4	123° 17.5	25.0	96° 29.0	46.4	76° 06.2	53.7	253° 05.3	23.3	Arcturus	145° 56.9	19° 07.2 N	88° 07.6	05.3	256° 53.5	7.5	57.6	14.1	61.3	S 10°	05:19	05:43	06:04	18:48	19:40	20:35				
	19	102° 57.8	138° 17.0	24.2	111° 29.6	45.6	91° 08.1	53.9	268° 07.9	23.2	Alraia	107° 31.3	69° 02.6 S	103° 07.8	04.3	271° 20.0	7.5	10° 11.7 S	13.9		N 20°	05:16	05:42	06:04	18:40	19:28	20:19				
	20	118° 00.3	153° 16.5	23.3	126° 30.3	44.8	106° 10.0	54.1	283° 10.6	23.1	Avior	234° 18.4	59° 33.1 S	118° 08.0	03.3	285° 46.5	7.4	25.6	13.9		N 30°	05:12	05:40	06:04	18:31	19:14	20:00				
	21	133° 02.8	168° 16.0	22.5	141° 31.0	44.0	121° 11.9	54.4	298° 13.2	23.0	Bellatrix	278° 33.8	6° 21.5 N	133° 08.2	02.3	300° 12.9	7.4	39.5	13.8		N 35°	05:09	05:38	06:04	18:26	19:06	19:50				
22	148° 05.2	183° 15.5	21.6	156° 31.6	43.3	136° 13.8	54.6	313° 15.8	23.0	Betelgeuse	271° 03.0	7° 24.4 N	148° 08.4	01.3	314° 39.3	7.4	53.3	13.7		N 38°	05:05	05:36	06:03	18:20	18:56	19:38					
23	163° 07.7	198° 15.0	20.8	171° 32.3	42.5	151° 15.7	54.8	328° 18.5	22.9				163° 08.6	00.3	329° 05.7	7.3	11° 07.0 S	13.7		N 45°	04:59	05:34	06:03	18:13	18:46	19:23					
Monday	00	178° 10.2	213° 14.5	14° 19.9 S	186° 32.9	4° 41.7 S	166° 17.7	3° 55.1 N	343° 21.1	3° 22.8 S	Canopus	263° 56.8	52° 42.5 S	178° 08.8	0° 00.6 N	343° 32.0	7.3	11° 20.7 S	13.6	61.2	S 50°	04:52	05:30	06:03	18:05	18:33	19:06				
	01	193° 12.6	228° 14.0	19.1	201° 33.6	40.9	181° 19.6	55.3	358° 23.7	22.7	Capella	280° 36.9	46° 00.7 N	193° 09.0	01.6	357° 58.3	7.2	34.3	13.4		S 52°	04:49	05:29	06:02	18:02	18:27	18:58				
	02	208° 15.1	243° 13.5	18.3	216° 34.3	40.1	196° 21.5	55.5	1° 26.4	22.7	Deneb	49° 32.9	45° 19.1 N	208° 09.1	02.6	12° 24.5	7.2	47.7	13.4		N 54°	04:45	05:27	06:02	17:58	18:21	18:49				
	03	223° 17.6	258° 13.0	17.4	231° 34.9	39.4	211° 23.4	55.8	28° 29.0	22.6	Denebola	182° 34.9	14° 30.3 N	223° 09.3	03.6	26° 50.7	7.2	12° 01.1 S	13.4		N 56°	04:41	05:25	06:02	17:53	18:13	18:39				
	04	238° 20.0	273° 12.5	16.6	246° 35.6	38.6	226° 25.3	56.0	43° 31.6	22.5	Diphda	348° 57.8	17° 55.5 S	238° 09.5	04.6	41° 16.9	7.1	14.5	13.2		N 58°	04:36	05:22	06:02	17:48	18:05	18:28				
	05	253° 22.5	288° 12.0	15.7	261° 36.2	37.8	241° 27.2	56.2	58° 34.3	22.4				253° 09.7	05.6	55° 43.0	7.1	27.7	13.1		S 60°	04:30	05:20	06:01	17:43	17:56	18:14				
	06	268° 25.0	303° 11.5	14.9	276° 36.9	37.0	256° 29.1	56.5	73° 36.9	22.4	Dubhe	193° 52.9	61° 41.3 N	268° 09.9	06.6	70° 09.1	7.1	40.8	13.1	61.1	S 62°	04:23	05:17	06:01	17:37	17:46	17:59				
	07	283° 27.4	318° 11.0	14.0	291° 37.6	36.2	271° 31.0	56.7	88° 39.5	22.3	Elnath	278° 14.7	28° 37.0 N	283° 10.1	07.6	84° 35.2	7.0	53.9	12.9												
	08	298° 29.9	333° 10.5	13.2	306° 38.2	35.4	286° 33.0	56.9	103° 42.2	22.2	Elainon	90° 46.9	51° 28.9 N	298° 10.3	08.5	90° 01.2	7.0	13° 06.8 S	12.9												
	09	313° 32.3	348° 10.0	12.3	321° 38.9	34.7	301° 34.9	57.2	118° 44.8	22.1	Enif	33° 49.0	9° 55.5 N	313° 10.4	09.5	113° 27.2	7.0	19.7	12.7		Lat										
	10	328° 34.8	3° 09.5	11.5	336° 39.5	33.9	316° 36.8	57.4	133° 47.4	22.1	Fomalhaut	15° 26.0	29° 33.7 S	328° 10.6	10.5	127° 53.2	6.9	32.4	12.7												
	11	343° 37.3	18° 09.0	10.6	351° 40.2	33.1	331° 38.7	57.6	148° 50.1	22.0				343° 10.8	11.5	142° 19.1	6.8	45.1	12.5	61.0	N 72°	18:22	19:31	21:02	04:55	04:24	03:23				
	12	358° 39.7	33° 08.5	14° 09.8 S	6° 40.9	4° 32.3 S	346° 40.6	3° 57.9 N	163° 52.7	3° 21.9 S	Gacrux	172° 02.2	57° 10.7 S	358° 11.0	0° 12.5 N	156° 44.9	6.9	13° 57.6 S	12.5	61.0	N 70°	18:20	19:22	20:42	05:05	04:45	04:15				
	13	13° 42.2	48° 08.0	08.9	21° 41.5	31.5	1° 42.5	58.1	178° 55.3	21.8	Gienah																				

2011 March 23, 24, 25 (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°	02:56	04:31	05:40	-	-	-	-	-	-	-		
Wednesday	00	180° 08.4	212° 50.8	13° 38.6 S	187° 04.7	4° 04.1 S	167° 49.4	4° 06.3 N	345° 27.5	3° 19.2 S	345° 27.5	3° 19.2 S	345° 27.5	Acamar	315° 19.8	40° 15.8 S	178° 17.7	0° 48.0 N	315° 54.6	5.8	20° 11.1 S	7.9	59.9	N 70°	03:19	04:40	05:42	-	-	-	-	-	-	-		
	01	195° 10.9	227° 50.3	37.8	202° 05.4	03.3	182° 51.3	06.6	0° 30.2	19.1	182° 51.3	06.6	0° 30.2	Acamar	335° 28.4	57° 10.9 S	179° 17.9	49.0	330° 19.4	5.8	19.0	7.8	68°	03:36	04:48	05:45	01:32	-	-	-	-	-	-	-	-	
	02	210° 13.4	242° 49.8	36.9	217° 06.0	02.5	197° 53.2	06.8	15° 32.8	19.0	197° 53.2	06.8	15° 32.8	Acraux	173° 10.6	63° 09.8 S	208° 18.1	50.0	344° 44.2	5.7	26.8	7.6	59.8	66°	03:50	04:55	05:47	00:46	02:50	04:32	-	-	-	-	-	-
	03	225° 15.8	257° 49.3	36.0	232° 06.7	01.7	212° 55.1	07.0	30° 35.4	19.0	212° 55.1	07.0	30° 35.4	Adhara	255° 13.7	28° 59.6 S	223° 18.3	51.0	359° 08.9	5.8	34.4	7.5	64°	04:01	05:00	05:48	00:16	01:59	03:16	-	-	-	-	-	-	-
	04	240° 18.3	272° 48.8	35.1	247° 07.4	00.9	227° 57.1	07.3	45° 38.1	18.9	227° 57.1	07.3	45° 38.1	Aldebaran	290° 51.3	16° 31.9 N	238° 18.5	52.0	13° 33.7	5.7	41.9	7.3	62°	04:11	05:05	05:50	-	01:27	02:40	-	-	-	-	-	-	
	05	255° 20.8	287° 48.4	34.2	262° 08.0	00.2	242° 59.0	07.5	60° 40.7	18.8	242° 59.0	07.5	60° 40.7				253° 18.7	52.9	27° 58.4	5.8	49.2	7.2	59.7	60°	04:18	05:09	05:51	-	01:03	02:14	-	-	-	-	-	
	06	270° 23.2	302° 47.9	33.4	277° 08.7	3° 59.4 S	258° 00.9	07.7	75° 43.3	18.7	258° 00.9	07.7	75° 43.3	Alioth	166° 21.4	55° 53.7 N	268° 18.9	53.9	42° 23.2	5.7	56.4	7.1	58°	04:25	05:13	05:52	-	00:44	01:53	-	-	-	-	-	-	
	07	285° 25.7	317° 47.4	32.5	292° 09.4	58.6	273° 02.8	08.0	90° 46.0	18.7	273° 02.8	08.0	90° 46.0	Alkaid	152° 59.6	49° 15.2 N	283° 19.1	54.9	56° 47.9	5.7	21° 03.5 S	6.8	56°	04:31	05:16	05:53	-	00:29	01:36	-	-	-	-	-	-	
	08	300° 28.2	332° 46.9	31.6	307° 10.0	57.8	288° 04.7	08.2	105° 48.6	18.6	288° 04.7	08.2	105° 48.6	Alnair	27° 46.0	46° 54.2 S	298° 19.2	55.9	71° 12.6	5.7	10.3	6.8	59.6	54°	04:36	05:18	05:54	-	00:15	01:22	-	-	-	-	-	-
	09	315° 30.6	347° 46.4	30.7	322° 10.7	57.0	303° 06.6	08.4	120° 51.2	18.5	303° 06.6	08.4	120° 51.2	Alnilam	275° 48.0	1° 11.9 S	313° 19.4	56.9	85° 37.3	5.7	17.1	6.6	52°	04:41	05:21	05:54	-	00:03	01:09	-	-	-	-	-	-	
	10	330° 33.1	2° 45.9	29.8	337° 11.3	56.2	318° 08.5	08.7	135° 53.9	18.4	318° 08.5	08.7	135° 53.9	Alphard	217° 57.4	8° 42.7 S	328° 19.6	57.9	100° 02.0	5.7	23.7	6.4	59.5	50°	04:45	05:23	05:55	23:53	-	00:58	-	-	-	-	-	
	11	345° 35.5	17° 45.5	28.9	352° 12.0	55.5	333° 10.4	08.9	150° 56.5	18.4	333° 10.4	08.9	150° 56.5				343° 19.8	58.9	114° 26.7	5.7	30.1	6.3	45°	04:53	05:27	05:57	23:31	-	00:35	-	-	-	-	-		
	12	0° 38.0	32° 45.0	13° 28.1 S	7° 12.7	3° 54.7 S	348° 12.3	4° 09.2 N	165° 59.1	3° 18.3 S	348° 12.3	4° 09.2 N	165° 59.1	Alphecca	126° 12.1	26° 40.3 N	358° 20.0	0° 59.8 N	128° 51.4	5.6	21° 36.4 S	6.1	59.5	N 40°	04:59	05:31	05:58	23:14	-	00:17	-	-	-	-	-	
	13	15° 40.5	47° 44.5	27.2	22° 13.3	53.9	3° 14.2	09.4	181° 01.8	18.2	3° 14.2	09.4	181° 01.8	Alpheratz	357° 45.5	29° 09.1 N	13° 20.2	1° 00.8 N	143° 16.0	5.7	42.5	6.0	59.4	35°	05:04	05:33	05:59	22:59	-	00:41	-	-	-	-	-	
	14	30° 42.9	62° 44.0	26.3	37° 14.0	53.1	18° 16.2	09.6	196° 04.4	18.1	18° 16.2	09.6	196° 04.4	Altair	62° 09.9	8° 53.8 N	28° 20.4	01.8	157° 40.7	5.7	48.5	5.9	30°	05:08	05:36	06:00	22:46	23:48	24:03	-	-	-	-	-	-	
	15	45° 45.4	77° 43.5	25.4	52° 14.7	52.3	33° 18.1	09.9	211° 07.1	18.1	33° 18.1	09.9	211° 07.1	Ankaa	353° 17.6	42° 14.7 S	43° 20.6	02.8	172° 05.4	5.7	54.4	5.6	20°	05:13	05:39	06:01	22:25	23:25	24:20	-	-	-	-	-	-	
	16	60° 47.9	92° 43.0	24.5	67° 15.3	51.5	48° 20.0	10.1	226° 09.7	18.0	48° 20.0	10.1	226° 09.7	Antares	112° 28.1	26° 27.4 S	58° 20.8	03.8	186° 30.1	5.7	22° 00.0 S	5.6	59.3	N 10°	05:17	05:41	06:02	22:06	23:05	24:01	-	-	-	-	-	-
	17	75° 50.3	107° 42.6	23.6	82° 16.0	50.7	63° 21.9	10.3	241° 12.3	17.9	63° 21.9	10.3	241° 12.3	Arcturus	145° 56.9	19° 07.2 N	88° 21.1	05.8	215° 19.5	5.6	11.0	5.2	59.2	S 10°	05:19	05:43	06:04	21:31	22:28	23:25	-	-	-	-	-	-
	18	90° 52.8	122° 42.1	22.7	97° 16.7	50.0	78° 23.8	10.6	256° 15.0	17.8	78° 23.8	10.6	256° 15.0	Arcturus	145° 56.9	19° 07.2 N	88° 21.1	05.8	215° 19.5	5.6	11.0	5.2	59.2	S 10°	05:19	05:43	06:04	21:31	22:28	23:25	-	-	-	-	-	-
	19	105° 55.3	137° 41.6	21.9	112° 17.3	49.2	93° 25.7	10.8	271° 17.6	17.8	93° 25.7	10.8	271° 17.6	Arcturus	145° 56.9	19° 07.2 N	88° 21.1	05.8	215° 19.5	5.6	11.0	5.2	59.2	S 10°	05:19	05:43	06:04	21:31	22:28	23:25	-	-	-	-	-	-
	20	120° 57.7	152° 41.1	21.0	127° 18.0	48.4	108° 27.6	11.0	286° 20.2	17.7	108° 27.6	11.0	286° 20.2	Avior	234° 18.4	59° 33.1 S	118° 21.5	07.7	244° 08.8	5.8	21.3	4.9	30°	05:14	05:42	06:06	20:51	21:46	22:43	-	-	-	-	-	-	
	21	136° 00.2	167° 40.6	20.1	142° 18.7	47.6	123° 29.5	11.3	301° 22.9	17.6	123° 29.5	11.3	301° 22.9	Bellatrix	278° 33.8	6° 21.5 N	133° 21.7	08.7	258° 33.6	5.7	26.2	4.7	59.1	35°	05:11	05:41	06:06	20:39	21:32	22:30	-	-	-	-	-	
	22	151° 02.7	182° 40.2	19.2	157° 19.3	46.8	138° 31.4	11.5	316° 25.5	17.5	138° 31.4	11.5	316° 25.5	Betelgeuse	271° 03.0	7° 24.4 S	148° 21.9	09.7	272° 58.3	5.7	30.9	4.6	50°	05:08	05:39	06:06	20:24	21:17	22:15	-	-	-	-	-	-	
23	166° 05.1	197° 39.7	18.3	172° 20.0	46.0	153° 33.3	11.7	331° 28.1	17.5	153° 33.3	11.7	331° 28.1				163° 22.1	10.7	287° 23.0	5.7	35.5	4.5	59.0	45°	05:03	05:38	06:07	20:08	20:59	21:57	-	-	-	-	-		
Thursday	00	181° 07.6	212° 39.2	13° 17.4 S	187° 20.7	3° 45.2 S	168° 35.3	4° 12.0 N	346° 30.8	3° 17.4 S	346° 30.8	3° 17.4 S	Canopus	263° 56.8	52° 42.6 S	178° 22.3	1° 11.7 N	301° 47.7	5.8	22° 40.0 S	4.3	59.0	S 50°	04:57	05:35	06:07	19:47	20:36	21:34	-	-	-	-	-		
	01	196° 10.0	227° 38.7	16.5	202° 21.3	12.2	183° 37.2	12.0	1° 33.4	17.3	183° 37.2	12.0	1° 33.4	Capella	280° 36.9	46° 00.6 S	193° 22.4	12.7	316° 12.5	5.8	44.0	4.3	52°	04:54	05:34	06:08	19:37	20:26	21:24	-	-	-	-	-	-	
	02	211° 12.5	242° 38.3	15.6	217° 22.0	43.7	198° 39.1	12.4	16° 36.0	17.2	198° 39.1	12.4	16° 36.0	Deneb	49° 32.9	45° 19.0 N	208° 22.6	13.6	330° 37.3	5.7	48.5	4.0	58.9	54°	04:51	05:33	06:08	19:26	20:13	21:12	-	-	-	-	-	-
	03	226° 15.0	257° 37.8	14.7	232° 22.7	42.9	213° 41.0	12.7	23° 38.7	17.2	213° 41.0	12.7	23° 38.7	Denebola	182° 34.9	14° 30.3 N	223° 23.8	14.6	345° 02.0	5.8	52.5	3.8	56°	04:47	05:31	06:08	19:13	19:59	20:58	-	-	-	-	-	-	
	04	241° 17.4	272° 37.3	13.8	247° 23.3	42.1	228° 42.9	12.9	46° 41.3	17.1	228° 42.9	12.9	46° 41.3	Diphda	348° 57.8	17° 55.5 S	238° 23.0	15.6	359° 26.8	5.9	56.3	3.7	58.8	58°	04:43	05:29	06:08	18:59	19:43	20:41	-	-	-	-	-	
	05	256° 19.9	287° 36.8	12.9	262° 24.0	41.3	243° 44.8	13.1	61° 44.0	17.0	243° 44.8	13.1	61° 44.0				253° 23.2	16.6	13° 51.7	5.8	23° 00.0 S	3.5	58°	S 60°	04:38	05:27	06:09	18:42	19:23	20:22	-	-	-	-	-	
	06	271° 22.4	302° 36.4	12.0	277° 24.7	40.5	258° 46.7	13.2	76° 46																											

**2011 March 26, 27, 28 (Sat, Sun, Mon)**

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON			Lat	Twilight		Sunrise	Moonrise		
																								Nautical		Civil			26	27	28
26 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	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	02:32	04:13	05:24	-	-	-
		183° 05.9	212° 16.6	12° 33.8 S	187° 52.7	3° 07.5 S	170° 06.9	4° 23.2 N	348° 37.4	3° 13.7 S	Acamar	315° 19.8	40° 15.8 S	178° 31.3	1° 58.9 N	274° 15.3	7.9	23° 17.8 S	2.7	57.1	N 70°	03:00	04:25	05:29	-	-	-	-	-	-	
		198° 08.3	227° 16.2		202° 53.4	06.7	185° 08.8		3° 40.0	13.7	Acnarnar	335° 28.4	57° 10.8 S	193° 31.5	59.9	288° 42.2	7.9	15.1	2.8		N 68°	03:20	04:35	05:32	-	-	05:42	05:15			
		213° 10.8	242° 15.7	31.9	217° 54.1	05.9	200° 10.7	23.7	18° 42.6	13.6	Acrux	173° 10.6	63° 09.8 S	208° 31.7	2° 00.8 N	303° 09.1	8.1	12.3	2.9	57.0	66°	03:36	04:43	05:35	04:50	04:49	04:47	04:47			
		228° 13.3	257° 15.2	31.0	232° 54.7	05.1	215° 12.6	23.9	33° 45.3	13.5	Adhara	255° 13.7	28° 59.6 S	223° 31.9	01.8	317° 36.2	8.1	09.4	3.1		64°	03:49	04:49	05:38	03:58	04:17	04:25				
		243° 15.7	272° 14.8	30.1	247° 55.4	04.3	230° 14.5	24.2	48° 47.9	13.4	Aldebaran	290° 51.4	16° 31.9 N	238° 32.1	02.8	332° 03.3	8.2	06.3	3.2		62°	03:59	04:55	05:40	03:26	03:53	04:08				
		258° 18.2	287° 14.3	29.2	262° 56.1	03.5	245° 16.4	24.4	63° 50.6	13.4				253° 32.3	03.8	346° 30.5	8.3	03.1	3.3	56.9	60°	04:08	05:00	05:42	03:02	03:33	03:53				
		273° 20.6	302° 13.9	28.2	277° 56.8	02.8	260° 18.3	24.7	78° 53.2	13.3	Alioth	166° 21.4	55° 53.7 N	268° 32.5	04.8	0° 57.8	8.3	22° 59.8 S	3.5		N 58°	04:16	05:04	05:43	02:43	03:17	03:41				
		288° 23.1	317° 13.4	27.3	292° 57.4	02.0	275° 20.2	24.9	93° 55.8	13.2	Alkaid	152° 59.6	49° 15.2 N	283° 32.6	05.8	15° 25.1	8.4	56.3	3.6		56°	04:22	05:07	05:45	02:27	03:04	03:30				
		303° 25.6	332° 12.9	26.4	307° 58.1	01.2	290° 22.2	25.1	108° 58.5	13.1	Alnair	27° 46.0	46° 54.2 S	298° 32.8	06.7	29° 52.5	8.5	52.7	3.6	56.8	54°	04:28	05:11	05:46	02:14	02:52	03:20				
		318° 28.0	347° 12.5	25.5	322° 58.8	00.4	305° 24.1	25.4	124° 01.1	13.1	Alnilam	275° 04.0	1° 11.9 S	313° 33.0	07.7	44° 20.0	8.6	49.1	3.9		52°	04:33	05:14	05:47	02:02	02:42	03:12				
		333° 30.5	2° 12.0	24.5	337° 59.4	2° 59.6 S	320° 26.0	25.6	139° 03.8	13.0	Alphard	217° 57.4	8° 42.7 S	328° 33.2	08.7	58° 47.6	8.6	45.2	3.9	56.7	50°	04:38	05:16	05:49	01:51	02:32	03:04				
		348° 33.0	17° 11.6	23.6	353° 00.1	58.8	335° 27.9	25.8	153° 06.4	12.9				343° 33.4	09.7	73° 15.2	8.7	41.3	4.1		45°	04:47	05:22	05:51	01:29	02:12	02:48				
		3° 35.4	32° 11.1	12° 22.7 S	8° 00.8	2° 58.0 S	350° 29.8	4° 26.1 N	169° 09.0	3° 12.8 S	Alphecca	126° 12.1	26° 40.3 N	358° 33.6	2° 10.7 N	87° 42.9	8.8	22° 37.2 S	4.1	56.7	N 40°	04:54	05:26	05:53	01:11	01:56	02:34				
		18° 37.9	47° 10.6	21.7	23° 01.4	57.2	5° 31.7	26.3	184° 11.7	12.8	Alpheratz	357° 45.5	29° 09.1 N	13° 33.8	11.6	102° 10.7	8.9	33.1	4.3	56.6	35°	05:00	05:29	05:55	00:56	01:43	02:23				
		33° 40.4	62° 10.2	20.8	62° 10.2	56.5	20° 33.6	26.0	199° 14.3	12.7	Altair	62° 09.9	8° 53.8 N	28° 34.0	12.6	116° 38.6	9.0	28.8	4.4		30°	05:04	05:32	05:56	00:43	01:31	02:13				
		48° 42.8	77° 09.7	19.9	53° 02.8	55.7	35° 35.5	26.8	214° 17.0	12.6	Ankaa	353° 17.6	42° 14.7 S	43° 34.2	13.6	131° 06.6	9.0	24.4	4.6		20°	05:11	05:36	05:58	00:20	01:11	01:56				
		63° 45.3	92° 09.3	18.9	68° 03.5	54.9	50° 37.4	27.0	229° 19.6	12.5	Antares	112° 28.0	26° 27.4 S	58° 34.3	14.6	145° 34.6	9.1	19.8	4.6	56.5	N 10°	05:15	05:39	06:00	00:01	00:53	01:41				
		78° 47.8	107° 08.8	18.0	83° 04.1	54.1	65° 39.3	27.2	244° 22.2	12.4				73° 34.5	15.6	160° 02.7	9.2	15.2	4.8		0°	05:18	05:42	06:02	-	-	00:36	01:26			
		93° 50.2	122° 08.4	17.1	98° 04.8	53.3	80° 41.2	27.5	259° 24.9	12.4	Arcturus	145° 56.9	19° 07.2 N	88° 34.7	16.6	174° 30.9	9.3	10.4	4.8		S 10°	05:19	05:43	06:04	-	-	00:20	01:12			
		108° 52.7	137° 07.9	16.1	113° 05.5	52.5	95° 43.1	27.7	274° 27.5	12.3	Atria	107° 31.1	69° 02.6 S	103° 34.9	17.5	188° 59.2	9.3	05.6	5.0	56.4	20°	05:18	05:44	06:06	-	-	00:02	00:57			
		123° 55.1	152° 07.4	15.2	128° 06.1	51.7	110° 45.0	27.9	289° 30.1	12.2	Avior	234° 18.4	59° 33.1 S	118° 35.1	18.5	203° 27.5	9.5	00.6	5.1		30°	05:16	05:44	06:07	23:41	-	00:39				
		138° 57.6	167° 07.0	14.3	143° 06.8	50.9	125° 47.0	28.2	304° 32.8	12.1	Bellatrix	278° 33.8	6° 21.5 N	133° 35.3	19.5	217° 56.0	9.5	21° 55.5 S	5.2		35°	05:14	05:43	06:08	23:29	-	00:29				
	154° 00.1	182° 06.5	13.3	158° 07.5	50.2	140° 48.9	28.4	319° 35.8	12.1	Betelgeuse	271° 03.1	7° 24.4 N	148° 35.5	20.5	232° 24.5	9.6	50.3	5.4	56.3	40°	05:11	05:42	06:09	23:16	-	00:17					
	169° 02.5	197° 06.1	12.4	173° 08.2	49.4	155° 50.8	28.6	334° 38.1	12.0				163° 35.7	21.5	246° 53.1	9.7	44.9	5.4		45°	05:07	05:41	06:11	22:59	-	00:03					
27 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		184° 05.0	212° 05.6	12° 11.4 S	188° 08.8	2° 48.6 S	170° 52.7	4° 28.9 N	349° 40.7	3° 11.9 S	Canopus	263° 56.9	52° 42.6 S	178° 35.9	2° 22.4 N	261° 21.8	9.7	21° 39.5 S	5.5	56.3	S 50°	05:02	05:40	06:12	22:39	23:46	24:54				
		199° 07.5	227° 05.2	10.5	203° 09.5	47.8	185° 54.6	29.1	4° 43.3	11.8	Capella	280° 36.9	46° 00.6 S	193° 36.0	23.4	275° 50.5	9.9	34.0	5.6	56.2	S 52°	05:00	05:39	06:13	22:29	23:38	24:48				
		214° 09.9	242° 04.7	09.6	218° 10.2	47.0	200° 56.5	29.3	19° 46.0	11.8	Deneb	49° 32.9	45° 19.0 N	208° 36.2	24.4	290° 19.4	9.9	22.4	5.8		54°	04:57	05:38	06:14	22:18	23:29	24:41				
		229° 12.4	257° 04.3	08.6	233° 10.8	46.2	215° 58.4	29.6	34° 48.6	11.7	Denebola	182° 34.9	14° 30.3 N	223° 36.4	25.4	304° 48.3	10.0	28.6	5.8		56°	04:54	05:37	06:14	22:06	23:19	24:34				
		244° 14.9	272° 03.8	07.7	248° 11.5	45.4	231° 00.3	29.8	49° 51.3	11.6	Diphda	348° 57.8	17° 55.5 S	238° 36.6	26.4	319° 17.3	10.1	16.8	6.0	56.1	58°	04:50	05:36	06:15	21:52	23:08	24:25				
		259° 17.3	287° 03.4	06.7	263° 12.2	44.6	246° 02.2	30.1	64° 53.9	11.5				253° 36.8	27.3	333° 46.4	10.1	10.8	6.0		S 60°	04:46	05:35	06:16	21:35	22:54	24:15				
		274° 19.8	302° 02.9	05.8	278° 12.9	43.9	261° 04.1	30.3	79° 56.5	11.5	Dubhe	193° 52.9	61° 41.3 N	268° 37.0	28.3	348° 15.5	10.3	04.8	6.2		S 62°	04:40	05:33	06:17	21:14	22:38	24:04				
		289° 22.3	317° 02.4	04.9	293° 13.5	43.1	276° 06.0	30.5	94° 59.2	11.4	Elnath	278° 14.7	28° 37.0 N	283° 37.2	29.3	2° 44.8	10.3	20° 58.6 S	6.2	56.0											
		304° 24.7	332° 02.0	03.9	308° 14.2	42.3	309° 46.8	30.8	110° 01.8	11.3	Elainor	90° 46.8	51° 28.9 N	298° 37.4	30.0	17° 14.1	10.4	52.4	6.4												
		319° 27.2	347° 01.5	03.0	323° 14.9	41.5	306° 09.8	31.0	125° 04.5	11.2	Enif	33° 48.9	9° 55.5 N	313° 37.6	31.3	31° 43.5	10.5	46.0	6.4												
		334° 29.6	2° 01.1	02.0	338° 15.6	40.7	321° 11.7	31.2	140° 07.1	11.2	Fomalhaut	15° 26.0	29° 33.7 S	328° 37.7	32.2	46° 13.0	10.6	39.6	6.6												
		349° 32.1	17° 00.6	01.1	353° 16.2	39.9	353° 13.7	31																							

2011 March 29, 30, 31 (Tue, Wed, Thur)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON			Lat	Twilight		Sunrise	Moonrise		
	GHA	GHA	Dec	GHA	GHA	Dec	GHA	GHA	Dec	GHA	GHA	Dec	GHA	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec		d	HP		Nautical	Civil	29
Tuesday	00	186° 03.3	211° 44.1	11° 25.7 S	188° 41'.2	2° 10.7 S	172° 24.2	4° 40.1 N	351° 47.4	3° 08.2 S	Acamar	315° 19.8	40° 15.7 S	178° 44.9	3° 09.4 N	237° 52.2	13.4	15° 31.5 S	9.6	55.0	N 70°	02:39	03:56	05:09	05:54	05:21	04:58			
	01	201° 05.7	226° 43.7	24.8	203° 41.8	09.9	187° 26.1	40.4	6° 50.1	08.2	Acnarnar	335° 28.4	57° 10.8 S	193° 45.1	10.4	252° 24.6	13.6	21.9	9.5	54.9	N 70°	03:03	04:21	05:19	05:01	04:51	04:43			
	02	216° 08.2	241° 43.3	23.8	218° 42.5	09.2	202° 28.0	40.6	21° 52.7	08.1	Acruz	173° 10.6	63° 09.9 S	208° 45.3	11.3	266° 57.2	13.6	12.4	9.7		66°	03:21	04:30	05:24	04:44	04:40	04:37			
	03	231° 10.7	256° 42.8	22.8	233° 43.2	08.4	217° 29.9	40.8	36° 55.4	08.0	Adhara	255° 13.7	28° 59.6 S	223° 45.5	12.3	281° 29.8	13.6	02.7	9.7		64°	03:36	04:38	05:27	04:29	04:31	04:32			
	04	246° 13.1	271° 42.4	21.9	248° 43.9	07.6	232° 31.8	41.1	51° 58.0	07.9	Aldebaran	290° 51.4	16° 31.9 N	238° 45.7	13.3	296° 02.4	13.8	14° 53.0 S	9.7		62°	03:48	04:45	05:30	04:17	04:23	04:28			
	05	261° 15.6	286° 41.9	20.9	263° 44.5	06.8	247° 33.7	41.3	67° 00.6	07.9				253° 45.8	14.3	310° 35.2	13.7	43.3	9.8		60°	03:58	04:50	05:33	04:06	04:16	04:24			
	06	276° 18.1	301° 41.5	19.9	278° 45.2	06.0	262° 35.6	41.5	82° 03.3	07.8	Alioth	166° 21.4	55° 53.7 N	268° 46.0	15.2	325° 07.9	13.9	33.5	9.9	54.8	N 58°	04:06	04:55	05:35	03:57	04:10	04:20			
	07	291° 20.5	316° 41.1	19.0	293° 45.9	05.2	277° 37.5	41.8	97° 05.9	07.7	Alkaid	152° 59.6	49° 15.2 N	283° 46.2	16.2	339° 40.8	13.9	23.6	9.9		56°	04:14	04:59	05:37	03:49	04:05	04:17			
	08	306° 23.0	331° 40.6	18.0	308° 46.6	04.4	292° 39.5	42.0	112° 08.6	07.6	Alnair	27° 46.0	46° 54.2 S	298° 46.4	17.2	354° 13.7	14.0	13.7	10.0		54°	04:20	05:03	05:39	03:42	04:00	04:15			
	09	321° 25.5	346° 40.2	17.0	323° 47.2	03.6	307° 41.4	42.3	127° 11.2	07.6	Alnilam	275° 48.1	1° 11.9 S	313° 46.6	18.2	8° 46.7	14.0	03.7	10.0		52°	04:25	05:06	05:41	03:36	03:55	04:12			
	10	336° 27.9	1° 39.8	16.0	338° 47.9	02.8	322° 43.3	42.5	142° 13.8	07.5	Alphard	217° 57.4	8° 42.7 S	328° 46.8	19.1	23° 19.7	14.1	13° 53.7 S	10.0		50°	04:30	05:09	05:42	03:30	03:51	04:10			
	11	351° 30.4	16° 39.3	15.1	353° 48.6	02.1	337° 45.2	42.7	157° 16.5	07.4				343° 47.0	20.1	37° 52.8	14.2	43.7	10.2	54.7	45°	04:41	05:16	05:45	03:17	03:42	04:05			
	12	6° 32.8	31° 38.9	11° 14.1 S	8° 49.3	2° 01.3 S	352° 47.1	4° 43.0 N	172° 19.1	3° 07.3 S	Alphecca	126° 12.1	26° 40.4 N	358° 47.2	3° 21.1 N	52° 26.0	14.2	13° 33.5 S	10.2	54.7	N 40°	04:49	05:21	05:48	03:07	03:35	04:01			
	13	21° 35.3	46° 38.4	13.1	23° 49.9	00.5	7° 49.0	43.2	187° 21.8	07.3	Alpheratz	357° 45.5	29° 09.1 N	13° 47.3	23.1	66° 59.2	14.3	23.3	10.2		35°	04:55	05:25	05:50	02:58	03:29	03:57			
	14	36° 37.8	61° 38.0	12.2	38° 50.6	1° 59.7 S	22° 50.9	43.4	202° 24.4	07.2	Altair	62° 09.9	8° 53.8 N	28° 47.5	22.0	81° 32.5	14.3	13.1	10.3		30°	05:00	05:28	05:52	02:50	03:23	03:54			
	15	51° 40.2	76° 37.6	11.2	53° 51.3	58.9	37° 52.8	43.7	217° 27.1	07.1	Ankaa	353° 17.6	42° 14.7 S	43° 47.7	24.0	96° 05.8	14.4	02.8	10.3		20°	05:08	05:34	05:56	02:36	03:14	03:48			
	16	66° 42.7	91° 37.1	10.2	68° 52.0	58.1	52° 54.7	43.9	232° 29.7	07.0	Antares	112° 28.0	26° 27.4 S	58° 47.9	25.0	110° 39.2	14.5	12° 52.5 S	10.3		N 10°	05:13	05:38	05:59	02:24	03:05	03:44			
	17	81° 45.2	106° 36.7	09.2	83° 52.7	57.3	67° 56.6	44.1	247° 32.3	06.9				73° 48.1	26.0	125° 12.7	14.5	42.2	10.5	54.6	0°	05:17	05:41	06:01	02:13	02:57	03:39			
	18	96° 47.6	121° 36.3	08.3	98° 53.3	56.5	82° 58.5	44.4	262° 35.0	06.9	Arcturus	145° 56.8	19° 07.2 N	88° 48.3	26.9	139° 46.2	14.5	31.7	10.4		S 10°	05:18	05:43	06:04	02:02	02:49	03:34			
	19	111° 50.1	136° 35.8	07.3	113° 54.0	55.7	98° 00.4	44.6	277° 37.6	06.8	Alraia	107° 31.1	69° 02.6 S	103° 48.5	27.9	154° 19.7	14.7	61.3	10.2		20°	05:19	05:44	06:06	01:50	02:40	03:29			
	20	126° 52.6	151° 35.4	06.3	128° 54.7	55.0	113° 02.3	44.8	292° 40.3	06.7	Avior	234° 18.5	59° 33.1 S	118° 48.7	28.9	168° 53.4	14.6	10.8	10.6		30°	05:18	05:45	06:09	01:36	02:30	03:24			
	21	141° 55.0	166° 35.0	05.3	143° 55.4	54.2	128° 04.2	45.1	307° 42.9	06.6	Bellatrix	278° 33.8	6° 21.5 N	133° 48.9	29.9	183° 27.0	14.7	00.2	10.6		35°	05:16	05:46	06:11	01:28	02:25	03:21			
	22	156° 57.5	181° 34.5	04.3	158° 57.0	53.4	143° 06.1	45.3	322° 45.5	06.6	Betelgeuse	151° 03.1	7° 24.4 N	148° 49.0	30.8	198° 00.7	14.8	11° 49.6 S	10.6		40°	05:14	05:46	06:13	01:18	02:18	03:17			
23	172° 00.0	196° 34.1	03.4	173° 56.7	52.6	158° 08.0	45.5	337° 48.2	06.5				163° 49.2	31.8	212° 34.5	14.8	39.0	10.7	54.5	45°	05:11	05:45	06:15	01:07	02:11	03:13				
Wednesday	00	187° 02.4	211° 33.7	11° 02.4 S	188° 57.4	1° 51.8 S	173° 10.0	4° 45.8 N	352° 50.8	3° 06.4 S	Canopus	263° 56.9	52° 42.5 S	178° 49.4	3° 32.8 N	227° 08.3	14.9	11° 28.3 S	10.7	54.5	S 50°	05:07	05:45	06:17	00:54	02:01	03:07			
	01	202° 04.9	226° 33.2	01.4	203° 58.1	51.0	188° 11.9	46.0	7° 53.5	06.3	Capella	280° 37.0	46° 00.6 N	193° 49.6	33.7	241° 42.2	14.9	17.6	10.8		S 52°	05:05	05:44	06:18	00:48	01:57	03:05			
	02	217° 07.3	241° 32.8	00.4	218° 58.7	50.2	203° 13.8	46.2	22° 56.1	06.3	Deneb	49° 32.8	45° 19.0 N	208° 49.8	34.7	256° 16.1	15.0	06.8	10.8		54°	05:03	05:44	06:19	00:41	01:53	03:00			
	03	232° 09.8	256° 32.4	10° 59.4 S	233° 59.4	49.4	218° 15.7	46.5	37° 58.8	06.2	Denebola	182° 34.9	14° 30.3 N	223° 50.0	35.7	270° 50.1	15.0	10° 56.8 S	10.8		56°	05:00	05:43	06:20	00:34	01:47	03:02			
	04	247° 12.3	271° 31.9	58.5	249° 00.1	48.6	233° 17.6	46.7	53° 01.4	06.1	Diphda	348° 57.8	17° 55.5 S	238° 50.2	36.7	285° 24.1	15.1	45.2	10.9		58°	04:57	05:43	06:22	00:25	01:41	02:56			
	05	262° 14.7	286° 31.5	57.5	264° 00.8	47.9	248° 19.5	46.9	68° 04.0	06.0				253° 50.4	37.6	299° 58.2	15.1	34.3	10.9	54.4	S 60°	04:53	05:42	06:23	00:15	01:35	02:53			
	06	277° 17.2	301° 31.1	56.5	279° 01.5	47.1	263° 21.4	47.2	83° 06.7	06.0	Dubhe	193° 52.9	61° 41.3 N	268° 50.5	38.6	314° 32.3	15.1	23.4	10.9		S 62°	04:49	05:41	06:25	00:04	01:27	02:49			
	07	292° 19.7	316° 30.6	55.5	294° 02.1	46.3	278° 23.3	47.4	98° 09.3	05.9	Elnath	278° 14.7	28° 37.0 N	283° 50.7	39.6	329° 06.4	15.3	12.5	11.0											
	08	307° 22.1	331° 30.2	54.5	309° 02.8	45.5	293° 25.2	47.6	113° 12.0	05.8	Elainor	90° 46.8	51° 28.9 N	298° 50.9	40.6	343° 40.7	15.2	01.5	11.0											
	09	322° 24.6	346° 29.8	53.5	324° 03.5	44.7	308° 27.1	47.9	128° 14.6	05.7	Enif	33° 48.9	9° 55.5 N	313° 51.1	41.5	358° 14.9	15.3	9° 50.5 S	11.1											
	10	337° 27.1	1° 29.4	52.6	339° 04.2	43.9	323° 29.0	48.1	143° 17.2	05.6	Fomalhaut	15° 26.0	29° 33.7 S	328° 51.3	42.5	12° 49.2	15.3	39.4	11.1											
	11	352° 29.5	16° 28.9	51.6	354° 04.8	43.1	338° 30.9	48.3	158° 19.9	05.6				343° 51.5	43.5	27° 23.5	15.4	28.3	11.1											
	12	7° 32.0	31° 28.5	10° 50.6 S	9° 05.5	1° 42.3 S	353° 32.8	4° 48.6 N	173° 22.5	3° 05.5 S	Gacrux	172° 02.2	57° 10.8 S	358° 51.7	3° 44.4 N	41° 57.9	15.4	9° 17.2 S	11.1	54.3	N 70°	18:57	20:02	21:36	11:41	13:30	15:11			
	13	22° 34.4	46° 28.1	49.6	24° 06.2	41.5	8° 34.7	48.8	188° 25.2	05.4	Gienah	175° 53.6	17° 36.5 S	13° 51.8	45.4	56° 32.3	15.4	06.1	11.2		68°	18:52	19:51	21:10	12:03	13:42	15:16			
	14	37° 36.9	61° 27.6	48.6	39° 06.9	40.5	23° 36.6	49.0	203° 27.8	05.3	Hadar	148° 49.7	60° 25.7 S	18° 52.0	46.7	71° 06.7	15.5	8° 54.9 S	11.2		66°	18:48	19:41	21:10	12:19	13:52	15:20			
	15	52° 39.4	76° 27.2	47.6	54° 07.6	40.0	38° 38.5	49.3	218° 30.5	05.3	Hamal	328° 02.9	23° 30.9 N	43° 52.2	47.4	85° 41.2	15.6	43.7	11.3		64°	18:44	19:33	20:36	12:33	14:00	15:24			
	16	67° 41.8	91° 26.8	46.6	69° 08.2	39.2	53° 40.4	49.5	233° 33.1	05.2	Kaus Aust.	83° 45.9	34° 22.6 S	58° 52.4	48.3	100° 15.8	15.5	32.4	11.3		62°	18:41	19:26	20:24	12:44	14:06	15:27			
	17	82° 44.3	106° 26.4	45.7	84° 08.9	38.4	68° 42.3	49.7	248° 35.7	05.1				73° 52.6	49.3	114° 50.3	15.6	21.1												



## 2011 April 1, 2, 3 (Fri, Sat, Sun)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			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 72°	01:30	03:37	04:53	04:39	04:20	04:00							
Friday	00	189° 00.7	211° 13.2	10° 14.8 S	189° 30.0	1° 13.9 S	174° 41.4	4° 57.0 N	354° 57.6	3° 02.7 S	Acamar	315° 19.8	40° 15.7 S	178° 58.4	4° 19.3 N	206° 56.0	16.3	2° 21.3 S	11.9	54.0	N 70°	02:16	03:54	05:00	04:37	04:24	04:11						
	01	204° 03.2	226° 12.8	13.8	204° 30.6	13.1	189° 43.3	57.2	10° 00.3	02.7	Acnarnar	335° 28.4	57° 10.8 S	193° 58.6	20.3	221° 31.3	33.5	09.4			68°	02:45	04:07	05:07	04:35	04:28	04:20						
	02	219° 05.6	241° 12.4	12.7	219° 31.3	12.4	204° 45.2	57.5	25° 02.9	02.6	Acrux	173° 10.6	63° 09.9 S	208° 58.7	21.3	236° 06.6	16.4	1° 57.6 S	11.8			66°	03:06	04:18	05:12	04:34	04:30	04:27					
	03	234° 08.1	256° 12.0	11.7	234° 32.0	11.6	219° 47.1	57.5	40° 05.6	02.5	Adhara	255° 13.8	28° 59.6 S	223° 58.9	22.2	250° 42.0	16.4	45.8	11.9			64°	03:23	04:27	05:16	04:33	04:33	04:34					
	04	249° 10.5	271° 11.6	10.7	249° 32.7	10.8	234° 49.0	57.9	55° 08.2	02.4	Aldebaran	290° 51.4	16° 31.9 N	238° 59.1	23.2	265° 17.4	16.3	33.9	11.8			62°	03:36	04:34	05:20	04:31	04:35	04:39					
	05	264° 13.0	286° 11.1	09.7	264° 33.4	10.0	249° 59.0	58.2	70° 10.9	02.4				253° 59.3	24.2	279° 52.7	16.4	22.1	11.9			60°	03:47	04:41	05:24	04:31	04:37	04:44					
	06	279° 15.5	301° 10.7	08.7	279° 34.0	09.2	264° 52.8	58.4	85° 13.5	02.3	Alioth	166° 21.4	55° 53.7 N	268° 59.5	25.1	294° 28.1	16.4	10.2	11.8			N 58°	03:56	04:46	05:27	04:30	04:39	04:49					
	07	294° 17.9	316° 10.3	07.7	294° 34.7	08.4	279° 54.7	58.6	100° 16.1	02.2	Alkaid	152° 59.6	49° 15.2 N	283° 59.7	26.1	309° 03.5	16.4	0° 58.4 S	11.9			56°	04:05	04:51	05:29	04:29	04:40	04:52					
	08	309° 20.4	331° 09.9	06.7	309° 35.4	07.6	294° 56.6	58.9	115° 18.8	02.1	Alnair	27° 46.0	46° 54.2 S	298° 59.9	27.1	323° 38.9	16.4	46.5	11.8			54°	04:12	04:55	05:31	04:28	04:42	04:56					
	09	324° 22.9	346° 09.5	05.7	324° 36.1	06.8	309° 58.5	59.1	130° 21.4	02.1	Alnilam	275° 48.1	1° 11.9 S	314° 00.0	28.0	338° 14.3	16.4	34.7	11.9			52°	04:18	04:59	05:34	04:28	04:43	04:59					
	10	339° 25.3	1° 09.1	04.7	339° 36.8	06.0	325° 00.4	59.3	145° 24.1	02.0	Alphard	217° 57.4	8° 42.7 S	329° 00.2	29.0	352° 49.7	16.4	22.8	11.9			50°	04:23	05:03	05:36	04:27	04:44	05:02					
	11	354° 27.8	16° 08.7	03.7	354° 37.4	05.3	340° 02.4	59.6	160° 26.7	01.9				344° 00.4	30.0	7° 25.1	16.4	10.9	11.8			45°	04:35	05:10	05:40	04:26	04:47	05:08					
	12	9° 30.3	31° 08.2	10° 02.7 S	9° 38.1	1° 04.5 S	355° 04.3	4° 59.8 N	175° 29.4	3° 01.8 S	Alphecca	126° 12.1	26° 40.4 N	359° 00.6	4° 30.9 N	22° 00.5	16.4	0° 00.9 N	11.9	54.0	N 40°	04:44	05:16	05:43	04:25	04:49	05:13						
	13	24° 32.7	46° 07.8	01.7	24° 38.8	03.7	10° 06.2	59° 00.0 N	190° 32.0	01.7	Alpheratz	357° 45.5	29° 09.1 N	14° 00.8	31.9	36° 35.9	16.4	12.8	11.8			35°	04:51	05:21	05:46	04:24	04:51	05:18					
	14	39° 35.2	61° 07.4	00.6	39° 39.5	02.9	25° 08.1	00.3	205° 34.6	01.7	Altair	62° 09.9	8° 53.8 N	29° 01.0	32.9	51° 11.3	16.4	24.6	11.9			30°	04:56	05:25	05:49	04:23	04:52	05:20					
	15	54° 37.7	76° 07.0	9° 59.6 S	54° 40.2	02.1	40° 10.0	00.5	220° 37.3	01.6	Ankaa	353° 17.6	42° 14.7 S	44° 01.1	33.8	65° 46.7	16.4	36.5	11.8	53.9	20°	05:05	05:31	05:53	04:22	04:55	05:29						
	16	69° 40.1	91° 06.6	58.6	69° 40.8	01.3	55° 11.9	00.7	235° 39.9	01.5	Antares	112° 28.0	26° 27.4 S	59° 01.3	34.8	80° 22.1	16.4	48.3	11.9			N 10°	05:11	05:36	05:57	04:21	04:58	05:35					
	17	84° 42.6	106° 06.2	57.6	84° 41.5	00.5	70° 13.8	01.0	250° 42.6	01.4				74° 01.5	35.8	94° 57.5	16.4	1° 00.2 N	11.8			0°	05:16	05:40	06:00	04:20	05:00	05:41					
	18	99° 45.0	121° 05.8	56.6	99° 42.2	0° 59.7 S	85° 15.7	01.2	265° 45.2	01.4	Arcturus	145° 56.8	19° 07.2 N	89° 01.7	36.7	109° 32.9	16.4	12.0	11.8			S 10°	05:18	05:43	06:04	04:19	05:03	05:47					
	19	114° 47.5	136° 05.3	55.6	114° 42.9	58.9	100° 17.6	01.4	280° 47.9	01.3	Atria	107° 31.1	60° 02.6 S	104° 01.9	37.7	124° 08.3	16.4	23.8	11.9			20°	05:20	05:45	06:07	04:18	05:05	05:54					
	20	129° 50.0	151° 04.9	54.6	129° 43.6	58.2	115° 19.5	01.7	295° 50.5	01.2	Avior	234° 18.5	59° 33.1 S	119° 02.1	38.7	138° 43.7	16.3	35.7	11.8			30°	05:29	05:47	06:11	04:16	05:08	06:01					
	21	144° 52.4	166° 04.5	53.5	144° 44.2	57.4	130° 21.4	01.9	310° 53.1	01.1	Bellatrix	278° 33.8	6° 21.5 N	134° 02.3	39.6	153° 19.0	16.4	47.5	11.8			35°	05:19	05:48	06:13	04:15	05:10	06:05					
	22	159° 54.9	181° 04.1	52.5	159° 44.9	56.6	271° 03.1	01.1	325° 55.8	01.1	Betelgeuse	271° 03.1	7° 24.4 N	149° 02.4	40.6	167° 54.4	16.4	59.3	11.8			40°	05:17	05:49	06:16	04:15	05:12	06:10					
23	174° 57.4	196° 03.7	51.5	174° 45.6	55.8	160° 25.2	02.4	340° 58.4	01.0				164° 02.6	41.5	182° 29.8	16.4	2° 11.1 N	11.8			45°	05:15	05:49	06:18	04:14	05:14	06:15						
Saturday	00	189° 59.8	211° 03.3	9° 50.5 S	189° 46.3	0° 55.0 S	175° 27.1	5° 02.6 N	356° 01.1	3° 00.9 S	Canopus	263° 56.9	52° 42.5 S	179° 02.8	4° 42.5 N	197° 05.2	16.3	2° 22.9 N	11.8	53.9	S 50°	05:12	05:49	06:22	04:12	05:17	06:22						
	01	205° 02.3	226° 02.9	49.5	204° 47.0	54.2	190° 29.0	02.8	11° 03.7	00.8	Capella	280° 37.0	46° 00.6 N	194° 03.0	43.5	211° 40.5	16.4	34.7	11.8			52°	05:10	05:49	06:23	04:12	05:19	06:25					
	02	220° 04.8	241° 02.5	48.5	219° 47.7	53.4	205° 30.9	03.1	26° 06.4	00.8	Deneb	49° 32.8	45° 19.0 N	209° 03.2	44.4	226° 15.9	16.3	46.5	11.8			54°	05:08	05:49	06:25	04:11	05:20	06:29					
	03	235° 07.2	256° 02.0	47.4	234° 48.3	52.6	220° 32.8	03.3	41° 09.0	00.8	Denebola	182° 34.9	14° 30.3 N	224° 03.4	45.4	240° 51.2	16.4	58.3	11.7			56°	05:06	05:49	06:26	04:11	05:21	06:33					
	04	250° 09.7	271° 01.6	46.4	249° 49.0	51.8	235° 34.7	03.6	56° 11.6	00.6	Diphda	348° 57.8	17° 55.5 S	239° 03.5	46.4	255° 26.6	16.3	3° 10.0 N	11.8			58°	05:04	05:49	06:28	04:10	05:23	06:37					
	05	265° 12.1	286° 01.2	45.4	264° 49.7	51.1	250° 36.6	03.8	71° 14.3	00.5				254° 03.7	47.3	270° 01.9	16.3	21.8	11.7			S 60°	05:01	05:49	06:31	04:09	05:25	06:42					
	06	280° 14.6	301° 00.8	44.4	279° 50.4	50.3	265° 38.5	04.0	86° 16.9	00.5	Dubhe	193° 52.9	61° 41.4 N	269° 03.9	48.3	284° 37.2	16.3	33.5	11.7			S 62°	04:57	05:49	06:33	04:08	05:27	06:47					
	07	295° 17.1	316° 00.4	43.4	294° 51.1	49.5	280° 40.4	04.3	101° 19.6	00.4	Elnath	278° 14.8	28° 37.0 N	284° 04.1	49.3	299° 12.5	16.3	45.2	11.7														
	08	310° 19.5	331° 00.0	42.4	309° 51.7	48.7	295° 42.3	04.5	116° 22.2	00.3	Elainin	90° 46.7	51° 28.9 N	299° 04.3	50.2	313° 47.8	16.3	56.9	11.7														
	09	325° 22.0	345° 59.6	41.3	324° 52.4	47.9	310° 44.2	04.7	131° 24.9	00.2	Enif	33° 48.9	9° 55.5 N	314° 04.5	51.2	328° 23.1	16.2	4° 08.6 N	11.7			Lat											
	10	340° 24.5	0° 59.2	40.3	339° 53.1	47.1	325° 46.2	05.0	146° 27.5	00.1	Fomalhaut	15° 26.0	29° 33.7 S	329° 04.7	52.1	342° 58.3	16.3	20.3	11.6														
	11	355° 26.9	15° 58.8	39.3	354° 53.8	46.3	340° 48.1	05.2	161° 30.1	00.1				344° 04.8	53.1	357° 33.6	16.2	31.9	11.7														
	12	10° 29.4	30° 58.4	9° 38.3 S	9° 54.5	0° 45.5 S	355° 50.0	5° 05.4 N	176° 32.8	3° 00.0 S	Gacrux	172° 02.2	57° 10.8 S	359° 05.0	4° 54.1 N	12° 08.8	16.2	4° 43.6 N	11.6	53.9	N 70°	19:10	20:17	21:58	16:50	18:28	20:10						
	13	25° 31.																															



# 2011 April 7, 8, 9 (Thur, Fri, Sat)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			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 72°	Nautical	Civil	Sunrise	7	8	9										
Thursday	00	194° 55'.5	210° 15'.8	7° 45'.2 S	191° 08'.4	0° 39'.5 N	179° 15'.5	5° 30'.6 N	1° 18'.3	Acamar	315° 19'.9	40° 15'.7 S	179° 24'.5	6° 37'.0 N	143° 46'.0	11'.2	21° 23'.2 N	5'.3	54.9	N 70°	01:15	03:21	04:32	-	-	-										
	01	209° 58'.0	225° 15'.5	44.1	206° 09'.1	40.3	194° 17'.4	30.8	16° 20'.9	51.7	Acnarnar	335° 28'.4	57° 10'.8 S	158° 16'.2	11'.2	28'.5	5'.3			N 70°	02:03	03:38	04:41	03:19	-	-										
	02	225° 00'.4	240° 15'.1	43.1	221° 09'.8	41.1	209° 19'.3	31.0	31° 23'.5	51.7	Acrux	173° 10'.5	63° 09'.9 S	209° 24'.8	38.9	172° 46'.4	11'.1	33'.8	5'.1		N 66°	02:33	03:52	04:49	04:21	04:29	05:09									
	03	240° 02'.9	255° 14'.7	42.0	236° 10'.5	41.8	224° 21'.2	31.3	46° 26'.2	51.6	Adhara	255° 13'.8	28° 59'.6 S	187° 16'.5	11'.0	38'.9	5'.0			N 64°	02:54	04:04	04:55	04:56	05:20	06:07										
	04	255° 05'.4	270° 14'.3	40.9	251° 11'.2	42.6	239° 23'.1	31.5	61° 28'.8	51.5	Aldebaran	290° 51'.4	16° 31'.9 N	239° 25'.2	40.7	201° 46'.5	11'.0	43'.9	4'.9		N 62°	03:11	04:13	05:01	05:21	05:51	06:40									
	05	270° 07'.8	285° 13'.9	39.9	266° 11'.9	43.4	254° 25'.1	31.7	76° 31'.5	51.4					254° 25'.4	41.7	216° 16'.5	11'.0	48'.8	4'.8	N 60°	03:25	04:21	05:05	05:41	06:15	07:05									
	06	285° 10'.3	300° 13'.6	38.8	281° 12'.5	44.2	269° 27'.0	32.0	91° 34'.1	51.4	Alioth	166° 21'.4	55° 53'.8 N	269° 25'.5	42.6	230° 46'.5	10'.9	53'.6	4'.7	55.0	N 58°	03:37	04:28	05:10	05:58	06:34	07:25									
	07	300° 12'.8	315° 13'.2	37.7	296° 13'.2	45.0	284° 28'.9	32.2	106° 36'.8	51.3	Alkaid	152° 59'.6	49° 15'.2 N	284° 25'.7	43.6	245° 16'.4	10'.8	58'.3	4'.6		N 56°	03:46	04:35	05:13	06:12	06:50	07:41									
	08	315° 15'.2	330° 12'.8	36.6	311° 13'.9	45.8	299° 30'.8	32.4	121° 39'.4	51.2	Alnair	27° 45'.9	46° 54'.2 S	299° 25'.9	44.5	259° 46'.2	10'.8	22° 02'.9 N	4'.5		N 54°	03:55	04:40	05:17	06:24	07:04	07:55									
	09	330° 17'.7	345° 12'.4	35.6	326° 14'.6	46.5	314° 32'.7	32.7	136° 42'.0	51.1	Alnilam	275° 48'.1	1° 11'.9 S	314° 26'.1	45.5	274° 16'.0	10'.7	07'.4	4'.4		N 52°	04:02	04:45	05:20	06:35	07:16	08:07									
	10	345° 20'.2	0° 12'.0	34.5	341° 15'.3	47.3	329° 34'.6	32.9	151° 44'.7	51.1	Alphard	217° 57'.5	8° 42'.7 S	329° 26'.2	46.4	288° 45'.7	10'.7	11'.8	4'.3		N 50°	04:09	04:49	05:23	06:44	07:26	08:18									
	11	0° 22'.6	15° 11'.7	33.4	356° 16'.0	48.1	344° 36'.5	33.1	166° 47'.3	51.0					303° 15'.4	10.6	16.1	4'.2	55.1	N 45°	04:23	04:59	05:29	07:05	07:48	08:40										
	12	15° 25'.1	30° 11'.3	7° 32'.4 S	11° 16'.7	0° 48'.9 N	359° 38'.4	5° 33'.4 N	181° 50'.0	2° 50'.9 S	Alphecca	126° 12'.0	26° 40'.4 N	359° 26'.6	6° 48'.3 N	317° 45'.0	10'.6	22° 20'.3 N	4'.1	55.1	N 40°	04:33	05:06	05:34	07:21	08:06	08:58									
	13	30° 27'.5	45° 10'.9	31.3	26° 17'.4	49.7	14° 40'.3	33.6	196° 52'.6	50.8	Alpheratz	357° 45'.5	29° 09'.1 N	14° 26'.8	49.2	332° 14'.6	10'.5	24.3	3'.9		N 35°	04:42	05:12	05:38	07:35	08:21	09:14									
	14	45° 30'.0	60° 10'.5	30.2	41° 18'.0	50.5	29° 42'.2	33.8	21° 55'.3	50.8	Altair	62° 09'.8	8° 53'.8 N	29° 26'.9	50.2	346° 44'.1	10'.5	28'.0	3'.9		N 30°	04:49	05:17	05:42	07:47	08:34	09:27									
	15	60° 32'.5	75° 10'.2	29.1	56° 18'.7	51.3	44° 44'.1	34.1	226° 57'.9	50.7	Ankaa	353° 17'.6	42° 14'.6 S	44° 27'.1	51.1	1° 13'.6	10'.4	32.2	3'.7		N 20°	05:00	05:26	05:48	08:08	08:56	09:49									
	16	75° 34'.9	90° 09'.8	28.1	71° 19'.4	52.0	59° 46'.0	34.0	242° 00'.5	50.6	Antares	112° 28'.0	26° 27'.4 S	59° 27'.3	52.0	15° 43'.0	10'.3	35.9	3'.7	55.2	N 10°	05:08	05:32	05:54	08:26	09:16	10:09									
	17	90° 37'.4	105° 09'.4	27.0	86° 20'.1	52.8	74° 47'.9	34.5	257° 03'.2	50.5					74° 27'.5	53.0	30° 12'.3	10'.3	39.6	3'.5	0°	05:14	05:38	05:59	08:43	09:34	10:27									
	18	105° 39'.9	120° 09'.0	25.9	101° 20'.8	53.6	89° 49'.8	34.7	272° 05'.8	50.5	Arcturus	145° 56'.8	19° 07'.2 N	89° 27'.6	53.9	44° 41'.6	10'.3	43.1	3'.4		S 10°	05:18	05:43	06:04	09:00	09:52	10:45									
	19	120° 42'.3	135° 08'.7	24.8	116° 21'.5	54.4	104° 51'.7	35.0	287° 08'.5	50.4	Alraia	107° 31'.0	69° 02'.7 S	104° 27'.8	54.9	59° 10'.9	10'.2	46.5	3'.3		N 20°	05:21	05:47	06:09	09:18	10:12	11:04									
	20	135° 44'.8	150° 08'.3	23.8	131° 22'.2	55.2	119° 53'.6	35.2	302° 11'.1	50.3	Avior	234° 18'.6	59° 33'.1 S	119° 28'.0	55.8	73° 40'.1	10'.2	49.8	3'.2		N 30°	05:23	05:51	06:15	09:39	10:34	11:27									
	21	150° 47'.3	165° 07'.9	22.7	146° 22'.9	56.0	134° 55'.5	35.4	317° 13'.8	50.2	Bellatrix	278° 33'.8	6° 21'.5 N	134° 28'.2	56.7	88° 09'.3	10'.1	53.0	3'.0	55.3	N 35°	05:23	05:52	06:18	09:52	10:47	11:40									
	22	165° 49'.7	180° 07'.5	21.6	161° 23'.5	56.8	149° 57'.4	35.7	332° 16'.4	50.2	Betelgeuse	271° 03'.1	7° 24'.4 N	149° 28'.3	57.7	102° 38'.4	10'.1	56.0	3'.0		N 40°	05:23	05:54	06:22	10:06	11:02	11:55									
23	180° 52'.2	195° 07'.2	20.5	176° 24'.2	57.5	164° 59'.3	35.9	347° 19'.0	50.1					164° 28'.5	58.6	117° 07'.5	10.0	59.0	2'.8	45°	05:22	05:56	06:26	10:23	11:21	12:13										
Friday	00	195° 54'.7	210° 06'.8	7° 19'.4 S	191° 24'.9	0° 58'.3 N	180° 01'.2	5° 36'.1 N	2° 21'.7	2° 50'.0 S	Canopus	263° 57'.0	52° 42'.6 S	179° 28'.7	6° 59'.5 N	131° 36'.5	10'.0	23° 01'.8 N	2'.7	55.3	S 50°	05:21	05:58	06:31	10:44	11:43	12:36									
	01	210° 57'.1	225° 06'.4	18.4	206° 25'.6	59.1	195° 03'.1	36.4	17° 24'.3	49.9	Capella	280° 37'.0	46° 00'.6 N	194° 28'.8	7° 00'.5 N	146° 05'.5	9.9	04.5	2.6		S 52°	05:20	05:59	06:33	10:54	11:54	12:46									
	02	225° 59'.6	240° 06'.0	17.3	221° 26'.3	59.9	210° 05'.0	36.6	32° 27'.0	49.9	Deneb	49° 32'.8	45° 19'.0 N	209° 29'.0	01.4	160° 34'.4	9.9	07.1	2.5	55.4	N 54°	05:19	06:00	06:36	11:05	12:06	12:59									
	03	241° 02'.0	255° 05'.7	16.2	236° 27'.0	61.2	225° 06'.9	36.8	47° 29'.6	49.8	Denebola	182° 34'.9	14° 30'.3 N	224° 29'.2	02.4	175° 03'.3	9.9	09.6	2.4		N 56°	05:18	06:01	06:38	11:18	12:20	13:13									
	04	256° 04'.5	270° 05'.3	15.1	251° 27'.7	01.5	240° 08'.8	37.1	62° 32'.3	49.7	Diphda	348° 57'.8	17° 55'.5 S	239° 29'.4	03.3	189° 32'.2	9.8	12.0	2.3		N 58°	05:17	06:02	06:42	11:33	12:37	13:29									
	05	271° 07'.0	285° 04'.9	14.0	266° 28'.4	02.2	255° 10'.7	37.3	77° 34'.9	49.6					254° 29'.5	04.2	204° 01'.0	9.7	14.3	2.1		S 60°	05:15	06:03	06:45	11:51	12:57	13:48								
	06	286° 09'.4	300° 04'.5	13.0	281° 29'.1	03.0	270° 12'.6	37.5	92° 37'.5	49.6	Dubhe	193° 52'.9	61° 41'.4 N	269° 29'.7	05.2	218° 29'.7	9.7	16.4	2.0		S 52°	05:13	06:04	06:49	12:14	13:22	14:13									
	07	301° 11'.9	315° 04'.2	11.9	296° 29'.7	03.8	285° 14'.5	37.8	107° 40'.2	49.5	Elnath	278° 14'.8	28° 37'.0 N	284° 29'.9	06.1	232° 58'.4	9.7	18.4	1.9	55.5	S 62°	05:13	06:04	06:49	12:14	13:22	14:13									
	08	316° 14'.4	330° 03'.8	10.8	311° 30'.4	04.6	300° 16'.4	38.0	122° 42'.8	49.4	Elainin	90° 46'.7	51° 29'.0 N	299° 30'.1	07.0	247° 27'.1	9.7	20.3	1.8			Lat	Sunset	Twilight		Moonset										
	09	331° 16'.8	345° 03'.4	09.7	326° 31'.1	05.4	315° 18'.3	38.2	137° 45'.5	49.3	Enif	33° 48'.9	9° 55'.5 N	314° 30'.2	08.0	261° 55'.8	9.6	22.1	1.6			Civil	Nautical	7	8	9										
	10	346° 19'.3	0° 03'.1	08.6	341° 31'.8	06.2	330° 20'.2	38.5	152° 48'.1	49.3	Fomalhaut	15° 26'.0	29° 33'.7 S	329° 30'.4	08.9	276° 24'.4	9.5	23.7	1.6																	
	11	1° 21'.8	15° 02'.7	07.6	356° 32'.5	06.9	345° 22'.1	38.7	167° 50'.8	49.2					344° 30'.6	09.9	290° 52'.9	9.5	25.3	1.4	55.6	N 72°	19:47	21:12	-	-	-									
	12	16° 24'.2	30° 02'.3	7° 06'.5 S	11° 33'.2	1° 07'.7 N	0° 24'.0	5° 38'.9 N	182° 53'.4	2° 49'.1 S	Gacrux	172° 02'.2	57° 10'.8 S	359° 30'.8	7° 10'.8 N	305° 21'.4	9.5	23° 26'.7 N	1'.3	55.6	N 70°	19:35	20:47	23:03	-	-										
	13	31° 26'.7	45° 01'.9	05.4	26° 33'.9	08.5	15° 25'.9	39.2	197° 56'.0	49.0	Gienah	175° 53'.6	17° 36'.5 S	14° 30'.9	11.7	319° 49'.9	9.5																			



**2011 April 13, 14, 15 (Wed, Thur, Fri)**

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.1			SATURN +0.4			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	N 72°	02:11	03:47	11:21	13:41	15:57			
Wednesday	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v <td>Dec</td> <td>d</td> <td>HP</td> <td>N 72°</td> <td>-</td> <td>02:11</td> <td>03:47</td> <td>11:21</td> <td>13:41</td> <td>15:57</td>	Dec	d	HP	N 72°	-	02:11	03:47	11:21	13:41	15:57
	01	200° 50.4	209° 23.4	5° 07.5 S	192° 47.8	2° 32.1 N	183° 49.6	6° 03.8 N	7° 38.7	2° 41.2 S	Acamar	315° 19.9	40° 15.7 S	179° 48.8	8° 50.5 N	67° 41.2	9.4	13° 44.5 N	11.7	59.0	N 70°	-	02:44	04:03	11:42	13:49	15:55				
	02	215° 52.8	224° 23.0	06.4	207° 48.4	32.8	198° 51.5	04.1	22° 41.3	41.1	Acamar	335° 28.4	57° 10.7 S	194° 48.8	51.4	82° 09.6	9.5	32.8	11.7	68°	01:02	03:07	04:15	11:57	13:56	15:54					
	03	230° 55.3	239° 22.7	05.3	222° 49.1	33.6	213° 53.4	04.3	37° 44.0	41.0	Acruz	173° 10.6	63° 09.9 S	209° 49.1	52.3	96° 38.1	9.5	21.1	11.8	66°	01:52	03:25	04:25	12:10	14:01	15:53					
	04	245° 57.7	254° 22.3	04.2	237° 49.8	34.4	228° 55.3	04.5	52° 46.6	40.9	Adhara	255° 13.8	28° 59.6 S	224° 49.3	53.2	111° 06.6	9.5	09.3	11.9	59.1	64°	02:22	03:40	04:34	12:20	14:06	15:52				
	05	261° 00.2	269° 22.0	03.1	252° 50.5	35.2	243° 57.2	04.7	67° 49.2	40.9	Aldebaran	290° 51.4	16° 31.9 N	239° 49.4	54.1	125° 35.1	9.5	12° 57.4 N	12.0	62°	02:44	03:52	04:41	12:29	14:09	15:51					
	06	276° 02.7	284° 21.6	02.0	267° 51.2	35.9	258° 59.1	05.0	82° 51.9	40.8					254° 49.6	55.0	140° 03.6	9.5	45.4	12.1	60°	03:02	04:02	04:48	12:37	14:13	15:51				
	07	291° 05.1	299° 21.3	00.8	282° 51.9	36.7	274° 01.0	05.2	97° 54.5	40.7	Alioth	166° 21.4	55° 53.8 N	269° 49.7	56.0	154° 32.1	9.5	33.3	12.2	59.2	N 58°	03:16	04:11	04:53	12:44	14:16	15:50				
	08	306° 07.6	314° 20.9	4° 59.7 S	297° 52.6	37.5	289° 02.9	05.4	112° 57.2	40.7	Alkaid	152° 59.6	49° 15.2 N	284° 49.9	56.9	169° 00.6	9.6	21.1	12.3	56°	03:28	04:18	04:58	12:49	14:18	15:50					
	09	321° 10.1	329° 20.6	58.6	312° 53.3	38.3	304° 04.8	05.7	127° 59.8	40.6	Alnair	27° 45.9	46° 54.2 S	299° 50.1	57.8	183° 29.2	9.5	08.8	12.3	54°	03:38	04:25	05:03	12:55	14:21	15:49					
	10	336° 12.5	344° 20.2	57.5	327° 54.0	39.1	319° 06.7	05.9	143° 02.4	40.5	Alnilam	275° 48.1	1° 11.8 S	314° 50.2	58.7	197° 57.7	9.6	11° 56.5 N	12.4	59.3	52°	03:47	04:31	05:07	12:59	14:23	15:49				
	11	351° 15.0	359° 19.9	56.4	342° 54.7	39.8	334° 08.6	06.1	158° 05.1	40.4	Alphard	217° 57.5	8° 42.7 S	329° 50.4	59.6	212° 26.3	9.6	44.1	12.5	50°	03:55	04:36	05:10	13:04	14:25	15:48					
	12	6° 17.5	14° 19.5	55.2	357° 55.4	40.6	349° 10.5	06.3	173° 07.7	40.4					173° 07.7	40.4	349° 10.5	9.6	34.6	12.6	59.4	45°	04:11	04:47	05:18	13:13	14:29	15:48			
	13	21° 19.9	29° 19.2	4° 54.1 S	12° 56.1	2° 41.4 N	4° 12.4	6° 06.6 N	188° 10.4	2° 40.3 S	Alphecca	126° 12.0	26° 40.4 N	359° 50.7	9° 01.4 N	241° 23.5	9.5	11° 19.0 N	12.7	59.4	N 40°	04:23	04:57	05:24	13:20	14:33	15:47				
	14	36° 22.4	44° 18.8	53.0	27° 56.7	42.2	19° 14.3	06.8	203° 13.0	40.2	Alpheratz	357° 45.5	29° 09.1 N	14° 50.9	02.3	255° 52.0	9.6	06.3	12.7	35°	04:33	05:04	05:30	13:27	14:36	15:46					
	15	51° 24.8	59° 18.5	51.9	42° 57.4	42.9	218° 15.6	04.0	218° 15.6	40.2	Altair	62° 09.8	8° 53.8 N	29° 51.0	03.2	270° 20.6	9.7	10° 53.6 N	12.8	59.5	30°	04:42	05:10	05:35	13:33	14:39	15:46				
	16	66° 27.3	74° 18.1	50.7	57° 58.1	43.7	49° 18.1	07.3	233° 18.3	40.1	Ankaa	353° 17.6	42° 14.6 S	44° 51.2	04.1	284° 49.3	9.6	40.8	12.9	20°	04:55	05:21	05:43	13:43	14:43	15:45					
	17	81° 29.8	89° 17.8	49.6	72° 58.8	44.5	64° 20.0	07.5	248° 20.9	40.0	Antares	112° 27.9	26° 27.4 S	59° 51.3	05.0	299° 17.9	9.6	27.9	13.0	59.6	N 10°	05:04	05:29	05:50	13:51	14:47	15:44				
	18	96° 32.2	104° 17.5	48.5	87° 59.5	45.3	79° 21.9	07.7	263° 23.6	39.9					74° 51.5	05.9	313° 46.5	9.6	14.9	13.0	59.6	0°	05:12	05:36	05:57	13:59	14:51	15:44			
	19	111° 34.7	119° 17.1	47.4	103° 00.2	46.0	94° 23.8	08.0	278° 26.2	39.9	Arcturus	145° 56.8	19° 07.2 N	89° 51.7	06.8	328° 15.1	9.7	01.9	13.1	59.8	S 10°	05:18	05:42	06:04	14:07	14:55	15:43				
	20	126° 37.2	134° 16.8	46.3	118° 00.9	46.8	109° 25.7	08.2	293° 28.8	39.8	Alraia	107° 30.0	69° 02.7 S	104° 51.8	07.7	342° 43.8	9.6	9° 48.8 N	13.2	20°	05:23	05:48	06:10	14:16	14:59	15:42					
	21	141° 39.6	149° 16.4	45.1	133° 01.6	47.6	124° 27.6	08.4	308° 31.5	39.7	Avior	234° 18.6	59° 33.2 S	119° 52.0	08.6	357° 12.4	9.6	35.6	13.3	59.7	30°	05:26	05:54	06:18	14:26	15:04	15:42				
	22	156° 42.1	164° 16.1	44.0	148° 02.3	48.4	139° 29.5	08.6	323° 34.1	39.6	Bellatrix	278° 33.9	6° 21.5 N	134° 52.1	09.5	11° 41.0	9.7	22.3	13.3	35°	05:28	05:57	06:23	14:31	15:07	15:41					
23	171° 44.6	179° 15.7	42.9	163° 03.0	49.1	154° 31.4	08.9	338° 36.7	39.6	Betelgeuse	271° 03.1	7° 24.4 S	149° 52.3	10.5	26° 09.7	9.6	69.0	13.4	40°	05:29	06:00	06:28	14:37	15:10	15:41						
14	186° 47.0	194° 15.4	41.8	178° 03.7	49.9	169° 33.3	09.1	353° 39.4	39.5					164° 52.4	11.4	40° 38.3	9.7	8° 55.6 N	13.5	59.8	45°	05:30	06:04	06:33	14:45	15:13	15:40				
Thursday	00	201° 49.5	209° 15.0	4° 40.6 S	193° 04.4	2° 50.7 N	184° 35.2	8° 42.0	2° 39.4 S	Canopus	263° 57.0	52° 42.6 S	179° 52.6	9° 12.3 N	55° 07.0	9.6	8° 42.1 N	13.5	59.8	S 50°	05:30	06:07	06:40	14:54	15:17	15:40					
	01	216° 52.0	224° 14.7	39.5	208° 05.1	51.5	199° 37.1	09.6	23° 44.7	39.4	Capella	50° 37.0	46° 00.6 S	194° 52.8	13.2	69° 35.6	9.7	28.6	13.6	52°	05:30	06:09	06:43	14:58	15:19	15:40					
	02	231° 54.4	239° 14.3	38.4	223° 05.8	52.3	214° 39.0	09.8	38° 47.3	39.3	Deneb	49° 32.7	45° 19.0 N	209° 52.9	14.1	84° 04.3	9.7	15.0	13.6	54°	05:30	06:11	06:47	15:02	15:21	15:39					
	03	246° 56.9	254° 14.0	37.3	238° 06.4	53.0	232° 40.9	10.0	53° 49.9	39.0	Denebola	182° 34.9	14° 30.3 S	224° 53.1	15.0	98° 33.0	9.6	10.4	13.7	59.9	56°	05:30	06:13	06:50	15:07	15:23	15:39				
	04	261° 59.3	269° 13.6	36.1	253° 07.1	53.8	244° 42.8	10.2	68° 52.6	39.1	Diphda	348° 57.7	17° 55.5 S	239° 53.2	15.9	113° 01.6	9.7	7° 47.7 N	13.8	58°	05:29	06:15	06:55	15:12	15:26	15:39					
	05	277° 01.8	284° 13.3	35.0	268° 07.8	54.6	259° 44.7	10.5	83° 55.2	39.1					254° 53.4	16.8	127° 30.3	9.6	33.9	13.8	S 60°	05:29	06:17	06:59	15:18	15:29	15:38				
	06	292° 04.3	299° 12.9	33.9	283° 08.5	55.4	274° 46.6	10.7	98° 57.9	39.0	Dubhe	193° 52.9	61° 41.4 N	269° 53.5	17.7	141° 58.9	9.7	20.1	13.9	60.0	S 62°	05:28	06:19	07:05	15:25	15:32	15:38				
	07	307° 06.7	314° 12.6	32.8	298° 09.2	56.1	289° 48.6	10.9	114° 00.5	38.9	Elnath	278° 14.8	28° 37.0 N	284° 53.7	18.6	156° 27.6	9.6	06.2	14.0												
	08	322° 09.2	329° 12.3	31.6	313° 09.9	56.9	304° 50.5	11.2	129° 03.1	38.9	Elainin	90° 46.6	51° 29.0 N	299° 53.9	19.5	170° 56.2	9.7	6° 52.2 N	14.0												
	09	337° 11.7	344° 11.9	30.5	328° 10.6	57.7	319° 52.4	11.4	144° 05.8	38.8	Enif	33° 48.8	9° 55.6 N	314° 54.0	20.4	185° 24.9	9.6	38.2	14.0	60.1	Lat	Sunset	Twilight								
	10	352° 14.1	359° 11.6	29.4	343° 11.3	58.5	334° 54.3	11.6	159° 08.4	38.7	Fomalhaut	15° 25.9	29° 33.6 S	329° 54.2	21.3	199° 53.5	9.6	24.2	14.1												
	11	7° 16.6	14° 11.2	28.3	358° 12.0	59.2	349° 56.2	11.8	174° 11.1	38.6					344° 54.3	22.2	214° 22.1	9.7	10.1	14.2											
	12	22° 19.1	29° 10.9	4° 27.1 S	13° 12.7	3° 00.0 N	4° 58.1	6° 12.1 N	189° 13.7	2° 38.6 S	Gacrux	172° 02.2	57° 10.8 S	359° 54.5	9° 23.1 N	228° 50.8	9.6	5° 55.9 N	14.2	60.2	N 70°	20:17	21:57	-	04:34	04:05	03:42				
	13	37° 21.5	44° 10.5	26.0	28° 13.4	00.8	20° 00.0	12.3	204° 16.3	38.5	Gienah	175° 53.6																			

2011 April 16, 17, 18 (Sat, Sun, Mon)

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.1			SATURN +0.4			STARS			SUN		MOON			Lat		Twilight		Sunrise		16		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	03:30	18:17	20:53	18								
Saturday	00	203° 47.8	208° 58'6"	3° 46.4 S	193° 37'6"	3° 27'8" N	186° 06'6"	6° 20'3" N	10° 48'7"	2° 36'0" S	180° 00'0"	9° 55'3" N	29° 50'9"	8'9"	2° 54'2" S	14'9"	61.0	N 70°	-	01:41	03:30	18:17	20:53	-														
	01	218° 50.2	223° 58'2"	45.3	208° 38'3"	28.6	201° 08'5"	20.5	25° 51'3"	35.9	335° 28'4"	57° 10'7" S	195° 00'1"	56.2	44° 18'8"	8'8"	3° 09'1" S	15'0"	68°	-	02:23	03:48	18:05	20:24	23:21													
	02	233° 52.7	238° 57'9"	44.1	223° 39'0"	29.4	216° 10'4"	20.7	40° 53'9"	35.9	173° 10'6"	63° 10'0" S	210° 00'3"	57.1	58° 46'6"	8'8"	24.1	14'9"	66°	01:27	03:11	04:14	17:48	19:47	21:50													
	03	248° 55.2	253° 57'5"	43.0	238° 39'7"	30.1	231° 12'3"	21.0	55° 56'6"	35.8	255° 13'8"	28° 59'6" S	225° 00'4"	58.0	73° 14'4"	8'8"	39.0	14'8"	64°	02:05	03:28	04:23	17:41	19:33	21:27													
	04	263° 57'6"	268° 57'2"	41.8	253° 40'4"	30.9	246° 14'2"	21.2	70° 59'2"	35.7	290° 51'4"	16° 31'9" N	240° 00'6"	58.9	87° 42'2"	8'7"	53.8	14'9"	61.1	02:30	03:41	04:32	17:35	19:22	21:09													
	05	279° 00'1"	283° 56'9"	40.7	268° 41'1"	31.7	261° 16'1"	21.4	86° 01'8"	35.7			255° 00'7"	59.8	102° 09'9"	8'6"	4° 08'7" S	14'9"	60°	02:49	03:52	04:39	17:31	19:13	20:54													
	06	294° 02'5"	298° 56'5"	39.6	283° 41'8"	32.5	276° 18'0"	21.7	101° 04'5"	35.6	166° 21'4"	55° 53'8" N	270° 00'9"	10° 00'7" N	116° 37'5"	8'7"	23'6"	14'8"	58°	03:05	04:02	04:45	17:26	19:04	20:42													
	07	309° 05'0"	313° 56'2"	38.4	298° 42'5"	33.2	291° 19'9"	21.9	116° 07'1"	35.5	152° 59'6"	49° 15'3" N	285° 01'0"	01'5"	131° 05'2"	8'5"	38'4"	14'8"	56°	03:18	04:10	04:51	17:23	18:57	20:31													
	08	324° 07'5"	328° 55'9"	37.3	313° 43'2"	34.0	306° 21'8"	22.1	131° 09'8"	35.4	27° 45'9"	46° 54'1" S	300° 01'2"	02'4"	145° 32'7"	8'6"	53'2"	14'8"	54°	03:29	04:17	04:56	17:19	18:51	20:21													
	09	339° 09'9"	343° 55'5"	36.2	328° 43'9"	34.8	321° 23'7"	22.3	146° 12'4"	35.4	328° 48'1"	1° 11'8" S	315° 01'3"	03'3"	160° 00'3"	8'5"	5° 08'0" S	14'7"	50°	03:39	04:24	05:00	17:16	18:45	20:13													
	10	354° 12'4"	358° 55'2"	35.0	343° 44'6"	35.5	336° 25'6"	22.6	161° 15'0"	35.3	217° 57'5"	8° 42'7" S	330° 01'5"	04'2"	174° 27'8"	8'5"	22'7"	14'8"	50°	03:47	04:30	05:04	17:13	18:40	20:05													
	11	9° 14'9"	13° 54'8"	33.9	358° 45'2"	36.3	351° 27'5"	22.8	176° 17'7"	35.2			345° 01'6"	05'1"	188° 55'3"	8'4"	37'5"	14'7"	45°	04:05	04:42	05:13	17:07	18:28	19:49													
	12	24° 17'3"	28° 54'5"	3° 32'7" S	13° 45'9"	3° 37'1" N	6° 29'4"	6° 23'0" N	191° 20'3"	2° 35'2" S	126° 12'0"	26° 40'4" N	0° 01'8"	10° 06'0" N	203° 22'7"	8'4"	5° 52'2" S	14'6"	61.1	N 40°	04:18	04:52	05:20	17:02	18:19	19:36												
	13	39° 19'8"	43° 54'2"	31.6	28° 46'6"	37.9	21° 31'3"	23.3	206° 22'9"	35.1	357° 45'5"	29° 09'1" N	15° 01'9"	06'9"	217° 50'1"	8'3"	6° 06'8" S	14'7"	61.2	35°	04:29	05:00	05:26	16:58	18:11	19:25												
	14	54° 22'3"	58° 53'8"	30.5	43° 47'3"	38.6	36° 33'2"	23.5	221° 25'6"	35.0	62° 09'8"	8° 53'8" N	30° 02'1"	07'8"	232° 17'4"	8'3"	21'5"	14'6"	30°	04:38	05:07	05:32	16:54	18:04	19:15													
	15	69° 24'7"	73° 53'5"	29.3	58° 48'0"	39.4	51° 35'2"	23.7	236° 28'2"	35.0	353° 17'6"	42° 14'6" S	45° 02'2"	08'6"	246° 44'7"	8'2"	36'1"	14'5"	20°	04:52	05:18	05:41	16:48	17:53	18:59													
	16	84° 27'2"	88° 53'1"	28.2	73° 48'7"	40.2	66° 37'1"	23.9	151° 30'8"	34.9	112° 27'9"	26° 27'4" S	60° 02'4"	09'6"	261° 11'9"	8'2"	50'6"	14'6"	10°	05:03	05:27	05:49	16:42	17:42	18:44													
	17	99° 29'7"	103° 52'8"	27.1	88° 49'4"	40.9	81° 39'0"	24.2	266° 33'5"	34.8			75° 02'5"	10'4"	275° 39'1"	8'2"	7° 05'2" S	14'5"	0°	05:11	05:35	05:56	16:37	17:33	18:31													
	18	114° 32'1"	118° 52'5"	25.9	103° 50'1"	41.7	96° 40'9"	24.6	281° 36'1"	34.7	145° 56'8"	19° 07'2" N	90° 02'7"	11'3"	290° 06'3"	8'1"	19'7"	14'4"	10°	05:18	05:42	06:04	16:32	17:23	18:17													
	19	129° 34'6"	133° 52'1"	24.8	118° 50'8"	42.5	110° 42'8"	24.6	296° 38'8"	34.7	107° 30'8"	69° 02'7" S	105° 02'8"	12'2"	304° 33'4"	8'0"	34'1"	14'4"	20°	05:23	05:49	06:11	16:27	17:13	18:03													
	20	144° 37'0"	148° 51'8"	23.6	133° 51'5"	43.2	126° 44'7"	24.8	311° 41'4"	34.6	234° 18'6"	59° 33'2" S	120° 03'0"	13'1"	319° 00'4"	8'0"	48'5"	14'4"	30°	05:28	05:56	06:20	16:21	17:02	17:47													
	21	159° 39'5"	163° 51'5"	22.5	148° 52'2"	44.0	141° 46'6"	25.1	326° 44'0"	34.5	278° 33'9"	6° 21'5" N	135° 03'1"	14'0"	333° 27'4"	8'0"	8° 02'9" S	14'3"	35°	05:30	05:59	06:25	16:17	16:56	17:38													
	22	174° 42'0"	178° 51'1"	21.4	163° 52'9"	44.8	156° 48'5"	25.3	341° 46'7"	34.5	171° 03'1"	7° 24'4" N	150° 03'4"	14'8"	347° 54'4"	7'9"	17'2"	14'4"	30°	05:32	06:03	06:21	16:13	16:48	17:27													
23	189° 44'4"	193° 50'8"	20.2	178° 53'6"	45.6	171° 50'4"	25.5	356° 49'3"	34.4			165° 03'4"	15'7"	2° 21'3"	7'8"	31'4"	14'2"	45°	05:33	06:07	06:37	16:09	16:40	17:15														
Sunday	00	204° 46'9"	208° 50'4"	3° 19'1" S	193° 54'3"	3° 46'3" N	186° 52'3"	6° 25'8" N	11° 51'9"	2° 34'3" S	180° 03'6"	10° 16'6" N	16° 48'1"	7'8"	8° 45'6" S	14'2"	61.2	S 50°	05:34	06:12	06:45	16:03	16:30	17:00														
	01	219° 49'4"	223° 50'1"	17.9	208° 55'0"	47.1	201° 54'2"	17.9	26° 54'6"	34.3	280° 37'1"	46° 00'6" N	195° 03'7"	17'5"	31° 14'9"	7'8"	59'8"	14'1"	52°	05:35	06:14	06:48	16:01	16:25	16:53													
	02	234° 51'8"	238° 49'8"	16.8	223° 55'7"	47.9	216° 56'1"	26.2	41° 57'2"	34.2	49° 32'7"	45° 19'0" N	210° 03'9"	18'4"	45° 41'7"	7'7"	9° 13'9" S	14'0"	54°	05:35	06:16	06:52	15:58	16:20	16:46													
	03	249° 54'3"	253° 49'4"	15.6	238° 56'3"	48.6	231° 58'0"	16.6	56° 59'8"	34.0	182° 34'9"	14° 30'4" N	225° 04'0"	19'3"	60° 08'1"	7'6"	27'9"	14'0"	56°	05:35	06:18	06:56	15:55	16:14	16:37													
	04	264° 56'8"	268° 49'1"	14.5	253° 57'0"	49.4	246° 59'9"	26.7	72° 02'5"	34.0	348° 57'7"	17° 55'5" S	240° 04'2"	20'1"	74° 35'0"	7'6"	41'9"	13'9"	58°	05:35	06:21	07:01	15:52	16:08	16:28													
	05	279° 59'2"	283° 48'8"	13.4	268° 57'7"	50.2	262° 01'8"	27.9	87° 05'1"	34.0			255° 04'3"	21'0"	89° 01'6"	7'6"	55'8"	13'8"	S 60°	05:35	06:24	07:07	15:49	16:01	16:17													
	06	295° 01'7"	298° 48'4"	12.2	283° 58'4"	50.9	277° 03'7"	26.1	102° 07'8"	33.9	193° 53'0"	61° 41'4" N	270° 04'4"	21'9"	283° 28'2"	7'4"	10° 09'6" S	13'8"	S 62°	05:35	06:27	07:13	15:44	15:53	16:04													
	07	310° 04'1"	313° 48'1"	11.1	298° 59'1"	51.7	292° 05'6"	27.3	117° 10'4"	33.8	278° 14'8"	28° 37'0" S	285° 04'6"	22'8"	117° 54'6"	7'5"	23'4"	13'7"																				
	08	325° 06'6"	328° 47'8"	09.9	313° 59'8"	52.5	307° 07'5"	27.6	132° 13'0"	33.8	90° 46'6"	51° 29'0" N	300° 04'7"	23'7"	132° 21'1"	7'4"	37'1"	13'7"																				
	09	340° 09'1"	343° 47'4"																																			

# 2011 April 19, 20, 21 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.1			SATURN +0.4			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	2° 24.1 S	GHA	Dec	4° 23.2 N	GHA	Dec	6° 36.6 N	GHA	Dec	2° 31.0 S	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	03:12	19	20	21
Tuesday	00	206° 45.2	208° 34.4	22° 24.1 S	194° 27.6	4° 23.2 N	188° 23.7	6° 36.6 N	13° 58.4	2° 31.0 S	19° 01.0	30.9	Acamar	315° 19.9	40° 15.7 S	180° 10.4	10° 58.7 N	349° 14.5	5.4	18° 30.2 S	9.4	60.7	N 70°	-	01:02	03:12	-	-	-	-		
	01	221° 47.6	223° 34.1	22.9	209° 28.2	23.9	203° 25.6	36.9	29° 01.0	30.9	57° 10.7 S	5.2	68°	-	-	195° 10.6	59.5	3° 38.9	5.2	39.6	9.4	68°	-	02:00	03:33	-	-	-	-			
	02	236° 50.1	238° 33.7	21.8	224° 28.9	24.7	218° 27.5	37.1	44° 03.7	30.9	64° 03.7	30.8	Acrux	173° 10.6	63° 10.0 S	210° 10.7	11° 00.4 N	18° 03.1	5.3	49.0	9.2	66°	00:54	02:57	04:02	23:56	-	-	01:52	-		
	03	251° 52.6	253° 33.4	20.6	239° 29.6	25.5	233° 29.4	37.3	59° 06.3	30.8	Adhara	255° 13.9	28° 59.6 S	225° 10.8	01.3	32° 27.4	5.2	225° 10.8	01.3	58.2	9.0	64°	01:45	03:15	04:13	23:18	-	-	00:52	-		
	04	266° 55.0	268° 33.1	19.5	254° 30.3	26.2	248° 31.3	37.5	74° 08.9	30.7	Aldebaran	290° 51.4	16° 31.8 N	240° 11.0	02.1	46° 51.6	5.1	19° 07.2 S	8.9	62°	02:15	03:30	04:22	22:51	-	-	00:18	-				
	05	281° 57.5	283° 32.7	18.3	269° 31.0	27.0	263° 33.2	37.8	89° 11.6	30.7	89° 11.6	30.7	255° 11.1	03.0	61° 15.7	5.2	16.1	8.8	60.6	60°	02:37	03:42	04:30	22:31	23:53	24:53	-	-	-	-		
	06	297° 00.0	298° 32.4	17.2	284° 31.7	27.7	278° 35.1	38.0	104° 14.2	30.6	Alioth	166° 21.4	55° 53.8 N	270° 11.3	03.9	75° 39.9	5.1	24.9	8.6	60°	03:09	04:02	04:43	22:00	23:17	24:17	-	-	-	-		
	07	312° 02.4	313° 32.1	16.0	299° 32.4	28.5	293° 37.0	38.2	119° 16.8	30.5	Alkaid	152° 59.6	49° 15.3 N	285° 11.4	04.7	90° 04.0	5.0	33.5	8.5	56°	03:21	04:10	04:49	21:47	23:03	24:03	-	-	-	-		
	08	327° 04.9	328° 31.7	14.9	314° 33.1	29.3	308° 38.9	38.4	134° 19.5	30.5	Alnair	27° 45.8	46° 54.1 S	300° 11.5	05.6	104° 28.0	5.0	42.0	8.3	52°	03:31	04:10	04:49	21:47	23:03	24:03	-	-	-	-		
	09	342° 07.4	343° 31.4	13.7	329° 33.8	30.0	323° 40.8	38.7	149° 22.1	30.4	Alnilam	275° 48.1	1° 11.8 S	315° 11.7	06.5	118° 52.0	5.0	50.3	8.2	60.5	03:40	04:17	04:54	21:37	22:50	23:51	-	-	-	-		
	10	357° 09.8	358° 31.1	12.6	344° 34.5	30.8	338° 42.7	38.9	164° 24.7	30.3	Alphard	217° 57.5	8° 42.7 S	330° 11.8	07.3	133° 16.0	5.0	58.5	8.0	50°	03:40	04:23	04:58	21:27	22:40	23:40	-	-	-	-		
	11	12° 12.3	13° 30.7	11.4	359° 35.2	31.6	353° 44.6	39.1	179° 27.4	30.3	353° 44.6	39.1	179° 27.4	30.3	345° 11.9	08.2	147° 40.0	4.9	20° 06.5 S	7.9	50°	03:59	04:37	05:08	21:07	22:17	23:17	-	-	-	-	
	12	27° 14.7	28° 30.4	2° 10.3 S	14° 35.9	4° 32.3 N	8° 46.5	6° 39.3 N	194° 30.0	2° 30.2 S	Alphecca	126° 12.0	26° 40.4 N	0° 12.1	11° 09.1 N	162° 03.9	4.9	20° 14.4 S	7.8	60.4	N 40°	04:13	04:47	05:16	20:50	21:59	22:59	-	-	-	-	
	13	42° 17.2	43° 30.1	09.1	29° 36.6	33.1	23° 48.5	39.6	209° 32.6	30.1	Alpheratz	357° 45.5	29° 09.1 N	15° 12.2	09.9	176° 27.8	4.9	22.2	7.6	35°	04:25	04:56	05:22	20:37	21:44	22:44	-	-	-	-		
	14	57° 19.7	58° 29.7	08.0	44° 37.3	33.9	38° 50.4	39.8	224° 35.3	30.0	Altair	62° 09.7	8° 53.8 N	30° 12.4	10.8	190° 51.7	4.9	29.8	7.4	30°	04:34	05:04	05:28	20:25	21:31	22:31	-	-	-	-		
	15	72° 22.1	73° 29.4	06.8	59° 38.0	34.6	53° 52.3	40.0	239° 37.9	30.0	Ankaa	353° 17.6	42° 14.6 S	45° 12.5	11.7	205° 15.6	4.8	37.2	7.3	20°	04:49	05:16	05:39	20:04	21:08	22:08	-	-	-	-		
	16	87° 24.6	88° 29.1	05.7	74° 38.7	35.4	68° 54.2	40.2	254° 40.5	29.9	Antares	112° 27.9	26° 27.4 S	60° 12.6	12.5	219° 39.4	4.8	44.5	7.2	60.3	N 10°	05:01	05:26	05:47	19:47	20:49	21:49	-	-	-	-	
	17	102° 27.1	103° 28.8	04.5	89° 39.3	36.1	83° 56.1	40.5	269° 43.2	29.8	75° 12.8	13.4	234° 03.2	4.8	51.7	7.0	60.1	0°	05:10	05:35	05:56	19:31	20:31	21:30	-	-	-	-	-	-	-	
	18	117° 29.5	118° 28.4	03.4	104° 40.0	36.9	98° 58.0	40.7	284° 45.8	29.8	Arcturus	145° 56.8	19° 07.2 N	90° 12.9	14.2	248° 27.0	4.8	58.7	6.8	60.2	S 10°	05:18	05:42	06:04	19:14	20:13	21:12	-	-	-	-	
	19	132° 32.0	133° 28.1	02.2	119° 40.7	37.7	113° 59.9	40.9	299° 48.4	29.7	Alraia	103° 18.0	69° 02.7 S	105° 13.0	15.1	262° 50.8	4.7	21° 05.5 S	6.7	60.2	20°	05:24	05:50	06:12	18:57	19:54	20:53	-	-	-	-	
	20	147° 34.5	148° 27.8	01.1	134° 41.4	38.4	129° 01.8	41.2	314° 51.1	29.6	Avior	234° 18.7	59° 33.2 S	120° 13.2	16.0	277° 14.5	4.8	12.2	6.5	30°	05:30	05:58	06:22	18:37	19:32	20:30	-	-	-	-		
	21	162° 36.9	163° 27.4	1° 59.9 S	149° 42.1	39.2	144° 03.7	41.4	329° 53.7	29.6	Bellatrix	278° 33.9	6° 21.5 N	135° 13.3	16.8	291° 38.3	4.7	18.7	6.4	35°	05:32	06:02	06:27	18:26	19:19	20:17	-	-	-	-		
	22	177° 39.4	178° 27.1	58.7	164° 42.8	40.0	159° 05.6	41.6	344° 56.3	29.5	Betelgeuse	271° 03.2	7° 24.4 S	150° 13.4	17.7	306° 02.0	4.7	25.1	6.4	40°	05:34	06:06	06:34	18:13	19:04	20:02	-	-	-	-		
23	192° 41.9	193° 26.8	57.6	179° 43.5	40.7	174° 07.5	41.8	359° 59.0	29.4	165° 13.6	18.6	320° 25.7	4.7	31.3	6.1	60.1	45°	05:36	06:11	06:41	17:57	18:47	19:44	-	-	-	-	-	-	-		
Wednesday	00	207° 44.3	208° 26.4	1° 56.4 S	194° 44.2	4° 41.5 N	189° 09.4	6° 42.1 N	15° 01.6	2° 29.4 S	Canopus	263° 57.1	52° 42.4 S	180° 13.7	11° 19.4 N	334° 49.4	4.7	21° 37.3 S	5.9	60.1	S 50°	05:38	06:16	06:49	17:38	18:25	19:21	-	-	-	-	
	01	222° 46.8	223° 26.1	55.3	209° 44.9	42.2	204° 11.3	42.3	30° 04.2	29.3	Capella	280° 37.1	46° 00.6 N	195° 13.8	20.3	349° 13.1	4.7	43.3	5.8	60.0	S 52°	05:39	06:19	06:53	17:29	18:15	19:11	-	-	-	-	
	02	237° 49.2	238° 25.8	54.1	224° 45.6	43.0	219° 13.2	42.5	45° 06.9	29.2	Deneb	49° 32.6	45° 19.0 N	210° 14.0	21.1	3° 36.8	4.6	49.1	5.6	60.0	S 54°	05:40	06:21	06:58	17:19	18:03	18:58	-	-	-	-	
	03	252° 51.7	253° 25.4	53.0	239° 46.3	43.8	234° 15.1	42.7	60° 09.5	29.2	Denebola	182° 35.0	14° 30.4 N	225° 14.1	22.0	18° 00.4	4.7	54.7	5.4	56°	05:41	06:24	07:02	17:08	17:50	18:45	-	-	-	-		
	04	267° 54.2	268° 25.1	51.8	254° 47.0	44.5	249° 17.0	43.0	75° 12.1	29.1	Diphda	348° 57.7	17° 55.5 S	240° 14.2	22.9	32° 24.1	4.7	22° 00.1 S	5.3	58°	05:41	06:27	07:08	16:55	17:34	18:28	-	-	-	-		
	05	282° 56.6	283° 24.8	50.7	269° 47.7	45.3	264° 18.9	43.2	90° 14.8	29.0	255° 14.4	23.7	46° 47.8	4.6	05.4	5.1	59.9	S 60°	05:42	06:30	07:14	16:40	17:16	18:09	-	-	-	-	-	-	-	
	06	297° 59.1	298° 24.5	49.5	284° 48.4	46.1	279° 20.8	43.4	105° 17.4	29.0	Dubhe	193° 53.0	61° 41.4 N	270° 14.5	24.6	61° 11.4	4.7	10.5	4.9	59.8	S 62°	05:42	06:34	07:21	16:22	16:53	17:44	-	-	-	-	
	07	313° 01.6	313° 24.1	48.4	299° 49.1	46.8	294° 22.7	43.6	120° 20.0	28.9	Elnath	278° 14.8	28° 37.0 N	285° 14.6	25.4	75° 35.1	4.6	15.4	4.8	59.8	Lat	Sunset	Twilight	19	Moonset	21						
	08	328° 04.0	328° 23.8	47.2	314° 49.7	47.6	309° 24.6	43.9	135° 22.7	28.8	Elnath	90° 46.6	51° 29.0 N	300° 14.8	26.3	89° 58.7	4.7	20.2	4.7	59.8	Nautical	Civil	19	20	21							
	09	343° 06.5	343° 23.5	46.1	329° 50.4	48.3	324° 26.6	44.1	150° 25.3	28.8	Enif	33° 48.8	9° 55.6 N	315° 14.9	27.2	104° 22.4	4.7	24.9	4.5	59.8	19	20	21									
	10	358° 09.0	358° 23.1	44.9	344° 51.1	49.1	339° 28.5	44.3	165° 27.9	28.7	Fomalhaut	15° 25.9	29° 33.6 S	330° 15.0	28.0	118° 46.1	4.7	29.4	4.3	59.7	19	20	21									
	11	13° 11.4	13° 22.8	43.7	359° 51.8	49.9	354° 30.4	44.5	180° 30.6	28.6	345° 15.2	28.9	133° 09.8	4.7	33.7	4.1	59.7	N 72°	20:51	23:13	-	-	-	-	-	-	-	-	-	-		
	12	28° 13.9	28° 22.5	1° 42.6 S	14° 52.5	4° 50.6 N	9° 32.3	6° 44.8 N	195° 33.2	2° 28.6 S	Gacrux	172° 02.2	57° 10.9 S	0° 15.3	11° 29.7 N	147° 33.5	4.6	22° 37.8 S	4.0	59.7	N 70°	20:29	22:04	-	02:04	-	-	-	-	-	-	
	13	43° 16.3	43° 22.1	41.4	29° 53.2	51.4	24° 34.2	45.0	210° 35.8	28.5	Gienah	175° 53.6	17° 36.5 S	15° 15.4	30.6	161° 57.1	4.8	41.8	3.9	59.6	68°	20:12	21:29	-	02:53	-	-	-	-	-	-	
	14	58° 18.8	58° 21.8	40.3	44° 53.9	52.2	39° 36.1	45.2	225° 38.1	28.4	Hadar	148° 49.6	60° 25.8 S	176° 20.9	4.7	45.7	3.6	60.0	66°	19:58	21:05	23:20	03:25	03:26	03:36	-	-	-	-			
	15	73° 21.3	73° 21.5	39.1	59° 54.6	52.9	54° 38.0	45.4																								

2011 April 22, 23, 24 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.1			SATURN +0.4			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°	Nautical	Civil	22	23	24	22	23	24											
Friday	00	209° 42.6	208° 10.6	1° 00.9 S	195° 17.5	5° 18.0 N	190° 40.9	6° 52.8 N	17° 07.9	2° 26.2 S	Acamar	315° 19.9	40° 15.6 S	180° 19.9	12° 00.4 N	306° 06.7	6.2	23° 21.8 S	1.6	58.3	N 70°	-	-	01:34	03:17	-	-	-	-	-	-	-	-	-	-						
	01	224° 45.1	223° 10.3	0° 59.7 S	210° 18.2	18.7	205° 42.8	53.1	32° 10.5	26.7	Acchernar	335° 28.4	57° 10.7 S	195° 20.1	01.2	320° 31.9	6.2	20.2	1.8	58.2	N 68°	-	-	02:15	03:36	-	-	-	-	-	-	-	-	-	-	-					
	02	239° 47.5	238° 10.0	58.6	225° 18.9	19.5	220° 44.7	53.3	47° 13.1	26.0	Acruz	173° 10.6	63° 10.0 S	210° 20.2	02.1	334° 57.1	6.4	18.4	1.9	66°	-	-	02:42	03:50	02:49	02:56	02:56	02:56	02:56	02:56	02:56	02:56	02:56	02:56	02:56	02:56					
	03	254° 50.0	253° 09.6	57.4	240° 19.6	20.2	235° 46.6	53.6	25° 15.8	26.0	Adhara	255° 13.9	28° 59.6 S	225° 20.3	02.9	349° 22.5	6.4	16.5	2.0	64°	01:22	01:22	03:03	04:02	01:51	02:19	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32				
	04	269° 52.5	268° 09.3	56.3	255° 20.2	21.0	260° 48.5	53.7	77° 18.4	25.9	Aldebaran	290° 51.4	16° 31.8 N	240° 20.4	03.8	3° 47.9	6.5	14.5	2.2	58.1	62°	01:59	03:19	04:13	01:18	01:53	02:12	02:12	02:12	02:12	02:12	02:12	02:12	02:12	02:12	02:12	02:12	02:12			
	05	284° 54.9	283° 09.0	55.1	270° 20.9	21.7	265° 50.4	54.0	92° 21.0	25.8				255° 20.6	04.6	18° 13.4	6.6	12.3	2.3	60°	60°	02:24	03:33	04:21	00:53	01:32	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56			
	06	299° 57.4	298° 08.7	53.9	285° 21.6	22.5	280° 52.3	54.2	107° 23.7	25.8	Alioth	166° 21.4	55° 53.8 N	270° 20.7	05.5	32° 39.0	6.6	10.0	2.5	58.0	N 58°	02:43	03:44	04:29	00:33	01:15	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43		
	07	314° 59.8	313° 08.3	52.8	300° 22.3	23.3	295° 54.2	54.4	122° 26.3	25.7	Alkaid	152° 59.5	49° 15.3 N	285° 20.8	06.3	47° 04.6	6.7	07.5	2.2	56°	56°	02:59	03:54	04:36	00:17	01:00	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31		
	08	330° 02.3	328° 08.0	51.6	315° 23.0	24.0	310° 56.1	54.6	137° 28.9	25.6	Alnair	27° 45.8	46° 54.1 S	300° 20.9	07.1	61° 30.3	6.8	04.9	2.7	54°	54°	03:12	04:02	04:42	00:03	00:48	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21	01:21
	09	345° 04.8	343° 07.7	50.5	330° 23.7	24.8	325° 58.0	54.9	152° 31.5	25.6	Alnilam	275° 48.1	1° 11.8 S	315° 21.1	08.0	75° 56.1	6.9	02.2	2.9	57.9	52°	03:23	04:10	04:47	-	00:37	01:12	01:12	01:12	01:12	01:12	01:12	01:12	01:12	01:12	01:12	01:12	01:12	01:12	01:12	
	10	0° 07.2	358° 07.3	49.3	345° 24.4	25.5	340° 59.9	55.1	167° 34.2	25.5	Alphard	217° 57.5	8° 42.7 S	330° 21.2	08.8	90° 22.0	7.0	22° 59.3 S	3.0	50°	50°	03:33	04:17	04:52	-	00:27	01:04	01:04	01:04	01:04	01:04	01:04	01:04	01:04	01:04	01:04	01:04	01:04	01:04		
	11	15° 09.7	357° 07.0	48.1	0° 25.1	26.3	356° 01.8	55.3	183° 36.8	25.4				345° 21.3	09.7	104° 48.0	7.0	56.3	3.2	57.8	45°	05:33	04:31	05:03	-	00:07	00:46	00:46	00:46	00:46	00:46	00:46	00:46	00:46	00:46	00:46	00:46	00:46			
	12	30° 12.2	28° 06.7	0° 47.0 S	15° 25.8	5° 27.0 N	11° 03.7	6° 55.5 N	197° 39.4	2° 25.4 S	Alphecca	126° 12.0	26° 40.4 N	0° 21.4	12° 10.5 N	119° 14.0	7.1	22° 53.1 S	3.3	57.8	N 40°	04:08	04:43	05:11	23:50	-	00:32	00:32	00:32	00:32	00:32	00:32	00:32	00:32	00:32	00:32	00:32	00:32	00:32		
	13	45° 14.6	43° 06.4	45.8	30° 26.5	27.8	26° 05.6	55.8	212° 42.1	25.3	Alpheratz	357° 45.4	29° 09.1 N	15° 21.6	11.3	133° 40.1	7.2	49.8	3.4	35°	35°	04:21	04:52	05:19	23:36	-	00:20	00:20	00:20	00:20	00:20	00:20	00:20	00:20	00:20	00:20	00:20	00:20			
	14	60° 17.1	58° 06.0	44.7	45° 27.2	28.6	41° 07.6	56.0	62° 09.7	25.2	Altair	62° 09.7	8° 53.8 N	30° 21.7	12.2	148° 06.3	7.3	46.4	3.5	57.7	30°	04:31	05:00	05:25	23:23	-	00:09	00:09	00:09	00:09	00:09	00:09	00:09	00:09	00:09	00:09	00:09	00:09	00:09		
	15	75° 19.6	73° 05.7	43.5	60° 27.9	29.3	56° 09.5	56.2	242° 47.3	25.2	Ankaa	353° 17.5	42° 14.6 S	45° 21.8	13.0	162° 32.6	7.4	42.9	3.7	20°	20°	04:47	05:14	05:36	23:02	23:51	24:34	24:34	24:34	24:34	24:34	24:34	24:34	24:34	24:34	24:34	24:34				
	16	90° 22.0	88° 05.4	42.3	75° 28.6	30.1	71° 11.4	56.4	257° 49.9	25.1	Antares	112° 27.9	26° 27.4 S	60° 21.9	13.9	176° 59.0	7.5	39.2	3.8	57.6	N 10°	04:59	05:25	05:46	22:44	23:35	24:21	24:21	24:21	24:21	24:21	24:21	24:21	24:21	24:21	24:21	24:21				
	17	105° 24.5	103° 05.0	41.2	90° 29.3	30.8	86° 13.3	56.7	272° 52.6	25.0				75° 22.1	14.7	191° 25.5	7.5	35.4	3.9	0°	0°	05:09	05:34	05:55	22:27	23:20	24:09	24:09	24:09	24:09	24:09	24:09	24:09	24:09	24:09	24:09					
	18	120° 27.0	118° 04.7	40.0	105° 30.0	31.6	101° 15.2	56.9	287° 55.2	25.0	Arcturus	145° 56.8	19° 07.2 N	90° 22.2	15.5	205° 52.0	7.6	31.5	4.1	19°	19°	05:18	05:42	06:04	22:10	23:05	23:56	23:56	23:56	23:56	23:56	23:56	23:56	23:56	23:56	23:56	23:56				
	19	135° 29.4	133° 04.4	38.9	120° 30.6	32.3	116° 17.1	51.1	302° 57.8	24.9	Arctia	107° 30.7	69° 02.7 S	105° 22.3	16.4	220° 18.6	7.7	27.4	4.2	57.5	20°	05:25	05:51	06:13	21:51	22:49	23:43	23:43	23:43	23:43	23:43	23:43	23:43	23:43	23:43	23:43	23:43				
	20	150° 31.9	148° 04.1	37.7	135° 31.3	33.1	131° 19.0	57.3	318° 00.5	24.9	Avior	234° 18.7	59° 33.2 S	120° 22.4	17.2	234° 45.3	7.8	23.2	4.3	30°	30°	05:31	05:59	06:24	21:30	22:30	23:28	23:28	23:28	23:28	23:28	23:28	23:28	23:28	23:28	23:28					
	21	165° 34.3	163° 03.7	36.5	150° 32.0	33.8	146° 20.9	57.5	333° 03.1	24.8	Bellatrix	278° 33.9	6° 21.5 N	135° 22.5	18.1	249° 12.1	7.9	18.9	4.4	57.4	35°	05:34	06:04	06:30	21:18	22:19	23:20	23:20	23:20	23:20	23:20	23:20	23:20	23:20	23:20	23:20	23:20				
	22	180° 36.8	178° 03.4	35.4	165° 32.7	34.6	161° 03.2	57.8	348° 05.7	24.7	Betelgeuse	271° 03.2	7° 24.4 N	150° 22.7	18.9	263° 39.0	8.0	14.5	4.6	40°	40°	05:37	06:09	06:37	21:04	22:07	23:09	23:09	23:09	23:09	23:09	23:09	23:09	23:09	23:09	23:09	23:09				
23	195° 39.3	193° 03.1	34.2	180° 33.4	35.3	176° 24.7	58.0	3° 08.3	24.7				165° 22.8	19.7	278° 06.0	8.1	09.9	4.6	45°	45°	05:40	06:14	06:44	20:47	21:52	22:58	22:58	22:58	22:58	22:58	22:58	22:58	22:58	22:58	22:58						
Saturday	00	210° 41.7	208° 02.8	0° 33.0 S	195° 34.1	5° 36.1 N	191° 26.6	6° 58.2 N	18° 11.0	2° 24.6 S	Canopus	263° 57.1	52° 42.4 S	180° 22.9	12° 20.6 N	292° 33.1	8.1	22° 05.3 S	4.8	57.3	S 50°	05:43	06:21	06:54	20:26	21:34	22:43	22:43	22:43	22:43	22:43	22:43	22:43	22:43	22:43						
	01	225° 44.2	223° 02.4	31.9	210° 34.8	31.9	206° 28.5	58.4	33° 13.6	24.5	Capella	280° 37.1	46° 00.6 N	195° 23.0	21.4	307° 00.2	8.3	00.3	5.0	52°	52°	05:44	06:23	06:54	20:15	21:25	22:37	22:37	22:37	22:37	22:37	22:37	22:37	22:37	22:37	22:37	22:37				
	02	240° 46.7	238° 02.1	30.7	225° 35.5	37.6	221° 30.4	58.7	48° 16.2	24.5	Deneb	49° 32.6	45° 19.0 N	210° 23.1	22.2	321° 27.5	8.3	21° 55.5 S	5.0	54°	54°	05:45	06:26	07:03	20:04	21:16	22:29	22:29	22:29	22:29	22:29	22:29	22:29	22:29	22:29	22:29	22:29				
	03	255° 49.1	253° 01.8	29.6	240° 36.2	38.4	236° 32.3	58.4	63° 18.8	24.4	Denebola	182° 35.0	14° 30.4 N	225° 23.3	23.1	335° 54.8	8.5	50.5	5.1	57.2	56°	05:46	06:30	07:08	19:51	21:05	22:21	22:21													



**2011 April 25, 26, 27 (Mon, Tue, Wed)**

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.1			SATURN +0.4			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	25	26	27	25	26	27			
Monday	00	212° 40.0	207° 47.0	0° 22.8 N	196° 07.3	6° 12.2 N	192° 58.1	7° 08.9 N	20° 17.0	2° 21.5 S	180° 28.4	13° 00.3 N	268° 00.4	12.5	16° 21.1 S	9.2	55.7	N 70°	-	-	02:33	04:18	03:40	03:15	03:40	03:20	03:05	04:18	03:40	03:20	03:05				
	01	227° 42.5	222° 46.7	24.0	211° 08.0	12.9	208° 00.1	09.1	35° 19.6	21.5	195° 28.6	11.9	282° 31.9	12.6	11.9	9.3	55.6	N 68°	-	00:58	03:01	03:41	03:20	03:14	03:04	02:56	03:01	02:50	02:42	02:37	02:32	02:27			
	02	242° 44.9	237° 46.4	25.2	226° 08.7	13.7	223° 02.0	09.4	50° 22.3	21.4	210° 28.7	02.0	297° 03.5	12.6	02.6	9.3	66°	-	02:26	03:39	02:54	02:54	02:51	02:49	02:49	02:49	02:49	02:49	02:49	02:49	02:49	02:49	02:49		
	03	257° 47.4	252° 46.0	26.3	241° 09.4	14.4	238° 03.9	09.6	65° 24.9	21.3	311° 35.1	12.8	225° 28.8	02.8	15° 53.3 S	9.4	64°	00:51	02:50	03:52	02:38	02:41	02:42	02:42	02:42	02:42	02:42	02:42	02:42	02:42	02:42	02:42	02:42	02:42	
	04	272° 49.9	267° 45.7	27.5	256° 10.1	15.2	253° 05.8	09.8	80° 27.5	21.3	240° 28.9	03.6	326° 06.9	12.8	43.9	9.4	55.5	62°	01:40	03:08	04:03	02:24	02:32	02:37	02:37	02:37	02:37	02:37	02:37	02:37	02:37	02:37	02:37	02:37	
	05	287° 52.3	282° 45.4	28.7	271° 10.8	15.9	268° 07.7	10.0	95° 30.1	21.2	255° 29.0	04.4	340° 38.7	12.9	34.5	9.5	60°	02:10	03:23	04:13	02:12	02:24	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	02:32	
	06	302° 54.8	297° 45.1	29.8	286° 11.5	16.7	283° 09.6	10.2	110° 32.8	21.1	270° 29.1	05.3	355° 10.6	12.9	25.0	9.6	58°	02:32	03:35	04:21	02:02	02:17	02:28	02:28	02:28	02:28	02:28	02:28	02:28	02:28	02:28	02:28	02:28	02:28	
	07	317° 57.3	312° 44.7	31.0	301° 12.2	17.4	298° 11.5	10.5	125° 35.4	21.1	285° 29.2	06.1	9° 42.5	13.1	15.4	9.6	55.4	56°	02:49	03:46	04:29	01:54	02:10	02:24	02:24	02:24	02:24	02:24	02:24	02:24	02:24	02:24	02:24	02:24	02:24
	08	332° 59.7	327° 44.4	32.2	316° 12.9	18.2	313° 13.4	10.7	140° 38.0	21.0	300° 29.3	06.9	24° 14.6	13.1	05.8	9.7	54°	03:03	03:55	04:35	01:46	02:05	02:21	02:21	02:21	02:21	02:21	02:21	02:21	02:21	02:21	02:21	02:21	02:21	02:21
	09	348° 02.2	342° 44.1	33.3	331° 13.6	18.9	328° 15.3	10.9	155° 40.6	20.9	315° 29.4	07.7	38° 46.7	13.2	14° 56.1 S	9.8	52°	03:15	04:03	04:41	01:39	02:00	02:18	02:18	02:18	02:18	02:18	02:18	02:18	02:18	02:18	02:18	02:18	02:18	02:18
	10	3° 04.7	357° 43.8	34.5	346° 14.3	19.6	343° 17.2	11.1	170° 43.3	20.9	330° 29.5	08.5	53° 18.9	13.3	46.3	9.8	50°	03:26	04:11	04:46	01:32	01:55	02:15	02:15	02:15	02:15	02:15	02:15	02:15	02:15	02:15	02:15	02:15	02:15	02:15
	11	18° 07.1	12° 43.4	35.7	1° 14.9	20.4	358° 19.1	11.4	185° 45.9	20.8	345° 29.6	09.3	67° 51.2	13.3	36.5	9.8	55.3	45°	03:47	04:26	04:58	01:18	01:45	02:09	02:09	02:09	02:09	02:09	02:09	02:09	02:09	02:09	02:09	02:09	
	12	33° 09.6	27° 43.1	0° 36.8 N	16° 15.6	6° 21.1 N	13° 21.0	7° 11.6 N	200° 48.5	2° 20.8 S	0° 29.8	13° 10.2 N	82° 23.5	13.4	14° 26.7 S	9.9	55.3	N 40°	04:04	04:38	05:07	01:07	01:37	02:04	02:04	02:04	02:04	02:04	02:04	02:04	02:04	02:04	02:04	02:04	
	13	48° 12.0	42° 42.8	38.0	31° 16.3	21.9	28° 22.9	11.8	215° 51.1	20.7	15° 29.9	11.0	96° 55.9	13.5	16.8	10.0	35°	04:17	04:49	05:15	00:57	01:30	01:59	01:59	01:59	01:59	01:59	01:59	01:59	01:59	01:59	01:59	01:59	01:59	01:59
	14	63° 14.5	57° 42.4	39.2	46° 17.0	22.6	43° 24.9	12.0	230° 53.7	20.6	30° 30.0	11.8	111° 28.4	13.6	06.8	10.0	30°	04:28	04:57	05:22	00:49	01:24	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56	01:56
	15	78° 17.0	72° 42.1	40.3	61° 17.7	23.4	58° 26.8	12.2	245° 56.4	20.6	45° 30.1	12.6	126° 01.0	13.6	13° 56.8 S	10.1	55.2	20°	04:45	05:11	05:34	00:34	01:13	01:49	01:49	01:49	01:49	01:49	01:49	01:49	01:49	01:49	01:49	01:49	01:49
	16	93° 19.4	87° 41.8	41.5	76° 18.4	24.1	73° 28.7	12.5	260° 59.0	20.5	60° 30.2	13.4	140° 33.6	13.7	46.7	10.1	52°	0°	04:58	05:23	05:45	00:21	01:03	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43	01:43
	17	108° 21.9	102° 41.5	42.7	91° 19.1	24.9	88° 30.6	12.7	276° 01.6	20.4	75° 30.3	14.2	155° 06.3	13.8	36.6	10.1	50°	05:09	05:33	05:54	00:09	00:54	01:37	01:37	01:37	01:37	01:37	01:37	01:37	01:37	01:37	01:37	01:37	01:37	
	18	123° 24.4	117° 41.1	43.8	106° 19.8	25.6	103° 32.5	12.9	291° 04.2	20.4	90° 30.4	15.0	169° 39.1	13.9	26.5	10.3	51°	05:18	05:43	06:04	-	00:45	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	01:31	
	19	138° 26.8	132° 40.8	45.0	121° 20.5	26.4	118° 34.4	13.1	306° 06.9	20.3	105° 30.5	15.9	184° 12.0	13.9	16.2	10.2	20°	05:26	05:52	06:14	-	00:35	01:25	01:25	01:25	01:25	01:25	01:25	01:25	01:25	01:25	01:25	01:25	01:25	
	20	153° 29.3	147° 40.5	46.2	136° 21.2	27.1	133° 36.3	13.3	321° 09.5	20.3	120° 30.6	16.7	198° 44.9	14.0	06.0	10.3	30°	05:33	06:01	06:26	-	00:24	01:19	01:19	01:19	01:19	01:19	01:19	01:19	01:19	01:19	01:19	01:19	01:19	
	21	168° 31.8	162° 40.1	47.3	151° 21.9	27.9	148° 38.2	13.6	336° 12.1	20.2	135° 30.7	17.5	213° 17.9	14.0	12° 55.7 S	10.4	35°	05:36	06:06	06:32	-	00:18	01:15	01:15	01:15	01:15	01:15	01:15	01:15	01:15	01:15	01:15	01:15	01:15	
	22	183° 34.2	177° 39.8	48.5	166° 22.6	28.6	163° 40.2	13.8	351° 03.2	20.1	150° 30.8	18.3	227° 50.9	14.1	45.3	10.4	40°	05:40	06:12	06:40	-	00:11	01:10	01:10	01:10	01:10	01:10	01:10	01:10	01:10	01:10	01:10	01:10	01:10	
23	198° 36.7	192° 39.5	49.7	181° 23.2	29.3	178° 42.0	14.0	6° 17.4	20.1	165° 30.9	19.1	242° 24.0	14.2	34.9	10.4	55.0	45°	05:43	06:18	06:48	-	00:02	01:05	01:05	01:05	01:05	01:05	01:05	01:05	01:05	01:05	01:05	01:05		
Tuesday	00	213° 39.2	207° 39.2	0° 50.8 N	196° 23.9	6° 30.1 N	193° 43.9	7° 14.2 N	21° 20.0	2° 20.0 S	180° 31.0	13° 19.9 N	256° 57.2	14.2	12° 24.5 S	10.5	55.0	S 50°	05:47	06:25	06:58	23:52	-	00:58	00:58	00:58	00:58	00:58	00:58	00:58	00:58	00:58			
	01	228° 41.6	222° 38.8	52.0	211° 24.6	30.8	208° 45.8	14.5	36° 22.6	19.9	305° 31.1	20.7	271° 30.4	14.3	14.0	10.6	52°	05:48	06:28	07:03	23:47	-	00:55	00:55	00:55	00:55	00:55	00:55	00:55	00:55	00:55	00:55	00:55	00:55	
	02	243° 44.1	237° 38.5	53.2	226° 25.3	31.6	223° 47.8	14.7	51° 25.2	19.9	210° 31.2	21.5	286° 03.7	14.4	03.4	10.5	54°	05:50	06:31	07:08	23:42	-	00:52	00:52	00:52	00:52	00:52	00:52	00:52	00:52	00:52	00:52	00:52	00:52	
	03	258° 46.5	252° 38.2	54.3	241° 26.0	32.3	238° 49.7	14.9	6° 27.8	19.8	189° 32.6	22.3	300° 37.1	14.4	11° 52.9 S	10.7	54.9	56°	05:51	06:35	07:14	23:36	-	00:49	00:49	00:49	00:49	00:49	00:49	00:49	00:49	00:49	00:49	00:49	
	04	273° 49.0	267° 37.9	55.5	256° 26.7	33.1	253° 51.6	15.1	81° 30.5	19.8	240° 31.4	23.2	315° 10.5	14.5	42.2	10.6	58°	05:53	06:39	07:21	23:29	-	00:45	00:45	00:45	00:45	00:45	00:45	00:45	00:45	00:45	00:45	00:45		
	05	288° 51.5	282° 37.5	56.7	271° 27.4	33.8	268° 53.5	15.3	96° 33.1	19.7	255° 31.6	24.0	329° 44.0	14.5	31.6	10.7	60°	05:55	06:44	07:28	23:21	-	00:40	00:40	00:40	00:40	00:40	00:40	00:40	00:40	00:40	00:40	00:40		
	06	303° 53.9	297° 37.2	57.8	286° 28.																														

2011 April 28, 29, 30 (Thur, Fri, Sat)

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.1			SATURN +0.5			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	28	28	28	28	28	28	28	28															
28 Thurs day	00	215° 37.4	207° 23.4	1° 46.8 N	196° 57.1	7° 05.7 N	195° 15.6	7° 24.8 N	23° 25.8	2° 17.1 S	180° 35.8	13° 58.4 N	236° 27.1	16.2	3° 25.9 S	11.7	54.2	N 70°	-	-	02:11	02:56	02:37	02:18	02:56	02:37	02:48	02:39	02:49	02:37	02:48	02:39	02:47	02:34	02:40	02:45	02:45	02:50	02:50	02:54									
	01	230° 39.9	222° 23.0		211° 57.8	06.4	210° 17.5	25.0	38° 28.4	17.0	195° 35.9	59.2	251° 02.3	16.2	14.2	11.7		N 68°	-	01:30	03:08	02:48	02:41	02:34	02:48	02:39	03:08	02:48	02:49	02:35	02:49	02:35	02:49	02:35	02:49	02:35	02:49	02:35	02:49	02:35	02:49								
	02	245° 42.4	237° 22.7	49.2	226° 58.5	07.2	225° 19.3	25.3	53° 31.0	17.0	210° 36.0	00.0	265° 37.5	16.3	02.5	11.7		N 66°	-	02:10	03:27	02:46	02:46	02:43	02:46	02:46	03:27	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46	02:46					
	03	260° 44.8	252° 22.4	50.3	241° 59.2	07.9	240° 21.3	25.3	68° 33.6	16.9	225° 56.1	13.9	280° 12.8	16.2	2° 50.8 S	11.7		N 64°	-	02:36	03:42	02:43	02:43	02:44	02:45	02:43	03:42	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43	02:43			
	04	275° 47.3	267° 22.1	51.5	256° 59.9	08.7	255° 23.2	25.7	83° 36.2	16.8	240° 36.2	01.6	294° 48.0	16.3	39.1	11.8		N 62°	01:20	02:56	03:54	02:41	02:45	02:50	02:41	02:45	03:54	02:41	02:45	02:41	02:45	02:41	02:45	02:41	02:45	02:41	02:45	02:41	02:45	02:41	02:45	02:41	02:45						
	05	290° 49.7	282° 21.4	52.7	272° 00.5	09.4	270° 25.1	25.9	98° 38.9	16.8	255° 36.3	02.3	309° 23.3	16.3	27.3	11.7		N 60°	01:55	03:13	04:05	02:40	02:46	02:54	02:40	02:46	04:05	02:40	02:46	02:40	02:46	02:40	02:46	02:40	02:46	02:40	02:46	02:40	02:46	02:40	02:46	02:40	02:46						
	06	305° 52.2	297° 21.4	53.8	287° 01.2	10.1	285° 27.0	26.1	113° 41.5	16.7	270° 36.4	03.1	323° 58.6	16.3	15.6	11.8		N 58°	02:20	03:26	04:14	02:38	02:47	02:57	02:38	02:47	04:14	02:38	02:47	02:38	02:47	02:38	02:47	02:38	02:47	02:38	02:47	02:38	02:47	02:38	02:47	02:38	02:47						
	07	320° 54.7	312° 21.1	55.0	302° 01.9	10.9	300° 28.9	26.4	128° 44.1	16.7	285° 36.5	03.9	338° 33.9	16.3	03.8	11.7		N 56°	02:39	03:38	04:22	02:37	02:48	03:00	02:37	02:48	04:22	02:37	02:48	03:00	02:37	02:48	03:00	02:37	02:48	03:00	02:37	02:48	03:00	02:37	02:48	03:00	02:37	02:48	03:00	02:37	02:48		
	08	335° 57.1	327° 20.7	56.2	317° 02.6	11.6	315° 30.8	26.6	143° 46.7	16.6	300° 36.6	04.7	353° 09.2	16.3	1° 52.1 S	11.8		N 54°	02:54	03:48	04:29	02:35	02:49	03:03	02:35	02:49	04:29	02:35	02:49	03:03	02:35	02:49	03:03	02:35	02:49	03:03	02:35	02:49	03:03	02:35	02:49	03:03	02:35	02:49					
	09	350° 59.6	342° 20.4	57.3	332° 03.3	12.3	330° 32.7	26.8	158° 49.3	16.5	315° 36.7	05.5	7° 44.5	16.3	40.5	11.7		N 52°	03:07	03:57	04:35	02:34	02:50	03:05	02:34	02:50	04:35	02:34	02:50	03:05	02:34	02:50	03:05	02:34	02:50	03:05	02:34	02:50	03:05	02:34	02:50	03:05	02:34	02:50					
	10	6° 02.1	357° 20.1	58.5	347° 04.0	13.1	345° 34.7	27.0	173° 51.9	16.5	330° 36.8	06.3	22° 19.8	16.3	28.6	11.8		N 50°	03:19	04:05	04:41	02:33	02:50	03:08	02:33	02:50	04:41	02:33	02:50	03:08	02:33	02:50	03:08	02:33	02:50	03:08	02:33	02:50	03:08	02:33	02:50	03:08	02:33	02:50					
	11	21° 04.5	12° 19.7	59.7	2° 04.7	13.8	0° 36.6	27.2	188° 54.6	16.4	345° 36.8	07.1	36° 55.1	16.4	16.8	11.8		N 48°	03:41	04:21	04:53	02:31	02:52	03:13	03:41	04:21	04:53	02:31	02:52	03:13	03:41	04:21	04:53	02:31	02:52	03:13	03:41	04:21	04:53	02:31	02:52	03:13	03:41	04:21	04:53				
	12	36° 07.0	27° 19.4	2° 00.8 N	17° 05.4	7° 14.6 N	15° 38.5	7° 27.5 N	203° 57.2	2° 16.4 S	Alphecca	126° 11.9	26° 40.4 N	0° 36.9	14° 07.9 N	51° 30.5	16.4	54.1	N 40°	03:59	04:34	05:03	02:29	02:53	03:17	03:59	04:34	05:03	02:29	02:53	03:17	03:59	04:34	05:03	02:29	02:53	03:17	03:59	04:34	05:03	02:29	02:53	03:17	03:59	04:34				
	13	51° 09.5	42° 19.1	02.0	32° 06.1	15.3	30° 40.4	27.7	218° 59.8	16.3	Alpheratz	357° 45.4	29° 09.1 N	15° 37.0	08.7	66° 05.9	16.4		N 35°	04:13	04:45	05:12	02:27	02:54	03:21	04:13	04:45	05:12	02:27	02:54	03:21	04:13	04:45	05:12	02:27	02:54	03:21	04:13	04:45	05:12	02:27	02:54	03:21	04:13	04:45				
	14	66° 11.9	57° 18.8	03.2	47° 06.8	16.0	45° 42.3	27.9	234° 02.4	16.2	Altair	62° 09.7	8° 53.8 N	30° 37.1	09.4	80° 41.2	16.3		N 30°	04:24	04:54	05:19	02:25	02:55	03:24	04:24	04:54	05:19	02:25	02:55	03:24	04:24	04:54	05:19	02:25	02:55	03:24	04:24	04:54	05:19	02:25	02:55	03:24	04:24	04:54				
	15	81° 14.4	72° 18.4	04.3	62° 04.4	16.8	60° 44.2	28.1	249° 05.0	16.2	Ankaa	353° 17.5	42° 14.5 S	45° 37.2	10.2	95° 16.6	16.4		N 20°	04:42	05:09	05:32	02:23	02:56	03:30	04:42	05:09	05:32	02:23	02:56	03:30	04:42	05:09	05:32	02:23	02:56	03:30	04:42	05:09	05:32	02:23	02:56	03:30	04:42	05:09	05:32			
	16	96° 16.9	87° 18.1	05.5	77° 08.1	17.5	75° 46.1	28.3	264° 07.6	16.1	Antares	112° 27.8	26° 27.4 S	60° 37.3	11.0	109° 52.0	16.3		N 10°	04:56	05:22	05:44	02:21	02:58	03:35	04:56	05:22	05:44	02:21	02:58	03:35	04:56	05:22	05:44	02:21	02:58	03:35	04:56	05:22	05:44	02:21	02:58	03:35	04:56	05:22	05:44			
	17	111° 19.3	102° 17.8	06.7	92° 08.8	18.2	90° 48.0	28.6	279° 10.3	16.1	Arcturus	145° 56.8	19° 07.3 S	75° 37.4	11.8	124° 27.3	16.4		N 0°	05:08	05:33	05:54	02:18	02:59	03:40	05:08	05:33	05:54	02:18	02:59	03:40	05:08	05:33	05:54	02:18	02:59	03:40	05:08	05:33	05:54	02:18	02:59	03:40	05:08	05:33	05:54			
	18	126° 21.8	117° 17.4	07.8	107° 09.5	19.0	105° 49.9	28.8	294° 12.9	16.0	Arcturus	145° 56.8	19° 07.3 S	90° 37.5	12.6	139° 02.7	16.4		S 10°	05:18	05:43	06:04	02:16	03:00	03:45	05:18	05:43	06:04	02:16	03:00	03:45	05:18	05:43	06:04	02:16	03:00	03:45	05:18	05:43	06:04	02:16	03:00	03:45	05:18	05:43	06:04			
	19	141° 24.2	132° 17.1	09.0	122° 10.2	19.7	120° 51.8	29.0	309° 15.5	15.9	Arcturus	145° 56.8	19° 07.3 S	105° 37.6	13.4	153° 38.1	16.4		N 20°	05:26	05:52	06:15	02:14	03:02	03:50	05:26	05:52	06:15	02:14	03:02	03:50	05:26	05:52	06:15	02:14	03:02	03:50	05:26	05:52	06:15	02:14	03:02	03:50	05:26	05:52	06:15			
	20	156° 26.7	147° 16.8	10.2	137° 10.9	20.4	135° 53.8	29.2	324° 18.1	15.9	Avior	234° 18.8	59° 33.2 S	120° 37.7	14.1	168° 13.5	16.4		N 30°	05:36	06:03	06:27	02:11	03:03	03:56	05:36	06:03	06:27	02:11	03:03	03:56	05:36	06:03	06:27	02:11	03:03	03:56	05:36	06:03	06:27	02:11	03:03	03:56	05:36	06:03	06:27	02:11	03:03	03:56
	21	171° 29.2	162° 16.4	11.3	152° 11.6	21.2	150° 55.7	29.4	339° 20.7	15.8	Bellatrix	278° 33.9	6° 21.5 N	135° 37.8	14.9	182° 48.9	16.4		N 35°	05:38	06:08	06:35	02:10	03:04	03:59	05:38	06:08	06:35	02:10	03:04	03:59	05:38	06:08	06:35	02:10	03:04	03:59	05:38	06:08	06:35	02:10	03:04	03:59	05:38	06:08	06:35			
	22	186° 31.6	177° 16.1	12.5	167° 12.3	21.9	165° 57.6	29.6	354° 23.3	15.8	Betelgeuse	271° 03.2	7° 24.4 S	150° 37.8	15.7	197° 24.3	16.4		N 40°	05:42	06:14	06:43	02:08	03:05	04:03	05:42	06:14	06:43	02:08	03:05	04:03	05:42	06:14	06:43	02:08	03:05	04:03	05:42	06:14	06:43	02:08	03:05	04:03	05:42	06:14	06:43			
23	201° 34.1	192° 15.8	13.7	182° 13.0	22.6</																																												

## 2011 May 1, 2, 3 (Sun, Mon, Tue)

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.5			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	1	2	3					
Sunday	00	218° 34.8	206° 59.4	3° 10.8 N	197° 46.7	7° 58.5 N	197° 33.1	7° 40.6 N	26° 34.1	2° 12.9 S	Acamar	315° 19.9	40° 15.6 S	180° 42.0	14° 54.4 N	206° 35.4	15.3	10° 21.3 N	10.7	54.1	N 70°	-	-	01:47	01:56	01:26	00:07					
	01	218° 37.3	221° 59.1	12.0	212° 47.4	59.2	212° 35.0	40.8	41° 36.7	12.8	Acernar	335° 28.4	57° 10.6 S	195° 42.1	55.1	221° 09.7	13.5	32.0	10.6	68°	N 70°	-	01:00	02:55	02:26	02:18	02:07					
	02	248° 39.8	236° 58.8	13.1	227° 48.1	59.9	227° 37.0	41.0	56° 39.3	12.8	Acruz	173° 10.6	63° 10.0 S	210° 42.2	55.9	235° 44.0	15.2	42.6	10.6	66°	N 70°	-	01:51	03:15	02:37	02:35	02:34					
	03	263° 42.2	251° 58.4	14.3	242° 48.8	8° 00.7 N	242° 38.9	41.2	71° 41.9	12.7	Adhara	255° 13.9	28° 59.5 S	225° 42.3	56.6	250° 18.2	15.2	53.2	10.6	64°	N 70°	-	02:22	03:31	02:47	02:50	02:55					
	04	278° 44.7	266° 58.1	15.5	257° 49.5	01.4	257° 40.8	41.4	86° 44.5	12.6	Aldebaran	290° 51.4	16° 31.8 N	240° 42.3	57.4	264° 52.4	15.1	11° 03.8 N	10.6	62°	N 70°	00:53	02:45	03:45	02:55	03:02	03:12					
	05	293° 47.2	281° 58.1	16.6	272° 50.1	02.1	272° 42.7	41.6	101° 47.1	12.6				255° 42.4	58.2	279° 26.5	15.1	14.4	10.5	60°	N 70°	01:39	03:03	03:56	03:02	03:12	03:26					
	06	308° 49.6	296° 57.4	17.8	287° 50.8	02.8	287° 44.6	41.9	116° 49.7	12.6	Alioth	166° 21.4	55° 53.9 N	270° 42.5	58.9	290° 00.6	15.1	24.9	10.4	58°	N 58°	02:07	03:18	04:06	03:08	03:21	03:38					
	07	323° 52.1	311° 57.1	18.9	302° 51.5	03.6	302° 46.5	42.1	131° 52.3	12.5	Alkaid	152° 59.6	49° 15.3 N	285° 42.6	59.7	308° 34.7	15.0	35.3	10.4	56°	N 58°	02:29	03:30	04:15	03:13	03:29	03:49					
	08	338° 54.6	326° 56.7	20.1	317° 52.2	04.3	317° 48.4	42.3	146° 55.0	12.4	Alnair	27° 45.7	46° 54.1 S	300° 42.6	15° 00.4 N	323° 08.7	14.9	45.7	10.4	54°	N 58°	02:46	03:41	04:22	03:18	03:36	03:58					
	09	353° 57.0	341° 56.4	21.3	332° 52.9	05.0	332° 50.3	42.5	161° 57.6	12.4	Alnilam	275° 48.2	1° 11.8 S	315° 42.7	01.2	337° 42.6	15.0	56.1	10.3	54.2	N 58°	03:00	03:50	04:29	03:23	03:43	04:07					
	10	8° 59.5	356° 56.1	22.4	347° 53.6	05.7	347° 52.3	42.7	177° 00.2	12.3	Alphard	217° 57.6	8° 42.7 S	330° 42.8	02.0	352° 16.6	14.8	12° 06.4 N	10.3	50°	N 58°	03:12	03:59	04:35	03:27	03:48	04:14					
	11	24° 01.9	21° 55.7	23.6	2° 54.3	06.5	2° 54.2	42.9	192° 02.8	12.2				345° 42.9	02.7	6° 50.4	14.9	16.7	10.2	45°	N 58°	03:36	04:16	04:49	03:36	04:01	04:30					
	12	39° 04.4	26° 55.4	3° 24.8 N	17° 55.0	8° 07.2 N	17° 56.1	7° 43.2 N	207° 05.4	2° 12.2 S	Alphecca	126° 11.9	26° 40.5 N	0° 42.9	15° 03.5 N	21° 24.3	14.7	12° 26.9 N	10.2	54.2	N 40°	03:54	04:30	04:59	03:43	04:11	04:44					
	13	54° 06.9	41° 55.1	25.9	32° 55.6	07.9	32° 58.0	43.4	222° 08.0	12.1	Alpheratz	357° 45.4	29° 09.1 N	15° 43.0	04.2	35° 58.0	14.7	37.1	10.1	35°	N 40°	04:09	04:42	05:09	03:49	04:20	04:55					
	14	69° 09.3	56° 54.7	27.1	47° 56.3	08.6	47° 59.9	43.6	62° 09.6	12.1	Altair	62° 09.6	8° 53.8 N	30° 43.1	05.0	50° 31.7	14.7	47.2	10.1	30°	N 40°	04:21	04:51	05:17	03:55	04:28	05:05					
	15	84° 11.8	71° 54.4	28.3	62° 57.0	09.4	63° 01.8	43.8	252° 13.2	12.0	Ankaa	353° 17.5	42° 14.5 S	45° 43.2	05.7	65° 05.4	14.6	57.3	10.1	20°	N 40°	04:40	05:07	05:31	04:05	04:42	05:22					
	16	99° 14.3	86° 54.1	29.4	77° 57.7	10.1	78° 03.7	44.0	86° 15.8	12.0	Antares	112° 27.8	26° 27.4 S	60° 43.2	06.5	79° 39.0	14.6	13° 07.4 N	10.1	10°	N 10°	04:55	05:21	05:42	04:13	04:54	05:37					
	17	114° 16.7	101° 53.7	30.6	92° 58.4	10.8	93° 05.6	44.2	282° 18.5	11.9				75° 43.3	07.3	94° 12.6	14.6	17.4	9.9	0°	N 10°	05:07	05:32	05:54	04:21	05:05	05:51					
	18	129° 19.2	116° 53.4	31.7	107° 59.1	11.5	108° 07.6	44.5	297° 21.1	11.9	Arcturus	145° 56.8	19° 07.3 N	90° 43.4	08.0	108° 46.2	14.4	27.3	9.9	10°	S 10°	05:18	05:43	06:05	04:30	05:16	06:05					
	19	144° 21.7	131° 53.0	32.9	122° 59.8	12.3	123° 09.5	44.7	312° 23.7	11.8	Alraia	107° 30.6	69° 02.7 S	105° 43.3	08.8	123° 19.6	14.5	37.2	9.8	20°	S 10°	05:27	05:53	06:16	04:38	05:29	06:20					
	20	159° 24.1	146° 52.7	34.1	138° 00.5	13.0	138° 11.4	44.9	327° 26.3	11.7	Avior	234° 18.8	59° 33.2 S	120° 43.5	09.5	137° 53.1	14.3	47.0	9.8	30°	S 10°	05:36	06:05	06:29	04:49	05:43	06:38					
	21	174° 26.6	161° 52.4	35.2	153° 01.1	13.7	153° 13.3	45.1	342° 28.9	11.7	Bellatrix	278° 33.9	6° 21.5 N	135° 43.6	10.3	152° 26.4	14.3	56.8	9.7	35°	S 10°	05:41	06:11	06:37	04:54	05:51	06:48					
	22	189° 29.0	176° 52.0	36.4	168° 01.8	14.4	168° 15.2	45.3	357° 31.5	11.6	Betelgeuse	271° 03.2	7° 24.4 N	150° 43.7	11.0	166° 59.7	14.3	14° 06.5 N	9.7	40°	S 10°	05:45	06:17	06:45	05:01	06:00	07:00					
23	204° 31.5	191° 51.7	37.6	183° 02.5	15.2	183° 17.1	45.5	12° 34.1	11.6				165° 43.8	11.8	181° 33.0	14.2	16.2	9.6	45°	S 10°	05:50	06:25	06:55	05:09	06:11	07:14						
Monday	00	219° 34.0	206° 51.3	3° 38.7 N	198° 03.2	8° 15.9 N	198° 19.0	7° 45.8 N	27° 36.7	2° 11.5 S	Canopus	263° 57.2	52° 42.4 S	180° 43.8	15° 12.5 N	196° 06.2	14.2	14° 25.8 N	9.6	54.3	S 50°	05:55	06:33	07:07	05:18	06:25	07:31					
	01	234° 36.4	221° 51.0	39.9	213° 03.9	16.6	213° 20.9	46.6	42° 39.3	11.5	Capella	280° 37.1	46° 00.6 N	195° 43.9	13.3	210° 39.4	14.1	35.4	9.5	52°	S 50°	05:57	06:37	07:13	05:23	06:31	07:39					
	02	249° 38.9	236° 50.7	41.0	228° 04.6	17.3	228° 22.9	46.2	57° 41.9	11.4	Deneb	49° 32.5	45° 19.0 N	210° 44.0	14.0	225° 12.5	14.0	44.9	9.4	54°	S 50°	05:59	06:41	07:19	05:28	06:38	07:48					
	03	264° 41.4	251° 50.3	42.2	243° 05.3	18.1	243° 24.8	46.4	72° 44.6	11.4	Denebola	182° 35.0	14° 30.4 N	225° 44.6	14.8	239° 45.5	14.0	54.3	9.4	56°	S 50°	06:02	06:46	07:26	05:33	06:46	07:58					
	04	279° 43.8	266° 50.0	43.4	258° 06.0	18.8	258° 26.7	46.6	87° 47.2	11.3	Diphda	348° 57.7	17° 55.4 S	240° 44.1	15.5	254° 18.5	14.0	15° 03.7 N	9.3	58°	S 50°	06:04	06:51	07:34	05:39	06:54	08:10					
	05	294° 46.3	281° 49.7	44.5	273° 06.6	19.5	273° 28.6	46.8	102° 49.8	11.2				255° 44.2	16.3	268° 51.5	13.9	13.0	9.3	60°	S 50°	06:07	06:57	07:42	05:46	07:04	08:23					
	06	309° 48.8	296° 49.3	45.7	288° 07.3	20.2	288° 30.5	47.1	117° 52.4	11.2	Dubhe	193° 53.1	61° 41.5 N	270° 44.3	17.0	283° 24.4	13.8	22.3	9.2	62°	S 50°	06:10	07:03	07:52	05:54	07:16	08:39					
	07	324° 51.2	311° 49.0	46.9	303° 08.0	20.9	303° 32.4	47.3	132° 55.0	11.1	Elnath	278° 14.9	28° 37.0 N	285° 44.3	17.8	297° 57.2	13.7	31.5	9.1	54.4	S 50°	06:11	07:04	07:53	06:01	07:24	08:47					
	08	339° 53.7	326° 48.6	48.0	318° 08.7	21.7	318° 34.3	47.5	147° 57.6	11.1	Elainn	90° 46.5	51° 29.0 N	300° 44.4	18.5	312° 29.9	13.8	40.6	9.1													
	09	354° 56.2	341° 48.3	49.2	333° 09.4	22.4	333° 36.2	47.7	163° 00.2	11.0	Enif	33° 48.7	9° 55.6 N	315° 44.5	19.3	327° 02.7	13.6	49.7	9.0													
	10	9° 58.6	356° 48.0	50.3	348° 10.1	23.1	348° 38.2	47.9	178° 02.8	11.0	Fomalhaut	15° 25.8	29° 33.6 S	330° 44.5	20.0	341° 35.3	13.6	58.7	8.9													
	11	25° 01.1	11° 47.6	51.5	3° 10.8	23.8	3° 40.1	48.1	193° 05.4	10.9				345° 44.6	20.8	356° 07.9	13.6	16° 07.6 N	8.9													
	12	40° 03.5	26° 47.3	3° 52.7 N	18° 11.4	8° 24.6 N	18° 42.0	7° 48.3 N	208° 08.0	2° 10.9 S	Gacrux	172° 02.2	57° 10.9 S	0° 44.7	15° 21.5 N	10° 40.5	13.4	16° 16.5 N	8.8	54.4	N 70°	22:14	-	-	20:03	22:56	-					
	13	55° 06.0	41° 46.9	53.8	33° 12.1	25.3	33° 43.9	48.6	223° 10.6	10.8	Gienah	175° 53.6	17° 36.6 S	15° 44.7	22.3	25° 12																

**2011 May 4, 5, 6 (Wed, Thur, Fri)**

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.5			STARS			SUN			MOON						Lat		Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	50° 4' N	GHA	Dec	50° 4' N	GHA	Dec	50° 4' N	GHA	Dec	50° 4' N	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	01:18	4	5	6				
Wednesday	00	221° 32.3'	206° 35.0'	4° 34.4' N	198° 36.1'	8° 50.4' N	219° 50.9'	7° 56.1' N	29° 41.9'	2° 08.9' S	Acamar	315° 19.9'	40° 15.6' S	180° 47.0'	15° 48.1' N	173° 31.6'	11.3'	20° 45.3' N	5.9'	54.9						N 70°	-	-	02:09	-	-	-				
	01	226° 34.7'	221° 34.6'	35.6	213° 36.8'	51.1	214° 52.8'	56.3	44° 44.5'	08.9	Acnarnar	335° 28.4'	57° 10.6' S	195° 47.1'	48.9	188° 01.9'	11.2'	51.2'	5.7	68°						N 68°	-	-	02:40	01:48	-	-				
	02	251° 37.2'	236° 34.3'	36.7	228° 37.5'	51.9	229° 54.7'	56.5	59° 47.1'	08.8	Acruz	173° 10.6'	63° 10.0' S	210° 47.1'	49.6	202° 32.1'	11.2'	56.9'	5.7	66°						N 66°	-	01:31	03:03	02:35	02:41	03:10				
	03	266° 39.6'	251° 33.9'	37.9	243° 38.2'	52.6	244° 56.6'	56.6	74° 49.7'	08.8	Adhara	255° 13.9'	28° 59.5' S	225° 47.2'	50.3	217° 02.3'	11.1'	21° 02.6' N	5.6	64°						N 64°	-	02:08	03:21	03:05	03:25	04:05				
	04	281° 42.1'	266° 33.6'	39.0	258° 38.9'	53.3	259° 58.6'	57.0	89° 52.3'	08.7	Aldebaran	290° 51.4'	16° 31.8' N	240° 47.3'	51.0	231° 32.4'	11.0'	08.2'	5.4	55.0						N 62°	-	02:33	03:36	03:28	03:55	04:38				
	05	296° 44.6'	281° 33.2'	40.2	273° 39.6'	54.0	275° 00.5'	57.2	104° 54.9'	08.6						255° 47.3'	51.8	246° 02.4'	11.0'	53.4						N 60°	01:21	02:53	03:48	03:47	04:17	05:03				
	06	311° 47.0'	296° 32.9'	41.3	288° 40.2'	54.7	290° 02.4'	57.4	119° 57.5'	08.6	Alioth	166° 21.4'	55° 53.9' N	270° 47.4'	52.5	260° 32.4'	11.0'	19.0'	5.0	52°						N 58°	01:55	03:09	03:59	04:02	04:35	05:22				
	07	326° 49.5'	311° 32.6'	42.5	303° 40.9'	55.4	305° 04.3'	57.6	135° 00.1'	08.5	Alkaid	152° 59.6'	49° 15.3' N	285° 47.4'	53.2	275° 02.4'	10.9'	24.3'	5.1	56°						N 56°	02:18	03:22	04:08	04:15	04:51	05:38				
	08	341° 52.0'	326° 32.2'	43.7	318° 41.6'	56.1	320° 06.2'	57.8	150° 02.7'	08.5	Alnair	27° 45.7'	46° 54.1' S	300° 47.5'	53.9	289° 32.3'	10.8'	29.4'	5.1	54°						N 54°	02:37	03:34	04:16	04:27	05:04	05:52				
	09	356° 54.4'	341° 31.9'	44.8	333° 42.3'	56.9	335° 08.1'	58.0	165° 05.3'	08.4	Alnilam	275° 48.2'	1° 11.8' S	315° 47.6'	54.7	304° 02.1'	10.8'	34.5'	4.9	52°						N 52°	02:52	03:44	04:24	04:37	05:15	06:04				
	10	1° 56.9'	356° 31.5'	46.0	348° 43.0'	57.6	350° 10.1'	58.2	180° 07.9'	08.4	Alphard	217° 57.6'	8° 42.7' S	330° 47.6'	55.4	318° 31.9'	10.7'	39.4'	4.9	55.1						N 50°	03:05	03:53	04:30	04:46	05:26	06:15				
	11	26° 59.4'	11° 31.2'	47.1	3° 43.7'	58.3	5° 12.0'	58.5	195° 10.5'	08.3						345° 47.7'	56.3	333° 01.6'	10.6'	44.3'	4.7	45°				N 45°	03:31	04:11	04:44	05:05	05:47	06:37				
	12	42° 01.8'	26° 30.8'	4° 48.3' N	18° 44.4'	8° 59.0' N	20° 13.9'	7° 58.7' N	210° 13.1'	2° 08.3' S	Alphecca	126° 11.9'	26° 40.5' N	0° 47.7'	15° 56.9' N	347° 31.2'	10.6'	21° 49.0' N	4.6'	55.1						N 40°	03:50	04:26	04:56	05:21	06:05	06:55				
	13	57° 04.3'	41° 30.5'	49.4	33° 45.0'	59.7	35° 15.8'	58.9	225° 15.7'	08.2	Alpheratz	357° 45.4'	29° 09.1' N	15° 47.8'	57.6	2° 00.8'	10.6'	53.6'	4.6	35°						N 35°	04:05	04:38	05:06	05:34	06:19	07:10				
	14	72° 06.8'	56° 30.1'	50.6	48° 45.7'	9° 00.4' N	50° 17.7'	59.1	240° 18.3'	08.2	Altair	62° 09.6'	8° 53.9' S	30° 47.8'	58.3	16° 30.4'	10.5'	58.2'	4.4	30°						N 30°	04:18	04:49	05:14	05:46	06:32	07:23				
	15	87° 09.2'	71° 29.8'	51.7	63° 46.4'	01.1	65° 19.6'	59.3	255° 20.9'	08.1	Ankaa	353° 17.5'	42° 14.5' S	45° 47.9'	59.0	30° 59.9'	10.4'	22° 02.6' N	4.3	20°						N 20°	04:38	05:06	05:29	06:06	06:54	07:46				
	16	102° 11.7'	86° 29.4'	52.9	78° 47.1'	01.9	80° 21.5'	59.5	270° 23.5'	08.1	Antares	112° 27.8'	26° 27.4' S	60° 48.0'	59.8	45° 29.3'	10.4'	06.9'	4.2	55.2						N 10°	04:54	05:20	05:42	06:23	07:13	08:05				
	17	117° 14.1'	101° 29.1'	54.1	93° 47.8'	02.6	95° 23.5'	59.7	285° 26.1'	08.0						75° 48.0'	16° 00.5' N	59° 58.7'	10.4'	41.1	4.1	0°				N 0°	05:07	05:32	05:53	06:40	07:31	08:23				
	18	132° 16.6'	116° 28.7'	55.2	108° 48.5'	03.3	110° 25.4'	59.9	300° 28.7'	08.0	Arcturus	145° 56.8'	19° 07.3' S	90° 48.1'	01.2	74° 28.1'	10.3'	15.2'	4.0	0°						S 10°	05:18	05:43	06:05	06:56	07:48	08:41				
	19	147° 19.1'	131° 28.4'	56.4	123° 49.2'	04.0	125° 27.3'	8° 00.2' N	315° 31.3'	07.9	Alraia	107° 30.5'	69° 02.7' S	105° 48.1'	01.9	88° 57.4'	10.2'	19.2'	3.9	20°						N 20°	05:28	05:54	06:17	07:14	08:07	09:01				
	20	162° 21.5'	146° 28.1'	57.5	138° 49.8'	04.7	140° 29.2'	00.4	330° 33.9'	07.9	Avior	234° 18.8'	59° 33.2' S	120° 48.2'	02.6	103° 26.6'	10.2'	23.1'	3.7	30°						N 30°	05:38	06:06	06:31	07:34	08:29	09:23				
	21	177° 24.0'	161° 27.7'	58.7	153° 50.5'	05.4	155° 31.1'	00.6	345° 36.5'	07.8	Bellatrix	278° 33.9'	6° 21.5' N	135° 48.2'	03.4	117° 55.8'	10.1'	26.8'	3.7	35°						N 35°	05:43	06:13	06:39	07:46	08:42	09:36				
	22	192° 26.5'	176° 27.4'	59.8	168° 51.2'	06.1	170° 33.2'	00.8	0° 39.2'	07.8	Betelgeuse	271° 03.2'	7° 24.4' N	150° 48.0'	04.1	132° 24.9'	10.1'	30.5'	3.5	40°						N 40°	05:48	06:28	06:48	08:00	08:57	09:52				
23	207° 28.9'	191° 27.0'	5° 01.0' N	183° 51.9'	06.8	185° 35.0'	01.0	15° 41.8'	07.7						165° 48.4'	04.8	146° 54.0'	10.1'	34.0'	3.5	45°				N 45°	05:53	06:28	06:59	08:16	09:15	10:10					
Thursday	00	222° 31.4'	206° 26.7'	5° 02.1' N	198° 52.6'	9° 07.5' N	200° 36.9'	8° 01.2' N	30° 44.4'	2° 07.7' S	Canopus	263° 57.2'	52° 42.4' S	180° 48.4'	16° 05.5' N	161° 23.1'	10.0'	22° 37.5' N	3.3'	55.3						S 50°	05:59	06:37	07:12	08:36	09:37	10:32				
	01	237° 33.9'	221° 26.3'	03.3	213° 53.3'	08.3	215° 38.8'	01.4	45° 47.0'	07.6	Capella	280° 37.1'	46° 00.6' N	195° 48.5'	06.2	175° 52.1'	9.9	40.8'	3.2	52°						S 52°	06:01	06:42	07:18	08:46	09:48	10:43				
	02	252° 36.3'	236° 26.0'	04.4	228° 53.9'	09.0	230° 40.7'	01.7	60° 49.6'	07.5	Deneb	49° 32.5'	45° 19.1' N	210° 48.5'	07.0	190° 21.0'	9.9	44.0'	3.1	54°						N 54°	06:04	06:46	07:25	08:56	10:00	10:55				
	03	267° 38.8'	251° 25.6'	05.6	243° 54.6'	09.7	245° 42.6'	01.9	75° 52.2'	07.5	Denebola	182° 35.0'	14° 30.4' N	225° 48.6'	07.7	204° 49.9'	9.9	47.1'	2.9	55.4						N 56°	06:07	06:51	07:32	09:09	10:14	11:09				
	04	282° 41.2'	266° 25.3'	06.8	258° 55.3'	10.4	260° 44.5'	02.1	90° 54.8'	07.4	Diphda	348° 57.7'	17° 55.4' S	240° 48.6'	08.4	219° 18.8'	9.8	50.0'	2.9	58°						N 58°	06:09	06:57	07:40	09:23	10:30	11:25				
	05	297° 43.7'	281° 24.9'	07.9	273° 56.0'	11.1	275° 46.5'	02.3	105° 57.4'	07.4						255° 48.7'	09.1	233° 47.6'	9.8	52.9'	2.7	60°				N 60°	06:13	07:03	07:50	09:40	10:49	11:45				
	06	312° 46.2'	296° 24.6'	09.1	288° 56.7'	11.8	290° 48.4'	02.5	121° 00.0'	07.3	Dubhe	193° 53.1'	61° 41.5' N	270° 48.7'	09.8	248° 16.4'	9.7	55.6'	2.6	62°						N 62°	06:16	07:10	08:00	10:01	11:13	12:10				
	07	327° 48.6'	311° 24.2'	10.2	303° 57.4'	12.5	305° 50.3'	02.7	136° 02.6'	07.3	Elnath	278° 14.9'	28° 37.0' N	285° 48.8'	10.5	262° 45.1'	9.7	58.2'	2.5	65°						N 65°	06:17	07:12	08:03	10:04	11:17	12:20				
	08	342° 51.1'	326° 23.9'	11.4	318° 58.0'	13.2	320° 52.2'	02.9	151° 05.2'	07.2	Elainon	90° 46.5'	51° 29.1' N	300° 48.8'	11.3	277° 13.8'	9.6	23° 00.7' N	2.4	55.5						N 55°	06:19	07:15	08:07	10:08	11:21	12:24				
	09	357° 53.6'	341° 23.5'	12.5	333° 58.7'	13.9	335° 54.1'	03.2	166° 07.8'	07.2	Enif	33° 48.7'	9° 55.6' N	315° 48.9'	12.0	291° 42.4'	9.6	03.1'	2.3	60°						N 60°	06:21	07:17	08:09	10:10	11:23	12:26				
	10	12° 56.0'	356° 23.2'	13.7	348° 59.4'	14.6	350° 56.0'	03.4	181° 10.4'</																											

**2011 May 7, 8, 9 (Sat, Sun, Mon)**

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.5			STARS			SUN			MOON						Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	Sunrise	7	8	9	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	00:34	-	-	05:39						
Saturday	00	224° 29' 7	206° 09' 8	5° 57' 3 N	199° 25' 4	9° 41' 5 N	202° 08' 9	8° 11' 4 N	32° 49' 1	2° 05' 2 S	180° 50' 8	16° 39' 5 N	135° 57' 3	8' 7	22° 59' 6 N	2' 6	56' 3	N 70°	-	-	01:49	-	-	01:49	-	-	06:55							
	01	239° 32' 1	221° 09' 4	58' 5	214° 26' 0	42' 2	217° 10' 8	11' 6	47° 51' 7	05' 2	195° 50' 8	40' 2	150° 25' 0	8' 8	57° 50' 6 N	2' 8	68°	N 70°	-	-	02:26	-	-	02:26	-	-	05:22	07:32						
	02	254° 34' 6	236° 09' 1	59' 6	229° 26' 7	42' 9	232° 12' 7	11' 9	62° 54' 3	05' 1	210° 50' 9	40' 9	164° 52' 8	8' 8	54' 2	2' 9	66°	N 68°	-	01:07	02:51	04:27	02:51	04:27	06:10	07:58								
	03	269° 37' 1	251° 08' 7	6° 00' 8 N	242° 37' 4	43' 6	247° 14' 7	12' 1	77° 56' 9	05' 1	225° 50' 9	41' 6	179° 20' 6	8' 8	51' 3	3' 0	64°	N 66°	-	01:53	03:11	05:13	03:11	05:13	06:41	08:18								
	04	284° 39' 5	266° 08' 3	01' 9	259° 28' 1	44' 3	262° 16' 6	12' 3	92° 59' 5	05' 0	240° 50' 9	42' 3	193° 48' 4	8' 7	48' 3	3' 1	56' 4	N 62°	-	02:22	03:27	05:42	03:27	05:42	07:04	08:34								
	05	299° 42' 0	281° 07' 0	03' 2	274° 28' 8	45' 0	277° 18' 5	12' 5	108° 02' 1	05' 0	255° 51' 0	43' 0	208° 16' 1	8' 8	45' 2	3' 3	56°	N 60°	01:00	02:43	03:41	02:43	03:41	06:05	07:22	08:48								
	06	314° 44' 5	296° 07' 6	04' 2	289° 29' 5	45' 7	292° 20' 4	12' 5	123° 04' 7	04' 9	270° 51' 0	43' 7	222° 43' 9	8' 8	41' 9	3' 4	58°	N 58°	01:41	03:01	03:52	03:52	06:23	07:37	08:59									
	07	329° 46' 9	311° 07' 3	05' 4	304° 30' 1	46' 4	307° 22' 3	12' 9	138° 07' 3	04' 9	285° 51' 1	44' 4	237° 11' 7	8' 7	38' 5	3' 5	56°	N 56°	02:08	03:15	04:02	04:02	06:39	07:50	09:09									
	08	344° 49' 4	326° 06' 9	06' 5	319° 30' 8	47' 1	322° 24' 2	13' 1	153° 09' 9	04' 8	300° 51' 1	45' 1	251° 39' 4	8' 8	35' 0	3' 6	54°	N 54°	02:28	03:27	04:11	04:11	06:52	08:02	09:18									
	09	359° 51' 9	341° 06' 6	07' 6	334° 31' 5	47' 8	337° 26' 2	13' 3	168° 12' 5	04' 8	315° 51' 2	45' 8	266° 07' 2	8' 8	31' 4	3' 8	56' 5	N 52°	02:44	03:38	04:18	04:18	07:03	08:12	09:26									
	10	14° 54' 3	356° 06' 2	08' 8	349° 32' 2	48' 5	352° 28' 1	13' 5	183° 15' 1	04' 7	330° 51' 2	46' 5	280° 35' 0	8' 8	27' 6	3' 9	50°	N 50°	02:58	03:47	04:25	04:25	07:13	08:20	09:33									
	11	29° 56' 8	11° 05' 8	09' 9	4° 32' 9	49' 2	7° 30' 0	13' 8	189° 17' 7	04' 7	345° 51' 2	47' 2	295° 02' 8	8' 8	23' 7	4' 0	48°	N 48°	03:25	04:07	04:40	04:40	07:35	08:39	09:48									
	12	44° 59' 2	26° 05' 5	6° 11' 1 N	19° 33' 6	9° 49' 9 N	22° 31' 9	8° 14' 0 N	213° 20' 3	2° 04' 6 S	Alphecca	126° 11' 9	26° 40' 5 N	0° 51' 3	16° 47' 8 N	309° 30' 6	8' 8	22° 19' 7 N	4' 2	56' 5	N 40°	03:46	04:22	04:52	04:52	07:52	08:54	10:00						
	13	60° 01' 7	41° 05' 1	12' 2	34° 34' 2	50' 6	37° 33' 8	14' 2	228° 22' 9	04' 6	Alpheratz	357° 45' 4	29° 09' 1 N	15° 51' 3	48' 5	323° 58' 4	8' 8	15' 5	4' 3	56' 6	N 35°	04:02	04:35	05:03	05:03	08:07	09:07	10:11						
	14	75° 04' 2	56° 04' 8	13' 4	49° 34' 9	51' 3	52° 35' 8	14' 4	243° 25' 5	04' 5	Altair	62° 09' 6	8° 53' 9 N	30° 51' 4	49' 2	30° 51' 4	49' 2	30° 51' 4	49' 2	30° 51' 4	49' 2	30° 51' 4	49' 2	30° 51' 4	49' 2	30° 51' 4	49' 2	30° 51' 4						
	15	90° 06' 6	71° 04' 4	14' 5	64° 35' 6	52' 0	67° 37' 7	14' 6	258° 28' 1	04' 5	Ankaa	353° 17' 5	42° 14' 5 S	45° 51' 4	49' 9	352° 54' 1	8' 8	06' 8	4' 5	20°	N 20°	04:36	05:04	05:27	05:27	08:41	09:38	10:36						
	16	105° 09' 1	86° 04' 0	15' 7	79° 36' 3	52' 7	82° 39' 6	14' 8	273° 30' 7	04' 4	Antares	112° 27' 8	26° 27' 4 S	60° 51' 4	50' 6	7° 21' 9	8' 9	02' 3	4' 6	56' 8	N 10°	04:53	05:19	05:41	05:41	08:59	09:54	10:49						
	17	120° 11' 6	101° 03' 7	16' 8	94° 37' 0	53' 4	97° 41' 5	15' 0	288° 33' 3	04' 4	Arcturus	145° 56' 8	19° 07' 3 N	90° 51' 5	52' 0	36° 17' 6	8' 9	52' 9	4' 9	56' 7	S 10°	05:18	05:43	06:05	06:05	09:34	10:25	11:15						
	18	135° 14' 0	116° 03' 3	17' 9	109° 37' 6	54' 1	112° 43' 4	15' 2	303° 35' 9	04' 4	Alraia	107° 30' 5	62° 02' 8 S	105° 51' 6	52' 7	50° 45' 5	8' 9	48' 0	5' 0	20°	N 20°	05:29	05:55	06:18	06:18	09:53	10:42	11:28						
	19	150° 16' 5	131° 03' 0	19' 1	124° 38' 3	54' 8	127° 45' 4	15' 4	318° 38' 5	04' 3	Avior	234° 18' 9	59° 33' 2 S	120° 51' 6	53' 4	65° 13' 4	8' 9	43' 0	5' 2	30°	N 30°	05:39	06:08	06:33	06:33	10:14	11:01	11:44						
	20	165° 19' 0	146° 02' 6	20' 2	139° 39' 0	55' 5	142° 47' 3	15' 7	333° 41' 1	04' 3	Bellatrix	278° 33' 9	6° 21' 5 N	135° 51' 6	54' 0	79° 41' 3	8' 9	37' 8	5' 3	35°	N 35°	05:45	06:15	06:42	06:42	10:26	11:12	11:53						
	21	180° 21' 4	161° 02' 2	21' 4	154° 39' 7	56' 2	157° 49' 2	15' 9	348° 43' 6	04' 2	Betelgeuse	271° 03' 2	7° 24' 4 N	150° 51' 7	54' 7	94° 09' 2	8' 9	32' 5	5' 4	40°	N 40°	05:50	06:23	06:51	06:51	10:41	11:24	12:03						
	22	195° 23' 9	176° 01' 9	22' 5	169° 40' 4	56' 9	172° 51' 1	16' 1	3° 46' 2	04' 2	165° 51' 7	55' 4	108° 37' 1	9' 0	27' 1	5' 5	45°	N 45°	05:56	06:31	07:03	07:03	10:58	11:39	12:15									
23	210° 26' 3	191° 01' 5	23' 6	184° 41' 0	57' 6	187° 53' 0	16' 3	18° 48' 8	04' 1	Capella	263° 57' 2	52° 42' 4 S	180° 51' 8	16° 56' 1 N	123° 05' 1	9' 0	21° 21' 6 N	5' 6	56' 8	S 50°	06:03	06:41	07:16	07:16	11:19	11:57	12:29							
Sunday	00	225° 28' 8	206° 01' 2	6° 24' 8 N	199° 41' 7	9° 58' 3 N	202° 55' 0	8° 16' 5 N	33° 51' 4	2° 04' 1 S	180° 51' 8	16° 56' 1 N	123° 05' 1	9' 0	21° 21' 6 N	5' 6	56' 8	S 50°	06:03	06:41	07:16	07:16	11:19	11:57	12:29									
	01	240° 31' 3	221° 00' 8	25' 9	214° 42' 4	59' 0	217° 56' 9	16' 7	48° 54' 0	04' 0	Canopus	280° 37' 1	46° 00' 6 N	195° 51' 8	56' 8	137° 33' 1	9' 0	16' 0	5' 8	52°	N 52°	06:05	06:46	07:23	07:23	11:29	12:06	12:36						
	02	255° 33' 7	236° 00' 4	27' 1	229° 43' 1	59' 7	232° 58' 8	16' 9	63° 56' 6	04' 0	Deneb	49° 32' 5	45° 19' 1 N	210° 51' 8	57' 5	152° 01' 1	9' 0	10' 2	5' 9	56' 9	N 56°	06:08	06:51	07:30	07:30	11:40	12:16	12:43						
	03	270° 36' 2	251° 00' 1	28' 2	244° 43' 8	10° 00' 4 N	248° 00' 7	17' 1	78° 59' 2	03' 9	Denebola	182° 35' 0	14° 30' 4 N	225° 51' 8	58' 2	166° 29' 1	9' 0	04' 3	6' 0	56°	N 56°	06:11	06:56	07:38	07:38	11:53	12:26	12:52						
	04	285° 38' 7	265° 59' 7	29' 4	259° 44' 5	01' 1	263° 02' 6	17' 3	94° 01' 8	03' 9	Diphda	348° 57' 7	17° 55' 4 S	240° 51' 9	58' 8	180° 57' 1	9' 0	20° 58' 3 N	6' 1	58°	N 58°	06:15	07:02	07:46	07:46	12:08	12:39	13:01						
	05	300° 41' 1	280° 59' 4	30' 5	274° 45' 1	01' 8	278° 04' 6	17' 6	109° 04' 4	03' 8	255° 51' 9	59' 5	195° 25' 1	9' 1	52' 2	6' 2	56°	N 56°	06:18	07:09	07:57	07:57	12:25	12:53	13:11									
	06	315° 43' 6	295° 59' 0	31' 6	289° 45' 8	02' 5	293° 06' 5	17' 8	124° 07' 0	03' 8	Dubhe	193° 53' 1	61° 41' 5 N	270° 52' 0	17° 00' 2 N	209° 53' 2	9' 1	46' 0	6' 4	57' 0	S 62°	06:22	07:17	08:08	08:08	12:47	13:10	13:24						
	07	330° 46' 1	310° 58' 6	32' 8	304° 46' 5	03' 2	308° 08' 4	18' 0	139° 09' 6	03' 7	Elnath	278° 14' 9	28° 37' 0 N	285° 52' 0	00' 9	224° 21' 3	9' 1	39' 6	6' 5	57' 1	N 57°	06:25	07:19	08:10	08:10	13:01	13:24							
	08	345° 48' 5	325° 58' 3	33' 9	319° 47' 2	03' 9	323° 10' 3	18' 2	154° 12' 2	03' 7	Eltanin	90° 46' 4	51° 29' 1 N	300° 52' 0	01' 6	238° 49' 4	9' 1	33' 1	6' 6	57' 1	N 57°	06:28	07:21	08:10	08:10	13:04	13:27							
	09	0° 51' 0	340° 57' 9	35' 1	334° 47' 9	04' 5	338° 12' 2	18' 4	169° 14' 8	03' 6	Enif	33° 48' 7	9° 55' 6 N	315° 52' 1	02' 2	253° 17' 5	9' 1	26' 5	6' 7	57' 1	N 57°	06:31	07:23	08:12	08:12	13:07	13:30							
	10	15° 53' 5	355° 57' 5	36' 2	349° 48' 5	05' 2	353° 14' 2	18' 6	184° 17' 4	03' 6	Fomalhaut	15° 25' 8	29° 33' 5 S	330° 52' 1	02' 9	267° 45' 6	9' 2	19' 8	6' 8	57' 1	N 57°	06:34	07:25	08:13	08:13	13:10	13:33							
	11	30° 55' 9	10° 57' 2	37' 3	4° 49' 2	05' 9	8° 16' 1	18' 8	199° 20' 0	03' 5	Gacrux	172° 02' 2	57° 10' 9 S	0° 52' 2	17°																			

2011 May 10, 11, 12 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.5			STARS			SUN		MOON				Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	10° 31.5' N	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	10	11	12			
Tuesday	00	227° 27.1	205° 43.6	7° 19.3 N	200° 14.4	10° 31.5' N	204° 27.2	8° 26.6' N	35° 55.8	2° 01.8' S	Acamar	315° 19.9	40° 15.5 S	180° 53.3	17° 28.4 N	97° 54.3	10.2	14° 43.7 N	10.7	58.1	N 72°	-	-	-	08:46	11:04	13:15				
	01	242° 29.6	220° 43.2	20.4	215° 15.0	32.2	219° 29.1	26.8	50° 58.4	01.8	Acnarnar	335° 28.3	57° 10.6 S	195° 53.6	69.1	112° 23.5	10.2	33.0	10.9	68°	N 70°	-	-	01:26	09:12	11:16	13:17				
	02	257° 32.0	235° 42.8	21.6	230° 15.7	32.9	234° 31.0	27.0	66° 01.0	01.7	Acruz	173° 10.6	63° 10.1 S	210° 53.3	29.7	126° 52.7	10.2	22.1	11.0	66°	N 66°	-	00:31	02:40	09:46	11:33	13:20				
	03	272° 34.5	250° 42.5	22.7	245° 16.4	33.6	249° 32.9	27.2	81° 03.6	01.7	Adhara	255° 13.9	28° 59.5 S	225° 53.4	30.4	141° 21.9	10.2	11.1	11.0	64°	N 64°	-	01:36	03:01	09:59	11:39	13:21				
	04	287° 36.9	265° 42.1	23.8	260° 17.1	34.3	264° 34.9	27.4	96° 06.2	01.7	Aldebaran	290° 51.4	16° 31.8 N	240° 53.4	31.0	155° 51.1	10.3	00.1	11.1	58.2	N 62°	-	02:09	03:19	10:09	11:45	13:22				
	05	302° 39.4	280° 41.7	25.0	275° 17.8	35.0	279° 36.8	27.6	111° 08.8	01.6				255° 53.4	31.7	170° 20.4	10.3	13° 49.0 N	11.2	60°	N 60°	00:28	02:33	03:33	10:18	11:50	13:23				
	06	317° 41.9	295° 41.4	26.1	290° 18.4	35.7	294° 38.7	27.8	126° 11.3	01.6	Alioth	166° 21.5	55° 53.9 N	270° 53.4	32.4	184° 49.7	10.3	37.8	11.3	58°	N 58°	01:26	02:52	03:45	10:26	11:54	13:24				
	07	332° 44.3	310° 41.0	27.2	305° 19.1	36.4	309° 40.6	28.0	141° 13.9	01.5	Alkaid	152° 59.6	49° 15.4 N	285° 53.5	33.0	199° 19.0	10.3	26.5	11.4	56°	N 56°	01:57	03:08	03:56	10:33	11:58	13:25				
	08	347° 46.8	325° 40.6	28.4	320° 19.8	37.0	324° 42.5	28.2	156° 16.5	01.5	Alnair	27° 45.6	46° 54.1 S	300° 53.5	33.7	213° 48.3	10.4	15.1	11.5	58.3	N 54°	02:19	03:21	04:05	10:39	12:01	13:25				
	09	2° 49.3	340° 40.2	29.5	335° 20.5	37.7	339° 44.5	28.4	171° 19.1	01.4	Alnilam	275° 48.2	1° 11.8 S	315° 53.5	34.3	228° 17.7	10.3	03.6	11.5	57°	N 57°	02:37	03:32	04:13	10:44	12:04	13:26				
	10	17° 51.7	355° 39.9	30.6	350° 21.2	38.4	354° 46.4	28.6	186° 21.7	01.4	Alphard	217° 57.6	8° 42.7 S	330° 53.5	35.0	242° 47.0	10.4	12° 52.1 N	11.6	56°	N 56°	02:52	03:42	04:21	10:49	12:07	13:26				
	11	32° 54.2	10° 39.5	31.7	5° 21.8	39.1	9° 48.3	28.9	201° 24.3	01.3				345° 53.6	35.7	257° 16.4	10.4	40.5	11.7	58.4	N 45°	03:20	04:03	04:36	11:00	12:13	13:28				
	12	47° 56.7	25° 39.1	7° 32.9 N	20° 22.5	10° 39.8 N	24° 50.2	8° 29.1 N	216° 26.9	2° 01.3 S	Alphecca	126° 11.9	26° 40.5 N	0° 53.6	17° 36.3 N	271° 45.8	10.5	12° 28.8 N	11.8	58.4	N 40°	03:42	04:19	04:49	11:09	12:18	13:29				
	13	62° 59.1	40° 38.7	34.0	35° 23.2	40.5	39° 52.2	29.3	231° 29.5	01.3	Alpheratz	357° 45.3	29° 09.1 N	15° 53.6	37.0	286° 15.3	10.4	17.0	11.1	35°	S 35°	03:59	04:32	05:00	11:16	12:22	13:30				
	14	78° 01.6	55° 38.4	35.1	50° 23.9	41.2	54° 54.1	29.5	246° 32.0	01.2	Altair	62° 09.6	8° 53.9 N	30° 53.6	37.6	300° 44.7	10.5	05.2	12.0	30°	S 30°	04:13	04:44	05:10	11:23	12:26	13:39				
	15	93° 04.1	70° 38.0	36.2	65° 24.5	41.8	69° 56.0	29.7	261° 34.6	01.2	Ankaa	353° 17.4	42° 14.5 S	45° 53.7	38.3	315° 14.2	10.5	11° 53.2 N	12.0	58.5	N 20°	04:35	05:02	05:26	11:34	12:33	13:32				
	16	108° 06.5	85° 37.6	37.4	80° 25.2	42.5	84° 57.9	29.9	276° 37.2	01.1	Antares	112° 27.8	26° 27.4 S	60° 53.7	38.9	329° 43.7	10.5	41.2	12.0	58°	N 10°	04:52	05:18	05:40	11:44	12:38	13:33				
	17	123° 09.0	100° 37.2	38.5	95° 25.9	43.2	99° 59.9	30.1	291° 39.8	01.1				75° 53.7	39.6	344° 13.2	10.5	29.2	12.2	0°	S 0°	05:06	05:31	05:53	11:53	12:44	13:34				
	18	138° 11.4	115° 36.9	39.6	110° 26.6	43.9	115° 01.8	30.3	306° 42.4	01.0	Arcturus	145° 56.8	19° 07.3 N	90° 53.7	40.2	358° 42.7	10.6	17.0	12.2	58.6	S 10°	05:18	05:44	06:06	12:03	12:49	13:35				
	19	153° 13.9	130° 36.5	40.7	125° 27.3	44.6	130° 03.7	30.5	321° 45.0	01.0	Alraia	107° 30.5	69° 02.8 S	13° 12.3	40.9	13° 12.3	10.5	04.8	12.2	58.6	N 20°	05:30	05:56	06:20	12:12	12:55	13:36				
	20	168° 16.4	145° 36.1	41.9	140° 27.9	45.3	145° 05.6	30.7	336° 47.6	00.9	Avior	234° 18.9	59° 33.2 S	120° 53.8	41.5	27° 41.8	10.6	10° 52.5 N	12.4	30°	S 30°	05:41	06:10	06:35	12:24	13:01	13:38				
	21	183° 18.8	160° 35.7	43.0	155° 28.6	46.0	160° 07.5	30.9	351° 50.1	00.9	Bellatrix	278° 33.9	6° 21.5 N	135° 53.8	42.2	42° 11.4	10.6	40.7	12.4	35°	S 35°	05:47	06:17	06:44	12:30	13:05	13:39				
	22	198° 21.3	175° 35.4	44.1	170° 09.3	46.6	175° 09.5	31.1	370° 03.2	00.9	Betelgeuse	271° 03.2	7° 24.4 S	150° 53.8	42.8	56° 41.0	10.6	27.1	12.5	58.7	N 40°	05:53	06:25	06:54	12:37	13:09	13:39				
23	213° 23.8	190° 35.0	45.2	185° 30.0	47.3	190° 11.4	31.3	21° 55.3	00.8				165° 53.8	43.5	71° 10.6	10.6	15.2	12.5	45°	S 45°	05:59	06:35	07:06	12:46	13:14	13:41					
Wednesday	00	228° 26.2	205° 34.6	7° 46.4 N	200° 30.6	10° 48.0 N	205° 13.3	8° 31.6 N	36° 57.9	2° 00.8 S	Canopus	263° 57.2	52° 42.4 S	180° 53.9	17° 44.1 N	85° 40.2	10.6	10° 02.7 N	12.7	58.7	S 50°	06:06	06:45	07:21	12:56	13:20	13:42				
	01	243° 28.7	220° 34.2	47.5	215° 31.3	48.7	220° 15.2	31.8	52° 00.5	00.7	Capella	280° 37.1	46° 00.6 N	195° 53.9	44.8	100° 09.8	10.6	9° 50.0 N	12.7	52°	S 52°	06:09	06:50	07:27	13:01	13:22	13:42				
	02	258° 31.2	235° 33.9	48.6	230° 32.0	49.4	235° 17.2	32.0	67° 03.1	00.7	Deneb	49° 32.4	45° 19.1 N	210° 53.9	45.4	114° 39.4	10.7	37.3	12.7	58.8	N 54°	06:13	06:56	07:35	13:06	13:25	13:43				
	03	273° 33.6	250° 33.5	49.7	245° 32.7	50.1	250° 19.1	32.2	82° 05.7	00.6	Denebola	182° 35.0	14° 30.4 N	225° 53.9	46.1	129° 09.1	10.6	24.6	12.8	58.5	N 56°	06:16	07:01	07:43	13:12	13:28	13:44				
	04	288° 36.1	265° 33.1	50.9	260° 33.4	50.7	265° 21.0	32.4	97° 08.2	00.6	Diphda	348° 57.6	17° 55.4 S	240° 53.9	46.7	143° 38.7	10.7	11.8	12.9	58°	S 58°	06:20	07:08	07:53	13:18	13:32	13:45				
	05	303° 38.6	280° 32.7	52.0	275° 34.0	51.4	280° 22.9	32.6	112° 10.8	00.5				255° 54.0	47.4	158° 08.4	10.7	8° 58.9 N	13.0	58.9	S 60°	06:24	07:15	08:03	13:25	13:36	13:45				
	06	318° 41.0	295° 32.3	53.1	290° 34.7	52.1	295° 24.9	32.8	127° 13.4	00.5	Dubhe	193° 53.1	61° 41.5 N	270° 54.0	48.0	172° 38.1	10.7	45.9	13.0	58.9	S 62°	06:28	07:23	08:16	13:33	13:40	13:46				
	07	333° 43.5	310° 32.0	54.2	305° 35.4	52.8	310° 26.8	33.0	142° 16.0	00.5	Elnath	278° 14.9	28° 37.0 N	285° 54.0	48.7	187° 07.8	10.7	32.9	13.0												
	08	348° 45.9	325° 31.6	55.4	320° 36.1	53.5	325° 28.7	33.2	157° 18.6	00.4	Elainin	90° 46.4	51° 29.1 N	300° 54.0	49.3	201° 37.5	10.7	19.9	13.1												
	09	3° 48.4	340° 31.2	56.5	335° 36.7	54.1	340° 30.6	33.4	172° 21.2	00.4	Enif	33° 48.6	9° 55.6 N	315° 54.0	49.9	216° 07.2	10.7	06.8	13.2												
	10	18° 50.9	355° 30.8	57.6	350° 37.4	54.8	355° 32.6	33.6	187° 23.8	00.3	Fomalhaut	15° 25.7	29° 33.5 S	330° 54.0	50.6	230° 36.9	10.7	7° 53.6 N	13.2	59.0	N 59°	0	0	0	0	0	0				
	11	33° 53.3	10° 30.4	58.7	5° 38.1	55.5	10° 34.5	33.8	201° 34.5	00.3				345° 54.1	51.2	245° 06.6	10.7	40.4	13.3												
	12	48° 55.8	25° 30.1	7° 59.8 N	20° 38.8	10° 56.2 N	25° 36.4	8° 34.0 N	217° 28.9	2° 00.2 S	Gacrux	172° 02.2	57° 10.9 S	0° 54.1	17° 51.9 N	259° 36.3	10.7	7° 27.1 N	13.3	59.0	N 70°	22:34	-	-	02:29	02:10	01:55				
	13	63° 58.3	40° 29.7	8° 01.0 N	35° 39.4	56.9	40° 38.3	34.2	232° 31.5	00.2	Gienah	175° 53.6	17° 36.6 S	15° 54.1	52.5	274° 06.0	10.8	13.8													

**2011 May 13, 14, 15 (Fri, Sat, Sun)**

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.5			STARS			SUN		MOON			Lat	Twilight		Sunrise	13		Moonrise		
	GHA		Dec	GHA		Dec	GHA		Dec	GHA		Dec	GHA		Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec		d	HP		Nautical	Civil	13	14	15
Friday	00	230° 24.5'	205° 16.2'	8° 40.0' N	201° 03.1'	11° 20.6' N	206° 45.7'	8° 41.5' N	39° 01.9'	1° 58.7' S	Acamar	315° 19.9'	40° 15.5' S	180° 54.6'	18° 14.7' N	61° 21.7'	10.3	0° 56.0' S	14.3	59.9	N 72°	-	-	-	-	-	15:26	17:48	20:41			
	01	245° 27.0'	220° 15.8'	41.1	216° 03.8'	21.2	221° 47.6'	41.7	54° 04.5'	58.7	Acnarnar	335° 28.3'	57° 10.6' S	195° 54.6'	15.3	75° 51.0'	10.2	1° 10.3' S	14.3	68°	-	-	-	-	-	00:58	15:19	17:29	19:53			
	02	260° 29.4'	235° 15.4'	42.2	231° 04.5'	21.9	236° 49.6'	41.9	69° 07.0'	58.7	Acruz	173° 10.6'	63° 10.1' S	210° 54.6'	15.9	90° 20.2'	10.2	24.7	14.4	66°	-	-	-	-	-	02:28	15:09	17:02	19:00			
	03	275° 31.9'	250° 15.0'	43.3	246° 05.1'	22.6	251° 51.5'	42.5	84° 09.6'	58.6	Adhara	255° 14.0'	28° 59.5' S	225° 54.6'	16.5	104° 49.4'	10.1	39.1	14.4	64°	-	-	-	-	-	01:18	02:52	15:05	16:52	18:42		
	04	290° 34.4'	265° 14.6'	44.5	261° 05.8'	23.3	266° 53.4'	42.3	99° 12.2'	58.6	Aldebaran	290° 51.4'	16° 31.8' N	240° 54.6'	17.1	119° 18.5'	10.2	53.5	14.3	60.0	62°	-	-	-	-	01:57	03:10	15:01	16:43	18:28		
	05	305° 36.8'	280° 14.3'	45.6	276° 06.5'	23.9	281° 55.4'	42.5	114° 14.8'	58.5												60°	-	-	-	-	02:24	03:26	14:58	16:36	18:16	
	06	320° 39.3'	295° 13.9'	46.7	291° 07.2'	24.6	296° 57.3'	42.7	129° 17.3'	58.5	Alioth	166° 21.5'	55° 53.9' N	270° 54.6'	18.4	148° 16.8'	10.0	22.2	14.4	N 58°	01:10	02:44	03:39	04:36	14:56	16:30	18:05					
	07	335° 41.8'	310° 13.5'	47.8	306° 07.8'	25.3	311° 59.2'	42.9	144° 19.9'	58.5	Alkaid	152° 59.6'	49° 15.4' N	285° 54.6'	19.0	162° 45.8'	10.0	36.6	14.4	56°	01:46	03:01	03:50	04:53	14:53	16:24	17:56					
	08	350° 44.2'	325° 13.1'	48.9	321° 08.5'	26.0	327° 01.1'	43.1	159° 22.5'	58.4	Alnair	27° 45.6'	46° 54.0' S	300° 54.6'	19.6	177° 14.8'	10.0	51.0	14.3	54°	02:10	03:15	04:00	04:51	14:51	16:19	17:48					
	09	5° 46.7'	340° 12.7'	50.0	336° 09.2'	26.6	342° 03.1'	43.3	174° 25.1'	58.4	Alnilam	275° 48.2'	1° 11.8' S	315° 54.6'	20.2	191° 43.8'	10.0	3° 05.3' S	14.4	60.1	52°	02:30	03:27	04:08	04:08	14:49	16:15	17:44				
	10	20° 49.1'	355° 12.3'	51.1	351° 09.9'	27.3	357° 05.0'	43.5	189° 27.7'	58.3	Alphard	217° 57.6'	8° 42.7' S	330° 54.6'	20.9	206° 12.8'	9.9	19.7	14.3	50°	02:45	03:37	04:16	04:16	14:48	16:10	17:35					
	11	35° 51.6'	10° 11.9'	52.2	6° 10.5'	28.0	12° 06.9'	43.7	204° 30.2'	58.3												45°	03:16	03:59	04:33	04:33	14:44	16:02	17:21			
	12	50° 54.1'	25° 11.5'	8° 53.3' N	21° 11.2'	11° 28.6' N	27° 08.8'	8° 43.9' N	219° 32.8'	1° 58.2' S	Alphecca	126° 11.9'	26° 40.5' N	0° 54.7'	18° 22.1' N	235° 10.6'	9.8	3° 48.3' S	14.4	60.1	N 40°	03:38	04:16	04:46	04:46	14:41	15:54	17:10				
	13	65° 56.5'	40° 11.1'	54.4	36° 11.9'	29.3	42° 10.8'	44.1	234° 35.4'	58.2	Alpheratz	357° 45.3'	29° 09.1' N	15° 54.7'	22.7	249° 39.4'	9.8	4° 02.7' S	14.3	35°	03:56	04:30	04:58	04:58	14:38	15:48	17:00					
	14	80° 59.0'	55° 10.7'	55.5	51° 12.5'	30.0	57° 12.7'	44.3	249° 38.0'	58.2	Altair	62° 09.6'	8° 53.9' N	30° 54.7'	23.3	264° 08.2'	9.7	17.0	14.3	30°	04:10	04:41	05:08	05:08	14:36	15:43	16:52					
	15	96° 01.5'	70° 10.3'	56.6	66° 13.2'	30.6	72° 14.6'	44.5	264° 40.6'	58.1	Ankaa	353° 17.4'	42° 14.5' S	45° 54.7'	24.0	278° 36.9'	9.7	31.3	14.2	60.2	20°	04:33	05:01	05:25	05:25	14:32	15:34	16:37				
	16	111° 03.9'	85° 09.9'	57.7	81° 13.9'	31.3	87° 16.6'	44.7	279° 43.1'	58.1	Antares	112° 27.8'	26° 27.5' S	60° 54.7'	24.6	293° 05.6'	9.7	45.5	14.3	N 10°	04:51	05:17	05:39	05:39	14:28	15:25	16:25					
	17	126° 06.4'	100° 09.5'	58.8	96° 14.6'	32.0	102° 18.5'	44.9	294° 45.7'	58.0												0°	05:06	05:31	05:53	05:53	14:25	15:18	16:13			
	18	141° 08.9'	115° 09.1'	59.9	111° 15.2'	32.7	117° 20.4'	45.1	309° 48.3'	58.0	Arcturus	145° 56.8'	19° 07.3' N	90° 54.7'	25.8	322° 02.9'	9.6	5° 14.0' S	14.2	S 10°	05:19	05:44	06:06	06:06	14:22	15:10	16:02					
	19	156° 11.3'	130° 08.8'	9° 01.1' N	130° 15.9'	33.3	132° 22.3'	45.3	324° 50.9'	58.0	Arctia	107° 30.4'	69° 02.8' S	105° 54.7'	26.4	336° 31.5'	9.5	28.2	14.2	20°	05:31	05:57	06:21	06:21	14:18	15:02	15:50					
	20	171° 13.8'	145° 08.4'	02.2	141° 16.6'	34.0	147° 24.3'	45.6	339° 53.4'	57.9	Avior	234° 18.9'	59° 33.2' S	120° 54.7'	27.0	351° 00.0'	9.5	42.4	14.2	30°	05:43	06:12	06:37	06:37	14:15	14:54	15:36					
	21	186° 16.3'	160° 08.0'	03.3	156° 17.3'	34.7	162° 26.2'	45.8	354° 56.0'	57.9	Bellatrix	278° 33.9'	6° 21.5' N	135° 54.7'	27.6	5° 28.5'	9.4	56.6	14.1	35°	05:49	06:19	06:46	06:46	14:13	14:48	15:28					
	22	201° 18.7'	175° 07.6'	04.4	171° 17.9'	35.3	177° 28.1'	46.0	371° 03.2'	57.4	Betelgeuse	271° 03.2'	7° 24.4' N	150° 54.7'	28.2	19° 56.9'	9.4	6° 10.7' S	14.1	60.3	40°	05:55	06:28	06:57	06:57	14:10	14:43	15:19				
23	216° 21.2'	190° 07.2'	05.5	186° 18.6'	36.0	192° 30.1'	46.2	25° 01.2'	57.8												45°	06:02	06:38	07:10	07:10	14:07	14:36	15:08				
Saturday	00	231° 23.6'	205° 06.8'	9° 06.6' N	201° 19.3'	11° 36.7' N	207° 32.0'	8° 46.4' N	40° 03.7'	1° 57.8' S	Canopus	263° 57.2'	52° 42.4' N	180° 54.7'	18° 29.5' N	48° 53.6'	9.3	6° 38.9' S	14.0	60.3	S 50°	06:10	06:49	07:25	07:25	14:04	14:28	14:56				
	01	246° 26.1'	220° 06.4'	07.7	216° 20.6'	21.2	222° 33.9'	46.6	55° 06.3'	57.7	Capella	180° 37.1'	46° 00.6' N	195° 54.7'	30.1	63° 21.9'	9.2	52.9	14.0	52°	06:13	06:54	07:32	07:32	14:03	14:24	14:50					
	02	261° 28.6'	235° 06.0'	08.8	231° 20.6'	38.0	237° 35.8'	46.8	70° 08.9'	57.7	Deneb	49° 32.4'	45° 19.1' N	210° 54.7'	30.7	77° 50.1'	9.2	7° 06.9' S	14.0	54°	06:17	07:00	07:40	07:40	14:01	14:20	14:44					
	03	276° 31.0'	250° 05.6'	09.9	246° 21.3'	38.7	252° 37.8'	47.0	85° 11.5'	57.7	Denebola	182° 35.0'	14° 30.4' N	225° 54.7'	31.3	92° 18.3'	9.1	20.9	14.0	56°	06:21	07:06	07:49	07:49	13:59	14:16	14:36					
	04	291° 33.5'	265° 05.2'	11.0	261° 22.0'	39.3	267° 39.7'	47.2	100° 14.1'	57.6	Diphda	348° 57.6'	17° 55.4' S	240° 54.7'	31.9	106° 46.4'	9.1	34.9	13.9	58°	06:25	07:13	07:59	07:59	13:57	14:11	14:28					
	05	306° 36.0'	280° 04.8'	12.1	276° 22.7'	40.0	282° 41.6'	47.4	115° 16.6'	57.6												S 60°	06:29	07:21	08:10	08:10	13:55	14:06	14:19			
	06	321° 38.4'	295° 04.4'	13.2	291° 23.3'	40.7	297° 43.6'	47.6	130° 19.2'	57.5	Dubhe	193° 53.2'	61° 41.5' N	270° 54.7'	33.1	121° 42.5'	8.9	8° 02.6' S	13.8	S 62°	06:34	07:30	08:24	08:24	13:52	14:00	14:09					
	07	336° 40.9'	310° 04.0'	14.3	306° 24.0'	41.3	312° 45.5'	47.8	145° 21.8'	57.5	Elnath	278° 14.9'	28° 37.0' N	285° 54.7'	33.7	150° 10.4'	8.9	16.4	13.8													
	08	351° 43.4'	325° 03.6'	15.4	321° 24.7'	42.0	327° 47.4'	48.0	160° 24.4'	57.5	Eltanin	90° 46.4'	51° 29.1' N	300° 54.7'	34.3	164° 38.3'	8.9	30.2	13.8													
	09	6° 45.8'	340° 03.2'	16.5	336° 25.3'	42.7	342° 49.3'	48.2	175° 26.9'	57.4	Enif	33° 48.6'	9° 55.6' N	315° 54.7'	34.9	179° 06.2'	8.8	44.0	13.6													
	10	21° 48.3'	355° 02.8'	17.6	351° 26.0'	43.3	357° 51.3'	48.4	190° 29.5'	57.4	Fomalhaut	15° 25.7'	29° 33.5' S	330° 54.7'	35.5	193° 34.0'	8.7	57.6	13.7													
	11	36° 50.7'	10° 02.4'	18.7	6° 26.7'	44.0	12° 53.2'	48.6	205° 32.1'	57.3																						
	12	51° 53.2'	25° 02.0'	9° 19.8' N	21° 27.4'	11° 44.7' N	27° 55.1'	8° 48.8' N	220° 34.7'	1° 57.3' S	Gacrux	172																				





**2011 May 19, 20, 21 (Thur, Fri, Sat)**

GMT	ARIES			VENUS -3.9			MARS +1.3			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	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	19	20	21	19	20	21				
Thurs day	00	236° 19'.3	204° 16'.9	11° 16'.3 N	202° 39'.7	12° 55'.2 N	211° 23'.8	9° 10'.5 N	45° 12'.0	1° 53'.5 S	180° 53'.4	19° 38'.7 N	339° 07'.9	5.0	23° 24'.0 S	0.2	59.1	N 72°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	01	251° 21'.8	219° 16'.5	17.4	217° 40'.3	55.9	226° 25'.8	10.7	60° 14'.5	53.5	195° 53'.6	39.3	353° 31'.9	5.0	23.8	0.3	59.0	N 70°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	02	266° 24'.3	234° 16'.0	18.5	232° 41'.0	56.5	241° 27'.7	10.9	75° 17'.1	53.4	210° 53'.3	39.8	7° 55'.9	5.1	23.5	0.5	58.9	N 68°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	03	281° 26'.7	249° 15'.6	19.5	247° 41'.7	57.2	256° 29'.7	11.1	90° 19'.7	53.4	225° 53'.4	40.4	22° 20'.0	5.1	23.0	0.6	58.8	N 66°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04	296° 29'.2	264° 15'.2	20.6	262° 42'.3	57.8	271° 31'.6	11.3	105° 22'.2	53.4	240° 53'.3	40.9	36° 44'.1	5.2	22.4	0.8	58.9	N 64°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05	311° 31'.7	279° 14'.7	21.6	277° 43'.0	58.4	286° 33'.5	11.5	120° 24'.8	53.3	255° 53'.2	41.4	51° 08'.3	5.2	21.6	1.0	58.8	N 62°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	06	326° 34'.1	294° 14'.3	22.7	292° 43'.7	59.1	301° 35'.5	11.7	135° 27'.3	53.3	270° 53'.2	42.0	65° 32'.5	5.3	20.6	1.1	58.7	N 60°	00:19	02:28	03:27	23:08	23:42	24:06	01:19	-	-	-	-	-	-	-	-	-	
	07	341° 36'.6	309° 13'.9	23.7	307° 44'.3	59.7	316° 37'.4	11.9	150° 29'.9	53.3	285° 53'.2	42.5	79° 56'.8	5.4	19.5	1.2	58.8	N 58°	01:22	02:47	03:39	22:52	23:29	23:56	01:22	-	-	-	-	-	-	-	-	-	
	08	356° 39'.1	324° 13'.4	24.8	322° 45'.0	60.0	331° 39'.3	12.1	165° 32'.5	53.2	300° 53'.2	43.1	94° 21'.2	5.4	18.3	1.4	58.7	N 56°	01:53	03:03	03:50	22:39	23:18	23:47	01:53	-	-	-	-	-	-	-	-	-	-
	09	11° 41'.5	339° 13'.0	25.9	337° 45'.7	01.0	346° 41'.3	12.3	180° 35'.0	53.2	315° 53'.1	43.6	108° 45'.6	5.5	16.9	1.6	58.6	N 54°	02:15	03:16	04:00	22:27	23:08	23:39	02:15	-	-	-	-	-	-	-	-	-	-
	10	26° 44'.0	354° 12'.5	26.9	352° 46'.3	01.6	1° 43'.2	12.5	195° 37'.6	53.2	330° 53'.1	44.1	123° 10'.1	5.5	15.3	1.7	58.7	N 52°	02:33	03:28	04:08	22:17	22:59	23:32	02:33	-	-	-	-	-	-	-	-	-	-
	11	41° 46'.4	9° 12'.1	28.0	7° 47'.0	02.3	16° 45'.2	12.7	210° 40'.1	53.1	345° 53'.1	44.7	137° 34'.6	5.6	13.6	1.9	58.8	N 50°	03:07	03:51	04:26	21:55	22:40	23:17	03:07	-	-	-	-	-	-	-	-	-	-
	12	56° 48'.9	24° 11'.7	11° 29'.0 N	22° 47'.7	13° 02'.9 N	31° 47'.1	9° 12'.9 N	225° 42'.7	1° 53'.1 S	0° 53'.0	19° 45'.2 N	151° 59'.2	5.6	23° 11'.7 S	2.0	58.7	N 40°	03:31	04:10	04:41	21:38	22:25	23:04	03:31	-	-	-	-	-	-	-	-	-	
	13	71° 51'.4	39° 11'.2	30.1	37° 48'.3	03.6	46° 49'.0	13.1	240° 45'.3	53.1	15° 53'.0	45.7	166° 23'.8	5.7	09.7	2.1	58.6	N 35°	03:50	04:25	04:53	21:23	22:12	22:53	03:50	-	-	-	-	-	-	-	-	-	
	14	86° 53'.8	54° 10'.8	31.1	52° 49'.0	04.2	61° 51'.0	13.3	255° 47'.8	53.0	30° 53'.0	46.3	180° 48'.5	5.8	07.6	2.3	58.5	N 30°	04:06	04:38	05:04	21:10	22:02	22:44	04:06	-	-	-	-	-	-	-	-	-	
	15	101° 56'.3	69° 10'.3	32.2	67° 49'.7	04.8	76° 52'.9	13.5	270° 50'.4	53.0	45° 53'.0	46.8	195° 13'.3	5.9	05.3	2.5	58.5	N 20°	04:30	04:59	05:22	20:49	21:41	22:28	04:30	-	-	-	-	-	-	-	-	-	
	16	116° 58'.8	84° 09'.9	33.2	82° 50'.3	05.5	91° 54'.8	13.7	285° 52'.9	53.0	60° 52'.9	47.4	209° 38'.2	5.9	02.8	2.5	58.4	N 10°	04:49	05:16	05:38	20:30	21:24	22:13	04:49	-	-	-	-	-	-	-	-	-	
	17	132° 01'.2	99° 09'.5	34.3	97° 51'.0	06.1	106° 56'.8	13.9	300° 55'.5	53.0	75° 52'.9	47.9	224° 03'.1	6.0	00.3	2.8	58.3	N 0°	05:05	05:31	05:53	20:12	21:08	22:00	05:05	-	-	-	-	-	-	-	-	-	
	18	147° 03'.7	114° 09'.0	35.3	112° 51'.6	06.7	121° 58'.7	14.1	315° 58'.0	52.9	90° 52'.9	48.4	238° 28'.1	6.1	22° 57'.5 S	2.9	58.4	S 10°	05:20	05:45	06:08	19:54	20:52	21:46	05:20	-	-	-	-	-	-	-	-	-	
	19	162° 06'.2	129° 08'.6	36.4	127° 52'.3	07.4	137° 00'.7	14.3	331° 00'.6	52.9	105° 52'.8	49.0	252° 53'.2	6.1	54.6	3.0	58.3	S 20°	05:33	06:00	06:23	19:35	20:35	21:32	05:33	-	-	-	-	-	-	-	-	-	
	20	177° 08'.6	144° 08'.1	37.4	142° 53'.0	08.0	152° 02'.6	14.5	346° 03'.2	52.9	120° 52'.8	49.5	267° 18'.3	6.3	51.6	3.1	58.3	S 30°	05:46	06:15	06:41	19:13	20:15	21:16	05:46	-	-	-	-	-	-	-	-	-	
	21	192° 11'.1	159° 07'.7	38.5	157° 53'.6	08.6	167° 04'.5	14.7	1° 05'.7	52.8	135° 52'.8	50.0	281° 43'.6	6.3	48.5	3.3	58.2	S 35°	05:53	06:24	06:51	19:00	20:03	21:06	05:53	-	-	-	-	-	-	-	-	-	
	22	207° 13'.6	174° 07'.2	39.5	172° 54'.3	09.3	182° 06'.5	14.9	16° 08'.3	52.8	150° 52'.7	50.5	296° 08'.9	6.4	45.2	3.5	58.1	S 40°	06:00	06:33	07:02	18:46	19:50	20:55	06:00	-	-	-	-	-	-	-	-	-	
23	222° 16'.0	189° 06'.8	40.6	187° 55'.0	09.9	197° 08'.4	15.1	31° 10'.8	52.8	165° 52'.7	51.1	310° 34'.3	6.4	41.7	3.5	58.0	S 45°	06:08	06:44	07:16	18:28	19:34	20:42	06:08	-	-	-	-	-	-	-	-	-		
Fri day	00	237° 18'.5	204° 06'.3	11° 41'.6 N	202° 55'.6	13° 10'.6 N	212° 20'.3	9° 15'.3 N	46° 13'.4	1° 52'.7 S	180° 52.7	19° 51'.6 N	324° 59.7	6.6	22° 38'.2 S	3.8	58.2	S 50°	06:17	06:57	07:33	18:06	19:15	20:26	06:17	-	-	-	-	-	-	-			
	01	252° 20'.9	219° 05.9	42.7	217° 56.3	11.2	227° 12.3	15.5	61° 16'.0	52.7	195° 52.7	52.1	339° 25.3	6.6	34.4	3.8	58.1	S 52°	06:21	07:02	07:41	17:56	19:06	20:19	06:21	-	-	-	-	-	-	-	-		
	02	267° 23.4	234° 05.5	43.7	232° 57.0	11.8	242° 14.2	15.7	76° 18'.5	52.7	210° 52.6	52.7	353° 50.9	6.7	30.6	4.0	58.0	S 54°	06:25	07:09	07:49	17:44	18:55	20:10	06:25	-	-	-	-	-	-	-	-	-	
	03	282° 25.9	249° 05.0	44.8	247° 57.6	12.5	257° 16.2	15.9	91° 21'.1	52.6	225° 52.6	53.2	8° 16'.6	6.8	26.6	4.1	58.1	S 56°	06:29	07:16	07:59	17:31	18:44	20:01	06:29	-	-	-	-	-	-	-	-	-	
	04	297° 28.3	264° 04.6	45.8	262° 58.3	13.1	272° 18.1	16.1	106° 23'.6	52.6	240° 52.6	53.7	22° 42.4	6.8	22.5	4.3	58.0	S 58°	06:34	07:23	08:10	17:15	18:30	19:50	06:34	-	-	-	-	-	-	-	-	-	
	05	312° 30.8	279° 04.1	46.8	277° 59.0	13.7	287° 20.0	16.3	121° 26.2	52.6	255° 52.5	54.2	37° 08.2	7.0	18.2	4.3	57.9	S 60°	06:39	07:32	08:23	16:56	18:14	19:38	06:39	-	-	-	-	-	-	-	-		
	06	327° 33.3	294° 03.7	47.9	292° 59.6	14.4	302° 22.0	16.5	136° 28.7	52.6	270° 52.5	54.8	51° 34.2	7.1	13.9	4.5	58.0	S 62°	06:45	07:42	08:38	16:33	17:55	19:23	06:45	-	-	-	-	-	-	-	-		
	07	342° 35.7	309° 03.2	48.9	308° 00.3	15.0	317° 23.9	16.7	151° 31.3	52.5	285° 52.5	55.3	66° 00.3	7.1	09.4	4.7	57.9	S 64°	06:51	07:51	08:51	16:00	17:23	18:51	06:51	-	-	-	-	-	-	-	-		
	08	357° 38.2	324° 02.8	50.0	323° 00.9	15.6	332° 25.9	16.8	166° 33.8	52.5	300° 52.4	55.8	80° 26.4	7.2	04.7	4.7	57.8	S 66°	06:57	08:07	09:17	15:00	16:25	17:51	06:57	-	-	-	-	-	-	-	-	-	
	09	12° 40.7	339° 02.3	51.0	338° 01.6	16.3	347° 27.8	17.0	181° 36.4	52.5	315° 52.4	56.3	94° 52.6	7.3	22° 00.0 S	4.9	57.7	S 68°	07:03	08:17	09:31	14:30	15:57	17:23	07:03	-	-	-	-	-	-	-	-		
	10	27° 43.1	354° 01.9	52.1	353° 02.3	16.9	2° 29.7	17.2	196° 39.0	52.4	330° 52.4	56.9	109° 18.9	7.4	55.1	5.0																			

**2011 May 22, 23, 24 (Sun, Mon, Tue)**

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.6			STARS			SUN		MOON					Lat		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	22	23	24	22	23	24		
Sunday	00	239° 16.8	203° 44.6	12° 31.4 N	203° 27.4	13° 40.8 N	213° 43.5	9° 24.7 N	48° 16.0	1° 51.4 S	Acamar	315° 19.8	40° 15.5 S	180° 50.9	20° 16.3 N	299° 09.1	11.0	17° 28.3 S	8.8	56.5	N 70°	-	-	-	-	-	-	02:56	02:02	01:34				
	01	254° 19.2	218° 44.1	32.4	218° 28.1	41.4	228° 45.4	24.9	63° 18.5	51.3	Acnarnar	335° 28.3	57° 10.5 S	195° 50.9	16.8	313° 39.1	11.2	19.5	8.9	68°	N 58°	-	-	-	00:57	-	-	01:29	01:18	01:10				
	02	269° 21.7	233° 43.6	33.4	233° 28.7	42.0	243° 47.3	25.1	78° 21.1	51.3	Acrux	173° 10.7	63° 10.1 S	210° 50.8	17.3	328° 09.3	11.2	10.6	9.0	56.4	66°	-	-	-	01:51	-	-	01:05	01:03	01:00				
	03	284° 24.2	248° 43.2	34.4	248° 29.4	42.6	258° 49.3	25.3	93° 23.6	51.3	Adhara	255° 14.0	28° 59.5 S	225° 50.8	17.8	342° 39.5	11.3	01.6	9.0	64°	64°	-	-	-	02:24	-	-	00:46	00:50	00:53				
	04	299° 26.6	263° 42.7	35.5	263° 30.1	43.3	273° 51.2	25.5	108° 26.2	51.2	Aldebaran	290° 51.4	16° 31.9 N	240° 50.7	18.3	357° 09.8	11.4	16° 52.6 S	9.1	62°	62°	-	01:16	-	-	02:47	00:30	00:40	00:46	00:30	00:40			
	05	314° 29.1	278° 42.2	36.5	278° 30.7	43.9	288° 53.2	25.7	123° 28.7	51.2				255° 50.7	18.8	11° 40.2	11.5	43.5	9.2	56.3	60°	-	-	01:55	03:06	-	-	00:17	00:30	00:40				
	06	329° 31.5	293° 41.8	37.5	293° 31.4	44.5	303° 55.1	25.8	138° 31.3	51.2	Alioth	166° 21.5	55° 54.0 N	270° 50.6	19.3	26° 10.7	11.6	34.3	9.3	53°	N 58°	-	-	-	02:21	03:21	00:06	00:22	00:35	00:22	00:35			
	07	344° 34.0	308° 41.3	38.5	308° 32.0	45.1	318° 57.1	26.0	153° 33.8	51.2	Alkaid	152° 59.6	49° 15.4 N	285° 50.6	19.8	40° 41.3	11.6	25.0	9.3	56°	56°	01:09	02:41	03:34	-	-	-	00:15	00:30					
	08	359° 36.5	323° 40.8	39.6	323° 32.7	45.7	333° 59.0	26.2	168° 36.4	51.1	Alnair	27° 45.5	46° 54.0 S	300° 50.5	20.3	55° 11.9	11.8	15.7	9.4	56.2	54°	01:44	02:58	03:46	-	-	-	00:09	00:26					
	09	14° 38.9	338° 40.4	40.6	338° 33.4	46.4	348° 00.9	26.4	183° 38.9	51.1	Alnilam	275° 54.2	1° 11.8 S	315° 50.5	20.8	69° 42.7	11.9	06.3	9.4	52°	52°	02:09	03:12	03:56	-	-	-	00:03	00:22					
	10	29° 41.4	353° 39.9	41.6	353° 34.0	47.0	4° 02.9	26.6	198° 41.5	51.1	Alphard	217° 57.6	8° 42.7 S	330° 50.5	21.3	84° 13.6	11.9	15° 56.9 S	9.6	50°	50°	02:08	03:24	04:05	-	-	-	23:58	-	00:19				
	11	44° 43.9	8° 39.4	42.6	8° 34.7	47.6	19° 04.8	26.8	218° 44.0	51.1				345° 50.4	21.8	98° 44.5	12.0	47.3	9.5	56.1	45°	03:23	03:48	04:23	23:46	-	-	00:12	-	-				
	12	59° 46.3	23° 39.0	12° 43.6 N	23° 35.3	13° 48.2 N	34° 06.8	9° 27.0 N	228° 46.6	1° 51.0 S	Alphecca	126° 11.9	26° 40.5 N	0° 50.4	20° 22.3 N	113° 15.5	12.2	15° 37.8 S	9.7	56.1	N 40°	03:28	04:07	04:39	23:37	-	-	00:05	-	-				
	13	74° 48.8	38° 38.5	44.7	38° 36.0	48.8	49° 08.7	27.2	243° 49.1	51.0	Alpheratz	357° 45.2	29° 09.1 N	15° 50.3	22.8	127° 46.7	12.2	28.1	9.7	35°	35°	03:48	04:23	04:51	23:29	24:00	24:28							
	14	89° 51.3	53° 38.0	45.7	53° 36.7	49.5	64° 10.7	27.4	258° 51.7	51.0	Altair	62° 09.5	8° 53.9 N	30° 50.7	23.3	142° 17.9	12.3	18.4	9.8	30°	30°	04:04	04:36	05:03	23:22	23:55	24:26							
	15	104° 53.7	68° 37.6	46.7	68° 37.3	50.1	79° 12.6	27.6	273° 54.2	51.0	Ankaa	353° 17.4	42° 14.4 S	45° 50.2	23.8	156° 49.2	12.3	08.6	9.8	56.0	20°	04:29	04:58	05:22	23:09	23:47	24:22							
	16	119° 56.2	83° 37.1	47.7	83° 38.0	50.7	94° 14.5	27.8	288° 56.8	50.9	Antares	112° 27.7	26° 27.5 S	60° 50.2	24.3	171° 20.5	12.5	14° 58.8 S	9.9	51°	N 10°	04:49	05:15	05:38	22:58	23:40	24:18							
	17	134° 58.7	98° 36.6	48.7	98° 38.6	51.3	109° 16.5	28.0	303° 59.3	50.9				75° 50.1	24.8	185° 52.0	12.5	48.9	9.9	0°	0°	05:05	05:31	05:53	22:48	23:33	24:15							
	18	150° 01.1	113° 36.2	49.7	113° 39.3	51.9	124° 18.4	28.2	319° 01.9	50.9	Arcturus	145° 56.8	19° 07.3 N	90° 50.1	25.2	200° 23.5	12.7	39.0	10.0	55.9	S 10°	05:20	05:46	06:08	22:38	23:26	24:12							
	19	165° 03.6	128° 35.7	50.8	128° 40.0	52.6	139° 20.4	28.4	334° 04.4	50.8	Arctia	107° 30.7	63° 02.8 S	105° 50.0	25.7	214° 55.2	12.7	29.0	10.1	20°	20°	05:34	06:01	06:24	22:27	23:18	24:08							
	20	180° 06.0	143° 35.2	51.8	143° 40.6	53.2	154° 22.3	28.6	349° 07.0	50.8	Avior	234° 19.0	59° 33.1 S	120° 50.0	26.2	229° 26.9	12.7	18.9	10.1	30°	30°	05:47	06:17	06:42	22:14	23:10	24:04							
	21	195° 08.5	158° 34.7	52.8	158° 41.3	53.8	169° 24.3	28.9	4° 09.5	50.8	Bellatrix	278° 33.9	6° 21.5 N	135° 49.9	26.7	243° 58.6	12.9	9.8	10.2	55.8	35°	05:55	06:26	06:53	22:07	23:05	24:01							
	22	210° 11.0	173° 34.3	53.8	173° 41.9	54.4	184° 26.2	28.8	19° 12.1	50.8	Betelgeuse	271° 03.2	7° 24.4 N	150° 49.9	27.2	258° 30.5	13.0	13° 58.6 S	10.2	40°	40°	06:02	06:35	07:05	21:58	23:00	23:59							
23	225° 13.4	188° 33.8	54.8	188° 42.6	55.0	199° 28.1	29.1	34° 14.6	50.7				165° 49.9	27.7	273° 02.5	13.0	48.4	10.3	45°	45°	06:11	06:47	07:19	21:48	22:53	23:56								
Monday	00	240° 15.9	203° 33.3	12° 55.8 N	203° 43.3	13° 55.7 N	214° 30.1	9° 29.3 N	49° 17.1	1° 50.7 S	Canopus	263° 57.3	52° 42.3 S	180° 49.8	20° 28.2 N	287° 34.5	13.1	13° 38.1 S	10.3	55.7	S 50°	06:20	07:00	07:37	21:37	22:45	23:50							
	01	255° 18.4	218° 32.9	56.8	218° 43.9	56.8	229° 32.0	29.3	64° 19.7	50.7	Capella	280° 37.1	46° 00.5 N	195° 49.8	28.7	302° 06.6	13.2	27.8	10.0	52°	52°	06:24	07:06	07:45	21:31	22:42	23:52							
	02	270° 20.8	233° 32.4	57.9	233° 44.6	56.9	244° 34.0	29.7	79° 22.2	50.7	Deneb	49° 32.3	45° 19.1 N	210° 49.7	29.1	316° 38.8	13.2	17.5	10.5	54°	54°	06:28	07:13	07:54	21:25	22:38	23:48							
	03	285° 23.3	248° 31.9	58.9	248° 45.2	57.5	259° 35.9	29.9	94° 24.8	50.6	Denebola	182° 35.0	14° 30.4 N	225° 49.7	29.6	331° 11.0	13.4	07.0	10.4	56°	56°	06:33	07:20	08:04	21:18	22:33	23:46							
	04	300° 25.8	263° 31.4	59.9	263° 45.9	58.1	274° 37.9	30.1	109° 27.3	50.6	Diphda	348° 57.6	17° 55.3 S	240° 49.6	30.1	345° 43.4	13.4	12° 56.6 S	10.5	55.6	58°	06:38	07:28	08:16	21:10	22:28	23:44							
	05	315° 28.2	278° 31.0	13° 00.9 N	278° 46.6	58.7	289° 39.8	30.3	124° 29.9	50.6				255° 49.6	30.6	0° 15.8	13.5	46.1	10.6	56°	S 60°	06:44	07:37	08:29	21:02	22:23	23:41							
	06	330° 30.7	293° 30.5	01.9	293° 47.2	59.4	304° 41.8	30.5	139° 32.4	50.6	Dubhe	193° 53.3	61° 41.5 N	270° 49.5	31.1	14° 48.3	13.5	35.5	10.6	55.5	S 62°	06:50	07:48	08:45	20:52	22:16	23:38							
	07	345° 33.2	308° 30.0	02.9	308° 47.9	14° 00.0 N	319° 43.7	30.7	154° 35.0	50.5	Elath	278° 14.9	28° 37.0 N	285° 49.5	31.6	29° 20.8	13.6	24.9	10.6	55.5														
	08	0° 35.6	323° 29.5	03.9	323° 48.5	00.6	334° 45.3	30.9	169° 37.5	50.5	Elnath	90° 46.3	51° 29.1 N	300° 49.4	32.0	43° 53.4	13.7	14.3	10.7															
	09	15° 38.1	338° 29.1	04.9	338° 49.2	01.2	349° 47.6	31.1	184° 40.1	50.5	Enif	33° 48.5	9° 55.6 N	315° 49.4	32.5	58° 26.1	13.8	03.6	10.7															
	10	30° 40.5	353° 28.6	05.9	353° 49.8	01.8	4° 49.5	31.3	199° 42.6	50.5	Fomalhaut	15° 25.6	29° 33.5 S	330° 49.3	33.0	72° 58.9	13.8	11° 52.9 S	10.8															
	11	45° 43.0	8° 28.1	06.9	8° 50.5	02.4	19° 51.5	31.5	214° 45.2	50.4				345° 49.3	33.5	87° 31.7	13.9	42.1	10.8	55.4	N 72°	-	-	-	05:44	08:16	10:16							
	12	60° 45.5	23° 27.6	13° 08.0 N	23° 51.2	14° 03.0 N	34° 53.4	9° 31.7 N	229° 47.7	1° 50.4 S	Gacrux	172° 02.3	57° 11.0 S	0° 49.2	20° 34.0 N	102° 04.6	14.0	11° 31.3 S	10.9	55.4	N 70°	-	-	-	06:37	08:39	10							

**2011 May 25, 26, 27 (Wed, Thur, Fri)**

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.6			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Dec	HP	Lat	Nautical	Civil	25	26	27	25	26	27				
25 W e d n e s d a y	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	01:13	00:55	00:36						
	242° 14'.2	203° 10'.1	13° 43'.9 N	204° 14'.8	14° 25'.0 N	216° 03'.5	9° 38'.6 N	51° 19'.2	1° 49'.6 S	Acamar	315° 19'.8	40° 15'.5 S	180° 47'.2	20° 50'.8 N	266° 26'.8	15'.8	4° 42'.8 S	11'.7	54'.6	N 70°	-	-	-	01:07	00:55	00:43						
	257° 16'.6	218° 09'.7	44'.9	219° 15'.5	25'.6	231° 05'.4	38'.2	66° 21'.8	48'.1	Acnarnar	335° 28'.2	57° 10'.5 S	195° 47'.1	51'.3	281° 01'.6	15'.8	31'.1	11'.7		68°	-	-	00:24	01:02	00:55	00:48						
	272° 19'.1	233° 09'.2	45'.8	234° 16'.1	26'.2	246° 07'.4	38'.9	81° 24'.3	49'.5	Acrux	173° 10'.7	63° 10'.1 S	210° 47'.1	51'.7	295° 36'.4	15'.8	19'.4	11'.7		66°	-	-	01:39	00:58	00:55	00:52						
	287° 21'.6	248° 08'.7	46'.8	249° 16'.8	26'.8	261° 09'.3	39'.1	96° 26'.9	49'.5	Adhara	255° 14'.0	28° 59'.5 S	225° 47'.0	52'.2	310° 11'.2	15'.9	07'.7	11'.7		64°	-	-	02:15	00:54	00:55	00:56						
	302° 24'.0	263° 08'.2	47'.8	264° 17'.4	27'.4	276° 11'.3	39'.3	111° 29'.4	49'.5	Aldebaran	290° 51'.4	16° 31'.9 N	240° 47'.0	52'.6	324° 46'.1	15'.8	3° 55'.9 S	11'.7		62°	-	01:01	02:40	00:51	00:55	00:59						
	317° 26'.5	278° 07'.7	48'.8	279° 18'.1	28'.0	291° 13'.2	39'.5	126° 31'.9	49'.5				255° 46'.9	53'.1	339° 20'.9	15'.9	44'.2	11'.8		60°	-	01:45	03:00	00:48	00:55	01:02						
	332° 29'.0	293° 07'.2	49'.8	294° 18'.7	28'.6	306° 15'.2	39'.7	141° 34'.5	49'.4	Alioth	166° 21'.5	55° 54'.0 N	270° 46'.8	53'.5	353° 55'.8	16'.0	32'.4	11'.7		N 58°	-	02:14	03:16	00:46	00:55	01:05						
	347° 31'.4	308° 06'.7	50'.8	309° 19'.4	29'.2	321° 17'.1	39'.9	156° 37'.0	49'.4	Alkaid	152° 59'.6	49° 15'.4 N	285° 46'.8	54'.0	8° 30'.8	15'.9	20'.7	11'.8		56°	00:55	02:35	03:30	00:43	00:55	01:07						
	2° 33'.9	323° 06'.2	51'.8	324° 20'.0	29'.8	336° 19'.1	40'.1	171° 39'.6	49'.4	Alnair	27° 45'.6	46° 54'.0 S	300° 46'.7	54'.4	23° 05'.7	16'.0	08'.9	11'.8		54°	01:36	02:53	03:42	00:41	00:55	01:09						
	17° 36'.4	338° 05'.7	52'.7	339° 20'.7	30'.4	351° 21'.0	40'.3	186° 42'.1	49'.4	Alnilam	275° 52'.1	1° 11'.8 S	315° 46'.7	54'.9	37° 46'.7	16'.0	2° 57'.1 S	11'.7		52°	02:02	03:07	03:52	00:40	00:55	01:11						
	32° 38'.8	353° 05'.2	53'.7	354° 21'.3	31'.0	6° 23'.0	40'.5	201° 44'.6	49'.3	Alphard	217° 57'.6	8° 42'.7 S	330° 46'.6	55'.3	52° 15'.7	16'.1	45'.4	11'.8		50°	02:22	03:20	04:01	00:38	00:55	01:13						
	47° 41'.3	8° 04'.7	54'.7	9° 22'.0	31'.6	8° 24'.9	40'.7	216° 47'.2	49'.3				345° 46'.5	55'.8	66° 50'.8	16'.0	33'.6	11'.8		45°	02:59	03:45	04:21	00:34	00:55	01:17						
	62° 43'.7	23° 04'.2	13° 55'.7 N	24° 22'.7	14° 32'.2 N	36° 26'.9	9° 40'.8 N	231° 49'.7	1° 49'.3 S	Alphecca	126° 11'.9	26° 40'.5 N	0° 46'.5	20° 56'.2 N	81° 25'.8	16'.1	2° 21'.8 S	11'.8		54'.4	N 40°	03:26	04:05	04:37	00:31	00:56	01:20					
	77° 46'.2	38° 03'.7	56'.7	39° 23'.3	32'.8	51° 28'.8	41'.0	246° 52'.3	49'.3	Alpheratz	357° 45'.2	29° 09'.1 N	15° 46'.4	56'.7	96° 00'.9	16'.1	10'.0	11'.8		35°	03:46	04:21	04:50	00:28	00:56	01:23						
	92° 48'.7	53° 03'.2	57'.6	54° 24'.0	33'.4	62° 09'.5	41'.2	62° 09'.5	49'.3	Altair	62° 09'.5	8° 53'.9 N	30° 46'.3	57'.1	110° 36'.0	16'.1	1° 58'.2 S	11'.8		30°	04:02	04:35	05:01	00:26	00:56	01:25						
	107° 51'.1	68° 02'.7	58'.6	69° 24'.6	34'.0	81° 32'.7	41'.4	276° 57'.3	49'.2	Ankaa	353° 17'.3	42° 14'.4 S	45° 46'.3	57'.6	125° 11'.1	16'.1	46'.4	11'.8		20°	04:28	04:57	05:21	00:22	00:56	01:29						
	122° 53'.6	83° 02'.2	59'.6	84° 25'.3	34'.6	96° 34'.7	41'.6	291° 59'.9	49'.2	Antares	112° 27'.7	26° 27'.5 S	60° 46'.2	58'.0	139° 46'.2	16'.2	34'.6	11'.8		N 10°	04:49	05:15	05:38	00:18	00:56	01:33						
	137° 56'.1	98° 01'.7	14° 00'.6 N	99° 25'.9	35'.2	111° 36'.6	41'.8	307° 02'.4	49'.2				75° 46'.2	58'.5	154° 21'.4	16'.1	22'.8	11'.8		0°	05:05	05:31	05:53	00:15	00:56	01:37						
	152° 58'.5	113° 01'.2	01'.6	114° 26'.6	35'.8	126° 38'.6	42.0	322° 04'.9	49'.2	Arcturus	145° 56'.8	19° 07'.3 N	90° 46'.1	58'.9	168° 56'.5	16'.2	11'.0	11'.8		S 10°	05:21	05:46	06:09	00:12	00:56	01:40						
	168° 01'.0	128° 00'.7	02'.5	129° 27'.2	36'.4	141° 40'.5	42.2	337° 07'.5	49'.1	Atria	107° 30'.3	69° 02'.8 S	105° 46'.0	59'.4	183° 31'.7	16'.2	0° 59'.2 S	11'.8		20°	05:35	06:02	06:25	00:08	00:56	01:44						
	183° 03'.5	143° 00'.2	03'.5	144° 27'.9	37'.0	156° 42'.5	42.4	352° 10'.0	49'.1	Avior	234° 19'.0	59° 33'.1 S	120° 46'.0	59'.8	198° 06'.9	16'.2	47'.4	11'.8		54'.3	30°	05:49	06:18	06:44	00:04	00:57	01:49					
	198° 05'.9	157° 59'.7	04'.5	159° 28'.5	37'.6	171° 44'.4	42.6	7° 12'.6	49'.1	Bellatrix	278° 33'.9	6° 21'.5 N	135° 45'.9	21° 00'.3 N	212° 42'.1	16'.2	35'.6	11'.8		35°	05:56	06:28	06:55	00:01	00:57	01:51						
213° 08'.4	172° 59'.2	05'.5	174° 29'.2	38'.2	186° 46'.4	42.7	22° 15'.1	49'.1	Betelgeuse	271° 03'.2	7° 24'.4 N	150° 45'.8	00'.7	227° 17'.3	16'.2	23'.8	11'.8		40°	06:04	06:38	07:08	-	00:57	01:54							
228° 10'.9	187° 58'.7	06'.4	189° 29'.8	38'.8	201° 48'.3	42.9	37° 17'.6	49'.1				165° 45'.8	01'.1	241° 52'.5	16'.3	12'.0	11'.8		45°	06:13	06:49	07:22	-	00:57	01:58							
26 T h u r s d a y	243° 13'.3	202° 58'.2	14° 07'.4 N	204° 30'.5	14° 39'.4 N	216° 50'.3	9° 43'.1 N	52° 20'.2	1° 49'.0 S	Canopus	263° 57'.3	52° 42'.3 S	180° 45'.7	21° 01'.6 N	256° 27'.8	16'.2	0° 00'.2 S	11'.7	54'.3	S 50°	06:23	07:03	07:40	-	00:57	02:02						
	258° 15'.8	217° 57'.7	08'.4	219° 31'.2	40'.0	231° 52'.2	43'.3	67° 22'.7	49'.0	Capella	280° 37'.1	46° 00'.5 N	195° 45'.6	02'.0	271° 03'.0	16'.3	0° 11'.5 N	11'.8		52°	06:27	07:10	07:49	-	00:57	02:04						
	273° 18'.2	232° 57'.2	09'.4	234° 31'.8	40'.6	246° 54'.2	43'.5	82° 25'.2	49'.0	Deneb	49° 32'.3	45° 19'.1 N	210° 45'.6	02'.5	285° 38'.3	16'.2	23'.3	11'.8		54°	06:32	07:16	07:58	-	00:57	02:06						
	288° 20'.7	247° 56'.7	10'.3	249° 32'.5	41'.2	261° 56'.1	43'.7	97° 27'.8	49'.0	Denebola	182° 35'.0	14° 30'.4 N	225° 45'.5	02'.9	300° 13'.5	16'.3	30'.1	11'.8		56°	06:37	07:24	08:09	-	00:57	02:08						
	303° 23'.2	262° 56'.2	11'.3	264° 33'.1	41'.8	276° 58'.1	43'.9	112° 30'.3	49'.0	Diphda	348° 57'.5	17° 55'.3 S	240° 45'.4	03'.3	314° 48'.8	16'.3	46'.9	11'.7		58°	06:42	07:33	08:21	-	00:58	02:11						
	318° 25'.6	277° 55'.7	12'.3	279° 33'.8	42.4	292° 00'.0	44.1	127° 32'.8	48'.9				255° 45'.4	03'.8	329° 24'.1	16'.2	58'.6	11'.8		S 60°	06:48	07:42	08:35	-	00:58	02:14						
	333° 28'.1	292° 55'.2	13'.3	294° 34'.4	43.0	307° 02'.0	44.3	142° 35'.4	48'.9	Dubhe	193° 53'.3	61° 41'.5 N	270° 45'.3	04'.2	343° 59'.3	16'.3	1° 10'.4 N	11'.7		S 62°	06:55	07:53	08:52	-	00:58	02:17						
	348° 30'.6	307° 54'.7	14'.2	309° 35'.1	43'.6	322° 03'.9	44.4	157° 37'.9	48'.9	Elnath	278° 14'.9	28° 37'.0 N	285° 45'.2	04'.7	358° 34'.6	16'.3	22'.1	11'.8		54'.2												
	3° 33'.0	322° 54'.1	15'.2	324° 35'.1	44'.2	337° 05'.9	44.6	172° 40'.4	48'.9	Eltanin	90° 46'.3	51° 29'.2 N	300° 45'.2	05'.1	13° 09'.9	16'.3	33'.9	11'.7														
	18° 35'.5	337° 53'.6	16'.2	339° 36'.4	44'.8	352° 07'.8	44.8	187° 43'.0	48'.9	Enif	33° 48'.5	9° 55'.6 N	315° 45'.1	05'.5	27° 45'.2	16'.2	45'.6	11'.7														
	33° 38'.0	352° 53'.1	17'.1	354° 37'.0	45'.4	7° 09'.8	45.0	202° 45'.5	48'.8	Fomalhaut	15° 25'.6	29° 33'.5 S	330° 45'.0	06'.0	42° 20'.4	16'.3	57'.3	11'.8														
	48° 40'.4	7° 52'.6	18'.1	9° 37'.7	46.0	22° 11'.7	45.2	17° 48'.1	48'.8				345° 45'.0	06'.4	56° 55'.7	16'.3	2° 09'.1 N	11'.7														
	27 F r i d a y	63° 42'.9	22° 52'.1	14° 19'.1 N	24° 38'.3	14° 46'.6 N	37° 13'.7	9° 45'.4 N	232° 50'.6	1° 48'.8 S	Gacrux	172° 02'.3	57° 11'.0 S	0° 44'.9	21° 06'.8 N	71° 31'.0	16'.2	2° 20'.8 N	11'.7	54'.2	N 72°	-	-	-	12:04	13:49	15:36					
		78° 45'.3	37° 51'.6	20.0	39° 39'.0	47.2	52° 15'.6	45.6	247° 53'.1	48'.8	Gienah	175° 53'.7	17° 36'.6 S	15° 44'.8	07'.3	86° 06'.2	16'.3	32'.5	11'.6		68°	-	-	-	12:10	13:42	15:15					
		93° 47'.8	51° 51'.1	21'.0	54° 39'.6	47.8	67° 17'.6	45.8	262° 55'.7	48'.8	Hadar	148° 49'.5	60° 25'.9 S	30° 44'.7	07'.8	100° 41'.5	16'.3</															



2011 May 31, Jun. 1, 2 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.6			STARS			SUN			MOON					Lat		Twilight		Sunrise		31			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	31	1	2	31	1	2							
31 T u e s d a y	00	248° 09.0	201° 54.6	16° 00.0 N	205° 48.4	15° 49.4 N	220° 44.9	10° 05.5 N	57° 23.5	1° 47.0 S	Acamar	315° 19.8	40° 15.4 S	180° 36.4	21° 50.0 N	203° 51.0	11.5	20° 03.4 N	6.5	55.0	N 70°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	01	263° 11.5	216° 54.0	00.9	220° 49.0	49.9	235° 46.9	05.6	72° 26.0	47.0	Acnarnar	335° 28.2	57° 10.5 S	195° 36.3	50.3	218° 21.5	11.4	09.9	6.4	68°	-	-	-	-	00:09	-	-	-	-	-	-	-	-	-	-	-		
	02	278° 13.9	231° 53.5	01.8	235° 49.6	50.5	250° 48.8	05.8	87° 28.5	47.0	Acrux	173° 10.8	63° 10.1 S	210° 36.2	50.7	232° 51.9	11.4	16.3	6.3	66°	-	-	-	01:14	00:46	00:50	01:09	-	-	-	-	-	-	-	-	-		
	03	293° 16.4	246° 52.9	02.7	250° 50.3	51.0	265° 50.8	06.0	102° 31.0	47.0	Adhara	255° 14.0	28° 59.5 S	225° 36.1	51.1	247° 22.3	11.3	22.6	6.2	64°	-	-	-	01:59	01:13	01:29	02:02	-	-	-	-	-	-	-	-	-		
	04	308° 18.9	261° 52.3	03.6	265° 50.9	51.6	280° 52.8	06.2	117° 33.5	47.0	Aldebaran	290° 51.4	16° 31.9 N	240° 36.0	51.4	261° 52.6	11.3	28.8	6.2	55.1	62°	-	00:08	02:28	01:33	01:56	02:34	-	-	-	-	-	-	-	-	-		
	05	323° 21.3	276° 51.8	04.5	280° 51.6	52.2	295° 54.7	06.4	132° 36.0	47.0				255° 36.0	51.8	276° 22.9	11.2	35.0	6.0	60°	-	-	01:27	02:50	01:50	02:17	02:58	-	-	-	-	-	-	-	-	-		
	06	338° 23.8	291° 51.2	05.4	295° 52.2	52.7	310° 56.7	06.6	147° 38.6	46.9	Alioth	166° 21.6	55° 54.0 N	147° 35.9	52.2	270° 53.1	11.1	41.0	5.9	58°	-	-	02:01	03:08	02:05	02:35	03:07	-	-	-	-	-	-	-	-	-		
	07	353° 26.3	306° 50.7	06.3	310° 52.9	53.3	325° 58.7	06.7	162° 41.1	46.9	Alkaid	152° 59.6	49° 15.5 N	285° 35.8	52.5	305° 23.2	11.1	46.9	5.8	56°	00:07	02:25	03:22	02:17	02:49	03:33	-	-	-	-	-	-	-	-	-	-		
	08	8° 28.7	321° 50.1	07.2	325° 53.5	53.9	341° 00.6	06.9	177° 43.6	46.9	Alnair	27° 45.4	46° 54.0 S	300° 35.7	52.9	319° 53.3	11.0	52.7	5.8	54°	01:19	02:44	03:35	02:28	03:02	03:47	-	-	-	-	-	-	-	-	-	-		
	09	23° 31.2	336° 49.5	08.1	340° 54.2	54.4	356° 02.6	07.1	192° 46.1	46.9	Alnilam	275° 58.2	1° 11.8 S	315° 35.6	53.2	334° 23.3	10.9	58.5	5.6	52°	01:51	03:00	03:46	02:37	03:13	03:59	-	-	-	-	-	-	-	-	-	-	-	
	10	38° 33.6	351° 49.0	09.0	355° 54.8	55.0	11° 04.5	07.3	207° 48.6	46.9	Alphard	217° 57.6	8° 42.7 S	330° 35.5	53.6	348° 53.2	10.9	21° 04.1 N	5.5	55.2	50°	02:13	03:14	03:56	02:46	03:23	04:09	-	-	-	-	-	-	-	-	-	-	
	11	53° 36.1	6° 48.4	09.9	10° 55.4	55.6	26° 06.5	07.5	222° 51.2	46.9				345° 35.4	53.9	3° 23.1	10.8	09.6	5.5	45°	02:53	03:41	04:17	03:04	03:44	04:32	-	-	-	-	-	-	-	-	-	-		
	12	68° 38.6	21° 47.8	16° 10.8 N	25° 56.1	15° 56.1 N	41° 08.5	10° 07.6 N	237° 53.7	1° 46.9 S	Alphecca	126° 11.9	26° 40.6 N	0° 35.3	21° 54.3 N	17° 52.9	10.7	21° 15.1 N	5.3	55.2	N 40°	03:21	04:01	04:33	03:19	04:01	04:50	-	-	-	-	-	-	-	-	-	-	
	13	83° 41.0	36° 47.3	11.7	40° 56.7	56.7	56° 10.4	07.8	252° 56.2	46.9	Alpheratz	357° 45.2	29° 09.1 N	15° 35.2	10.7	32° 22.6	10.7	20.4	5.2	35°	03:42	04:18	04:47	03:32	04:15	05:05	-	-	-	-	-	-	-	-	-	-	-	
	14	98° 43.5	51° 46.7	12.5	55° 57.4	57.2	71° 12.4	08.0	62° 09.4	46.9	Altair	62° 09.4	8° 53.9 N	30° 35.1	55.0	46° 52.3	10.6	25.6	5.1	30°	04:00	04:32	04:59	03:43	04:27	05:18	-	-	-	-	-	-	-	-	-	-		
	15	113° 46.0	66° 46.1	13.4	70° 58.0	57.8	86° 14.4	08.2	283° 01.2	46.8	Ankaa	353° 17.3	42° 14.4 S	45° 35.0	55.4	61° 21.9	10.5	30.7	5.1	55.3	20°	04:27	04:56	05:20	04:02	04:49	05:40	-	-	-	-	-	-	-	-	-		
	16	128° 48.4	81° 45.6	14.3	85° 58.7	58.4	101° 16.3	08.4	298° 03.7	46.8	Antares	112° 27.7	26° 27.5 S	60° 34.9	55.7	75° 51.4	10.5	35.8	4.9	50°	04:48	05:15	05:38	04:18	05:07	05:59	-	-	-	-	-	-	-	-	-	-		
	17	143° 50.9	96° 45.0	15.2	100° 59.3	58.9	116° 18.3	08.6	313° 06.2	46.8				75° 34.9	56.1	90° 20.9	10.4	40.7	4.8	0°	05:06	05:32	05:54	04:34	05:25	06:17	-	-	-	-	-	-	-	-	-	-		
	18	158° 53.4	111° 44.5	16.1	115° 59.9	59.5	131° 20.2	08.7	328° 08.8	46.8	Arcturus	145° 56.8	19° 07.4 N	90° 34.8	56.4	104° 50.3	10.4	45.5	4.7	10°	05:22	05:48	06:10	04:50	05:42	06:36	-	-	-	-	-	-	-	-	-	-		
	19	173° 55.8	126° 43.9	17.0	131° 00.6	16° 00.1 N	146° 22.2	08.9	343° 11.3	46.8	Arctia	107° 30.3	69° 02.9 S	105° 34.7	56.8	119° 19.7	10.3	50.2	4.6	20°	05:37	06:04	06:28	05:07	06:01	06:55	-	-	-	-	-	-	-	-	-	-		
	20	188° 58.3	141° 43.3	17.9	146° 01.2	00.6	161° 24.2	09.1	358° 13.8	46.8	Avior	234° 19.1	59° 33.1 S	120° 34.6	57.1	133° 49.0	10.2	54.8	4.5	55.4	30°	05:52	06:21	06:47	05:26	06:22	07:18	-	-	-	-	-	-	-	-	-		
	21	204° 00.8	156° 42.8	18.8	161° 01.9	01.2	176° 26.1	09.3	13° 16.3	46.8	Bellatrix	278° 33.9	6° 21.5 N	135° 34.5	57.5	148° 18.2	10.2	59.3	4.4	35°	06:00	06:31	06:59	05:37	06:35	07:31	-	-	-	-	-	-	-	-	-			
	22	219° 03.2	171° 42.2	19.6	176° 02.5	01.7	191° 28.1	09.5	18° 18.2	46.8	Betelgeuse	271° 03.2	7° 24.4 N	150° 34.4	57.8	162° 47.4	10.2	22° 03.7 N	4.2	40°	06:08	06:42	07:12	05:51	06:50	07:46	-	-	-	-	-	-	-	-	-			
23	234° 05.7	186° 41.6	20.5	191° 03.2	02.3	206° 30.1	09.6	43° 21.3	46.7				165° 34.3	58.2	177° 16.6	10.0	07.9	4.2	45°	06:18	06:54	07:28	06:06	07:07	08:04	-	-	-	-	-	-	-	-	-				
1 W e d n e s d a y	00	249° 08.1	201° 41.0	16° 21.4 N	206° 03.8	16° 02.9 N	221° 32.0	10° 09.8 N	58° 23.9	1° 46.7 S	Canopus	263° 57.3	52° 42.3 S	180° 34.2	21° 58.5 N	191° 45.6	10.0	22° 12.1 N	4.1	55.4	S 50°	06:28	07:09	07:47	06:25	07:29	08:27	-	-	-	-	-	-	-	-			
	01	264° 10.6	216° 40.5	22.3	221° 04.4	23.0	236° 34.0	10.4	73° 26.4	46.7	Capella	280° 37.1	46° 00.5 N	195° 34.1	58.9	206° 14.6	10.0	16.2	3.9	55.5	52°	06:33	07:16	07:56	06:34	07:39	08:37	-	-	-	-	-	-	-	-	-		
	02	279° 13.1	231° 39.9	23.2	236° 05.1	24.0	251° 36.0	10.2	88° 28.9	46.7	Deneb	49° 32.3	45° 19.1 N	210° 34.0	59.2	220° 43.6	9.8	20.1	3.8	54°	06:38	07:23	08:06	06:45	07:51	08:50	-	-	-	-	-	-	-	-	-			
	03	294° 15.5	246° 39.3	24.1	251° 05.7	04.5	266° 37.9	10.4	103° 31.4	46.7	Denebola	182° 35.0	14° 30.4 N	225° 33.9	59.6	235° 12.5	9.9	23.9	3.7	56°	06:44	07:32	08:17	06:56	08:04	09:04	-	-	-	-	-	-	-	-	-			
	04	309° 18.0	261° 38.8	24.9	266° 06.4	05.1	281° 39.9	10.5	118° 33.9	46.7	Diphda	348° 57.5	17° 55.3 S	240° 33.8	59.9	249° 41.3	9.8	27.6	3.6	58°	06:50	07:41	08:30	07:10	08:20	09:20	-	-	-	-	-	-	-	-	-			
	05	324° 20.5	276° 38.2	25.8	281° 07.0	05.6	296° 41.8	10.7	133° 36.4	46.7				255° 33.7	22° 00.3 N	264° 10.1	9.8	31.2	3.5	60°	06:56	07:51	08:46	07:25	08:38	09:40	-	-	-	-	-	-	-	-	-			
	06	339° 22.9	291° 37.6	26.7	296° 07.7	06.2	311° 43.8	10.9	148° 38.9	46.7	Dubhe	193° 53.3	61° 41.5 N	270° 33.6	60.6	278° 38.9	9.6	34.7	3.4	55.6	S 62°	07:03	08:03	09:04	07:44	09:02	10:05	-	-	-	-	-	-	-	-			
	07	354° 25.4	306° 37.1	27.6	311° 08.3	06.8	326° 45.8	11.1	163° 41.5	46.7	Elnath	278° 14.9	28° 36.9 N	285° 33.5	01.0	293° 07.5	9.7	38.1	3.3																			
	08	9° 27.9	321° 36.5	28.5	326° 08.9	07.3	341° 47.7	11.3	178° 44																													



2011 June 6, 7, 8 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.1			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	Sunrise	6	7	8	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	72°	-	-	-	06:15	08:37	10:47			
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°	-	-	-	06:15	08:37	10:47
	01	254° 03'.9	200° 29'.4	18° 02'.2 N	207° 20'.4	17° 07'.8 N	225° 28'.5	10° 31'.1 N	63° 24'.5	1° 45'.9 S	Acamar	315° 19'.8	40° 15'.4 S	180° 21'.8	22° 35'.5 N	127° 33'.1	10'.0	15° 35'.8 N	10'.4	57.9	N	70°	-	-	-	06:47	08:52	10:52				
	02	269° 06'.3	215° 28'.8	03.0	222° 20'.7	240° 30'.4	240° 30'.4	31.3	78° 27'.0	45.9	Achernar	335° 28'.1	57° 10'.4 S	142° 02'.1	9.9	25.4	10'.0	68°	-	-	-	68°	-	-	-	07:10	09:04	10:56				
	03	284° 08.8	230° 28'.1	03.8	237° 21'.6	08.9	255° 32'.4	31.5	93° 29'.5	45.9	Acruz	173° 10'.8	63° 10'.1 S	210° 21'.5	36.0	156° 31'.0	10'.0	15.0	10'.5	58.0	66°	-	-	-	00:47	07:27	09:14	10:59				
	04	299° 11'.2	245° 27'.5	04.6	252° 22'.3	09.4	270° 34'.4	31.6	108° 32'.0	45.9	Adhara	255° 14'.0	28° 59'.4 S	225° 21'.4	36.3	171° 00'.0	10'.0	04.5	10'.6	64°	-	-	-	01:45	07:42	09:22	11:02					
	05	314° 13'.7	260° 26'.9	05.4	267° 22'.9	09.9	285° 36'.4	31.8	123° 34'.5	45.9	Aldebaran	290° 51'.4	16° 31'.9 N	240° 21'.3	36.6	185° 29'.1	10'.0	14° 53'.9 N	10'.7	62°	-	-	-	02:18	07:54	09:29	11:04					
	06	329° 16'.2	275° 26'.2	06.2	282° 23'.5	10.5	300° 38'.3	32.0	138° 37'.0	45.9				255° 21'.2	36.8	199° 58'.1	10'.1	43.2	10'.8	60°	-	-	-	01:11	02:42	08:04	09:35	11:06				
	07	344° 18'.6	290° 25'.6	07.0	297° 24'.2	11.0	315° 40'.3	32.0	153° 39'.4	45.9	Alioth	166° 21'.6	55° 54'.0 N	270° 21'.1	37.1	214° 27'.2	10'.2	32.4	10'.8	58°	58°	58°	-	-	01:51	03:01	08:13	09:40	11:08			
	08	359° 21'.1	305° 25'.0	07.7	312° 24'.8	11.5	330° 42'.3	32.3	168° 41'.9	45.9	Alkaid	152° 59'.6	49° 15'.5 N	285° 21'.0	37.3	228° 56'.4	10'.2	21.6	11'.0	58.1	56°	-	-	-	02:17	03:17	08:21	09:45	11:10			
	09	14° 23'.6	320° 24'.4	08.5	327° 25'.4	12.0	345° 44'.3	32.5	183° 44'.4	45.9	Alnair	27° 45'.4	46° 54'.0 S	300° 20'.9	37.6	243° 25'.6	10'.2	10.6	11'.0	54°	01:04	02:38	03:30	03:30	08:27	09:49	11:11					
	10	29° 26'.0	335° 23'.7	09.3	342° 26'.1	12.5	0° 46'.3	32.7	198° 46'.9	45.9	Alnilam	275° 48'.2	1° 11'.8 S	315° 20'.8	37.9	257° 54'.8	10'.2	13° 59'.6 N	11'.1	52°	01:41	02:55	03:42	03:42	08:34	09:53	11:13					
	11	44° 28'.5	350° 23'.1	10.1	357° 26'.7	13.1	15° 48'.2	32.9	213° 49'.4	45.9	Alphard	217° 57'.7	8° 42'.7 S	330° 20'.6	38.1	272° 24'.0	10'.3	48.5	11'.2	50°	02:06	03:09	03:53	03:53	08:39	09:56	11:14					
	12	59° 31'.0	5° 22'.5	10.9	12° 27'.3	13.6	30° 50'.2	33.0	228° 51'.9	45.9				345° 20'.5	38.4	286° 53'.3	10'.3	37.3	11'.0	45°	02:49	03:37	04:14	04:14	08:51	10:04	11:17					
	13	74° 33'.4	20° 21'.8	18° 11'.7 N	27° 28'.0	17° 14'.1 N	45° 52'.2	10° 33'.2 N	243° 54'.4	1° 45'.9 S	Alphecca	126° 11'.9	26° 40'.6 N	0° 20'.4	22° 38'.6 N	301° 22'.6	10'.3	13° 26'.0 N	11'.3	58.1	N	40°	03:18	03:59	04:31	09:01	10:10	11:19				
	14	89° 35'.9	35° 21'.2	12.5	42° 28'.6	14.6	60° 54'.2	33.4	258° 56'.9	45.9	Alpheratz	357° 45'.1	29° 09'.1 N	15° 20'.3	38.9	315° 51'.9	10.4	14.7	11'.4	58.2	35°	03:40	04:17	04:46	09:09	10:15	11:21					
	15	104° 38'.3	50° 20'.6	13.2	57° 29'.2	15.2	75° 56'.1	33.6	273° 59'.4	45.9	Altair	62° 09'.3	30° 20'.2	30° 20'.2	39.2	330° 21'.3	10.4	03.3	11'.5	30°	03:58	04:31	04:59	09:17	10:19	11:22						
	16	119° 40'.8	65° 19'.9	14.0	72° 29'.9	15.7	90° 58'.1	33.7	289° 01'.9	45.9	Ankaa	353° 17'.2	42° 14'.4 S	45° 20'.1	39.4	344° 50'.7	10'.5	12° 51'.8 N	11'.6	20°	04:26	04:55	05:20	09:29	10:27	11:25						
	17	134° 43'.3	80° 19'.3	14.8	87° 30'.5	16.2	106° 00'.1	33.9	304° 04'.4	45.9	Antares	112° 27'.7	26° 27'.5 S	60° 20'.0	39.7	359° 20'.2	10.4	40.2	11'.7	N	10°	04:48	05:15	05:38	09:40	10:34	11:28					
	18	149° 45'.7	95° 18'.7	15.6	102° 31'.1	16.7	121° 02'.1	34.1	319° 06'.9	45.9				75° 19'.8	39.9	13° 49'.6	10'.5	28.5	11'.7	0°	05:07	05:33	05:55	09:51	10:41	11:30						
	19	164° 48'.2	110° 18'.0	16.4	117° 31'.8	17.2	136° 04'.1	34.2	334° 09'.4	45.9	Arcturus	145° 56'.8	19° 07'.4 N	90° 19'.7	40.2	28° 19'.1	10'.6	16.8	11'.8	58.3	S	10°	05:23	05:49	06:12	10:01	10:47	11:33				
	20	179° 50'.7	125° 17'.4	17.2	132° 32'.4	17.7	151° 06'.0	34.4	349° 11'.9	45.9	Alraia	107° 30'.2	69° 02'.9 S	105° 19'.6	40.4	42° 48'.7	10'.5	05.0	11'.9	20°	05:39	06:06	06:30	10:12	10:54	11:35						
	21	194° 53'.1	140° 16'.8	17.9	147° 33'.0	18.3	166° 08'.0	34.6	4° 14'.4	45.9	Avior	234° 19'.1	59° 33'.1 S	120° 19'.5	40.7	57° 18'.2	10'.6	11° 53'.1 N	11'.9	30°	05:55	06:24	06:50	10:24	11:02	11:38						
	22	209° 55'.6	155° 16'.1	18.7	162° 33'.7	18.8	181° 10'.0	34.8	19° 16'.9	45.9	Bellatrix	278° 33'.9	6° 21'.5 N	135° 19'.4	40.9	71° 47'.8	10.7	41.2	12'.0	35°	06:03	06:34	07:02	10:32	11:07	11:40						
23	224° 58'.1	170° 15'.5	19.5	177° 34'.3	19.3	196° 12'.0	34.9	34° 19'.3	45.9	Betelgeuse	271° 03'.2	7° 24'.5 N	150° 19'.3	41.2	86° 17'.5	10.6	29.2	12'.1	40°	06:12	06:46	07:16	10:40	11:12	11:42							
24	240° 00'.5	185° 14'.9	20.3	192° 34'.9	19.8	211° 14'.0	35.1	49° 21'.8	45.9				165° 19'.2	41.5	100° 47'.1	10.7	17.1	12'.1	45°	06:22	06:59	07:32	10:49	11:18	11:44							
Tuesday	00	255° 03'.0	200° 14'.2	18° 21'.0 N	207° 35'.6	17° 20'.3 N	226° 15'.9	10° 35'.3 N	64° 24'.3	1° 45'.9 S	Canopus	263° 57'.3	52° 42'.4 S	180° 19'.0	22° 41'.7 N	115° 16'.8	10'.7	11° 05'.0 N	12'.2	58.4	S	50°	06:33	07:14	07:52	11:01	11:25	11:47				
	01	270° 05'.5	215° 13'.6	21.8	222° 36'.2	20.8	241° 17'.9	35.5	79° 26'.8	45.9	Capella	280° 37'.1	46° 00'.5 N	195° 18'.9	42.0	129° 46'.5	10.7	10° 52'.8 N	12.3	52°	06:38	07:21	08:02	11:06	11:28	11:48						
	02	285° 07.9	230° 12'.9	22.6	237° 36'.8	21.4	256° 19'.9	35.6	94° 29'.3	45.9	Deneb	49° 32'.2	45° 19'.2 N	210° 18'.8	42.2	144° 16'.2	10.8	40.5	12'.3	54°	06:43	07:29	08:12	11:12	11:32	11:49						
	03	300° 10'.4	245° 12'.3	23.4	252° 37'.5	21.9	271° 21'.9	35.8	109° 31'.8	45.9	Denebola	182° 35'.1	14° 30'.4 N	225° 18'.7	42.5	158° 46'.0	10.8	28.2	12'.4	56°	06:49	07:38	08:24	11:18	11:35	11:51						
	04	315° 12'.8	260° 11'.7	24.1	267° 38'.1	22.4	286° 23'.9	36.0	124° 34'.3	45.9	Diphda	348° 57'.5	17° 55'.3 S	240° 18'.6	42.7	173° 15'.8	10.8	15.8	12'.5	58°	06:55	07:47	08:38	11:25	11:40	11:52						
	05	330° 15'.3	275° 11'.0	24.9	282° 38'.7	22.9	301° 25'.8	36.1	139° 36'.8	45.9				255° 18'.5	42.9	187° 45'.6	10.8	03.3	12'.6	58.5	S	60°	07:03	07:58	08:55	11:33	11:45	11:54				
	06	345° 17'.8	290° 10'.4	25.7	297° 39'.4	23.4	316° 27'.8	36.3	154° 39'.3	45.9	Dubhe	193° 53'.4	61° 41'.5 N	270° 18'.3	43.2	202° 15'.4	10.9	9° 50'.8 N	12'.6	S	62°	07:10	08:11	09:15	11:43	11:50	11:56					
	07	0° 20'.2	305° 09'.8	26.4	312° 40'.0	23.9	331° 29'.8	36.5	169° 41'.8	45.9	Elnath	278° 14'.8	28° 36'.9 N	285° 18'.2	43.4	216° 45'.3	10.9	38.2	12'.6													
	08	15° 22'.7	320° 09'.1	27.2	327° 40'.6	24.5	346° 31'.8	36.7	184° 44'.3	45.9	Elainin	90° 46'.3	51° 29'.2 N	300° 18'.1	43.7	231° 15'.2	10.9	25.6	12'.7													
	09	30° 25'.2	335° 08'.5	28.0	342° 41'.3	25.0	1° 33'.8	36.8	199° 46'.7	45.9	Enif	33° 48'.4	9° 55'.7 N	315° 18'.0	43.9	245° 45'.1	10.9	12.9	12'.8													
	10	45° 27'.6	350° 07'.8	28.7	357° 41'.9	25.5	16° 35'.7	37.0	214° 49'.2	45.9	Fomalhaut	15° 25'.5	29° 33'.4 S	330° 17'.9	44.2	260° 15'.0	10.9	00.1	12'.8													
	11	60° 30'.1	5° 07'.2	29.5	12° 42'.5	26.0	31° 37'.7	37.2	229° 51'.7	45.9				345° 17'.8	44.4	274° 44'.9	11'.0	8° 47'.3 N	12.8	58.6	N	72°	-	-	-	01:20	00:44	00:19				
	12	75° 32'.6	20° 06'.5	18° 30'.3 N	27° 43'.1	17° 26'.5 N	46° 39'.7	10° 37'.3 N	244° 54'.2	1° 45'.9 S	Gacrux	172° 02'.4	57° 11'.0 S	0° 17'.6	22° 44'.7 N	289° 14'.9	11'.0	8° 34'.5 N	12'.9	58.6	N	70°	-	-	-	00:47	00:27	00:11				
	13	90° 35'.0	35° 05'.9	31.0	42° 43'.8	27.0	61° 41'.7	37.5	259° 56'.7																							





**2011 June 12, 13, 14 (Sun, Mon, Tue)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.2			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	12	13	14	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	-	-	-	-				
Sunday	00	259° 58'.7	198° 54'.4	19° 48'.0 N	208° 50'.9	18° 20'.1 N	230° 14'.4	10° 55'.5 N	69° 22'.2	1° 46'.3 S	Acamar	315° 19'.7	40° 15'.4 S	180° 04'.4	23° 06'.8 N	53° 56'.5	7.9	15° 20'.4 S	11'.0	59.7	N 70°	-	-	-	-	-	-	19:46	-	-		
	01	275° 01'.1	213° 53'.7	48.6	223° 51'.6	20.5	245° 16'.4	55.6	84° 24'.7	46.3	Acnarnar	335° 28'.1	57° 10'.4 S	195° 04'.3	06.9	68° 23'.4	7.8	31'.4	11'.0		N 68°	-	-	-	-	-	-	18:54	21:56	-		
	02	290° 03'.6	228° 53'.0	49.3	238° 52'.2	21.0	260° 18'.4	55.8	99° 27'.1	46.3	Acrux	173° 10'.8	63° 10'.2 S	210° 04'.2	07.1	82° 50'.2	7.7	42.4	10'.8		N 66°	-	-	-	-	-	-	18:22	20:23	22:14		
	03	305° 06'.1	243° 52'.3	50.0	253° 52'.8	21.5	275° 20'.4	56.3	114° 29'.6	46.3	Adhara	255° 14'.0	28° 59'.4 S	225° 04'.1	07.2	97° 16'.9	7.7	53'.2	10'.7		N 64°	-	-	-	-	-	-	17:58	19:44	21:15		
	04	320° 08'.5	258° 51'.6	50.6	268° 53'.4	22.0	290° 22'.4	56.1	129° 32'.1	46.3	Aldebaran	290° 51'.4	16° 31'.9 N	240° 03'.9	07.4	111° 43'.6	7.6	16° 03'.9 S	10'.6		N 62°	-	-	-	-	-	01:36	17:40	19:18	20:42		
	05	335° 11'.0	273° 50'.9	51.3	283° 54'.1	22.5	305° 24'.4	56.3	144° 34'.6	46.3				255° 03'.8	07.6	126° 10'.2	7.5	14.5	10'.6		N 60°	-	-	-	-	-	00:57	17:25	18:57	20:17		
	06	350° 13'.5	288° 50'.2	52.0	298° 54'.7	22.9	320° 26'.4	56.5	159° 37'.0	46.3	Alioth	166° 21'.7	55° 54'.0 N	270° 03'.7	07.7	140° 36'.7	7.5	25.1	10'.4		N 58°	-	-	-	-	-	01:43	18:42	19:57			
	07	5° 15'.9	303° 49'.5	52.6	313° 55'.3	23.4	335° 28'.4	56.6	174° 39'.5	46.3	Alkaid	152° 59'.7	49° 15'.5 N	285° 03'.6	07.9	155° 03'.2	7.4	35.5	10'.3		N 56°	-	-	-	-	-	02:12	17:01	18:26	19:41		
	08	20° 18'.4	318° 48'.8	53.3	328° 55'.9	23.9	350° 30'.4	56.8	189° 42'.0	46.3	Alnair	27° 45'.3	46° 54'.0 S	300° 03'.4	08.1	169° 29'.6	7.3	45.8	10'.3		N 54°	00:52	02:34	03:28	16:51	18:13	19:27					
	09	35° 20'.9	333° 48'.1	54.0	343° 56'.6	24.4	5° 32'.4	57.0	204° 44'.4	46.3	Alnilam	275° 52'.4	1° 11'.8 S	315° 03'.3	08.2	183° 55'.9	7.3	56.1	10'.1		N 52°	01:35	02:51	03:40	16:42	18:03	19:15					
	10	50° 23'.3	348° 47'.4	54.6	358° 57'.2	24.8	20° 34'.4	57.1	219° 46'.9	46.3	Alphard	217° 57'.7	8° 42'.7 S	330° 03'.2	08.4	198° 22'.2	7.2	17° 06'.2 S	10'.0		N 50°	02:02	03:06	03:51	16:35	17:53	19:04					
	11	65° 25'.8	3° 46'.7	55.3	1° 57'.8	25.3	3° 36'.4	57.3	234° 49'.4	46.4				345° 03'.0	08.5	212° 48'.4	7.2	16.2	9'.9		N 45°	02:46	03:36	04:13	16:18	17:33	18:42					
	12	80° 28'.3	18° 46'.0	19° 55'.9 N	28° 58'.4	18° 25'.8 N	50° 38'.4	10° 57'.4 N	249° 51'.9	1° 46'.4 S	Alphecca	126° 11'.9	26° 40'.6 N	0° 02'.9	23° 08'.7 N	227° 14'.6	7.0	17° 26'.1 S	9'.8	59.7	N 40°	03:16	03:58	04:31	16:05	17:16	18:24					
	13	95° 30'.7	33° 45'.3	56.6	43° 59'.1	26.3	65° 40'.4	57.6	264° 54'.3	46.4	Alpheratz	357° 45'.1	29° 09'.1 N	15° 02'.8	08.9	241° 40'.6	7.1	35.9	9'.7		N 35°	03:39	04:16	04:45	15:53	17:03	18:09					
	14	110° 33'.2	48° 44'.6	57.3	58° 59'.7	26.7	80° 42'.4	57.8	309° 56'.8	46.4	Altair	62° 09'.4	8° 54'.0 N	30° 02'.7	09.0	256° 06'.7	6.9	45.6	9'.5		N 30°	03:58	04:31	04:58	15:44	16:51	17:56					
	15	125° 35'.6	63° 43'.9	57.9	74° 00'.3	27.2	95° 44'.4	57.9	294° 59'.3	46.4	Ankaa	353° 17'.2	42° 14'.3 S	45° 02'.5	09.2	270° 32'.6	6.9	55.1	9'.5		N 20°	04:26	04:56	05:20	15:27	16:30	17:33					
	16	140° 38'.1	78° 43'.2	58.6	89° 00'.9	27.7	110° 46'.4	58.1	301° 01'.7	46.4	Antares	112° 27'.7	26° 27'.5 S	60° 02'.4	09.3	284° 58'.5	6.8	18° 04'.6 S	9'.3		N 10°	04:49	05:16	05:39	15:12	16:13	17:14					
	17	155° 40'.6	93° 42'.5	59.2	104° 01'.6	28.2	125° 48'.3	58.3	325° 04'.2	46.4				75° 02'.3	09.5	299° 24'.3	6.8	13.9	9'.3		N 0°	05:08	05:34	05:56	14:58	15:56	16:56					
	18	170° 43'.0	108° 41'.8	59.9	119° 02'.2	28.6	140° 50'.3	58.4	340° 06'.7	46.4	Arcturus	145° 56'.8	19° 07'.4 N	90° 02'.1	09.6	313° 50'.1	6.7	23.2	9'.1		S 10°	05:24	05:51	06:14	14:45	15:40	16:38					
	19	185° 45'.5	123° 41'.1	20° 00'.6 N	134° 02'.8	29.1	155° 52'.3	58.6	355° 09'.1	46.4	Atria	107° 30'.2	69° 02'.9 S	105° 02'.0	09.8	328° 15'.8	6.6	32.3	8'.9		S 20°	05:40	06:08	06:32	14:31	15:23	16:19					
	20	200° 48'.0	138° 40'.4	01.2	149° 03'.4	29.6	170° 54'.3	58.7	10° 11'.6	46.4	Avior	234° 19'.1	59° 33'.1 S	120° 01'.9	09.9	342° 41'.4	6.6	41.2	8'.9		S 30°	05:57	06:27	06:53	14:14	15:03	15:57					
	21	215° 50'.4	153° 39'.7	01.9	164° 04'.0	30.0	185° 56'.3	58.9	25° 14'.1	46.4	Bellatrix	278° 33'.9	6° 21'.5 N	135° 01'.8	10.1	357° 07'.0	6.5	50.1	8'.7		S 35°	06:05	06:37	07:05	14:05	14:51	15:44					
	22	230° 52'.9	168° 39'.0	02.5	179° 04'.7	30.5	200° 58'.3	59.1	40° 16'.6	46.4	Betelgeuse	271° 03'.2	7° 24'.5 N	150° 01'.6	10.2	11° 32'.5	6.5	58.8	8'.7		S 40°	06:15	06:49	07:19	13:54	14:38	15:29					
23	245° 55'.4	183° 38'.3	03.2	194° 05'.3	31.0	216° 00'.3	59.2	55° 19'.0	46.5				165° 01'.5	10.4	25° 58'.0	6.4	19° 07'.5 S	8'.5		S 45°	06:25	07:02	07:36	13:41	14:22	15:12						
Monday	00	260° 57'.8	198° 37'.6	20° 03'.8 N	209° 05'.9	18° 31'.5 N	231° 02'.3	10° 59'.4 N	70° 21'.5	1° 46'.5 S	Canopus	263° 57'.3	52° 42'.2 S	180° 01'.4	23° 10'.5 N	40° 23'.4	6.3	19° 16'.0 S	8'.3	59.6	S 50°	06:36	07:18	07:56	13:26	14:03	14:50					
	01	276° 00'.3	213° 36'.9	04.5	224° 06'.9	31.9	246° 04'.3	59.6	85° 24'.0	46.5	Capella	280° 37'.1	46° 00'.5 N	195° 01'.2	10.7	54° 48'.7	6.3	24.3	8'.3		S 52°	06:42	07:25	08:06	13:19	13:54	14:40					
	02	291° 02'.7	228° 36'.2	05.1	239° 07'.2	32.4	261° 06'.3	59.7	100° 26'.4	46.5	Deneb	49° 32'.2	45° 19'.2 N	210° 01'.1	11.0	69° 14'.0	6.2	32.6	8'.1		S 54°	06:47	07:33	08:17	13:11	13:44	14:28					
	03	306° 05'.2	243° 35'.5	05.8	254° 07.8	32.9	276° 08'.3	59.9	115° 28'.9	46.5	Denebola	182° 35'.1	14° 30'.4 N	225° 01'.0	10.8	83° 39'.2	6.2	40.7	8'.0		S 56°	06:53	07:42	08:29	13:02	13:33	14:15					
	04	321° 07'.7	258° 34'.8	06.4	269° 08'.4	33.3	291° 10'.3	11° 00'.0 N	130° 31'.4	46.5	Diphda	348° 57'.4	17° 55'.3 S	240° 00'.9	11.1	98° 04'.4	6.1	48.7	7.8		S 58°	07:00	07:52	08:44	12:53	13:20	14:00					
	05	336° 10'.1	273° 34'.0	07.1	284° 09'.0	33.8	306° 12'.3	00.2	145° 33'.8	46.5				255° 00'.7	11.3	112° 29'.5	6.0	56.5	7.7		S 60°	07:07	08:04	09:01	12:41	13:05	13:41					
	06	351° 12'.6	288° 33'.3	07.7	299° 09'.6	34.3	321° 14'.3	00.4	160° 36'.3	46.5	Dubhe	193° 53'.4	61° 41'.5 N	270° 00'.6	11.4	126° 54'.5	6.1	20° 04'.2 S	7.6		S 62°	07:16	08:17	09:22	12:28	12:47	13:19					
	07	6° 15'.1	303° 32'.6	08.3	314° 10'.3	34.8	336° 16'.3	00.5	175° 38'.8	46.5	Elnath	278° 14'.8	28° 36'.9 N	285° 00'.5	11.6	141° 19'.6	5.9	11.8	7.5													
	08	21° 17'.5	318° 31'.9	09.0	329° 10'.9	35.2	351° 18'.3	00.7	190° 41'.2	46.5	Elainin	90° 46'.3	51° 29'.3 N	300° 01'.4	11.7	155° 44'.5	5.9	19.3	7.3													
	09	36° 20'.0	333° 31'.2	09.6	344° 11'.5	35.7	6° 20'.3	00.9	205° 43'.7	46.6	Enif	33° 48'.4	9° 55'.7 N	315° 00'.2	11.9	170° 09'.4	5.9	26.6	7.2													
	10	51° 22'.5	348° 30'.5	10.3	359° 12'.1	36.2	21° 22'.3	01.0	220° 46'.2	46.6	Fomalhaut	15° 25'.5	29° 33'.4 S	330° 00'.1	12.0	184° 34'.3	5.8	33.8	7.0													
	11	66° 24'.9	3° 29'.8	10.9	14° 12'.8	36.6	36° 24'.3	01.2	235° 48'.6	46.6				345° 00'.0	12.2	198° 59'.1	5.7	40.8	6.9													
	12	81° 27'.4	18° 29'.1	20° 11'.5 N	29° 13'.4	18° 37'.1 N	51° 26'.3	11° 01'.3 N	250° 51'.1	1° 46'.6 S	Gacrux	172° 02'.4	57° 11'.0 S	359° 59'.8	23° 12'.3 N	213° 23'.8	5.7	20° 47'.7 S	6'.8	59.6	N 70°	-	-	-	-	-	-	-	-			
	13	96° 29'.9	33° 28'.4	12.2	44° 14'.0	37.6	66° 28'.3	01.5	265° 53'.6	46.6	Gienah	175° 53'.7	17° 36'.6 S	14° 59'.7	12.4	227° 48'.5	5.7	54.5	6.6	59.5	N 68°	-	-	-	-	-	-	23:16	-	-		
	14	111° 32'.3	48° 27'.7	12.8	59° 14'.6	38.																										





# 2011 June 21, 22, 23 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.2			SATURN +0.7			STARS			SUN		MOON			Lat		Twilight		Sunrise		Moonrise		
	Nautical	Civil		Nautical	Civil		Nautical	Civil		Nautical	Civil		Nautical	Civil		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	W	21	22	23		
Tuesday	00	268° 50.9	196° 14.2	21° 50.7 N	211° 04.3	19° 55.9 N	237° 28.5	11° 29.4 N	78° 12.6	1° 49.5 S	Acamar	315° 19.7	40° 15.3 S	179° 35.8	23° 26.1 N	296° 55.9	15.1	6° 17.8 S	11.8	55.1	N 72°	-	-	-	23:14	22:56	22:36					
	01	283° 53.4	211° 13.4	51.2	226° 04.9	56.3	252° 30.5	29.5	93° 15.0	49.5	Acnarnar	335° 28.0	57° 10.4 S	311° 30.0	15.8	311° 30.0	15.1	06.0	11.8	68°	N 70°	-	-	-	23:12	23:00	22:47					
	02	298° 55.9	226° 12.6	51.6	241° 05.5	56.7	267° 32.6	29.7	108° 17.4	49.5	Acrux	173° 10.9	63° 10.2 S	209° 35.5	26.2	326° 04.1	15.1	5° 54.2 S	11.7	55.0	66°	-	-	-	23:08	23:05	23:03					
	03	313° 58.3	241° 11.8	52.1	256° 06.1	57.1	282° 34.6	29.8	123° 19.9	49.6	Adhara	255° 14.0	28° 59.4 S	340° 38.2	15.2	242° 35.4	15.2	42.5	11.7	64°	66°	-	-	-	01:31	23:07	23:08	23:09				
	04	329° 00.8	256° 11.0	52.5	271° 06.7	57.5	297° 36.6	30.0	138° 22.3	49.6	Aldebaran	290° 51.3	16° 31.9 N	239° 35.2	26.2	355° 12.4	15.3	30.7	11.8	62°	62°	-	-	02:09	23:05	23:10	23:14					
	05	344° 03.3	271° 10.3	53.0	286° 07.4	57.9	312° 38.7	30.1	153° 24.7	49.6					254° 35.1	26.2	9° 46.7	15.3	18.9	11.9	60°	-	00:49	02:36	23:04	23:11	23:19					
	06	359° 05.7	286° 09.5	53.5	301° 08.0	58.3	327° 40.7	30.3	168° 27.2	49.6	Alioth	166° 21.7	55° 54.0 N	269° 35.0	26.2	24° 21.0	15.3	07.0	11.8	58°	N 58°	-	-	01:41	02:56	23:03	23:13	23:23				
	07	14° 08.2	301° 08.7	53.9	316° 08.6	58.7	342° 42.7	30.4	183° 29.6	49.6	Alkaid	152° 59.7	49° 15.5 N	284° 34.8	26.2	38° 55.3	15.3	4° 55.2 S	11.8	54.9	56°	-	02:11	03:13	23:02	23:14	23:27					
	08	29° 10.7	316° 07.9	54.4	331° 09.2	59.1	357° 44.7	30.6	198° 32.1	49.7	Alnair	27° 45.2	46° 54.0 S	299° 34.7	26.2	53° 29.6	15.4	43.4	11.9	54°	54°	00:45	02:33	03:28	23:02	23:16	23:30					
	09	44° 13.1	331° 07.1	54.8	346° 09.8	59.5	12° 46.8	30.7	213° 34.5	49.7	Alnilam	275° 48.1	1° 11.7 S	314° 34.6	26.2	68° 04.0	15.5	31.5	11.8	52°	52°	01:32	02:51	03:40	23:01	23:17	23:33					
	10	59° 15.6	346° 06.3	55.3	1° 10.4	59.9	27° 48.8	30.9	228° 36.9	49.7	Alphard	217° 57.7	8° 42.7 S	329° 34.4	26.2	82° 38.5	15.5	19.7	11.9	50°	50°	02:00	03:06	03:51	23:00	23:18	23:36					
	11	74° 18.0	1° 05.5	55.7	16° 11.0	20° 00.3 N	42° 50.8	31.0	243° 39.4	49.7					97° 13.0	15.5	07.8	11.9	45°	45°	02:46	03:36	04:13	22:59	23:20	23:42						
	12	89° 20.5	16° 04.7	21° 56.2 N	31° 11.6	20° 00.7 N	57° 52.8	11° 31.2 N	258° 41.8	1° 49.8 S	Alphecca	126° 11.9	26° 40.6 N	359° 34.2	23° 26.2 N	111° 47.5	15.5	3° 55.9 S	11.9	54.8	N 40°	03:17	03:59	04:31	22:58	23:22	23:47					
	13	104° 23.0	31° 03.9	56.6	46° 12.2	01.1	72° 54.9	31.3	273° 44.2	49.8	Alpheratz	357° 45.0	29° 09.2 N	14° 34.0	26.2	126° 22.0	15.6	44.0	11.8	35°	35°	03:40	04:17	04:47	22:57	23:24	23:51					
	14	119° 25.4	46° 03.1	57.0	61° 12.8	01.5	87° 56.9	31.4	288° 46.7	49.8	Altair	62° 09.3	8° 54.0 N	29° 33.9	26.2	140° 56.6	15.6	32.2	11.9	30°	30°	03:59	04:32	05:00	22:56	23:25	23:55					
	15	134° 27.9	61° 02.4	57.5	76° 13.5	01.9	102° 58.9	31.6	303° 49.1	49.8	Ankaa	353° 17.1	42° 14.3 S	44° 33.7	26.2	155° 31.2	15.6	20.3	11.9	20°	20°	04:28	04:57	05:22	22:54	23:28	24:02					
	16	149° 30.4	76° 01.6	57.9	91° 14.1	02.3	118° 00.9	31.7	318° 51.5	49.9	Antares	112° 27.6	26° 27.5 S	59° 33.6	26.2	170° 05.8	15.7	08.4	11.9	N 10°	0°	04:50	05:18	05:41	22:53	23:30	24:08					
	17	164° 32.8	91° 00.8	58.4	106° 14.7	02.7	133° 03.0	31.9	333° 54.0	49.9					74° 33.5	26.2	184° 40.5	15.7	2° 56.5 S	11.9	0°	05:09	05:36	05:58	22:52	23:33	24:14					
	18	179° 35.3	106° 00.0	58.8	121° 15.3	03.1	148° 05.0	32.0	348° 56.4	49.9	Arcturus	145° 56.8	19° 07.4 N	89° 33.3	26.2	199° 15.2	15.7	44.6	11.9	54.7	S 10°	05:27	05:53	06:16	22:50	23:35	24:20					
	19	194° 37.8	120° 59.2	59.3	136° 15.9	03.5	163° 07.0	32.2	3° 58.8	49.9	Alraia	107° 30.2	69° 02.9 S	107° 33.2	26.2	213° 49.9	15.7	32.7	12.0	20°	20°	05:43	06:10	06:34	22:49	23:37	24:26					
	20	209° 40.2	135° 58.4	59.7	151° 16.5	04.0	178° 09.1	32.3	19° 01.3	50.0	Avior	234° 19.2	59° 33.1 S	119° 33.1	26.2	228° 24.6	15.8	20.7	11.9	30°	30°	05:59	06:29	06:56	22:47	23:40	24:33					
	21	224° 42.7	150° 57.6	22° 00.1 N	166° 17.1	04.8	193° 11.1	32.5	34° 03.7	50.0	Bellatrix	278° 33.9	6° 21.5 N	134° 32.9	26.2	242° 59.4	15.8	08.8	11.9	35°	35°	06:08	06:40	07:08	22:46	23:42	24:37					
	22	239° 45.2	165° 56.8	00.6	181° 17.7	04.8	208° 13.1	32.6	49° 06.2	50.0	Betelgeuse	271° 03.2	7° 24.5 N	149° 32.6	26.2	257° 34.2	15.8	1° 56.9 S	11.9	40°	40°	06:17	06:52	07:22	22:45	23:44	24:41					
23	254° 47.6	180° 56.0	01.0	196° 18.3	05.2	223° 15.1	32.8	64° 08.6	50.0					164° 32.7	26.2	272° 09.0	15.9	45.0	11.9	45°	06:28	07:05	07:39	22:44	23:46	24:47						
Wednesday	00	269° 50.1	195° 55.2	22° 01.4 N	211° 18.9	20° 05.5 N	238° 17.2	11° 32.9 N	79° 11.0	1° 50.0 S	Canopus	263° 57.3	52° 42.5 S	179° 32.5	23° 26.2 N	286° 43.9	15.8	1° 33.1 S	11.9	54.6	S 50°	06:40	07:21	08:00	22:43	23:48	24:53					
	01	284° 52.5	210° 54.4	01.9	226° 19.6	05.9	253° 19.2	33.1	94° 13.5	50.1	Capella	180° 37.0	46° 00.5 N	194° 32.4	26.2	301° 18.7	15.9	21.2	11.9	52°	52°	06:45	07:29	08:10	22:42	23:49	24:56					
	02	299° 55.0	225° 53.6	02.3	241° 20.2	06.3	268° 21.2	33.2	109° 15.9	50.1	Deneb	49° 32.1	45° 19.2 N	209° 32.3	26.2	315° 53.6	15.9	09.3	11.9	54°	54°	06:51	07:37	08:21	22:42	23:51	25:00					
	03	314° 57.5	240° 52.8	02.7	256° 20.8	06.7	283° 23.3	33.4	124° 18.3	50.1	Denebola	182° 35.1	14° 30.4 N	224° 32.1	26.2	330° 28.5	16.0	0° 57.4 S	11.9	56°	56°	06:57	07:46	08:34	22:41	23:52	25:03					
	04	329° 59.9	255° 52.0	03.2	271° 21.4	07.1	298° 25.3	33.5	139° 20.8	50.1	Diphda	348° 57.3	17° 55.2 S	239° 32.0	26.2	345° 03.5	15.9	45.5	11.9	58°	58°	07:04	07:56	08:48	22:40	23:54	25:07					
	05	345° 02.4	270° 52.0	03.6	286° 22.0	07.5	313° 27.3	33.7	154° 23.2	50.2					254° 31.9	26.2	359° 38.4	16.0	33.6	11.9	S 60°	07:11	08:08	09:06	22:39	23:56	25:12					
	06	0° 04.9	285° 50.4	04.0	301° 22.6	07.9	328° 29.4	33.8	169° 25.6	50.2	Dubhe	193° 53.5	61° 41.5 N	269° 31.7	26.2	14° 13.4	16.0	21.7	11.9	54.5	S 62°	07:20	08:22	09:28	22:38	23:58	25:17					
	07	15° 07.3	300° 49.6	04.4	316° 23.2	08.3	343° 31.4	34.0	184° 28.1	50.2	Elnath	278° 14.8	28° 36.9 N	284° 31.6	26.2	28° 48.4	16.0	09.8	11.9													
	08	30° 09.8	315° 48.8	04.9	331° 23.8	08.7	358° 33.4	34.1	199° 30.5	50.2	Elainin	90° 46.2	51° 29.3 S	299° 31.4	26.2	43° 23.4	16.0	0° 02.1 N	11.9													
	09	45° 12.3	330° 48.0	05.3	346° 24.4	09.1	13° 35.4	34.3	214° 32.9	50.3	Enif	33° 48.3	9° 55.7 N	314° 31.3	26.2	57° 58.4	16.0	14.0	11.8													
	10	60° 14.7	345° 47.2	05.7	1° 25.0	09.5	28° 37.5	34.4	229° 35.4	50.3	Fomalhaut	15° 25.4	29° 33.4 S	329° 31.2	26.1	72° 33.4	16.0	25.8	11.9													
	11	75° 17.2	0° 46.4	06.1	16° 25.6	09.9	43° 39.5	34.5	244° 37.8	50.3					344° 31.0	26.1	87° 08.4	16.1	37.7	11.8												
	12	90° 19.6	15° 45.6	22° 06.6 N	31° 26.3	20° 10.3 N	58° 41.5	11° 34.7 N	259° 40.2	1° 50.3 S	Gacrux	172° 02.5	57° 11.0 S	359° 30.9	23° 26.1 N	101° 43.5	16.0	0° 49.5 N	11.9	54.5	N 70°	-	-	-	09:32	11:19	13:05					
	13	105° 22.1	30° 44.8	07.0	46° 26.9	10.7	73° 43.6	34.8	274° 42.7	50.4	Gienah	175° 53.7	17° 36.5 S	14° 30.8	26.1	116° 18.5	16.1	1° 01.4 N	11.8	68°	68°	-	-	-								

2011 June 24, 25, 26 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.2			SATURN +0.7			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	Sunrise	24	26	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	22:13	21:39	-					
Friday	00	271° 48'.4	195° 16'.6	22° 21'.0 N	211° 48'.1	20° 24'.3 N	239° 54'.8	11° 39'.9 N	81° 07'.7	1° 51'.3 S	Acamar	315° 19'.7	40° 15'.3 S	179° 26'.0	23° 25'.2 N	266° 44'.4	15'.8	7° 45'.8 N	11'.2	54.2	N 70°	-	-	-	22:33	22:14	21:41					
	01	286° 50'.8	210° 15'.8	21.4	226° 48'.7	24.7	254° 56'.8	40.1	96° 10'.1	51.3	Acnarnar	335° 28'.0	57° 10'.4 S	194° 25'.9	25.1	281° 19'.2	15.7	57.0	11.1		N 68°	-	-	-	22:48	22:39	22:27					
	02	301° 53'.3	225° 15'.0	21.8	241° 49'.4	25.1	269° 58'.8	40.2	111° 12'.5	51.3	Acrux	173° 10'.9	63° 10'.2 S	209° 25'.8	25.1	295° 53'.9	15.8	8° 08'.1 N	11.1		N 66°	-	-	-	23:00	22:59	22:58					
	03	316° 55'.7	240° 14'.2	22.2	256° 50'.0	25.5	285° 00'.9	40.4	126° 15'.0	51.4	Adhara	255° 14'.0	28° 59'.4 S	224° 25'.6	25.1	310° 28'.7	15.7	19.1	11.1		N 64°	-	-	-	23:11	23:14	23:21					
	04	331° 58'.2	255° 13'.4	22.6	271° 50'.6	25.8	300° 02'.9	40.5	141° 17'.4	51.4	Aldebaran	290° 51'.3	16° 31'.9 N	239° 25'.5	25.0	325° 03'.4	15.7	30.2	11.0		N 62°	-	-	01:33	23:20	23:28	23:39					
	05	347° 00'.7	270° 12'.6	22.9	286° 51'.2	26.2	315° 04'.9	40.6	156° 19'.8	51.4				254° 25'.4	25.0	339° 38'.1	15.6	41.2	11.0		N 60°	-	00:51	02:37	23:28	23:39	23:54					
	06	2° 03'.1	285° 11'.8	23.3	301° 51'.8	26.6	330° 07'.0	40.8	171° 22'.2	51.4	Alioth	166° 21'.7	55° 54'.0 N	269° 25'.2	24.9	354° 12'.7	15.6	52.2	10.9		N 58°	-	01:42	02:58	23:35	23:49	24:07					
	07	17° 05'.6	300° 10'.9	23.7	316° 52'.4	27.0	345° 09'.0	40.9	186° 24'.7	51.5	Alkaid	152° 59'.7	49° 15'.5 N	284° 25'.1	24.9	8° 47'.3	15.6	9° 03'.1 N	10.9		N 56°	-	02:12	03:14	23:41	23:57	24:19					
	08	32° 08'.1	315° 10'.1	24.1	331° 53'.0	27.4	0° 11'.1	41.1	201° 27'.1	51.5	Alnair	27° 45'.2	46° 54'.0 S	299° 25'.0	24.8	23° 21'.9	15.6	14.0	10.9		N 54°	00:47	02:34	03:29	23:46	-	00:05					
	09	47° 10'.5	330° 09'.3	24.4	346° 53'.6	27.7	15° 13'.1	41.2	216° 29'.5	51.5	Alnilam	275° 48'.1	1° 11'.7 S	314° 24'.8	24.8	37° 56'.5	15.5	24.9	10.8		N 52°	01:34	02:52	03:41	23:51	-	00:12					
	10	62° 13'.0	345° 08'.5	24.8	1° 54'.2	28.1	30° 15'.1	41.4	231° 31'.9	51.5	Alphard	217° 57'.7	8° 42'.7 S	329° 24'.7	24.7	52° 31'.0	15.5	35.7	10.8		N 50°	02:02	03:07	03:52	23:56	-	00:18					
	11	77° 15'.5	0° 07'.7	25.2	16° 54'.8	28.5	45° 17'.2	41.5	246° 34'.4	51.6				344° 24'.6	24.7	67° 05'.5	15.5	46.5	10.8		N 45°	02:47	03:37	04:14	-	-	00:05	00:31				
	12	92° 17'.9	15° 06'.9	22° 25'.5 N	31° 55'.4	20° 28'.9 N	60° 19'.2	11° 41'.6 N	261° 36'.8	1° 51'.6 S	Alphecca	126° 11'.9	26° 40'.7 N	359° 24'.4	23° 24'.6 N	81° 40'.0	15.4	9° 57'.3 N	10.7	54.2	N 40°	03:18	03:59	04:32	-	00:13	00:43					
	13	107° 20'.4	30° 06'.0	25.9	46° 56'.0	29.3	75° 21'.2	41.8	276° 39'.2	51.6	Alpheratz	357° 45.0	29° 09'.2 N	14° 24'.3	24.6	96° 14'.4	15.4	10° 08'.0 N	10.7	54.3	N 35°	03:41	04:18	04:47	-	00:20	00:52					
	14	122° 22'.9	45° 05'.2	26.3	61° 56'.6	29.6	90° 23'.3	41.9	291° 41'.6	51.7	Altair	62° 09'.3	8° 54'.0 N	29° 24'.1	24.6	110° 48'.8	15.4	18.7	10.6		N 30°	03:59	04:33	05:00	-	00:27	01:01					
	15	137° 25'.3	60° 04'.4	26.6	76° 57'.2	30.0	105° 25'.3	42.1	306° 44'.1	51.7	Ankaa	353° 17.1	42° 14'.3 S	44° 24'.0	24.5	125° 23'.2	15.3	29.3	10.7		N 20°	04:29	04:58	05:22	00:02	00:37	01:15					
	16	152° 27'.8	75° 03'.6	27.0	91° 57'.8	30.4	120° 27'.4	42.2	321° 46'.5	51.7	Antares	112° 27'.6	26° 27'.5 S	59° 23'.9	24.5	139° 57'.5	15.3	40.0	10.5		N 10°	04:51	05:18	05:41	00:08	00:47	01:28					
	17	167° 30'.2	90° 02'.8	27.4	106° 58'.5	30.8	135° 29'.4	42.4	336° 48'.9	51.7				74° 23'.8	24.4	154° 31'.8	15.3	50.5	10.5		N 0°	05:10	05:36	05:59	00:14	00:56	01:40					
	18	182° 32'.7	105° 02'.0	27.7	121° 59'.1	31.1	150° 31'.4	42.5	351° 51'.3	51.8	Arcturus	145° 56'.8	19° 07'.4 N	89° 23'.6	24.3	169° 06'.1	15.2	11° 01'.0 N	10.5		S 10°	05:27	05:54	06:16	00:20	01:05	01:52					
	19	197° 35'.2	120° 01'.1	28.1	136° 59'.7	31.5	165° 33'.5	42.6	6° 53'.8	51.8	Alraia	107° 30'.2	69° 03'.0 S	104° 23'.5	24.3	183° 40'.3	15.2	11.5	10.5		S 20°	05:43	06:11	06:35	00:26	01:15	02:05					
	20	212° 37'.6	135° 00'.3	28.5	152° 00'.3	31.9	180° 35'.5	42.8	21° 56'.2	51.8	Avior	234° 19'.2	59° 33'.0 S	119° 23'.4	24.2	198° 14'.5	15.1	22.0	10.4		S 30°	06:00	06:30	06:56	00:33	01:26	02:20					
	21	227° 40'.1	149° 59'.5	28.8	167° 00'.9	32.3	195° 37'.6	42.9	36° 58'.6	51.9	Bellatrix	278° 33.8	6° 21'.5 N	134° 23'.2	24.2	212° 48'.6	15.1	32.4	10.3		S 35°	06:09	06:40	07:08	00:37	01:32	02:29					
	22	242° 42'.6	164° 58'.7	29.2	182° 01'.5	32.7	210° 39'.6	43.1	52° 01'.0	51.9	Betelgeuse	271° 03'.2	7° 24'.5 N	149° 23'.1	24.1	227° 22'.7	15.0	42.7	10.3		S 40°	06:18	06:52	07:23	00:41	01:40	02:39					
23	257° 45'.0	179° 57'.9	29.5	197° 02'.1	33.0	225° 41'.6	43.2	67° 03'.5	51.9				164° 23'.0	24.1	241° 56'.7	15.0	53.0	10.3		S 45°	06:28	07:06	07:39	00:47	01:48	02:50						
Saturday	00	272° 47'.5	194° 57'.0	22° 29'.9 N	212° 02'.7	20° 33'.4 N	240° 43'.7	11° 43'.4 N	82° 05'.9	1° 51'.9 S	Canopus	263° 57'.3	52° 42'.2 S	179° 22'.8	23° 24'.0 N	256° 30'.7	15.0	12° 03'.3 N	10.2	54.3	S 50°	06:40	07:22	08:00	00:53	01:59	03:05					
	01	287° 50'.0	209° 56'.2	30.2	227° 03'.3	33.8	255° 45'.7	43.4	97° 08'.3	52.0	Capella	280° 37'.0	46° 00'.5 N	194° 22'.7	24.0	271° 04'.7	14.9	13.5	10.2		S 52°	06:45	07:29	08:10	00:56	02:04	03:11					
	02	302° 52.4	224° 55'.4	30.6	242° 03'.9	34.1	270° 47.8	43.6	112° 10'.7	52.0	Deneb	49° 32'.1	45° 19'.3 N	209° 22'.6	23.9	285° 38'.6	14.9	23.7	10.1		S 54°	06:51	07:37	08:21	01:00	02:09	03:19					
	03	317° 54'.9	239° 54'.6	30.9	257° 04.5	34.5	285° 49.8	43.8	127° 13'.1	52.0	Denebola	182° 35.1	14° 30'.4 N	224° 22'.4	23.9	300° 12'.5	14.8	33.8	10.1		S 56°	06:57	07:46	08:34	01:03	02:15	03:27					
	04	332° 57.4	254° 53'.8	31.3	272° 05'.1	34.9	300° 51'.8	43.9	142° 15'.6	52.1	Diphda	348° 57.3	17° 55'.2 S	239° 22'.3	23.8	314° 46'.3	14.8	43.9	10.1		S 58°	07:04	07:57	08:48	01:07	02:22	03:37					
	05	347° 59'.8	269° 52'.9	31.7	287° 05'.7	35.3	315° 53'.9	44.1	157° 18'.0	52.1				254° 22'.2	23.7	329° 20.1	14.7	54.0	9.9		S 60°	07:11	08:08	09:06	01:12	02:29	03:48					
	06	3° 02'.3	284° 52'.1	32.0	302° 06'.3	35.6	330° 55'.9	44.2	172° 20'.4	52.1	Dubhe	193° 53'.5	61° 41'.5 N	269° 22'.0	23.7	343° 53'.8	14.7	13° 03'.9 N	10.0		S 62°	07:20	08:22	09:28	01:17	02:38	04:00					
	07	18° 04'.7	299° 51'.3	32.3	317° 06'.9	36.0	345° 58'.0	44.3	187° 22'.8	52.1	Elnath	278° 14.8	28° 36'.9 N	284° 21'.9	23.6	358° 27'.5	14.7	13.9	9.9													
	08	33° 07'.2	314° 50'.5	32.7	332° 07'.5	36.4	1° 00'.0	44.5	202° 25'.3	52.2	Elainin	90° 46'.2	51° 29'.3 S	299° 21'.8	23.5	13° 01'.2	14.5	23.8	9.8		S 54°											
	09	48° 09'.7	329° 49'.7	33.0	347° 08'.2	36.8	16° 02'.1	44.6	217° 27'.7	52.2	Enif	33° 48'.3	9° 55'.8 N	314° 21'.6	23.5	27° 34.7	14.6	33.6	9.8			Lat	Sunset	Twilight Civil	Nautical	24	Moonset 25	26				
	10	63° 12'.1	344° 48'.8	33.4	2° 08'.8	37.1	31° 04'.1	44.8	232° 30'.1	52.2	Fomalhaut	15° 25'.4	29° 33'.4 S	329° 21'.5	23.4	42° 08'.3	14.5	43.4	9.7													
	11	78° 14'.6	359° 48'.0	33.7	17° 09'.4	37.5	46° 06'.1	44.9	247° 32'.5	52.3				344° 21'.4	23.4	56° 41'.8	14.4	53.1	9.7													
	12	93° 17'.1	14° 47'.2	22° 34'.1 N	32° 10'.0	20° 37'.9 N	61° 08'.2	11° 45'.1 N	262° 34'.9	1° 52'.3 S	Gacrux	172° 02'.5	57° 11'.0 S	359° 21'.2	23° 23'.3 N	71° 15'.2	14.4	14° 02'.8 N	9.6	54.4	N 70°	-	-	-	14:56	17:00	-					
	13	108° 19'.5	29° 46'.4	34.4	47° 10'.6	38.2	76° 10'.2	45.2	277° 37'.4	52.3	Gienah	175° 53.8	17° 36'.5 S	14° 21'.1	23.2	85° 48'.6	14.3	12.4	9.6		N 68°	-	-	-	14:24	16:03	17:49					
	14	123° 22'.0	44° 45'.5	34.8	62° 11'.2	38.6	91° 12'.3	45.3	292° 39.8	52.3	Hadar	148° 49'.6	60° 26'.0 S	29° 21'.0																		

**2011 June 27, 28, 29 (Mon, Tue, Wed)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.2			SATURN +0.8			STARS			SUN		MOON					Twilight		Sunrise		Moonrise								
	Lat	Nautical	Civil	Sunrise	27	28	29	Lat	Nautical	Civil	Sunrise	27	28	29	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	-	-								
Monday	00	274° 45.8	194° 17.3	222° 45.7 N	212° 31.7	20° 51.0 N	242° 21.8	11° 50.1 N	84° 02.0	1° 53.4 S	Acamar	315° 19.6	40° 15.3 S	179° 16.5	23° 20.5 N	234° 39.5	12.2	19° 09.2 N	7.2	54.9	N 70°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	01	289° 48.2	209° 16.5	46.0	227° 32.3	51.3	257° 23.9	50.7	99° 04.4	50.4	89° 04.4	Acnarnar	335° 27.9	57° 10.4 S	194° 16.3	20.4	249° 10.7	12.1	16.4	7.1	68°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	02	304° 50.7	224° 15.7	46.3	242° 32.9	51.7	272° 25.9	50.4	114° 06.8	53.5	50.4	Acruz	173° 11.0	63° 10.2 S	209° 16.2	20.3	263° 41.8	12.0	23.5	6.9	66°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03	319° 53.2	239° 14.8	46.6	257° 33.5	52.0	287° 28.0	50.5	129° 09.2	53.5	52.0	Adhara	255° 14.0	28° 59.4 S	224° 16.1	20.2	278° 12.8	11.9	30.4	7.0	64°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04	334° 55.6	254° 14.0	46.9	272° 34.2	52.4	302° 30.0	50.6	144° 11.7	53.5	50.8	Aldebaran	290° 51.3	16° 31.9 N	239° 15.9	20.1	292° 43.7	11.9	37.4	6.8	55.0	62°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05	349° 58.1	269° 13.2	47.2	287° 34.8	52.7	317° 32.1	50.8	159° 14.1	53.6	50.8											60°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	06		284° 12.3	47.5	302° 35.4	53.1	332° 34.1	50.9	174° 16.5	53.6	50.6	Alioth	166° 21.8	55° 54.0 N	269° 15.7	19.9	321° 45.4	11.7	50.9	6.6	N 58°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07	20° 03.0	299° 11.5	47.8	317° 36.0	53.5	347° 36.2	51.1	189° 18.9	53.6	51.1	Alkaid	152° 59.8	49° 15.5 N	284° 15.5	19.8	336° 16.1	11.7	57.5	6.6	56°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	08	35° 05.5	314° 10.7	48.1	332° 36.6	53.8	2° 38.2	51.2	204° 21.3	53.7	51.2	Alnair	27° 45.2	46° 54.0 S	299° 15.4	19.7	350° 46.8	11.6	20° 04.1 N	6.5	54°	00:51	02:36	03:30	00:28	00:59	01:39											
	09	50° 07.9	329° 09.8	48.4	347° 37.2	54.2	17° 40.3	51.3	219° 23.7	53.7	51.3	Alnilam	275° 48.1	1° 11.7 S	314° 15.3	19.6	5° 17.4	11.5	10.6	6.1	55.1	52°	01:36	02:54	03:42	00:37	01:10	01:51										
	10	65° 10.4	344° 00.9	48.6	2° 37.8	54.5	32° 42.3	51.5	234° 26.1	53.7	51.5	Alphard	217° 57.7	8° 42.7 S	329° 15.1	19.5	19° 47.9	11.4	16.9	6.3	50°	02:03	03:09	03:53	00:45	01:19	02:02											
	11	80° 12.9	359° 08.1	48.9	17° 38.4	54.9	47° 44.4	51.6	249° 28.6	53.8	51.6											55°	02:49	03:38	04:15	01:02	01:39	02:23										
	12	95° 15.3	14° 07.3	22° 49.2 N	32° 39.0	20° 55.2 N	62° 46.4	11° 51.7 N	264° 31.0	1° 53.8 S	51.6	Alphecca	126° 11.9	26° 40.7 N	359° 14.9	23° 19.3 N	48° 48.7	11.3	20° 29.4 N	6.1	55.1	N 40°	03:19	04:01	04:33	01:16	01:55	02:41										
	13	110° 17.8	29° 06.5	49.5	47° 39.6	55.6	77° 48.5	51.9	279° 33.4	53.8	51.9	Alpheratz	357° 44.9	29° 09.2 N	14° 14.8	19.2	63° 19.0	11.3	35.5	6.0	35°	03:42	04:19	04:48	01:28	02:09	02:56											
	14	125° 20.3	44° 05.6	49.8	62° 40.2	55.9	92° 50.5	52.0	294° 35.8	53.9	52.0	Altair	62° 09.3	8° 54.0 N	29° 14.6	19.1	77° 49.3	11.2	41.5	5.9	55.2	30°	04:00	04:34	05:01	01:38	02:21	03:09										
	15	140° 22.7	59° 04.8	50.1	77° 40.8	56.3	107° 52.6	52.2	309° 38.2	53.9	52.2	Ankaa	353° 17.0	42° 14.3 S	44° 14.5	19.0	92° 19.5	11.1	47.4	5.8	20°	04:29	04:59	05:23	01:56	02:41	03:31											
	16	155° 25.2	74° 04.0	50.4	92° 41.4	56.6	122° 54.6	52.3	324° 40.6	53.9	52.3	Antares	112° 27.6	26° 27.5 S	59° 14.4	18.9	106° 49.6	11.0	53.2	5.7	N 10°	04:52	05:19	05:42	02:12	02:59	03:50											
	17	170° 27.7	89° 03.1	50.6	107° 42.0	57.0	137° 56.7	52.4	339° 43.0	54.0	52.4											0°	05:11	05:37	06:00	02:26	03:16	04:08										
	18	185° 30.1	104° 02.3	50.9	122° 42.6	57.3	152° 58.7	52.6	354° 45.4	54.0	52.6	Arcturus	145° 56.8	19° 07.4 N	89° 14.1	18.7	135° 49.6	10.9	21° 04.6 N	5.4	55.3	S 10°	05:28	05:54	06:17	02:41	03:33	04:26										
	19	200° 32.6	119° 01.4	51.2	137° 43.2	57.7	168° 00.8	52.7	9° 47.9	54.0	52.7	Arctia	107° 30.2	69° 03.0 S	104° 14.0	18.6	150° 19.5	10.8	10.1	5.5	55.3	20°	05:44	06:11	06:35	02:57	03:51	04:45										
	20	215° 35.1	134° 00.6	51.5	152° 43.8	58.0	183° 02.8	52.8	24° 50.3	54.0	52.8	Avior	234° 19.2	59° 33.0 S	119° 13.8	18.5	164° 49.3	10.8	15.5	5.3	30°	06:00	06:30	06:56	03:15	04:12	05:08											
	21	230° 37.5	148° 59.8	51.8	167° 44.4	58.4	198° 04.9	53.0	39° 52.7	54.1	53.0	Bellatrix	278° 33.8	6° 21.6 N	134° 13.7	18.4	179° 19.1	10.7	20.8	5.2	35°	06:09	06:41	07:09	03:26	04:24	05:21											
	22	245° 40.0	163° 58.9	52.0	182° 45.0	58.7	213° 06.9	53.1	54° 55.1	54.1	53.1	Betelgeuse	271° 03.1	7° 24.5 N	149° 13.6	18.3	193° 48.8	10.6	26.0	5.2	40°	06:18	06:52	07:23	03:38	04:38	05:36											
23	260° 42.4	178° 58.1	52.3	197° 45.6	59.1	228° 09.0	53.2	69° 57.5	54.1	53.2											45°	06:29	07:06	07:39	03:53	04:55	05:54											
Tuesday	00	275° 44.9	193° 57.2	22° 52.6 N	212° 46.2	20° 59.4 N	243° 11.0	11° 53.4 N	84° 59.9	1° 54.2 S	Canopus	263° 57.3	52° 42.2 S	179° 13.3	23° 18.1 N	222° 48.0	10.4	21° 36.2 N	4.9	55.4	S 50°	06:40	07:22	08:00	04:11	05:16	06:16											
	01	290° 47.4	208° 56.4	52.9	227° 46.8	59.8	258° 13.1	53.4	100° 22.3	54.2	Capella	280° 37.0	46° 00.4 N	194° 13.2	18.0	237° 17.4	10.5	41.1	4.8	55.0	52°	06:45	07:29	08:10	04:19	05:25	06:27											
	02	305° 49.8	223° 55.6	53.1	242° 47.4	21° 00.1 N	273° 15.2	53.7	115° 04.7	54.3	53.7	Deneb	49° 32.1	45° 19.3 S	209° 13.1	17.9	251° 46.9	10.3	45.9	4.7	54°	06:51	07:37	08:21	04:29	05:37	06:39											
	03	320° 52.3	238° 54.7	53.4	257° 48.0	00.5	288° 17.2	53.8	182° 35.1	14° 30.5 N	54.3	Denebola	182° 35.1	14° 30.5 N	224° 12.9	17.8	266° 16.2	10.3	50.6	4.6	56°	06:57	07:46	08:33	04:39	05:49	06:53											
	04	335° 54.8	253° 53.9	53.7	272° 48.6	00.8	303° 19.3	53.9	145° 09.6	54.3	53.9	Diphda	348° 57.3	17° 55.2 S	239° 12.8	17.7	280° 45.5	10.3	55.2	4.5	55.5	58°	07:04	07:56	08:48	04:52	06:04	07:09										
	05	350° 57.2	268° 53.0	54.0	287° 49.2	01.2	318° 21.3	54.1	160° 12.0	54.4	54.0											S 60°	07:11	08:08	09:05	05:06	06:22	07:29										
	06	5° 59.7	283° 52.2	54.2	302° 49.8	01.5	333° 23.4	54.2	175° 14.4	54.4	54.2	Dubhe	193° 53.6	61° 41.5 N	269° 12.5	17.4	309° 43.9	10.1	22° 04.1 N	4.2	55.6	S 62°	07:20	08:21	09:27	05:23	06:44	07:54										
	07	21° 02.2	298° 51.4	54.5	317° 50.4	01.9	348° 25.4	54.3	190° 16.8	54.4	54.3	Elnath	278° 14.8	28° 36.9 N	284° 12.4	17.3	324° 13.0	10.1	08.3	4.2	55.6																	
	08	36° 04.6	313° 50.5	54.8	332° 51.0	02.2	3° 27.5	54.5	205° 19.2	54.5	54.5	Elainor	90° 46.2	51° 29.3 N	299° 12.3	17.2	338° 42.1	9.9	12.5	4.0	55.6																	
	09	51° 07.1	328° 49.7	55.0	347° 51.7	0																																



**2011 July 3, 4, 5 (Sun, Mon, Tue)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.3			SATURN +0.8			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	3	4	5	Name	SHA	Dec	GHA	v	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	03:28	06:06	08:20								
Sunday	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	03:28	06:06	08:20		
	01	280° 40' 6"	192° 14' 8"	23° 17' 3" N	213° 58' 4"	21° 38' 8" N	247° 18' 7"	18° 7' 48" S	1° 58' 7" S	89° 48' 2"	10° 58' 7" S	104° 50' 6"	57° 10' 3" S	178° 58' 4"	23° 00' 1" N	157° 52' 3"	9' 0"	16° 42' 7" N	9' 9"	58' 3"	N 70°	-	-	-	04:12	06:25	08:28					
	02	295° 43' 1"	207° 13' 9"	17.4	228° 59' 0"	39.1	262° 20' 8"	09.3	104° 50' 6"	57° 10' 3" S	172° 20' 3"	9' 0"	32' 8"	10' 0"	68°	-	-	-	-	-	68°	-	-	-	04:41	06:40	08:34					
	03	310° 45' 5"	222° 13' 1"	17.6	243° 59' 6"	39.4	277° 22' 8"	09.5	119° 52' 9"	58' 8"	186° 48' 3"	9' 1"	22' 8"	10' 1"	66°	-	-	-	-	-	66°	-	-	00:39	05:02	06:52	08:39					
	04	325° 48' 0"	237° 12' 2"	17.7	259° 00' 2"	39.7	292° 24' 9"	09.6	134° 52' 3"	58' 8"	201° 16' 4"	9' 1"	12' 7"	10' 2"	64°	-	-	-	-	-	64°	-	-	01:46	05:19	07:02	08:44					
	05	340° 50' 5"	252° 11' 4"	17.8	274° 00' 8"	40.0	307° 27' 0"	09.7	149° 57' 7"	58' 8"	215° 44' 5"	9' 1"	02' 5"	10' 3"	58' 4"	62°	-	-	-	-	62°	-	-	02:20	05:33	07:11	08:47					
	06	355° 52' 9"	267° 10' 5"	17.9	289° 01' 4"	40.3	322° 29' 1"	09.8	165° 00' 1"	58' 9"	230° 12' 6"	9' 2"	15° 52' 2" N	10' 4"	60°	-	-	-	-	-	60°	-	01:10	02:45	05:45	07:18	08:51					
	07	10° 55' 4"	282° 09' 6"	18.1	304° 02' 0"	40.6	337° 31' 2"	10.0	180° 02' 5"	58' 9"	244° 40' 8"	9' 2"	41' 8"	10' 5"	N 58°	-	01:52	03:05	05:55	07:24	58°	-	01:52	03:05	05:55	07:24	08:54					
	08	25° 57' 9"	297° 08' 8"	18.2	319° 02' 6"	40.9	352° 33' 2"	10.1	195° 04' 9"	59' 0"	259° 09' 0"	9' 3"	31' 3"	10' 5"	56°	-	02:20	03:21	06:04	07:30	56°	-	02:20	03:21	06:04	07:30	08:56					
	09	41° 00' 3"	312° 07' 9"	18.3	334° 03' 2"	41.2	7° 35' 3"	10' 2"	210° 07' 3"	59' 0"	273° 37' 3"	9' 3"	20' 8"	10' 7"	54°	01:04	02:41	03:34	06:12	54°	01:04	02:41	03:34	06:12	07:35	08:59						
	10	56° 02' 8"	327° 07' 0"	18.5	349° 03' 8"	41.5	22° 37' 4"	10.3	225° 09' 7"	59' 1"	288° 05' 6"	9' 3"	10' 1"	10' 8"	58' 5"	52°	01:44	02:58	03:46	06:19	52°	01:44	02:58	03:46	06:19	07:40	09:01					
	11	71° 05' 3"	342° 06' 2"	18.6	4° 04' 4"	41.8	37° 39' 5"	10.5	240° 12' 1"	59' 1"	302° 33' 9"	9' 4"	14° 59' 3" N	11' 0"	50°	02:09	03:13	03:57	06:25	50°	02:09	03:13	03:57	06:25	07:44	09:03						
	12	86° 07' 7"	357° 05' 3"	18.7	19° 05' 0"	42.1	52° 41' 5"	10.6	255° 14' 5"	59' 1"	317° 02' 3"	9' 4"	48° 5' 3"	10' 8"	45°	02:53	03:42	04:19	06:39	45°	02:53	03:42	04:19	06:39	07:53	09:07						
	13	101° 10' 2"	12° 04' 4"	23° 18' 8" N	34° 05' 6"	21° 42' 4" N	67° 43' 6"	12° 10' 7" N	270° 16' 9"	1° 59' 2" S	358° 57' 0"	22° 57' 7" N	331° 30' 7"	9' 4"	N 40°	03:22	04:04	04:36	06:50	N 40°	03:22	04:04	04:36	06:50	08:00	09:10						
	14	116° 12' 6"	27° 03' 6"	18.9	49° 06' 2"	42.7	82° 45' 7"	10.8	285° 19' 3"	59' 2"	357° 44' 9"	29° 09' 2" N	345° 59' 1"	9' 5"	35°	03:45	04:21	04:51	06:59	35°	03:45	04:21	04:51	06:59	08:06	09:13						
	15	131° 15' 1"	42° 02' 7"	19.1	64° 06' 8"	43.0	97° 47' 8"	11.0	300° 21' 6"	59' 3"	62° 09' 3"	8° 54' 1" N	350° 56' 8"	57' 3"	30°	04:03	04:36	05:04	07:07	30°	04:03	04:36	05:04	07:07	08:12	09:16						
	16	146° 17' 6"	57° 01' 8"	19.2	79° 07' 4"	43.3	112° 49' 8"	11.1	315° 24' 0"	59' 3"	83° 56' 7"	57' 1"	14° 56' 1"	9' 6"	58' 6"	20°	04:32	05:01	05:25	07:22	20°	04:32	05:01	05:25	07:22	08:21	09:20					
	17	161° 20' 0"	72° 01' 0"	19.3	94° 08' 0"	43.6	127° 51' 9"	11.2	330° 26' 4"	59' 4"	103° 56' 5"	56' 9"	29° 24' 7"	9' 6"	N 10°	04:54	05:21	05:44	07:34	N 10°	04:54	05:21	05:44	07:34	08:30	09:24						
	18	176° 22' 5"	87° 00' 1"	19.4	109° 08' 6"	43.9	142° 54' 0"	11.4	345° 28' 8"	59' 4"	127° 58' 2"	11' 5"	30' 31' 2"	59' 4"	0°	05:12	05:38	06:01	07:46	0°	05:12	05:38	06:01	07:46	08:37	09:28						
	19	191° 25' 0"	101° 59' 2"	19.5	124° 09' 2"	44.2	157° 56' 1"	11.5	0° 31' 2"	59' 4"	145° 56' 8"	19° 07' 4" N	88° 56' 3"	56' 5"	S 10°	05:29	05:55	06:18	07:57	S 10°	05:29	05:55	06:18	07:57	08:45	09:32						
	20	206° 27' 4"	116° 58' 4"	19.6	139° 09' 8"	44.5	172° 58' 2"	11.6	15° 33' 6"	59' 5"	107° 30' 2"	69° 03' 0" S	103° 56' 2"	56' 3"	20°	05:44	06:12	06:36	08:09	20°	05:44	06:12	06:36	08:09	08:54	09:36						
	21	221° 29' 9"	131° 57' 5"	19.8	154° 10' 4"	44.8	188° 00' 2"	11.7	30° 36' 0"	59' 5"	234° 19' 2"	59° 33' 0" S	118° 56' 1"	56' 1"	30°	06:00	06:30	06:56	08:23	30°	06:00	06:30	06:56	08:23	09:03	09:40						
	22	236° 32' 4"	146° 56' 6"	19.9	169° 11' 0"	45.1	203° 02' 3"	11.9	45° 38' 4"	59' 6"	278° 33' 8"	6° 21' 6" N	133° 56' 0"	55' 9"	35°	06:09	06:41	07:09	08:31	35°	06:09	06:41	07:09	08:31	09:08	09:43						
23	251° 34' 8"	161° 55' 8"	20.0	184° 11' 6"	45.4	218° 04' 1"	12.0	60° 40' 8"	59' 6"	271° 03' 1"	7° 24' 5" N	148° 55' 9"	55' 7"	40°	06:18	06:52	07:22	08:41	40°	06:18	06:52	07:22	08:41	09:14	09:46							
24	266° 37' 3"	176° 54' 9"	20.1	199° 12' 2"	45.7	233° 06' 5"	12.1	75° 43' 2"	59' 7"	163° 55' 7"	55' 5"	130° 45' 7"	9' 9"	45°	06:28	07:05	07:39	08:51	45°	06:28	07:05	07:39	08:51	09:22	09:49							
Monday	00	281° 39' 8"	191° 54' 0"	23° 20' 2" N	214° 12' 8"	21° 46' 0" N	248° 08' 5"	12° 12' 9" N	90° 45' 5"	1° 59' 7" S	105° 47' 5"	59' 7"	Capopus	263° 57' 3"	52° 42' 1" S	178° 55' 6"	22° 55' 2" N	145° 14' 6"	9' 9"	12° 19' 6" N	12' 0"	58' 7"	S 50°	06:39	07:21	07:59	09:04	09:30	09:53			
	01	296° 42' 2"	206° 53' 2"	20.3	229° 13' 4"	21.6	263° 10' 6"	12.4	105° 47' 5"	59' 7"	193° 55' 5"	55' 0"	159° 43' 5"	9' 9"	52°	06:44	07:28	08:08	09:08	52°	06:44	07:28	08:08	09:08	09:10	09:34	09:55					
	02	311° 44' 7"	221° 52' 3"	20.4	244° 14' 0"	46.6	278° 12' 7"	12.5	120° 50' 3"	59' 8"	49° 32' 0"	45° 19' 3" N	208° 55' 4"	54' 8"	54°	06:50	07:36	08:19	09:17	54°	06:50	07:36	08:19	09:17	09:38	09:59						
	03	326° 47' 1"	236° 51' 4"	20.5	259° 14' 6"	46.9	293° 14' 8"	12.6	135° 52' 7"	59' 8"	182° 35' 1"	14° 30' 5" N	223° 55' 2"	54' 6"	58' 8"	06:56	07:44	08:31	09:24	58' 8"	06:56	07:44	08:31	09:24	09:43	09:57						
	04	341° 49' 6"	251° 50' 6"	20.6	274° 15' 2"	47.2	308° 16' 9"	12.7	150° 55' 1"	59' 9"	348° 57' 2"	17° 55' 2" S	238° 55' 2"	54' 4"	58°	07:02	07:54	08:45	09:32	58°	07:02	07:54	08:45	09:32	09:48	10:02						
	05	356° 52' 1"	266° 49' 7"	20.7	289° 15' 8"	47.5	323° 19' 0"	12.9	165° 57' 5"	59' 9"	253° 55' 1"	54' 2"	217° 39' 4"	10' 1"	S 60°	07:09	08:06	09:02	09:41	S 60°	07:09	08:06	09:02	09:41	09:54	10:04						
	06	11° 54' 5"	281° 48' 8"	20.8	304° 16' 4"	47.8	338° 21' 0"	13.0	180° 59' 9"	2° 00' 0" S	232° 08' 5"	10' 1"	06' 6"	12' 5"	S 62°	07:17	08:18	09:22	09:52	S 62°	07:17	08:18	09:22	09:52	10:01	10:07						
	07	26° 57' 0"	296° 47' 9"	20.9	319° 17' 0"	48.1	353° 23' 1"	13.1	196° 02' 3"	00' 0"	278° 14' 7"	28° 36' 9" N	283° 54' 8"	53' 8"																		
	08	41° 59' 5"	311° 47' 1"	21.0	334° 17' 6"	48.4	8° 25' 2"	13.2	211° 04' 6"	00' 0"	90° 46' 2"	51° 29' 4" N	298° 54' 7"	53' 6"																		
	09	57° 01' 9"	326° 46' 2"	21.1	349° 18' 2"	48.7	23° 27' 3"	13.4	226° 07' 0"	00' 1"	33° 48' 2"	9° 55' 8" N	313° 54' 6"	53' 3"																		
	10	72° 04' 4"	341° 45' 3"	21.2	4° 18' 8"	48.9	38° 29' 4"	13.5	241° 09' 4"	00' 1"	15° 25' 3"	29° 33' 4" S	328° 54' 5"	53' 1"	58' 9"	Lat	Sunset	Twilight		Moonset												
	11	87° 06' 9"	356° 44' 5"	21.3	19° 19' 4"	49.2	53° 31' 4"	13.6	256° 11' 8"	00' 2"	15° 25' 3"	29° 33' 4" S	343° 54' 4"	52' 9"	58' 9"	N 72°	-	-	-	23:07	N 72°	-	-	-	22:39	22:17						
	12	102° 09' 3"	11° 43' 6"	23° 21' 4" N	34° 20' 0"	21° 49' 5" N	68° 33' 5"	12° 13' 7" N	271° 14' 2"	2° 00' 2" S	172° 02' 5"	57° 11' 0" S	358° 54' 3"	22° 52' 7" N	58' 9"	N 70°	-	-	-	22:45	N 70°	-	-	-	22:29	22:15						
	13	117° 11' 8"	26° 42' 7"	21.5	49° 20' 6"	49.8	83° 35' 6"																									



2011 July 6, 7, 8 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.3			SATURN +0.8			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	Sunrise	6	7	8	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	10:28	12:38	14:59				
Wednesday	00	283° 38'.0	191° 12'.3	23° 24'.0 N	214° 41'.6	21° 59'.8 N	249° 48'.6	12° 18'.1 N	92° 40'.0	2° 01'.8 S	Acamar	315° 19'.6	40° 15'.3 S	178° 50'.3	22° 44'.4 N	120° 52'.3	10.9	1° 44'.0 N	14.0	59.2	N 70°	-	-	-	10:27	12:28	14:34					
	01	298° 40'.5	206° 11'.4	24.0	229° 42'.2	22° 00'.1 N	264° 50'.7	18.3	107° 42'.4	01.9	Acnarnar	335° 27'.8	57° 10'.3 S	193° 50'.2	44.2	135° 22'.2	10.9	30.0	14.0	68°	-	-	-	10:26	12:19	14:16						
	02	313° 43.0	221° 10'.5	24.1	244° 42'.8	00.4	279° 52'.8	18.4	122° 44'.8	01.9	Acrux	173° 11.0	63° 10'.2 S	208° 50'.1	43.9	149° 52'.1	11.0	16.0	14.1	66°	-	-	00:56	10:25	12:12	14:01						
	03	328° 45.4	236° 09'.6	24.1	259° 43'.4	00.7	294° 54'.9	18.5	137° 47'.2	02.0	Adhara	255° 14.0	28° 59'.3 S	223° 50.0	43.7	164° 22'.1	10.9	01.9	14.0	64°	-	-	01:53	10:25	12:06	13:49						
	04	343° 47.9	251° 08'.8	24.2	274° 44'.0	01.0	309° 57.0	18.6	152° 49'.6	02.0	Aldebaran	290° 51'.2	16° 31'.9 N	238° 49.9	43.4	178° 52.0	10.9	0° 47.9 N	14.1	62°	-	-	02:25	10:24	12:01	13:39						
	05	358° 50.4	266° 07'.9	24.2	289° 44'.6	01.2	324° 59.0	18.7	167° 51'.9	02.1				253° 49.8	43.2	193° 21.9	11.0	33.8	14.0	60°	-	01:19	02:49	10:23	11:57	13:31						
	06	13° 52'.8	281° 07'.0	24.3	304° 45'.2	01.5	340° 01'.1	18.9	182° 54'.3	02.1	Alioth	166° 21'.8	55° 54'.0 N	268° 49.7	43.0	207° 51.9	10.9	19.8	14.1	59.3	N 58°	-	01:58	03:08	10:23	11:53	13:23					
	07	28° 55'.3	296° 06'.2	24.3	319° 45'.8	01.8	355° 03'.2	19.0	197° 56'.7	02.1	Alkaid	152° 59'.8	49° 15'.5 N	283° 49.6	42.7	222° 21.8	10.9	05.7	14.1	56°	-	02:24	03:24	10:23	11:49	13:17						
	08	43° 57'.7	311° 05'.3	24.4	334° 46'.4	02.1	10° 05'.3	19.1	212° 59'.1	02.2	Alnair	27° 45'.1	46° 54'.0 S	298° 49.4	42.5	236° 51.7	10.9	0° 08.4 S	14.0	54°	01:12	02:45	03:37	10:22	11:46	13:11						
	09	59° 00'.2	326° 04'.4	24.4	349° 47.0	02.4	349° 47.0	19.2	228° 01'.5	02.2	Alnilam	275° 48'.1	1° 11'.7 S	313° 49.3	42.2	251° 21.6	11.0	22.4	14.1	52°	01:48	03:01	03:49	10:22	11:43	13:05						
	10	74° 02'.7	341° 03'.5	24.4	4° 47'.6	02.6	40° 09'.5	19.3	243° 03'.8	02.3	Alphard	217° 57.7	8° 42'.6 S	328° 49.2	42.0	265° 51.6	10.9	36.5	14.1	50°	02:13	03:16	03:59	10:22	11:41	13:01						
	11	89° 05'.1	356° 02'.7	24.5	19° 48'.2	02.9	55° 11'.6	19.5	258° 06'.2	02.3				343° 49.1	41.7	280° 21.5	10.9	50.6	14.0	45°	02:55	03:44	04:21	10:21	11:35	12:50						
	12	104° 07'.6	11° 01'.8	23° 24'.5 N	34° 48'.8	22° 03'.2 N	70° 13'.7	12° 19'.6 N	273° 08'.6	2° 02'.4 S	Alphecca	126° 11'.9	26° 40'.7 N	358° 49.0	22° 41'.5 N	294° 51'.4	10.9	1° 04'.6 S	14.1	59.3	N 40°	03:25	04:06	04:38	10:20	11:31	12:42					
	13	119° 10'.1	26° 00'.9	24.5	49° 49'.4	03.5	85° 15'.8	19.7	288° 11'.0	02.4	Alpheratz	357° 44.9	29° 09'.2 N	13° 48.9	41.2	309° 21.3	10.8	18.7	14.0	35°	03:47	04:23	04:52	10:20	11:27	12:35						
	14	134° 12'.5	41° 00'.0	24.6	64° 50'.0	03.7	100° 17.9	19.8	303° 13'.4	02.5	Altair	62° 09'.2	8° 54'.1 N	28° 48.8	41.0	323° 51.1	10.9	32.7	14.0	30°	04:05	04:38	05:05	10:19	11:24	12:28						
	15	149° 15.0	55° 59'.2	24.6	79° 50'.6	04.0	115° 20'.0	19.9	318° 15'.7	02.5	Ankaa	353° 17.0	42° 14'.3 S	43° 48.7	40.7	338° 21.0	10.9	46.8	14.0	20°	04:33	05:02	05:26	10:19	11:18	12:17						
	16	164° 17.5	70° 58'.3	24.6	94° 51'.2	04.3	130° 22.0	20.1	333° 18'.1	02.6	Antares	112° 27'.6	26° 27'.5 S	58° 48.6	40.5	352° 50.9	10.8	2° 00.8 S	14.0	N 10°	04:54	05:21	05:44	10:18	11:13	12:08						
	17	179° 19'.9	85° 57'.4	24.7	109° 51'.8	04.6	145° 24'.1	20.2	348° 20'.5	02.6				73° 48.5	40.2	7° 20.7	10.9	14.8	14.1	0°	05:13	05:39	06:01	10:18	11:08	11:59						
	18	194° 22.4	100° 56'.6	24.7	124° 52'.4	04.8	160° 26'.2	20.3	3° 22'.9	02.7	Arcturus	145° 56'.8	19° 07'.4 N	88° 48.4	39.9	21° 50.6	10.8	28.9	14.0	S 10°	05:29	05:55	06:18	10:17	11:03	11:50						
	19	209° 24.8	115° 55'.7	24.7	139° 53'.0	05.1	175° 28'.3	20.4	18° 25'.3	02.7	Alraia	107° 30'.2	69° 03'.0 S	103° 48.3	39.7	36° 20.4	10.8	42.9	13.9	20°	05:45	06:12	06:36	10:17	10:58	11:41						
	20	224° 27.3	130° 54'.8	24.8	154° 53'.6	05.4	190° 30'.4	20.5	33° 27'.6	02.8	Avior	234° 19'.2	59° 33'.0 S	118° 48.2	39.4	50° 50.2	10.8	56.8	14.0	30°	06:00	06:30	06:56	10:16	10:53	11:31						
	21	239° 29.8	145° 53'.9	24.8	169° 54'.2	05.6	205° 32'.5	20.7	48° 30'.0	02.8	Bellatrix	278° 33.8	6° 21'.6 N	133° 48.1	39.2	65° 20.0	10.8	3° 10.8 S	14.0	35°	06:09	06:40	07:08	10:16	10:49	11:25						
	22	254° 32'.2	160° 53'.1	24.8	184° 54'.8	05.9	220° 34'.6	20.8	63° 32'.4	02.8	Betelgeuse	271° 03'.1	7° 24'.5 N	148° 48.0	38.9	79° 49.8	10.8	24.8	13.9	40°	06:18	06:51	07:22	10:16	10:46	11:18						
23	269° 34.7	175° 52'.2	24.8	199° 55'.4	06.2	235° 36.7	20.9	78° 34'.8	02.9				163° 47.9	38.7	94° 19.6	10.7	38.7	13.9	45°	06:27	07:04	07:38	10:15	10:42	11:10							
Thursday	00	284° 37'.2	190° 51'.3	23° 24'.9 N	214° 56'.0	22° 06'.5 N	250° 38'.8	12° 21'.9	93° 37'.2	2° 02'.9 S	Canopus	263° 57'.3	52° 42'.1 S	178° 47.8	22° 38'.4 N	108° 49.3	10.8	3° 52'.6 S	13.9	59.3	S 50°	06:38	07:20	07:57	10:15	10:37	11:01					
	01	299° 39'.6	205° 50'.4	24.9	229° 56'.6	06.7	265° 40.9	21.1	108° 39'.5	03.0	Capella	280° 36.9	46° 00'.4 N	193° 47.7	52.8	123° 19.1	10.7	4° 06'.5 S	13.9	52°	06:43	07:27	08:07	10:15	10:35	10:56						
	02	314° 42.1	220° 49'.6	24.9	244° 57'.2	07.0	280° 43'.0	21.3	123° 41'.9	03.0	Deneb	49° 32.0	45° 19'.3 S	208° 47.6	37.9	137° 48.8	10.6	20.4	13.9	54°	06:49	07:34	08:17	10:14	10:32	10:52						
	03	329° 44.6	235° 48'.7	24.9	259° 57.8	07.3	295° 45'.1	21.4	138° 44.3	03.1	Denebola	182° 35.1	14° 30'.5 N	223° 47.5	37.6	152° 18.4	10.7	34.3	13.9	56°	06:54	07:43	08:29	10:14	10:29	10:47						
	04	344° 47.0	250° 47.8	24.9	274° 58'.4	07.5	310° 47.2	21.5	153° 46.7	03.1	Diphda	348° 57.2	17° 55'.2 S	238° 47.4	37.4	166° 48.1	10.7	48.1	13.8	58°	07:01	07:53	08:43	10:14	10:26	10:41						
	05	359° 49.5	265° 46.9	25.0	289° 59.0	07.8	325° 49.3	21.6	168° 49.0	03.2				253° 47.3	37.1	181° 17.8	10.6	5° 01'.9 S	13.8	S 60°	07:08	08:03	08:59	10:14	10:23	10:34						
	06	14° 52'.0	280° 46'.1	25.0	304° 59'.6	08.1	340° 51'.4	21.7	183° 51'.4	03.2	Dubhe	193° 53'.6	61° 41'.5 N	268° 47.2	36.8	195° 47.4	10.6	15.7	13.7	S 52°	07:16	08:16	09:19	10:13	10:19	10:27						
	07	29° 54'.4	295° 45'.2	25.0	320° 00'.2	08.4	355° 53'.4	21.8	198° 53'.8	03.3	Elnath	278° 14.7	28° 36'.9 N	283° 47.1	36.6	210° 17.0	10.5	29.4	13.7													
	08	44° 56'.9	310° 44'.3	25.0	335° 00'.8	08.6	10° 55'.5	22.0	211° 56'.2	03.3	Elainon	90° 46.2	51° 29'.4 N	298° 47.0	36.4	224° 46.5	10.6	43.1	13.7													
	09	59° 59'.3	325° 43'.5	25.0	350° 01'.4	08.9	25° 57'.6	22.1	228° 58'.6	03.4	Enif	33° 48'.2	9° 55'.8 N	313° 46.8	36.1	239° 16.1	10.5	56.8	13.7													
	10	75° 01'.8	340° 42'.6	25.0	5° 02'.0	09.2	40° 59'.7	22.2	244° 00'.9	03.4	Fomalhaut	15° 25.3	29° 33'.4 S	328° 46.7	35.8	253° 45.6	10.5	6° 10'.5 S	13.6													
	11	90° 04'.3	355° 41'.7	25.0	20° 02'.6	09.4	56° 01'.8	22.3	259° 03.3	03.5				343° 46.6	35.5	268° 15.1	10.4	24.1	13.6													
	12	105° 06'.7	10° 40'.8	23° 25'.0 N	35° 03'.2	22° 09'.7 N	71° 03'.9	12° 22'.4 N	274° 05'.7	2° 03'.5 S	Gacrux	172° 02'.6	57° 11'.0 S	358° 46.5	22° 35'.3 N	282° 44.5	10.5	6° 37.7 S	13.5	59.3	N 72°	-	-	-	21:56	21:33	21:02					
	13	120° 09.2	25° 40'.0	25.0	50° 03'.8	10.0	86° 06'.0	22.6	289° 08'.1	03.6	Gienah	175° 53.8	17° 36'.5 S	13° 46.4	35.0	297° 14.0	10.4	51.2	13.5	68°	-	-	-	22:01	21:46	21:28						
	14	135° 11'.7	40° 39'.1	25.0	65° 04'.4	10.2	101° 08'.1	22.7	304° 10.4	03.6	Hadar	148° 49.7	60° 26'.0 S	28° 46.3	34.7	311° 43.4	10.3	7° 04.7 S	13.5	66°	23:09	-	-	22:08	22:06	22:04						

**2011 July 9, 10, 11 (Sat, Sun, Mon)**

GMT	ARIES		VENUS -3.9		MARS +1.4		JUPITER -2.3		SATURN +0.8		STARS			SUN		MOON				Twilight		Sunrise		Moonrise			
	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	9	10	11	
Saturday	00	286° 35'.4	190° 09'.4	23° 24'.5 N	215° 24'.8	22° 19'.1 N	252° 19'.5	12° 26'.6 N	95° 31'.1	2° 05'.3 S	Acamar	315° 19'.6	40° 15'.3 S	178° 43'.0	22° 25'.2 N	83° 59'.2	8.9	14° 11'.9 S	11'.4	59.2	N 72°	-	-	-	18:10	-	-
	01	301° 37'.9	205° 08'.5	24.5	230° 25'.4	19.3	267° 21'.6	26.8	110° 33'.5	05.3	Acnarnar	335° 27'.8	57° 10'.3 S	193° 42'.9	24.9	98° 27'.1	8.8	23.3	11.1	68°	-	-	-	16:57	-	-	
	02	316° 40'.4	220° 07'.6	24.5	245° 26'.0	19.6	282° 23'.7	26.9	125° 35'.9	05.4	Acrux	173° 11'.1	63° 10'.2 S	208° 42'.8	24.6	112° 54'.9	8.8	34.5	11.1	66°	-	-	01:11	15:55	17:51	19:45	
	03	331° 42'.8	235° 06'.7	24.4	260° 26'.6	19.8	297° 25'.8	27.0	140° 38'.2	05.4	Adhara	255° 14'.0	28° 59'.3 S	223° 42'.7	24.3	127° 22'.7	8.7	45.7	11.1	64°	-	-	02:00	15:35	17:19	18:55	
	04	346° 45'.3	250° 05'.9	24.4	275° 27'.2	20.1	312° 27'.9	27.1	155° 40'.6	05.5	Aldebaran	290° 51'.2	16° 31'.9 N	238° 42'.6	24.1	141° 50'.4	8.6	56.8	11.0	62°	-	-	02:31	15:19	16:56	18:24	
	05	1° 47'.8	265° 05'.0	24.3	290° 27'.8	20.3	327° 30'.0	27.2	170° 43'.0	05.5				253° 42'.5	23.8	156° 18'.0	8.7	15° 07'.8 S	10.9	60°	-	01:28	02:54	15:05	16:37	18:01	
	06	16° 50'.2	280° 04'.1	24.3	305° 28'.4	20.6	342° 32'.1	27.3	185° 45'.3	05.6	Alioth	166° 21'.8	55° 54'.0 N	268° 42'.5	23.5	170° 45'.7	8.5	18.7	10.8	58°	-	02:04	03:12	14:54	16:22	17:42	
	07	31° 52'.7	295° 03'.2	24.2	320° 29'.0	20.8	357° 34'.3	27.4	200° 47'.7	05.6	Alkaid	152° 59'.8	49° 15'.5 N	283° 42'.4	23.2	185° 13'.2	8.5	29.5	10.7	56°	-	02:29	03:27	14:44	16:09	17:26	
	08	46° 55'.2	310° 02'.4	24.2	335° 29'.6	21.1	12° 36'.4	27.6	215° 50'.1	05.7	Alnair	27° 45'.0	46° 54'.0 S	298° 42'.3	22.9	199° 40'.7	8.4	40.2	10.6	54°	01:21	02:49	03:40	14:35	15:57	17:13	
	09	61° 57'.6	325° 01'.5	24.2	350° 30'.2	21.3	27° 38'.5	27.7	310° 52'.5	05.7	Alnilam	275° 48'.1	1° 11'.7 S	313° 42'.2	22.6	214° 08'.1	8.4	50.8	10.5	52°	01:54	03:05	03:52	14:27	15:47	17:01	
	10	77° 00'.1	340° 00'.6	24.1	5° 30'.8	21.6	42° 40'.6	27.8	245° 54'.8	05.8	Alphard	217° 57'.7	8° 42'.6 S	328° 42'.1	22.3	228° 35'.5	8.3	16° 01'.3 S	10.5	50°	02:18	03:19	04:02	14:20	15:38	16:50	
	11	92° 02'.6	354° 59'.7	24.1	20° 31'.4	21.8	57° 42'.7	27.9	80° 57'.2	05.8				343° 42'.0	22.0	243° 02'.8	8.3	11.8	10.3	45°	02:59	03:46	04:23	14:05	15:19	16:29	
	12	107° 05'.0	9° 58'.9	23° 24'.0 N	35° 32'.0	22° 22'.1 N	72° 44'.8	12° 28'.0 N	275° 59'.6	2° 05'.9 S	Alphecca	126° 11'.9	26° 40'.7 N	358° 41'.9	22° 21'.7 N	257° 30'.1	8.2	16° 22'.1 S	10.2	59.2	N 40°	03:27	04:08	04:40	13:53	15:04	16:11
	13	122° 07'.5	24° 58'.0	24.0	50° 32'.5	22.3	87° 46'.9	28.1	291° 01'.9	05.9	Alpheratz	357° 44.8	29° 09'.2 N	13° 41'.8	21.4	271° 57'.3	8.2	32.3	10.2	35°	03:49	04:25	04:54	13:43	14:51	15:56	
	14	137° 09'.9	39° 57'.1	23.9	65° 33'.1	22.6	102° 49'.0	28.2	65° 30'.4	06.0	Altair	62° 09'.2	8° 54'.1 N	28° 41'.7	21.1	286° 24'.5	8.1	42.5	10.0	30°	04:06	04:39	05:06	13:34	14:40	15:44	
	15	152° 12'.4	54° 56'.2	23.9	80° 33'.7	22.8	117° 51'.1	28.4	321° 06'.7	06.0	Ankaa	353° 16'.9	42° 14'.3 S	43° 41'.6	20.8	300° 51'.6	8.0	52.5	9.9	20°	04:34	05:03	05:27	13:18	14:20	15:22	
	16	167° 14'.9	69° 55'.4	23.8	95° 34'.3	23.1	132° 53'.2	28.5	386° 09'.0	06.1	Antares	112° 27'.6	26° 27'.5 S	58° 41'.5	20.5	315° 18'.6	8.0	17° 02'.4 S	9.9	10°	04:55	05:22	05:45	13:05	14:04	15:03	
	17	182° 17'.3	84° 54'.5	23.7	110° 34'.9	23.3	147° 55'.3	28.6	351° 11'.4	06.2				73° 41'.4	20.2	329° 45'.6	8.0	12.3	9.7	59.1	0°	05:13	05:39	06:02	12:53	13:48	14:46
	18	197° 19'.8	99° 53'.6	23.7	125° 35'.5	23.6	162° 57'.4	28.7	6° 13'.8	06.2	Arcturus	145° 56'.8	19° 07'.4 N	88° 41'.3	19.9	344° 12.6	7.9	22.0	9.6	S 10°	05:29	05:56	06:18	12:40	13:33	14:28	
	19	212° 22'.3	114° 52'.7	23.6	140° 36'.1	23.8	177° 59'.5	28.8	107° 30'.2	06.3	Alraia	107° 30'.2	69° 03'.0 S	103° 41'.2	19.6	358° 39'.5	7.8	31.6	9.5	20°	05:45	06:12	06:36	12:27	13:16	14:10	
	20	227° 24'.7	129° 51'.9	23.6	155° 36'.7	24.1	193° 01'.6	28.9	36° 18'.5	06.3	Avior	234° 19'.2	59° 33'.0 S	118° 41'.2	19.3	13° 06'.3	7.8	41.1	9.4	30°	06:00	06:30	06:56	12:12	12:58	13:48	
	21	242° 27'.2	144° 51'.0	23.5	170° 37'.3	24.3	208° 03'.7	29.0	51° 20'.9	06.4	Bellatrix	278° 33'.8	6° 21'.6 N	133° 41'.1	19.0	27° 33'.1	7.7	50.5	9.3	35°	06:08	06:40	07:07	12:03	12:47	13:36	
	22	257° 29'.7	159° 50'.1	23.5	185° 37'.9	24.5	223° 05'.9	29.1	66° 23'.2	06.4	Betelgeuse	271° 03'.1	7° 24'.5 N	148° 41'.0	18.7	41° 59'.8	7.6	59.8	9.1	30°	06:17	06:51	07:21	11:54	12:34	13:22	
23	272° 32'.1	174° 49'.2	23.4	200° 38'.5	24.8	238° 08'.0	29.3	81° 25'.6	06.5				163° 40'.9	18.4	56° 26'.4	7.7	18° 08'.9 S	9.1	45°	06:26	07:03	07:36	11:42	12:20	13:05		
Sunday	00	287° 34'.6	189° 48'.4	23° 23'.3 N	215° 39'.1	22° 25'.0 N	253° 10'.1	12° 29'.4 N	96° 28'.0	2° 06'.5 S	Canopus	263° 57'.3	52° 42'.1 S	178° 40'.8	22° 18'.0 N	70° 53'.1	7.5	18° 18'.0 S	8.9	59.1	S 50°	06:37	07:18	07:56	11:28	12:02	12:44
	01	302° 37'.0	204° 47'.5	23.3	230° 39'.7	23.3	268° 12'.2	29.5	111° 30'.4	06.6	Capella	280° 36'.9	46° 00'.4 N	193° 40'.7	17.7	85° 19'.6	7.5	26.9	8.9	52°	06:42	07:25	08:05	11:22	11:54	12:34	
	02	317° 39'.5	219° 46'.6	23.2	245° 40'.3	23.5	283° 14'.3	29.6	126° 32'.7	06.6	Deneb	49° 32'.0	45° 19'.3 S	208° 40'.6	17.4	99° 46'.1	7.4	35.8	8.7	54°	06:47	07:32	08:15	11:15	11:44	12:23	
	03	332° 42.0	234° 45.8	23.1	260° 40.9	23.1	298° 16.4	29.7	141° 35.1	06.7	Denebola	182° 35.2	14° 30.5 N	223° 40.1	16.7	114° 12.6	7.4	45.5	8.6	56°	06:53	07:41	08:27	11:07	11:34	12:10	
	04	347° 44.4	249° 44.9	23.1	275° 41.5	23.0	313° 18.5	29.8	156° 37.5	06.7	Diphda	348° 57.2	17° 55.2 S	238° 40.4	16.8	128° 39.0	7.3	53.1	8.5	58°	06:59	07:50	08:40	10:58	11:22	11:56	
	05	2° 46.9	264° 44.0	23.0	290° 42.1	23.3	328° 20.6	29.9	171° 39.8	06.8				253° 40.3	16.5	143° 05.3	7.3	19° 01.6 S	8.3	59.0	S 60°	07:06	08:01	08:56	10:48	11:08	11:38
	06	17° 49.4	279° 43.1	22.9	305° 42.7	23.6	343° 22.7	30.0	186° 42.2	06.8	Dubhe	193° 53.6	61° 41.5 N	268° 40.3	16.2	157° 31.6	7.2	09.9	8.3	58°	07:13	08:13	09:15	10:37	10:52	11:17	
	07	32° 51.8	294° 42.3	22.8	320° 43.3	23.7	358° 24.8	30.2	201° 44.6	06.9	Elnath	278° 14.7	28° 36.9 N	283° 40.2	15.9	171° 57.8	7.2	18.2	8.1	S 62°							
	08	47° 54.3	309° 41.4	22.8	335° 43.9	23.0	31° 26.9	30.3	216° 46.9	06.9	Enif	90° 46.3	51° 29.4 N	298° 40.1	15.6	186° 24.0	7.2	26.3	8.0								
	09	62° 56.8	324° 40.5	22.7	350° 44.5	23.2	28° 29.1	30.4	231° 49.3	07.0	Enif	33° 48.2	9° 55.8 N	313° 40.0	15.3	200° 50.2	7.1	34.3	7.9								
	10	77° 59.2	339° 39.6	22.6	5° 45.1	23.5	43° 31.2	30.5	246° 51.7	07.0	Fomalhaut	15° 25.2	29° 33.4 S	328° 39.9	14.9	215° 16.3	7.0	42.2	7.7								
	11	93° 01.7	354° 38.8	22.5	20° 45.7	23.7	58° 33.3	30.6	261° 54.0	07.1				343° 39.8	14.6	229° 42.3	7.0	49.9	7.6								
	12	108° 04.2	9° 37.9	23° 22'.5 N	35° 46'.3	22° 27'.9 N	73° 35'.4	12° 30'.7 N	276° 56'.4	2° 07'.1 S	Gacrux	172° 02'.6	57° 11'.0 S	358° 39.7	22° 14'.3 N	244° 08.3	6.9	19° 57.5 S	7.5	59.0	N 70°	-	-	-	19:43	-	-
	13	123° 06.6	24° 37.0	22.4	50° 46.9	23.0	88° 37.5	30.8	291° 58.7	07.2	Gienah	175° 53.8	17° 36.5 S	13° 39.6	14.0	258° 34.2	6.9	20° 05.0 S	7.4	68°	-	-	-	20:57	-	-	
	14	138° 09.1	39° 36.1	22.3	65° 47.5	23.4	103° 39.6	30.9	307° 01.1	07.2	Hadar	148° 39.6	60° 26.0 S	18° 39.6	13.7	273° 00.1	6.9	12.4	7.0	66°	22:56	-	-	22:02	22:03	22:09	
	15	153° 11.5	54° 35.3	22.2	80° 48.1	23.1	118° 41.7	31.1																			



**2011 July 15, 16, 17 (Fri, Sat, Sun)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.3			SATURN +0.8			STARS			SUN		MOON				Lat		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	15	16	17					
Friday	00	292° 30'.3	188° 04'.0	23° 07'.0 N	216° 51'.2	22° 51'.8 N	257° 24'.7	12° 42'.3 N	101° 11'.0	2° 13'.1 S	2	11° 11'.0	2° 13'.1 S	Acamar	315° 19'.5	40° 15'.2 S	178° 31'.4	21° 36'.5 N	2° 28'.0	9.2	19° 53'.3 S	7.2	57.1	N 70°	-	-	-	23:11	22:23	21:56				
	01	307° 32'.8	203° 03'.1	06.8	203° 51'.8	20° 51'.8 N	272° 26'.8	42.4	116° 13'.4	13.2	5	16° 13'.4	13.2	Acnarnar	335° 27'.7	57° 10'.3 S	193° 31'.3	36.1	16° 56'.2	9.2	46.1	7.4	68°	-	-	-	22:23	22:00	21:43					
	02	322° 35'.2	218° 02'.2	06.6	246° 52'.4	52.2	287° 28'.9	42.5	131° 15'.7	13.3	6	13° 15'.7	13.3	Acruz	173° 11'.1	63° 10'.2 S	208° 31'.3	35.7	31° 24'.4	9.3	38.7	7.4	57.0	66°	-	-	01:38	21:29	21:27	21:25				
	03	337° 37'.7	233° 01'.4	06.4	261° 53'.0	52.4	302° 31'.1	42.6	146° 18'.1	13.3	7	14° 18'.1	13.3	Achra	255° 14'.0	28° 59'.3 S	223° 31'.2	35.3	45° 52'.7	9.4	31.3	7.5	64°	-	-	-	02:17	21:11	21:15	21:18				
	04	352° 40'.1	248° 00'.5	06.2	276° 53'.6	52.6	317° 33'.2	42.7	161° 20'.4	13.4	8	16° 20'.4	13.4	Aldebaran	290° 51'.2	16° 31'.9 N	238° 31'.2	34.9	60° 21'.1	9.5	23.8	7.7	62°	-	00:54	02:44	20:55	21:05	21:11					
	05	7° 42'.6	262° 59'.6	06.0	291° 54'.3	52.8	332° 35'.3	42.8	176° 22'.8	13.4	9	17° 22'.8	13.4				253° 31'.1	34.6	74° 49'.6	9.5	16.1	7.9	60°	-	01:47	03:05	20:43	20:56	21:06					
	06	22° 45'.1	277° 58'.8	05.8	306° 54'.9	53.0	347° 37'.5	42.9	191° 25'.1	13.5	10	19° 25'.1	13.5	Alioth	166° 21'.9	55° 54'.0 N	268° 31'.0	34.2	89° 18'.1	9.6	08.4	7.9	56.9	N 58°	-	02:17	03:22	20:32	20:48	21:01				
	07	37° 47'.5	292° 57'.9	05.5	321° 55'.5	53.2	2° 39'.6	43.0	206° 27'.5	13.6	11	2° 39'.6	13.6	Alkaid	152° 59'.9	49° 15'.5 N	283° 31'.0	33.8	103° 46'.7	9.8	00.5	7.9	56°	00:50	02:40	03:36	20:22	20:41	20:57					
	08	52° 50'.0	307° 57'.0	05.3	336° 56'.1	53.4	17° 41'.7	43.1	221° 29'.8	13.6	12	17° 41'.7	13.6	Alnair	27° 45'.0	46° 54'.0 S	298° 30'.9	33.4	118° 15'.5	9.8	18° 52'.6 S	8.0	54°	01:38	02:58	03:48	20:13	20:35	20:53					
	09	67° 52'.5	322° 56'.2	05.1	351° 56'.7	53.6	32° 43'.9	43.2	236° 43'.9	13.7	13	32° 43'.9	13.7	Alnilam	275° 48'.0	1° 11'.7 S	313° 30'.8	33.0	132° 44'.3	9.8	44.0	8.1	52°	02:06	03:13	03:59	20:06	20:30	20:50					
	10	82° 54'.9	337° 55'.3	04.9	6° 57'.3	53.8	47° 46'.0	43.3	251° 34'.5	13.7	14	47° 46'.0	13.7	Alphard	217° 57'.7	8° 42'.6 S	328° 30'.8	32.6	147° 13'.1	10.0	36.5	8.2	56.8	50°	02:28	03:26	04:08	19:59	20:25	20:46				
	11	97° 57'.4	352° 54'.5	04.7	21° 57'.9	54.0	62° 48'.2	43.4	267° 36'.9	13.8	15	26° 48'.2	13.8				343° 30'.7	32.2	161° 42'.1	10.1	28.3	8.3	45°	03:06	03:52	04:28	19:54	20:14	20:39					
	12	112° 59'.9	7° 53'.6	23° 04'.4 N	36° 58'.5	22° 54'.2 N	77° 50'.3	12° 43'.5 N	281° 39'.2	2° 13'.9 S	16	12° 43'.5 N	2° 13'.9 S	Alphecca	126° 11'.9	26° 40'.7 N	358° 30'.6	21° 31'.8 N	176° 11'.2	10.1	18° 20'.0 S	8.4	56.8	N 40°	03:33	04:12	04:44	19:32	20:05	20:34				
	13	128° 02'.3	22° 52'.7	04.2	51° 59'.1	54.4	92° 52'.4	43.6	296° 41'.6	13.9	17	92° 52'.4	13.9	Alpheratz	357° 44.8	29° 09'.3 N	13° 30'.6	31.4	190° 40'.3	10.2	11.6	8.5	35°	03:53	04:29	04:58	19:21	19:57	20:24					
	14	143° 04'.8	37° 51'.9	04.0	66° 59'.7	54.6	107° 54'.6	43.7	311° 43'.9	14.0	18	311° 43'.9	14.0	Altair	62° 09'.2	8° 54'.1 N	28° 30'.5	31.0	205° 09'.5	10.3	03.1	8.6	56.7	30°	04:10	04:43	05:09	19:12	19:50	20:29				
	15	158° 07'.2	52° 51'.0	03.8	82° 00'.3	54.7	122° 56'.7	43.9	326° 46'.2	14.0	19	122° 56'.7	14.0	Ankaa	353° 16'.9	42° 14'.2 S	43° 30'.5	30.6	219° 38'.8	10.4	17° 54'.5 S	8.6	20°	04:37	05:05	05:29	18:56	19:38	20:16					
	16	173° 09'.7	67° 50'.1	03.5	97° 00'.9	54.9	137° 58'.8	44.0	341° 48'.6	14.1	20	341° 48'.6	14.1	Antares	112° 27'.6	26° 27'.5 S	58° 30'.4	30.2	234° 08'.2	10.4	45.9	8.8	N 10°	04:57	05:24	05:47	18:42	19:27	20:10					
	17	188° 12'.2	82° 49'.3	03.3	112° 01'.5	55.1	153° 01'.0	44.1	356° 50'.9	14.2	21	153° 01'.0	14.2	Arcturus	145° 56'.9	19° 07'.4 N	88° 30'.3	29.5	263° 07'.2	10.6	28.3	8.9	56.6	S 10°	05:30	05:56	06:18	18:16	19:08	19:57				
	18	203° 14'.6	97° 48'.4	03.1	127° 02'.1	55.3	168° 03'.1	44.2	11° 53'.3	14.2	22	11° 53'.3	14.2	Arctua	107° 30'.2	69° 03'.0 S	103° 30'.2	29.1	277° 36'.8	10.7	19.4	9.0	20°	05:44	06:11	06:35	18:02	18:57	19:50					
	19	218° 17'.1	112° 47'.6	02.9	142° 02'.7	55.5	183° 05'.3	44.3	26° 55'.6	14.3	23	26° 55'.6	14.3	Avior	234° 19'.3	59° 32'.9 S	118° 30'.1	28.7	292° 06'.5	10.8	10.4	9.0	30°	05:59	06:28	06:54	17:46	18:45	19:42					
	20	233° 19'.6	127° 46'.7	02.6	157° 03'.3	55.7	198° 07'.4	44.4	41° 58'.0	14.3	24	41° 58'.0	14.3	Bellatrix	278° 33'.7	6° 21'.6 N	133° 30'.1	28.3	306° 36'.3	10.8	01.4	9.2	35°	06:06	06:38	07:05	17:36	18:38	19:37					
	21	248° 22'.0	142° 45'.8	02.4	172° 03'.9	55.9	213° 09'.5	44.5	57° 00'.3	14.4	25	57° 00'.3	14.4	Betelgeuse	271° 03'.1	7° 24'.5 N	148° 30'.0	27.9	321° 06'.1	11.0	16° 52'.2 S	9.2	56.5	40°	06:15	06:48	07:18	17:25	18:30	19:32				
	22	263° 24'.5	157° 45'.0	02.2	187° 04'.5	56.1	228° 11'.7	44.6	72° 02'.7	14.5	26	72° 02'.7	14.5				163° 30'.0	27.5	335° 36'.1	11.0	43.0	9.3	45°	06:24	07:00	07:33	17:13	18:20	19:26					
23	278° 27'.0	172° 44'.1	01.9	202° 05'.1	56.3	243° 13'.8	44.7	87° 05'.0	14.5																									
Saturday	00	293° 29'.4	187° 43'.3	23° 01'.7 N	217° 06'.7	22° 56'.5 N	258° 16'.0	12° 44'.8 N	102° 07'.4	2° 14'.6 S	1	12° 44'.8 N	2° 14'.6 S	Canopus	263° 57'.3	52° 42'.1 S	178° 29'.9	21° 27'.1 N	350° 06'.1	11.1	16° 33'.7 S	9.3	56.5	S 50°	06:34	07:14	07:51	16:57	18:09	19:19				
	01	308° 31'.9	202° 42'.4	01.5	232° 05'.3	56.7	273° 18'.1	44.9	117° 09'.7	14.6	2	117° 09'.7	14.6	Capella	280° 36'.8	46° 00'.4 N	193° 29'.8	26.7	4° 36'.2	11.2	24.4	9.5	52°	06:38	07:21	08:00	16:50	18:04	19:16					
	02	323° 34'.4	217° 41'.5	01.2	247° 06'.9	56.9	288° 20'.2	45.0	132° 12'.1	14.7	3	132° 12'.1	14.7	Deneb	49° 32'.0	45° 19'.4 N	208° 29'.8	26.3	19° 06'.4	11.3	14.9	9.5	54°	06:43	07:28	08:09	16:42	17:58	19:12					
	03	338° 36'.8	232° 40'.7	01.0	262° 07'.5	57.1	303° 22'.4	45.1	147° 14'.4	14.8	4	147° 14'.4	14.8	Denebola	182° 35'.2	14° 30'.5 N	223° 29'.7	25.9	33° 36'.7	11.3	05.4	9.6	56.4	56°	06:48	07:35	08:20	16:33	17:51	19:08				
	04	353° 39'.3	247° 39'.8	00.7	277° 08'.1	57.3	318° 24'.5	45.2	162° 16'.8	14.8	5	318° 24'.5	14.8	Diphda	348° 57'.1	17° 55'.1 S	238° 29'.7	25.5	48° 07'.0	11.5	15° 55'.8 S	9.6	58°	06:54	07:44	08:33	16:22	17:44	19:03					
	05	8° 41'.7	262° 39'.0	00.5	292° 08'.7	57.4	333° 26'.7	45.3	177° 19'.1	14.9	6	177° 19'.1	14.9				253° 29'.6	25.0	62° 37'.5	11.5	46.2	9.8	S 60°	07:00	07:54	08:47	16:10	17:35	18:58					
	06	23° 44'.2	277° 38'.1	00.3	307° 09'.3	57.6	348° 28'.8	45.4	192° 21'.5	14.9	7	192° 21'.5	14.9	Dubhe	193° 53'.7	61° 41'.5 N	268° 29'.5	24.6	77° 08'.0	11.6	36.4	9.8	S 62°	07:07	08:05	09:05	15:56	17:26	18:52					
	07	38° 46'.7	292° 37'.2	00.0	322° 09'.9	57.8	3° 31'.0	45.5	207° 23'.8	15.0	8	3° 31'.0	15.0	Elath	278° 14'.6	28° 36'.9 N	283° 29'.5	24.2	91° 38'.6	11.7	26.6	9.8	56.3											
	08	53° 49'.1	307° 36'.4	22° 59'.8 N	337° 10'.5	58.0	337° 10'.5	45.6	222° 26'.1	15.1	9	337° 10'.5	15.1	Elnath	90° 46'.3	51° 29'.4 N	298° 29'.4	23.8	106° 09'.3	11.7	16.8	9.9												
	09	68° 51'.6	322° 35'.5	01.0	352° 11'.1	58.2	33° 35'.2	45.7	237° 28'.5	15.1	10	33° 35'.2	15.1	Enif	33° 48'.2	9° 55'.8 N	313° 29'.4	23.4	120° 40'.0	11.8	06.9	10.0												
	10	83° 54'.1	337° 34'.7	01.0	7° 11'.7	58.4	48° 37'.4	45.8	252° 30'.8	15.2	11	48° 37'.4	15.2	Fomalhaut	15° 25'.2	29° 33'.4 S	328° 29'.3	23.0	135° 10'.8	11.9	14° 56'.9 S	10.1	56.2	Lat	Sunset	Twilight		Moonset						
	11	98° 56'.5	352° 33'.8	01.0																														

**2011 July 18, 19, 20 (Mon, Tue, Wed)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.4			SATURN +0.8			STARS			SUN		MOON					Lat		Twilight		Sunrise		18			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	18	19	20	18	19	20						
Monday	00	295° 27.7	187° 02.2	22° 49.0 N	217° 34.7	23° 05.3 N	259° 59.0	12° 49.5 N	103° 59.8	2° 17.5 S	Acamar	315° 19.5	40° 15.2 S	178° 27.3	21° 07.1 N	327° 34.6	14.4	8° 00.6 S	11.7	55.4	N 70°	-	-	-	-	21:35	21:17	20:58	21:30	21:18	21:06						
	01	310° 30.2	202° 01.3	48.7	202° 01.3	05.5	275° 01.1	49.6	119° 02.2	17.6	Acnarnar	335° 27.7	57° 10.3 S	193° 27.2	06.7	342° 08.0	14.5	7° 48.9 S	11.7	55.3	N 68°	-	-	-	00:41	21:26	21:19	21:12	21:26	21:19	21:12						
	02	325° 32.6	217° 00.5	48.4	247° 35.9	05.6	290° 03.3	49.7	134° 04.5	17.7	Acruz	173° 11.1	63° 10.1 S	208° 27.2	06.2	356° 41.5	14.5	37.2	11.7	66°	-	-	-	01:51	21:22	21:20	21:17	21:22	21:20	21:17							
	03	340° 35.1	231° 59.6	48.1	262° 36.5	05.8	305° 05.4	49.8	149° 06.9	17.7	Adhara	255° 14.0	28° 59.3 S	223° 27.1	05.8	11° 15.0	14.6	25.5	11.7	64°	-	-	-	02:26	21:19	21:20	21:21	21:19	21:20	21:21							
	04	355° 37.6	246° 58.8	47.9	277° 37.1	06.0	320° 07.6	49.9	164° 09.2	17.8	Aldebaran	290° 51.2	16° 31.9 N	238° 27.1	05.4	25° 48.6	14.6	13.8	11.7	62°	-	01:13	02:51	21:16	21:21	21:25	21:16	21:21	21:25								
	05	10° 40.0	261° 57.9	47.6	292° 37.7	06.1	335° 09.7	50.0	179° 11.5	17.8				253° 27.0	05.0	40° 22.2	14.6	02.1	11.8	60°	-	01:57	03:11	21:14	21:21	21:29	21:14	21:21	21:29								
	06	25° 42.5	276° 57.1	47.3	307° 38.3	06.3	350° 11.9	50.1	194° 13.9	17.9	Alioth	166° 21.9	55° 54.0 N	268° 27.0	04.5	54° 55.8	14.7	6° 50.3 S	11.8	55.2	N 58°	-	02:25	03:27	21:12	21:22	21:32	21:12	21:22	21:32							
	07	40° 45.0	291° 56.2	47.0	322° 38.9	06.5	5° 14.0	50.2	209° 16.2	18.0	Alkaid	152° 59.9	49° 15.5 N	283° 26.9	04.1	69° 29.5	14.8	38.5	11.8	56°	01:07	02:46	03:40	21:10	21:22	21:35	21:10	21:22	21:35								
	08	55° 47.4	306° 55.4	46.7	337° 39.5	06.7	20° 16.2	50.3	224° 18.6	18.0	Alnair	27° 45.0	46° 54.0 S	298° 26.9	03.6	84° 03.3	14.8	26.7	11.8	54°	01:47	03:03	03:52	21:08	21:23	21:37	21:08	21:23	21:37								
	09	70° 49.9	321° 54.5	46.4	352° 40.1	06.8	35° 18.3	50.3	239° 20.9	18.1	Alnilam	275° 48.0	1° 11.7 S	313° 26.8	03.2	88° 37.1	14.8	14.9	11.8	52°	02:13	03:18	04:02	21:07	21:23	21:39	21:07	21:23	21:39								
	10	85° 52.3	336° 53.7	46.1	7° 40.7	07.0	50° 20.5	50.4	254° 23.2	18.2	Alphard	217° 57.7	8° 42.6 S	328° 26.8	02.8	113° 10.9	14.9	03.1	11.8	50°	02:33	03:30	04:12	21:05	21:23	21:41	21:05	21:23	21:41								
	11	100° 54.8	351° 52.8	45.7	22° 41.3	07.2	65° 22.6	45.7	50.5	18.2				343° 26.7	02.3	127° 44.8	14.9	5° 51.3 S	11.9	55.1	45°	03:10	03:55	04:31	21:02	21:24	21:46	21:02	21:24	21:46							
	12	115° 57.3	6° 52.0	22° 45.4 N	37° 41.9	23° 07.3 N	80° 24.8	12° 50.6 N	284° 27.9	2° 18.3 S	Alphecca	126° 11.9	26° 40.7 N	358° 26.7	21° 01.9 N	142° 18.7	15.0	5° 39.4 S	11.9	55.1	N 40°	03:36	04:15	04:47	21:00	21:25	21:49	21:00	21:25	21:49							
	13	130° 59.7	21° 51.1	45.1	52° 42.5	07.5	95° 26.9	50.7	299° 30.3	18.3	Alpheratz	357° 44.8	29° 09.3 S	13° 26.6	01.5	156° 52.7	15.0	27.5	11.9	35°	03:56	04:31	05:00	20:58	21:25	21:53	20:58	21:25	21:53								
	14	146° 02.2	36° 50.3	44.8	67° 43.1	07.7	110° 29.1	50.8	314° 32.6	18.4	Altair	62° 09.2	8° 54.1 N	28° 26.6	01.0	171° 26.7	15.1	15.6	11.9	30°	04:12	04:44	05:11	20:56	21:26	21:56	20:56	21:26	21:56								
	15	161° 04.7	51° 49.4	44.5	82° 43.7	07.9	125° 31.3	50.9	329° 34.9	18.5	Ankaa	353° 16.8	42° 14.2 S	43° 26.5	00.6	186° 00.8	15.1	03.7	11.9	20°	04:38	05:06	05:30	20:52	21:27	22:01	20:52	21:27	22:01								
	16	176° 07.1	66° 48.6	44.2	97° 44.3	08.0	140° 33.4	51.0	344° 37.3	18.5	Antares	112° 27.7	26° 27.5 S	18° 26.5	00.1	200° 34.9	15.1	4° 51.8 S	11.9	55.0	N 10°	04:58	05:25	05:47	20:49	21:27	22:05	20:49	21:27	22:05							
	17	191° 09.6	81° 47.7	43.9	112° 44.9	08.2	155° 35.6	51.1	359° 39.6	18.6				73° 26.4	20° 59.7 N	215° 09.0	15.2	39.9	11.9	0°	05:15	05:41	06:03	20:46	21:28	22:09	20:46	21:28	22:09								
	18	206° 12.1	96° 46.9	43.6	127° 45.5	08.4	170° 37.7	51.2	14° 41.9	18.7	Arcturus	145° 56.9	19° 07.4 N	88° 26.4	59.3	229° 43.2	15.2	28.0	12.0	S 10°	05:30	05:56	06:18	20:43	21:29	22:14	20:43	21:29	22:14								
	19	221° 14.5	111° 46.0	43.3	142° 46.1	08.5	185° 39.9	51.3	29° 44.3	18.7	Atria	107° 30.3	69° 03.0 S	103° 26.3	58.8	244° 17.4	15.2	16.0	11.9	20°	05:44	06:11	06:34	20:40	21:30	22:18	20:40	21:30	22:18								
	20	236° 17.0	126° 45.2	43.0	157° 46.7	08.7	200° 42.0	51.4	44° 46.6	18.8	Avior	234° 19.3	59° 32.9 S	118° 26.3	58.4	258° 51.6	15.3	04.1	12.0	30°	05:58	06:27	06:53	20:37	21:31	22:23	20:37	21:31	22:23								
	21	251° 19.5	141° 44.3	42.6	172° 47.3	08.9	215° 44.2	51.5	59° 49.0	18.9	Bellatrix	278° 33.7	6° 21.6 N	133° 26.3	57.9	273° 25.9	15.3	3° 52.1 S	11.9	35°	06:05	06:36	07:04	20:35	21:31	22:26	20:35	21:31	22:26								
	22	266° 21.9	156° 43.5	42.3	187° 48.0	09.0	230° 46.3	51.6	74° 51.3	18.9	Betelgeuse	271° 03.0	7° 24.5 N	148° 26.2	57.5	288° 00.2	15.3	40.2	12.0	54.9	40°	06:13	06:46	07:16	20:33	21:32	22:30	20:33	21:32	22:30							
23	281° 24.4	171° 42.6	42.0	202° 48.6	09.2	245° 48.5	51.7	89° 53.6	19.0				163° 26.2	57.0	302° 34.5	15.4	28.2	11.9	45°	06:22	06:58	07:31	20:30	21:32	22:34	20:30	21:32	22:34									
Tuesday	00	296° 26.8	186° 41.8	22° 41.7 N	217° 49.2	23° 09.4 N	260° 50.7	12° 51.8 N	104° 56.0	2° 19.0 S	Canopus	263° 57.3	52° 42.1 S	178° 26.1	20° 56.6 N	317° 08.9	15.4	3° 16.3 S	12.0	54.9	S 50°	06:31	07:12	07:48	20:27	21:33	22:39	20:27	21:33	22:39							
	01	311° 29.3	201° 40.9	41.4	232° 49.8	09.5	275° 52.8	51.9	119° 58.3	19.1	Capella	280° 36.8	46° 00.4 N	193° 26.1	56.2	331° 43.3	15.5	04.3	12.0	52°	06:35	07:18	07:57	20:25	21:34	22:41	20:25	21:34	22:41								
	02	326° 31.8	216° 40.1	41.0	247° 50.4	09.7	290° 55.0	52.0	135° 00.6	19.2	Deneb	49° 32.0	45° 19.4 N	208° 26.0	55.7	346° 17.8	15.4	2° 52.3 S	12.0	54°	06:40	07:25	08:06	20:24	21:34	22:43	20:24	21:34	22:43								
	03	341° 34.2	231° 39.2	40.7	262° 51.0	09.9	305° 57.1	52.1	150° 03.0	19.2	Denebola	182° 35.2	14° 30.5 N	22° 35.0	55.3	0° 52.2	15.5	40.2	12.0	54.8	56°	06:45	07:32	08:16	20:22	21:35	22:46	20:22	21:35	22:46							
	04	356° 36.7	246° 38.4	40.4	277° 51.6	10.0	320° 59.3	52.1	165° 05.3	19.3	Diphda	348° 57.1	17° 55.1 S	238° 25.9	54.8	15° 26.7	15.5	28.3	11.9	58°	06:50	07:40	08:28	20:20	21:35	22:49	20:20	21:35	22:49								
	05	11° 39.2	261° 37.6	40.1	292° 52.2	10.2	336° 01.4	52.2	180° 07.6	19.4				253° 25.9	54.4	30° 01.2	15.6	16.4	12.0	S 60°	06:56	07:50	08:42	20:18	21:36	22:53	20:18	21:36	22:53								
	06	26° 41.6	276° 36.7	39.7	307° 52.8	10.3	351° 03.6	52.3	195° 10.0	19.4	Dubhe	193° 53.7	61° 41.4 N	268° 25.9	53.9	44° 35.8	15.6	04.4	12.0	S 52°	07:03	08:01	08:59	20:16	21:37	22:56	20:16	21:37	22:56								
	07	41° 44.1	291° 35.9	39.4	322° 53.4	10.5	6° 05.8	52.4	210° 12.3	19.5	Elnath	278° 14.6	28° 36.9 N	283° 25.8	53.5	59° 10.4	15.6	1° 52.4 S	12.0																		
	08	56° 46.6	306° 35.0	39.1	337° 54.0	10.7	337° 54.0	52.5	225° 14.7	19.6	Elainor	90° 46.3	51° 29.4 N	298° 25.8	53.0	73° 45.0	15.6	40.4	12.0																		
	09	71° 49.0	321° 34.2	38.8	352° 54.6	10.8	36° 10.1	52.6	240° 17.0	19.6	Enif	33° 48.1	9° 55.8 N	313° 25.7	52.6	88° 19.6	15.7	28.4	11.9	54.7	Lat	Sunset	Twilight		18	Moonset		19	20								
	10	86° 51.5	336° 33.3	38.4	7° 55.2	11.0	51° 12.2	52.7	255° 19.3	19.7	Fomalhaut	15° 25.2	29° 33.3 S	328° 25.7	52.1	102° 54.3	15.6	16.5	12.0																		

**2011 July 21, 22, 23 (Thur, Fri, Sat)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.4			SATURN +0.8			STARS			SUN		MOON					Lat		Twilight		Sunrise		Moonrise		
	GHA	GHA	Dec	GHA	Dec	23° 16.9 N	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil		21	22	23			
Thurs day	00	298° 25' 1	186° 01' 4	22° 25' 0 N	218° 18' 3	23° 17' 9 N	262° 34' 5	12° 56' 2 N	106° 48' 0	2° 22' 2 S	Acamar	315° 19' 4	40° 15' 2 S	178° 24' 3	20° 34' 5 N	296° 59' 4	15' 8	6° 10' 4 N	11' 4	54' 3	54' 3	N 70°	-	-	-	-	20:37	20:10	19:15					
	01	313° 27' 6	201° 00' 6	24' 6	203° 18' 9	17' 0	277° 36' 6	56' 3	121° 50' 3	22' 0	Acnarnar	335° 27' 7	57° 10' 3 S	193° 24' 3	64' 0	311° 34' 2	15' 8	21' 8	11' 4	68°	-	-	-	-	01:11	21:05	20:57	20:47						
	02	328° 30' 0	215° 59' 8	24' 2	248° 19' 5	17' 2	292° 38' 8	56' 4	136° 52' 6	22' 3	Acrux	173° 11' 2	63° 10' 1 S	208° 24' 2	33' 6	326° 09' 1	15' 8	33' 2	11' 3	66°	-	-	-	-	02:04	21:15	21:13	21:12						
	03	343° 32' 5	230° 58' 9	23' 9	263° 20' 1	17' 3	307° 41' 0	56' 5	151° 55' 0	22' 4	Adhara	255° 14' 0	28° 59' 3 S	223° 24' 2	33' 1	340° 43' 9	15' 8	44' 5	11' 3	64°	-	-	-	-	02:35	21:23	21:26	21:31						
	04	358° 35' 0	245° 58' 1	23' 5	278° 20' 7	17' 5	322° 43' 1	56' 5	166° 57' 3	22' 5	Aldebaran	290° 51' 1	16° 31' 9 N	238° 24' 1	32' 6	355° 18' 7	15' 8	55' 8	11' 3	62°	-	-	01:29	02:59	21:31	21:37	21:47							
	05	13° 37' 4	260° 57' 3	23' 1	293° 21' 3	17' 6	337° 45' 3	56' 6	181° 59' 6	22' 5					253° 24' 1	32' 1	9° 53' 5	15' 8	7° 07' 1 N	11' 2	60°	-	-	02:06	03:17	21:37	21:47	22:00						
	06	28° 39' 9	275° 56' 4	22' 7	308° 21' 9	17' 8	352° 47' 5	56' 7	197° 01' 9	22' 6	Alioth	166° 21' 9	55° 54' 0 N	268° 24' 1	31' 7	24° 28' 3	15' 8	18' 3	11' 2	58°	-	-	-	-	02:32	03:32	21:43	21:56	22:12					
	07	43° 42' 4	290° 55' 6	22' 3	323° 22' 5	17' 9	7° 49' 7	56' 8	212° 04' 3	22' 7	Alkaid	152° 59' 9	49° 15' 6 N	283° 24' 0	31' 2	39° 03' 1	15' 7	29' 5	11' 2	56°	01:21	02:52	03:45	21:48	22:03	22:22								
	08	58° 44' 8	305° 54' 8	21' 9	338° 23' 1	18' 0	22° 51' 8	56' 9	227° 06' 6	22' 7	Alnair	27° 44' 9	46° 54' 0 S	298° 24' 0	30' 7	53° 37' 8	15' 8	40' 7	11' 1	54°	01:56	03:09	03:57	21:52	22:10	22:31								
	09	73° 47' 3	320° 53' 9	21' 6	353° 23' 7	18' 2	37° 54' 0	57' 0	242° 08' 9	22' 8	Alnilam	275° 48' 0	1° 11' 7 S	313° 24' 0	30' 2	68° 12' 6	15' 7	51' 8	11' 1	52°	02:20	03:22	04:06	21:56	22:16	22:39								
	10	88° 49' 8	335° 53' 1	21' 2	8° 24' 3	18' 3	52° 56' 2	57' 1	257° 11' 3	22' 9	Alphard	217° 57' 7	8° 42' 6 S	328° 24' 0	29' 7	82° 47' 3	15' 7	8° 02' 9 N	11' 1	50°	02:39	03:34	04:15	22:00	22:21	22:46								
	11	103° 52' 2	350° 52' 3	20' 8	23° 24' 9	18' 5	67° 58' 3	57' 2	272° 13' 6	22' 9					343° 23' 9	29' 3	97° 22' 0	15' 7	14' 0	11' 0	54' 2	45°	03:14	03:59	04:34	22:08	22:33	23:01						
	12	118° 54' 7	5° 51' 4	22° 20' 4 N	38° 25' 5	23° 18' 6 N	83° 00' 5	12° 57' 3 N	287° 15' 9	2° 23' 0 S	Alphecca	126° 12' 0	26° 40' 7 N	358° 23' 9	20° 28' 8 N	111° 56' 7	15' 6	8° 25' 0 N	11' 0	54' 2	N 40°	03:39	04:18	04:49	22:15	22:43	23:14							
	13	133° 57' 2	20° 50' 6	20' 0	53° 26' 2	18' 8	98° 02' 7	57' 3	302° 18' 2	23' 1	Alpheratz	357° 44' 7	29° 09' 3 N	13° 23' 9	28' 3	126° 31' 3	15' 6	36' 0	11' 0	35°	03:58	04:33	05:02	22:21	22:51	23:25								
	14	148° 59' 6	35° 49' 8	19' 6	68° 26' 8	18' 9	113° 04' 9	57' 4	317° 20' 6	23' 1	Altair	62° 09' 2	8° 54' 1 N	28° 23' 8	27' 8	141° 05' 9	15' 7	47' 0	10' 9	30°	04:14	04:46	05:13	22:26	22:59	23:35								
	15	164° 02' 1	50° 48' 9	19' 2	83° 27' 4	19' 1	128° 07' 0	57' 5	332° 22' 9	23' 2	Ankaa	353° 16' 8	42° 14' 2 S	43° 23' 8	27' 3	155° 40' 6	15' 5	57' 9	10' 9	20°	04:39	05:08	05:32	22:35	23:12	23:51								
	16	179° 04' 5	65° 48' 1	18' 8	98° 28' 0	19' 2	143° 09' 2	57' 6	347° 25' 2	23' 3	Antares	112° 27' 7	26° 27' 5 S	58° 23' 8	26' 8	170° 15' 1	15' 6	9° 08' 8 N	10' 9	10°	04:59	05:25	05:48	22:43	23:23	24:05								
	17	194° 07' 0	80° 47' 3	18' 4	113° 28' 6	19' 3	158° 11' 4	57' 7	2° 27' 6	23' 3					73° 23' 7	26' 4	184° 49' 7	15' 5	19' 7	10' 8	0°	05:15	05:41	06:03	22:51	23:34	24:19							
	18	209° 09' 5	95° 46' 4	18' 0	128° 29' 2	19' 5	173° 13' 5	57' 8	17° 29' 9	23' 4	Arcturus	145° 56' 9	19° 07' 4 N	88° 23' 7	25' 9	199° 24' 2	15' 5	30' 5	10' 8	10°	05:30	05:55	06:18	22:59	23:45	24:33								
	19	224° 11' 9	110° 45' 6	17' 6	143° 29' 8	19' 6	188° 15' 7	57' 8	32° 32' 2	23' 5	Atria	107° 30' 3	69° 03' 0 S	103° 23' 7	25' 4	213° 58' 7	15' 5	41' 3	10' 7	20°	05:43	06:10	06:34	23:07	23:56	24:47								
	20	239° 14' 4	125° 44' 8	17' 2	158° 30' 4	19' 8	203° 17' 9	58' 0	47° 34' 5	23' 5	Avior	234° 19' 3	59° 32' 9 S	118° 23' 7	24' 9	228° 33' 2	15' 5	52' 0	10' 7	30°	05:57	06:26	06:52	23:16	-	00:10								
	21	254° 16' 9	140° 44' 0	16' 8	173° 31' 0	19' 9	218° 20' 1	58' 0	62° 36' 9	23' 6	Bellatrix	278° 33' 7	6° 21' 6 N	133° 23' 6	24' 4	243° 07' 7	15' 4	10° 02' 7 N	10' 7	35°	06:04	06:35	07:02	23:22	-	00:17								
	22	269° 19' 3	155° 43' 1	16' 4	188° 31' 6	20' 0	233° 22' 2	58' 1	77° 39' 2	23' 7	Betelgeuse	271° 03' 0	7° 24' 5 N	148° 23' 6	23' 9	257° 42' 1	15' 4	13' 4	10' 6	40°	06:11	06:45	07:14	23:28	-	00:26								
23	284° 21' 8	170° 42' 3	16' 0	203° 32' 2	20' 2	248° 24' 4	58' 2	92° 41' 5	23' 7					163° 23' 6	23' 4	272° 16' 5	15' 3	24' 0	10' 6	45°	06:20	06:56	07:28	23:35	-	00:37								
Fri day	00	299° 24' 3	185° 41' 5	22° 15' 6 N	218° 33' 8	23° 20' 3 N	263° 26' 6	12° 58' 3 N	107° 43' 8	2° 23' 8 S	Canopus	263° 57' 3	52° 42' 4 N	178° 23' 5	20° 23' 0 N	286° 50' 8	15' 4	10° 34' 6 N	10' 6	54' 2	S 50°	06:29	07:09	07:45	23:48	-	00:49							
	01	314° 26' 7	200° 40' 6	25' 2	233° 32' 4	20' 5	278° 28' 8	58' 3	122° 46' 2	23' 9	Capella	280° 36' 8	46° 00' 4 N	193° 23' 5	22' 5	301° 25' 2	15' 3	45' 2	10' 5	52°	06:33	07:15	07:53	23:48	-	00:55								
	02	329° 29' 2	215° 39' 8	14' 8	248° 34' 1	20' 6	293° 30' 9	58' 5	137° 48' 5	23' 9	Deneb	49° 32' 0	45° 19' 4 N	208° 23' 5	22' 0	315° 59' 5	15' 2	55' 7	10' 4	54°	06:37	07:21	08:02	23:52	-	01:02								
	03	344° 31' 6	230° 39' 0	14' 4	263° 34' 7	20' 7	308° 33' 1	58' 6	152° 57' 0	24' 0	Denebola	182° 35' 2	14° 30' 5 N	223° 23' 5	21' 5	330° 33' 7	15' 3	11° 06' 1 N	10' 4	56°	06:42	07:28	08:12	23:57	-	01:09								
	04	359° 34' 1	245° 38' 2	14' 0	278° 35' 3	20' 9	323° 35' 3	58' 7	167° 53' 1	24' 1	Diphda	348° 57' 1	17° 55' 1 S	238° 23' 4	21' 0	345° 08' 0	15' 2	16' 5	10' 4	58°	06:47	07:36	08:24	-	00:03	01:17								
	05	14° 36' 6	260° 37' 3	13' 6	293° 35' 9	21' 0	338° 37' 5	58' 7	182° 55' 5	24' 1					253° 23' 4	20' 5	359° 42' 2	15' 1	26' 9	10' 3	S 60°	06:52	07:45	08:37	-	00:09	01:27							
	06	29° 39' 0	275° 36' 5	13' 2	308° 36' 5	21' 1	353° 39' 6	58' 8	197° 57' 8	24' 2	Dubhe	193° 53' 7	61° 41' 4 N	268° 23' 4	20' 0	14° 16' 3	15' 1	37' 2	10' 3	52°	06:58	07:56	08:53	-	00:17	01:38								
	07	44° 41' 5	290° 35' 7	12' 8	323° 37' 1	21' 3	8° 41' 8	58' 9	213° 00' 1	24' 3	Elnath	278° 14' 6	28° 36' 9 N	283° 23' 4	19' 5	28° 50' 4	15' 1	47' 5	10' 2															
	08	59° 44' 0	305° 34' 8	12' 4	338° 37' 7	21' 4	23° 44' 0	59' 0	228° 02' 5	24' 4	Elainin	90° 46' 3	51° 29' 5 N	298° 23' 3	19' 0	43° 24' 5	15' 1	57' 7	10' 2															
	09	74° 46' 4	320° 34' 0	12' 0	353° 38' 3	21' 6	38° 46' 2	59' 1	243° 04' 8	24' 4	Enif	33° 48' 1	9° 55' 9 N	313° 23' 3	18' 5	57° 58' 6	15' 0	12° 07' 9 N	10' 2															
	10	89° 48' 9	335° 33' 2	11' 6	8° 38' 9	21' 7	53° 48' 3	59' 2	258° 07' 1	24' 5	Fomalhaut	15° 25' 2	29° 33' 3 S	328° 23' 3	18' 0	72° 32' 6	14' 9	18' 1	10' 0															
	11	104° 51' 4	350° 32' 4	11' 1	23° 39' 5	21' 8	68° 50' 5	59' 3	273° 09' 4	24' 6					343° 23' 3	17' 5	87° 06' 5	15' 0	28' 1	10' 1	54' 3	N 72°	-	-	-	12:21	14:17	16:44						
	12	119° 53' 8	5° 31' 5	22° 10' 7 N	38° 40' 1	23° 22' 0 N	83° 52' 7	12° 59' 4 N	288° 11' 8	2° 24' 6 S	Gacrux																							

**2011 July 24, 25, 26 (Sun, Mon, Tue)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.4			SATURN +0.8			STARS			SUN		MOON				Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Civil	Lat	Nautical	Dec	HP	Lat	Dec	Lat	Dec	Lat	Dec	24	25	26			
24 S u n d a y	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	-	-	-	-	-	-	-	-			
	301° 22.5'	185° 02.1'	21° 55.0' N	219° 02.1'	23° 26.6' N	265° 11.2'	13° 02.4' N	109° 35.4'	2° 27.1' S	Acamar	315° 19.4'	40° 15.2' S	178° 22.5'	19° 58.8' N	265° 29.6'	13.0	18° 01.5' N	7.7	54.6	N 70°	-	-	-	-	-	-	-	-			
	01	316° 25.0'	200° 01.2'	54.5	234° 02.7'	26.7	280° 13.4'	02.5	280° 13.4'	27.7	280° 13.4'	57° 10.3' S	230° 22.5'	58.3	280° 01.6'	12.9	09° 21.2'	7.7		68°	-	-	01:33	20:32	-	-	-	-			
	02	331° 27.5'	215° 00.4'	54.1	249° 03.3'	26.8	295° 15.6'	02.6	139° 40.0'	27.3	Acrux	173° 11.2'	63° 10.1' S	208° 22.5'	57.8	294° 33.5'	12.9	16.9	7.6	66°	-	-	02:16	21:12	21:18	21:42	-				
	03	346° 29.9'	229° 59.6'	53.6	264° 03.9'	26.9	310° 17.8'	02.7	154° 42.3'	27.3	Adhara	255° 13.9'	28° 59.3' S	223° 22.5'	57.2	309° 05.4'	12.8	24.5	7.5	64°	-	-	00:39	02:45	21:40	21:59	22:34				
	04	1° 32.4'	244° 58.8'	53.2	279° 04.6'	27.1	325° 20.0'	02.7	169° 44.7'	27.4	Aldebaran	290° 51.1'	16° 31.9' N	238° 22.5'	56.7	323° 37.2'	12.7	32.0	7.5	62°	-	-	01:43	03:06	22:02	22:26	23:07				
	05	16° 34.9'	259° 58.0'	52.7	294° 05.2'	27.2	340° 22.2'	02.8	184° 47.0'	27.5				253° 22.4'	56.2	338° 08.9'	12.7	39.5	7.3	54.7	60°	-	-	02:16	03:24	22:20	22:48	23:31			
	06	31° 37.3'	274° 57.2'	52.2	309° 05.8'	27.3	355° 24.4'	02.9	199° 49.3'	27.6	Alioth	166° 21.9'	55° 54.0' N	268° 22.4'	55.7	352° 40.6'	12.6	46.8	7.3		N 58°	00:36	02:40	03:38	22:34	23:05	23:50				
	07	46° 39.8'	289° 56.4'	51.8	324° 06.4'	27.4	10° 26.6'	03.0	214° 51.6'	27.6	Alkaid	152° 59.9'	49° 15.6' N	283° 22.4'	55.2	7° 12.2'	12.6	54.1	7.2		56°	01:34	02:59	03:50	22:47	23:20	24:06				
	08	61° 42.2'	304° 55.6'	51.3	339° 07.0'	27.5	25° 28.7'	03.1	229° 53.9'	27.7	Alnair	27° 44.9'	46° 54.0' S	298° 22.4'	54.6	21° 43.8'	12.5	19° 01.3' N	7.2		54°	02:05	03:14	04:01	22:58	23:33	24:20				
	09	76° 44.7'	319° 54.7'	50.8	354° 07.6'	27.6	40° 30.9'	03.2	244° 56.2'	27.8	Alnilam	275° 48.0'	1° 11.7' S	313° 22.4'	54.1	36° 15.3'	12.4	08.5	7.0		52°	02:27	03:27	04:11	23:08	23:44	24:32				
	10	91° 47.2'	334° 53.9'	50.4	9° 08.2'	27.8	55° 33.1'	03.2	259° 58.6'	27.8	Alphard	217° 57.7'	8° 42.6' S	328° 22.4'	53.6	50° 46.7'	12.3	15.5	7.0		50°	02:45	03:39	04:19	23:16	23:54	24:42				
	11	106° 49.6'	349° 53.1'	49.9	24° 08.8'	27.9	70° 35.3'	03.3	275° 00.9'	27.9				343° 22.4'	53.1	65° 18.0'	12.3	25.2	6.8		54.8	03:18	04:02	04:37	23:35	-	00:15				
	12	121° 52.1'	4° 52.3'	21° 49.4' N	39° 09.4'	23° 28.0' N	85° 37.5'	13° 03.4' N	290° 03.2'	2° 28.0' S	Alphecca	126° 12.0'	26° 40.7' N	358° 22.3'	19° 52.5' N	79° 49.3'	12.2	19° 29.3' N	6.8		54.8	N 40°	03:42	04:21	04:52	23:50	-	00:33			
	13	136° 54.6'	19° 51.5'	49.0	54° 10.1'	28.1	100° 39.7'	03.5	305° 05.5'	28.1	Alpheratz	357° 44.7'	29° 09.3' S	13° 22.3'	52.0	94° 20.5'	12.2	36.1	6.7		35°	04:01	04:36	05:04	-	00:03	00:47				
	14	151° 57.0'	34° 50.7'	48.5	115° 10.7'	28.2	115° 41.9'	03.6	320° 07.8'	28.1	Altair	62° 09.2'	8° 54.1' N	28° 22.3'	51.5	108° 51.7'	12.1	42.8	6.7		30°	04:16	04:48	05:15	-	00:14	00:59				
	15	166° 59.5'	49° 49.9'	48.0	84° 11.3'	28.3	130° 44.1'	03.6	335° 10.2'	28.2	Ankaa	353° 16.8'	42° 14.2' S	43° 22.3'	51.0	123° 22.8'	12.0	49.5	6.5		20°	04:41	05:09	05:33	-	00:34	01:21				
	16	182° 02.0'	64° 49.1'	47.6	99° 11.9'	28.5	145° 46.3'	03.7	350° 12.5'	28.3	Antares	112° 27.7'	26° 27.5' S	58° 22.3'	50.4	137° 53.8'	12.0	56.0	6.5		54.9	N 10°	05:00	05:26	05:48	00:05	00:51	01:40			
	17	197° 04.4'	79° 48.3'	47.1	114° 12.5'	28.6	160° 48.5'	03.8	5° 14.8'	28.3				73° 22.3'	49.9	152° 24.8'	11.9	20° 02.5' N	6.3		0°	05:15	05:41	06:03	00:19	01:07	01:57				
	18	212° 06.9'	94° 47.5'	46.6	129° 13.1'	28.7	175° 50.6'	03.9	20° 17.1'	28.4	Arcturus	145° 56.9'	19° 07.4' N	88° 22.3'	49.4	166° 55.7'	11.8	08.8	6.3		S 10°	05:29	05:55	06:17	00:33	01:23	02:15				
	19	227° 09.4'	109° 46.6'	46.1	144° 13.7'	28.8	190° 52.8'	04.0	35° 19.4'	28.5	Alraia	107° 30.3'	69° 03.1' S	103° 22.3'	48.9	181° 26.5'	11.8	15.1	6.2		20°	05:43	06:09	06:33	00:47	01:40	02:33				
	20	242° 11.8'	124° 45.8'	45.6	159° 14.3'	28.9	205° 55.0'	04.1	50° 21.8'	28.6	Avior	234° 19.3'	59° 32.9' S	118° 22.3'	48.3	195° 57.3'	11.7	21.3	6.1		30°	05:55	06:25	06:50	01:04	02:00	02:55				
	21	257° 14.3'	139° 45.0'	45.2	174° 15.0'	29.0	220° 57.2'	04.1	65° 24.1'	28.6	Bellatrix	278° 33.7'	6° 21.6' N	133° 22.2'	47.8	210° 28.0'	11.6	27.4	6.0		35°	06:02	06:33	07:00	01:14	02:11	03:08				
22	272° 16.7'	154° 44.2'	44.7	189° 15.6'	29.2	235° 59.4'	04.2	80° 26.4'	28.7	Betelgeuse	271° 03.0'	7° 24.5' N	148° 22.2'	47.3	224° 58.6'	11.5	33.4	5.9		40°	06:09	06:42	07:12	01:25	02:24	03:23					
23	287° 19.2'	169° 43.4'	44.2	204° 16.2'	29.3	251° 01.6'	04.3	95° 28.7'	28.8				163° 22.2'	46.7	239° 29.1'	11.5	39.3	5.8		45°	06:17	06:53	07:25	01:39	02:40	03:40					
25 M o n d a y	302° 21.7'	184° 42.6'	21° 43.7' N	219° 16.8'	23° 29.4' N	266° 03.8'	13° 04.4' N	110° 31.0'	2° 28.8' S	Capella	263° 57.2'	52° 42.0' S	178° 22.2'	19° 46.2' N	253° 59.6'	11.5	20° 45.1' N	5.7	55.0	S 50°	06:26	07:05	07:42	01:55	03:00	04:02					
	01	317° 24.1'	199° 41.8'	43.2	234° 17.4'	29.5	281° 06.0'	04.5	125° 33.3'	28.9	Canopus	280° 36.8'	46° 00.4' N	193° 22.2'	45.7	268° 30.1'	11.3	50.8	5.6		52°	06:29	07:11	07:49	02:03	03:09	04:12				
	02	332° 26.6'	214° 41.0'	42.7	249° 18.0'	29.6	296° 08.2'	04.5	140° 35.7'	29.0	Deneb	49° 31.9'	45° 19.4' N	208° 22.2'	45.2	283° 00.4'	11.3	56.4	5.6	55.1	54°	06:33	07:17	07:58	02:11	03:20	04:28				
	03	347° 29.1'	229° 40.2'	42.3	264° 18.6'	29.7	311° 10.4'	04.6	155° 38.0'	29.1	Denebola	182° 35.2'	14° 30.5' N	223° 22.2'	44.6	287° 30.7'	11.2	21° 02.0' N	5.4		56°	06:38	07:24	08:07	02:21	03:31	04:34				
	04	2° 31.5'	244° 39.4'	41.8	279° 19.2'	29.8	326° 12.6'	04.7	170° 40.3'	29.1	Diphda	348° 57.1'	17° 55.1' S	238° 22.2'	44.1	312° 00.9'	11.2	07.4	5.3		58°	06:43	07:32	08:18	02:32	03:45	04:53				
	05	17° 34.0'	259° 38.6'	41.3	294° 19.9'	29.9	341° 14.8'	04.8	185° 42.6'	29.2				253° 22.2'	43.6	326° 31.1'	11.1	12.7	5.3		S 60°	06:48	07:40	08:31	02:45	04:01	05:12				
	06	32° 36.5'	274° 37.8'	40.8	309° 20.5'	30.0	356° 17.0'	04.9	200° 44.9'	29.3	Dubhe	193° 53.7'	61° 41.4' N	268° 22.2'	43.0	341° 01.2'	11.0	18.0	5.1		S 52°	06:53	07:50	08:46	03:00	04:21	05:36				
	07	47° 38.9'	289° 37.0'	40.3	324° 21.1'	30.2	11° 19.2'	04.9	215° 47.2'	29.3	Elnath	278° 14.6'	28° 36.9' N	283° 22.1'	42.5	355° 31.2'	11.0	23.1	5.0	55.2											
	08	62° 41.4'	304° 36.2'	39.8	339° 21.7'	30.3	26° 21.3'	05.0	230° 49.6'	29.4	Elainon	90° 46.3'	51° 29.5' N	298° 22.1'	42.0	10° 01.2'	10.9	28.1	5.0												
	09	77° 43.8'	319° 35.4'	39.3	354° 22.3'	30.4	41° 23.5'	05.1	245° 51.9'	29.5	Enif	33° 48.1'	9° 55.9' N	313° 22.1'	41.4	24° 31.1'	10.8	33.1	4.8												
	10	92° 46.3'	334° 34.6'	38.8	9° 22.9'	30.5	56° 25.7'	05.2	260° 54.2'	29.6	Fomalhaut	15° 25.1'	29° 33.3' S	328° 22.1'	40.9	39° 00.9'	10.8	37.9	4.8												
	11	107° 48.8'	349° 33.8'	38.3	24° 23.5'	30.6	71° 27.9'	05.3	275° 56.5'	29.6				343° 22.1'	40.3	53° 30.7'	10.7	42.7	4.6		55.3										
	12	122° 51.2'	4° 33.0'	21° 37.8' N	39° 24.1'	23° 30.7' N	86° 30.1'	13° 05.3' N	290° 58.8'	2° 29.7' S	Gacrux	172° 02.7'	57° 11.0' S	358° 22.1'	19° 39.8' N	68° 00.4'	10.6	21° 47.3' N	4.5	55.3	N 72°	-	-	-	-	-	-				
	13	137° 53.7'	19° 32.2'	37.3	54° 24.8'	30.8	101° 32.3'	05.4	306° 01.1'	29.8	Gienah	175° 53.8'	17° 36.5' S	13° 22.1'	39.3	82° 30.0'															

2011 July 27, 28, 29 (Wed, Thur, Fri)

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.4			SATURN +0.8			STARS			SUN		MOON					Twilight		Sunrise		Moonrise			
	GHA	GHA	Dec	GHA	Dec	23° 34.4' N	GHA	Dec	13° 08.2' N	GHA	Dec	2° 32.3' S	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	27	28	29					
Wednesday	00	304° 20.0	184° 04.3	21° 19.2' N	219° 46.3	34.5	267° 49.3	13° 08.2' N	112° 22.1	2° 32.3' S	12° 22.1	2° 32.3' S	Acamar	315° 19.4	40° 15.2' S	178° 22.0	19° 20.1' N	229° 09.0	8.6	23° 19.4' N	0.4	56.3	N 70°	-	-	-	-	-	-	-	-	-	-
	01	319° 22.4	199° 03.5	18.7	234° 46.9	34.5	282° 51.5	08.2	127° 24.4	3.4	282° 51.5	08.2	Acnarnar	335° 27.6	57° 10.3' S	193° 22.0	19.5	243° 36.6	8.6	19.8	0.0	68°	-	-	-	00:25	-	-	-	-	-	25:19	
	02	334° 24.9	214° 02.8	18.2	249° 47.5	34.6	297° 53.8	08.3	142° 26.7	32.5	297° 53.8	08.3	Acrux	173° 11.2	63° 10.1' S	208° 22.0	19.0	258° 04.2	8.5	20.0	0.0	66°	-	-	-	02:28	22:51	-	-	-	-	00:34	
	03	349° 27.3	229° 02.0	17.6	264° 48.1	34.7	312° 56.0	08.4	157° 29.0	32.6	312° 56.0	08.4	Adhara	255° 13.9	28° 59.2' S	223° 22.0	18.4	272° 31.7	8.5	20.0	0.0	56.4	64°	-	01:10	02:54	23:38	-	-	-	-	01:06	
	04	4° 29.8	244° 01.2	17.1	279° 48.7	34.7	327° 58.2	08.5	172° 31.3	32.6	327° 58.2	08.5	Aldebaran	290° 51.1	16° 31.9' N	238° 22.0	17.8	286° 59.2	8.4	20.0	0.2	62°	-	01:57	03:14	-	-	-	00:09	-	01:30		
	05	19° 32.3	259° 00.4	16.6	294° 49.4	34.8	343° 00.4	08.5	187° 33.6	32.7	343° 00.4	08.5		253° 22.0	17.3	301° 26.6	8.4	19.8	0.4	60°	-	02:26	03:30	-	-	-	-	-	00:31	01:49			
	06	34° 34.7	273° 59.6	16.0	309° 50.0	34.9	358° 02.6	08.6	202° 36.0	32.8	358° 02.6	08.6	Alioth	166° 22.0	55° 54.0' N	268° 22.1	16.7	315° 54.0	8.3	19.4	0.4	56.5	N 58°	01:03	02:48	03:44	-	-	-	00:50	02:05		
	07	49° 37.2	288° 58.8	15.5	324° 50.6	35.0	13° 04.8	08.7	217° 38.3	32.9	13° 04.8	08.7	Alkaid	152° 59.9	49° 15.5' N	283° 22.1	16.2	330° 21.3	8.3	19.0	0.6	56°	01:46	03:05	03:56	00:06	01:05	02:18	-	-	-		
	08	64° 39.7	303° 58.0	14.9	339° 51.2	35.1	28° 07.0	08.8	232° 40.6	32.9	28° 07.0	08.8	Alnair	27° 44.9	46° 54.0' S	298° 22.1	15.6	344° 48.6	8.3	18.4	0.7	54°	02:13	03:20	04:06	00:20	01:19	02:29	-	-	-		
	09	79° 42.1	318° 57.2	14.4	354° 51.8	35.2	43° 09.2	08.8	247° 42.9	33.0	43° 09.2	08.8	Alnilam	275° 48.0	1° 11.7' S	313° 22.1	15.0	359° 15.9	8.3	17.7	0.8	56.6	52°	02:34	03:33	04:15	00:32	01:30	02:40	-	-	-	
	10	94° 44.6	333° 56.5	13.8	9° 52.4	35.3	58° 11.4	08.9	262° 45.2	33.1	58° 11.4	08.9	Alphard	217° 57.7	8° 42.6' S	328° 22.1	14.5	13° 43.2	8.2	16.9	1.0	50°	02:51	03:44	04:23	00:42	01:41	02:48	-	-	-		
	11	109° 47.1	348° 55.7	13.3	24° 53.1	35.4	73° 13.6	09.0	277° 47.5	33.2	73° 13.6	09.0		343° 22.1	13.9	28° 10.4	8.1	15.9	1.1	45°	03:22	04:06	04:40	01:04	02:02	03:09	-	-	-	-			
	12	124° 49.5	3° 54.9	21° 12.7' N	39° 53.7	23° 35.5' N	88° 15.8	13° 09.1' N	292° 49.8	2° 33.2' S	88° 15.8	13° 09.1' N	292° 49.8	Alphecca	126° 12.0	26° 40.7' N	358° 22.1	19° 13.3' N	42° 37.5	8.2	23° 14.8' N	1.3	56.7	N 40°	03:45	04:24	04:54	01:22	02:19	03:23	-	-	-
	13	139° 52.0	18° 54.1	12.2	54° 54.3	35.6	103° 18.0	09.1	307° 52.1	33.3	103° 18.0	09.1	Alpheratz	357° 44.7	29° 09.3' N	13° 22.1	12.8	57° 04.7	8.1	13.5	1.3	35°	04:04	04:38	05:06	01:37	02:34	03:36	-	-	-		
	14	154° 54.5	33° 53.3	11.6	69° 54.9	35.7	118° 20.2	09.2	322° 54.4	33.4	118° 20.2	09.2	Altair	62° 09.2	8° 54.1' N	28° 22.1	12.2	71° 31.8	8.1	12.2	1.6	30°	04:19	04:50	05:16	01:50	02:47	03:48	-	-	-		
	15	169° 56.9	48° 52.5	11.1	84° 55.5	35.8	133° 22.5	09.3	337° 56.7	33.5	133° 22.5	09.3	Ankaa	353° 16.8	42° 14.2' S	43° 22.1	11.6	85° 58.9	8.0	10.6	1.6	56.8	20°	04:42	05:10	05:34	02:13	03:08	04:07	-	-	-	
	16	184° 59.4	63° 51.8	10.5	99° 56.1	35.8	148° 24.7	09.4	352° 59.1	33.5	148° 24.7	09.4	Antares	112° 27.7	26° 27.5' S	58° 22.1	11.1	100° 25.9	8.1	09.0	1.8	50°	05:00	05:27	05:49	02:32	03:27	04:24	-	-	-		
	17	200° 01.8	78° 51.0	10.0	114° 56.8	35.9	163° 26.9	09.4	8° 01.4	33.6	163° 26.9	09.4		73° 22.1	10.5	114° 53.0	8.0	07.2	1.9	0°	05:16	05:41	06:03	02:50	03:45	04:40	-	-	-				
	18	215° 04.3	93° 50.2	09.4	129° 57.4	36.0	178° 29.1	09.5	23° 03.7	33.7	178° 29.1	09.5	Arcturus	145° 56.9	19° 07.4' N	88° 22.1	09.9	129° 20.0	7.9	05.3	2.0	50°	05:29	05:55	06:17	03:08	04:02	04:56	-	-	-		
	19	230° 06.8	108° 49.4	08.9	144° 58.0	36.1	193° 31.3	09.6	38° 06.0	33.8	193° 31.3	09.6	Arctria	107° 30.3	69° 03.1' S	103° 22.1	09.4	143° 46.9	8.0	03.3	2.2	56.9	20°	05:42	06:08	06:32	03:28	04:21	05:13	-	-	-	
	20	245° 09.2	123° 48.6	08.3	159° 58.6	36.2	208° 33.5	09.7	53° 08.3	33.8	208° 33.5	09.7	Avior	234° 19.2	59° 32.9' S	118° 22.1	08.8	158° 13.9	7.9	01.1	2.3	30°	05:54	06:23	06:48	03:50	04:43	05:32	-	-	-		
	21	260° 11.7	138° 47.8	07.8	174° 59.2	36.3	223° 35.7	09.7	68° 10.6	33.9	223° 35.7	09.7	Bellatrix	278° 33.7	6° 21.6' N	133° 22.1	08.2	172° 40.8	7.9	22° 58.8' N	2.5	35°	06:00	06:31	06:58	04:03	04:55	05:43	-	-	-		
	22	275° 14.2	153° 47.1	07.2	189° 59.9	36.4	238° 37.9	09.8	83° 12.9	34.0	238° 37.9	09.8	Betelgeuse	271° 03.0	7° 24.5' N	148° 22.1	07.7	187° 07.7	7.9	56.3	2.5	57.0	40°	06:07	06:40	07:09	04:18	05:10	05:56	-	-	-	
23	290° 16.6	168° 46.3	06.6	205° 00.5	36.5	253° 40.1	09.9	98° 15.2	34.1	253° 40.1	09.9		163° 22.2	07.1	201° 34.6	7.9	53.8	2.8	45°	06:14	06:50	07:22	04:36	05:27	06:11	-	-	-					
Thursday	00	305° 19.1	183° 45.5	21° 06.1' N	220° 01.1	23° 36.6' N	268° 42.3	13° 10.9' N	113° 17.5	2° 34.1' S	113° 17.5	2° 34.1' S	Canopus	263° 57.2	52° 42.0' S	178° 22.2	19° 06.5' N	216° 01.5	7.8	22° 51.0' N	2.8	57.0	S 50°	06:22	07:02	07:38	04:59	05:48	06:38	-	-	-	
	01	320° 21.6	198° 44.7	20.5	235° 01.7	36.6	283° 44.6	10.0	128° 19.8	34.2	283° 44.6	10.0	Capella	280° 36.7	46° 00.4' N	193° 22.2	05.9	230° 28.3	7.9	48.0	3.0	57.1	S 50°	06:26	07:07	07:45	05:10	05:58	06:30	-	-	-	
	02	335° 24.0	213° 43.9	05.0	250° 02.3	36.7	298° 46.8	10.1	143° 22.1	34.3	298° 46.8	10.1	Deneb	49° 31.9	45° 19.4' N	208° 22.2	05.4	244° 55.2	7.8	45.2	3.1	54°	06:30	07:13	07:53	05:22	06:10	06:48	-	-	-		
	03	350° 26.5	228° 43.2	04.4	265° 02.9	36.8	313° 49.0	10.2	182° 35.2	34.4	313° 49.0	10.2	Denebola	182° 35.2	14° 30.5' N	223° 22.2	04.8	259° 22.0	7.8	42.1	3.2	56°	06:34	07:20	08:02	05:36	06:23	06:59	-	-	-		
	04	5° 28.9	243° 42.4	03.8	280° 03.6	36.9	328° 51.2	10.3	173° 26.7	34.4	328° 51.2	10.3	Diphda	348° 57.1	17° 55.1' S	238° 22.2	04.2	273° 48.8	7.8	38.8	3.4	57.2	58°	06:38	07:27	08:13	05:52	06:38	07:12	-	-	-	
	05	20° 31.4	258° 41.6	03.3	295° 04.2	37.0	343° 53.4	10.3	188° 29.1	34.5	343° 53.4	10.3		253° 22.2	03.7	288° 15.6	7.7	35.4	3.5	50°	06:43	07:35	08:25	06:12	06:56	07:26	-	-	-				
	06	35° 33.9	273° 40.8	02.7	310° 04.8	37.1	358° 55.6	10.4	203° 31.4	34.6	358° 55.6	10.4	Dubhe	193° 53.7	61° 41.4' N	268° 22.2	03.1	302° 42.3	7.8	31.9	3.7	50°	06:48	07:44	08:39	06:36	07:18	07:44	-	-	-		
	07	50° 36.3	288° 40.0	02.1	325° 05.4	37.1	13° 57.8	10.5	218° 33.7	34.7	13° 57.8	10.5	Elnath	278° 14.6	28° 36.9' N	283° 22.2	02.5	317° 09.1	7.7	28.2	3.8	57.3	S 62°	06:48	07:44	08:39	06:36	07:18	07:44	-	-	-	
	08	65° 38.8	303° 39.3	01.6	340° 06.0	37.2	29° 00.0	10.5	233° 36.0	34.7	29° 00.0	10.5	Enif	90° 46.3	51° 29.5' N	298° 22.2	01.9	331° 35.8	7.8	24.4	3.9	50°	06:54	07:50	08:46	06:43	07:39	08:35	-	-	-		
	09	80° 41.3	318° 38.5	01.0	355° 06.7	37.3	44° 02.3	10.6	248° 38.3	34.8	44° 02.3	10.6	Fomalhaut	33° 48.1	9° 55.9' N	313° 22.3	01.4</																



2011 Jul 30, 31, Aug. 1 (Sat, Sun, Mon)

Main table containing astronomical data for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, and twilight/sunrise/moonrise times. Columns include GMT, planet name, coordinates, magnitude, and various time-related metrics.



**2011 August 5, 6, 7 (Fri, Sat, Sun)**

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.5			SATURN +0.8			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	N 72°	Nautical	Civil	5	6	7	5	6	7				
Friday	00	313° 12.2	181° 23.4	18° 59.4 N	222° 01'6	23° 46'6 N	275° 52.1	13° 22.4 N	120° 38.3	2° 49'5 S	Acamar	315° 19.3	40° 15.2 S	178° 28'6	17° 07.1 N	113° 42.9	8'8	12° 59.3 S	11.9	59.6	N 70°	-	-	-	00:51	15:05	-	-	-	-	-	-			
	01	328° 14.7	196° 22.7	58.7	237° 02.2	46.6	290° 54.4	22.4	135° 40.6	49.6	Acnarnar	335° 27.5	57° 10.3 S	193° 28'7	06.4	128° 10.7	8.8	13° 11.2 S	11.8	68°	68°	-	-	-	02:02	14:21	-	-	-	-	-	-			
	02	343° 17.1	211° 22.0	57.9	252° 02.8	46.6	305° 56.6	22.5	150° 42.9	49.7	Acrux	173° 11.3	63° 10.1 S	208° 28.8	05.8	142° 38.5	8.7	23.0	11.8	66°	-	01:20	03:03	03:03	13:31	15:26	17:20	13:31	15:26	17:20	13:31	15:26	17:20		
	03	358° 19.6	226° 21.3	57.1	267° 03.5	46.6	320° 58.9	22.5	165° 45.2	49.7	Adhara	255° 13.9	28° 59.2 S	223° 28.8	05.1	157° 06.2	8.7	34.8	11.6	59.5	64°	-	02:05	03:23	03:23	13:14	14:59	16:38	13:14	14:59	16:38	13:14	14:59	16:38	
	04	13° 22.1	241° 20.6	56.4	282° 04.1	46.7	336° 01.2	22.6	180° 47.5	49.8	Aldebaran	290° 51.0	16° 31.9 N	238° 28.9	04.4	171° 33.9	8.6	46.4	11.6	62°	-	02:33	03:38	03:38	13:00	14:38	16:09	13:00	14:38	16:09	13:00	14:38	16:09		
	05	28° 24.5	256° 19.9	55.6	297° 04.7	46.7	351° 03.4	22.6	195° 49.7	49.9						186° 01.5	8.6	58.0	11.4	60°	01:12	02:54	03:52	12:48	14:22	15:48	12:48	14:22	15:48	12:48	14:22	15:48			
	06	43° 27.0	271° 19.2	54.9	312° 05.4	46.7	6° 05.7	22.7	210° 52.0	50.0	Alioth	166° 22.0	55° 54.0 N	268° 29.0	03.1	200° 29.1	8.6	14° 09.4 S	11.4			N 58°	01:53	03:12	04:03	12:38	14:08	15:30	12:38	14:08	15:30	12:38	14:08	15:30	
	07	58° 29.5	286° 18.5	54.1	327° 06.0	46.7	21° 08.0	22.8	225° 54.3	50.1	Alkaid	153° 00.0	49° 15.5 N	283° 29.1	02.4	214° 56.7	8.5	20.8	11.3			56°	02:19	03:26	04:13	12:30	13:55	15:15	12:30	13:55	15:15	12:30	13:55	15:15	
	08	73° 31.9	301° 17.8	53.4	342° 06.7	46.7	36° 10.2	22.8	240° 56.6	50.2	Alnair	27° 44.9	46° 54.0 S	298° 29.1	01.7	229° 24.2	8.5	32.1	11.2			54°	02:39	03:38	04:21	12:22	13:45	15:02	12:22	13:45	15:02	12:22	13:45	15:02	
	09	88° 34.4	316° 17.1	52.6	357° 07.3	46.7	51° 12.5	22.9	255° 58.9	50.3	Alnilam	275° 47.9	1° 11.6 S	313° 29.2	01.1	243° 51.7	8.4	43.3	11.1			52°	02:55	03:49	04:29	12:15	13:36	14.51	12:15	13:36	14.51	12:15	13:36	14.51	
	10	103° 36.8	331° 16.4	51.8	12° 07.9	46.8	66° 14.8	22.9	271° 01.2	50.3	Alphard	217° 57.7	8° 42.6 S	328° 29.3	00.4	258° 19.1	8.4	54.4	11.0	59.4	50°	03:09	03:58	04:36	12:09	13:27	14.41	12:09	13:27	14.41	12:09	13:27	14.41		
	11	118° 39.3	346° 15.7	51.1	27° 08.6	46.8	81° 17.0	23.0	186° 03.4	50.4						343° 29.3	16° 59.7 N	272° 46.5	8.4	15° 05.4 S	10.9	45°	03:36	04:17	04:51	11:55	13:10	14.20	11:55	13:10	14.20	11:55	13:10	14.20	
	12	133° 41.8	1° 15.0	18° 50.3 N	42° 09.2	23° 46.8 N	96° 19.3	13° 23.0 N	301° 05.7	2° 50.5 S	Alphecca	126° 12.0	26° 40.7 N	358° 29.4	16° 59.0 N	287° 13.9	8.3	15° 16.3 S	10.8	59.4	N 40°	03:56	04:33	05:03	11:44	12:55	14.03	11:44	12:55	14.03	11:44	12:55	14.03		
	13	148° 44.2	16° 14.3	49.5	57° 09.9	46.8	111° 21.6	23.1	316° 08.0	50.6	Alpheratz	357° 44.6	29° 09.3 N	13° 29.4	58.4	301° 41.2	8.3	27.1	10.7			35°	04:12	04:45	05:13	11:35	12:43	13.49	11:35	12:43	13.49	11:35	12:43	13.49	
	14	163° 46.7	31° 13.6	48.8	72° 10.5	46.8	126° 23.8	23.1	331° 10.3	50.7	Altair	62° 09.2	8° 54.2 N	28° 29.5	57.7	316° 08.5	8.2	37.8	10.6			30°	04:25	04:56	05:22	11:27	12:32	13.37	11:27	12:32	13.37	11:27	12:32	13.37	
	15	178° 49.2	46° 12.9	48.0	87° 11.1	46.8	141° 26.1	23.2	346° 12.6	50.8	Ankaa	353° 16.7	42° 14.2 S	43° 29.6	57.0	330° 35.7	8.2	48.4	10.6			20°	04:46	05:14	05:37	11:13	12:14	13.16	11:13	12:14	13.16	11:13	12:14	13.16	
	16	193° 51.6	61° 12.2	47.2	102° 11.8	46.8	156° 28.4	23.2	1° 14.9	50.8	Antares	112° 27.7	26° 27.5 S	58° 29.6	56.3	345° 02.9	8.1	59.0	10.4			N 10°	05:02	05:28	05:50	11:00	11:59	12.58	11:00	11:59	12.58	11:00	11:59	12.58	
	17	208° 54.1	76° 11.6	46.5	117° 12.4	46.8	171° 30.7	23.3	16° 17.1	50.9						73° 29.7	55.7	359° 30.0	8.1	16° 09.4 S	10.3	59.3	0°	05:16	05:41	06:02	10:49	11:44	12.41	10:49	11:44	12.41	10:49	11:44	12.41
	18	223° 56.6	91° 10.9	45.7	132° 13.1	46.9	186° 32.9	23.4	31° 19.4	51.0	Arcturus	145° 56.9	19° 07.5 N	88° 29.8	55.0	13° 57.1	8.1	19.7	10.2			S 10°	05:27	05:53	06:15	10:38	11:30	12.24	10:38	11:30	12.24	10:38	11:30	12.24	
	19	238° 59.0	106° 10.2	44.9	147° 13.7	46.9	201° 35.2	23.4	46° 21.7	51.1	Crux	107° 30.4	69° 03.1 S	103° 29.8	54.3	28° 24.2	8.0	29.7	10.2			20°	05:38	06:04	06:27	10:26	11:14	12.06	10:26	11:14	12.06	10:26	11:14	12.06	
	20	254° 01.5	121° 09.5	44.2	162° 14.3	46.9	216° 37.5	23.5	61° 24.0	51.2	Avior	234° 19.2	59° 32.8 S	118° 29.9	53.6	42° 51.2	8.0	40.0	10.0			30°	05:48	06:17	06:42	10:12	10:57	11.46	10:12	10:57	11.46	10:12	10:57	11.46	
	21	269° 03.9	136° 08.8	43.4	177° 15.0	46.9	231° 39.7	23.5	76° 26.3	51.3	Bellatrix	278° 33.6	6° 21.6 N	133° 30.0	52.9	57° 18.2	7.9	50.0	9.9			35°	05:54	06:24	06:50	10:05	10:47	11.34	10:05	10:47	11.34	10:05	10:47	11.34	
	22	284° 06.4	151° 08.1	42.6	192° 15.6	46.9	246° 42.0	23.6	91° 28.5	51.4	Betelgeuse	271° 02.9	7° 24.5 N	148° 30.0	52.3	71° 45.1	7.9	59.9	9.7			35°	05:59	06:31	07:00	09:56	10:35	11.20	09:56	10:35	11.20	09:56	10:35	11.20	
23	299° 08.9	166° 07.4	41.8	207° 16.3	46.9	261° 44.3	23.6	106° 30.8	51.4						163° 30.1	51.6	86° 12.0	7.9	17° 09.6 S	9.7	59.2	45°	06:05	06:40	07:11	09:46	10:21	11.04	09:46	10:21	11.04	09:46	10:21	11.04	
Saturday	00	314° 11.3	181° 06.7	18° 41.1 N	222° 16.9	23° 46.9 N	276° 46.6	13° 23.7 N	121° 33.1	2° 51.5 S	Canopus	263° 57.2	52° 42.0 S	178° 30.1	16° 50.9 N	100° 38.9	7.8	17° 19.3 S	9.6	59.2	S 50°	06:11	06:50	07:24	09:33	10:05	10.44	09:33	10:05	10.44	09:33	10:05	10.44		
	01	329° 13.8	196° 06.1	40.3	237° 17.5	46.9	291° 48.8	23.7	136° 35.4	51.6	Capella	280° 36.7	46° 00.4 N	193° 30.2	50.2	115° 05.7	7.7	28.9	9.6			52°	06:14	06:54	07:31	09:28	09:57	10.34	09:28	09:57	10.34	09:28	09:57	10.34	
	02	344° 16.3	211° 05.4	39.5	252° 18.2	46.9	306° 51.1	23.8	151° 37.7	51.7	Deneb	49° 31.9	45° 19.5 N	208° 30.3	49.5	129° 32.4	7.8	38.3	9.3			54°	06:16	06:59	07:37	09:21	09:49	10.12	09:21	09:49	10.12	09:21	09:49	10.12	
	03	359° 18.7	226° 04.7	38.7	267° 18.8	47.0	321° 53.4	23.8	166° 40.0	51.8	Denebola	182° 35.2	14° 30.5 N	223° 30.3	48.9	143° 59.2	7.6	47.6	9.3			56°	06:19	07:04	07:45	09:14	09:39	10.24	09:14	09:39	10.24	09:14	09:39	10.24	
	04	14° 21.2	241° 04.0	37.9	282° 19.5	47.0	336° 55.6	23.9	181° 42.2	51.9	Diphda	348° 57.0	17° 55.1 S	238° 30.4	48.2	158° 25.8	7.7	56.9	9.1			58°	06:23	07:10	07:54	09:07	09:28	09.58	09:07	09:28	09.58	09:07	09:28	09.58	
	05	29° 23.7	256° 03.3	37.2	297° 20.1	47.0	351° 57.9	23.9	196° 44.5	52.0						253° 30.5	47.5	172° 52.5	7.6	18° 06.0 S	9.0	59.1	S 60°	06:26	07:17	08:04	08:58	09:16	09.42	08:58	09:16	09.42	08:58	09:16	09.42
	06	44° 26.1	271° 02.6	36.4	312° 20.8	47.0	7° 00.2	24.0	211° 46.8	52.0	Dubhe	193° 53.8	61° 41.4 N	268° 30.5	46.8	187° 19.1	7.6	15.0	8.8			S 62°	06:30	07:24	08:15	08:48	09:01	09.23	08:48	09:01	09.23	08:48	09:01	09.23	







2011 August 17, 18, 19 (Wed, Thur, Fri)

Main table containing astronomical data for planets (Aries, Venus, Mars, Jupiter, Saturn), stars, sun, moon, twilight, sunrise, moonrise, moonset, and moon phases for days 17, 18, and 19.





Main data table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Civil, Nautical), Sunrise, 23, Moonrise (24, 25).







2011 September 4, 5, 6 (Sun, Mon, Tue)

Table with 27 columns: GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and various astronomical data including Right Ascension, Declination, Magnitude, and Time. Includes rows for Sun (Sunday) and Moon (Monday, Tuesday).

2011 September 7, 8, 9 (Wed, Thur, Fri)

Main data table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and Twilight/Sunrise/Moonrise data. Includes rows for Wednesday, Thursday, and Friday.







2011 September 16, 17, 18 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +1.4			JUPITER -2.8			SATURN +0.8			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	16	17	18	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	02:21	04:03	05:14	15:32	-	-					
Friday	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°	02:21	04:03	05:14	15:32	-	-	
	01	354° 36' 0	173° 04' 4	0° 44' 9 N	234° 11' 9	21° 25' 5 N	316° 38' 7	13° 25' 3 N	158° 12' 3	4° 31' 5 S	Acamar	315° 19' 0	40° 15' 2 S	181° 13' 1	2° 51' 6 N	325° 48' 8	14' 1	15° 38' 4 N	8' 6	54.0	N 70°	02:49	04:15	05:19	16:40	-	-					
	02	9° 38' 5	188° 04' 0	43.6	249° 12' 8	25.2	331° 41' 3	25.2	173° 14' 5	31' 6	Acnarnar	335° 27' 1	57° 10' 4 S	196° 13' 0	50.6	340° 21' 9	14' 0	47' 0	8.5	68°	03:09	04:25	05:22	17:17	17:05	-						
	03	24° 40' 9	203° 03' 6	42.3	264° 13' 6	24.9	346° 43' 9	25.2	188° 16' 7	31' 7	Acruz	173° 11' 5	63° 09' 9 S	211° 13' 5	49.6	354° 54' 9	14' 0	55' 5	8' 4	66°	03:25	04:32	05:25	17:43	17:47	17:58						
	04	39° 43' 4	218° 03' 3	41.1	279° 14' 4	24.7	1° 46' 5	25.1	203° 18' 9	31' 8	Adhara	255° 13' 6	28° 59' 1 S	226° 13' 8	48.7	9° 27' 9	14' 0	226° 03' 9 N	8' 4	64°	03:38	04:39	05:27	18:03	18:15	18:37						
	05	54° 45' 9	233° 02' 9	39.8	294° 15' 3	24.4	16° 49' 1	25.1	218° 21' 1	31' 9	Aldebaran	290° 50' 7	16° 32' 0 N	241° 14' 0	47.7	24° 00' 9	13' 9	12' 3	8' 3	62°	03:49	04:44	05:30	18:20	18:37	19:04						
	06	69° 48' 3	248° 02' 5	38.5	309° 16' 1	24.1	31° 51' 7	25.0	233° 23' 3	32' 0				256° 14' 2	46.8	38° 33' 8	13' 9	20' 6	8' 3	54.1	60°	03:58	04:49	05:31	18:33	18:54	19:25					
	07	84° 50' 8	263° 02' 2	37.2	324° 17' 0	23.8	46° 54' 3	25.0	248° 25' 5	32' 1	Alioth	166° 22' 2	55° 53' 8 N	271° 14' 4	45.8	53° 06' 7	13' 9	28' 9	8' 2	N 58°	04:05	04:53	05:33	18:45	19:09	19:48						
	08	99° 53' 3	278° 01' 8	36.0	339° 17' 8	23.5	61° 56' 9	24.9	263° 27' 7	32' 2	Alkaid	153° 00' 2	49° 15' 4 N	286° 14' 7	44.8	67° 39' 6	13' 7	37' 1	8' 1	56°	04:12	04:57	05:35	18:56	19:22	19:57						
	09	114° 55' 7	293° 01' 4	34.7	354° 18' 6	23.0	76° 59' 5	24.9	278° 29' 9	32' 4	Alnair	27° 44' 8	46° 54' 1 S	301° 14' 9	43.9	82° 12' 3	13' 8	45' 2	8' 0	54°	04:17	05:00	05:36	19:05	19:33	20:09						
	10	129° 58' 2	308° 01' 0	33.4	9° 19' 5	23.3	92° 02' 0	24.8	293° 32' 1	32' 5	Alnilam	275° 47' 6	1° 11' 6 S	316° 15' 1	42.9	96° 45' 1	13' 7	53' 2	8' 0	52°	04:22	05:03	05:37	19:13	19:43	20:20						
	11	145° 00' 7	323° 00' 7	32.2	24° 20' 3	22.7	107° 04' 6	24.8	308° 34' 3	32' 6	Alphard	217° 57' 6	8° 42' 5 S	331° 15' 3	41.9	111° 17' 8	13' 6	17° 01' 2 N	7' 9	50°	04:27	05:06	05:38	19:20	19:52	20:30						
	12	160° 03' 1	338° 00' 3	30.9	39° 21' 1	22.4	122° 07' 2	24.7	323° 36' 5	32' 7				346° 15' 6	41.0	125° 50' 4	13' 6	09' 2	7' 8	45°	04:36	05:11	05:40	19:36	20:10	20:51						
	13	175° 05' 6	352° 59' 9	0° 29' 6 N	54° 22' 0	21° 22' 2 N	137° 09' 8	13° 24' 6 N	338° 38' 7	4° 32' 8 S	Alphecca	126° 12' 2	26° 40' 7 N	1° 15' 8	2° 40' 0 N	140° 23' 0	13' 6	17° 16' 9 N	7' 7	54.1	N 40°	04:43	05:15	05:42	19:49	20:26	21:08					
	14	190° 08' 0	7° 59' 6	28.3	69° 22' 8	21.9	152° 12' 4	24.6	353° 40' 9	32' 9	Alpheratz	357° 44' 4	29° 09' 5 N	16° 16' 0	39.1	154° 55' 6	13' 5	24' 6	7' 7	35°	04:49	05:19	05:44	20:00	20:39	21:22						
	15	205° 10' 5	22° 59' 2	27.1	167° 25' 0	21.6	167° 15' 0	24.5	8° 43' 1	33' 0	Altair	62° 09' 3	8° 54' 2 N	31° 16' 2	38.0	169° 28' 1	13' 5	32' 3	7' 6	30°	04:53	05:21	05:45	20:10	20:50	21:35						
	16	220° 13' 0	37° 58' 8	25.8	99° 24' 5	21.3	182° 17' 6	24.5	23° 45' 3	33' 1	Ankaa	353° 16' 5	42° 14' 3 S	46° 16' 4	37.1	184° 00' 6	13' 4	39' 9	7' 5	20°	05:00	05:26	05:48	20:27	21:09	21:56						
	17	235° 15' 4	52° 58' 5	24.5	114° 25' 3	21.0	197° 20' 2	24.0	38° 47' 5	33' 3	Antares	112° 27' 9	26° 27' 5 S	61° 16' 7	36.2	198° 33' 0	13' 4	47' 4	7' 5	N 10°	05:04	05:29	05:50	20:41	21:26	22:14						
	18	250° 17' 9	67° 58' 1	23.2	129° 26' 2	20.8	212° 22' 8	24.4	53° 49' 7	33' 4				76° 16' 9	35.2	213° 05' 4	13' 3	54' 9	7' 4	0°	05:07	05:31	05:51	20:55	21:42	22:31						
	19	265° 20' 4	82° 57' 7	22.0	144° 27' 0	20.5	227° 25' 4	24.3	68° 51' 9	33' 5	Arcturus	145° 57' 1	19° 07' 4 N	91° 17' 1	34.2	227° 37' 7	13' 3	18° 02' 3 N	7' 3	S 10°	05:08	05:32	05:53	21:09	21:58	22:49						
	20	280° 22' 8	97° 57' 4	20.7	159° 27' 8	20.2	242° 28' 0	24.0	83° 54' 1	33' 6	Atria	107° 30' 9	69° 03' 1 S	106° 17' 3	33.3	242° 10' 0	13' 2	09' 6	7' 2	20°	05:07	05:33	05:55	21:24	22:15	23:07						
	21	295° 25' 3	112° 57' 0	19.4	174° 28' 7	19.9	257° 30' 6	24.2	98° 56' 3	33' 7	Avior	234° 19' 0	59° 32' 7 S	121° 17' 6	32.3	256° 42' 2	13' 2	16' 8	7' 1	30°	05:05	05:32	05:56	21:41	22:35	23:29						
	22	310° 27' 8	127° 56' 6	18.2	189° 29' 5	19.6	272° 33' 2	24.2	113° 58' 5	33' 8	Bellatrix	278° 33' 3	6° 21' 7 N	136° 17' 8	31.3	271° 14' 4	13' 1	23' 9	7' 1	35°	05:03	05:32	05:57	21:51	22:47	23:41						
23	325° 30' 2	142° 56' 3	16.9	204° 30' 4	19.4	287° 35' 9	24.1	129° 00' 7	33' 9	Betelgeuse	271° 02' 7	7° 24' 6 N	151° 18' 0	30.4	285° 46' 5	13' 1	31' 0	7' 0	40°	05:00	05:31	05:58	22:03	23:00	23:56							
23	340° 32' 7	157° 55' 9	15.6	219° 31' 2	19.1	302° 38' 5	24.1	144° 02' 9	34' 1				166° 18' 2	29.4	300° 18' 6	13' 0	38' 0	6' 9	45°	04:56	05:30	05:59	22:16	23:16	24:13							
Saturday	00	355° 35' 2	172° 55' 5	0° 14' 3 N	234° 32' 0	21° 18' 8 N	317° 41' 1	13° 24' 0 N	159° 05' 1	4° 34' 2 S	Capopus	263° 56' 8	52° 41' 9 N	181° 18' 5	2° 28' 4 N	314° 50' 6	13' 0	18° 44' 9 N	6' 8	54.2	S 50°	04:51	05:29	06:01	22:23	23:35	24:34					
	01	10° 37' 6	187° 55' 2	13.1	249° 32' 9	18.5	332° 43' 7	24.0	174° 07' 3	34' 3	Canopus	280° 36' 2	46° 00' 4 N	196° 18' 7	27.5	329° 22' 6	12' 9	51' 7	6' 8	52°	04:49	05:28	06:01	22:41	23:45	24:45						
	02	25° 40' 1	202° 54' 8	11.8	264° 33' 7	18.2	347° 46' 3	23.9	189° 09' 5	34' 4	Deneb	49° 32' 0	45° 19' 7 N	211° 18' 9	26.5	343° 54' 5	12' 9	58' 5	6' 6	54°	04:46	05:27	06:02	22:50	23:55	24:56						
	03	40° 42' 5	217° 54' 0	10.5	279° 34' 6	17.9	2° 48' 9	23.9	204° 11' 7	34.5	Denebola	182° 35' 2	14° 30' 4 N	226° 19' 4	25.6	358° 26' 4	12' 8	19° 05' 1 N	6' 6	56°	04:42	05:26	06:03	22:59	-	00:07						
	04	55° 45' 0	232° 54' 1	09.2	294° 35' 4	17.7	17° 51' 5	23.8	219° 13' 9	34' 6	Diphda	348° 56' 8	17° 55' 1 S	241° 19' 4	24.6	12° 58' 2	12' 8	11' 7	6' 5	58°	04:39	05:25	06:04	23:11	-	00:21						
	05	70° 47' 5	247° 53' 7	08.0	309° 36' 2	17.4	32° 54' 1	23.8	234° 16' 1	34' 7				256° 19' 6	23' 6	27° 30' 0	12' 8	18' 2	6' 4	S 60°	04:34	05:23	06:04	23:24	-	00:37						
	06	85° 49' 9	262° 53' 3	06.7	324° 37' 1	17.1	47° 56' 7	23.7	249° 18' 3	34' 8	Dubhe	193° 53' 8	61° 41' 2 N	271° 19' 8	22.7	42° 01' 8	12' 6	24' 6	6' 4	S 52°	04:29	05:21	06:05	23:39	-	00:56						
	07	100° 52' 4	277° 52' 9	05.4	339° 37' 9	16.8	62° 59' 3	23.6	264° 20' 5	35' 0	Elnath	278° 14' 2	28° 36' 9 N	286° 20' 0	21.7	56° 33' 4	12' 7	31' 0	6' 2	54.3												
	08	115° 54' 9	292° 52' 6	04.1	354° 38' 8	16.5	90° 46' 7	23.7	279° 22' 7	35' 1	Elainin	90° 46' 7	51° 29' 6 N	301° 20' 3	20.7	71° 05' 1	12' 6	37' 2	6' 2													
	09	130° 57' 3	307° 52' 2	02.9	9° 39' 6	16.3	93° 04' 5	23.6	294° 24' 9	35' 2	Enif	33° 48' 1	9° 56' 0 N	316° 20' 5	19.8	85° 36' 7	12' 5	43' 4	6' 0													
	10	145° 59' 8	322° 51' 8	01.6	24° 40' 4	16.0	108° 07' 1	23.5	309° 27' 1	35' 3	Fomalhaut	15° 25' 0	29° 33' 4 S	331° 20' 7	18.8	100° 08' 2	12' 5	49' 4	6' 0													
	11	161° 02' 3	337° 51' 5	00.3	39° 41' 3	15.7	123° 09' 7	23.4	324° 29' 3	35' 4				346° 20' 9	17.8	114° 39' 7	12' 4	55' 4	5' 9													
	12	176° 04' 7	352° 51' 1	0° 00' 9 S	54° 42' 1	21° 15' 4 N	138° 12' 3	13° 23' 4 N	339° 31' 5	4° 35' 5 S	Gacrux	172° 02' 9	57° 10' 8 S	1° 21' 1	2° 16' 9 N	129° 11' 1	12' 4															

**2011 September 19, 20, 21 (Mon, Tue, Wed)**

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.8			SATURN +0.8			STARS			SUN		MOON					Twilight		Sunrise		Moonrise		
	Lat	Nautical	Civil	19	20	21	Name	SHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	02:42	04:18	05:28	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°	02:42	04:18	05:28	-	-	-	
	01	357° 33'.4	172° 37'.9	0° 46'.8 S	235° 12'.6	21° 05'.0 N	319° 46'.4	13° 21'.4 N	160° 50'.5	4° 39'.6 S	21° 52'.7	17° 52'.7	175° 52'.7	17° 52'.7	Acamar	315° 19'.0	40° 15'.2 S	181° 29'.2	1° 42'.0 N	291° 30'.4	10'.7	22° 30'.0 N	2'.3	54.9	N 70°	03:06	04:28	05:30	-	-	-	
	02	12° 35'.9	187° 37'.9	48'.1	250° 13'.5	04'.8	334° 49'.0	21'.4	48'.1	39'.7	175° 52'.7	17° 52'.7	175° 52'.7	17° 52'.7	Acnarnar	335° 27'.1	57° 10'.4 S	190° 29'.4	41'.1	306° 00'.1	10'.7	32'.3	2'.1	68°	60°	03:23	04:36	05:33	-	-	20:28	
	03	27° 38'.4	202° 37'.1	49.4	265° 14'.3	04.5	349° 51'.6	21'.3	49.4	39.8	173° 11'.5	63° 09'.9 S	211° 29'.6	40.1	Acrux	173° 11'.5	63° 09'.9 S	211° 29'.6	40.1	320° 29'.8	10'.6	34.4	2'.0	55.0	66°	03:37	04:42	05:34	18:29	19:38	21:13	
	04	42° 40'.8	217° 36'.8	50.7	280° 15'.2	04.2	4° 54'.2	21.2	50.7	39.9	255° 13'.6	28° 59'.1 S	226° 29'.9	39.1	Adhara	255° 13'.6	28° 59'.1 S	226° 29'.9	39.1	334° 59'.4	10'.5	36.4	1'.9	64°	64°	03:49	04:48	05:36	19:16	20:19	21:42	
	05	57° 43'.3	232° 36'.4	51.9	295° 16'.1	03.9	19° 56'.8	21.2	51.9	40.1	220° 59'.3	40.1	241° 30'.1	38.2	Aldebaran	290° 50'.7	16° 32'.0 N	241° 30'.1	38.2	349° 28'.9	10'.5	38.3	1'.8	62°	62°	03:58	04:53	05:37	19:46	20:47	22:04	
	06	72° 45'.8	247° 36'.0	53.2	310° 16'.9	03.6	34° 59'.5	21.1	53.2	40.2	236° 01'.5	40.2	256° 30'.3	37.2				256° 30'.3	37.2	3° 58'.4	10'.5	40.1	1'.7	60°	60°	04:06	04:57	05:38	20:09	21:08	22:22	
	07	87° 48'.2	262° 36'.6	54.5	325° 17'.8	03.3	50° 02'.1	21.1	87.4	40.3	251° 03'.7	40.3	271° 30'.5	36.2	Alioth	166° 22'.2	55° 53'.8 N	271° 30'.5	36.2	18° 27'.9	10'.5	41'.8	1'.6	58°	58°	04:12	05:00	05:39	20:27	21:26	22:37	
	08	102° 50'.7	277° 35'.3	55.8	340° 18'.6	03.0	65° 04'.7	21.0	102.5	40.4	266° 05'.9	40.4	286° 30'.8	35.3	Alkaid	153° 00'.2	49° 15'.4 N	286° 30'.8	35.3	32° 57'.4	10'.4	43.4	1'.4	55.1	56°	04:18	05:03	05:40	20:42	21:40	22:50	
	09	117° 53'.1	292° 34'.9	57.0	355° 19'.5	02.7	80° 07'.3	21.0	117.5	40.5	281° 08'.1	40.5	301° 31'.0	34.3	Alnair	27° 44'.8	46° 54'.1 S	301° 31'.0	34.3	47° 26'.8	10'.3	44.8	1'.4	54°	54°	04:23	05:06	05:41	20:56	21:53	23:01	
	10	132° 55'.6	307° 34'.5	58.3	370° 20'.3	02.4	95° 09'.9	20.9	132.5	40.6	296° 10'.3	40.6	316° 31'.2	33.3	Alnilam	275° 47'.6	1° 11'.6 S	316° 31'.2	33.3	61° 56'.1	10'.4	46.2	1'.2	52°	52°	04:28	05:08	05:42	21:07	22:04	23:11	
	11	147° 58'.1	322° 34'.2	59.6	25° 21'.2	02.1	110° 12'.6	20.8	147.5	40.7	311° 12'.5	40.7	331° 31'.4	32.4	Alphard	217° 57'.6	8° 42'.5 S	331° 31'.4	32.4	76° 25'.5	10'.3	47.4	1'.1	50°	50°	04:32	05:10	05:43	21:18	22:14	23:19	
	12	163° 00'.5	337° 33'.8	1° 00'.9 S	40° 22'.0	01.8	125° 15'.2	20.8	163.0	40.9	326° 14'.7	40.9	346° 31'.6	31.4				346° 31'.6	31.4	90° 54'.8	10'.2	48.5	1'.0	55.2	45°	04:40	05:15	05:44	21:39	22:35	23:38	
	13	178° 03'.0	352° 33'.4	1° 02'.1 S	55° 22'.9	21° 01'.5 N	140° 17'.8	13° 20'.7 N	178.0	41.0	341° 16'.9	41.0	1° 31'.9	1° 30'.4 N	Alphecca	126° 12'.2	26° 40'.7 N	1° 31'.9	1° 30'.4 N	105° 24'.0	10'.2	22° 49'.5 N	0'.9	55.2	N 40°	04:46	05:18	05:45	21:57	22:52	23:53	
	14	193° 05'.5	7° 33'.1	03.4	70° 23'.7	01.2	155° 20'.4	20.7	193.0	41.1	356° 19'.1	41.1	16° 32'.1	29.5	Alpheratz	357° 44.4	29° 09'.5 N	16° 32'.1	29.5	119° 53'.2	10.2	50.4	0.8	35°	35°	04:51	05:21	05:46	22:11	23:06	24:06	
	15	208° 07'.9	22° 32'.7	04.7	85° 24'.6	00.9	170° 23'.0	20.6	208.0	41.2	17° 23'.0	20.6	31° 32'.3	28.5	Altair	62° 09'.3	8° 54'.2 N	31° 32'.3	28.5	134° 22'.4	10.2	51.2	0.7	30°	30°	04:55	05:23	05:47	22:24	23:18	24:17	
	16	223° 10'.4	37° 32'.3	06.0	100° 25'.5	00.7	185° 25'.3	20.5	223.0	41.3	26° 23'.4	20.5	46° 32'.5	27.5	Ankaa	353° 16'.5	42° 14'.3 S	46° 32'.5	27.5	148° 51'.6	10.1	51.9	0.5	55.3	20°	05:01	05:26	05:48	22:46	23:39	24:36	
	17	238° 12'.9	52° 32'.0	07.2	115° 26'.3	00.4	200° 28'.3	20.5	238.0	41.4	20° 25'.6	20.5	61° 32'.8	26.5	Antares	112° 27'.9	26° 27'.5 S	61° 32'.8	26.5	163° 20'.7	10.0	52.4	0.4		N 10°	05:04	05:28	05:49	23:05	23:57	24:52	
	18	253° 15'.3	67° 31'.6	08.5	130° 27'.2	00.1	215° 30'.9	20.4	253.0	41.5	56° 27'.8	41.5	76° 33'.0	25.6				76° 33'.0	25.6	177° 49.7	10.1	52.8	0.4	0°	0°	05:06	05:30	05:50	23:22	-	00:15	
	19	268° 17'.8	82° 31'.2	09.8	145° 28'.0	20° 59'.8 N	230° 33'.5	20.4	268.0	41.7	71° 30'.0	41.7	91° 33'.2	24.6	Arcturus	145° 57'.1	19° 07'.4 N	91° 33'.2	24.6	192° 18'.8	10.0	53.2	0.1		S 10°	05:06	05:30	05:51	23:40	-	00:32	
	20	283° 20'.2	97° 30'.9	11.1	160° 28'.9	59.5	245° 36'.2	20.3	283.0	41.8	86° 33'.1	41.8	107° 31'.0	23.6	Atropa	107° 31'.0	69° 03'.1 S	107° 31'.0	23.6	206° 47'.8	10.0	53.3	0.1	55.4	20°	05:04	05:30	05:52	23:59	-	00:50	
	21	298° 22'.7	112° 30'.5	12.3	175° 29'.7	59.2	260° 38'.8	20.3	298.0	41.9	101° 34'.4	41.9	121° 33'.7	22.7	Avior	234° 19'.0	59° 32'.6 S	121° 33'.7	22.7	221° 16'.8	9.9	53.4	0.0	30°	30°	05:01	05:29	05:53	-	00:21	01:11	
	22	313° 25'.2	127° 30'.1	13.6	190° 30'.6	58.9	275° 41'.4	20.2	313.0	42.0	116° 36'.6	42.0	136° 33'.9	21.7	Bellatrix	278° 33'.3	6° 21'.7 N	136° 33'.9	21.7	235° 45'.7	9.9	53.4	0.2	35°	35°	04:58	05:28	05:53	-	00:34	01:23	
23	328° 27'.6	142° 29'.7	14.9	205° 31'.5	58.6	290° 44'.0	20.1	328.0	42.1	131° 38'.8	42.1	151° 34'.1	20.7	Betelgeuse	271° 02'.6	7° 24'.6 N	151° 34'.1	20.7	250° 14'.6	9.9	53.0	0.2	55.5	40°	04:55	05:26	05:53	-	00:48	01:37		
24	343° 30'.1	157° 29'.4	16.2	220° 32'.3	58.3	305° 46'.7	20.1	343.0	42.2	146° 41'.0	42.2	166° 34'.3	19.8				166° 34'.3	19.8	264° 43'.5	9.9	53.0	0.4	45°	45°	04:50	05:25	05:54	00:13	01:06	01:54		
Tuesday	00	358° 32'.6	172° 29'.0	1° 17'.4 S	235° 33'.2	20° 58'.0 N	320° 49'.3	13° 20'.1	161° 43'.2	4° 42'.3 S	21° 52'.7	17° 52'.7	175° 52'.7	Canopus	263° 56'.8	52° 41'.9 N	181° 34'.5	1° 18'.8 N	279° 12'.4	9.8	22° 52'.6 N	0'.5	55.5	S 50°	04:44	05:22	05:54	00:34	01:28	02:24		
	01	13° 35'.0	187° 28'.6	18.7	250° 34'.0	57.7	335° 51'.9	20.0	13.3	42.4	176° 45'.4	17.8	196° 34'.8	17.8	Capella	280° 36'.2	46° 00'.4 N	196° 34'.8	17.8	293° 41'.2	9.8	52.1	0.6	52°	52°	04:41	05:21	05:54	00:45	01:38	02:24	
	02	28° 37'.5	202° 28'.3	20.0	265° 34'.9	57.4	350° 54'.5	19.9	28.3	42.6	191° 47'.6	42.6	211° 35'.0	16.8	Deneb	49° 32'.0	45° 19'.7 N	211° 35'.0	16.8	308° 10'.0	9.7	51.5	0.8	55.6	54°	04:38	05:19	05:55	00:56	01:50	02:35	
	03	43° 40'.0	217° 27'.9	21.3	280° 35'.7	57.1	5° 57'.2	19.8	43.4	42.7	5° 57'.2	19.8	182° 35'.2	14.9	Denebola	182° 35'.2	14° 30'.4 N	182° 35'.2	14.9	322° 38.7	9.8	50.7	0.8	56°	56°	04:34	05:18	05:55	01:09	02:03	02:47	
	04	58° 42'.4	232° 27'.5	22.5	295° 36'.6	56.8	20° 59'.8	19.8	58.4	42.8	20° 59'.8	19.8	241° 35'.4	14.9	Diphda	348° 56'.8	17° 55'.1 S	241° 35'.4	14.9	337° 07.5	9.7	49.9	1.0		58°	04:30	05:16	05:55	01:25	02:19	03:02	
	05	73° 44'.9	247° 27'.2	23.8	310° 37'.5	56.5	36° 02'.4	19.7	73.4	42.9	236° 54'.2	42.9	256° 35'.7	13.9				256° 35'.7	13.9	351° 36'.2	9.7	48.9	1.1	55.7	S 60°	04:25	05:14	05:55	01:43	02:38	03:19	
	06	88° 47'.4	262° 26'.8	25.1	325° 38'.3	56.2	51° 05'.0	19.7	88.4	43.0	251° 56'.4	43.0	271° 35.9	13.0	Dubhe	193° 53'.7	61° 41'.2 N	271° 35.9	13.0	6° 04.9	9.6	47.8	1.3		S 62°	04:19	05:12	05:56	02:05	03:01	03:39	
	07	103° 49'.8	277° 26'.4	26.4	340° 39'.2	55.9	66° 07'.7	19.6	103.5	43.1	266° 58'.5	43.1	286° 36.1	12.0	Elnath	278° 14'.1	28° 36'.9 N	286° 36.1	12.0	20° 33.5	9.7	46.5	1.3									
	08	118° 52'.3	292° 26'.1	27.6	355° 40'.0	55.6	81° 10'.3	19																								

**2011 September 22, 23, 24 (Thur, Fri, Sat)**

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	22	23	24	
22	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Acamar	315° 18.9	40° 15.2 S	181° 45.2	0° 32.2 N	253° 54.2	9.1	20° 11.8 N	6.4	57.1	N 72°	03:02	04:33	05:41	20:46	23:46	-
	01	0° 30'.8	172° 11'.2	2° 18'.6 S	236° 14'.7	20° 43'.5 N	322° 55'.7	13° 17'.1 N	163° 28'.5	4° 47.8 S	Acernar	335° 27.1	57° 10.4 S	196° 45.4	31.2	268° 22.3	9.1	05.4	6.4	57.2	N 70°	03:22	04:41	05:42	21:56	-	00:31
	02	15° 33'.3	187° 10'.8	19.9	251° 15'.5	43.2	337° 58'.3	17.0	178° 30'.6	47.9	Acrux	173° 11.5	63° 09.9 S	211° 45.6	30.2	282° 50.4	9.2	19° 59.0 N	6.6	66°	66°	03:49	04:52	05:44	22:58	-	00:46
	03	30° 35'.8	202° 10'.5	21.2	266° 16'.4	42.9	353° 01'.0	16.9	193° 32'.8	48.0	Adhara	255° 13.6	28° 59.1 S	226° 45.9	29.3	297° 18.6	9.1	52.4	6.6	64°	64°	03:59	04:57	05:45	23:18	-	00:56
	04	45° 38'.2	217° 10'.1	22.4	281° 17'.3	42.6	8° 03'.6	16.9	208° 35'.0	48.2	Aldebaran	290° 50.7	16° 32.0 N	241° 46.1	28.3	311° 46.7	9.1	45.8	6.8	57.3	62°	04:07	05:01	05:45	23:34	-	01:09
	05	60° 40'.7	232° 09'.7	23.7	296° 18'.2	42.3	23° 06'.2	16.8	223° 37'.2	48.3				241° 46.1	28.3	311° 46.7	9.1	45.8	6.8	57.3	62°	04:07	05:01	05:45	23:34	-	01:09
	06	75° 43'.2	247° 09'.4	25.0	311° 19'.0	42.0	38° 08'.9	16.7	238° 39'.4	48.4				256° 46.3	27.3	326° 14.8	9.2	39.0	7.0	60°	60°	04:14	05:04	05:46	23:47	-	01:18
	07	90° 45'.6	262° 09.0	26.3	326° 19.9	41.7	53° 11'.5	16.7	253° 41'.6	48.5	Alioth	166° 22.2	55° 53.8 N	271° 46.5	26.3	340° 43.0	9.1	32.0	7.0	58°	58°	04:20	05:07	05:46	23:58	-	01:25
	08	105° 48'.1	277° 08'.6	27.5	341° 20'.8	41.4	68° 14'.2	16.6	268° 43'.8	48.6	Alkaid	153° 00.2	49° 15.4 N	286° 46.7	25.4	355° 11.1	9.1	25.0	7.1	57.4	56°	04:25	05:09	05:46	-	00:08	01:32
	09	120° 50'.6	292° 08'.2	28.8	356° 21'.6	41.1	83° 16'.8	16.6	283° 46'.0	48.7	Alnair	27° 44.8	46° 54.1 S	301° 47.0	24.4	9° 39.2	9.2	17.9	7.3	54°	54°	04:29	05:11	05:47	-	00:17	01:38
	10	135° 53.0	307° 07.9	30.1	11° 22'.5	40.8	98° 19'.4	16.5	298° 48'.2	48.8	Alnilam	275° 47.6	1° 11.6 S	316° 47.2	23.4	24° 07.4	9.1	10.6	7.4	57.5	52°	04:33	05:13	05:47	-	00:25	01:44
	11	150° 55'.5	322° 07'.5	31.3	26° 23'.4	40.5	113° 22'.1	16.4	313° 50'.4	49.0	Alphard	217° 57.5	8° 42.5 S	331° 47.4	22.4	38° 35.5	9.2	03.2	7.5	50°	50°	04:37	05:15	05:47	-	00:32	01:49
	12	165° 58.0	337° 07.1	32.6	41° 24'.3	40.2	128° 24'.7	16.4	328° 52'.6	49.1				346° 47.6	21.5	53° 03.7	9.1	18° 55.7 N	7.6	45°	45°	04:44	05:18	05:48	-	00:47	01:59
	13	181° 00'.4	352° 06.7	2° 33'.9 S	56° 25'.1	20° 39'.9 N	143° 27.4	13° 16'.3 N	343° 54'.8	4° 49.2 S	Alphecca	126° 12.2	26° 40.7 N	1° 47.8	0° 20.5 N	67° 31.8	9.2	18° 48.1 N	7.8	57.6	N 40°	04:49	05:21	05:48	-	00:59	02:08
	14	196° 02'.9	7° 06.4	35.2	71° 26'.0	39.5	158° 30'.0	16.2	358° 56'.9	49.3	Alpheratz	357° 44.4	29° 09.5 N	16° 48.1	19.5	82° 00.0	9.1	40.3	7.8	35°	35°	04:54	05:23	05:48	00:06	01:09	02:16
	15	211° 05'.3	22° 06.0	36.4	86° 26'.9	39.2	173° 32'.7	16.2	13° 59'.1	49.4	Altair	62° 09.3	8° 54.2 N	31° 48.3	18.6	96° 28.1	9.2	32.5	8.0	57.7	30°	04:57	05:25	05:49	00:17	01:18	02:22
	16	226° 07'.8	37° 05'.6	37.7	101° 27'.8	38.9	188° 35'.3	16.1	29° 01'.3	49.5	Ankaa	353° 16.4	42° 14.3 S	46° 48.5	17.6	110° 56.3	9.1	24.5	8.0	20°	20°	05:01	05:27	05:49	00:36	01:34	02:34
	17	241° 10'.3	52° 05'.2	39.0	116° 28'.6	38.6	203° 38'.6	16.0	44° 03'.5	49.6	Antares	112° 27.9	26° 27.5 S	61° 48.7	16.6	125° 24.4	9.2	16.5	8.2	10°	10°	05:04	05:28	05:49	00:52	01:47	02:44
	18	256° 12'.7	67° 04'.9	40.3	131° 29'.5	38.3	218° 40'.6	16.0	59° 05'.7	49.8				76° 48.9	15.6	139° 52.6	9.2	08.3	8.3	57.8	0°	05:05	05:29	05:49	01:07	02:00	02:53
	19	271° 15'.2	82° 04'.5	41.5	146° 30'.4	38.0	233° 43'.2	15.9	74° 07'.9	49.9	Arcturus	145° 57.1	19° 07.4 N	91° 49.2	14.7	154° 20.8	9.1	18° 00.0 N	8.5	57.9	S 10°	05:04	05:28	05:49	01:23	02:13	03:02
	20	286° 17'.7	97° 04'.1	42.8	161° 31'.3	37.7	248° 45'.9	15.8	89° 10'.1	50.0	Atria	107° 31.0	69° 03.1 S	106° 49.1	13.7	168° 48.9	9.2	51.5	8.5	57.9	20°	05:02	05:27	05:49	01:39	02:26	03:12
	21	301° 20'.1	112° 03'.8	44.1	176° 32'.1	37.4	263° 48'.5	15.8	104° 12'.3	50.1	Avior	234° 18.9	59° 32.6 S	121° 49.6	12.7	183° 17.1	9.2	43.0	8.6	30°	30°	04:57	05:25	05:49	01:58	02:42	03:23
	22	316° 22'.6	127° 03'.4	45.3	191° 33'.0	37.1	278° 51'.2	15.7	119° 14'.5	50.2	Bellatrix	278° 33.3	6° 21.7 N	136° 49.8	11.7	197° 45.3	9.2	34.4	8.8	35°	35°	04:54	05:23	05:49	02:09	02:51	03:30
23	331° 25'.1	142° 03'.0	46.6	209° 33'.9	36.8	293° 53'.8	15.6	134° 16'.7	50.3	Betelgeuse	171° 02'.6	7° 24.6 N	151° 50.0	10.8	212° 13.5	9.2	27.6	8.8	58.0	40°	04:50	05:21	05:48	02:21	03:01	03:37	
24	346° 27'.5	157° 02'.6	47.9	221° 34'.8	36.5	308° 56'.5	15.6	149° 18'.9	50.4				166° 50.3	09.8	226° 41.7	9.2	16.8	9.0	45°	45°	04:44	05:19	05:48	02:36	03:13	03:45	
23	00	1° 30'.0	172° 02'.3	2° 49'.2 S	236° 35'.6	20° 36'.1 N	323° 59'.1	13° 15'.6	164° 21'.0	4° 50'.6 S	Canopus	263° 56.7	52° 41'.4 N	181° 50.5	0° 08.8 N	241° 09.9	9.2	17° 07.8 N	9.1	58.1	S 50°	04:37	05:15	05:48	02:54	03:27	03:55
	01	16° 32'.5	187° 01'.9	50.4	251° 36'.5	35.8	339° 01'.8	15.4	179° 23'.0	50.7	Capella	280° 36.2	46° 00.8 N	196° 50.7	07.9	255° 38.1	9.2	16° 58.7 N	9.2	52°	52°	04:34	05:14	05:48	03:02	03:34	04:00
	02	31° 34'.9	202° 01'.5	51.7	266° 37'.4	35.5	354° 04'.4	15.4	194° 25'.4	50.8	Deneb	49° 32.1	45° 19.7 N	211° 50.9	06.9	270° 06.3	9.2	49.5	9.3	54°	54°	04:30	05:12	05:47	03:11	03:41	04:05
	03	46° 37'.4	217° 01'.1	53.0	281° 38'.3	35.2	9° 07'.1	15.3	209° 27'.6	50.9	Denebola	182° 35.2	14° 30.4 N	282° 51.1	05.9	284° 34.5	9.3	40.2	9.4	58.2	56°	04:26	05:10	05:47	03:22	03:49	04:11
	04	61° 39'.8	232° 00'.8	54.3	296° 39'.2	34.9	24° 09'.7	15.2	224° 29'.8	51.0	Diphda	348° 56.8	17° 55.1 S	241° 51.4	04.9	299° 02.8	9.2	30.8	9.5	58°	58°	04:21	05:07	05:47	03:34	03:58	04:17
	05	76° 42'.3	247° 00'.4	55.5	311° 40'.0	34.6	39° 12'.4	15.2	239° 32'.0	51.1				256° 51'.6	04.0	313° 31.0	9.2	21.3	9.6	58.3	S 60°	04:15	05:05	05:46	03:48	04:09	04:24
	06	91° 44'.8	262° 00'.0	56.8	326° 40'.9	34.3	54° 15'.0	15.1	254° 34'.2	51.2	Dubhe	193° 53.7	61° 41.1 N	271° 51.8	03.0	327° 59.2	9.3	11.7	9.7	58°	S 62°	04:08	05:02	05:46	04:05	04:21	04:33
	07	106° 47'.2	276° 59'.6	58.1	341° 41'.8	34.0	69° 17'.7	15.0	269° 36'.4	51.4	Elath	278° 14.1	28° 36.9 N	286° 52.0	02.0	342° 27.5	9.2	02.0	9.8								
	08	121° 49'.7	291° 53'.9	59.3	356° 42'.7	33.7	86° 20'.3	15.0	284° 38'.6	51.5	Elnath	90° 46.7	51° 29.6 N	301° 52.2	01.0	356° 55.7	9.3	15° 52.2 N	10.0	58.4							
	09	136° 52'.2	306° 58'.9	3° 00'.6 S	11° 43'.5	33.3	99° 23'.0	14.9	299° 40'.8	51.6	Enif	33° 48.1	9° 56.0 N	316° 52.4	00.1	11° 24.0	9.2	42.2	10.0								
	10	151° 54'.6	321° 58'.5	01.9	26° 44'.4	33.0	114° 25'.6	14.8	314° 43'.0	51.7	Fomalhaut	15° 24.9	29° 33.4 S	331° 52.7	0° 00.9 S	25° 52.2	9.3	32.2	10.1	58.5							
	11	166° 57'.1	336° 58'.1	03.2	41° 45'.3	32.7	129° 28'.3	14.8	329° 45'.1	51.8				346° 52.9	01.9	40° 20.5	9.3	22.1	10.2								
	12	181° 59'.6	351° 57'.8	3° 04'.4 S	56° 46'.2	20° 32'.4 N	144° 30'.9	13° 14.7 N	344° 47.3	4° 51.9 S	Gacrux	172° 02'.9	57° 10.8 S	1° 53.1	0° 02.9 S	54° 48.8	9.2	15° 11.9 N	10.4	58.5	N 70°	18:01	19:09	20:38	19:03	17:54	17:24
	13	197° 02'.0	6° 57'.4	05.7	71° 47'.1	31.1	159° 33'.6	14.6	359° 49'.5	52.0	Gienah	175° 53.9	17° 36.4 S	16° 53.3	03.8	69° 17.0											



**2011 September 28, 29, 30 (Wed, Thur, Fri)**

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.8			SATURN +0.8			STARS			SUN		MOON				Lat		Twilight		Sunrise		28			Moonrise		
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	03:36	05:01	06:08	09:03	11:58	-	N 70°	03:50	05:05	06:06	08:43	11:08	-	
Wednesday	00	6° 25' 7	171° 16' 4	5° 21' 0 S	238° 22' 9	19° 57' 6 N	329° 19' 0	13° 06' 9 N	168° 43' 7	5° 04' 3 S	Acamar	315° 18' 9	40° 15' 2 S	182° 16' 3	1° 48' 0 S	177° 01' 2	7.4	9° 00' 7 S	13' 7	61.3	N 70°	03:50	05:05	06:06	06:08	08:43	11:08	-	N 70°	04:01	05:09	06:04	08:27	10:37	12:56	
	01	21° 28' 1	186° 16' 0	22' 3	253° 23' 8	57' 3	344° 21' 6	06' 9	183° 45' 9	04' 5	Acnarnar	335° 27' 0	57° 10' 4 S	197° 16' 5	49' 0	191° 27' 6	7.4	14' 4	13' 6	68°	60°	04:10	05:12	06:03	08:14	10:14	12:13	66°	04:18	05:14	06:02	08:04	09:56	11:45		
	02	36° 30' 6	201° 15' 6	23' 6	268° 24' 7	56' 9	359° 24' 3	06' 8	198° 48' 1	04' 6	Acruz	173° 11' 5	63° 09' 9 S	212° 16' 7	50' 0	205° 54' 0	7' 3	28' 0	13' 5	66°	62°	04:24	05:16	06:01	07:55	09:41	11:23	62°	04:24	05:16	06:01	07:55	09:41	11:23		
	03	51° 33' 1	216° 15' 2	24' 8	283° 25' 6	56' 6	41° 27' 0	06' 8	247° 50' 2	04' 6	Adhara	255° 13' 5	28° 59' 1 S	227° 17' 0	50' 9	220° 20' 3	7' 3	41' 5	13' 5	64°	60°	04:39	05:18	06:00	07:48	09:29	11:05	60°	04:29	05:18	06:00	07:48	09:29	11:05		
	04	66° 35' 5	231° 14' 8	26' 1	298° 26' 5	56' 3	29° 29' 7	06' 6	228° 52' 4	04' 8	Aldebaran	290° 50' 6	16° 32' 0 N	242° 17' 2	51' 9	234° 46' 6	7' 3	55' 0	13' 4	62°	60°	04:54	05:24	06:01	07:55	09:41	11:23	62°	04:54	05:24	06:01	07:55	09:41	11:23		
	05	81° 38' 0	246° 14' 4	27' 3	313° 27' 4	55' 9	44° 32' 4	06' 5	243° 54' 6	04' 9				257° 17' 4	52' 9	249° 12' 9	7' 2	10° 08' 4 S	13' 3	60°	60°	05:04	05:29	06:00	07:48	09:29	11:05	60°	05:04	05:29	06:00	07:48	09:29	11:05		
	06	96° 40' 5	261° 14' 0	28' 6	328° 28' 3	55' 6	59° 35' 1	06' 5	258° 56' 8	05' 0	Alioth	166° 22' 2	55° 53' 8 N	272° 17' 6	53' 9	263° 39' 1	7' 2	21' 7	13' 3	60°	N 58°	04:34	05:20	05:59	07:41	09:18	10:51	N 58°	04:34	05:20	05:59	07:41	09:18	10:51		
	07	111° 42' 9	276° 13' 6	29' 8	343° 29' 2	55' 3	74° 37' 7	06' 4	273° 59' 0	05' 1	Alkaid	153° 00' 2	49° 15' 4 N	287° 17' 8	54' 8	278° 05' 3	7' 1	35' 0	13' 2	56°	60°	04:37	05:21	05:58	07:35	09:09	10:38	60°	04:37	05:21	05:58	07:35	09:09	10:38		
	08	126° 45' 4	291° 13' 2	31' 1	358° 30' 1	54' 9	89° 40' 4	06' 3	289° 01' 2	05' 3	Alnair	27° 44' 8	46° 54' 2 S	302° 18' 0	55' 8	292° 31' 4	7' 0	48' 2	13' 1	54°	60°	04:41	05:22	05:57	07:30	09:01	10:27	60°	04:41	05:22	05:57	07:30	09:01	10:27		
	09	141° 47' 8	306° 12' 8	32' 4	104° 43' 1	54' 6	104° 03' 4	06' 2	304° 03' 4	05' 4	Alnilam	275° 47' 5	1° 11' 6 S	317° 18' 2	56' 8	306° 57' 4	7' 0	11° 01' 3 S	13' 1	52°	60°	04:44	05:23	05:57	07:26	08:53	10:18	60°	04:44	05:23	05:57	07:26	08:53	10:18		
	10	156° 50' 3	321° 12' 4	33' 6	28° 32' 0	54' 3	119° 45' 8	06' 2	319° 05' 5	05' 5	Alphard	217° 57' 5	8° 42' 5 S	332° 18' 4	57' 8	321° 23' 4	7' 0	14' 4	12' 9	50°	60°	04:46	05:24	05:56	07:21	08:47	10:09	60°	04:46	05:24	05:56	07:21	08:47	10:09		
	11	171° 52' 8	336° 12' 0	34' 9	43° 32' 9	53' 9	134° 48' 5	06' 1	334° 07' 7	05' 6				347° 18' 6	58' 7	335° 49' 4	6' 9	27' 3	12' 9	45°	60°	04:52	05:26	05:55	07:12	08:33	09:51	60°	04:52	05:26	05:55	07:12	08:33	09:51		
	12	186° 55' 2	351° 11' 7	5° 36' 1 S	58° 33' 8	19° 53' 6 N	149° 51' 2	13° 06' 0 N	349° 09' 9	5° 05' 7 S	Alphecca	126° 12' 3	26° 40' 7 N	2° 18' 8	1° 59' 7 S	350° 15' 3	6' 9	11° 40' 2 S	12' 8	61' 3	N 40°	04:55	05:27	05:54	07:05	08:22	09:36	N 40°	04:55	05:27	05:54	07:05	08:22	09:36		
	13	201° 57' 7	6° 11' 3	37' 4	73° 34' 7	53' 3	164° 53' 9	05' 9	4° 12' 1	05' 8	Alpheratz	357° 44' 4	29° 09' 6 N	17° 19' 0	2° 00' 7 S	4° 41' 2	6' 8	53' 0	12' 6	35°	60°	04:58	05:28	05:53	06:59	08:12	09:24	35°	04:58	05:28	05:53	06:59	08:12	09:24		
	14	217° 00' 2	21° 10' 9	38' 6	88° 35' 6	52' 9	179° 56' 5	05' 8	19° 14' 3	06' 0	Altair	62° 09' 3	8° 54' 2 N	32° 19' 0	01' 6	19° 07' 0	6' 8	12° 05' 8 S	12' 8	30°	60°	05:00	05:28	05:52	06:53	08:03	09:13	30°	05:00	05:28	05:52	06:53	08:03	09:13		
	15	232° 02' 6	36° 10' 5	39' 9	103° 36' 5	52' 6	194° 59' 2	05' 8	34° 16' 5	06' 1	Ankaa	353° 16' 4	42° 14' 3 S	47° 19' 5	02' 6	33° 32' 8	6' 7	18' 4	12' 6	20°	60°	05:03	05:28	05:50	06:43	07:49	08:54	20°	05:03	05:28	05:50	06:43	07:49	08:54		
	16	247° 05' 1	51° 10' 1	41' 1	118° 37' 4	52' 3	210° 01' 9	05' 7	49° 18' 7	06' 2	Antares	112° 27' 9	26° 27' 5 S	62° 19' 7	03' 6	47° 58' 5	6' 7	31' 0	12' 4	10°	N 10°	05:03	05:28	05:49	06:35	07:36	08:38	N 10°	05:03	05:28	05:49	06:35	07:36	08:38		
	17	262° 07' 6	66° 09' 7	42' 4	133° 38' 4	51' 9	225° 04' 6	05' 6	64° 20' 8	06' 3				77° 19' 9	04' 6	62° 24' 2	6' 6	43' 4	12' 4	0°	60°	05:02	05:26	05:47	06:27	07:24	08:24	0°	05:02	05:26	05:47	06:27	07:24	08:24		
	18	277° 10' 0	81° 09' 3	43' 6	148° 39' 3	51' 6	240° 07' 3	05' 5	79° 23' 0	06' 4	Arcturus	145° 57' 1	19° 07' 4 N	92° 20' 1	05' 5	76° 49' 8	6' 6	55' 8	12' 3	61' 2	S 10°	05:00	05:25	05:46	06:19	07:13	08:09	S 10°	05:00	05:25	05:46	06:19	07:13	08:09		
	19	292° 12' 5	96° 08' 9	44' 9	163° 40' 2	51' 3	255° 10' 0	05' 5	94° 25' 2	06' 5	Atria	107° 31' 1	69° 03' 1 S	107° 20' 3	06' 5	91° 15' 4	6' 6	13° 08' 1 S	12' 2	20°	60°	04:56	05:22	05:44	06:11	07:00	07:53	20°	04:56	05:22	05:44	06:11	07:00	07:53		
	20	307° 15' 0	111° 08' 5	46' 1	178° 41' 1	50' 9	270° 12' 7	05' 4	109° 27' 4	06' 6	Avior	234° 18' 9	59° 32' 6 S	122° 20' 5	07' 5	105° 41' 0	6' 5	20' 3	12' 1	30°	60°	04:49	05:17	05:41	06:02	06:46	07:35	30°	04:49	05:17	05:41	06:02	06:46	07:35		
	21	322° 17' 4	126° 08' 1	47' 4	193° 42' 0	50' 6	285° 15' 4	05' 3	124° 29' 6	06' 8	Bellatrix	278° 33' 2	6° 21' 7 N	137° 20' 7	08' 5	120° 06' 5	6' 4	32' 4	12' 0	35°	60°	04:45	05:15	05:40	05:57	06:38	07:24	35°	04:45	05:15	05:40	05:57	06:38	07:24		
	22	337° 19' 9	141° 07' 7	48' 7	208° 42' 9	50' 3	300° 18' 0	05' 2	139° 31' 8	06' 9	Betelgeuse	271° 02' 6	7° 24' 6 N	152° 20' 9	09' 4	134° 31' 9	6' 4	44' 4	12' 9	40°	60°	04:40	05:11	05:38	05:51	06:29	07:13	40°	04:40	05:11	05:38	05:51	06:29	07:13		
23	352° 22' 3	156° 07' 3	49' 9	223° 43' 9	49' 9	315° 20' 7	05' 1	154° 34' 0	07' 0				167° 21' 1	10' 4	148° 57' 3	6' 3	56' 3	11' 9	45°	60°	04:33	05:07	05:37	05:44	06:19	06:59	45°	04:33	05:07	05:37	05:44	06:19	06:59			
Thursday	00	7° 24' 8	171° 06' 9	5° 51' 2 S	238° 44' 8	19° 49' 6 N	330° 23' 4	13° 05' 1 N	169° 36' 2	5° 07' 1 S	Canopus	263° 56' 7	52° 41' 4 S	182° 21' 3	2° 11' 4 S	163° 22' 6	6' 3	14° 08' 2 S	11' 7	61' 2	S 50°	04:23	05:02	05:34	05:36	06:06	06:42	S 50°	04:23	05:02	05:34	05:36	06:06	06:42		
	01	22° 27' 3	186° 06' 5	52' 4	253° 45' 7	49' 2	345° 26' 1	05' 0	184° 38' 3	07' 2	Capella	280° 36' 1	46° 00' 4 N	197° 21' 6	12' 3	177° 47' 9	6' 3	19' 9	11' 6	52°	60°	04:19	05:00	05:33	05:32	06:00	06:34	52°	04:19	05:00	05:33	05:32	06:00	06:34		
	02	37° 29' 7	201° 06' 1	53' 7	268° 46' 6	48' 9	0° 28' 8	04' 9	199° 40' 5	07' 3	Deneb	49° 32' 1	45° 19' 7 N	212° 21' 8	13' 3	192° 13' 2	6' 2	31' 5	11' 5	54°	60°	04:14	04:57	05:32	05:28	05:53	06:25	54°	04:14	04:57	05:32	05:28	05:53	06:25		
	03	52° 32' 2	216° 05' 7	54' 9	283° 47' 5	48' 6	15° 31' 5	04' 8	214° 42' 7	07' 4	Denebola	182° 35' 2	14° 30' 4 N	212° 22' 0	14' 3	206° 38' 4	6' 2	41' 0	11' 4	61' 1	60°	04:09	04:54	05:31	05:23	05:46	06:15	60°	04:09	04:54	05:31	05:23	05:46	06:15		
	04	67° 34' 7	231° 05' 3	56' 2	298° 48' 4	48' 2	30° 34' 2	04' 8	229° 44' 9	07' 6	Diphda	348° 56' 8	17° 55' 1 S	242° 22' 2	15' 3	221° 03' 6	6' 1	54' 4	11' 3																	



# 2011 October 4, 5, 6 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +1.3			JUPITER -2.9			SATURN +0.8			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 72°	04:07	05:28	06:35	-	17:38	16:57	04:07	05:28	06:35	-	17:38	16:57
Tuesday	00	12° 20' 5"	170° 17' 6"	8° 19' 7" S	240° 36' 8"	19° 08' 2" N	335° 47' 9"	12° 55' 1" N	173° 58' 2"	5° 20' 9" S	189° 00' 4"	21.1	Acamar	315° 18' 9"	40° 15' 2" S	182° 45' 5"	4° 07' 7" S	92° 55' 9"	8' 2"	21° 14' 9" S	4' 9"	57.5	N 70°	04:17	05:29	06:30	17:41	16:54	16:34	04:17	05:29	06:30	17:41	16:54	16:34
	01	27° 23' 0"	185° 17' 2"	20.9	255° 37' 8"	07.8	350° 50' 6"	55.0	189° 00' 4"	21.1	189° 00' 4"	55.0	Acnarnar	335° 27' 0"	57° 10' 4" S	107° 23' 1"	8.4	10.0	5.1	57.4	68°	04:25	05:30	06:26	16:35	16:24	16:16	04:25	05:30	06:26	16:35	16:24	16:16		
	02	42° 25' 4"	200° 16' 8"	22.1	270° 38' 7"	07.5	5° 53' 4"	54.9	204° 02' 6"	21.2	186° 00' 4"	21.1	Acrux	173° 11' 5"	63° 09' 9" S	212° 45' 9"	09.6	121° 50' 5"	8' 4"	04.9	5.1	66°	04:31	05:31	06:22	15:59	16:02	16:02	04:31	05:31	06:22	15:59	16:02	16:02	
	03	57° 27' 9"	215° 16' 3"	23.4	285° 39' 7"	07.1	20° 56' 1"	54.8	219° 04' 8"	21.3	136° 17' 9"	8.5	Adhara	255° 13' 5"	28° 59' 1" S	227° 46' 1"	10.6	136° 17' 9"	8' 5"	20° 59' 8" S	5' 3"	64°	04:36	05:32	06:19	15:33	15:44	15:50	04:36	05:32	06:19	15:33	15:44	15:50	
	04	72° 30' 4"	230° 15' 9"	24.6	300° 40' 6"	06.8	35° 58' 8"	54.7	234° 07' 0"	21.4	10° 44' 4"	05.4	Aldebaran	290° 50' 6"	16° 32' 0" N	242° 46' 3"	11.6	150° 45' 4"	8' 6"	54' 5"	5' 4"	57.3	62°	04:40	05:32	06:16	15:13	15:29	15:40	04:40	05:32	06:16	15:13	15:29	15:40
	05	87° 32' 8"	245° 15' 5"	25.8	315° 41' 6"	06.4	51° 01' 5"	54.6	249° 09' 2"	21.5	11° 12' 4"	05.0					257° 46' 5"	12.5	165° 13' 0"	8' 7"	49' 1"	5' 5"	60°	04:44	05:32	06:14	14:56	15:17	15:31	04:44	05:32	06:14	14:56	15:17	15:31
	06	102° 35' 3"	260° 15' 1"	27.0	330° 42' 5"	06.1	66° 04' 2"	54.5	264° 11' 3"	21.6	12° 52' 9" N	17.4	Alioth	166° 22' 2"	55° 53' 7" N	272° 46' 7"	13.5	179° 40' 7"	8' 7"	43' 6"	5' 6"	57.2	N 58°	04:47	05:33	06:12	14:42	15:06	15:23	04:47	05:33	06:12	14:42	15:06	15:23
	07	117° 37' 8"	275° 14' 6"	28.2	345° 43' 5"	05.7	81° 07' 0"	54.4	279° 13' 5"	21.7	13° 17' 9" N	18.1	Alkaid	153° 00' 3"	49° 15' 3" N	287° 46' 9"	14.5	194° 08' 4"	8' 9"	38' 0"	5' 7"	56°	04:50	05:33	06:10	14:30	14:56	15:16	04:50	05:33	06:10	14:30	14:56	15:16	
	08	132° 40' 2"	290° 14' 2"	29.5	0° 44' 4"	05.4	96° 09' 7"	54.4	294° 15' 7"	21.9	14° 42' 4" N	18.5	Alnair	27° 44' 8"	46° 54' 2" S	302° 47' 1"	15.4	208° 36' 3"	8' 9"	32' 3"	5' 8"	54°	04:52	05:33	06:08	14:20	14:48	15:10	04:52	05:33	06:08	14:20	14:48	15:10	
	09	147° 42' 7"	305° 13' 8"	30.7	11° 15' 4"	05.0	111° 12' 4"	54.3	309° 17' 9"	22.0	15° 45' 4" N	19.0	Alnilam	275° 47' 5"	1° 11' 6" S	317° 47' 3"	16.4	223° 04' 2"	9' 0"	26' 5"	6' 0"	57.1	54°	04:54	05:33	06:07	14:10	14:41	15:05	04:54	05:33	06:07	14:10	14:41	15:05
	10	162° 45' 1"	320° 13' 4"	31.9	30° 46' 3"	04.6	126° 15' 1"	54.2	324° 20' 1"	22.1	16° 32' 0" N	16.6	Alphard	217° 57' 5"	8° 42' 5" S	332° 47' 5"	17.4	237° 32' 2"	9' 1"	20' 5"	6' 0"	50°	04:56	05:33	06:05	14:02	14:34	15:00	04:56	05:33	06:05	14:02	14:34	15:00	
	11	177° 47' 6"	335° 12' 9"	33.1	45° 47' 3"	04.3	141° 17' 8"	54.1	339° 22' 3"	22.2	17° 51' 1" N	17.7					347° 47' 7"	18.3	252° 00' 3"	9' 2"	14' 5"	6' 1"	45°	04:59	05:33	06:02	13:44	14:19	14:49	04:59	05:33	06:02	13:44	14:19	14:49
	12	192° 50' 1"	350° 12' 5"	34.3	60° 48' 2"	19° 03' 9" N	156° 20' 6"	12° 54' 0" N	354° 24' 4"	5° 22' 3" S	18° 59' 7" N	17.4	Alphecca	126° 12' 3"	26° 40' 7" N	2° 47' 8"	4° 19' 3" S	266° 28' 5"	9' 3"	20° 08' 4" S	6' 3"	57.0	N 40°	05:01	05:33	06:00	13:29	14:07	14:40	05:01	05:33	06:00	13:29	14:07	14:40
	13	207° 52' 5"	5° 12' 1"	35.6	75° 49' 2"	03.6	171° 23' 3"	53.9	9° 26' 6"	22.4	18° 59' 7" N	17.4	Alpheratz	357° 44' 4"	29° 09' 6" N	17° 48' 0"	20.2	280° 56' 8"	9' 3"	02' 1"	6' 3"	35°	05:03	05:32	05:57	13:17	13:57	14:32	05:03	05:32	05:57	13:17	13:57	14:32	
	14	222° 55' 0"	20° 11' 6"	36.8	90° 50' 1"	03.2	186° 26' 0"	53.8	24° 28' 8"	22.6	19° 04' 8" N	18.5	Altair	62° 09' 3"	8° 54' 3" N	32° 48' 2"	21.2	295° 25' 1"	9' 5"	19° 55' 8" S	6' 4"	30°	05:04	05:31	05:55	13:06	13:48	14:25	05:04	05:31	05:55	13:06	13:48	14:25	
	15	237° 57' 5"	35° 11' 2"	38.0	105° 51' 1"	02.9	201° 28' 7"	53.7	39° 31' 0"	22.7	19° 04' 8" N	18.5	Ankaa	353° 16' 4"	42° 14' 4" S	47° 48' 4"	22.2	309° 53' 6"	9' 5"	49' 4"	6' 6"	56.9	20°	05:04	05:30	05:52	12:47	13:32	14:14	05:04	05:30	05:52	12:47	13:32	14:14
	16	252° 59' 9"	50° 10' 8"	39.2	120° 52' 1"	02.5	216° 31' 4"	53.6	62° 48' 6"	22.8	18° 59' 7" N	17.4	Antares	112° 27' 9"	26° 27' 4" S	62° 48' 6"	23.1	324° 22' 1"	9' 6"	42' 8"	6' 6"	56.9	N 10°	05:03	05:27	05:48	12:31	13:19	14:03	05:03	05:27	05:48	12:31	13:19	14:03
	17	268° 02' 4"	65° 10' 3"	40.4	135° 53' 0"	02.2	231° 34' 2"	53.6	69° 35' 4"	22.9	19° 04' 8" N	18.5					77° 48' 8"	24.1	338° 50' 7"	9' 7"	36' 2"	6' 8"	0°	05:00	05:25	05:45	12:15	13:06	13:53	05:00	05:25	05:45	12:15	13:06	13:53
	18	283° 04' 9"	80° 09' 9"	41.6	150° 54' 0"	01.8	246° 36' 9"	53.5	84° 37' 5"	23.0	19° 04' 8" N	18.5	Arcturus	145° 57' 1"	19° 07' 4" N	92° 49' 0"	25.1	353° 19' 4"	9' 8"	29' 4"	6' 8"	56.8	S 10°	04:56	05:21	05:42	12:00	12:53	13:44	04:56	05:21	05:42	12:00	12:53	13:44
	19	298° 07' 3"	95° 09' 5"	42.8	165° 54' 9"	01.4	261° 39' 6"	53.4	93° 39' 7"	23.1	18° 59' 7" N	17.4	Alraia	107° 31' 1"	69° 03' 1" S	107° 49' 2"	26.0	7° 48' 2"	9' 9"	22' 6"	6' 9"	20°	04:50	05:16	05:38	11:43	12:39	13:33	04:50	05:16	05:38	11:43	12:39	13:33	
	20	313° 09' 8"	110° 09' 0"	44.1	180° 55' 9"	01.1	276° 42' 3"	53.3	114° 41' 9"	23.2	18° 59' 7" N	17.4	Avior	234° 18' 8"	59° 32' 6" S	122° 49' 4"	27.0	22° 17' 1"	9' 9"	15' 7"	7' 1"	30°	04:42	05:10	05:34	11:24	12:24	13:21	04:42	05:10	05:34	11:24	12:24	13:21	
	21	328° 12' 3"	125° 08' 6"	45.3	195° 56' 8"	00.7	291° 45' 1"	53.2	129° 44' 1"	23.4	17° 51' 1" N	17.7	Bellatrix	278° 33' 2"	6° 21' 7" N	137° 49' 6"	28.0	36° 46' 0"	10' 0"	08' 6"	7' 1"	56.7	35°	04:36	05:06	05:32	11:13	12:14	13:14	04:36	05:06	05:32	11:13	12:14	13:14
	22	343° 14' 7"	140° 08' 2"	46.5	210° 57' 8"	00.4	306° 47' 8"	53.1	144° 46' 3"	23.5	17° 51' 1" N	17.7	Betelgeuse	271° 02' 5"	7° 24' 6" N	152° 49' 8"	28.9	51° 15' 0"	10' 2"	01' 5"	6' 0"	40°	04:29	05:01	05:29	11:01	12:04	13:06	04:29	05:01	05:29	11:01	12:04	13:06	
23	358° 17' 2"	155° 07' 7"	47.7	225° 58' 8"	00.0	321° 50' 5"	53.0	159° 48' 4"	23.6	18° 59' 7" N	17.4					167° 50' 0"	29.9	65° 44' 2"	10' 2"	18° 54' 3" S	7' 3"	45°	04:20	04:56	05:25	10:46	11:51	12:57	04:20	04:56	05:25	10:46	11:51	12:57	
Wednesday	00	13° 19' 6"	170° 07' 3"	8° 48' 9" S	240° 59' 7"	18° 59' 7" N	336° 53' 2"	12° 52' 9" N	174° 50' 6"	5° 23' 7" S	189° 52' 8"	23.8	Canopus	263° 56' 6"	52° 41' 6" N	182° 50' 1"	4° 30' 8" S	80° 13' 4"	10' 3"	18° 47' 0" S	7' 4"	56.7	S 50°	04:09	04:49	05:21	10:27	11:36	12:45	04:09	04:49	05:21	10:27	11:36	12:45
	01	28° 22' 1"	185° 06' 9"	50.1	256° 00' 7"	59.3	351° 56' 0"	52.8	189° 52' 8"	23.8	19° 04' 8" N	18.5	Capella	280° 36' 0"	46° 00' 4" N	197° 50' 3"	31.8	94° 42' 7"	10' 3"	39' 6"	7' 4"	56.6	S 2°	04:04	04:45	05:19	10:18	11:29	12:40	04:04	04:45	05:19	10:18	11:29	12:40
	02	43° 24' 6"	200° 06' 4"	51.3	271° 01' 6"	58.9	6° 58' 7"	52.7	204° 55' 0"	23.9	19° 04' 8" N	18.5	Deneb	49° 32' 1"	45° 19' 7" N	212° 50' 5"	32.8	109° 12' 0"	10' 5"	32' 2"	7' 6"	54°	03:58	04:41	05:17	10:09	11:21	12:34	03:58	04:41	05:17	10:09	11:21	12:34	
	03	58° 27' 0"	215° 06' 0"	52.6	286° 02' 6"	58.6	22° 01' 4"	52.6	219° 57' 2"	24.1	18° 59' 7" N	17.4	Denebola	182° 35' 2"	14° 30' 4" N	227° 50' 7"	33.7	123° 41' 5"	10' 5"	24' 6"	7' 7"	56°	03:51	04:37	05:15	09:58	11:13	12:28	03:51	04:37	05:15	09:58	11:13	12:28	
	04	73° 29' 5"	230° 05' 6"	53.8	301° 03' 5"	58.2	37° 04' 1"	52.6	234° 59' 4"	24.2	18° 59' 7" N	17.4	Diphda	348° 56' 7"	17° 55' 1" S	242° 50' 9"	34.7	138° 11' 0"	10' 7"	16' 9"	7' 7"	56.5	S 58°	03:43	04:32	05:13	09:45	11:03	12:21	03:43	04:32	05:13	09:45	11:03	12:21
	05	88° 32' 0"	245° 05' 1"	55.0	316° 04' 5"	57.9	52° 06' 9"	52.5	250° 01' 5"	24.3	19° 04' 8" N	18.5					257° 51' 1"	35.7	152° 40' 7"	10' 7"	09' 2"	7' 8"	S 60°	03:34	04:27	05:10	09:30	10:51	12:12	03:34	04:27	05:10	09:30	10:51	12:12
	06	103° 34' 4"	260° 04' 7"	56.2	331° 05' 5"	57.5	67° 09' 6"	52.4	265° 03' 7"	24.4	18° 59' 7" N	17.4	Dubhe	193° 53' 7"	61° 41' 1" N																				

2011 October 7, 8, 9 (Fri, Sat, Sun)

GMT	ARIES		VENUS		MARS		JUPITER		SATURN		STARS			SUN		MOON				Twilight		Sunrise		Moonrise			
				-3.9		+1.3		-2.9		+0.7	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	Nautical	Civil	7	8	9	
7	00	15° 17' 9"	169° 46' 2"	9° 46' 8" S	241° 46' 0"	18° 42' 4" N	339° 04' 2"	12° 48' 5" N	176° 35' 4"	5° 29' 2" S	Acamar	315° 18' 9"	40° 15' 2" S	182° 59' 1"	5° 17' 0" S	57° 07' 4"	13' 9"	11° 30' 5" S	10' 5"	55' 3"	N 72°	04:22	05:41	06:49	16:33	16:14	15:57
	01	30° 20' 4"	184° 45' 7"	48' 0"	256° 47' 0"	48' 0"	354° 07' 0"	48' 5"	191° 37' 5"	29' 4"	Acnarnar	335° 27' 0"	57° 10' 4" S	197° 30' 6"	17' 9"	71° 40' 3"	13' 8"	20' 0"	10' 5"	68°	N 70°	04:29	05:41	06:42	16:20	16:08	15:57
	02	45° 22' 9"	199° 45' 3"	49' 1"	271° 47' 9"	41' 6"	9° 09' 7"	48' 4"	206° 39' 7"	29' 5"	Acruz	173° 11' 5"	63° 09' 8" S	212° 59' 5"	18' 9"	86° 13' 1"	14' 0"	09' 4"	10' 5"	66°	N 66°	04:41	05:40	06:32	16:01	16:00	15:58
	03	60° 25' 3"	214° 44' 8"	50' 3"	286° 48' 9"	41' 3"	24° 12' 5"	48' 3"	221° 41' 9"	29' 6"	Adhara	255° 13' 5"	28° 59' 1" S	227° 59' 7"	19' 8"	100° 46' 1"	14' 0"	10° 58' 9" S	10' 5"	64°	N 64°	04:45	05:40	06:28	15:54	15:56	15:59
	04	75° 27' 8"	229° 44' 4"	51' 5"	301° 49' 9"	40' 9"	39° 15' 2"	48' 2"	236° 44' 1"	29' 7"	Aldebaran	290° 50' 6"	16° 32' 0" N	242° 59' 8"	20' 8"	115° 19' 1"	14' 0"	48' 3"	10' 7"	62°	N 62°	04:48	05:40	06:24	15:47	15:53	15:59
	05	90° 30' 2"	244° 43' 9"	52' 7"	316° 50' 9"	40' 5"	54° 17' 9"	48' 1"	251° 46' 3"	29' 8"				258° 00' 0"	21' 7"	129° 52' 1"	14' 1"	37' 6"	10' 7"	55' 2"	N 60°	04:51	05:40	06:21	15:42	15:51	15:59
	06	105° 32' 7"	259° 43' 5"	53' 9"	331° 51' 8"	40' 2"	69° 20' 7"	48' 0"	266° 48' 4"	29' 9"	Alioth	166° 22' 2"	55° 53' 7" N	273° 00' 2"	22' 7"	144° 25' 2"	14' 2"	26' 9"	10' 7"		N 58°	04:54	05:39	06:19	15:37	15:49	15:59
	07	120° 35' 2"	274° 43' 0"	55' 1"	346° 52' 8"	39' 8"	84° 23' 4"	47' 9"	281° 50' 6"	30' 0"	Alkaid	153° 00' 3"	49° 15' 3" N	288° 00' 4"	23' 7"	158° 58' 4"	14' 2"	16' 2"	10' 7"		N 56°	04:56	05:39	06:16	15:33	15:47	16:00
	08	135° 37' 6"	289° 42' 6"	56' 3"	1° 53' 8"	39' 4"	99° 26' 1"	47' 8"	296° 52' 8"	30' 2"	Alnair	27° 44' 8"	46° 54' 2" S	303° 00' 6"	24' 6"	173° 31' 6"	14' 2"	05' 5"	10' 8"		N 54°	04:58	05:39	06:14	15:29	15:45	16:00
	09	150° 40' 1"	304° 42' 1"	57' 5"	16° 54' 8"	39' 1"	114° 28' 9"	47' 7"	311° 55' 0"	30' 3"	Alnilam	275° 47' 5"	1° 11' 6" S	318° 00' 8"	25' 6"	188° 04' 8"	14' 3"	9° 54' 7" S	10' 9"	55' 1"	N 52°	04:59	05:38	06:12	15:25	15:43	16:00
	10	165° 42' 6"	319° 41' 6"	58' 7"	31° 55' 7"	38' 7"	129° 31' 6"	47' 6"	326° 57' 2"	30' 4"	Alphard	217° 57' 5"	8° 42' 5" S	333° 00' 9"	26' 5"	202° 38' 1"	14' 4"	43' 8"	10' 9"		N 50°	05:00	05:38	06:10	15:22	15:42	16:00
	11	180° 45' 0"	334° 41' 2"	59' 9"	46° 56' 7"	38' 4"	144° 34' 3"	47' 5"	341° 59' 3"	30' 5"				348° 01' 1"	27' 5"	217° 11' 5"	14' 4"	33' 0"	10' 8"		N 48°	05:03	05:37	06:06	15:15	15:38	16:00
	12	195° 47' 5"	349° 40' 7"	10° 01' 1" S	61° 57' 7"	18° 38' 0" N	159° 37' 1"	12° 47' 4" N	357° 01' 5"	5° 30' 6" S	Alphecca	126° 12' 3"	26° 40' 7" N	3° 01' 3"	5° 28' 4" S	231° 44' 9"	14' 5"	9° 22' 1" S	10' 9"	55' 1"	N 40°	05:04	05:36	06:03	15:09	15:35	16:01
	13	210° 50' 0"	4° 40' 3"	02' 3"	76° 58' 7"	37' 6"	174° 39' 8"	47' 3"	12° 03' 7"	30' 7"	Alpheratz	357° 44' 4"	29° 09' 6" N	18° 01' 5"	29' 4"	246° 18' 4"	14' 5"	11' 2"	11' 0"		N 35°	05:05	05:34	06:00	15:04	15:33	16:01
	14	225° 52' 4"	19° 39' 8"	03' 5"	19° 59' 6"	37' 3"	189° 42' 6"	47' 2"	27° 05' 9"	30' 8"	Altair	62° 09' 4"	8° 54' 3" N	33° 01' 7"	30' 3"	260° 51' 9"	14' 5"	00' 2"	11' 0"	55' 0"	N 30°	05:05	05:33	05:57	14:59	15:31	16:01
	15	240° 54' 9"	34° 39' 4"	04' 7"	107° 00' 6"	36' 9"	240° 45' 3"	47' 1"	42° 08' 1"	31' 0"	Ankaa	353° 16' 4"	42° 14' 4" S	48° 01' 8"	31' 3"	275° 25' 4"	14' 6"	8° 49' 2" S	11' 0"		N 20°	05:05	05:30	05:53	14:51	15:27	16:02
	16	255° 57' 3"	49° 38' 9"	05' 8"	122° 01' 6"	36' 5"	219° 48' 0"	47' 4"	57° 10' 3"	31' 1"	Antares	112° 28' 0"	26° 27' 4" S	63° 02' 0"	32' 3"	289° 59' 0"	14' 7"	38' 2"	11' 0"		N 10°	05:03	05:27	05:48	14:45	15:24	16:02
	17	270° 59' 8"	64° 38' 5"	07' 0"	137° 02' 6"	36' 2"	234° 50' 8"	47' 0"	72° 12' 4"	31' 2"				78° 02' 2"	33' 2"	304° 32' 7"	14' 7"	27' 2"	11' 1"		0°	04:59	05:24	05:44	14:38	15:21	16:02
	18	286° 02' 3"	79° 38' 0"	08' 2"	152° 03' 5"	35' 8"	249° 53' 5"	46' 9"	87° 14' 6"	31' 3"	Arcturus	145° 57' 1"	19° 07' 4" N	93° 02' 4"	34' 2"	319° 06' 4"	14' 7"	16' 1"	11' 1"		S 10°	04:55	05:19	05:40	14:32	15:18	16:03
	19	301° 04' 7"	94° 37' 6"	09' 4"	167° 04' 5"	35' 4"	264° 56' 2"	46' 8"	102° 16' 8"	31' 4"	Atria	107° 31' 2"	69° 03' 1" S	108° 02' 6"	35' 1"	333° 40' 1"	14' 8"	05' 0"	11' 2"		N 20°	04:48	05:14	05:36	14:25	15:14	16:03
	20	316° 07' 2"	109° 37' 1"	10' 6"	182° 05' 5"	35' 1"	279° 59' 0"	46' 7"	117° 19' 0"	31' 5"	Avior	234° 18' 5"	59° 32' 6" S	123° 02' 7"	36' 1"	348° 13' 9"	14' 8"	7° 53' 8" S	11' 1"	54' 9"	N 30°	04:38	05:06	05:30	14:17	15:11	16:04
	21	331° 09' 7"	124° 36' 7"	11' 8"	197° 06' 5"	34' 7"	295° 01' 7"	46' 6"	132° 21' 2"	31' 7"	Bellatrix	278° 33' 2"	6° 21' 7" N	138° 02' 9"	37' 0"	2° 47' 7"	14' 9"	42' 7"	11' 2"		N 35°	04:32	05:02	05:27	14:12	15:09	16:04
	22	346° 12' 1"	139° 36' 2"	13' 0"	212° 07' 4"	34' 3"	310° 04' 5"	46' 5"	147° 23' 3"	31' 8"	Betelgeuse	271° 02' 5"	7° 24' 6" N	153° 03' 1"	38' 0"	17° 21' 6"	14' 9"	31' 5"	11' 2"		N 40°	04:24	04:57	05:24	14:07	15:06	16:04
23	1° 14' 6"	154° 35' 7"	14' 2"	227° 08' 4"	34' 0"	325° 07' 2"	46' 4"	162° 25' 5"	31' 9"				168° 03' 3"	38' 9"	31° 55' 5"	14' 9"	20' 3"	11' 2"		N 45°	04:14	04:50	05:20	14:01	15:03	16:05	
8	00	16° 17' 1"	169° 35' 3"	10° 15' 3" S	242° 09' 4"	18° 33' 6" N	340° 09' 9"	12° 46' 3" N	177° 27' 7"	5° 32' 0" S	Canopus	263° 56' 6"	52° 41' 0" S	183° 03' 5"	5° 39' 9" S	46° 29' 4"	15' 0"	7° 09' 1" S	11' 3"	54' 9"	S 50°	04:02	04:42	05:15	13:53	15:00	16:05
	01	31° 19' 5"	184° 34' 8"	16' 5"	257° 10' 4"	33' 2"	355° 12' 7"	46' 2"	192° 29' 9"	32' 1"	Capella	280° 36' 0"	46° 00' 4" N	198° 03' 6"	40' 9"	61° 03' 4"	15' 0"	6° 57' 8" S	11' 2"	54' 8"	S 52°	03:56	04:38	05:13	13:50	14:58	16:05
	02	46° 22' 0"	199° 34' 4"	17' 7"	272° 11' 4"	32' 9"	10° 15' 4"	46' 1"	207° 32' 1"	32' 2"	Deneb	49° 32' 1"	45° 19' 8" N	213° 03' 8"	41' 8"	75° 37' 4"	15' 1"	46' 6"	11' 3"		N 54°	03:49	04:34	05:10	13:46	14:57	16:06
	03	61° 24' 5"	214° 33' 9"	18' 9"	287° 12' 3"	32' 5"	25° 18' 2"	46' 0"	222° 34' 2"	32' 3"	Denebola	182° 35' 2"	14° 30' 4" N	228° 04' 0"	42' 8"	90° 11' 5"	15' 1"	35' 3"	11' 3"		N 56°	03:42	04:29	05:07	13:42	14:55	16:06
	04	76° 26' 9"	229° 33' 5"	20' 1"	302° 13' 3"	32' 1"	40° 20' 9"	45' 9"	237° 36' 4"	32' 5"	Diphda	348° 56' 7"	17° 55' 1" S	243° 04' 2"	43' 7"	104° 45' 6"	15' 1"	24' 0"	11' 4"		N 58°	03:33	04:24	05:04	13:37	14:52	16:06
	05	91° 29' 4"	244° 33' 0"	21' 3"	317° 14' 3"	31' 8"	55° 23' 6"	45' 8"	252° 38' 6"	32' 6"				258° 04' 4"	44' 7"	119° 19' 7"	15' 2"	12' 6"	11' 3"		N 60°	03:23	04:17	05:01	13:32	14:50	16:07
	06	106° 31' 8"	259° 32' 5"	22' 5"	332° 15' 3"	31' 4"	70° 26' 4"	45' 7"	267° 40' 8"	32' 7"	Dubhe	193° 53' 6"	61° 41' 0" N	273° 04' 5"	45' 6"	133° 53' 9"	15' 2"	01' 3"	11' 4"		N 62°	03:11	04:10	04:57	13:26	14:47	16:07
	07	121° 34' 3"	274° 32' 1"	23' 6"	347° 16' 2"	31' 0"	85° 29' 1"	45' 6"	282° 43' 0"	32' 8"	Elnath	278° 14' 0"	28° 37' 0" N	288° 04' 7"	46' 6"	148° 28' 1"	15' 2"	5° 49' 9" S	11' 4"	54' 7"	N 62°	03:01	04:10	04:57	13:26	14:47	16:07
	08	136° 36' 8"	289° 31' 6"	24' 8"	2° 17' 2"	30' 7"	100° 31' 9"	45' 5"	297° 45' 2"	32' 9"	Elainin	90° 46' 8"	51° 29' 6" N	303° 04' 9"	47' 5"	163° 02' 3"	15' 1"	38' 5"	11' 4"								
	09	151° 39' 2"	304° 31' 2"	26' 0"	17° 18' 2"	30' 3"	115° 34' 6"	45' 4"	312° 47' 3"	33' 0"	Enif	33° 48' 1"	9° 56' 0" N	318° 05' 1"	48' 5"	177° 36' 6"	15' 3"	27' 1"	11' 4"								
	10	166° 41' 7"	319° 30' 7"	27' 2"	32° 19' 2"	29' 9"	130° 37' 3"	45' 3"	327° 49' 5"	33' 1"	Fomalhaut	15° 25' 0"	29° 33' 4" S	333° 05' 2"	49' 4"	192° 10' 9"	15' 3"	15' 7"	11' 4"								
	11	181° 44' 2"	334° 30' 2"	28' 4"	47° 20' 2"	29' 6"	145° 40' 1"	45' 4"	342° 51' 7"	33' 3"				348° 05' 4"	50' 4"	206° 45' 2"	15' 4"	04' 3"	11' 5"								
	1																										



2011 October 10, 11, 12 (Mon, Tue, Wed)

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.9			SATURN +0.7			STARS			SUN		MOON				Twilight		Sunrise	Moonrise	
	Lat	Nautical	Civil	10	11	12	Lat	Nautical	Civil	10	11	12	Lat	Nautical	Civil	10	11	12	Lat	Nautical	Civil	10	11	12	Mer. Pass.	10		11	12
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	04:36	05:54	07:03	15:40	15:22	14:58			
<b>10</b>	00	18° 15'.3	169° 12.9	11° 11.8 S	242° 56.7	18° 15.9 N	342° 21.7	12° 41.7 N	179° 12.4	5° 37.5 S	5° 15.2 S	183° 11.8	6° 25.6 S	26° 09.9	15.9	2° 02.9 N	11.5	54.2	N 72°	04:36	05:54	07:03	15:40	15:22	14:58				
<b>Monday</b>	01	33° 17.8	184° 12.5	13.0	257° 57.7	15.5	357° 24.4	41.6	194° 14.6	37.6	40° 10.5 S	198° 12.0	26.5	40° 44.8	15.9	14.4	11.4	68°	N 70°	04:42	05:52	06:54	15:47	15:35	15:22				
	02	48° 20.3	199° 12.0	14.2	272° 58.7	15.1	12° 27.2	41.5	209° 16.7	37.9	62° 09.4	213° 12.2	27.5	55° 19.7	15.9	25.9	11.4	66°	N 70°	04:47	05:51	06:47	15:52	15:47	15:41				
	03	63° 22.7	214° 11.5	15.3	287° 59.7	14.8	27° 29.9	41.4	224° 18.9	37.9	68° 59.1 S	228° 12.3	28.4	69° 54.6	15.9	37.3	11.5	64°	N 68°	04:50	05:50	06:42	15:57	15:56	15:56				
	04	78° 25.2	229° 11.0	16.5	303° 00.6	14.4	42° 32.7	41.3	239° 21.1	38.0	63° 32.0 S	243° 12.5	29.4	84° 29.5	15.9	48.8	11.4	62°	N 66°	04:54	05:49	06:37	16:01	16:04	16:08				
	05	93° 27.7	244° 10.6	17.7	318° 01.6	14.0	57° 35.4	41.2	254° 23.3	38.1	58° 18.1 S	258° 12.7	30.3	99° 04.4	16.0	3° 00.2 N	11.4	60°	N 64°	04:56	05:48	06:32	16:04	16:11	16:19				
	06	108° 30.1	259° 10.1	18.8	333° 02.6	13.6	72° 38.2	41.1	269° 25.5	38.2	53° 53.7 S	273° 12.9	31.3	113° 39.4	15.9	11.6	11.4	58°	N 58°	04:58	05:46	06:25	16:10	16:22	16:36				
	07	123° 32.6	274° 09.6	20.0	348° 03.6	13.3	87° 40.9	41.0	284° 27.6	38.3	49° 15.3 N	288° 13.0	32.2	128° 14.3	15.9	23.0	11.4	56°	N 56°	05:02	05:45	06:22	16:13	16:27	16:43				
	08	138° 35.0	289° 09.1	21.1	3° 04.6	12.9	102° 43.7	40.9	299° 29.8	38.4	46° 54.2 S	303° 13.2	33.2	142° 49.2	15.8	34.4	11.4	54°	N 54°	05:03	05:44	06:19	16:15	16:31	16:49				
	09	153° 37.5	304° 08.6	22.3	11° 05.6	12.5	117° 46.4	40.8	314° 32.0	38.5	4° 11.6 S	318° 13.4	34.1	157° 24.0	15.9	45.8	11.3	54' 1"	N 52°	05:04	05:43	06:17	16:17	16:35	16:55				
	10	168° 40.0	319° 08.2	23.5	19° 06.6	12.1	132° 49.2	40.7	329° 34.2	38.7	8° 42.5 S	333° 13.5	35.1	171° 58.9	15.9	57.1	11.3	50°	N 50°	05:05	05:42	06:15	16:19	16:38	17:00				
	11	183° 42.4	334° 07.7	24.6	27° 07.6	11.8	147° 51.9	40.6	344° 36.4	38.8	12° 24.6 S	348° 13.7	36.0	186° 33.8	15.9	4° 08.4 N	11.4	45°	N 45°	05:06	05:40	06:10	16:23	16:46	17:11				
	12	198° 44.9	349° 07.2	11° 25.8 S	63° 08.6	18° 11.4 N	162° 54.7	12° 40.5 N	359° 38.5	5° 38.9 S	26° 40.7 N	3° 13.9	6° 36.9 S	201° 08.7	15.9	4° 19.8 N	11.3	54' 1"	N 40°	05:07	05:39	06:06	16:26	16:52	17:20				
	13	213° 47.4	4° 06.7	27.0	78° 09.6	11.0	177° 57.4	40.4	14° 40.7	39.0	29° 09.6 N	18° 14.0	37.9	215° 43.6	15.9	31.1	11.2	35°	S 35°	05:07	05:37	06:02	16:29	16:58	17:28				
	14	228° 49.8	19° 06.2	28.1	93° 10.6	10.6	193° 00.2	40.3	29° 42.9	39.1	32° 09.4 S	33° 14.2	38.8	230° 18.4	15.9	42.3	11.1	30°	S 30°	05:07	05:35	05:59	16:31	17:02	17:35				
	15	243° 52.3	34° 05.8	29.3	108° 11.6	10.3	280° 02.9	40.2	44° 45.1	39.2	39° 2.0 S	48° 14.4	39.8	244° 53.3	15.8	53.6	11.2	20°	S 20°	05:06	05:31	05:53	16:36	17:11	17:47				
	16	258° 54.8	49° 05.3	30.4	123° 12.6	09.9	223° 05.7	40.1	59° 47.3	39.3	45° 39.4 S	63° 14.5	40.7	259° 28.1	15.8	5° 04.8 N	11.2	10°	N 10°	05:03	05:27	05:48	16:40	17:18	17:58				
	17	273° 57.2	64° 04.8	31.6	138° 13.6	09.5	238° 08.4	40.0	74° 49.4	39.5	52° 27.4 S	78° 14.7	41.7	274° 02.9	15.8	16.0	11.2	0°	S 0°	04:59	05:23	05:44	16:44	17:25	18:08				
	18	288° 59.7	79° 04.3	32.7	153° 14.6	09.1	253° 11.2	39.9	89° 51.6	39.6	59° 07.4 N	93° 14.9	42.6	288° 37.7	15.8	27.2	11.2	10°	S 10°	04:53	05:17	05:39	16:48	17:33	18:19				
	19	304° 02.2	94° 03.8	33.9	168° 15.6	08.8	268° 13.9	39.8	104° 53.8	39.7	69° 03.1 S	108° 15.0	43.6	303° 12.5	15.8	38.4	11.1	20°	S 20°	04:45	05:11	05:33	16:52	17:40	18:30				
	20	319° 04.6	109° 03.4	35.1	183° 16.6	08.4	283° 16.7	39.7	119° 56.0	39.8	89° 32.6 S	123° 15.2	44.5	317° 47.3	15.8	49.5	11.1	30°	S 30°	04:34	05:03	05:27	16:56	17:49	18:42				
	21	334° 07.1	124° 02.9	36.2	198° 17.6	08.0	298° 19.4	39.6	134° 58.2	39.9	109° 19.4 S	138° 15.4	45.5	332° 22.1	15.8	6° 00.6 N	11.1	35°	S 35°	04:27	04:58	05:23	16:59	17:54	18:49				
	22	349° 09.5	139° 02.4	37.4	213° 18.6	07.7	313° 22.2	39.5	150° 07.3	40.0	129° 24.6 S	153° 15.5	46.4	346° 56.9	15.7	11.7	11.1	40°	S 40°	04:19	04:52	05:19	17:02	18:00	18:58				
	23	4° 12.0	154° 01.9	38.5	228° 19.6	07.3	328° 24.9	39.4	165° 02.5	40.2	150° 02.0 S	168° 15.7	47.4	1° 31.6	15.8	22.8	11.0	45°	S 45°	04:08	04:44	05:14	17:06	18:07	19:08				
<b>11</b>	00	19° 14.5	169° 01.4	11° 39.7 S	243° 20.6	18° 06.9 N	343° 27.7	12° 39.3 N	180° 04.7	5° 40.3 S	52° 41.4 S	183° 15.9	6° 48.3 S	16° 06.4	15.7	6° 33.8 N	11.0	54' 0"	S 50°	03:55	04:35	05:09	17:10	18:15	19:20				
<b>Tuesday</b>	01	34° 16.9	184° 00.9	40.8	258° 21.1	15.6	358° 30.4	39.3	195° 06.9	40.4	40° 00.9 N	198° 16.0	49.2	30° 41.1	15.7	44.8	11.0	52°	S 52°	03:48	04:31	05:06	17:12	18:19	19:25				
	02	49° 19.4	199° 00.5	42.0	273° 22.6	06.2	13° 33.2	39.2	210° 09.1	40.5	45° 19.8 N	213° 16.2	50.2	45° 15.8	15.7	55.8	11.0	54°	S 54°	03:41	04:26	05:03	17:14	18:23	19:31				
	03	64° 21.9	214° 00.0	43.2	288° 23.6	05.8	28° 35.9	39.1	225° 11.2	40.6	50° 30.4 S	228° 16.4	51.1	59° 50.5	15.6	7° 06.8 N	10.9	56°	S 56°	03:33	04:21	05:00	17:17	18:27	19:38				
	04	79° 24.3	228° 59.5	44.3	303° 24.6	05.4	43° 38.7	39.0	240° 13.4	40.7	60° 13.4 S	243° 16.5	52.1	74° 25.1	15.7	17.7	10.9	58°	S 58°	03:23	04:15	04:56	17:19	18:32	19:46				
	05	94° 26.8	243° 59.0	45.5	318° 25.6	05.0	58° 41.5	38.9	255° 15.6	40.8	71° 56.1 S	258° 16.7	53.0	88° 59.8	15.6	28.6	10.8	60°	S 60°	03:12	04:08	04:52	17:22	18:38	19:55				
	06	109° 29.3	258° 58.5	46.6	333° 26.6	04.6	73° 44.2	38.8	270° 17.8	41.0	82° 41.0 N	273° 16.9	54.0	103° 34.4	15.6	39.4	10.9	62°	S 62°	02:58	04:00	04:47	17:26	18:45	20:05				
	07	124° 31.7	273° 58.0	47.8	348° 27.6	04.3	88° 47.0	38.7	285° 20.0	41.1	93° 29.0 N	288° 17.0	54.9	118° 09.0	15.6	50.3	10.8												
	08	139° 34.2	288° 57.5	48.9	3° 28.6	03.9	103° 49.7	38.6	300° 22.1	41.2	105° 19.6 S	303° 17.2	55.8	132° 43.6	15.6	8° 01.1 N	10.7												
	09	154° 36.6	303° 57.1	50.1	18° 29.6	03.5	118° 52.5	38.5	315° 24.3	41.3	126° 06.0 S	318° 17.3	56.8	147° 18.2	15.5	11.8	10.8												
	10	169° 39.1	318° 56.6	51.2	33° 30.6	03.1	133° 55.2	38.4	330° 26.5	41.4	141° 14.1 S	333° 17.5	57.7	161° 52.7	15.5	22.6	10.7												
	11	184° 41.6	333° 56.1	52.4	48° 31.6	02.8	148° 58.0	38.3	345° 28.7	41.5	162° 14.1 S	348° 17.7	58.7	176° 27.2	15.5	33.3	10.6												
	12	199° 44.0	348° 55.6	11° 53.5 S	63° 32.6	18° 02.4 N	164° 00.7	12° 38.2 N	0° 30.9	5° 41.6 S	57° 10.7 S	3° 17.8	6° 59.6 S	191° 01.7	15.5	8° 43.9 N	10.6	54' 0"	N 40°	16:37	17:39	18:49	04:56	06:33	08:15				
	13	214° 46.5	3° 55.1	54.7	78° 33.6	02.0	179° 03.5	38.1	15° 33.0	41.8	17° 36.4 S	18° 18.0	7° 00.6 S	205° 36.2	15.4	54.5	10.6	68°	N 68°	16:45	17:41	18:45	04:52	06:24	07:58				
	14	229° 49.0	18° 54.6	55.8	93° 34.6	01.6	194° 06.2	38.0	30° 35.1	41.9																			

2011 October 13, 14, 15 (Thur, Fri, Sat)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON				Lat	Twilight		Sunrise	13			Moonrise					
	-3.9			+1.2			-2.9			+0.7			Name			SHA			GHA		v		Dec			d			HP		Nautical		Civil		14		
Thurs day	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	04:49	06:07	07:17	14:19	-	-										
	01	21° 12.7	168° 37.7	12° 34.6 S	244° 08.8	17° 48.8 N	345° 40.0	12° 34.6 N	181° 49.3	5° 45.8 S	Acamar	315° 18.8	40° 15.2 S	183° 23.6	7° 33.4 S	355° 23.7	14.3	14° 38.6 N	8.9	54.0	N 70°	04:54	06:04	07:07	15:04	14:27	-										
	02	36° 15.2	183° 37.2	35.7	259° 09.9	48.4	0° 42.8	34.5	196° 51.5	45.9	Acnarnar	335° 27.0	57° 10.5 S	18° 57.0	34.4	9° 57.0	14.2	47.5	8.8	68°	04:57	06:02	06:58	15:34	15:26	15:11											
	03	51° 17.7	198° 36.7	36.8	274° 10.9	48.0	15° 45.6	34.4	211° 53.7	46.0	Acrux	173° 11.4	63° 09.8 S	213° 23.9	35.3	24° 30.2	14.2	56.3	8.7	66°	05:00	05:59	06:51	15:57	16:00	16:10											
	04	66° 20.1	213° 36.2	38.0	289° 11.9	47.6	30° 48.3	34.3	226° 55.9	46.0	Adhara	255° 13.4	28° 59.1 S	228° 24.0	36.3	39° 03.4	14.2	15° 05.0 N	8.7	64°	05:02	05:57	06:45	16:14	16:25	16:44											
	05	81° 22.6	228° 35.7	39.1	304° 12.9	47.3	45° 51.1	34.2	241° 58.1	46.2	Aldebaran	290° 50.5	16° 32.0 N	243° 24.2	37.2	53° 36.6	14.1	13.7	8.7	62°	05:04	05:55	06:40	16:29	16:45	17:09											
	06	96° 25.1	243° 35.2	40.2	319° 13.9	46.9	60° 53.8	34.1	257° 00.2	46.3				258° 24.3	38.1	68° 09.7	14.0	22.4	8.5	60°	05:06	05:54	06:36	16:42	17:01	17:28											
	07	111° 27.5	258° 34.7	41.4	334° 14.9	46.5	75° 56.6	33.9	272° 02.4	46.4	Alioth	166° 22.2	55° 53.7 N	273° 24.5	39.1	82° 42.7	14.1	30.9	8.5	N 58°	05:07	05:52	06:32	16:53	17:15	17:45											
	08	126° 30.0	273° 34.2	42.5	349° 15.9	46.1	90° 59.4	33.8	287° 04.6	46.6	Alkaid	153° 00.3	49° 15.3 N	288° 24.6	40.0	97° 15.8	14.0	39.4	8.5	56°	05:08	05:51	06:28	17:02	17:27	17:58											
	09	141° 32.5	288° 33.7	43.6	4° 17.0	45.7	106° 02.1	33.7	302° 06.8	46.7	Alnair	27° 44.9	46° 54.2 S	303° 24.8	40.9	111° 48.8	13.9	47.9	8.3	54°	05:08	05:49	06:25	17:10	17:37	18:10											
	10	156° 34.9	303° 33.2	44.7	19° 18.0	45.3	121° 04.9	33.6	317° 09.0	46.8	Alnilam	275° 47.4	1° 11.6 S	318° 24.9	41.9	126° 21.7	13.9	56.2	8.3	52°	05:09	05:48	06:22	17:18	17:46	18:21											
	11	171° 37.4	318° 32.7	45.9	34° 19.0	45.0	136° 07.7	33.5	332° 11.1	46.9	Alphard	217° 57.4	8° 42.5 S	333° 25.1	42.8	140° 54.6	13.8	16° 04.5 N	8.3	50°	05:10	05:47	06:20	17:25	17:54	18:31											
	12	186° 39.8	333° 32.2	47.0	49° 20.0	44.6	151° 10.4	33.4	347° 13.3	47.0				348° 25.2	43.7	155° 27.4	13.9	12.8	8.2	45°	05:10	05:44	06:14	17:39	18:12	18:51											
	13	201° 42.3	348° 31.6	12° 48.1 S	64° 21.0	17° 44.2 N	166° 13.2	12° 33.3 N	2° 15.5	5° 47.1 S	Alphecca	126° 12.3	26° 40.7 N	3° 25.4	7° 44.7 S	170° 00.3	13.7	16° 21.0 N	8.1	54.0	N 40°	05:10	05:42	06:09	17:51	18:26	19:07										
	14	216° 44.8	3° 31.1	49.2	79° 22.0	43.8	181° 15.9	33.2	17° 17.7	47.2	Alpheratz	357° 44.4	29° 09.6 N	18° 25.6	45.6	184° 33.0	13.7	29.1	8.0	35°	05:10	05:39	06:05	18:02	18:39	19:20											
	15	231° 47.2	18° 30.6	50.4	94° 23.1	43.4	196° 18.7	33.1	32° 19.9	47.4	Altair	62° 09.4	8° 54.3 N	33° 27.5	46.5	199° 05.7	13.7	37.1	7.9	30°	05:09	05:37	06:01	18:11	18:49	19:32											
	16	246° 49.7	33° 30.1	51.5	109° 24.1	43.1	211° 21.5	33.0	47° 22.0	47.5	Ankaa	353° 16.4	42° 14.4 S	48° 25.9	47.5	213° 38.4	13.7	45.0	7.9	20°	05:06	05:32	05:54	18:26	19:08	19:53											
	17	261° 52.2	48° 29.6	52.6	124° 25.1	42.7	226° 24.2	32.9	62° 24.2	47.6	Antares	112° 28.0	26° 27.4 S	63° 26.0	48.4	228° 11.1	13.5	52.9	7.9	N 10°	05:03	05:27	05:48	18:40	19:24	20:11											
	18	276° 54.6	63° 29.1	53.7	139° 26.1	42.3	241° 27.0	32.8	77° 26.4	47.7				78° 26.2	49.3	242° 43.6	13.6	17° 00.8 N	7.7	0°	04:58	05:22	05:43	18:53	19:39	20:28											
	19	291° 57.1	78° 28.6	54.9	154° 27.1	41.9	256° 29.8	32.7	92° 28.6	47.8	Arcturus	145° 57.1	19° 07.4 N	93° 26.3	50.3	257° 16.2	13.5	08.5	7.7	S 10°	04:51	05:16	05:37	19:06	19:55	20:44											
	20	306° 59.6	93° 28.1	56.0	169° 28.1	41.5	271° 32.5	32.6	107° 30.8	47.9	Alraia	107° 31.2	69° 03.1 S	108° 26.5	51.2	271° 48.7	13.4	16.2	7.6	20°	04:42	05:08	05:31	19:20	20:11	21:02											
	21	322° 02.0	108° 27.6	57.1	184° 29.2	41.2	286° 35.3	32.5	122° 32.9	48.0	Avior	234° 18.7	59° 32.6 S	123° 26.6	52.1	286° 21.1	13.4	23.8	7.5	30°	04:31	04:59	05:24	19:36	20:30	21:23											
	22	337° 04.5	123° 27.0	58.2	199° 30.2	40.8	301° 38.1	32.4	137° 35.1	48.2	Bellatrix	278° 33.1	6° 21.7 N	138° 26.8	53.1	300° 53.5	13.4	31.3	7.5	35°	04:23	04:54	05:19	19:45	20:41	21:35											
23	352° 07.0	138° 26.5	59.3	214° 31.2	40.4	316° 40.8	32.3	152° 37.3	48.3	Betelgeuse	271° 02.5	7° 24.6 N	153° 26.7	54.0	315° 25.9	13.3	38.8	7.3	40°	04:14	04:47	05:15	19:56	20:53	21:49												
14	00	22° 11.9	168° 25.5	13° 01.6 S	244° 33.2	17° 39.6 N	346° 46.4	12° 32.1 N	182° 41.7	5° 48.5 S	Canopus	263° 56.5	52° 41.9 S	183° 27.2	7° 55.9 S	344° 30.5	13.2	17° 53.4 N	7.3	54.1	S 50°	03:48	04:29	05:02	20:24	21:27	22:27										
01	37° 14.3	183° 25.0	02.7	259° 34.3	39.2	1° 49.1	32.0	197° 43.8	48.6	Capella	280° 36.0	46° 00.4 N	198° 27.4	56.8	359° 02.7	13.2	18° 00.7 N	7.1	52°	03:41	04:24	04:59	20:31	21:36	22:37												
02	52° 16.8	198° 24.5	03.8	274° 35.3	38.9	16° 51.9	31.9	212° 46.0	48.7	Deneb	49° 32.2	45° 19.8 N	213° 27.5	57.7	13° 34.9	13.1	10.9	7.1	54°	03:33	04:19	04:56	20:39	21:45	22:48												
03	67° 19.3	213° 24.0	04.9	289° 36.3	38.5	31° 54.6	31.8	227° 48.2	48.8	Denebola	182° 35.2	14° 30.4 N	228° 27.0	58.7	28° 07.0	13.1	14.7	7.0	56°	03:23	04:13	04:52	20:48	21:57	23:00												
04	82° 21.7	228° 23.4	06.1	304° 37.3	38.1	46° 57.4	31.7	242° 50.4	49.0	Diphda	348° 56.7	17° 55.1 S	243° 27.8	59.6	42° 39.1	13.0	21.9	6.9	58°	03:13	04:06	04:48	20:59	22:09	23:15												
05	97° 24.2	243° 22.9	07.2	319° 38.3	37.7	62° 00.2	31.6	257° 52.6	49.1				258° 28.0	8° 00.5 S	57° 11.1	13.0	28.8	6.8	S 60°	03:00	03:58	04:43	21:10	22:24	23:32												
06	112° 26.7	258° 22.4	08.3	334° 39.4	37.3	77° 02.9	31.5	272° 54.7	49.2	Dubhe	193° 53.6	61° 41.0 N	273° 28.1	01.5	71° 43.1	13.0	35.6	6.7	S 62°	02:45	03:49	04:37	21:24	22:42	23:54												
07	127° 29.1	273° 21.9	09.4	349° 40.4	36.9	92° 05.7	31.4	287° 56.9	49.3	Elnath	278° 13.9	28° 37.0 N	288° 28.3	02.4	86° 15.1	12.9	42.3	6.7																			
08	142° 31.6	288° 21.4	10.5	4° 41.4	36.6	107° 08.5	31.3	302° 59.1	49.4	Elainon	90° 46.9	51° 29.6 N	303° 28.4	03.3	100° 47.0	12.8	49.0	6.6																			
09	157° 34.1	303° 20.9	11.6	19° 42.4	36.2	122° 11.2	31.2	318° 01.3	49.5	Enif	33° 48.1	9° 56.0 N	318° 28.5	04.2	115° 18.8	12.8	55.6	6.5																			
10	172° 36.5	318° 20.3	12.7	34° 43.4	35.8	137° 14.0	31.1	333° 03.5	49.6	Fomalhaut	15° 25.0	29° 33.5 S	333° 28.7	05.2	129° 50.6	12.8	19° 02.1 N	6.4																			
11	187° 39.0	333° 19.8	13.9	49° 44.5	35.4	152° 16.8	31.0	145° 16.8	49.8				348° 28.8	06.1	144° 22.4	12.7	08.5	6.3																			
12	202° 41.5	348° 19.3	13° 15.0 S	64° 45.5	17° 35.0 N	167° 19.5	12° 30.9 N	3° 07.8	5° 49.9 S	Gacrux	172° 02.9	57° 10.7 S	3° 29.0	8° 07.0 S	158° 54.1	12.7	19° 14.8 N	6.3	54.1	N 70°	16:13	17:23	18:40	10:48	-	-											
13	217° 43.9	3° 18.8	16.1	79° 46.5	34.6	182° 22.3	30.8	18° 10.0	50.0	Gienah	175° 53.9	17° 36.4 S	18° 29.1	08.0	173° 25.8	12.6	21.1	6.2	68°	16:32	17:29	18:33	09:35	11:19	13:13												
14	232° 46.4	18° 18.3	17.2	94° 47.5	34.3	197° 25.1	30.7	33° 12.2	51.4	Hadar	148° 50.3	60° 25.8 S	33° 29.3	08.9	37° 67.4	12.6	27.3	6.0	66°	16:39	17:31	18:30	09:14	10:45	12:15												
15	247° 48.8	33° 17.7	18.3	109° 48.6	33.9	212° 27.8	30.6	48° 14.4	50.2	Hamal	328° 01.8	23° 31.2 N	48° 29.4	09.8	202° 29.0	12.5	33.3	6.0	54.2	64°	16:45	17:33	18:28	08:57	10:21	11:41											
16	262° 51.3	48° 17.2	19.4	124° 49.6	33.5	227° 30.6	30.5	63° 16.5	50.3	Kaus Aust.	83° 45.5	34° 22.7 S	63° 29.6	10.8	217° 00.5	12.5	39.3	5.9	62°	16:51	17:35	18:27	08:43	10:01	11:16												
17	277° 53.8	63° 16.7	20.5	139° 50.6	33.1	242° 33.4	30.4	78° 18.7	50.4				78° 29.7	11.7	231° 32.0	12.4	45.2	5.8	60°	16:55	17:37	18:25	08:31	09:46	10:57												
18	292° 56.2	78° 16.2	21.6	154° 51.6	32.7	257° 36.1	30.3	93° 20.9	50.6	Kochab	137° 20.9	74° 06.5 N	93° 29.9	12.6	246° 03.4	12.4	51.0	5.8	N 58°	16:59	17:39	18:24	08:21	09:33	10:41												
19	307° 58.7	93° 15.7	22.7	169° 52.7	32.3	273° 38.9	30.2	107° 38.9	50.7	Markab	13° 39.3	15° 16.4																									

**2011 October 16, 17, 18 (Sun, Mon, Tue)**

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.9			SATURN +0.7			STARS			SUN		MOON				Twilight		Sunrise		16		Moonrise		18
	GHA	GHA	Dec	GHA	Dec	17° 21.1 N	GHA	Dec	17° 21.1 N	GHA	Dec	17° 21.1 N	GHA	Dec	17° 21.1 N	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	16	17	18		
Sunday	00	24° 10'.2	168° 00'.3	13° 54'.7 S	245° 22'.5	20° 21'.1 N	348° 59'.2	12° 27'.2 N	184° 26'.3	5° 54'.0 S	Acamar	315° 18'.8	40° 15'.3 S	183° 34'.1	8° 40'.4 S	321° 26'.5	11'.1	22° 01'.8 N	2.8	54'.5	N 72°	05:02	06:21	07:32	-	-	-						
	01	39° 12'.6	182° 59'.8	55'.7	260° 23'.6	20.8	4° 02'.0	27.1	199° 28'.5	54'.1	Acnarnar	335° 27'.0	57° 10'.5 S	198° 34'.3	41'.3	335° 56'.6	11'.1	04'.6	2'.8	68°	N 70°	05:05	06:16	07:20	-	-	-						
	02	54° 15'.1	197° 59'.2	56.8	275° 24'.6	20.4	19° 04'.8	27.0	214° 30'.6	54'.2	Acruz	173° 11'.4	63° 09'.8 S	213° 34'.4	42'.2	350° 26'.7	11'.1	07'.3	2'.6	54'.6	66°	S 60°	05:09	06:09	07:01	16:34	17:29	18:53					
	03	69° 17'.6	212° 58'.7	57.9	290° 25'.6	20.0	34° 07'.5	26.8	229° 32'.8	54'.3	Adhara	255° 13'.4	28° 59'.1 S	243° 34'.5	43'.1	4° 56'.8	11'.1	09'.9	2'.5	64°.0	64°	S 60°	05:11	06:06	06:54	17:17	18:11	19:25					
	04	84° 20'.0	227° 58'.2	59.0	305° 26'.7	19.6	49° 10'.3	26.7	244° 35'.0	54'.4	Aldebaran	290° 50'.5	16° 32'.0 N	243° 34'.7	44'.1	19° 26'.8	11'.0	12'.4	2'.4	62°.0	62°	S 60°	05:12	06:03	06:48	17:45	18:39	19:49					
	05	99° 22'.5	242° 57'.6	14° 00'.1 S	320° 27'.7	19.2	64° 13'.1	26.6	259° 37'.2	54'.5				258° 34'.8	45'.0	33° 56'.8	11'.0	14'.8	2'.3	60°.0	60°	S 60°	05:13	06:01	06:43	18:07	19:01	20:08					
	06	114° 24'.9	257° 57'.1	01.2	335° 28'.7	18.8	79° 15'.9	26.5	274° 39'.4	54'.7	Alioth	166° 22'.2	55° 53'.7 N	273° 34'.9	45'.9	48° 26'.8	11'.0	17'.1	2'.2	58°.0	N 58°	05:13	05:59	06:39	18:59	19:18	20:24						
	07	129° 27'.4	272° 56'.5	02.3	350° 29'.8	18.4	94° 18'.6	26.4	289° 41'.5	54.8	Alkaid	153° 00'.3	49° 15'.3 N	288° 35'.1	46'.8	62° 56'.8	10'.9	19'.3	2'.0	56°.0	54°	N 58°	05:14	05:57	06:34	18:40	19:33	20:37					
	08	144° 29'.9	287° 56'.0	03.4	5° 30'.8	18.0	109° 21'.4	26.3	304° 43'.7	54.9	Alnair	27° 44'.9	46° 54'.2 S	303° 35'.2	47.8	77° 26'.7	10'.8	21'.3	2'.0	54'.7	54°	N 54°	05:14	05:55	06:31	18:53	19:46	20:49					
	09	159° 32'.3	302° 55'.5	04.5	20° 31'.8	17.7	124° 24'.2	26.2	319° 45'.9	55.0	Alnilam	275° 47'.4	1° 11'.6 S	318° 35'.3	48.7	91° 56'.5	10'.9	23'.3	1'.8	52°.0	50°	N 52°	05:14	05:53	06:27	19:05	19:57	20:59					
	10	174° 34'.8	317° 54'.9	05.5	35° 32'.9	17.3	139° 27'.0	26.1	334° 48'.1	55.1	Alphard	217° 57'.4	8° 42'.5 S	333° 35'.5	49.6	106° 26'.4	10'.8	25'.1	1'.8	50°.0	50°	N 50°	05:14	05:52	06:24	19:15	20:07	21:08					
	11	189° 37'.3	332° 54'.9	06.6	50° 33'.9	16.9	154° 29'.7	26.0	349° 50'.3	55.2				348° 35'.6	50.5	120° 56'.2	10'.8	26.9	1'.6	45°.0	50°	N 45°	05:14	05:48	06:18	19:36	20:28	21:27					
	12	204° 39'.7	347° 53'.8	14° 07'.7 S	65° 34'.9	17° 16'.5 N	169° 32'.5	12° 25'.9 N	4° 52'.4	5° 55'.3 S	Alphecca	126° 12'.3	26° 40'.7 N	3° 35'.8	8° 51'.4 S	135° 26'.0	10'.7	22° 28'.5 N	1'.6	54'.7	N 40°	05:13	05:45	06:12	19:53	20:45	21:43						
	13	219° 42'.2	2° 53'.3	08.8	80° 36'.0	16.1	184° 35'.3	25.8	19° 54'.6	55.4	Alpheratz	357° 44.4	29° 09'.6 N	18° 35'.9	52.4	149° 55'.7	10'.8	30'.1	1'.4	35°.0	35°	N 35°	05:12	05:42	06:07	20:07	20:59	21:56					
	14	234° 44'.7	17° 52'.8	09.9	95° 37'.0	15.7	199° 38'.1	25.7	34° 56'.8	55.6	Altair	62° 09'.4	8° 54'.3 N	33° 36'.0	53.3	164° 25'.5	10'.6	31'.5	1'.4	54'.8	30°	N 30°	05:11	05:39	06:03	20:20	21:12	22:07					
	15	249° 47'.1	32° 52'.2	11.0	110° 38'.1	15.3	214° 40'.8	25.6	49° 59'.0	55.7	Ankaa	353° 16'.4	42° 14'.4 S	48° 36'.2	54.2	178° 55'.1	10'.7	32.8	1'.2	20°.0	20°	N 20°	05:07	05:33	05:55	20:41	21:33	22:27					
	16	264° 49'.6	47° 51'.7	12.1	125° 39'.1	14.9	229° 43'.6	25.5	65° 01'.2	55.8	Antares	112° 28'.0	26° 27'.4 S	63° 36'.3	55.1	193° 24'.8	10'.7	34.0	1'.1	10°.0	N 10°	05:03	05:27	05:49	21:00	21:51	22:44						
	17	279° 52'.1	62° 51'.1	13.1	140° 40'.1	14.6	244° 46'.4	25.4	80° 03'.3	55.9				78° 36'.4	56'.0	207° 54'.5	10'.6	35.1	0'.9	0°.0	0°	N 0°	04:57	05:21	05:42	21:18	22:08	23:00					
	18	294° 54'.5	77° 50'.6	14.2	155° 41'.2	14.2	259° 49'.1	25.3	95° 05'.5	56'.0	Arcturus	145° 57'.1	19° 07'.3 N	93° 36'.6	57.0	222° 24'.1	10'.5	36.0	0'.9	10°.0	S 10°	04:49	05:14	05:36	21:35	22:26	23:16						
	19	309° 57'.0	92° 50'.0	15.3	170° 42'.2	13.8	274° 51'.9	25.2	110° 07'.7	56.1	Critra	107° 31'.3	69° 03'.0 S	108° 36'.7	57.9	236° 53'.6	10'.6	36.9	0'.8	20°.0	20°	N 20°	04:40	05:06	05:28	21:54	22:44	23:33					
	20	324° 59'.4	107° 49'.5	16.4	185° 43'.3	13.4	289° 54'.7	25.1	125° 09'.9	56.2	Avior	234° 18'.7	59° 32'.6 S	123° 36'.8	58.8	251° 23'.2	10'.5	37.7	0'.6	54'.9	30°	N 30°	04:27	04:56	05:20	22:15	23:05	23:52					
	21	340° 01.9	122° 49'.0	17.5	200° 44'.3	13.0	304° 57'.5	25.0	140° 12'.0	56.4	Bellatrix	278° 33'.1	6° 21'.7 N	138° 37'.0	59.7	265° 52'.7	10'.5	38.3	0'.5	35°.0	35°	N 35°	04:19	04:50	05:15	22:28	23:17	24:03					
	22	355° 04'.4	137° 48'.4	18.5	215° 45'.3	12.6	320° 00'.2	24.9	155° 14'.2	56.5	Betelgeuse	271° 02'.4	7° 24'.6 N	153° 37'.1	60° 06'.6 S	280° 22'.2	10'.5	38.8	0'.4	40°.0	40°	N 40°	04:09	04:42	05:10	22:43	23:32	24:16					
23	10° 06'.8	152° 47'.9	19.6	230° 46'.4	12.2	335° 03'.0	24.8	170° 16'.4	56.6				168° 37'.2	01'.5	294° 51'.7	10'.5	39.2	0'.3	45°.0	45°	N 45°	03:56	04:33	05:04	23:00	23:49	24:32						
Monday	00	25° 09'.3	167° 47'.3	14° 20'.7 S	245° 47'.4	17° 11'.8 N	350° 05'.8	12° 24'.6 N	185° 18'.6	5° 56'.7 S	Canopus	263° 56'.5	52° 41'.9 S	183° 37'.4	9° 02'.5 S	309° 21'.2	10'.4	22° 39'.5 N	0'.2	54'.9	S 50°	03:41	04:22	04:56	23:21	-	-	-					
	01	40° 11'.8	182° 46'.8	21.8	260° 48'.5	11.4	5° 08'.6	24.5	200° 20'.8	56.8	Capella	280° 35'.9	46° 00'.4 N	198° 37'.5	03'.5	323° 50'.6	10'.5	39.7	0'.1	55'.0	S 50°	03:33	04:17	04:52	23:32	-	-	-	00:09				
	02	55° 14'.2	197° 46'.2	22.8	275° 49'.5	11.1	20° 11'.3	24.3	215° 22'.9	56.9	Deneb	49° 32'.2	45° 19'.8 N	213° 37'.6	04'.3	338° 20'.1	10'.3	39.8	0'.0	54°.0	54°	N 54°	03:24	04:11	04:49	23:43	-	-	-	00:30			
	03	70° 16'.7	212° 45'.7	23.9	290° 50'.5	10.7	35° 14'.1	24.4	230° 57'.1	57.0	Denebola	182° 35'.1	14° 30'.3 N	228° 37'.5	05.2	352° 49.4	10.4	39.8	0.2	20.3	20°	N 20°	03:14	04:04	04:44	23:56	-	-	-	00:30			
	04	85° 19'.2	227° 45'.1	25.0	305° 51'.6	10.3	50° 16'.9	24.2	245° 27'.3	57.2	Diphda	348° 56'.7	17° 55'.1 S	243° 37'.9	06.1	7° 18.8	10.4	39.6	0.2	58°.0	58°	N 58°	03:02	03:57	04:39	-	-	-	00:12				
	05	100° 21'.6	242° 44'.6	26.1	320° 52'.6	09.9	65° 19'.7	24.1	260° 29'.5	57.3				258° 38'.0	07.0	21° 48'.2	10.3	39.4	0.4	60°.0	S 60°	02:48	03:48	04:34	-	-	-	00:30					
	06	115° 24'.1	257° 44'.0	27.1	335° 53'.7	09.5	80° 22'.4	24.0	275° 31'.7	57.4	Dubhe	193° 53'.6	61° 41'.0 N	273° 38'.1	08.0	36° 17'.5	10.3	39.0	0.5	55'.1	S 62°	02:31	03:38	04:28	-	-	-	00:53					
	07	130° 26'.5	272° 43'.5	28.2	350° 54'.7	09.1	95° 25'.2	23.9	290° 33'.8	57.5	Elnath	278° 13'.9	28° 37'.0 N	288° 38'.3	08.9	50° 46.8	10.3	38.5	0.6														
	08	145° 29'.0	287° 42'.9	29.3	5° 55'.8	08.7	110° 28'.0	23.8	305° 36'.0	57.6	Elainin	90° 46'.9	51° 29'.6 N	303° 38'.4	09.8	65° 16'.1	10.3	37.9	0'.7														
	09	160° 31'.5	302° 42'.4	30.4	20° 56'.8	08.3	125° 30'.8	23.7	320° 38'.2	57.7	Enif	33° 48'.1	9° 56'.0 N	318° 38'.5	10.7	79° 45.4	10.3	37.2	0'.9														
	10	175° 33'.9	317° 41'.8	31.4	35° 57'.8	07.9	140° 33'.5	23.6	335° 40'.4	57.8	Fomalhaut	15° 25'.0	29° 33'.5 S	333° 38'.7	11.6	94° 14'.7	10.2	36.3	0'.9														
	11	190° 36'.4	332° 41'.3	32.5	50° 58'.9	07.5	155° 36'.3	23.5	350° 42'.6	57.9				348° 38.8	12.5	108° 43'.9	10.2	35.4	1'.1	55'.2													

**2011 October 19, 20, 21 (Wed, Thur, Fri)**

GMT	ARIES			VENUS -3.9			MARS +1.2			JUPITER -2.9			SATURN +0.7			STARS			SUN		MOON				Lat	Twilight		Sunrise	19		Moonrise	
																Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d		HP	Nautical	Civil		19	20	21
<b>19</b>	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	05:15	06:34	07:47	-	20:57	23:17			
	01	27° 07.6	167° 20.5	15° 11.7 S	246° 37.7	16° 53.1 N	352° 19.1	187° 03.2	6° 02.1 S	182° 03.2	4° 02.1 S	202° 05.4	2	Acamar	315° 18.8	40° 15.3 S	183° 43.4	9° 46.2 S	284° 39.9	10.0	20° 39.3 N	5.3	56.1	N 70°	05:17	06:28	07:33	19:13	21:31	23:34		
	02	42° 10.0	182° 19.9	12.8	261° 38.8	52.7	7° 21.9	19.5	202° 05.4	2.2	187° 03.2	4.2	Acernar	335° 27.0	57° 10.5 S	199° 08.9	10.1	34.0	5.5	56.2	68°	05:18	06:22	07:21	20:01	21:55	23:47					
	03	57° 12.5	197° 19.3	13.8	276° 39.8	52.3	22° 24.7	19.3	217° 07.6	02.4	187° 03.2	02.4	Acrux	173° 11.4	63° 09.8 S	213° 43.6	48.0	313° 38.0	10.0	28.5	5.5	66°	05:19	06:18	07:12	20:31	22:14	23:58				
	04	72° 15.0	212° 18.8	14.8	291° 40.9	51.9	37° 27.5	19.2	232° 09.7	02.5	187° 03.2	02.5	Adhara	255° 13.4	28° 59.1 S	228° 43.7	48.9	328° 07.0	10.1	23.0	5.7	64°	05:19	06:14	07:04	20:54	22:29	24:07				
	05	87° 17.4	227° 18.2	15.9	306° 41.9	51.5	52° 30.2	19.1	247° 11.9	02.6	187° 03.2	02.6	Aldebaran	290° 50.5	16° 32.0 N	243° 43.9	49.8	342° 36.1	10.1	17.3	5.7	56.3	62°	05:19	06:11	06:57	21:12	22:41	24:14			
	06	102° 19.9	242° 17.6	16.9	321° 43.0	51.1	67° 33.0	19.0	262° 14.1	02.7	187° 03.2	02.7											60°	05:20	06:08	06:45	21:26	22:52	24:21			
	07	117° 22.4	257° 17.1	18.0	336° 44.1	50.7	82° 35.8	18.9	277° 16.3	02.8	187° 03.2	02.8	Alioth	166° 22.2	55° 53.7 N	273° 44.1	51.7	11° 34.3	10.0	05.7	6.0		N 58°	05:20	06:05	06:51	21:39	23:01	24:26			
	08	132° 24.8	272° 16.5	19.0	351° 45.1	50.3	97° 38.6	18.8	292° 18.5	02.9	187° 03.2	02.9	Alkaid	153° 00.3	49° 15.3 N	288° 44.2	52.6	26° 03.3	10.1	19° 59.7 N	6.1	56.4	56°	05:19	06:03	06:41	21:50	23:09	24:31			
	09	147° 27.3	287° 15.9	20.1	6° 46.2	49.9	112° 41.4	18.7	307° 20.6	03.0	187° 03.2	03.0	Alnair	27° 44.9	46° 54.2 S	303° 44.3	53.5	40° 32.4	10.1	53.6	6.2	54°	05:19	06:00	06:36	21:59	23:16	24:36				
	10	162° 29.8	302° 15.3	21.1	12° 47.2	49.5	127° 44.1	18.6	322° 22.8	03.1	187° 03.2	03.1	Alnilam	275° 57.4	1° 11.6 S	318° 44.4	54.4	55° 01.5	10.1	47.4	6.3	52°	05:19	05:58	06:33	22:08	23:22	24:40				
	11	177° 32.2	317° 14.8	22.1	36° 48.3	49.1	142° 46.9	18.5	337° 25.0	03.3	187° 03.2	03.3	Alphard	217° 57.4	8° 42.5 S	333° 44.6	55.3	69° 30.6	10.1	41.1	6.4	50°	05:19	05:56	06:29	22:15	23:28	24:44				
	12	192° 34.7	332° 14.2	23.2	51° 49.3	48.7	157° 49.7	18.4	352° 27.2	03.4	187° 03.2	03.4											50°	05:18	05:52	06:22	22:32	23:40	24:52			
	13	207° 37.1	347° 13.6	15° 24.2 S	66° 50.4	16° 48.3 N	172° 52.5	12° 18.3 N	7° 29.4	6° 03.5 S	187° 03.2	6° 03.5 S	Alphecca	126° 12.3	26° 40.7 N	3° 44.8	9° 57.1 S	98° 28.9	10.1	19° 28.1 N	6.6	56.5	N 40°	05:16	05:48	06:15	22:45	23:50	24:58			
	14	222° 39.6	2° 13.0	25.3	81° 51.5	47.9	187° 55.3	18.2	22° 31.5	03.6	187° 03.2	03.6	Alpheratz	357° 44.4	29° 09.6 N	18° 44.9	58.0	112° 58.0	10.1	21.5	6.8	35°	05:15	05:44	06:10	22:56	23:59	25:04				
	15	237° 42.1	17° 12.4	26.3	96° 52.5	47.6	202° 58.0	18.1	37° 33.7	03.7	187° 03.2	03.7	Altair	62° 09.4	8° 54.3 N	33° 45.0	58.9	102° 27.1	10.2	14.7	6.8	56.6	30°	05:13	05:41	06:05	23:06	-	00:07			
	16	252° 44.5	32° 11.9	27.3	111° 53.6	47.2	218° 00.8	18.0	52° 35.9	03.8	187° 03.2	03.8	Ankaa	353° 16.4	42° 14.4 S	48° 45.1	59.8	141° 56.3	10.1	07.9	7.0	20°	05:08	05:34	05:56	23:23	-	00:20				
	17	267° 47.0	47° 11.3	28.4	126° 54.6	46.8	233° 03.6	17.8	67° 38.1	03.9	187° 03.2	03.9	Antares	112° 28.0	26° 27.4 S	63° 45.2	10° 07.7 S	156° 25.4	10.2	00.9	7.1	N 10°	05:03	05:27	05:49	23:37	-	00:31				
	18	282° 49.5	62° 10.7	29.4	141° 55.7	46.4	248° 06.4	17.7	82° 40.3	04.1	187° 03.2	04.1											0°	04:56	05:20	05:41	23:51	-	00:42			
	19	297° 51.9	77° 10.1	30.5	156° 56.8	46.0	263° 09.2	17.6	97° 42.4	04.2	187° 03.2	04.2	Arcturus	145° 57.1	19° 07.3 N	93° 45.5	02.5	185° 23.7	10.2	46.7	7.3	S 10°	04:48	05:13	05:34	-	00:05	00:52				
	20	312° 54.4	92° 09.6	31.5	171° 57.8	45.6	278° 12.0	17.5	112° 44.6	04.3	187° 03.2	04.3	Atria	107° 31.3	69° 03.0 S	108° 45.6	03.4	199° 52.9	10.2	39.4	7.4	20°	04:37	05:04	05:26	-	00:19	01:04				
	21	327° 56.9	107° 09.0	32.5	186° 58.9	45.2	293° 14.7	17.4	127° 46.8	04.4	187° 03.2	04.4	Avior	234° 18.6	59° 32.6 S	123° 45.7	04.3	214° 22.1	10.2	32.0	7.5	56.8	30°	04:23	04:53	05:17	-	00:36	01:17			
	22	342° 59.3	122° 08.4	33.6	201° 59.9	44.8	308° 17.5	17.3	142° 49.0	04.5	187° 03.2	04.5	Bellatrix	278° 33.1	6° 21.7 N	138° 45.8	05.2	228° 51.3	10.2	24.5	7.6	35°	04:15	04:46	05:12	00:03	00:45	01:24				
	23	358° 01.8	137° 07.8	34.6	217° 01.0	44.4	323° 20.3	17.2	157° 51.2	04.6	187° 03.2	04.6	Betelgeuse	271° 02.4	7° 24.9 N	153° 45.9	06.1	243° 20.5	10.2	16.9	7.8	40°	04:04	04:38	05:06	00:16	00:56	01:32				
23	13° 04.3	152° 07.2	35.6	232° 02.1	44.0	338° 23.1	17.1	172° 53.3	04.7	187° 03.2	04.7											45°	03:51	04:28	04:59	00:32	01:09	01:42				
<b>20</b>	00	28° 06.7	167° 06.6	15° 36.7 S	247° 03.1	16° 43.6 N	353° 25.9	12° 17.0 N	172° 55.5	6° 04.8 S	207° 57.7	05.0	Canopus	263° 56.5	52° 41.9 S	183° 46.2	10° 07.9 S	272° 18.9	10.2	18° 01.3 N	7.9	56.9	S 50°	03:33	04:16	04:50	00:50	01:25	01:54			
	01	43° 09.2	182° 06.1	37.7	262° 04.2	43.2	8° 28.7	16.9	202° 57.7	05.0	182° 06.1	37.7	Capella	280° 35.9	46° 00.4 N	198° 46.3	08.8	286° 48.1	10.3	17° 53.4 N	8.0	52°	03:25	04:10	04:46	00:59	01:32	02:00				
	02	58° 11.6	197° 05.5	38.7	277° 05.3	42.8	23° 31.4	16.8	217° 59.9	05.1	182° 06.1	38.7	Deneb	49° 32.2	45° 19.8 N	213° 46.4	09.7	301° 17.4	10.2	45.4	8.2	57.0	54°	03:16	04:03	04:42	01:09	01:40	02:06			
	03	73° 14.1	212° 04.9	39.7	292° 06.3	42.4	38° 34.2	16.7	233° 05.1	05.2	182° 06.1	39.7	Denebola	182° 35.1	14° 30.3 S	315° 46.6	10.6	312° 46.3	10.3	37.2	8.2	56°	03:05	03:56	04:37	01:20	01:49	02:12				
	04	88° 16.6	227° 04.3	40.8	307° 07.4	42.0	53° 37.0	16.6	248° 04.2	05.3	182° 06.1	40.8	Diphda	348° 56.7	17° 55.1 S	243° 46.6	11.5	330° 15.9	10.2	29.0	8.3	57.1	58°	02:52	03:48	04:31	01:33	01:59	02:20			
	05	103° 19.0	242° 03.7	41.8	322° 08.4	41.6	68° 39.8	16.5	263° 06.4	05.4	182° 06.1	41.8											S 60°	02:36	03:39	04:25	01:48	02:11	02:28			
	06	118° 21.5	257° 03.1	42.8	337° 09.5	41.2	83° 42.6	16.3	278° 08.6	05.5	182° 06.1	42.8	Dubhe	193° 53.6	61° 41.0 N	273° 46.8	13.3	359° 14.4	10.3	12.2	8.5		S 62°	02:17	03:28	04:18	02:05	02:25	02:38			
	07	133° 24.0	272° 02.6	43.9	352° 10.6	40.8	98° 45.4	16.2	293° 10.8	05.6	182° 06.1	43.9	Elath	278° 13.9	28° 37.0 N	288° 46.9	14.2	13° 43.7	10.3	03.7	8.6	57.2										
	08	148° 26.4	287° 02.0	44.9	7° 11.6	40.5	113° 48.1	16.1	308° 13.0	05.7	182° 06.1	44.9	Elnath	90° 46.9	51° 29.6 N	303° 47.0	15.1	28° 13.0	10.3	16° 55.1 N	8.8											
	09	163° 28.9	302° 01.4	45.9	22° 12.7	40.1	128° 50.9	16.0	323° 15.1	05.9	182° 06.1	45.9	Enif	33° 48.1	9° 56.0 N	318° 47.2	16.0	42° 42.3	10.3	46.3	8.8		Lat	Sunset	Twilight							
	10	178° 31.4	317° 00.8	46.9	37° 13.8	39.7	143° 53.7	15.9	338° 17.3	06.0	182° 06.1	46.9	Fomalhaut	15° 25.0	29° 33.5 S	333° 47.3	16.9	57° 11.6	10.3	37.5	8.9	57.3										
	11	193° 33.8	332° 00.2	48.0	52° 14.8	39.3	158° 56.5	15.8	353° 19.5	06.1	182° 06.1	48.0																				
	12	208° 36.3	346° 59.6	15° 49.0 S	67° 15.9	16° 38.9 N	173° 59.3	12° 15.7 N	8° 21.7	6° 06.2 S	182° 06.1	49.0	Gacrux	172° 02.8	57° 10.7 S	3° 47.5	10° 18.7 S	86° 10.3	10.3	16° 19.5 N	9.1	57.3	N 70°	15:55	17:00	18:11	16:14	15:44	15:26			
	13	223° 38.8	1° 59.0	50.0	82° 17.0	38.5	189° 02.1	15.6	23° 23.9	06.3	182° 06.1	50.0	Gienah	175° 53.8	17° 36.4 S	18° 47.6	19.6	100° 39.6	10.4	10.4	9.2	57.4	68°	16:07	17:06	18:10	15:26	15:18	15:12			
	14	238° 41.2	16° 58.4	51.0	97° 18.0	38.1	204° 04.8	15.5	38° 26.0	06.4	182° 06.1	51.0	Hadar	148° 50.3	60° 25.8 S	33° 47.7	20.5	115° 09.0	10.3	01.2	9.4	66°	16:17	17:10	18:09	14:55	14:58	14:59				

2011 October 22, 23, 24 (Sat, Sun, Mon)

Table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Nautical, Civil), Sunrise, 22, Moonrise, 24. Rows include planetary positions for 2011 and a detailed star catalog.

2011 October 25, 26, 27 (Tue, Wed, Thur)

GMT	ARIES			VENUS -3.9			MARS +1.1			JUPITER -2.9			SATURN +0.7			STARS			SUN		MOON			Twilight			Sunrise			Moonrise								
	Lat	Nautical	Civil	25	26	27	GHA	GHA	Dec	GHA	GHA	Dec	GHA	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	05:40	07:00	08:19	05:55	08:28	-						
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2011 October 28, 29, 30 (Fri, Sat, Sun)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON						
	-3.9			+1.1			-2.9			+0.8			STARS			SUN			MOON									
	GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	Sunrise	28	29
28 00	35° 59'.8	165° 05'.1	18° 41'.1 S	250° 32'.8	15° 26'.8 N	2° 21'.4	11° 56'.0 N	194° 54'.2	6° 26'.2 S	Acamar	315° 18'.8	40° 15'.3 S	184° 02'.2	12° 55'.5 S	168° 13'.2	4.0	19° 59'.4 S	6.9	61.0	1.0		N 72°	05:53	07:14	08:36	-	-	-
01	35° 59'.8	165° 05'.1	18° 41'.1 S	250° 32'.8	15° 26'.8 N	2° 21'.4	11° 56'.0 N	194° 54'.2	6° 26'.2 S	Acamar	315° 18'.8	40° 15'.3 S	184° 02'.2	12° 55'.5 S	168° 13'.2	4.0	19° 59'.4 S	6.9	61.0	1.0		N 70°	05:50	07:03	08:14	-	-	-
02	66° 04'.7	195° 03'.8	42.9	280° 35'.1	26.0	32° 27'.0	55.8	224° 58'.6	26.4	Acnarnar	335° 27'.0	57° 10'.5 S	182° 36'.2	56.3	182° 36'.2	4.0	20° 06'.3 S	6.9	68°	05:48	06:54	07:57	12:22	-	-	-		
03	81° 07'.2	210° 03'.1	43.8	295° 36'.2	25.6	47° 29'.7	55.8	240° 00'.8	26.5	Acrux	173° 11'.3	63° 09'.8 S	214° 02'.3	57.1	196° 59'.2	3.9	13.2	6.7	66°	05:45	06:46	07:43	11:20	12:59	13:49			
04	96° 09'.7	225° 02'.4	44.6	310° 37'.3	25.2	62° 32'.5	55.6	255° 03'.0	26.6	Aldebaran	255° 13'.3	28° 59'.1 S	221° 22'.1	58.0	211° 22'.1	3.9	19.9	6.5	64°	05:43	06:40	07:31	10:46	12:13	13:08			
05	111° 12'.1	240° 01'.7	45.5	325° 38'.4	24.8	77° 35'.3	55.5	270° 05'.1	26.7				244° 02'.4	58.8	225° 45'.0	3.9	26.4	6.4	62°	05:42	06:34	07:22	10:21	11:43	12:39			
06	126° 14'.6	255° 01'.0	46.4	340° 39'.6	24.4	92° 38'.1	55.4	285° 07'.3	26.9				259° 02'.4	59.7	240° 07'.9	3.9	32.8	6.2	60.9	60°	05:40	06:29	07:13	10:01	11:20	12:18		
07	141° 17'.1	270° 00'.3	47.3	355° 40'.7	24.0	107° 40'.9	55.2	300° 09'.5	27.0	Alioth	166° 22'.2	55° 53'.6 N	274° 02'.5	13° 00'.5 S	254° 30'.8	3.8	39.0	6.1		N 58°	05:38	06:25	07:06	09:45	11:02	12:00		
08	156° 19'.5	284° 59'.6	48.2	10° 41'.8	23.6	122° 43'.7	55.1	315° 11'.7	27.1	Alkaid	153° 00'.3	49° 15'.2 N	289° 02'.5	01.3	268° 53'.6	3.9	45.1	5.9		54°	05:37	06:21	07:00	09:31	10:46	11:45		
09	171° 22'.0	299° 58'.9	49.0	5° 42'.9	23.2	137° 46'.5	55.0	330° 13'.9	27.2	Alnair	27° 45'.0	46° 54'.2 S	304° 02'.6	02.2	283° 16'.5	3.8	51.0	5.7		56°	05:35	06:17	06:54	09:19	10:33	11:32		
10	186° 24'.5	314° 58'.3	49.9	40° 44'.1	22.8	152° 49'.3	54.9	345° 16'.0	27.3	Alnilam	275° 47'.3	1° 11'.6 S	319° 02'.6	03.0	297° 39'.3	3.8	56.7	5.6	60.8	52°	05:34	06:13	06:49	09:09	10:22	11:21		
11	201° 26'.9	329° 57'.6	50.8	55° 45'.2	22.4	167° 52'.1	54.8	360° 18'.2	27.4	Alphard	217° 57'.3	8° 42'.6 S	334° 02'.7	03.9	312° 02'.1	3.8	21° 02'.3 S	5.5	50°	05:32	06:10	06:44	08:59	10:11	11:11			
12	216° 29'.4	344° 56'.9	51.7 S	70° 46'.3	15° 22'.0 N	182° 54'.9	11° 54'.7 N	15° 20'.4	6° 27'.5 S				349° 02'.7	04.7	326° 24'.9	3.7	07.8	5.3		45°	05:29	06:03	06:34	08:40	09:50	10:50		
13	231° 31'.9	359° 56'.2	52.5	85° 47'.4	21.6	197° 57'.7	54.6	30° 22'.6	27.6	Alphecca	126° 12'.3	26° 40'.6 N	4° 02'.8	13° 05'.5 S	340° 47'.6	3.8	21° 13'.1 S	5.1	60.8	N 40°	05:25	05:57	06:25	08:24	09:32	10:33		
14	246° 34'.3	14° 55'.5	53.4	100° 48'.6	21.2	213° 00'.5	54.5	45° 24'.8	27.7	Alpheratz	357° 44.4	29° 09'.6 N	19° 02'.8	06.4	355° 10'.4	3.8	18.2	4.9	60.7	35°	05:22	05:52	06:18	08:10	09:18	10:18		
15	261° 36'.8	29° 54'.8	54.3	115° 49'.7	20.8	228° 03'.3	54.4	60° 27'.0	27.8	Altair	62° 09'.5	8° 54'.3 N	34° 02'.9	07.2	9° 33'.2	3.7	23.1	4.8		30°	05:19	05:47	06:11	07:59	09:05	10:06		
16	276° 39'.2	44° 54'.1	55.1	130° 50'.8	20.4	243° 06'.3	54.4	75° 29'.1	27.9	Ankaa	353° 16.4	42° 14'.5 S	49° 02'.9	08.0	23° 55'.9	3.7	27.9	4.7		20°	05:11	05:37	06:00	07:39	08:44	09:44		
17	291° 41'.7	59° 53'.4	56.0	145° 52'.0	19.9	258° 08'.8	54.1	90° 31'.3	28.1	Antares	112° 28'.0	26° 27'.4 S	64° 03'.0	08.9	38° 18'.6	3.8	32.6	4.4		N 10°	05:03	05:28	05:50	07:21	08:25	09:26		
18	306° 44.2	74° 52.7	56.9	160° 53'.1	19.5	273° 11'.6	54.0	105° 33'.5	28.2	Arcturus	145° 57.1	19° 07'.3 N	94° 03'.1	10.6	67° 04.1	3.7	41.4	4.1		S 10°	04:44	05:09	05:31	06:49	07:50	08:51		
19	321° 46.6	89° 52.0	57.8	175° 54.2	19.1	288° 14.4	53.9	120° 35'.1	28.3	Atria	107° 31'.3	63° 03'.0 S	109° 03'.1	11.4	81° 26.8	3.8	45.5	4.0		20°	04:31	04:57	05:20	06:32	07:32	08:32		
20	336° 49.1	104° 51.3	58.6	190° 55.3	18.7	303° 17.2	53.8	135° 37.9	28.4	Avior	234° 18.5	59° 32.6 S	124° 03.2	12.2	95° 49.6	3.7	49.5	3.8	60.5	30°	04:14	04:43	05:08	06:13	07:10	08:11		
21	351° 51.6	119° 50.6	59.5	205° 56.5	18.3	318° 20.0	53.7	150° 40.1	28.5	Bellatrix	278° 33.0	6° 21.6 N	139° 03.2	13.1	110° 12.3	3.8	53.3	3.7	35°	04:03	04:35	05:01	06:02	06:58	07:59			
22	6° 54.0	134° 49.9	19° 00.4 S	220° 57.6	17.9	333° 22.8	53.6	165° 42.2	28.6	Betelgeuse	271° 02.4	7° 24.5 N	154° 03.2	13.9	124° 35.1	3.7	57.0	3.5	40°	03:50	04:25	04:53	05:49	06:43	07:44			
23	21° 56.5	149° 49.2	01.2	235° 58.7	17.5	348° 25.6	53.5	180° 44.4	28.7				169° 03.3	14.7	138° 57.8	3.8	22° 00.5 S	3.3	45°	03:33	04:12	04:44	05:34	06:27	07:27			
29 00	36° 59.0	164° 48.5	19° 02.1 S	250° 59.9	15° 17.1 N	3° 28.4	11° 53.4 N	195° 46.6	6° 28.8 S	Canopus	263° 56.4	52° 41.4 N	184° 03.4	13° 15.6 S	153° 20.6	3.8	22° 03.8 S	3.2	60.4	S 50°	03:12	03:57	04:33	05:15	06:06	07:06		
01	52° 01.4	179° 47.8	02.9	266° 01.0	16.7	18° 31'.2	53.3	210° 48'.8	28.9	Capella	280° 35.8	46° 00'.4 N	199° 03'.4	16.6	167° 43'.4	3.8	07.0	3.0		52°	03:02	03:50	04:27	05:06	05:56	06:56		
02	67° 03.9	194° 47.1	03.8	281° 02'.1	16.3	33° 34'.0	53.2	225° 51'.0	29.0	Deneb	49° 32'.3	45° 19'.8 N	214° 03'.5	17.2	182° 06'.2	3.8	10.0	2.9		54°	02:50	03:42	04:21	04:57	05:45	06:45		
03	82° 06.4	209° 46.4	04.7	296° 03'.3	15.9	48° 36'.8	53.0	240° 53'.2	29.1	Denebola	182° 35.1	14° 30'.3 N	229° 03'.5	18.1	196° 29.0	3.8	12.9	2.6	60.3	56°	02:35	03:32	04:15	04:46	05:32	06:32		
04	97° 08.8	224° 45.8	05.5	311° 04'.4	15.5	63° 39'.6	52.9	255° 55'.3	29.3	Diphda	348° 56.7	17° 55'.2 S	244° 03'.5	18.9	210° 51'.8	3.9	15.5	2.6		58°	02:18	03:22	04:08	04:33	05:17	06:17		
05	112° 11'.3	239° 45'.1	06.4	326° 05'.5	15.1	78° 42'.4	52.8	270° 57'.5	29.4				259° 03'.6	19.7	225° 14.7	3.8	18.1	2.3		S 60°	01:57	03:09	03:59	04:19	05:00	05:59		
06	127° 13'.7	254° 44'.4	07.2	341° 06'.7	14.7	93° 45'.1	52.7	285° 59'.7	29.5	Dubhe	193° 53.5	61° 40'.9 N	274° 03'.6	20.6	239° 37.5	3.9	20.4	2.2	60.2	S 62°	01:28	02:54	03:50	04:01	04:39	05:37		
07	142° 16.2	269° 43.6	08.1	356° 07.8	14.3	108° 47.9	52.6	301° 01'.9	29.6	Elnath	278° 13.8	28° 37'.0 N	289° 03'.7	21.4	254° 00'.4	4.0	22.6	2.0										
08	157° 18'.7	284° 42.9	09.0	11° 08'.9	13.9	123° 50.7	52.5	316° 04'.1	29.7	Elainin	90° 47.0	51° 29'.6 N	304° 03'.7	22.2	268° 23.4	3.9	24.6	1.9										
09	172° 21'.1	299° 42.2	09.8	26° 10'.1	13.5	138° 53'.5	52.4	331° 06'.3	29.8	Enif	33° 48'.2	9° 56'.0 N	319° 03'.8	23.1	282° 46.3	4.0	26.5	1.7	60.1									
10	187° 23.6	314° 41'.5	10.7	41° 11'.2	13.1	153° 56.3	52.3	346° 08'.4	29.9	Fomalhaut	15° 25.0	29° 33'.5 S	334° 03.8	23.9	297° 09.3	4.0	28.2	1.6										
11	202° 26.1	329° 40.8	11.5	56° 12.3	12.7	168° 59.1	52.2	1° 10'.6	30.0				349° 03.9	24.7	311° 32.3	4.1	29.8	1.3										
12	217° 28.5	344° 40.1	12.4 S	71° 13'.5	15° 12'.3 N	184° 01'.9	11° 52.1 N	16° 12'.8	6° 30.																			

2011 Oct 31, Nov. 1, 2 (Mon, Tue, Wed)

Main table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight, Sunrise, Moonrise, and Moonset. Includes vertical labels 'Monday', 'Tuesday', and 'Wednesday' on the left.



2011 November 3, 4, 5 (Thur, Fri, Sat)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise		
	Nautical	Civil	Sunrise	3	4	5	Name	SHA	Dec	GHA	v	Dec	GHA	v	Dec	d	HP	N 72°	06:16	07:41	09:14	14:49	14:30	14:13							
3 Thurs day	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	06:16	07:41	09:14	14:49	14:30	14:13					
	41° 54'.7	163° 21'.1	20° 39.0 S	253° 17'.9	14° 28'.4 N	9° 03'.4	11° 40'.3 N	200° 08'.7	46° 41'.8 S	Acamar	315° 18'.8	40° 15'.3 S	184° 06'.5	14° 52'.8 S	86° 57'.8	13'.0	12° 24'.5 S	10'.3	56.0	N 70°	06:11	07:27	08:44	14:34	14:22	14:12					
	56° 57'.1	178° 20'.3	39.8	268° 19'.1	28.0	24° 06'.1	40.2	215° 10'.9	41'.9	Acarnar	335° 27'.0	57° 10'.6 S	199° 06'.5	53'.6	101° 29'.8	13'.1	14'.2	10'.3	55.9	N 68°	06:07	07:15	08:22	14:22	14:16	14:11					
	71° 59'.6	193° 19'.5	40.5	283° 20'.2	27.6	39° 08'.9	40.1	230° 13'.1	42.0	Acrux	173° 11'.3	63° 09'.7 S	214° 06'.5	54'.4	116° 01'.9	13'.2	03'.9	10'.4	66°	06:03	07:05	08:05	14:12	14:11	14:10						
	87° 02'.1	208° 18'.8	41.3	298° 21'.4	27.2	54° 11'.7	39.9	245° 15'.3	42.0	Adhara	255° 13'.3	28° 59'.2 S	229° 06'.5	55'.2	130° 34'.1	13'.3	11° 53'.5 S	10'.5	64°	06:03	07:05	08:05	14:12	14:11	14:10						
	102° 04'.5	223° 18'.0	42.0	313° 22'.6	26.8	69° 14'.5	39.8	260° 17'.5	42.2	Aldebaran	290° 50'.4	16° 32'.0 N	244° 06'.5	56'.0	145° 06'.4	13'.3	43'.0	10'.4	55.8	62°	05:56	06:49	07:39	13:56	14:03	14:08					
	117° 07'.0	238° 17'.2	42.8	328° 23'.8	26.4	84° 17'.3	39.7	275° 19'.7	42.3				259° 06'.5	56'.8	159° 38'.7	13'.4	32'.6	10'.5	60°	05:53	06:43	07:29	13:49	13:59	14:08						
	132° 09'.4	253° 16'.5	43.5	343° 24'.9	26.0	99° 20'.1	39.6	290° 21'.9	42.4	Alioth	166° 22'.1	55° 53'.6 N	274° 06'.5	57'.5	174° 11'.1	13'.4	22'.1	10'.6	55.7	N 58°	05:50	06:37	07:20	13:44	13:56	14:07					
	147° 11'.9	268° 15'.7	44.3	358° 26'.1	25.6	114° 22'.9	39.5	305° 24'.0	42.5	Alkaid	153° 00'.2	49° 15'.2 N	289° 06'.5	58'.3	188° 43'.5	13'.6	11'.5	10'.6	55.7	54°	05:48	06:32	07:12	13:39	13:54	14:07					
	162° 14'.4	283° 14'.9	45.0	373° 27'.3	25.2	129° 25'.7	39.4	320° 26'.2	42.6	Alnair	27° 45'.0	46° 54'.2 S	304° 06'.5	59'.1	203° 16'.1	13'.6	00'.9	10'.6	54°	05:46	06:28	07:06	13:34	13:51	14:07						
	177° 16'.8	298° 14'.2	45.8	388° 28'.4	24.8	144° 28'.4	39.3	335° 28'.4	42.7	Alnilam	275° 47'.3	5° 11'.6 S	319° 06'.5	59.9	217° 48'.7	13'.6	10° 50'.3 S	10'.7	52°	05:43	06:24	06:59	13:30	13:49	14:06						
	192° 19'.3	313° 13'.4	46.5	43° 29'.6	24.4	159° 31'.2	39.2	350° 30'.6	42.8	Alphard	217° 57'.3	8° 42'.6 S	334° 06'.5	15° 00'.7 S	232° 21'.3	13'.8	39.6	10'.7	50°	05:41	06:20	06:54	13:26	13:47	14:06						
	207° 21'.8	328° 12'.7	47.2	58° 30'.8	24.0	174° 34'.0	39.1	5° 32'.8	42.9				349° 06'.5	01'.5	246° 54'.1	13'.8	28.9	10'.7	55.6	45°	05:36	06:11	06:42	13:18	13:42	14:05					
	222° 24'.2	343° 11'.9	20° 48.0 S	73° 32'.0	14° 23'.6 N	189° 36'.8	11° 39'.0 N	20° 35'.0	6° 43'.0 S	Alphecca	126° 12'.3	26° 40'.6 N	4° 06'.5	15° 02'.2 S	261° 26'.9	13'.8	10° 18'.2 S	10'.8	55.6	N 40°	05:32	06:04	06:32	13:11	13:39	14:04					
	237° 26'.7	358° 11'.1	48.7	88° 33'.1	23.2	204° 39'.6	38.9	35° 37'.2	43.2	Alpheratz	357° 44.4	29° 09'.6 N	19° 06'.5	03'.0	275° 59'.7	13'.9	07'.4	10'.8	35°	05:27	05:57	06:23	13:05	13:36	14:04						
	252° 29'.2	13° 10'.4	49.5	103° 34'.3	22.8	219° 42'.4	38.8	50° 39'.3	43.3	Altair	62° 09'.5	8° 54'.2 N	34° 06'.5	03'.8	290° 32'.6	14'.0	9° 56'.6 S	10'.8	55.5	30°	05:23	05:51	06:16	13:00	13:33	14:03					
	267° 31'.6	28° 09'.6	50.2	118° 35'.5	22.4	234° 45'.2	38.7	65° 41'.5	43.4	Ankaa	353° 16'.5	42° 14'.5 S	49° 06'.5	04'.6	305° 05'.6	14'.1	45.8	10'.9	20°	05:14	05:40	06:03	12:51	13:28	14:03						
	282° 34'.1	43° 08'.8	50.9	133° 36'.7	21.9	249° 48'.0	38.5	80° 43'.7	43.5	Antares	112° 28'.0	26° 27'.4 S	64° 06'.5	05'.4	319° 38'.7	14'.1	34.9	10'.9	N 10°	05:04	05:29	05:51	12:43	13:23	14:02						
	297° 36'.5	58° 08'.0	51.7	148° 37'.8	21.5	264° 50'.8	38.4	95° 45'.9	43.6				79° 06'.5	06'.1	334° 11'.8	14'.1	24.0	10'.9	0°	04:54	05:19	05:40	12:36	13:19	14:01						
	312° 39.0	73° 07'.3	52.4	163° 39.0	21.1	279° 53'.5	38.3	110° 48'.1	43.7	Arcturus	145° 57'.1	19° 07'.3 N	94° 06'.5	06.9	348° 44'.9	14'.2	13.1	10'.9	55.4	S 10°	04:42	05:07	05:29	12:28	13:15	14:01					
	327° 41'.5	88° 06'.5	53.1	178° 40'.2	20.7	294° 56'.3	38.2	125° 50'.3	43.8	Arctia	107° 31'.4	69° 03'.0 S	109° 06'.5	07'.3	3° 18'.1	14'.3	02'.1	11'.0	20°	04:27	04:54	05:17	12:20	13:11	14:00						
	342° 43'.9	103° 05'.7	53.9	193° 41'.4	20.3	309° 59'.1	38.1	140° 52'.5	43.9	Avior	234° 18'.4	59° 32'.6 S	124° 06'.5	08'.5	17° 51'.4	14'.3	8° 51'.2 S	11'.0	30°	04:08	04:38	05:03	12:11	13:06	13:59						
	357° 46.4	118° 05'.0	54.6	208° 42'.5	19.9	325° 01.9	38.0	155° 54'.7	44.0	Bellatrix	278° 33'.0	6° 21'.6 N	139° 06'.5	09.3	32° 24'.7	14.4	40.2	11'.1	35°	03:56	04:28	04:55	12:06	13:03	13:59						
	12° 48'.9	133° 04'.2	55.3	223° 43'.7	19.5	340° 04'.7	37.9	170° 56'.8	44.1	Betelgeuse	271° 02'.3	7° 24'.9 S	154° 06'.5	10.0	46° 58'.1	14.5	29.1	11'.0	55.3	40°	03:41	04:17	04:46	12:00	13:00	13:58					
27° 51'.3	148° 03'.4	56.1	238° 44'.9	19.1	355° 07.5	37.8	185° 59'.0	44.2				169° 06'.5	10.8	61° 31'.6	14.5	18.1	11'.1	45°	03:23	04:03	04:35	11:53	12:56	13:58							
4 Fri day	42° 53'.8	163° 02'.6	20° 56'.8 S	253° 46'.1	14° 18'.7 N	10° 10'.3	11° 37.7 N	201° 01'.2	6° 44'.3 S	Canopus	263° 56'.3	52° 41'.6 S	184° 06'.5	15° 11.6 S	76° 05'.1	14.5	8° 07'.0 S	11'.1	55.3	S 50°	02:58	03:45	04:22	11:44	12:51	13:57					
	57° 56'.3	178° 01'.9	57.5	268° 47.3	18.3	25° 13'.1	37.6	216° 03'.4	44.4	Capella	280° 35'.8	46° 00'.5 N	199° 06'.5	12.4	90° 38'.6	14.6	7° 55'.9 S	11'.2	55.2	S 52°	02:46	03:37	04:16	11:40	12:49	13:57					
	72° 58'.7	193° 01'.1	58.2	283° 48'.4	17.9	40° 15'.8	37.5	231° 05'.6	44.5	Deneb	49° 32'.3	45° 19'.8 N	214° 06'.5	13'.1	105° 12'.2	14'.6	44.7	11'.1	54°	02:32	03:28	04:09	11:36	12:47	13:56						
	88° 01'.2	208° 00'.3	59.0	298° 49.6	17.5	55° 18'.6	37.4	246° 07.8	44.6	Denebola	182° 35'.1	14° 30'.3 N	229° 06'.5	13'.9	119° 45.8	14.7	32° 36'.5	11'.4	56°	02:15	03:17	04:01	11:31	12:44	13:56						
	103° 03'.7	222° 59.6	59.7	313° 50'.8	17.1	70° 21'.4	37.3	261° 10'.0	44.7	Diphda	348° 56'.7	17° 55'.2 S	244° 06'.5	14.7	134° 19.5	14.8	22.4	11'.2	58°	01:54	03:04	03:53	11:26	12:42	13:56						
	118° 06'.1	237° 58'.8	21° 00'.4 S	328° 52'.0	16.7	85° 24'.2	37.1	276° 12'.2	44.8				259° 06'.5	15.5	148° 53'.3	14.7	11'.2	11'.2	S 60°	01:26	02:50	03:43	11:20	12:38	13:55						
	133° 08'.6	252° 58'.0	01.1	343° 53'.2	16.3	100° 27.0	37.0	291° 14'.3	45.0	Dubhe	193° 53'.4	61° 40'.9 N	274° 06'.5	16.2	163° 27.0	14.9	7° 00'.0 S	11'.3	55.1	S 62°	00:40	02:32	03:32	11:13	12:35	13:55					
	148° 11.0	267° 57.2	01.8	358° 54.3	15.9	115° 29.8	36.9	306° 16.5	45.1	Elnath	278° 13.8	28° 37.0 N	289° 06.5	17.0	178° 00.9	14.9	48.7	11.3													
	163° 13.5	282° 56.4	02.6	373° 55.5	15.4	130° 32.6	36.8	321° 18.7	45.2	Elainin	90° 47.0	51° 29.5 S	304° 06.5	17.8	192° 34.8	14.9	37.4	11.2													
	178° 16.0	297° 55.7	03.3	388° 56.7	15.0	145° 35.4	36.7	336° 20.9	45.3	Enif	33° 48.2	9° 56.0 N	319° 06.5	18.6	207° 08.7	14.9	26.2	11.3													
	193° 18.4	312° 54.9	04.0	43° 57.9	14.6	160° 38.1	36.6	351° 23.1	45.4	Fomalhaut	15° 25.0	29° 33.5 S	334° 06.5	19.3	221° 42.6	15.0	14.9	11.4	55.0												
	208° 20.9	327° 54.1	04.7	58° 59.1	14.2	175° 40.9	36.5	6° 25.3	45.5				349° 06.4	20.1	236° 16.6	15.1	03.5	11.3													
	223° 23.4	342° 53.3	21° 05.4 S	74° 00.2	14° 13.8 N	190° 43.7	11° 36.4 N	21° 27.5	6° 45.6 S	Gacrux	172° 02.7	57° 10.6 S	4° 06.4	15° 20.9 S	250° 50.7	15.1	5° 52.2 S	11.3	55.0	N 70°	14:42	15:59	17:14	23:19	-	01:00					
	238° 25.8	357° 52.6	06.1	89° 01.4	13.4	205° 46.5	36.3	36° 29.7	45.7	Gienah	175° 53.8	17° 36.4 S	19° 06.4	21.6	265° 24.8	15.1	40.9	11.4	68°	15:04	16:11	17:19	23:30	-	01:04						
	253° 28.3	12° 51.8	06.9	102° 02.6	13.0	220° 49.3	36.2	51° 31.8	45.8	Hadar	148° 50.2	60° 25.7 S	34° 06.4	22.4	279° 58.9	15.2	29.5	11.4	54.9	66°	15:21	16:21	17:23	23:39	-	01:08					
	268° 30.8	27° 51.0	07.6	119° 03.8	12.6	235° 52.1	36.1	66° 34.0	45.9	Hamal	328° 01.7	23° 31.3 S	49° 06.4	23.2	294° 33.1	15.2	18.1	11.4	64°	15:36	16:29	17:27	23:46	-	01:11						
	283° 33.2	42° 50.2	08.3	134° 05.0	12.2	250° 54.9	36.0	81° 36.2	46.0	Kaus Aust.	83° 45.6	34° 22.7 S	64° 06.4	24.0	309° 07.3	15.2	06.7	11.4	62°	15:47	16:37	17:30	23:52	-	01:13						
	298° 35.7	57° 49.4	09.0	149° 06.2	11.8	265° 57.7	35.9	96° 38.4	46.1				79° 06.4	24.7	323° 41.5	15.3	4° 55.3 S	11.4	60°	15:57	16:43	17:33	23:57	-	01:15						
	313° 38.2	72° 48.7	09.7	164° 07.3	11.4	281° 00.4	35.8	111° 40.6	46.2	Kochab	137° 21.1	74° 06.4 N	94° 06.4	25.5	338° 15.8	15.3	43.9	11.4	58°	16:06	16:49	17:36	-	00:02							

2011 November 6, 7, 8 (Sun, Mon, Tue)

Comprehensive astronomical table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), and various astronomical data points (RA, Dec, Mag, etc.). Includes rows for Sun, Mon, and Tue, and a final row for M.P., v, d values.

**2011 November 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	Dec	GHA	v	Dec	d	HP	Lat	Nautical	Civil	Sunrise	9	10	11			
<b>g</b> 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23																									N 72°	06:40	08:09	09:59	12:48	-	-				
		47° 49.5	161° 26.4	22° 16.5 S	256° 09.9	13° 30.0 N	15° 44.2	11° 25.0 N	205° 23.9	6° 56.9 S	221° 18.1	29.6	271° 11.1	29.6	Acamar	315° 18.8	40° 15.4 S	184° 03.6	16° 41.5 S	25° 00.5	14.5	13° 44.0 N	9.1	54.0	N 70°	06:32	07:50	09:16	13:23	12:58					
	<b>W</b> 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		62° 51.9	176° 25.4	17.1	271° 11.1	29.6	27.1	200° 26.1	5.7	220° 18.1	29.6	271° 11.1	29.6	Acamar	335° 27.0	57° 10.6 S	199° 23.6	42.2	39° 34.0	14.4	53.1	9.2	68°	06:25	07:35	08:48	13:49	13:42	13:32					
			77° 54.4	191° 24.7	17.7	286° 12.3	29.2	45° 49.7	24.8	235° 28.3	57.1	214° 03.5	42.9	54° 07.4	14.4	Acruz	173° 11.2	63° 09.7 S	214° 03.5	42.9	54° 07.4	14.4	14° 02.3 N	9.0	66°	06:19	07:23	08:27	14:09	14:12	14:19				
		<b>e</b> 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		92° 56.9	206° 23.9	18.3	301° 13.6	28.8	60° 52.5	24.8	250° 30.5	57.2	250° 30.5	57.2	68° 40.8	14.4	Adhara	255° 13.2	28° 59.2 S	229° 03.5	43.6	68° 40.8	14.4	11.3	9.0	64°	06:14	07:13	08:10	14:24	14:34	14:50			
				107° 59.3	221° 23.0	18.9	316° 14.8	28.4	75° 55.3	24.6	265° 32.7	57.3	244° 03.4	44.4	83° 14.2	14.3	Aldebaran	290° 50.4	16° 32.0 N	244° 03.4	44.4	83° 14.2	14.3	20.3	8.9	62°	06:10	07:04	07:56	14:38	14:52	15:13			
				123° 01.8	236° 22.2	19.5	331° 16.0	28.0	90° 58.0	24.5	280° 34.9	57.4	259° 03.4	45.1	97° 47.5	14.2					97° 47.5	14.2	29.2	8.9	60°	06:06	06:57	07:44	14:49	15:07	15:32				
			<b>d</b> 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		138° 04.3	251° 21.4	20.1	346° 17.2	27.6	106° 00.8	24.4	295° 37.1	57.5	285° 37.1	57.5	112° 20.7	14.3	Alioth	166° 22.1	55° 53.5 N	274° 03.3	45.8	112° 20.7	14.3	38.1	8.8	N 58°	06:02	06:50	07:34	14:59	15:20	15:47		
					153° 06.7	266° 20.5	20.7	1° 18.4	27.2	121° 03.6	24.3	310° 39.3	57.6	289° 03.3	46.5	126° 54.0	14.1	Alkaid	153° 00.2	49° 15.1 N	289° 03.3	46.5	126° 54.0	14.1	46.9	8.8	56°	05:59	06:44	07:25	15:08	15:31	16:00		
					168° 09.2	281° 19.7	21.3	16° 19.7	26.8	136° 06.4	24.2	325° 41.5	57.7	304° 03.2	47.2	141° 27.1	14.2	Alnair	27° 45.0	46° 54.3 S	304° 03.2	47.2	141° 27.1	14.2	55.7	8.7	54°	05:56	06:39	07:17	15:15	15:40	16:12		
				<b>s</b> 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		183° 11.7	296° 18.9	21.8	31° 20.9	26.4	151° 09.1	24.1	340° 43.7	57.8	319° 03.2	47.9	156° 00.3	14.0	Alnilam	275° 47.3	1° 11.6 S	319° 03.2	47.9	156° 00.3	14.0	15° 04.4 N	8.6	52°	05:53	06:34	07:10	15:22	15:49	16:22	
						198° 14.1	311° 18.0	22.4	46° 22.1	26.0	166° 11.9	24.0	355° 45.9	57.9	334° 03.1	48.7	170° 33.3	14.1	Alphard	217° 57.2	8° 42.6 S	334° 03.1	48.7	170° 33.3	14.1	13.0	8.6	50°	05:50	06:29	07:04	15:28	15:57	16:31	
						213° 16.6	326° 17.2	23.0	61° 23.3	25.6	181° 14.7	23.9	380° 48.1	58.0	349° 03.1	49.4	185° 06.4	14.0					185° 06.4	14.0	21.6	8.5	45°	05:44	06:19	06:50	15:42	16:13	16:50		
					<b>day</b> 12 13 14 15 16 17 18 19 20 21 22 23		228° 19.1	341° 16.4	22° 23.6 S	76° 24.6	13° 25.2 N	196° 17.5	11° 23.8 N	25° 50.2	6° 58.1 S	Alphecca	126° 12.3	26° 40.6 N	4° 03.0	16° 50.1 S	199° 39.4	13.9	15° 30.1 N	8.5	54.0	N 40°	05:38	06:10	06:39	15:53	16:27	17:06			
							243° 21.5	356° 15.5	24.2	91° 25.8	24.8	211° 20.2	23.7	40° 52.4	58.2	19° 03.0	50.8	214° 12.3	13.9	Alpheratz	357° 44.4	29° 09.7 N	19° 03.0	50.8	214° 12.3	13.9	38.6	8.3	35°	05:32	06:03	06:29	16:03	16:39	17:19
							258° 24.0	11° 14.7	24.8	106° 27.0	24.4	226° 23.0	23.6	55° 54.6	58.3	34° 02.9	51.5	228° 45.2	13.9	Altair	62° 09.5	8° 54.2 N	34° 02.9	51.5	228° 45.2	13.9	46.9	8.4	30°	05:27	05:56	06:21	16:11	16:49	17:31
						<b>y</b> 16 17 18 19 20 21 22 23		273° 26.4	26° 13.8	25.4	121° 28.2	24.0	241° 25.8	23.5	70° 56.8	58.4	Ankaa	353° 16.5	42° 14.5 S	49° 02.9	52.2	243° 18.1	13.8	8.2	53.3	8.2	20°	05:16	05:43	06:06	16:26	17:07	17:51		
								288° 28.9	41° 13.0	25.9	136° 29.4	23.6	256° 28.6	23.4	85° 59.0	58.5	Antares	112° 28.0	26° 27.4 S	64° 02.8	53.0	245° 50.9	13.8	16° 03.5 N	8.2	8.2	N 10°	05:05	05:31	05:53	16:38	17:22	18:08		
								303° 31.4	56° 12.2	26.5	151° 30.7	23.2	271° 31.3	23.3	101° 01.2	58.6	79° 02.8	53.7	272° 23.7	13.7			11.7	8.1			0°	04:54	05:19	05:40	16:51	17:37	18:25		
							<b>g</b> 19 20 21 22 23		318° 33.8	71° 11.3	27.1	166° 31.9	22.8	286° 34.1	23.2	116° 03.4	58.7	Arcturus	145° 57.1	19° 07.3 N	94° 02.7	54.4	286° 56.4	13.6	19.8	8.1	54.1	S 10°	04:40	05:06	05:28	17:03	17:51	18:41	
									333° 36.3	86° 10.5	27.7	181° 33.1	22.4	301° 36.9	23.1	131° 05.6	58.8	107° 31.4	69° 02.9 S	301° 29.0	13.7	Arctia	107° 31.4	69° 02.9 S	301° 29.0	13.7	29.9	7.9	20°	04:24	04:51	05:15	17:16	18:07	18:58
									348° 38.8	101° 09.6	28.3	196° 34.3	22.0	316° 39.7	23.0	146° 07.8	58.9	Avior	234° 18.4	59° 32.6 S	124° 02.6	55.8	316° 01.7	13.5	35.8	8.0	30°	04:03	04:33	04:59	17:31	18:25	19:19		
								<b>h</b> 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		3° 41.2	116° 08.8	28.8	211° 35.6	21.5	331° 42.4	22.9	161° 10.0	59.0	Bellatrix	278° 33.0	6° 21.6 N	139° 02.6	56.5	330° 34.2	13.6	43.8	7.8	35°	03:49	04:22	04:50	17:39	18:35	19:30	
									18° 43.7	131° 08.0	29.4	226° 36.8	21.1	346° 45.2	22.8	176° 12.2	59.0	Betelgeuse	271° 02.3	7° 24.5 N	154° 02.5	57.2	345° 06.8	13.4	51.6	7.8	40°	03:33	04:10	04:40	17:49	18:47	19:44		
									33° 46.2	146° 07.1	30.0	241° 38.0	20.7	1° 48.0	22.7	191° 14.4	59.2	169° 02.5	57.9	359° 39.2	13.5	59.4	7.7			59.4	7.7	45°	03:12	03:54	04:27	18:01	19:01	20:00	
<b>10</b> 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23									48° 48.6	161° 06.3	22° 30.6 S	256° 39.3	13° 20.3 N	16° 50.8	11° 22.6 N	206° 16.6	6° 59.3 S	Canopus	263° 56.3	52° 42.0 S	184° 02.4	16° 58.6 S	14° 11.7	13.3	17° 07.1 N	7.6	54.1	S 50°	02:45	03:35	04:12	18:15	19:19	20:20	
									63° 51.1	176° 05.4	31.1	271° 40.5	19.9	31° 53.5	22.5	221° 18.1	59.4	Capella	280° 35.7	46° 00.5 N	199° 02.4	59.3	28° 44.0	13.4	14.7	7.5	52°	02:45	03:25	04:05	18:22	19:27	20:30		
		78° 53.6							191° 04.6	31.7	286° 41.7	19.5	46° 56.3	22.4	236° 20.9	59.5	Deneb	49° 32.4	45° 19.8 N	214° 02.3	17° 00.1 S	43° 16.4	13.3	22.2	7.5	54°	02:15	03:14	03:58	18:29	19:36	20:40			
	<b>T</b> 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23								93° 56.0	206° 03.8	32.3	301° 42.9	19.1	61° 59.1	22.3	182° 35.0	14° 30.3 N	Denebola	182° 35.0	14° 30.3 N	229° 02.3	00.8	57° 48.7	13.2	29.7	7.4	56°	01:54	03:02	03:49	18:38	19:47	20:52		
									108° 58.5	221° 02.9	32.8	316° 44.2	18.7	77° 01.9	22.2	286° 25.3	59.7	Diphda	348° 56.8	17° 55.2 S	244° 02.2	01.5	72° 20.9	13.2	37.1	7.3	58°	01:28	02:47	03:39	18:47	19:59	21:07		
			124° 00.9						236° 02.1	33.4	331° 45.4	18.3	92° 04.6	22.1	281° 27.5	59.8	259° 02.1	02.2	86° 53.1	13.1	44.4	7.3			86° 53.1	13.1		S 60°	00:46	02:30	03:27	18:58	20:13	21:23	
		<b>h</b> 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23							139° 03.4	251° 01.2	34.0	346° 46.6	17.9	107° 07.4	22.0	296° 29.7	59.9	Dubhe	193° 53.3	61° 40.9 N	274° 02.1	02.9	101° 25.2	13.1	51.7	7.2	S 62°	-	02:08	03:14	19:11	20:29	21:43		
									154° 05.9	266° 00.4	34.5	1° 47.9	17.5	122° 10.2	21.9	311° 31.9	59.7	El Nath	278° 13.7	28° 37.0 N	289° 02.0	03.6	115° 57.3	13.0	58.9	7.0									

2011 November 12, 13, 14 (Sat, Sun, Mon)

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

**2011 November 15, 16, 17 (Tue, Wed, Thur)**

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON					Lat	Twilight		Sunrise		Moonrise		
	GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	Dec	d	HP	N 72°	07:02	08:37	11:17	15	16	17		
<b>15</b> 00																									N 70°	06:51	08:14	09:54	16:37	19:03	21:04		
01	53° 44.3'	159° 22.3'	23° 31.1' S	259° 09.1'	12° 32.2' N	22° 22.5'	11° 10.7' N	210° 40.0'	7° 11.4' S	Acamar	315° 18.7'	40° 15.4' S	183° 53.3'	18° 20.0' S	314° 28.6'	10.2	20° 59.2' N	4.6	55.7	70°	06:51	08:14	09:54	16:37	19:03	21:04							
02	68° 46.8'	174° 21.4'	31.5	274° 10.3	31.8	37° 25.3'	10.6	225° 42.2'	11.5	Achernar	335° 27.0'	57° 10.6' S	328° 57.8'	20.6	328° 57.8'	10.3	54.6	4.8		80°	06:43	07:56	09:16	17:39	19:32	21:21							
03	83° 49.3'	189° 20.5'	31.9	289° 11.6'	31.4	52° 28.1'	10.5	240° 44.4'	11.6	Acrux	173° 11.1'	63° 09.7' S	213° 53.1'	21.3	343° 27.1'	10.3	49.8	4.9		66°	06:35	07:41	08:49	18:14	19:53	21:34							
04	98° 51.7'	204° 19.6'	32.4	304° 12.9'	31.0	67° 30.8'	10.4	255° 46.6'	11.7	Adhara	255° 13.2'	28° 59.2' S	357° 56.4'	21.9	255° 46.6'	10.4	44.9	5.0	55.8	64°	06:29	07:29	08:29	18:39	20:10	21:44							
05	113° 54.2'	219° 18.7'	32.8	319° 14.2'	30.6	82° 33.6'	10.3	270° 48.8'	11.8	Aldebaran	290° 50.3'	16° 32.0' N	243° 52.9'	22.6	12° 25.6'	10.3	39.9	5.1		62°	06:23	07:19	08:13	18:59	20:24	21:54							
06	128° 56.6'	234° 17.8'	33.2	334° 15.4'	30.2	97° 36.3'	10.2	285° 51.0'	11.9					258° 52.8'	23.2	26° 54.9'	10.3	34.8	5.3		60°	06:18	07:10	07:59	19:14	20:36	22:01						
<b>Tue</b> 06	143° 59.1'	249° 16.9'	33.6	349° 16.7'	29.8	112° 39.1'	10.2	300° 53.2'	12.0	Alioth	166° 22.1'	55° 53.5' N	273° 52.7'	23.8	41° 24.2'	10.3	29.5	5.3		N 58°	06:14	07:02	07:48	19:28	20:46	22:08							
07	159° 01.6'	264° 16.0'	34.1	4° 18.0'	29.4	127° 41.8'	10.1	315° 55.4'	12.1	Alkaid	153° 00.2'	49° 15.1' N	288° 52.6'	24.5	55° 53.5'	10.4	24.2	5.4	55.9	54°	06:09	06:55	07:38	19:39	20:55	22:14							
08	174° 04.0'	279° 15.1'	34.5	19° 19.2'	29.0	142° 44.6'	10.0	330° 57.6'	12.2	Alnair	27° 45.1'	46° 54.3' S	303° 52.4'	25.1	70° 22.9'	10.3	18.8	5.6		54°	06:06	06:49	07:29	19:50	21:03	22:20							
09	189° 06.5'	294° 14.3'	34.9	34° 20.5'	28.6	157° 47.3'	9.9	345° 59.8'	12.3	Alnilam	275° 47.2'	1° 11.7' S	318° 52.3'	25.8	84° 52.2'	10.4	13.2	5.6		52°	06:02	06:43	07:21	19:59	21:10	22:25							
<b>Wed</b> 10	204° 09.0'	309° 13.4'	35.3	49° 21.8'	28.2	172° 50.1'	9.8	1° 02.0'	12.4	Alphard	217° 57.2'	8° 42.6' S	333° 52.2'	26.4	99° 21.6'	10.4	07.6	5.8		50°	05:59	06:38	07:14	20:07	21:16	22:29							
11	219° 11.4'	324° 12.5'	35.8	64° 23.1'	27.8	187° 52.8'	9.7	16° 04.2'	12.5					348° 52.1'	27.0	113° 51.0'	10.4	01.8	5.9		45°	05:51	06:27	06:58	20:24	21:30	22:38						
12	234° 13.9'	339° 11.6'	23° 36.2' S	79° 24.3'	12° 27.4' N	202° 55.6'	11° 09.6' N	31° 06.4'	7° 12.6' S	Alphecca	126° 12.3'	26° 40.6' N	3° 52.0'	18° 27.7' S	128° 20.4'	10.4	19° 55.9' N	5.9	56.0	N 40°	05:44	06:17	06:46	20:38	21:41	22:46							
13	249° 16.4'	354° 10.7'	36.6	94° 25.6'	27.0	217° 58.4'	9.5	46° 08.6'	12.7	Alpheratz	357° 44.5'	29° 09.7' N	18° 51.9'	28.3	142° 49.8'	10.4	50.0	6.1		35°	05:37	06:08	06:35	20:49	21:50	22:53							
14	264° 18.8'	9° 09.8'	37.0	109° 26.9'	26.6	233° 01.1'	9.4	61° 10.8'	12.8	Altair	62° 09.5'	8° 54.2' N	33° 51.8'	29.0	157° 19.2'	10.5	43.0	6.2		30°	05:31	06:00	06:25	21:00	21:59	22:59							
15	279° 21.3'	24° 08.9'	37.4	124° 28.2'	26.2	248° 03.9'	9.3	76° 13.0'	12.9	Ankaa	353° 16.5'	42° 14.5' S	48° 51.7'	29.6	171° 48.7'	10.4	37.7	6.3		20°	05:19	05:46	06:09	21:17	22:13	23:09							
16	294° 23.7'	39° 08.0'	37.8	139° 29.4'	25.8	263° 06.6'	09.2	91° 15.2'	12.9	Antares	112° 28.0'	26° 27.4' S	63° 51.6'	30.2	186° 18.1'	10.5	31.4	6.4	56.1	N 10°	05:07	05:33	05:55	21:33	22:25	23:18							
17	309° 26.2'	54° 07.1'	38.3	154° 30.7'	25.4	278° 09.4'	09.1	106° 17.4'	13.0					78° 51.5'	30.9	200° 47.6'	10.5	25.0	6.5		0°	04:54	05:19	05:41	21:47	22:37	23:26						
18	324° 28.7'	69° 06.2'	38.7	169° 32.0'	25.0	293° 12.1'	09.0	121° 19.6'	13.1	Arcturus	145° 57.1'	19° 07.2' N	93° 51.4'	31.5	215° 17.1'	10.6	18.5	6.6		S 10°	04:39	05:05	05:27	22:01	22:49	23:34							
19	339° 31.1'	84° 05.3'	39.1	184° 33.1'	24.6	308° 14.9'	08.9	136° 21.8'	13.2	Atria	107° 31.4'	69° 02.9' S	108° 51.3'	32.1	229° 46.7'	10.5	11.9	6.7		20°	04:21	04:49	05:13	22:17	23:01	23:43							
20	354° 33.6'	99° 04.4'	39.5	199° 34.5'	24.2	323° 17.6'	08.8	151° 24.0'	13.3	Avior	234° 18.3'	59° 32.7' S	123° 51.2'	32.8	244° 16.2'	10.6	05.2	6.8	56.2	30°	03:58	04:29	04:56	22:34	23:15	23:53							
21	9° 36.1'	114° 03.5'	39.9	214° 35.8'	23.8	338° 20.4'	08.7	166° 26.2'	13.4	Bellatrix	278° 32.9'	6° 21.6' N	138° 51.1'	33.4	258° 45.8'	10.5	18° 58.4' N	6.9		35°	03:44	04:18	04:46	22:44	23:23	24:06							
22	24° 38.5'	129° 02.6'	40.3	229° 37.1'	23.4	353° 23.1'	08.6	181° 28.4'	13.5	Betelgeuse	275° 02.2'	7° 24.5' N	153° 51.0'	34.0	273° 15.3'	10.6	51.5	7.1		40°	03:26	04:04	04:34	22:56	23:32	23:59							
23	39° 41.0'	144° 01.7'	40.7	244° 38.4'	23.0	8° 25.9'	08.6	196° 30.6'	13.6					168° 50.9'	34.7	287° 44.9'	10.7	44.4	7.1		45°	03:03	03:46	04:21	23:09	23:43	24:13						
<b>16</b> 00	54° 43.5'	159° 00.8'	23° 41.1' S	259° 39.7'	12° 22.6' N	23° 28.6'	11° 08.5' N	211° 32.8'	7° 13.7' S	Canopus	263° 56.2'	52° 42.6' N	183° 50.8'	18° 35.3' S	302° 14.6'	10.6	18° 37.3' N	7.2	56.3	S 50°	02:33	03:25	04:04	23:26	23:56	24:22							
01	69° 45.9'	173° 59.9'	41.5	274° 40.9'	22.2	38° 31.4'	10.8	226° 35.0'	13.8	Capella	280° 35.7'	46° 00.5' N	198° 50.7'	35.9	316° 44.2'	10.7	30.1	7.3		S 52°	02:17	03:14	03:56	23:34	-	00:02							
02	84° 48.4'	188° 59.0'	41.9	289° 42.2'	21.8	53° 34.1'	10.8	241° 37.2'	13.9	Deneb	49° 32.4'	45° 19.8' N	213° 50.6'	36.6	331° 13.9'	10.6	22.8	7.4		54°	01:57	03:02	03:47	23:42	-	00:09							
03	99° 50.9'	203° 58.1'	42.3	304° 43.5'	21.4	68° 36.9'	10.4	256° 39.4'	14.0	Denebola	182° 35.0'	14° 30.2' N	228° 50.4'	37.2	345° 43.5'	10.7	15.4	7.5		56°	01:32	02:48	03:37	23:52	-	00:16							
04	114° 53.3'	218° 57.2'	42.7	319° 44.8'	21.0	83° 39.6'	10.1	271° 41.6'	14.1	Diphda	348° 56.8'	17° 55.2' S	243° 50.3'	37.8	0° 13.2'	10.8	07.9	7.7	56.4	58°	00:56	02:31	03:26	-	00:03	00:24							
05	129° 55.8'	233° 56.3'	43.1	334° 46.1'	20.6	98° 42.4'	08.0	286° 43.8'	14.2					258° 50.2'	38.5	14° 43.0'	10.7	00.2	7.7		S 60°	-	02:11	03:13	-	00:15	00:34						
06	144° 58.2'	248° 55.4'	43.5	349° 47.3'	20.2	113° 45.1'	07.9	301° 46.0'	14.3	Dubhe	193° 53.3'	61° 40.9' N	273° 50.1'	39.1	29° 12.7'	10.7	17° 52.5' N	7.8		S 62°	-	01:44	02:57	00:08	00:30	00:45							
07	160° 00.7'	263° 54.5'	43.9	4° 48.6'	19.8	128° 47.9'	07.8	316° 48.2'	14.4	Elath	278° 13.7'	28° 37.2' S	288° 50.0'	39.7	43° 42.4'	10.8	44.7	7.9															
08	175° 03.2'	278° 53.6'	44.3	19° 49.9'	19.4	143° 50.6'	07.7	331° 50.4'	14.5	Elnath	90° 47.1'	51° 29.5' N	303° 49.9	40.3	58° 12.2'	10.8	36.8	8.0		56.5													
09	190° 05.6'	293° 52.7'	44.7	34° 51.2'	19.0	158° 53.4'	07.6	346° 52.6'	14.6	Enif	33° 48.2'	9° 56.0' N	318° 49.8'	41.0	72° 42.0'	10.8	28.8	8.1			Lat	Sunset	Twilight		Moonset								
10	205° 08.1'	308° 51.8'	45.1	49° 52.5'	18.7	173° 56.1'	07.5	1° 54.8'	14.7	Fomalhaut	15° 25.1'	29° 33.5' S	333° 49.7	41.6	87° 11.8'	10.9	20.7	8.2			Civil	Nautical	15	16	17								
11	220° 10.6'	323° 50.9'	45.5	64° 53.7'	18.3	188° 58.9'	07.4	16° 57.0'	14.8					348° 49.6'	42.2	101° 41.7'	10.8	12.5	8.3														
12	235° 13.0'	338° 50.0'	23° 45.9' S	79° 55.0'	12° 17.9' N	204° 01.6'	11° 07.3' N	31° 59.2'	7° 14.9' S	Gacrux	172° 02.6'	57° 10.6' S	3° 49.5'	18° 42.9' S	116° 11.5'	10.9	17° 04.2' N	8.4	56.6	N 70°	12:12	14:51	16:26	-	14:46	14:05							
13	250° 15.5'	353° 49.1'	46.3	94° 56.3'	17.5	219° 04.4'	07.3	47° 01.4'	15.0	Gienah	175° 53.7'	17° 36.4' S	18° 49.3'	43.5	130° 41.4'	10.9	16° 55.8' N	8.4		68°	14:13	15:32	16:46	14:41	14:01	13:42							
14	265° 18.0'	8° 48.2'	46.7	109° 57.6'	17.1	234° 07.1'	07.2	62° 03.6'	15.1	Hadar	148° 50.2'	60° 25.7' S	33° 49.2'	44.1	148° 50.2'	10.9	47.4	8.6		66°	14:39	15:47	16:53	13:03	13:08	13:10							
15	280° 20.4'	23° 47.3'	47.1	124° 58.9'	16.7	249° 09.9'	07.1	77° 05.8'	15.2	Hamal	328° 01.7'	23° 31.3' S	48° 49.1'	44.7	159° 41.2'	11.0	38.8	8.7		64°	14:59	15:59	17:00	12:38	12:50	12:58							
16	295° 22.9'	38° 46.4'	47.4	140° 00.2'	16.3	264° 12.6'	07.0	92° 08.0'	15.3	Kaus Aust.																							

GMT	ARIES			VENUS -3.9			MARS +0.9			JUPITER -2.9			SATURN +0.8			STARS			SUN		MOON				Lat	Twilight		Sunrise		Moonrise		
	GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		GHA	Dec		Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	Nautical	Civil	18	19	20	
18 00	56° 41'.7	158° 17.3	23° 59.1 S	260° 41'.5	12° 03'.6 N	25° 40'.5	11° 04.1 N	213° 18'.5	7° 18'.4 S	218° 18'.5	18'.5	7° 18'.4 S	218° 18'.5	18'.5	7° 18'.4 S	Acamar	315° 18'.7	40° 15'.4 S	183° 45'.2	19° 05'.0 S	278° 18'.4	11'.5	11° 08'.3 N	11'.3	57.6	N 70°	07:12	08:51	-	22:51	-	00:55
01	56° 44.2	173° 16'.4	59'.5	275° 42'.8	03'.2	40° 43'.2	04.0	200° 20'.7		228° 20'.7		18°.5	228° 20'.7		18°.5	Achernar	335° 27'.1	57° 10'.6 S	198° 45'.1	05.6	292° 48'.9	11'.4	10° 57'.0 N	11'.4	68.0	N 70°	07:01	08:26	10:15	23:00	-	00:56
02	86° 46.7	188° 15'.5	59.8	290° 44'.1	02.9	55° 46'.0	03.9	243° 22'.9	18.6	233° 22'.9	18.6	03.9	243° 22'.9	18.6	03.9	Acruz	173° 11'.1	63° 09'.7 S	213° 44'.9	06.2	307° 19'.3	11'.5	45.6	11'.4	57.7	66°	06:43	07:50	09:01	23:15	-	00:57
03	101° 49.1	203° 14'.6	24° 00'.2 S	305° 45'.1	02.5	70° 46'.7	02.5	258° 25'.1	18.7	238° 25'.1	18.7	02.5	258° 25'.1	18.7	02.5	Alhara	255° 13'.1	28° 59'.2 S	228° 44'.8	06.8	321° 49'.8	11'.4	34.2	11'.5	64°	6°	06:36	07:37	08:39	23:20	-	00:58
04	116° 51'.6	218° 13'.7	00'.5	320° 46'.7	02.1	85° 51'.4	03.7	273° 27'.3	18.8	243° 27'.3	18.8	03.7	273° 27'.3	18.8	03.7	Aldebaran	290° 50'.3	16° 32'.0 N	243° 44'.7	07.4	336° 20'.2	11'.5	22.7	11'.6	62°	6°	06:30	07:26	08:21	23:25	-	00:58
05	131° 54'.1	233° 12'.8	00.8	335° 48'.0	01.7	100° 54'.2	03.6	288° 29'.5	18.9	258° 29'.5	18.9	03.6	288° 29'.5	18.9	03.6			258° 44'.5	08.0	350° 50'.7	11'.5	11.1	11'.7	60°	6°	06:24	07:17	08:07	23:29	-	00:59	
06	146° 56.5	248° 11'.9	01.2	350° 49'.3	01.3	115° 56'.9	03.5	303° 31'.7	19.0	303° 31'.7	19.0	03.5	303° 31'.7	19.0	03.5	Alioth	166° 22'.0	55° 53'.5 N	273° 44.4	08.6	5° 21'.2	11'.4	9° 59'.4 N	11'.7	57.8	N 58°	06:19	07:08	07:54	23:33	-	00:59
07	161° 59.0	263° 10'.9	01.5	5° 50'.6	00.9	130° 59'.7	03.4	318° 33'.9	19.1	318° 33'.9	19.1	03.4	318° 33'.9	19.1	03.4	Alkaid	153° 00'.2	49° 15'.1 N	288° 44'.3	09.2	19° 51'.6	11'.5	47.7	11'.8	56°	5°	06:15	07:01	07:44	23:36	-	01:00
08	177° 01'.5	278° 10'.0	01.9	20° 51'.9	00.5	146° 02'.4	03.3	333° 36'.1	19.2	333° 36'.1	19.2	03.3	333° 36'.1	19.2	03.3	Alnair	27° 45'.1	46° 54'.3 S	303° 44.2	09.8	34° 22'.1	11'.5	35.9	11'.8	54°	6°	06:10	06:54	07:34	23:39	-	01:00
09	192° 03'.9	293° 09'.1	02.2	35° 53'.2	00.1	161° 05'.2	03.2	348° 38'.3	19.3	348° 38'.3	19.3	03.2	348° 38'.3	19.3	03.2	Alnilam	275° 47'.2	1° 11'.7 S	318° 44.0	10.4	48° 52'.6	11'.5	24.1	11'.9	57.9	5°	06:06	06:48	07:26	23:41	-	01:00
10	207° 06'.4	308° 08'.2	02.5	50° 54'.5	11° 59'.7 N	176° 07'.9	03.2	3° 40'.5	19.4	333° 43.9	11.0	03.2	3° 40'.5	19.4	03.2	Alphard	217° 57'.2	8° 42'.6 S	333° 43.9	11.0	63° 23'.1	11'.5	12.2	11'.9	50°	5°	06:03	06:42	07:18	23:44	-	01:01
11	222° 08'.8	323° 07'.3	02.9	65° 55'.8	59.3	191° 10'.6	03.6	28° 18'.2	19.5	348° 43.8	11.6	03.6	28° 18'.2	19.5	03.6			77° 53'.6	11.5	00.3	12.0	45°	5°	05:54	06:30	07:02	23:49	-	01:01			
12	237° 11'.3	338° 06'.4	24° 03'.2 S	80° 57'.1	11° 58'.9 N	206° 13'.4	11° 03'.0 N	33° 44'.9	7° 19'.6 S	Alphecca	126° 12'.3	26° 40'.5 N	3° 43'.6	19° 12'.2 S	92° 24'.1	11'.5	8° 48'.3 N	12.1	58.0	N 40°	05:47	06:20	06:49	23:53	-	01:02						
13	252° 13'.8	353° 05'.4	03.5	95° 58'.4	58.5	221° 16'.1	02.9	48° 47'.1	19.6	Alpheratz	357° 44.5	29° 09'.7 N	18° 43'.5	12.8	106° 54'.6	11'.4	36.2	12.1	35°	35°	05:40	06:11	06:38	23:57	-	01:02						
14	267° 16.2	8° 04'.5	03.9	110° 59'.7	02.8	236° 18'.9	02.8	62° 09'.5	19.7	Altair	62° 09'.5	8° 54'.2 N	33° 43'.4	13.4	121° 25'.0	11'.5	24.1	12.2	30°	30°	05:33	06:02	06:28	24:00	-	01:02						
15	282° 18.7	23° 03'.6	04.2	126° 01'.0	57.7	251° 21'.6	02.7	78° 51'.6	19.8	Ankaa	353° 16'.5	42° 14'.5 S	48° 43'.3	14.0	135° 55'.5	11'.5	11.9	12.3	58.1	20°	05:21	05:48	06:11	-	00:06	01:03						
16	297° 21.2	38° 02'.7	04.5	141° 02'.3	57.3	266° 24'.3	02.6	93° 53'.8	19.9	Antares	112° 28'.0	26° 27'.4 S	63° 43'.1	14.6	150° 26'.0	11'.5	7° 59'.6 N	12'.3	N 10°	20°	05:08	05:34	05:56	-	00:10	01:04						
17	312° 23'.6	53° 01'.8	04.8	156° 03'.6	57.0	281° 27'.1	02.5	108° 56'.0	20.0				78° 43'.0	15.2	164° 56'.5	11'.5	47.3	12'.3	0°	0°	04:54	05:20	05:42	-	00:15	01:04						
18	327° 26.1	68° 00'.8	05.2	171° 04'.9	56.6	296° 29'.8	02.4	123° 58'.2	20.1	Arcturus	145° 57'.1	19° 07'.2 N	93° 42'.9	15.8	179° 27.0	11'.4	35.0	12'.4	58.2	S 10°	04:39	05:05	05:27	-	00:20	01:05						
19	342° 28.6	82° 59'.9	05.5	186° 06.2	56.2	311° 32'.5	02.4	139° 00'.4	20.2	Atria	107° 31'.4	69° 02'.9 S	103° 42.7	16.4	193° 57.4	11'.5	22.6	12'.5	20°	20°	04:20	04:48	05:12	-	00:25	01:05						
20	357° 31'.0	97° 59'.0	05.8	201° 07'.5	55.8	326° 35'.3	02.3	154° 02'.6	20.3	Avior	234° 18'.2	59° 32'.7 S	123° 42'.6	16.9	208° 27.9	11'.5	10.1	12'.5	30°	30°	03:56	04:28	04:54	-	00:30	01:06						
21	12° 33'.5	112° 58'.1	06.1	216° 08'.8	55.4	341° 38'.0	02.2	169° 04'.8	20.4	Bellatrix	278° 32.9	6° 21'.6 N	138° 42.5	17.5	222° 58.4	11'.4	6° 57'.6 N	12.5	58.3	35°	03:41	04:16	04:44	-	00:33	01:07						
22	27° 36'.0	127° 57.2	06.4	231° 10'.1	55.0	356° 40.8	02.1	184° 07.0	20.5	Betelgeuse	271° 02'.2	7° 24'.5 N	153° 42'.3	18.1	237° 28.8	11'.5	45.1	12.6	40°	40°	03:23	04:01	04:32	00:06	00:37	01:07						
23	42° 38'.4	142° 56'.3	06.8	246° 11'.4	54.6	11° 43'.5	02.0	199° 09.2	20.6				168° 42.2	18.7	251° 59'.3	11'.4	32.5	12'.7	45°	45°	02:59	03:43	04:18	00:13	00:41	01:08						
19 00	57° 40'.9	157° 55'.3	24° 07.1 S	261° 12'.7	11° 54'.2 N	26° 46'.2	11° 01'.9 N	214° 11'.4	7° 20'.7 S	Canopus	263° 56'.2	52° 42'.4 S	183° 42.1	19° 19.3 S	266° 29.7	11.4	6° 19.8 N	12.6	58.4	S 50°	02:27	03:20	04:00	00:22	00:46	01:09						
01	72° 43'.3	172° 54'.4	07.4	172° 14.0	53.8	41° 49.0	01.8	229° 13'.6	20.8	Capella	280° 35.7	46° 00'.5 N	198° 41.9	19.9	281° 00'.1	11.5	07.2	12.8	52°	52°	02:10	03:09	03:52	00:26	00:48	01:09						
02	87° 45.8	187° 53'.5	07.7	291° 15'.3	53.4	56° 51'.7	01.7	244° 15'.8	20.9	Deneb	49° 32.4	45° 19'.8 N	213° 41.8	20.5	295° 30.6	11.4	5° 54.4 N	12.8	54°	54°	01:49	02:56	03:43	00:31	00:51	01:09						
03	102° 48'.3	202° 52.6	08.0	306° 16.6	53.0	71° 54'.5	01.6	259° 18.0	21.0	Denebola	182° 35.0	14° 30.2 N	228° 41.7	21.1	310° 01.0	11.4	41.6	12.8	56°	6°	01:21	02:41	03:32	00:36	00:54	01:10						
04	117° 50'.7	217° 51'.7	08.3	321° 17.9	52.6	86° 57'.2	01.6	274° 20'.2	21.1	Diphda	348° 56.8	17° 55'.2 S	243° 41.5	21.7	324° 31.4	11.3	28.8	12.9	58.5	58°	00:34	02:23	03:20	00:42	00:57	01:10						
05	132° 53'.2	232° 50'.7	08.6	336° 19.2	52.3	101° 59.9	01.5	289° 22.4	21.2				258° 41.4	22.3	339° 01.7	11.4	15.9	12.9	S 60°	-	02:01	03:06	00:48	01:00	01:11							
06	147° 55'.7	247° 49.8	08.9	351° 20'.5	51.9	117° 02.7	01.4	304° 24.6	21.3	Dubhe	193° 53.2	61° 40.8 N	273° 41.2	22.8	353° 32.1	11.4	03.0	12.9	S 62°	-	01:31	02:50	00:55	01:04	01:11							
07	162° 58.1	262° 48.9	09.3	6° 21'.8	51.5	132° 05'.4	01.3	319° 26.8	21.4	Elnath	278° 13.7	28° 37.0 N	288° 41.1	23.4	8° 02'.5	11.3	4° 50.1 N	13.0	58.6													
08	178° 00'.6	277° 48.0	09.6	21° 23'.2	51.1	147° 08.1	01.2	334° 29.0	21.5	Elainin	90° 47.1	51° 29.5 N	303° 41.0	24.1	22° 32.8	11.3	37.1	13.1														
09	193° 03'.1	292° 47.0	09.9	36° 24'.5	50.7	162° 10.9	01.1	349° 31.2	21.6	Enif	33° 48.2	9° 56.0 N	318° 40.8	24.6	37° 03.1	11.3	24.0	13.0														
10	208° 05'.5	307° 46.1	10.2	51° 25'.8	50.3	177° 13.6	01.0	4° 33'.4	21.7	Fomalhaut	15° 25.1	29° 33'.5 S	333° 40.7	25.2	51° 33.4	11.3	11.0	13.1	58.7													
11	223° 08'.0	322° 45.2	10.5	66° 27.1	49.9	192° 16.3	01.9	19° 35.6	21.8				348° 40.6	25.8																		

2011 November 21, 22, 23 (Mon, Tue, Wed)

GMT	ARIES		VENUS -3.9		MARS +0.9		JUPITER -2.8		SATURN +0.8		STARS			SUN		MOON				Twilight		Sunrise		Moonrise			
											Name SHA Dec			GHA Dec		GHA v Dec d HP				Nautical Civil		21		21 23			
Monday	00	GHA		GHA Dec		GHA Dec		GHA Dec		GHA Dec		Name SHA Dec			GHA Dec		GHA v Dec d HP				N 72°		-		03:02 05:20 08:07		
	01	59° 39'.2	157° 10.9	24° 20.8 S	262° 15.8	11° 35.5 N	28° 57.4	10° 57.8 N	215° 57.3	7° 25.2 S	Acamar 315° 18'.7 40° 15.4 S			183° 35.2	19° 46.9 S	242° 23.2	9.9	4° 22.1 S	13.6	59.8	N 70°	07:22	09:06	10:41	02:54	05:01	07:21
	02	74° 41'.6	172° 10.0	21.0	277° 17.2	35.1	44° 00'.1	57.7	230° 59.5	25.3	Achernar 335° 27'.1 57° 10.7 S			197° 35.0	47.5	256° 52.1	9.8	35.7	13.6	59.9	68°	06:59	08:16	09:45	02:48	04:45	06:51
	03	89° 44'.1	187° 09.0	21.3	292° 18.5	34.7	59° 02'.8	57.6	246° 01.7	25.4	Acrux 173° 11'.1 63° 09.7 S			213° 34.9	48.0	271° 20.9	9.8	49.3	13.6	66°	06:50	07:59	09:12	02:43	04:33	06:29	
	04	104° 46'.5	202° 08.1	21.6	307° 19.8	34.3	74° 05'.6	57.5	261° 03.9	25.5	Adhara 255° 13'.1 28° 59.2 S			228° 34.7	48.6	285° 49.7	9.8	5° 02.9 S	13.6	64°	06:42	07:45	08:48	02:38	04:23	06:12	
	05	119° 49.0	217° 07.2	21.8	322° 21.1	33.9	89° 08'.3	57.4	276° 06'.1	25.6	Aldebaran 290° 50'.3 16° 32.0 N			243° 34.6	49.2	300° 18.5	9.6	16.5	13.5	62°	06:36	07:33	08:30	02:35	04:15	05:58	
	06	134° 51'.5	232° 06.2	22.1	337° 22.5	33.6	104° 11'.0	57.3	291° 08'.3	25.7				258° 34.4	49.7	314° 47.1	9.7	30.0	13.5	60.0	60°	06:30	07:23	08:14	02:31	04:07	05:46
	07	149° 53'.9	247° 05.3	22.3	352° 23.8	33.2	119° 13'.8	57.3	306° 10.5	25.8	Alioth 166° 22'.0 55° 53.5 N			273° 34.3	50.3	329° 15.8	9.5	43.5	13.6	N 58°	06:24	07:14	08:01	02:29	04:01	05:35	
	08	164° 56.4	262° 04.4	22.5	7° 25'.1	32.8	134° 16'.5	57.2	321° 12.7	25.9	Alkaid 153° 00'.2 49° 15.1 N			288° 34.1	50.8	343° 44.3	9.5	57.1	13.4	56°	06:19	07:06	07:50	02:26	03:55	05:26	
	09	179° 58'.9	277° 03.4	22.8	22° 26'.4	32.4	149° 19'.9	57.1	336° 14.9	26.0	Alnair 27° 45'.1 46° 54.3 S			303° 34.0	51.4	358° 12.8	9.5	6° 10.5 S	13.5	54°	06:15	06:59	07:40	02:24	03:50	05:18	
	10	195° 01'.3	292° 02.5	23.0	37° 27'.8	32.0	164° 21'.2	57.0	351° 17.1	26.1	Alnilam 275° 47'.2 1° 11.7 S			318° 33.8	51.9	12° 41.3	9.4	24.0	13.4	60.1	52°	06:11	06:53	07:31	02:22	03:46	05:11
	11	210° 03.8	307° 01.6	23.3	52° 29'.1	31.6	179° 24'.7	56.9	6° 19'.4	26.2	Alphard 217° 57'.1 8° 42.6 S			333° 33.7	52.5	27° 09.7	9.3	37.4	13.5	50°	06:07	06:47	07:23	02:20	03:41	05:05	
	12	225° 06.3	322° 00.6	23.5	67° 30'.4	31.2	194° 27'.4	56.8	21° 21.6	26.3				348° 33.5	53.1	41° 38.0	9.2	50.9	13.3	45°	05:58	06:34	07:06	02:16	03:33	04:51	
	13	240° 08.7	336° 59.7	24° 23.8 S	82° 31.8	11° 30.8 N	209° 30.1	10° 56.8 N	36° 23.8	7° 26.4 S	Alphecca 126° 12'.3 26° 40.5 N			3° 33.3	19° 53.6 S	56° 06.2	9.2	7° 04.2 S	13.4	60.1	N 40°	05:50	06:23	06:53	02:12	03:25	04:40
	14	255° 11.2	351° 58.8	24.0	97° 33'.1	30.5	224° 32.8	56.6	51° 26.0	26.5	Alpheratz 357° 44.5 29° 09.7 N			18° 33.2	54.2	70° 34.4	9.2	17.6	13.3	60.2	35°	05:43	06:13	06:41	02:09	03:19	04:31
	15	270° 13.7	6° 57.8	24.2	112° 34.4	30.1	239° 35.6	56.7	66° 28.2	26.6	Altair 62° 09'.5 8° 54.2 N			33° 30.0	54.7	85° 02.6	9.0	30.9	13.7	30°	05:36	06:05	06:30	02:07	03:13	04:22	
	16	285° 16.1	21° 56.9	24.5	127° 35.8	29.3	254° 38.3	56.5	81° 30.4	26.7	Ankaa 353° 16'.5 42° 14.5 S			48° 32.9	55.3	99° 30.6	9.0	44.2	13.3	20°	05:22	05:49	06:13	02:02	03:04	04:08	
	17	300° 18.6	36° 56.0	24.7	142° 37.1	29.7	269° 41.0	56.4	96° 32.6	26.7	Antares 112° 28'.0 26° 27.4 S			63° 32.7	55.8	113° 58.6	9.0	57.5	13.2	N 10°	05:09	05:35	05:57	01:59	02:56	03:56	
	18	315° 21.0	51° 55.0	24.9	157° 38.4	28.9	284° 43.7	56.3	111° 34.8	26.8				78° 32.6	56.4	128° 26.6	8.8	8° 10.7 S	13.2	60.3	0°	04:55	05:20	05:42	01:55	02:48	03:44
	19	330° 23.5	66° 54'.1	25.2	172° 39.7	28.5	299° 46.4	56.3	126° 37.0	26.9	Arcturus 145° 57'.1 19° 07.2 N			93° 32.4	56.9	142° 54.4	8.8	23.9	13.1	S 10°	04:39	05:05	05:28	01:52	02:41	03:33	
	20	345° 26.0	81° 52'.0	25.4	187° 41.1	28.1	314° 49.2	56.2	141° 39.2	27.0	Atria 107° 31.4 69° 02.9 S			108° 32.2	57.5	157° 22.2	8.7	37.0	13.1	20°	04:20	04:48	05:12	01:48	02:32	03:21	
	21	0° 28'.4	96° 52.2	25.6	202° 42.4	27.8	329° 51.9	56.1	156° 41.4	27.1	Avior 234° 18'.2 59° 32.7 S			123° 32.1	58.0	171° 49.9	8.7	50.1	13.1	30°	03:55	04:27	04:53	01:44	02:23	03:07	
	22	15° 30.9	111° 51.3	25.9	217° 43.7	27.4	344° 54.6	56.0	171° 43.6	27.2	Bellatrix 278° 32.9 6° 21.6 N			138° 31.9	58.6	186° 17.6	8.6	9° 03.2 S	13.0	60.4	35°	03:39	04:14	04:42	01:41	02:18	02:59
23	30° 33.4	126° 50.3	26.1	232° 45.3	26.1	359° 57.3	55.9	186° 45.9	27.3	Betelgeuse 271° 02'.2 7° 24.5 N			153° 31.8	59.1	200° 45.2	8.5	16.2	13.9	40°	03:20	03:59	04:30	01:39	02:12	02:50		
	45° 35.8	141° 49.4	26.3	247° 46.4	26.6	15° 00'.1	55.9	201° 48.1	27.4				168° 31.6	59.7	215° 12.7	8.4	29.1	13.0	45°	02:55	03:40	04:15	01:36	02:06	02:40		
Tuesday	00	60° 38.3	156° 48.5	24° 26.6 S	262° 47.7	11° 26.2 N	30° 02.8	10° 55.8 N	216° 50.3	7° 27.5 S	Canopus 263° 56.2 52° 42.0 S			183° 31.4	20° 00.2 S	229° 40.1	8.4	9° 42.1 S	12.8	60.4	S 50°	02:21	03:16	03:57	01:32	01:58	02:27
	01	75° 40.8	171° 47.5	26.8	277° 49.1	25.8	45° 05.5	55.7	231° 52.5	27.6	Capella 280° 35.6 46° 00.5 N			198° 31.3	00.7	244° 07.5	8.3	54.9	12.9	52°	02:03	03:05	03:48	01:30	01:54	02:21	
	02	90° 43.2	186° 46.6	27.0	292° 50.4	25.4	60° 08.2	55.6	246° 54.7	27.7	Deneb 49° 32.4 45° 19.8 N			213° 31.1	01.3	258° 34.8	8.2	10° 07.8 S	12.7	60.5	54°	01:40	02:51	03:38	01:29	01:50	02:18
	03	105° 45.7	201° 45.7	27.2	307° 51.7	25.1	75° 10.9	55.5	261° 56.9	27.8	Denobola 182° 34.9 14° 30.2 S			228° 31.0	01.8	273° 02.0	8.2	20.5	12.7	56°	01:09	02:35	03:27	01:27	01:45	02:05	
	04	120° 48.1	216° 44.7	27.4	322° 53.1	24.7	90° 13.7	55.4	276° 59.1	27.9	Diphda 348° 56.8 17° 55.2 S			243° 30.8	02.4	287° 29.2	8.1	33.2	12.7	58°	-	02:16	03:15	04:14	01:40	02:00	
	05	135° 50.6	231° 43.8	27.7	337° 54.4	24.3	105° 16.4	55.3	292° 01.3	28.0				258° 30.6	02.9	301° 56.3	8.0	45.9	12.6	S 60°	-	01:51	03:00	04:12	01:35	01:51	
	06	150° 53.1	246° 42.8	27.9	352° 55.8	23.9	120° 19.1	55.4	307° 03.5	28.0	Dubhe 193° 53.2 61° 40.8 N			273° 30.5	03.5	316° 23.3	7.9	58.5	12.5	S 62°	-	01:17	02:42	04:19	01:19	01:28	01:41
	07	165° 55.5	261° 41.9	28.1	7° 57'.1	23.5	135° 21'.8	55.2	322° 05.7	28.1	Elnath 278° 13.7 28° 37.0 N			288° 30.3	04.0	330° 50.2	7.8	11° 11.0 S	12.4	60.6	60°	04:55	05:31	06:07	01:49	02:11	02:41
	08	180° 58.0	276° 41.0	28.3	22° 58'.4	23.1	150° 24.6	55.1	337° 08.0	28.2	Enif 90° 47.1 51° 29.5 N			303° 30.1	04.5	345° 17.0	7.8	23.5	12.5								
	09	196° 00.5	291° 40.0	28.5	37° 59'.8	22.8	165° 27.3	55.0	352° 10.2	28.3	Enif 33° 48.3 9° 56.0 N			318° 30.0	05.1	359° 43.8	7.7	35.9	12.4		Lat	Sunset	Twilight		Moonset		
	10	211° 02.9	306° 39.1	28.7	53° 01'.1	22.4	180° 30.0	54.9	7° 12'.4	28.4	Fomalhaut 15° 25.1 29° 33.5 S			333° 29.8	05.6	14° 10.5	7.6	48.3	12.3								
	11	226° 05.4	321° 38.2	28.9	68° 02'.4	22.0	195° 32.7	54.9	22° 14.6	28.5				348° 29.7	06.2	28° 37.1	7.6	12° 00.6 S	12.2								
	12	241° 07.9	336° 37.2	24° 29.2 S	83° 03.8	11° 21.6 N	210° 35.4	10° 54.8 N	37° 16.8	7° 28.6 S	Gacrux 172° 02'.6 57° 10.6 S			3° 29.5	20° 06.7 S	43° 03.7	7.4	12° 12.8 S	12.1	60.7	N 72°	-	14:25	16:09	12:43	12:17	11:30
	13	256° 10.3	351° 36.3	29.4	98° 05'.1	21.2	225° 38.1	54.7	52° 19.0	28.7	Gienah 175° 53.6 17° 36.4 S			18° 29.3	07.2	57° 30.1	7.4	24.9	12.1	68°	13:46	15:16	16:32	13:02	12:56	12:48	
	14	271° 12.8	6° 35.3	29.6	113° 06.5	20.8	240° 40.9	54.6	67° 21.2	28.8	Hadar 148° 50.1 60° 25.7 S			33° 29.7	07.8	71° 56.5	7.3	37.0	12.0	66°	14:19	15:33	16:41	13:09	13:10	13:11	
	15	286° 15.3	21° 34.4	29.8	128° 07.8	20.4	255° 43.6	54.5	82° 23.4	28.9	Hamal 328° 01.7 23° 31.3 S			48° 29.0	08.3	86° 22.8	7.3	49.0	11.9	64°	14:43	15:47	16:49	13:15	13:21	13:30	
	16	301° 17.7	36° 33.5	30.0	143° 09.1	20.1	270° 46.3	54.5	97° 25.6	29.0	Kaus Aust. 83° 45.6 34° 22.7 S			63° 28.8	08.8	100° 49.1	7.1	13° 00.9 S	11.8	62°	15:02	15:58	16:56	13:21	13:31	13:45	
	17	316° 20.2	51° 32.5	30.2	158° 10.5	19.7	285° 49.0	54.4	112° 27.8	29.1				78° 28.7	09.4	115° 15.2	7.1	12.7	11.8	60°	15:17	16:09	17:02	13:25	13:39	13:58	
	18	331° 22.6	66° 31.6	30.4																							

**2011 November 24, 25, 26 (Thur, Fri, Sat)**

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON					Twilight			Sunrise			Moonrise		
																								Lat	Nautical	Civil	24	25	26	24	25	26			
<b>24</b> 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	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:32	09:20	-	-	-	-	-	-	-					
		62° 36'.6	156° 03.3	24° 35'.9 S	263° 52'.3	11° 07'.8 N	32° 13'.2	10° 51'.9 N	218° 36'.4	7° 31'.9 S	Acamar	315° 18'.7	40° 15'.4 S	183° 23'.3	20° 25'.6 S	202° 07'.5	4.7	18° 32'.0 S	8.5	61.0	N 70°	07:18	08:48	11:22	-	-	-	-	-	-					
		77° 39'.0	171° 02'.4	36.0	278° 53'.6	07.4	47° 15'.9	51.8	273° 38'.6	32.0	Acnarnar	335° 27'.1	57° 10'.7 S	197° 18'.3	26.1	216° 31'.2	4.7	40.5	8.3	68°	07:07	08:25	10:01	09:09	-	-	-	-	-	-					
		92° 41'.5	186° 01'.4	36.2	293° 55'.0	07.1	62° 18'.6	51.8	248° 40'.8	32.1	Acruz	173° 13'.0	63° 09'.7 S	213° 23'.0	26.7	230° 54'.9	4.6	48.8	8.2	66°	06:57	08:07	09:24	08:29	10:21	11:39	-	-	-	-	-				
		107° 44'.0	201° 00'.5	36.3	308° 56'.3	06.7	77° 21'.3	51.7	263° 43'.0	32.2	Adhara	255° 11'.1	28° 59'.2 S	225° 22'.8	27.2	245° 18'.5	4.6	57.0	8.1	64°	06:49	07:52	08:58	08:01	09:41	10:54	-	-	-	-	-				
		122° 46'.4	215° 59'.5	36.5	323° 57'.7	06.3	92° 24'.0	51.6	278° 45'.2	32.3	Aldebaran	290° 50'.3	16° 32'.0 N	243° 22'.6	27.7	259° 42'.1	4.5	19° 05'.1 S	7.9	62°	06:42	07:40	08:37	07:40	09:13	10:24	-	-	-	-	-				
		137° 48'.9	230° 58'.6	36.7	338° 59'.0	05.9	107° 26'.7	51.5	293° 47'.5	32.4				258° 22'.4	28.2	274° 05'.6	4.4	13.0	7.8	60°	06:35	07:29	08:21	07:23	08:51	10:01	-	-	-	-	-				
		152° 51'.4	245° 57'.7	36.8	354° 00'.4	05.5	122° 29'.4	51.5	308° 49'.7	32.5	Alioth	166° 22'.0	55° 53'.4 N	273° 22'.3	28.7	288° 29'.0	4.4	20.8	7.8	N 58°	06:29	07:20	08:07	07:09	08:34	09:43	-	-	-	-	-				
		167° 53'.8	260° 56'.7	37.0	9° 01'.8	05.2	137° 32'.1	51.4	323° 51'.9	32.5	Alkaid	153° 00'.1	49° 15'.1 N	288° 22'.1	29.2	302° 52'.4	4.3	28.4	7.5	60.9	56°	06:24	07:11	07:55	06:56	08:19	09:28	-	-	-	-	-			
		182° 56'.3	275° 55'.8	37.1	24° 03'.1	04.8	152° 34'.8	51.3	338° 54'.1	32.6	Alnair	27° 45'.1	46° 54'.3 S	303° 21'.9	29.7	317° 15'.7	4.3	35.9	7.4	54°	06:19	07:04	07:45	06:46	08:06	09:14	-	-	-	-	-				
		197° 58'.7	290° 54'.8	37.3	39° 04'.5	04.4	167° 37'.5	51.2	353° 56'.3	32.7	Alnilam	275° 47'.2	1° 11'.7 S	318° 21'.7	30.2	331° 39'.0	4.2	43.3	7.2	52°	06:15	06:57	07:36	06:36	07:55	09:03	-	-	-	-	-				
		213° 01'.2	305° 53'.9	37.4	54° 05'.8	04.0	182° 40'.3	51.1	8° 58'.5	32.8	Alphard	217° 57'.1	8° 42'.6 S	333° 21'.5	30.7	346° 02'.2	4.2	50.5	7.1	50°	06:11	06:51	07:28	06:28	07:45	08:53	-	-	-	-	-				
		228° 03'.7	320° 52'.9	37.6	69° 07'.2	03.6	197° 43'.0	51.1	24° 00'.7	32.9				348° 21'.4	31.3	0° 25'.4	4.1	57.6	6.9	45°	06:01	06:38	07:10	06:10	07:25	08:31	-	-	-	-	-				
		243° 06'.1	335° 52'.0	24° 37'.7 S	84° 08'.5	11° 03'.3 N	212° 45'.7	10° 51'.0 N	39° 03'.0	7° 33'.0 S	Alphecca	126° 12'.3	26° 40'.5 N	3° 21'.2	20° 31'.8 S	14° 48'.5	4.0	20° 04'.5 S	6.8	60.9	N 40°	05:53	06:26	06:56	05:55	07:08	08:14	-	-	-	-	-			
		258° 08'.6	350° 51'.0	37.9	99° 09'.9	02.9	227° 48'.4	50.9	54° 05'.2	33.1	Alpheratz	357° 44'.5	29° 09'.7 N	18° 21'.0	32.3	29° 11'.5	4.0	11.3	6.6	35°	05:45	06:16	06:44	05:43	06:54	07:59	-	-	-	-	-				
		273° 11'.1	5° 50'.1	38.0	114° 11'.3	02.5	242° 51'.1	50.8	69° 07'.4	33.2	Altair	62° 09'.5	8° 54'.2 N	33° 20'.8	32.8	43° 34'.5	4.0	17.9	6.5	30°	05:38	06:07	06:33	05:32	06:41	07:46	-	-	-	-	-				
		288° 13'.5	20° 49'.1	38.2	129° 12'.6	02.1	257° 53'.8	50.8	84° 09'.6	33.3	Ankaa	353° 16'.5	42° 14'.5 S	48° 20'.6	33.3	57° 57'.5	3.9	24.4	6.3	20°	05:24	05:51	06:15	05:14	06:21	07:25	-	-	-	-	-				
		303° 16'.0	35° 48'.2	38.3	144° 14'.0	01.8	272° 56'.5	50.7	99° 11'.8	33.4	Antares	112° 28'.0	26° 27'.4 S	63° 20'.5	33.8	72° 20'.4	3.9	30.7	6.2	N 10°	05:10	05:36	05:58	04:58	06:02	07:06	-	-	-	-	-				
		318° 18'.5	50° 47'.3	38.4	159° 15'.3	01.4	287° 59'.2	50.6	114° 14'.0	33.5				78° 20'.3	34.3	86° 43'.3	3.8	36.9	6.0	0°	04:55	05:21	05:43	04:44	05:46	06:48	-	-	-	-	-				
		333° 20'.9	65° 46'.3	38.6	174° 16'.7	01.0	303° 01'.9	50.5	129° 16'.2	33.5	Arcturus	145° 57'.0	19° 07'.2 N	93° 20'.1	34.8	101° 06'.1	3.8	42.9	5.9	S 10°	04:39	05:05	05:28	04:29	05:29	06:31	-	-	-	-	-				
		348° 23'.4	80° 45'.4	38.7	189° 18'.1	00.6	318° 04'.6	50.5	144° 18'.4	33.6	Arctia	107° 31'.4	69° 02'.9 S	108° 19'.9	35.3	115° 28'.9	3.7	48.8	5.7	20°	04:19	04:47	05:11	04:14	05:11	06:12	-	-	-	-	-				
		3° 25'.9	95° 44'.4	38.9	204° 19'.4	00.2	333° 07'.3	50.4	159° 20'.7	33.7	Avior	234° 18'.2	59° 32'.7 S	123° 19'.7	35.8	129° 51'.6	3.8	54.5	5.6	30°	03:54	04:26	04:52	03:56	04:51	05:51	-	-	-	-	-				
		18° 28'.3	110° 43'.5	39.0	219° 20'.8	10° 59'.9 N	348° 10'.0	50.3	174° 22'.9	33.8	Bellatrix	278° 32'.9	6° 21'.6 N	138° 19'.5	36.3	144° 14'.4	3.6	21° 00'.1 S	5.4	60.8	35°	03:37	04:12	04:41	03:46	04:39	05:38	-	-	-	-	-			
		33° 30'.8	125° 42'.5	39.1	234° 22'.2	59.5	3° 12'.7	50.2	189° 25'.1	33.9	Betelgeuse	271° 02'.2	7° 24'.5 N	153° 19'.4	36.8	158° 37'.0	3.7	05.5	5.2	40°	03:17	03:57	04:28	03:34	04:25	05:23	-	-	-	-	-				
	48° 33'.2	140° 41'.6	39.3	249° 23'.5	59.1	18° 15'.4	50.1	204° 27'.3	34.0				168° 19'.2	37.3	172° 59'.7	3.6	10.7	5.1	45°	02:52	03:37	04:13	03:20	04:09	05:06	-	-	-	-	-					
<b>25</b> 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23		63° 35'.7	155° 40'.6	24° 39'.4 S	264° 24'.9	10° 58'.7 N	33° 18'.1	10° 50'.1 N	219° 29'.5	7° 34'.1 S	Canopus	263° 56'.2	52° 42'.2 S	183° 19'.0	20° 37'.8 S	187° 22'.3	3.6	21° 15'.8 S	5.0	60.8	S 50°	02:16	03:13	03:54	03:03	03:49	04:45	-	-	-	-	-			
		78° 38'.2	170° 39'.7	39.5	279° 26'.3	58.4	48° 20'.8	50.0	234° 31'.7	34.2	Capella	280° 35'.6	46° 00'.5 N	198° 18'.8	38.3	201° 44'.9	3.6	20.8	4.8	52°	01:57	03:00	03:45	02:56	03:40	04:35	-	-	-	-	-				
		93° 40'.6	185° 38'.7	39.7	294° 27'.6	58.0	63° 23'.5	49.9	249° 33'.9	34.3	Deneb	49° 32'.4	45° 19'.8 N	213° 18'.6	38.8	216° 07'.5	3.5	25.6	4.6	54°	01:32	02:46	03:35	02:47	03:29	04:24	-	-	-	-	-				
		108° 43'.1	200° 37'.8	39.8	309° 29'.0	57.6	78° 26'.3	49.8	284° 36'.2	34.4	Denebola	182° 34'.9	14° 30'.2 N	226° 18'.4	39.3	230° 30'.0	3.5	30.2	4.4	56°	00:55	02:29	03:23	02:37	03:17	04:11	-	-	-	-	-				
		123° 45'.6	215° 36'.8	39.9	324° 30'.3	57.2	93° 29'.0	49.8	279° 38'.4	34.4	Diphda	348° 56'.8	17° 55'.2 S	243° 18'.2	39.8	244° 52'.5	3.5	34.6	4.3	60.7	58°	-	02:09	03:10	02:26	03:04	03:56	-	-	-	-	-			
		138° 48'.0	230° 35'.9	40.0	339° 31'.7	56.8	108° 31'.7	49.7	294° 40'.6	34.5				258° 18'.1	40.3	259° 15'.0	3.5	38.9	4.2	S 60°	-	01:42	02:54	02:14	02:48	03:38	-	-	-	-	-				
		153° 50'.5	245° 34'.9	40.2	354° 33'.1	56.5	123° 34'.4	49.6	309° 42'.8	34.6	Dubhe	193° 53'.1	61° 40'.8 N	273° 17'.9	40.8	273° 37'.5	3.4	43.1	3.9	S 62°	-	01:02	02:35	01:59	02:28	03:16	-	-	-	-	-				
		168° 53'.0	260° 34'.0	40.3	9° 34'.4	56.1	138° 37'.1	49.5	324° 45'.0	34.7	Elnath	278° 13'.7	28° 37'.0 N	288° 17.7	41.3	287° 59'.9	3.5	47.0	3.8																
		183° 55'.4	275° 33'.0	40.4	24° 35'.8	55.7	153° 39'.8	49.4	339° 47'.2	34.8	Elainin	90° 47'.1	51° 29'.5 N	303° 17'.5	41.8	302° 22'.4	3.4	50.8	3.7																
		198° 57'.9	290° 32'.1	40.5	39° 37'.2	55.3	168° 42'.5	49.4	354° 49'.4	34.9	Enif	33° 48'.3	9° 56'.0 N	318° 17.3	42.3	316° 44.8	3.4	54.5	3.5																
		214° 00'.4	305° 31'.2	40.7	54° 38'.6	55.0	183° 45'.2	49.3	9° 51'.7	35.0	Fomalhaut	15° 25'.1	29° 33'.5 S	333° 17.1	42.7	331° 07.2	3.4	58.0	3.3	60.6															
		229° 02'.8	320° 30'.2	40.8	69° 39'.9	54.6	198° 47'.9	49.2	24° 53'.9	35.1				348° 16.9	43.2	345° 29.6	3.4	22° 01'.3 S	3.2		N 72°	-	14:13	16:01	-	-	-	-	-	-	-				
		244° 05'.3	335° 29'.3	24° 40'.9 S	84° 41'.3	10° 54'.2 N	213° 50'.6	10° 49'.2 N	39° 56'.1	7° 35'.2 S	Gacrux	172° 02'.5	57° 10'.6 S	3° 16.7	20° 43'.7 S	359° 52.0	3.4	22° 04'.5 S	2.9	60.6	N 70°	12:11	14:45	16:15	-	-	-	-	-	-	-				
		259° 07'.7	350° 28'.3	41.0	99° 42.7	53.8	228° 53.3	49.1	54° 58'.3	35.3	Gienah	175° 53.6	17° 36.4 S	18° 16.5	44.2	14° 14.4	3.4	07.4	2.9	68°	13:32	15:08	16:26	12:37	-	-	-	-	-	-	-				
		274° 10'.2	5° 27.4	41.1	114° 44.0	53.5	243° 56.0	49.0	70° 00.5	35.3	Hadar	148° 50.1	60° 25.7 S	33° 16.4	44.7	28° 36.8	3.5	10.3																	



2011 November 27, 28, 29 (Sun, Mon, Tue)

Table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight (Nautical/Civil), Sunrise, Moonrise (27/29), Moonset (28/29). Rows are organized by day (27, 28, 29) and time of day (Sun, Mon, Tue). Includes planetary positions, star names, and astronomical data.

2011 Nov 30, Dec. 1, 2 (Wed, Thur, Fri)

Main data table with columns for planets (ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON), twilight (Nautical, Civil), sunrise, moonset, and moon phase. Includes a detailed 'Friday' section with moon phase icons and 'Mer. Pass.' data.

**2011 December 3, 4, 5 (Sat, Sun, Mon)**

GMT	ARIES			VENUS -3.9			MARS +0.7			JUPITER -2.8			SATURN +0.8			STARS			SUN		MOON				Lat	Twilight		Sunrise	Moonrise		
																Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d		HP	Nautical		Civil	3	4
<b>3</b>		GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	07:58	10:02	-	12:14	11:57	11:38				
	00	71° 28'.8	152° 38'.4	24° 40'.7 S	268° 54'.9	9° 48'.6 N	41° 52'.4	10° 37'.4 N	226° 36'.1	7° 50'.7 S	Acamar	315° 18'.8	40° 15'.5 S	182° 37'.8	22° 00'.8 S	85° 27'.5	15'.5	0° 14'.7 S	11'.6	54.8	N 70°	07:41	09:19	-	12:17	12:06	11:55				
	01	86° 31'.3	167° 37'.5	40'.6	283° 56'.4	48'.2	56° 55'.1	37'.4	241° 38'.4	50'.8	Acnarnar	335° 27'.1	57° 10'.7 S	197° 37'.5	01'.2	100° 02'.0	13'.6	0° 13'.7	11'.6	68°	N 70°	07:27	08:51	10:53	12:19	12:14	12:08				
	02	101° 33'.8	182° 36'.6	40'.5	298° 57'.8	47'.9	71° 57'.7	37'.3	256° 40'.6	50'.9	Acrux	173° 10'.9	63° 09'.7 S	212° 37'.3	01'.5	114° 36'.6	15'.7	0° 08'.5 N	11'.5	66°	N 66°	07:15	08:29	09:56	12:21	12:20	12:20				
	03	116° 36'.2	197° 35'.6	40'.3	313° 59'.3	47'.5	87° 00'.4	37'.2	271° 42'.8	50'.9	Adhara	255° 13'.1	28° 59'.3 S	227° 37'.0	01'.9	129° 11'.3	15'.6	20'.0	11'.6	64°	N 64°	07:06	08:12	09:23	12:22	12:25	12:29				
	04	131° 38'.7	212° 34'.7	40'.2	329° 00'.7	47'.2	102° 03'.0	37'.2	286° 45'.1	51'.0	Aldebaran	290° 50'.3	16° 32'.0 N	242° 36'.8	02'.2	143° 45'.9	15'.7	31'.6	11'.5	54.7	N 62°	06:57	07:57	08:59	12:24	12:30	12:37				
	05	146° 41'.1	227° 33'.7	40'.1	344° 02'.2	46'.8	117° 05'.7	37'.1	301° 47'.3	51'.1				257° 36'.5	02'.6	158° 20'.6	15'.6	43'.1	11'.6	60°	N 60°	06:50	07:45	08:40	12:25	12:34	12:44				
	<b>Saturday</b>	06	161° 43'.6	242° 32'.8	40'.0	359° 03'.6	46'.5	132° 08'.3	37'.1	316° 49'.5	51'.2	Alioth	166° 21'.9	55° 53'.4 N	272° 36'.3	03'.0	172° 55'.2	15'.7	54'.7	11'.5	58°	N 58°	06:43	07:34	08:24	12:26	12:37	12:50			
		07	176° 46'.1	257° 31'.8	39'.8	14° 05'.1	46'.1	147° 11'.0	37'.0	331° 51'.8	51'.3	Alkaid	153° 00'.1	49° 15'.0 N	287° 36'.1	03'.3	187° 29'.9	15'.7	1° 06'.2 N	11'.5	56°	N 56°	06:37	07:25	08:11	12:27	12:41	12:55			
		08	191° 48'.5	272° 30'.9	39'.7	29° 06'.5	45'.8	162° 13'.6	37'.0	346° 54'.0	51'.3	Alnair	27° 45'.2	46° 54'.3 S	302° 35'.8	03'.7	202° 04'.6	15'.8	17'.2	11'.5	54°	N 54°	06:31	07:17	07:59	12:28	12:44	13:00			
		09	206° 51'.0	287° 30'.0	39'.6	44° 08'.0	45'.4	177° 16'.2	36'.9	1° 56'.2	51'.4	Alnilam	275° 47'.1	1° 11'.7 S	317° 35'.6	04'.0	216° 39'.4	15'.7	29'.2	11'.5	54.6	N 52°	06:26	07:09	07:49	12:29	12:46	13:05			
		10	221° 53'.5	302° 29'.0	39'.5	59° 09'.4	45'.1	192° 18'.9	36'.9	16° 58'.5	51'.5	Alphard	217° 57'.0	8° 42'.7 S	332° 35'.3	04'.4	231° 14'.1	15'.7	40'.7	11'.4	50°	N 50°	06:21	07:02	07:40	12:30	12:49	13:09			
		11	236° 55'.9	317° 28'.1	39'.3	74° 10'.9	44'.7	207° 21'.5	36'.8	32° 00'.7	51'.6				347° 35'.1	04'.8	245° 48'.8	15'.8	52'.1	11'.5	45°	N 45°	06:11	06:47	07:21	12:31	12:54	13:18			
		12	251° 58'.4	332° 27'.1	24° 39'.2 S	89° 12'.4	9° 44'.4 N	222° 24'.2	10° 36'.7 N	47° 02'.9	7° 51'.7 S	Alphecca	126° 12'.3	26° 40'.5 N	2° 34'.8	22° 05'.1 S	260° 23'.6	15'.8	2° 03'.6 N	11'.4	54.6	N 40°	06:01	06:35	07:05	12:33	12:58	13:25			
		13	267° 00'.9	347° 26'.2	39'.1	104° 13'.8	44'.0	237° 26'.8	36'.6	62° 05'.1	51'.8	Alpheratz	357° 44'.5	29° 09'.7 N	17° 34'.6	05'.5	274° 58'.4	15'.7	15'.0	11'.5	35°	N 35°	05:53	06:24	06:52	12:34	13:02	13:31			
		14	282° 03'.3	2° 25'.3	38'.9	119° 15'.3	43'.7	252° 29'.5	36'.7	77° 07'.4	51'.8	Altair	62° 09'.5	8° 54'.2 N	32° 34'.3	05'.8	289° 33'.1	15'.8	26'.5	11'.4	30°	N 30°	05:45	06:14	06:40	12:35	13:05	13:37			
		15	297° 05'.8	17° 24'.3	38'.8	134° 16'.7	43'.3	267° 32'.1	36'.6	92° 09'.6	51'.9	Ankaa	353° 16'.6	42° 14'.6 S	47° 34'.1	06'.2	304° 07'.9	15'.8	37'.9	11'.4	54.5	N 20°	05:29	05:56	06:20	12:37	13:11	13:47			
		16	312° 08'.3	32° 23'.4	38'.6	149° 18'.2	43'.0	282° 34'.8	36'.5	107° 11'.8	52'.0	Antares	112° 28'.0	26° 27'.4 S	62° 33'.9	06'.5	318° 42'.7	15'.8	49'.3	11'.3	53°	N 10°	05:14	05:40	06:03	12:38	13:16	13:55			
	17	327° 10'.7	47° 22'.4	38'.5	164° 19'.6	42'.6	297° 37'.4	36'.5	122° 14'.1	52'.1				77° 33'.6	06'.9	333° 17'.5	15'.8	3° 00'.6 N	11'.4	0°	N 0°	04:58	05:24	05:46	12:40	13:21	14:03				
	18	342° 13'.2	62° 21'.5	38'.4	179° 21'.1	42'.3	312° 40'.1	36'.4	137° 16'.3	52'.2	Arcturus	145° 57'.0	19° 07'.2 N	92° 33'.4	07'.2	347° 52'.3	15'.8	12'.0	11'.3	30°	S 10°	04:40	05:07	05:30	12:42	13:26	14:12				
	19	357° 15'.6	77° 20'.5	38'.2	194° 22'.6	41'.9	327° 42'.7	36'.4	152° 18'.5	52'.2	Arctua	107° 31'.4	69° 02'.8 S	107° 33'.1	07'.6	2° 27'.1	15'.8	23'.3	11'.4	20°	N 20°	04:19	04:48	05:12	12:43	13:32	14:20				
	20	12° 18'.1	92° 19'.6	38'.1	209° 24'.0	41'.6	342° 45'.4	36'.3	167° 20'.8	52'.3	Avior	234° 18'.1	59° 32'.7 S	122° 32'.9	07'.9	17° 01'.9	15'.8	34.7	11'.3	30°	N 30°	03:51	04:24	04:51	12:45	13:38	14:31				
	21	27° 20'.6	107° 18'.7	37'.9	224° 25'.5	41'.2	357° 48'.0	36'.3	182° 23'.0	52'.4	Bellatrix	278° 32'.8	6° 21'.6 N	137° 32'.6	08'.3	31° 36'.7	15'.8	46'.0	11'.3	54.4	N 35°	03:34	04:10	04:39	12:46	13:41	14:36				
22	42° 23'.0	122° 17'.7	37'.8	239° 26'.9	40'.9	12° 50'.7	36'.2	197° 25'.2	52'.5	Betelgeuse	271° 02'.1	7° 24'.5 N	152° 34'.0	08'.6	46° 11'.5	15'.8	57'.3	11'.2	40°	N 40°	03:12	03:53	04:25	12:48	13:45	14:43					
23	57° 25'.5	137° 16'.8	37'.6	254° 28'.4	40'.5	27° 53'.3	36'.2	212° 27'.5	52'.6				167° 32'.1	09'.0	60° 46'.3	15'.8	4° 08'.5 N	11'.3	45°	N 45°	02:44	03:32	04:08	12:49	13:50	14:51					
<b>4</b>	00	72° 28'.0	152° 15'.9	24° 37'.5 S	269° 29'.9	9° 40'.2 N	42° 55'.9	10° 36'.1 N	212° 29'.7	7° 52'.7 S	Canopus	263° 56'.1	52° 42'.1 S	182° 31'.9	22° 09'.3 S	75° 21'.1	15'.8	4° 19'.8 N	11'.2	54.4	S 50°	02:04	03:04	03:47	12:51	13:56	15:00				
	01	87° 30'.4	167° 14'.9	37'.3	284° 31'.3	39'.8	57° 58'.6	36'.0	242° 31'.9	52'.7	Capella	280° 35'.6	46° 00'.5 N	197° 31'.6	09'.7	89° 55'.9	15'.8	31° 30'.0	11'.2	52°	S 52°	01:40	02:51	03:37	12:52	13:58	15:05				
	02	102° 32'.9	182° 14'.0	37'.2	299° 32'.8	39'.5	73° 01'.2	36'.0	257° 34'.2	52'.8	Deneb	49° 32'.5	45° 19'.7 N	212° 31'.4	10'.0	104° 30'.7	15'.8	42'.2	11'.1	54°	N 54°	01:08	02:35	03:26	12:53	14:01	15:09				
	03	117° 35'.4	197° 13'.0	37'.0	314° 34'.2	39'.1	88° 03'.9	35'.9	272° 36'.4	52'.9	Denebola	182° 34'.8	14° 30'.2 N	227° 31'.1	10'.3	119° 05'.5	15'.8	53'.3	11'.1	56°	N 56°	01:08	02:15	03:13	12:54	14:04	15:15				
	04	132° 37'.8	212° 12'.1	36'.9	329° 35'.7	38'.8	103° 06'.5	35'.9	287° 38'.6	53'.0	Diphda	348° 56'.8	17° 55'.2 S	242° 30'.9	10'.7	133° 40'.3	15'.8	5° 04'.5 N	11'.1	58°	N 58°	-	01:50	02:58	12:55	14:08	15:21				
	05	147° 40'.3	227° 11'.2	36'.7	344° 37'.2	38'.5	118° 09'.2	35'.8	302° 40'.9	53'.1				257° 30'.6	11'.0	148° 15'.1	15'.8	15'.6	11'.1	54.3	S 60°	-	01:15	02:40	12:56	14:12	15:28				
	06	162° 42'.8	242° 10'.2	36'.6	359° 38'.6	38'.1	133° 11'.8	35'.8	317° 43'.1	53'.1	Dubhe	193° 53'.0	61° 40'.8 N	272° 30'.4	11'.4	162° 49'.9	15'.7	26'.7	11'.1	53°	S 62°	-	-	02:17	12:58	14:17	15:35				
	07	177° 45'.2	257° 09'.3	36'.4	14° 40'.1	37'.8	148° 14'.4	35'.7	332° 45'.3	53'.2	Elnath	278° 13'.6	28° 37'.0 N	287° 30'.1	11'.7	177° 24'.6	15'.8	37'.8	11'.1												
	08	192° 47'.7	272° 08'.3	36'.2	29° 41'.6	37'.4	163° 17'.1	35'.1	347° 47'.6	53'.3	Etainin	90° 47'.2	51° 29'.4 N	302° 29'.9	12'.1	191° 59'.4	15'.8	48'.9	11'.1												
	09	207° 50'.1	287° 07'.4	36'.1	44° 43'.0	37'.1	178° 19'.7	35'.6	2° 49'.8	53'.4	Enif	33° 48'.3	9° 56'.0 N	317° 29'.6	12'.4	206° 34'.2	15'.7	59'.9	11'.0												
	10	222° 52'.6	302° 06'.5	35'.9	59° 44'.5	36'.7	193° 22'.4	35'.6	17° 52'.0	53'.5	Fomalhaut	15° 25'.2	29° 33'.5 S	332° 29'.4	12'.7	221° 08'.9	15'.8	6° 10'.9 N	11'.0												
	11	237° 55'.1	317° 05'.5	35'.8	74° 46'.0	36'.4	208° 25'.0	35'.5	32° 54'.3	53'.5				347° 29'.4	13'.1	235° 43'.7	15'.7	21'.9	10'.9												
	12	252° 57'.5	332° 04'.6	24° 35'.6 S	89° 47'.4	9° 36'.0 N	223° 27'.6	10° 35'.5 N	47° 56'.5	7° 53'.6 S	Gacrux	172° 02'.4	57° 10'.6 S	2° 28'.9	22° 13'.4 S	250° 18'.4	15'.7	6° 32'.8 N	10'.9	54.3	N 70°	-	-	13:37	15:42	00:15	01:59	03:46			
	13	268° 00'.0	347° 03'.7	35'.4	104° 48'.9	35'.7	238° 30'.3	35'.4	62° 58'.7	53'.7	Gienah	175° 53'.6	17° 36'.4 S	17° 28'.6	13'.8	264° 53'.1	15'.7	43'.7	10'.9	68°	N 68°	12:47	14:49	16:13	00:16	01:47	03:19				
	14	283° 02'.5	2° 02'.7	35'.3	119° 50'.4	35'.3	253° 32'.9	35'.3	78° 01'.0	53'.8	Hadar	148° 50'.0	60° 25'.6 S	32° 28'.4	14'.1	279° 27'.8	15'.7	54'.6	10'.9	54.2	N 66°	13:44	15:11	16:24	00:16	01:43	03:09				
	15	298° 04'.9	17° 01'.8	35'.1	134° 51'.8	35'.0	268° 35'.6	35'.3	93° 03'.2	53'.9	Hamal	3																			

2011 December 6, 7, 8 (Tue, Wed, Thur)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN		MOON				Twilight			Sunrise	Moonrise		
																				Lat	Nautical	Civil		6	7	8	6		7	8	
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	72°	08:05	10:16	-	11:12	10:18	-				
6 00	74° 26'.2	151° 31'.0	24° 28'.8 S	270° 40'.6	9° 23'.7 N	45° 02'.5	10° 33'.7 N	229° 17'.0	7° 56'.5 S	Acamar	315° 18'.8	40° 15'.5 S	182° 19'.7	22° 25'.1 S	54° 54'.5	14'.8	12° 43'.1 N	9'.5	54'.1	N 70°	07:47	09:28	-	11:41	11:21	-					
01	79° 28'.7	166° 30'.1	28'.6	285° 42'.0	23'.4	60° 05'.2	33'.6	244° 19'.2	56'.6	Acnarnar	335° 27'.2	57° 10'.7 S	197° 19'.4	25'.4	69° 28'.3	14'.7	52'.6	9'.4		N 70°	07:33	08:58	11:15	12:03	11:57	11:48					
02	104° 31'.2	181° 29'.1	28.4	300° 43'.5	23.0	75° 07'.7	33'.6	259° 21'.4	56'.7	Acrux	173° 10'.8	63° 09'.7 S	212° 19'.2	25'.7	84° 02'.0	14'.7	13° 02'.0 N	9'.4		N 66°	07:21	08:35	10:06	12:20	12:22	12:28					
03	119° 33'.6	196° 28'.2	28.2	315° 45'.0	22.7	90° 10'.4	33'.6	274° 23'.7	56'.7	Adhara	255° 13'.0	28° 59'.3 S	227° 18'.9	26'.0	98° 35'.7	14'.7	11'.4	9'.3		N 66°	07:10	08:17	09:30	12:34	12:42	12:55					
04	134° 36'.1	211° 27'.3	27.9	330° 46'.5	22.3	105° 13'.0	33'.5	289° 25'.9	56'.8	Aldebaran	290° 50'.3	16° 32'.0 N	242° 18'.7	26'.3	113° 09'.4	14'.6	20'.7	9'.3		N 62°	07:02	08:02	09:05	12:46	12:58	13:17					
05	149° 38'.6	226° 26'.4	27.7	345° 48'.0	22.0	120° 15'.6	33'.5	304° 28'.2	56'.9				257° 18'.4	26'.6	127° 43'.0	14'.6	30.0	9'.2		N 60°	06:54	07:50	08:45	12:56	13:12	13:34					
06	164° 41'.0	241° 25'.4	27.5	0° 49'.5	21.7	135° 18'.3	33'.4	319° 30'.4	57'.0	Alioth	166° 21'.9	55° 53'.4 N	272° 18'.1	26'.9	142° 16'.6	14'.5	39'.2	9'.2		N 58°	06:47	07:39	08:29	13:05	13:24	13:49					
07	179° 43'.5	256° 24'.5	27.3	15° 51'.0	21.3	150° 20'.9	33.4	334° 32'.6	57.1	Alkaid	153° 00'.1	49° 15'.0 N	287° 17'.9	27.2	156° 50'.1	14'.5	48'.4	9'.1		N 56°	06:41	07:29	08:15	13:13	13:34	14:01					
08	194° 46'.0	271° 23'.6	27.1	30° 52'.4	21.0	165° 23'.5	33.3	349° 34'.9	57.1	Alnair	27° 45'.2	46° 54'.3 S	302° 17'.6	27.5	171° 23'.6	14'.5	57'.5	9'.1		N 54°	06:35	07:20	08:03	13:20	13:43	14:12					
09	209° 48'.4	286° 22'.6	26.8	45° 53'.9	20.6	180° 26'.1	33.3	4° 37'.1	57.2	Alnilam	275° 47'.1	1° 11'.7 S	317° 17'.4	27.8	185° 57'.1	14'.4	14° 06'.6 N	9'.0		N 52°	06:29	07:13	07:53	13:26	13:51	14:22					
10	224° 50'.9	301° 21'.7	26.6	60° 55'.4	20.3	195° 28'.8	33.2	19° 39'.3	57.3	Alphard	217° 57'.0	8° 42'.7 S	332° 17'.1	28.1	200° 30'.5	14'.3	15'.6	8'.9		N 50°	06:25	07:06	07:44	13:32	13:58	14:30					
11	239° 53'.3	316° 20'.8	26.4	75° 56'.9	20.0	210° 31'.4	33.2	34° 41'.6	57.4				347° 16'.8	28.4	215° 03'.8	14'.3	24'.5	8'.9		N 45°	06:14	06:50	07:24	13:44	14:14	14:49					
12	254° 55'.8	331° 19'.9	24° 26'.2 S	90° 58'.4	9° 19'.6 N	225° 34'.0	10° 33'.1 N	49° 43'.8	7° 57.4 S	Alphecca	126° 12'.3	26° 40'.5 N	2° 16'.6	22° 28.7 S	229° 37.1	14.3	14° 33.4 N	8.8	54.1	N 40°	06:04	06:38	07:08	13:54	14:27	15:04					
13	269° 58'.3	346° 18'.9	25.9	105° 59'.9	19.3	240° 36'.6	33.1	64° 46'.1	57.5	Alpheratz	357° 44'.5	29° 09'.7 N	17° 16'.3	29.0	244° 10'.4	14.2	42.0	8.8		N 35°	05:55	06:26	06:54	14:03	14:38	15:17					
14	285° 00'.7	1° 18'.0	25.7	121° 01'.4	19.0	255° 39'.3	33.0	79° 48'.3	57.6	Altair	62° 09'.3	8° 54'.2 N	32° 16'.0	29.3	258° 43'.6	14.2	51.0	8.7		N 30°	05:47	06:16	06:42	14:11	14:47	15:28					
15	300° 03'.2	16° 17'.1	25.5	136° 02'.9	18.6	270° 41'.9	33.0	94° 50'.5	57.7	Ankaa	353° 16'.6	42° 14'.6 S	47° 15'.8	29.6	273° 16'.8	14.2	59.7	8.6		N 20°	05:31	05:58	06:22	14:24	15:04	15:47					
16	315° 05'.7	31° 16'.2	25.3	151° 04'.4	18.3	285° 44'.5	32.9	109° 52'.8	57.8	Antares	112° 28'.0	26° 27'.4 S	62° 15'.5	29.9	287° 50.0	14.1	15° 08'.3 N	8.6		N 10°	05:15	05:42	06:04	14:36	15:18	16:04					
17	330° 08'.1	46° 15'.2	25.0	166° 05'.9	17.9	300° 47'.1	32.9	124° 55'.0	57.8				77° 15'.3	30.2	302° 23.1	14.0	16.9	8.6		0°	04:59	05:25	05:48	14:47	15:32	16:20					
18	345° 10'.6	61° 14'.3	24.8	181° 07'.4	17.6	315° 49'.8	32.9	139° 57'.2	57.9	Arcturus	145° 57'.0	19° 07'.1 N	92° 15.0	30.5	316° 56.1	14.0	25.5	8.4		S 10°	04:41	05:08	05:31	14:58	15:46	16:35					
19	0° 13'.1	76° 13'.4	24.5	196° 08'.8	17.3	330° 52'.4	32.8	154° 59'.5	58.0	Arctua	107° 31.4	69° 02.8 S	107° 14.7	30.8	331° 29.1	14.0	33.9	8.4		N 20°	04:19	04:48	05:13	15:10	16:01	16:52					
20	15° 15'.5	91° 12'.5	24.3	211° 10'.3	16.9	345° 55.0	32.8	170° 01'.7	58.1	Avior	234° 18'.0	59° 32'.7 S	122° 14.5	31.1	346° 02.1	13.9	42.3	8.4		N 30°	03:51	04:24	04:51	15:24	16:18	17:12					
21	30° 18'.0	106° 11'.5	24.1	226° 11'.8	16.6	0° 57'.6	32.7	185° 04'.0	58.2	Bellatrix	278° 32.8	6° 21'.6 N	137° 14.2	31.4	0° 35.0	13.8	50.7	8.2		N 35°	03:33	04:10	04:39	15:32	16:28	17:23					
22	45° 20'.5	121° 10'.6	23.8	241° 13'.3	16.3	16° 00'.2	32.7	200° 06'.2	58.2	Betelgeuse	271° 02'.1	7° 24'.5 N	152° 13.9	31.7	15° 07.8	13.8	58.9	8.2		N 40°	03:03	03:52	04:25	15:41	16:39	17:37					
23	60° 22'.9	136° 09'.7	23.6	256° 14'.8	15.9	31° 02'.9	32.6	215° 08'.4	58.3				167° 13.7	32.0	29° 40.6	13.8	16° 07.1 N	8.2		N 45°	02:42	03:31	04:07	15:52	16:52	17:52					
7 00	75° 25'.4	151° 08'.8	24° 23'.4 S	271° 16'.3	9° 15'.6 N	46° 05'.5	10° 32'.6 N	230° 10'.7	7° 58'.4 S	Canopus	263° 56'.1	52° 42'.1 S	182° 13'.4	22° 32'.3 S	44° 13'.4	13'.7	16° 15'.3 N	8'.0	54'.1	S 50°	02:00	03:03	03:46	16:05	17:09	18:11					
01	90° 27'.8	166° 07'.8	23.1	286° 17'.8	15.3	61° 08'.1	32.5	245° 12'.9	58.5	Capella	280° 35'.6	46° 00'.5 N	197° 13.1	32.6	58° 46'.1	13.6	23.3	8.0	54.2	S 52°	01:36	02:48	03:36	16:11	17:17	18:20					
02	105° 30'.3	181° 06'.9	22.9	301° 19'.3	14.9	76° 10'.7	32.5	260° 15'.2	58.5	Deneb	49° 32'.5	45° 19'.7 N	212° 12.9	32.9	73° 18'.7	13'.7	31.3	7.8		N 54°	01:01	02:32	03:24	16:18	17:25	18:31					
03	120° 32'.8	196° 06'.0	22.6	316° 20'.8	14.6	91° 13'.4	32.5	275° 17'.4	58.6	Denebola	182° 34'.8	14° 30'.2 N	227° 12.6	33.2	87° 51'.4	13'.5	39.3	8.0		N 56°	01:01	02:12	03:11	16:25	17:35	18:42					
04	135° 35'.2	211° 05'.1	22.4	331° 22'.3	14.3	106° 16'.0	32.4	290° 19'.6	58.7	Diphda	348° 56'.8	17° 55'.2 S	242° 12.3	33.4	102° 23.9	13'.5	47.1	7.8		N 58°	-	01:46	02:55	16:34	17:46	18:56					
05	150° 37'.7	226° 04'.2	22.1	346° 23'.8	13.9	121° 18'.6	32.4	305° 21'.9	58.8				257° 12.1	33.7	116° 56.4	13.5	54.9	7.8		N 60°	-	01:07	02:37	16:43	17:59	19:11					
06	165° 40'.2	241° 03'.2	21.9	1° 25'.3	13.6	136° 21'.2	32.3	320° 24'.1	58.9	Dubhe	193° 53.0	61° 40'.8 N	272° 11.8	34.0	131° 28.9	13.4	17° 02.7 N	7.6		S 62°	-	-	02:13	16:55	18:14	19:31					
07	180° 42'.6	256° 02'.3	21.6	16° 26'.8	13.3	151° 23'.8	32.3	335° 26'.4	58.9	Elnath	278° 13'.6	28° 37'.0 N	287° 11.5	34.3	146° 01.3	13'.3	10.3	7.6													
08	195° 45'.1	271° 01'.4	21.4	31° 28'.3	12.9	166° 26'.5	32.2	350° 28'.6	59.0	Elnath	90° 47'.2	51° 29'.4 N	302° 11.3	34.6	160° 33.6	13'.3	17.9	7.5													
09	210° 47'.6	286° 00'.5	21.1	46° 29'.8	12.6	181° 29'.1	32.2	5° 30'.8	59.1	Enif	33° 48'.3	9° 56'.0 N	317° 11.0	34.9	175° 05.9	13'.3	25.4	7.5													
10	225° 50'.0	300° 59'.5	20.9	61° 31'.3	12.3	196° 31'.7	32.1	20° 33'.1	59.2	Fomalhaut	15° 25.2	29° 33'.6 S	332° 10.7	35.2	189° 38.2	13.2	32.9	7.3		Lat	Sunset	Twilight	Moonset								
11	240° 52'.5	315° 58'.6	20.6	76° 32'.8	11.9	211° 34'.3	32.1	35° 35'.3	59.2				347° 10.5	35.4	204° 10.4	13.1	40.2	7.3													
12	255° 55'.0	330° 57'.7	24° 20'.3 S	91° 34'.3	9° 11'.6 N	226° 36'.9	10° 32'.1 N	50° 37'.6	7° 59'.3 S	Gacrux	172° 02'.4	57° 10'.6 S	2° 10'.2	22° 35.7 S	218° 42.5	13.1	17° 47.5 N	7.2	54.2	N 70°	-	13:27	15:37	05:41	08:08	-					
13	270° 57'.4	345° 56'.8	20.1	106° 35'.8	11.3	241° 39.5	32.0	65° 39.8	59.4	Gienah	175° 53'.5	17° 36'.5 S	17° 09.9	36.0	233° 14.6	13.1	54.7	7.2		N 68°	12:27	14:44	16:10								

2011 December 9, 10, 11 (Fri, Sat, Sun)

GMT	ARIES			VENUS -3.9			MARS +0.6			JUPITER -2.7			SATURN +0.8			STARS			SUN		MOON				Twilight		Sunrise	Moonrise		
																Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	Lat		Nautical	Civil	9
<b>F r i d a y</b>	00	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:11	10:28	-	-	-				
	01	77° 23.7	150° 24.8	24° 10.2 S	272° 28.7	8° 59.7 N	48° 11.0	10° 30.6 N	231° 58.3	8° 02.1 S	Acamar	315° 18.8	40° 15.5 S	182° 00.4	22° 45.4 S	21° 25.1	11.2	21° 14.4 N	4.0	54.6	N 70°	07:53	09:36	-	-	-				
	02	77° 26.1	150° 23.9	09.9	287° 30.2	59.4	63° 13.6	30.5	247° 00.5	20.2	Acnarnar	335° 27.2	57° 10.7 S	197° 00.2	45.7	35° 55.3	11.2	18.4	4.0		N 68°	07:38	09:04	-	-	11:29	-	13:01		
	03	107° 28.6	180° 22.9	09.6	302° 31.8	59.1	78° 16.2	30.5	262° 02.8	02.2	Acruz	173° 10.8	63° 09.7 S	211° 59.9	45.9	50° 25.5	11.1	22.4	3.8		N 66°	07:25	08:41	10:14	12:42	13:18	14:26			
	04	122° 31.1	195° 22.0	09.3	317° 33.3	58.7	93° 18.8	30.5	277° 05.0	02.3	Adhara	255° 13.0	28° 59.3 S	226° 59.6	46.2	64° 55.6	11.1	26.2	3.8		64°	07:15	08:22	09:37	13:19	14:00	15:03			
	05	137° 33.5	210° 21.1	09.0	332° 34.8	58.4	108° 21.4	30.4	292° 07.3	02.4	Aldebaran	290° 50.3	16° 32.0 N	241° 59.3	46.4	79° 25.8	11.0	30.0	3.6	54.7	62°	07:06	08:07	09:11	13:45	14:29	15:30			
	06	152° 36.0	225° 20.2	08.7	347° 36.3	58.1	123° 24.0	30.4	307° 09.5	02.5				256° 59.1	46.7	93° 55.8	11.0	33.6	3.5		60°	06:57	07:54	08:50	14:06	14:51	15:50			
	07	167° 38.4	240° 19.3	08.4	2° 37.8	57.8	138° 26.6	30.3	322° 11.8	02.5	Alioth	166° 21.8	55° 53.4 N	271° 58.8	46.9	108° 25.8	11.0	37.1	3.5		N 58°	06:50	07:42	08:33	14:23	15:08	16:07			
	08	182° 40.9	255° 18.4	08.1	17° 39.4	57.4	153° 29.2	30.3	337° 14.0	02.6	Alkaid	153° 00.0	49° 15.0 N	286° 58.5	47.2	122° 55.8	10.9	40.6	3.3		56°	06:44	07:33	08:19	14:37	15:23	16:22			
	09	197° 43.4	270° 17.5	07.8	32° 40.9	57.1	168° 31.8	30.3	352° 16.2	02.8	Alnair	27° 45.2	46° 54.3 S	301° 58.2	47.4	137° 25.7	10.9	43.9	3.2		54°	06:38	07:24	08:07	14:49	15:36	16:34			
	10	212° 45.8	285° 16.6	07.4	47° 42.4	56.8	183° 34.4	30.2	7° 18.5	02.7	Alnilam	275° 47.1	1° 11.7 S	316° 58.0	47.7	151° 55.6	10.9	47.1	3.2		52°	06:33	07:16	07:56	15:00	15:48	16:45			
	11	227° 48.3	300° 15.7	07.1	62° 43.9	56.5	198° 37.0	30.2	22° 20.7	02.8	Alphard	217° 57.0	8° 42.7 S	331° 57.7	47.9	166° 25.5	10.8	50.3	3.0		50°	06:27	07:09	07:47	15:10	15:58	16:54			
	12	242° 50.8	315° 14.8	06.8	77° 45.5	56.1	213° 39.6	30.2	37° 23.0	02.9				346° 57.4	48.2	180° 55.3	10.7	53.3	2.9	54.8	45°	06:16	06:53	07:27	15:30	16:19	17:15			
	13	257° 53.2	330° 13.9	24° 06.5 S	92° 47.0	8° 55.8 N	228° 42.2	10° 30.1 N	52° 25.2	8° 03.0 S	Alphecca	126° 12.3	26° 40.4 N	1° 57.1	22° 48.4 S	195° 25.0	10.7	21° 56.2 N	2.8	54.8	N 40°	06:06	06:40	07:10	15:47	16:36	17:31			
	14	272° 55.7	345° 13.0	06.2	107° 48.5	55.5	243° 44.8	30.1	67° 27.5	03.1	Alpheratz	357° 44.5	29° 09.7 N	16° 56.9	48.7	209° 54.7	10.7	59.0	2.7		35°	05:57	06:29	06:57	16:01	16:50	17:45			
	15	287° 58.2	0° 12.1	05.9	122° 50.1	55.2	258° 47.4	30.0	82° 29.7	03.1	Altair	62° 09.6	8° 54.2 N	31° 56.6	48.9	224° 24.4	10.7	22° 01.7 N	2.6		30°	05:49	06:18	06:45	16:13	17:03	17:57			
	16	303° 00.6	15° 11.2	05.5	137° 51.6	54.8	273° 50.0	30.0	97° 32.0	03.2	Ankaa	353° 16.6	42° 14.6 S	46° 56.3	49.1	238° 54.1	10.6	04.3	2.5		20°	05:33	06:00	06:24	16:34	17:24	18:18			
	17	318° 03.1	30° 10.2	05.2	152° 53.1	54.5	288° 52.6	30.0	112° 34.2	03.3	Antares	112° 28.0	26° 27.4 S	61° 56.0	49.4	253° 23.7	10.5	06.8	2.3		N 10°	05:17	05:43	06:06	16:52	17:43	18:35			
	18	333° 05.6	45° 09.3	04.9	167° 54.6	54.2	303° 55.2	29.9	127° 36.5	03.4				76° 55.7	49.6	267° 53.2	10.6	09.1	2.3		0°	05:00	05:26	05:49	17:09	18:00	18:52			
	19	348° 08.0	60° 08.4	04.6	182° 56.2	53.9	318° 57.8	29.9	142° 38.7	03.4	Arcturus	145° 57.0	19° 07.1 N	91° 55.5	49.9	282° 22.8	10.4	11.4	2.2	54.9	S 10°	04:42	05:09	05:32	17:26	18:18	19:09			
	20	3° 10.5	75° 07.5	04.2	197° 57.7	53.5	334° 00.4	29.9	157° 40.9	03.5	Arctria	107° 31.3	63° 02.8 S	106° 55.2	50.1	296° 52.2	10.5	13.6	2.0		20°	04:20	04:49	05:13	17:45	18:36	19:27			
	21	18° 12.9	90° 06.6	03.9	212° 59.2	53.2	349° 03.0	29.8	172° 43.2	03.6	Avior	234° 18.0	59° 32.8 S	121° 54.9	50.3	311° 21.7	10.4	15.6	1.9		30°	03:51	04:25	04:52	18:06	18:58	19:47			
	22	33° 15.4	105° 05.7	03.6	228° 00.8	52.9	4° 05.6	29.8	187° 45.4	03.7	Bellatrix	278° 32.8	6° 21.6 N	136° 54.6	50.6	325° 51.1	10.4	17.5	1.9		35°	03:33	04:10	04:39	18:18	19:10	19:59			
23	48° 17.9	120° 04.8	03.2	243° 02.3	52.6	19° 08.2	29.8	202° 47.7	03.7	Betelgeuse	271° 02.1	7° 24.5 N	151° 54.7	50.8	340° 20.5	10.4	19.4	1.7		40°	03:11	03:52	04:24	18:32	19:25	20:13				
24	63° 20.3	135° 03.9	02.9	258° 03.8	52.3	34° 10.8	29.7	217° 49.9	03.8				166° 54.1	51.1	354° 49.9	10.3	21.1	1.6		45°	02:41	03:30	04:07	18:49	19:42	20:29				
<b>10</b>	00	78° 22.8	150° 03.0	24° 02.6 S	273° 05.4	8° 51.9 N	49° 13.4	10° 29.7 N	232° 52.2	8° 03.9 S	Canopus	263° 56.1	52° 42.4 S	181° 53.8	22° 51.3 S	9° 19.2	10.3	22° 22.7 N	1.5	55.0	S 50°	01:58	03:01	03:45	19:10	20:03	20:49			
	01	93° 25.3	165° 02.1	02.2	288° 06.9	51.6	64° 16.0	29.6	247° 54.4	04.0	Capella	280° 35.5	46° 00.5 N	196° 53.5	51.5	23° 48.5	10.2	24.2	1.4		52°	01:33	02:47	03:35	19:20	20:13	20:59			
	02	108° 27.7	180° 01.2	01.9	303° 08.4	51.3	79° 18.6	29.6	262° 56.7	04.0	Deneb	49° 32.5	45° 19.7 N	211° 53.2	51.8	38° 17.7	10.2	25.6	1.2		54°	00:54	02:30	03:23	19:31	20:25	21:09			
	03	123° 30.2	195° 00.3	01.6	318° 10.0	51.0	94° 21.2	29.6	277° 58.9	04.1	Denebola	182° 34.8	14° 30.1 N	226° 50.9	52.0	52° 46.9	10.2	26.8	1.2		56°	-	02:09	03:09	19:44	20:38	21:21			
	04	138° 32.7	209° 59.4	01.2	333° 11.5	50.7	109° 23.8	29.5	293° 01.2	04.2	Diphda	348° 56.8	17° 55.3 S	241° 52.7	52.2	67° 16.1	10.2	28.0	1.0		58°	-	01:42	02:53	19:59	20:53	21:35			
	05	153° 35.1	224° 58.5	00.9	348° 13.0	50.3	124° 26.4	29.5	308° 03.4	04.3				256° 52.4	52.5	81° 45.3	10.1	29.0	1.0		S 60°	-	01:00	02:34	20:17	21:11	21:52			
	06	168° 37.6	239° 57.6	00.6	3° 14.6	50.0	139° 29.0	29.5	323° 05.7	04.3	Dubhe	193° 52.9	61° 40.8 N	271° 52.1	52.7	96° 14.4	10.1	30.0	0.8	55.1	S 62°	-	-	02:09	20:39	21:33	22:12			
	07	183° 40.1	254° 56.7	00.2	18° 16.1	49.7	154° 31.6	29.4	338° 07.9	04.4	Elnath	278° 13.6	28° 37.0 N	286° 51.8	52.9	110° 43.5	10.1	30.8	0.7											
	08	198° 42.5	269° 55.8	23° 59.9 S	33° 17.6	49.4	169° 34.2	29.4	353° 10.2	04.5	Elainon	90° 47.2	51° 29.4 N	301° 51.6	53.2	125° 12.6	10.1	31.5	0.6											
	09	213° 45.0	284° 54.9	59.5	48° 19.2	49.1	184° 36.8	29.4	8° 12.4	04.6	Enif	33° 48.3	9° 56.0 N	316° 51.3	53.4	139° 41.7	10.0	32.1	0.4											
	10	228° 47.4	299° 54.0	59.2	63° 20.7	48.7	199° 39.4	29.3	23° 14.6	04.6	Fomalhaut	15° 25.2	29° 33.6 S	331° 51.0	53.6	154° 10.7	10.0	32.5	0.4											
	11	243° 49.9	314° 53.1	58.8	78° 22.2	48.4	214° 42.0	29.3	38° 16.9	04.7				346° 50.7	53.8	168° 39.7	10.0	32.9	0.2											
	12	258° 52.4	329° 52.2	23° 58.5 S	93° 23.8	8° 48.1 N	229° 44.6	10° 29.3 N	53° 19.1	8° 04.8 S	Gacrux	172° 02.3	57° 10.6 S	1° 50.4	22° 54.1 S	183° 08.7	10.0	22° 33.1 N	0.2	55.2	N 72°	-	13:17	15:34	-	-	-			
	13	273° 54.8	344° 51.3	58.1	108° 25.3	47.8	244° 47.2	29.2	68° 21.4	04.9	Gienah	175° 53.5	17° 36.5 S	16° 50.1	54.3	197° 37.7	9.9	33.3	0.0		68°	-	14:41	16:07	-	-	-			
	14	288° 57.3	359° 50.4	57.8	123° 26.9	47.5	259° 49.8	29.2	83° 23.6	04.9	Hadar	148° 49.9	60° 25.6 S	31° 49.9	54.5	212° 06.6	9.9	33.0	0.1		66°	13:30	15:04	16:20	09:06	10:16	10:56			
	15	303° 59.8	14° 49.5	57.4	138° 28.4	47.1	274° 52.4	29.2	98° 25.9	05.0	Hamal	328° 01.7	23° 31.3 S	46° 49.6	54.8	226° 35.5	9.9	33.2	0.3		64°	14:08	15:23	16:30	08:29	09:34	10:18			
	16	319° 02.2	29° 48.6	57.1	153° 29.9	46.8	289° 54.9	29.1	113° 28.1	05.1	Kaus Aust.	83° 45.6	34° 22.6 S	61° 49.3	55.0	241° 04.4	9.9	32.9	0.3		62°	14:34	15:38	16:39	08:03	09:05	09:51			
	17	334° 04.7	44° 47.7	56.7	168° 31.5	46.5	304° 57.5	29.1	128° 30.4	05.2				76° 49.0	55.2	255° 33.3	9.9	32.6	0.5		60°	14:55	15:51	16:47	07:43	08:43	09:30			
	18	349° 07.2	59° 46.8																											

2011 December 12, 13, 14 (Mon, Tue, Wed)

Main table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight, Sunrise, Moonrise. It contains detailed astronomical data for each day, including planetary positions and magnitudes.

2011 December 15, 16, 17 (Thur, Fri, Sat)

Table with columns: GMT, ARIES, VENUS, MARS, JUPITER, SATURN, STARS, SUN, MOON, Lat, Twilight, Sunrise, Moonrise, Moonset. Rows include celestial bodies (planets, stars, sun, moon) and specific dates (15, 16, 17) with associated coordinates and times.





2011 December 21, 22, 23 (Wed, Thur, Fri)

Table with columns for GMT, Planets (ARIES, VENUS, MARS, JUPITER, SATURN), STARS, SUN, MOON, and Twilight/Sunrise data. Includes rows for weekdays (Wed, Thur, Fri) and weekend days (Sat, Sun, Mon, Tue, Wed, Thur, Fri). Features a Moon phase indicator and a table for Sun/Moon positions and twilight data.

**2011 December 24, 25, 26 (Sat, Sun, Mon)**

GMT	ARIES		VENUS		MARS		JUPITER		SATURN		STARS			SUN		MOON				Twilight		Sunrise			Moonrise		
	Lat	Nautilcal	Civil	Sunrise	24	25	26																				
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N 72°	08:27	10:57	-	-	-	-	
24 00	92° 10' 8"	145° 24' 5"	21° 02.9' S	282° 12' 7"	7° 17.0' N	63° 27.7'	10° 24.6' N	245° 33.3'	8° 26.2' S	Acamar	315° 18.8'	40° 15.6' S	180° 12.6'	23° 25.5' S	191° 06.7'	4.3'	22° 29.7' S	1.1'	59.7	N 70°	08:07	09:55	-	-	-	11:33	
01	107° 13' 2"	160° 23' 8"	02.2	269° 14' 4"	16.7	78° 30' 1"	24.6	260° 35.6'	26.2	Acnarnar	335° 27.3'	57° 10.8' S	195° 12.3'	25.4'	205° 30.0'	4.4'	28.6'	1.3'		68°	07:51	09:20	-	-	11:10	10:58	
02	122° 15' 7"	175° 23' 0"	01.5	312° 16' 1"	16.5	93° 32' 6"	24.6	275° 37.9'	26.3	Acrux	173° 10.6'	63° 09.7' S	210° 12.0'	25.4'	219° 53.4'	4.3'	27.3'	1.5'		66°	07:38	08:55	10:35	10:10	10:27	10:33	
03	137° 18' 1"	190° 22' 3"	00.7	327° 17' 9"	16.3	108° 35' 1"	24.6	290° 40.2'	26.4	Adhara	255° 13.0'	28° 59.4' S	225° 11.7'	25.4'	234° 16.7'	4.5'	25.8'	1.6'		64°	07:27	08:35	09:53	09:29	09:59	10:14	
04	152° 20' 6"	205° 21' 5"	00.0	342° 19' 6"	16.0	123° 37' 6"	24.6	305° 42.5'	26.4	Aldebaran	290° 50.2'	16° 32.0' N	240° 11.4'	25.3'	248° 40.2'	4.4'	24.2'	1.8'		62°	07:17	08:19	09:25	09:01	09:36	09:58	
05	167° 23' 1"	220° 20' 8"	20° 59.3' S	357° 21' 3"	15.8	138° 40' 1"	24.6	320° 44.8'	26.5				255° 11.1'	25.3'	263° 03.6'	4.5'	22.4'	1.9'	59.6	60°	07:09	08:06	09:03	08:39	09:19	09:44	
06	182° 25' 5"	235° 20' 1"		12° 23' 1"	15.5	153° 42' 6"	24.6	335° 47.1'	26.5	Alioth	166° 21.7'	55° 53.3' N	270° 10.7'	25.2'	277° 27.1'	4.6'	20.5'	2.1'		N 58°	07:01	07:54	08:46	08:21	09:04	09:33	
07	197° 28' 0"	250° 19' 3"	57.8	27° 24' 8"	15.3	168° 45' 0"	24.6	350° 49.3'	26.6	Alkaid	152° 59.9'	49° 14.9' N	285° 10.4'	25.2'	291° 50.7'	4.6'	18.4'	2.2'		56°	06:54	07:44	08:31	08:06	08:51	09:23	
08	212° 30' 5"	265° 18' 6"	57.1	42° 26' 6"	15.1	183° 47' 5"	24.7	5° 51' 6"	26.6	Alnair	27° 45.3'	46° 54.2' S	300° 10.1'	25.2'	306° 14.3'	4.6'	16.2'	2.4'		54°	06:48	07:35	08:18	07:53	08:39	09:14	
09	227° 32' 9"	280° 17' 9"	56.3	57° 28' 3"	14.8	198° 50' 0"	24.7	20° 53' 9"	26.7	Alnilam	275° 47.1'	1° 11.8' S	315° 09.8'	25.1'	320° 37.9'	4.7'	13.8'	2.5'		52°	06:43	07:26	08:07	07:42	08:30	09:06	
10	242° 35' 4"	295° 17' 1"	55.6	72° 30' 0"	14.6	213° 52' 5"	24.7	35° 56' 2"	26.8	Alphard	217° 56.9'	8° 42.8' S	330° 09.5'	25.1'	335° 01.6'	4.7'	11.3'	2.7'	59.5	50°	06:37	07:19	07:57	07:32	08:21	08:59	
11	257° 37' 9"	310° 16' 4"	54.9	87° 31' 8"	14.4	228° 55' 0"	24.7	50° 58' 5"	26.8				345° 09.2'	25.0'	349° 25.3'	4.8'	08.6'	2.8'		45°	06:26	07:03	07:37	07:11	08:02	08:43	
12	272° 40' 3"	325° 15' 6"	20° 54.1' S	102° 33' 5"	7° 14.1' N	243° 57' 5"	10° 24.7' N	66° 00' 8"	8° 26.9' S	Alphecca	126° 12.2'	26° 40.4' N	0° 08.9'	23° 25.0' S	3° 49.1'	4.8'	22° 05.8' S	3.0'	59.5	N 40°	06:15	06:49	07:20	06:54	07:46	08:30	
13	287° 42' 8"	340° 14' 9"	53.4	117° 35' 3"	13.9	258° 59.9'	24.7	81° 03' 1"	26.9	Alpheratz	357° 44.6'	29° 09.7' N	15° 08' 6"	24.9'	18° 12.9'	4.9'	02.8'	3.1'		35°	06:06	06:38	07:06	06:39	07:33	08:19	
14	302° 45' 3"	355° 14' 2"	52.7	132° 37' 0"	13.7	274° 02' 4"	24.7	96° 05' 4"	27.0	Altair	62° 09' 6"	8° 54.2' N	30° 08' 24"	24.9'	32° 36.8'	5.0'	21° 59.7' S	3.3'		30°	05:57	06:27	06:53	06:27	07:22	08:10	
15	317° 47' 7"	10° 13' 4"	51.9	147° 38' 8"	13.4	289° 04' 9"	24.7	111° 07' 6"	27.0	Ankaa	353° 16.7'	42° 14.6' S	45° 07' 9"	24.8'	47° 00' 8"	5.0'	56.4'	3.4'	59.4	20°	05:41	06:08	06:32	06:06	07:02	07:53	
16	332° 50' 2"	25° 12' 7"	51.2	162° 40' 5"	13.2	304° 07' 4"	24.7	126° 09' 9"	27.1	Antares	112° 27.9'	26° 27.4' S	60° 07' 6"	24.8'	61° 24.8'	5.1'	53.0'	3.6'		N 10°	05:24	05:51	06:14	05:47	06:45	07:39	
17	347° 52' 6"	40° 12' 0"	50.5	177° 42' 3"	13.0	319° 09.9'	24.7	141° 12' 2"	27.2				75° 07.3'	24.8'	75° 48.9'	5.1'	49.4'	3.7'		0°	05:07	05:34	05:56	05:30	06:29	07:25	
18	2° 55' 1"	55° 11' 2"	49.7	192° 44' 0"	12.7	334° 12.3'	24.7	156° 14' 5"	27.2	Arcturus	145° 56.8'	19° 07.1' N	90° 07.0'	24.7'	90° 13.0'	5.2'	45.7'	3.8'		S 10°	04:48	05:15	05:39	05:12	06:13	07:12	
19	17° 57' 6"	70° 10' 5"	49.0	207° 45' 8"	12.5	349° 14.8'	24.7	171° 16' 8"	27.3	Alria	107° 31.2'	69° 02.8' S	105° 06.7'	24.7'	104° 37.2'	5.3'	41.9'	4.0'	59.3	20°	04:26	04:55	05:20	04:54	05:56	06:57	
20	33° 00' 0"	85° 09' 8"	48.2	222° 47' 5"	12.3	4° 17.3'	24.8	186° 19' 1"	27.3	Avior	234° 17.9'	59° 32.9' S	120° 06.4'	24.6'	119° 01.5'	5.3'	37.9'	4.2'		30°	03:57	04:30	04:58	04:32	05:36	06:41	
21	48° 02' 5"	100° 09' 1"	47.5	237° 49' 3"	12.0	19° 19.8'	24.8	201° 21' 4"	27.4	Bellatrix	278° 32.8'	6° 21.5' N	135° 06.1'	24.6'	133° 25.8'	5.4'	33.7'	4.2'		35°	03:38	04:15	04:45	04:20	05:25	06:31	
22	63° 05' 0"	115° 08' 3"	46.7	252° 51' 0"	11.8	34° 22' 2"	24.8	216° 23' 7"	27.4	Betelgeuse	271° 02.1'	7° 24.2' S	150° 05.8'	24.5'	147° 50.2'	5.5'	29.5'	4.5'		40°	03:15	03:57	04:29	04:06	05:12	06:20	
23	78° 07' 4"	130° 07' 6"	46.0	267° 52' 8"	11.6	49° 24' 2"	24.8	231° 25.9'	27.5				165° 05.4'	24.4'	162° 14.7'	5.5'	25.0'	4.5'	59.2	45°	02:44	03:34	04:11	03:48	04:56	06:07	
25 00	93° 09' 9"	145° 06' 9"	20° 45.2' S	282° 54' 5"	7° 11' 3"	64° 27' 2"	10° 24.8' N	246° 28' 2"	8° 27.5' S	Canopus	263° 56' 0"	52° 42.2' S	180° 05.1'	23° 24.4' S	176° 39.2'	5.6'	21° 20.5' S	4.7'	59.2	S 50°	01:59	03:04	03:49	03:27	04:37	05:43	
01	108° 12' 4"	160° 06' 1"	44.5	297° 56' 3"	11.1	79° 29.7'	24.8	261° 30' 5"	27.6	Capella	280° 35.5'	46° 00.6' N	195° 04.8'	24.3'	191° 03.8'	5.7'	15.8'	4.9'		52°	01:31	02:49	03:38	03:17	04:28	05:43	
02	123° 14' 8"	175° 05' 4"	43.7	312° 58' 0"	10.9	94° 32' 1"	24.8	276° 32.8'	27.7	Deneb	49° 32' 6"	45° 19.7' N	210° 04.5'	24.3'	205° 28.5'	5.7'	10.9'	4.9'		54°	00:44	02:31	03:26	03:06	04:17	05:35	
03	138° 17' 3"	190° 04' 7"	43.0	327° 59.8'	10.7	109° 34.6'	24.8	291° 34.5'	27.7	Denebola	182° 34.7'	14° 30.1' N	225° 04' 35.2"	24.7'	219° 53.2'	5.9'	10.6'	5.1'	59.1	56°	-	02:09	03:11	03:11	02:53	04:06	05:25
04	153° 19' 8"	205° 04' 0"	42.2	343° 01' 5"	10.4	124° 37.1'	24.8	306° 37.4'	27.8	Diphda	348° 56.9'	17° 55.3' S	240° 03.9'	24.2'	234° 18.1'	5.9'	00.9'	5.3'		58°	-	01:39	02:55	02:38	03:52	05:14	
05	168° 22' 2"	220° 03' 2"	41.5	358° 03.3'	10.2	139° 39.6'	24.8	321° 39.7'	27.8				255° 03.6'	24.1'	248° 43.0'	6.0'	20° 55.6' S	5.3'		S 60°	-	00:48	02:34	02:20	03:36	05:02	
06	183° 24' 7"	235° 02' 5"	40.7	13° 05' 0"	10.0	154° 42.0'	24.8	336° 42.0'	27.9	Dubhe	193° 52.7'	61° 40.8' N	270° 03.3'	24.0'	263° 08.0'	6.0'	50.3'	5.5'		S 62°	-	-	02:08	01:59	03:17	04:47	
07	198° 27' 1"	250° 01' 8"	40.0	28° 06' 8"	09.7	169° 44' 5"	24.9	351° 44' 3"	27.9	Elmath	278° 13.5'	28° 37.0' N	285° 03.0'	24.0'	277° 33.0'	6.2'	44.8'	5.7'	59.0								
08	213° 29' 6"	265° 01' 1"	39.2	43° 08' 5"	09.5	184° 47.0'	24.9	6° 46' 5"	28.0	Elnath	90° 47.2'	51° 29.3' N	300° 02.6'	23.9'	291° 58.2'	6.2'	39.1'	5.7'									
09	228° 32' 1"	280° 00' 3"	38.5	58° 10' 3"	09.3	199° 49.5'	24.9	21° 48' 8"	28.0	Enif	33° 48.3'	9° 56.0' N	315° 02.3'	23.9'	306° 23.4'	6.3'	33.4'	5.9'									
10	243° 34' 5"	294° 59' 6"	37.7	73° 12' 1"	09.1	214° 51.9'	24.9	36° 51' 1"	28.1	Fomalhaut	15° 25.2'	29° 33.6' S	330° 02.0'	23.8'	320° 48.7'	6.4'	27.5'	6.0'									
11	258° 37' 0"	309° 58.9'	36.9	88° 13.8'	08.8	229° 54.4'	24.9	51° 53' 4"	28.2				345° 01.7'	23.7'	335° 14.1'	6.5'	21.5'	6.1'	58.9								
12	273° 39' 5"	324° 58' 2"	20° 36.2' S	103° 15' 6"	7° 08.6' N	244° 56.9'	10° 24.9' N	66° 55' 7"	8° 28.2' S	Gacrux	172° 02.1'	57° 10.6' S	0° 01.4'	23° 23.7' S	349° 39.6'	6.6'	20° 15.4' S	6.3'	58.9	N 70°	-	13:03	15:33	-	-	15:03	
13	288° 41' 9"	339° 57' 5"	35.4	118° 17' 3"	08.4	259° 59.4'	24.9	81° 58' 0"	28.3	Gienah	175° 53.4'	17° 36.5' S	15° 01.1'	23.6'	4° 05' 2"	6.6'	09.1'										

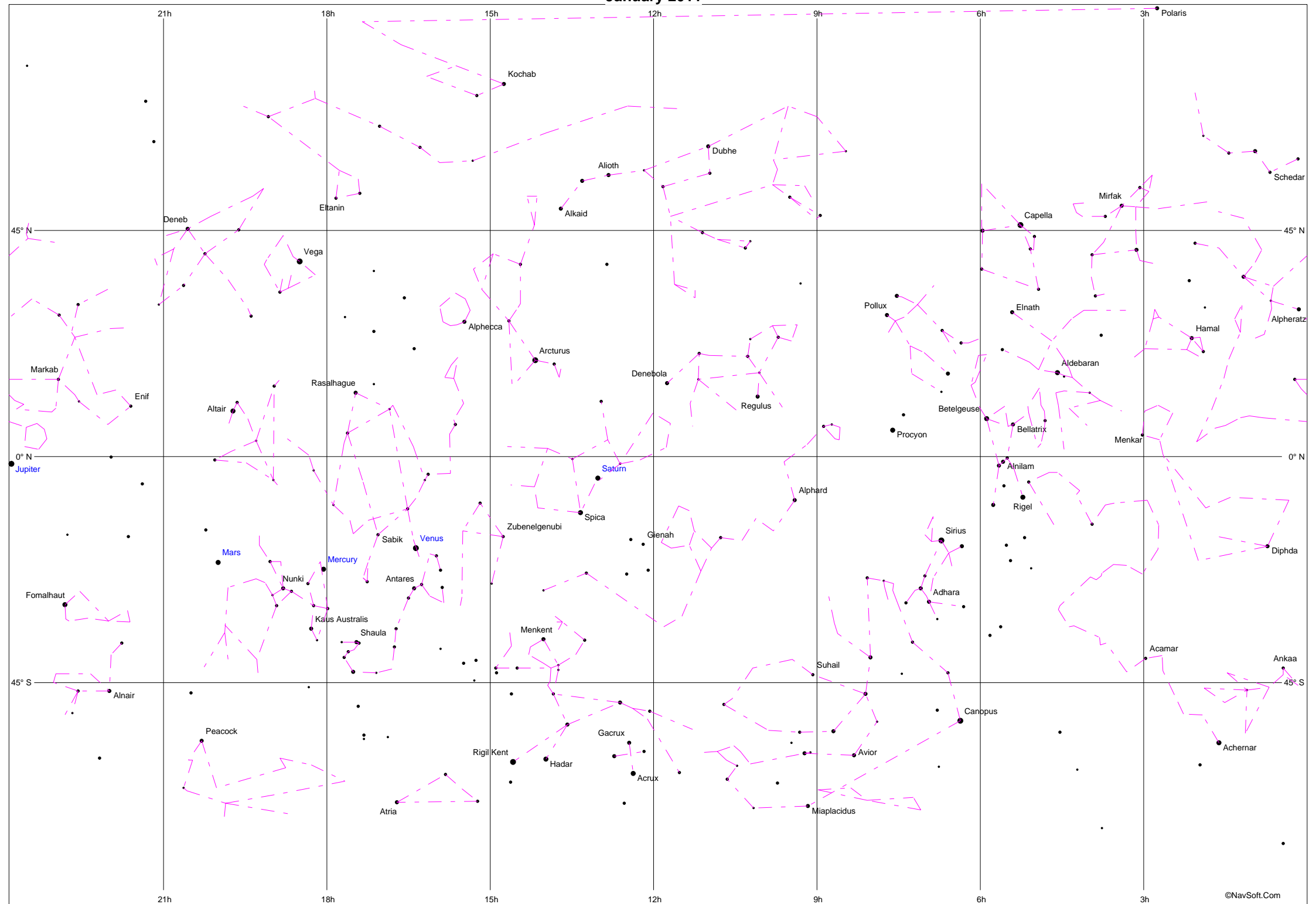
2011 December 27, 28, 29 (Tue, Wed, Thur)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON					Twilight		Sunrise		Moonrise		
																								Lat	Nautical	Civil		27	28	29			
	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Name	SHA	Dec	GHA	Dec	GHA	v	Dec	d	HP	N	72°	08:27	10:53	-	11:36	11:10	10:51						
Tues day	00	95° 08'.2	144° 32'.6	20° 08'.2 S	284° 19'.4	7° 00'.6 N	66° 25'.7	10° 25'.4 N	248° 18'.3	8° 30'.2 S	Acamar	315° 18'.8	40° 15'.6 S	179° 50'.2	23° 20'.8 S	149° 58'.0	9.9	15° 23'.8 S	9.7	57.8	N 70°	08:07	09:54	-	11:10	10:56	10:44						
	01	110° 10'.6	159° 31'.9	07.4	291° 21'.2	00.4	81° 28'.1	25.4	263° 20'.5	30.2	Acnarnar	335° 27'.3	57° 10'.8 S	194° 49'.9	20.7	164° 26'.9	10.0	14° 1'.0	9.8	57.7	N 70°	07:51	09:20	-	10:51	10:45	10:39						
	02	125° 13'.1	174° 31'.2	06.6	314° 23'.0	00.2	96° 30'.6	25.4	278° 22'.8	30.3	Acrux	173° 10'.5	63° 09'.7 S	209° 49'.6	20.6	178° 55'.9	10.1	04.3	9.9	66°	07:38	08:55	10:34	10:35	10:35	10:35							
	03	140° 15'.6	189° 30'.5	05.8	329° 24'.8	00.0	111° 33'.0	25.4	293° 25'.1	30.3	Adhara	255° 12'.9	28° 59'.4 S	224° 49'.3	20.6	193° 25'.0	10.2	14° 54'.4 S	10.0	64°	07:27	08:35	09:53	10:22	10:27	10:31							
	04	155° 18'.0	204° 29'.8	05.0	344° 26'.6	6° 59'.8 N	126° 35'.5	25.4	308° 27'.4	30.4	Aldebaran	290° 50'.2	16° 32'.0 N	239° 49'.0	20.5	207° 54'.2	10.3	44.4	10.0	57.6	62°	07:18	08:20	09:25	10:11	10:21	10:28						
	05	170° 20'.5	219° 29'.1	04.2	359° 28'.4	59.6	141° 38'.0	25.5	323° 29'.7	30.4				254° 48'.7	20.4	222° 23'.5	10.4	34.4	10.0	60°	07:09	08:06	09:04	10:02	10:15	10:25							
	06	185° 23'.0	234° 28'.4	03.4	14° 30'.1	59.4	156° 40'.4	25.5	338° 32'.0	30.5	Alioth	166° 21'.6	55° 53'.3 N	269° 48'.4	20.3	236° 52'.9	10.5	24.4	10.2	62°	07:02	07:55	08:46	09:54	10:09	10:22							
	07	200° 25'.4	249° 27'.7	02.6	29° 31'.9	59.1	171° 42'.9	25.5	353° 34'.3	30.5	Alkaid	152° 59'.9	49° 14'.9 N	284° 48'.1	20.2	251° 22'.4	10.5	14.2	10.2	57.5	58°	06:55	07:44	08:32	09:46	10:05	10:20						
	08	215° 27'.9	264° 27'.0	01.8	44° 33'.7	58.9	186° 45'.3	25.5	8° 36'.6	30.6	Alnair	27° 45'.3	46° 54'.2 S	299° 47'.8	20.1	265° 51'.9	10.7	04.0	10.2	54°	06:49	07:35	08:19	09:40	10:01	10:18							
	09	230° 30'.4	279° 26'.4	01.0	59° 35'.5	58.7	201° 47'.8	25.5	23° 38'.9	30.7	Alnilam	275° 47'.1	1° 11'.8 S	314° 47'.4	20.0	280° 21'.6	10.8	13° 53'.8 S	10.3	52°	06:44	07:27	08:08	09:34	09:57	10:16							
	10	245° 32'.8	294° 25'.7	00.2	74° 37'.3	58.5	216° 50'.2	25.5	38° 41'.2	30.7	Alphard	217° 56'.9	8° 42'.8 S	329° 47'.1	19.9	294° 51'.4	10.8	43'.5	10.4	57.4	50°	06:38	07:20	07:58	09:29	09:53	10:15						
	11	260° 35'.3	309° 25'.0	19° 59'.4 S	89° 39'.1	58.3	231° 52'.7	25.6	53° 43'.5	30.8				344° 46'.8	19.8	309° 21'.2	10.9	33'.1	10.5	45°	06:27	07:04	07:38	09:17	09:46	10:11							
	12	275° 37'.7	324° 24'.3	19° 58'.5 S	104° 40'.9	6° 58'.1 N	246° 55'.2	10° 25'.6 N	68° 45'.8	8° 30'.8 S	Alphecca	126° 12'.2	26° 40'.4 N	359° 46'.5	23° 19.7 S	323° 51'.1	11.0	13° 22'.6 S	10.5	57.4	N 40°	06:16	06:50	07:21	09:07	09:39	10:08						
	13	290° 40'.2	339° 23'.6	57.7	119° 42'.7	57.9	261° 57'.6	25.6	83° 48'.1	30.9	Alpheratz	357° 44'.6	29° 09'.7 N	14° 46'.2	19.6	338° 21'.1	11.1	12.1	10.5	57.3	35°	06:07	06:39	07:07	08:59	09:34	10:03						
	14	305° 42'.7	354° 22'.9	56.9	134° 44'.5	57.7	277° 00'.1	25.6	98° 50'.4	30.9	Altair	62° 09'.0	8° 54'.1 N	29° 45'.9	19.4	352° 51'.2	11.2	01'.6	10.6	30°	05:58	06:28	06:55	08:52	09:29	10:05							
	15	320° 45'.1	9° 22'.2	56.1	149° 46'.3	57.4	292° 02'.5	25.6	113° 52'.7	31.0	Ankaa	353° 16'.7	42° 14'.6 S	44° 45'.6	19.3	7° 21'.4	11.3	12° 51'.0 S	10.6	20°	05:42	06:09	06:33	08:39	09:21	09:59							
	16	335° 47'.6	24° 21'.5	55.3	164° 48'.1	57.2	307° 05'.0	25.7	128° 55'.0	31.0	Antares	112° 27'.8	26° 27'.4 S	59° 45'.3	19.2	21° 51'.7	11.4	40.4	10.8	57.2	N 10°	05:26	05:52	06:15	08:28	09:13	09:55						
	17	350° 50'.1	39° 20'.8	54.5	179° 49'.9	57.0	322° 07'.4	25.7	143° 57'.3	31.1				74° 45'.0	19.1	36° 22'.1	11.4	29.6	10.7	0°	05:09	05:35	05:58	08:18	09:06								
	18	5° 52'.5	54° 20'.1	53.7	194° 51'.7	56.8	337° 09'.9	25.7	158° 59'.6	31.1	Arcturus	145° 56'.8	19° 07'.0 N	89° 44'.7	19.0	50° 52'.5	11.5	18.9	10.8	S 10°	04:50	05:17	05:40	08:07	08:59	09:48							
	19	20° 55'.0	69° 19'.5	52.9	209° 53'.5	56.6	352° 12'.3	25.7	174° 01'.9	31.2	Atria	171° 31'.1	69° 02'.7 S	107° 41'.4	18.9	65° 23'.0	11.7	08° 1'.1	10.8	57.1	20°	04:28	04:57	05:21	07:56	08:52	09:44						
	20	35° 57'.5	84° 18'.8	52.1	224° 55'.3	56.4	7° 14'.8	25.7	189° 04'.2	31.2	Avior	234° 17'.9	59° 32'.9 S	119° 44.0	18.8	79° 53'.7	11.7	11° 57'.3 S	10.9	30°	03:59	04:32	04:59	07:43	08:43	09:40							
	21	50° 59'.9	99° 18'.1	51.2	239° 57'.1	56.2	22° 17'.2	25.7	204° 06'.5	31.3	Bellatrix	278° 32'.8	6° 21'.5 N	134° 43'.7	18.7	94° 24".4	11.7	46.4	11.0	35°	03:40	04:17	04:46	07:36	08:38	09:38							
	22	66° 02'.4	114° 17'.4	50.4	254° 58'.9	56.0	37° 19'.7	25.8	219° 08'.8	31.3	Betelgeuse	271° 02'.1	7° 24'.2 N	149° 43'.4	18.6	108° 55'.1	11.9	35° 5'.2	11.0	57.0	40°	03:17	03:59	04:31	07:27	08:32	09:35						
23	81° 04'.9	129° 16'.7	49.6	270° 00'.7	55.8	52° 22'.2	25.8	234° 11'.1	31.4				164° 43'.1	18.5	123° 26'.0	11.9	24.4	11.0	45°	02:47	03:36	04:13	07:17	08:26	09:32								
Wed nesday	00	96° 07'.3	144° 16'.0	19° 48'.8 S	280° 02'.5	6° 55'.6 N	67° 24'.6	10° 25'.8 N	249° 13'.4	8° 31'.4 S	Canopus	263° 56'.0	52° 42'.2 S	179° 42'.8	23° 18'.4 S	137° 56'.9	12.1	11° 13'.4 S	11.0	57.0	S 50°	02:01	03:07	03:51	07:05	08:18	09:28						
	01	111° 09'.8	159° 15'.3	48.0	300° 04'.3	55.4	82° 27'.1	25.8	264° 15'.7	31.5	Capella	280° 35'.5	46° 00'.6 N	194° 42'.5	18.2	152° 28'.0	12.1	02.4	11.1	56.9	S 52°	01:34	02:52	03:40	07:00	08:14	09:26						
	02	126° 12'.2	174° 14'.7	47.1	315° 06'.1	55.1	97° 29'.5	25.8	279° 18'.0	31.5	Deneb	49° 32'.6	45° 19'.7 N	209° 42'.2	18.1	166° 59'.1	12.1	10° 51'.3 S	11.2	54°	00:49	02:34	03:28	06:53	08:10	09:24							
	03	141° 14'.7	189° 14'.0	46.3	330° 07'.9	54.9	112° 32'.0	25.9	294° 20'.3	31.6	Denebola	182° 34'.6	14° 30'.1 N	224° 41'.9	20.3	181° 30'.2	12.3	40.1	11.2	56°	00:49	02:12	03:14	06:46	08:06	09:22							
	04	156° 17'.2	204° 13'.3	45.5	345° 09'.7	54.7	127° 34'.4	25.9	309° 22'.6	31.6	Diphda	348° 56'.9	17° 55'.3 S	239° 41'.6	17.9	196° 01'.5	12.3	28.9	11.2	56.8	58°	-	01:42	02:57	06:39	08:01	09:20						
	05	171° 19'.6	219° 12'.6	44.7	0° 11'.5	54.5	142° 36'.9	25.9	324° 24'.9	31.7				254° 41'.3	17.8	210° 32'.8	12.5	17.7	11.2	56.8	S 60°	-	00:54	02:37	06:30	07:55	09:17						
	06	186° 22'.1	234° 11'.9	43.8	15° 13'.3	54.3	157° 39'.3	25.9	339° 27'.2	31.8	Dubhe	193° 52'.7	61° 40'.8 N	269° 41'.0	17.7	225° 04'.3	12.4	06.5	11.3	S 62°	-	-	02:11	06:19	07:49	09:14							
	07	201° 24'.6	249° 11'.2	43.0	30° 15'.1	54.1	172° 41'.8	25.9	354° 29'.5	31.8	Elnath	278° 13'.5	28° 37'.0 N	284° 40'.7	17.5	239° 35'.7	12.6	9° 55'.2 S	11.3	56.7	62°	-	-	-	-	-	-						
	08	216° 27'.0	264° 10'.6	42.2	45° 17'.0	53.9	187° 44'.2	25.9	9° 31'.8	31.9	Elainin	90° 47'.2	51° 29'.3 S	299° 40'.4	17.4	254° 07'.3	12.6	43.9	11.4														
	09	231° 29'.5	279° 09'.9	41.4	60° 18'.8	53.7	202° 46'.7	26.0	24° 34'.1	31.9	Enif	33° 48'.3	9° 56'.0 N	314° 40'.1	17.3	268° 38'.9	12.7	32.5	11.3														
	10	246° 32'.0	294° 09'.2	40.5	75° 20'.6	53.5	217° 49'.1	26.0	39° 36'.4	32.0	Fomalhaut	15° 25'.2	29° 33'.6 S	329° 39'.7	17.2	283° 10'.6	12.8	21.2	11.5	56.6	Lat	Sunset	Twilight		27	Moonset							
	11	261° 34'.4	309° 08'.5	39.7	90° 22'.4	53.3	232° 51'.5	26.0	54° 38'.7	32.0				344° 39'.4	17.1	297° 42'.4	12.9	09.7	11.4														
	12	276° 36'.9	324° 07'.9	19° 38'.9 S	105° 24'.2	6° 53'.1 N	247° 54'.0	10° 26'.0 N	69° 41'.0	8° 32'.1 S	Gacrux	172° 02'.1	57° 10'.6 S	359° 39'.1	23° 16'.9 S	312° 14'.3	12.9	8° 58'.3 S	11.5	56.6	N 70°	-	13:10	15:36	17:44	19:49	21:41						
	13	291° 39'.4	339° 07'.2	38.0	120° 26'.0	52.9	262° 56'.4	26.0	84° 43'.3	32.1	Gienah	175° 53'.3	17° 36'.5 S	14° 38'.8	16.8	326° 46'.2	13.0	4															

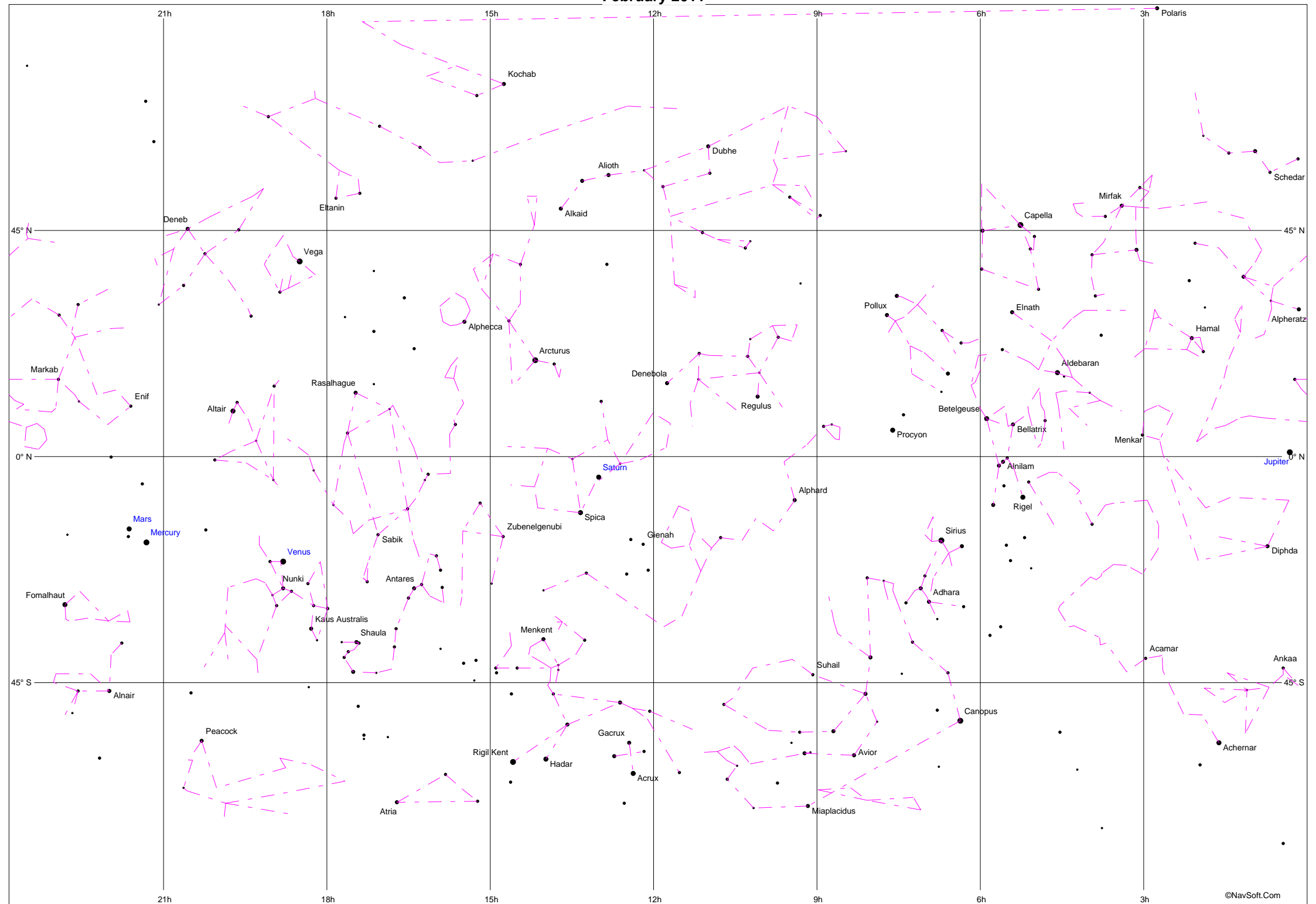
# 2011 Dec 30, 31, Jan. 1 (Fri, Sat, Sun)

GMT	ARIES			VENUS			MARS			JUPITER			SATURN			STARS			SUN			MOON					Lat			Twilight			Sunrise			Moonrise																																																																																																																																																																																																																																																																																																																																																																																																															
	GHA	GHA	Dec	GHA	Dec	HP	GHA	Dec	HP	GHA	Dec	HP	Name	SHA	Dec	GHA	Dec	HP	GHA	v	Dec	d	HP	N 72°	08:25	10:47	-	10:34	10:17	09:59	N 70°	08:06	09:51	-	10:34	10:24	10:13	N 68°	07:50	09:18	-	10:34	10:29	10:24	N 66°	07:38	08:54	10:30	10:34	10:33	10:33	N 64°	07:27	08:35	09:51	10:34	10:37	10:40	N 62°	07:18	08:19	09:24	10:34	10:40	10:47	N 60°	07:09	08:06	09:03	10:34	10:43	10:52	N 58°	07:02	07:55	08:46	10:34	10:45	10:58	N 56°	06:56	07:44	08:32	10:34	10:48	11:02	N 54°	06:50	07:36	08:19	10:34	10:50	11:06	N 52°	06:44	07:28	08:08	10:34	10:52	11:10	N 50°	06:39	07:20	07:59	10:34	10:53	11:13	N 48°	06:27	07:04	07:38	10:34	10:57	11:21	N 46°	06:17	06:51	07:22	10:34	11:00	11:27	N 45°	06:08	06:40	07:08	10:34	11:03	11:32	N 44°	06:08	06:40	07:08	10:34	11:03	11:32	N 43°	06:08	06:40	07:08	10:34	11:03	11:32	N 42°	06:08	06:40	07:08	10:34	11:03	11:32	N 41°	06:08	06:40	07:08	10:34	11:03	11:32	N 40°	06:08	06:40	07:08	10:34	11:03	11:32	N 39°	06:08	06:40	07:08	10:34	11:03	11:32	N 38°	06:08	06:40	07:08	10:34	11:03	11:32	N 37°	06:08	06:40	07:08	10:34	11:03	11:32	N 36°	06:08	06:40	07:08	10:34	11:03	11:32	N 35°	06:08	06:40	07:08	10:34	11:03	11:32	N 34°	06:08	06:40	07:08	10:34	11:03	11:32	N 33°	06:08	06:40	07:08	10:34	11:03	11:32	N 32°	06:08	06:40	07:08	10:34	11:03	11:32	N 31°	06:08	06:40	07:08	10:34	11:03	11:32	N 30°	06:08	06:40	07:08	10:34	11:03	11:32	N 29°	06:08	06:40	07:08	10:34	11:03	11:32	N 28°	06:08	06:40	07:08	10:34	11:03	11:32	N 27°	06:08	06:40	07:08	10:34	11:03	11:32	N 26°	06:08	06:40	07:08	10:34	11:03	11:32	N 25°	06:08	06:40	07:08	10:34	11:03	11:32	N 24°	06:08	06:40	07:08	10:34	11:03	11:32	N 23°	06:08	06:40	07:08	10:34	11:03	11:32	N 22°	06:08	06:40	07:08	10:34	11:03	11:32	N 21°	06:08	06:40	07:08	10:34	11:03	11:32	N 20°	06:08	06:40	07:08	10:34	11:03	11:32	N 19°	06:08	06:40	07:08	10:34	11:03	11:32	N 18°	06:08	06:40	07:08	10:34	11:03	11:32	N 17°	06:08	06:40	07:08	10:34	11:03	11:32	N 16°	06:08	06:40	07:08	10:34	11:03	11:32	N 15°	06:08	06:40	07:08	10:34	11:03	11:32	N 14°	06:08	06:40	07:08	10:34	11:03	11:32	N 13°	06:08	06:40	07:08	10:34	11:03	11:32	N 12°	06:08	06:40	07:08	10:34	11:03	11:32	N 11°	06:08	06:40	07:08	10:34	11:03	11:32	N 10°	06:08	06:40	07:08	10:34	11:03	11:32	N 9°	06:08	06:40	07:08	10:34	11:03	11:32	N 8°	06:08	06:40	07:08	10:34	11:03	11:32	N 7°	06:08	06:40	07:08	10:34	11:03	11:32	N 6°	06:08	06:40	07:08	10:34	11:03	11:32	N 5°	06:08	06:40	07:08	10:34	11:03	11:32	N 4°	06:08	06:40	07:08	10:34	11:03	11:32	N 3°	06:08	06:40	07:08	10:34	11:03	11:32	N 2°	06:08	06:40	07:08	10:34	11:03	11:32	N 1°	06:08	06:40	07:08	10:34	11:03
30 00	98° 05' 6	143° 43' 9	19° 08' 4 S	286° 30' 0	6° 46' 0 N	69° 21' 9	10° 26' 8 N	251° 03' 9	8° 33' 9 S	Acamar	315° 18' 8	40° 15' 6 S	179° 28' 1	23° 12' 0 S	116° 00' 5	14' 8	1° 55' 7 S	11' 8	55' 5	N 70°	08:06	09:51	-	10:34	10:24	10:13	N 70°	08:06	09:51	-	10:34	10:24	10:13	N 68°	07:50	09:18	-	10:34	10:29	10:24	N 66°	07:38	08:54	10:30	10:34	10:33	10:33	N 64°	07:27	08:35	09:51	10:34	10:37	10:40	N 62°	07:18	08:19	09:24	10:34	10:40	10:47	N 60°	07:09	08:06	09:03	10:34	10:43	10:52	N 58°	07:02	07:55	08:46	10:34	10:45	10:58	N 56°	06:56	07:44	08:32	10:34	10:48	11:02	N 54°	06:50	07:36	08:19	10:34	10:50	11:06	N 52°	06:44	07:28	08:08	10:34	10:52	11:10	N 50°	06:39	07:20	07:59	10:34	10:53	11:13	N 48°	06:27	07:04	07:38	10:34	10:57	11:21	N 46°	06:17	06:51	07:22	10:34	11:00	11:27	N 45°	06:08	06:40	07:08	10:34	11:03	11:32	N 44°	06:08	06:40	07:08	10:34	11:03	11:32	N 43°	06:08	06:40	07:08	10:34	11:03	11:32	N 42°	06:08	06:40	07:08	10:34	11:03	11:32	N 41°	06:08	06:40	07:08	10:34	11:03	11:32	N 40°	06:08	06:40	07:08	10:34	11:03	11:32	N 39°	06:08	06:40	07:08	10:34	11:03	11:32	N 38°	06:08	06:40	07:08	10:34	11:03	11:32	N 37°	06:08	06:40	07:08	10:34	11:03	11:32	N 36°	06:08	06:40	07:08	10:34	11:03	11:32	N 35°	06:08	06:40	07:08	10:34	11:03	11:32	N 34°	06:08	06:40	07:08	10:34	11:03	11:32	N 33°	06:08	06:40	07:08	10:34	11:03	11:32	N 32°	06:08	06:40	07:08	10:34	11:03	11:32	N 31°	06:08	06:40	07:08	10:34	11:03	11:32	N 30°	06:08	06:40	07:08	10:34	11:03	11:32	N 29°	06:08	06:40	07:08	10:34	11:03	11:32	N 28°	06:08	06:40	07:08	10:34	11:03	11:32	N 27°	06:08	06:40	07:08	10:34	11:03	11:32	N 26°	06:08	06:40	07:08	10:34	11:03	11:32	N 25°	06:08	06:40	07:08	10:34	11:03	11:32	N 24°	06:08	06:40	07:08	10:34	11:03	11:32	N 23°	06:08	06:40	07:08	10:34	11:03	11:32	N 22°	06:08	06:40	07:08	10:34	11:03	11:32	N 21°	06:08	06:40	07:08	10:34	11:03	11:32	N 20°	06:08	06:40	07:08	10:34	11:03	11:32	N 19°	06:08	06:40	07:08	10:34	11:03	11:32	N 18°	06:08	06:40	07:08	10:34	11:03	11:32	N 17°	06:08	06:40	07:08	10:34	11:03	11:32	N 16°	06:08	06:40	07:08	10:34	11:03	11:32	N 15°	06:08	06:40	07:08	10:34	11:03	11:32	N 14°	06:08	06:40	07:08	10:34	11:03	11:32	N 13°	06:08	06:40	07:08	10:34	11:03	11:32	N 12°	06:08	06:40	07:08	10:34	11:03	11:32	N 11°	06:08	06:40	07:08	10:34	11:03	11:32	N 10°	06:08	06:40	07:08	10:34	11:03	11:32	N 9°	06:08	06:40	07:08	10:34	11:03	11:32	N 8°	06:08	06:40	07:08	10:34	11:03	11:32	N 7°	06:08	06:40	07:08	10:34	11:03	11:32	N 6°	06:08	06:40	07:08	10:34	11:03	11:32	N 5°	06:08	06:40	07:08	10:34	11:03	11:32	N 4°	06:08	06:40	07:08	10:34	11:03	11:32	N 3°	06:08	06:40	07:08	10:34	11:03	11:32	N 2°	06:08	06:40	07:08	10:34	11:03	11:32	N 1°	06:08	06:40	07:08	10:34	11:03	11:32			

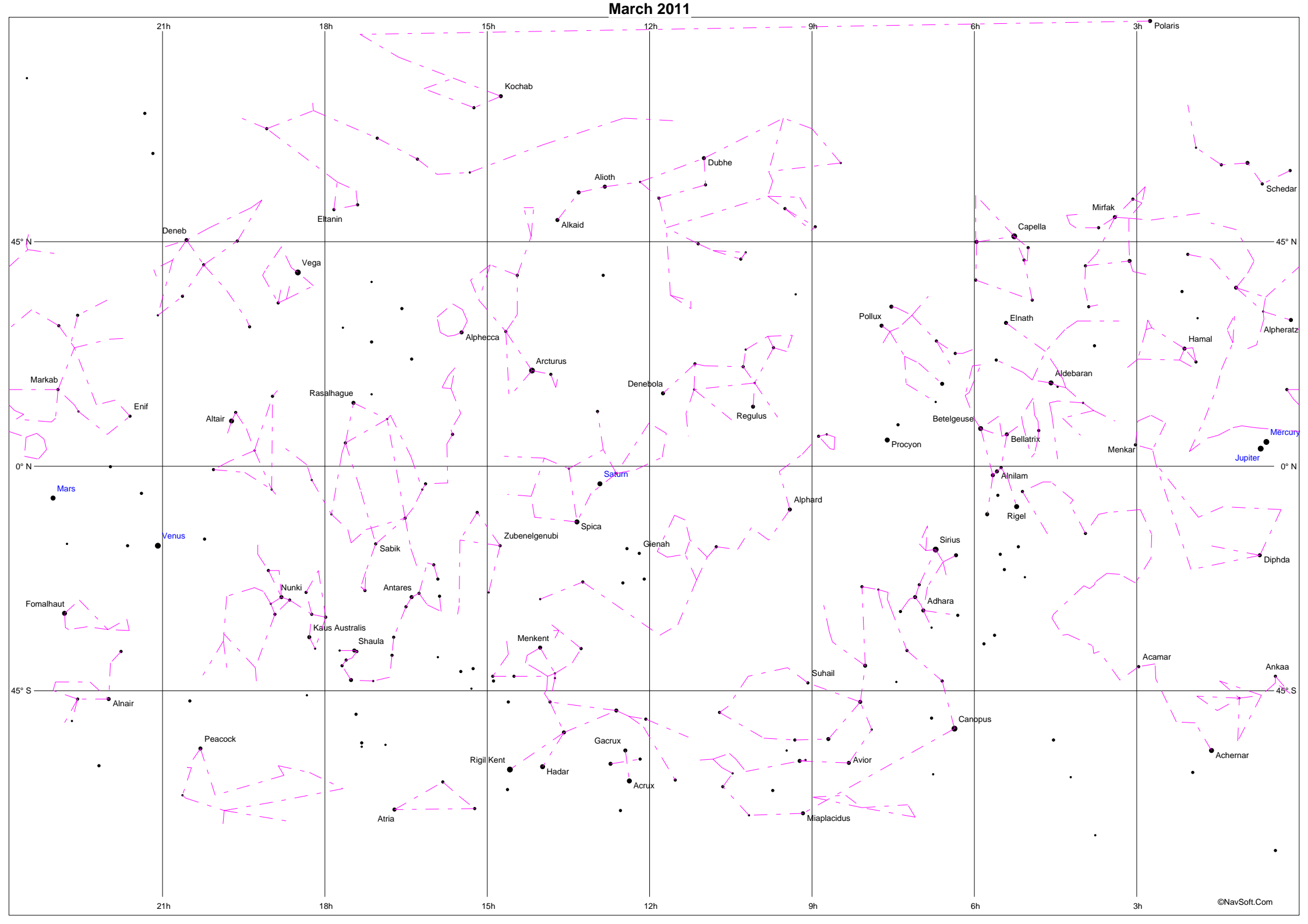
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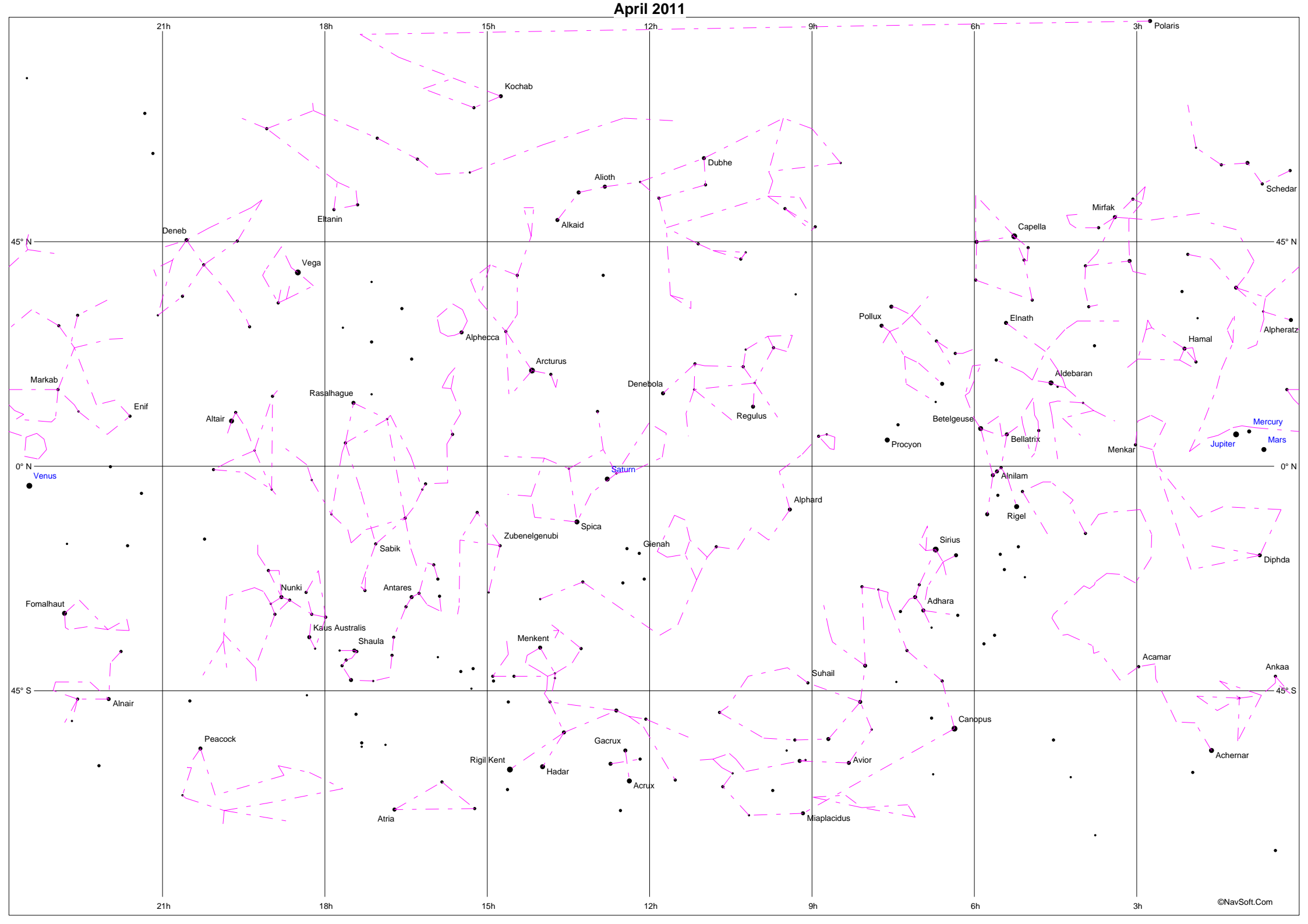
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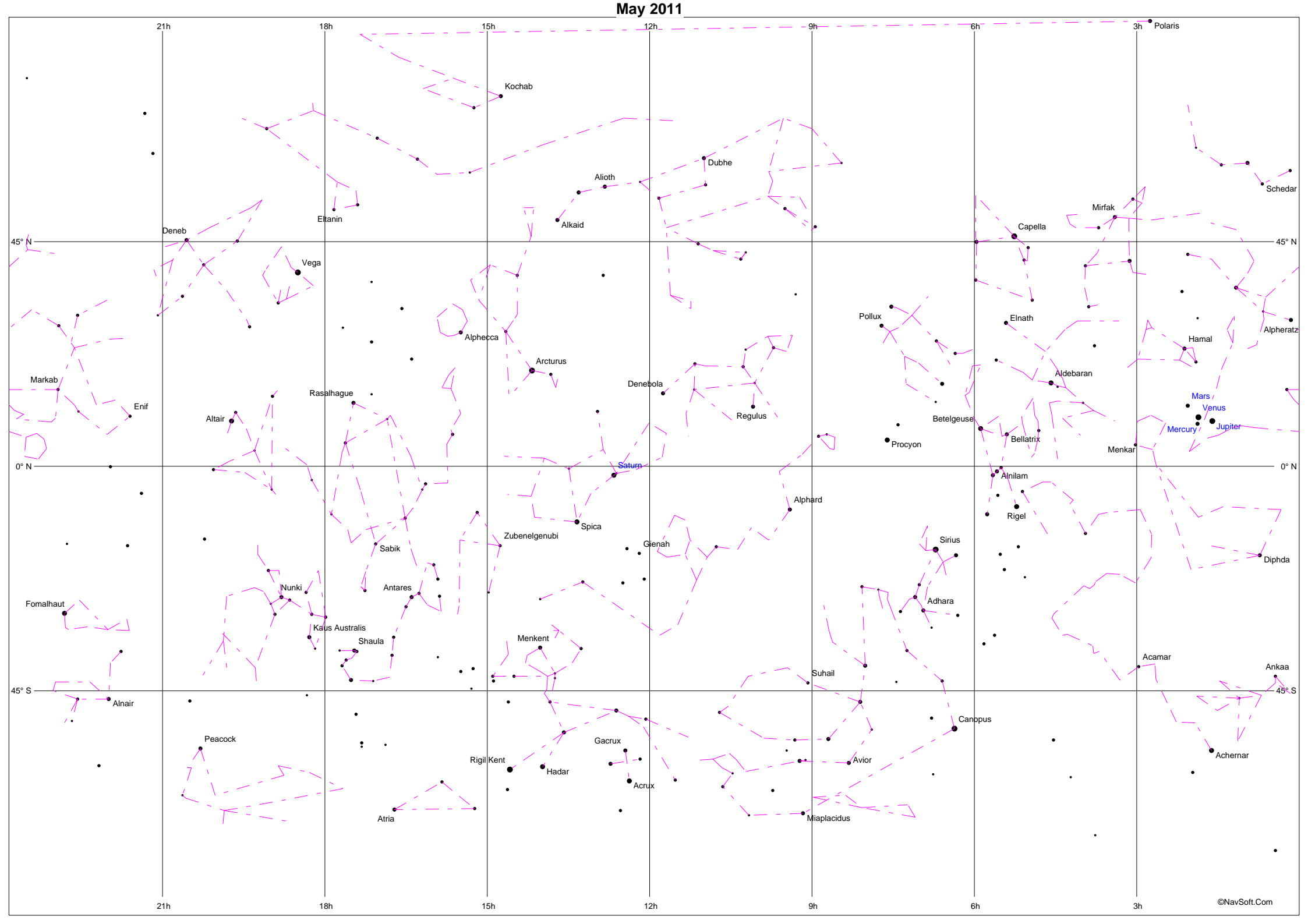


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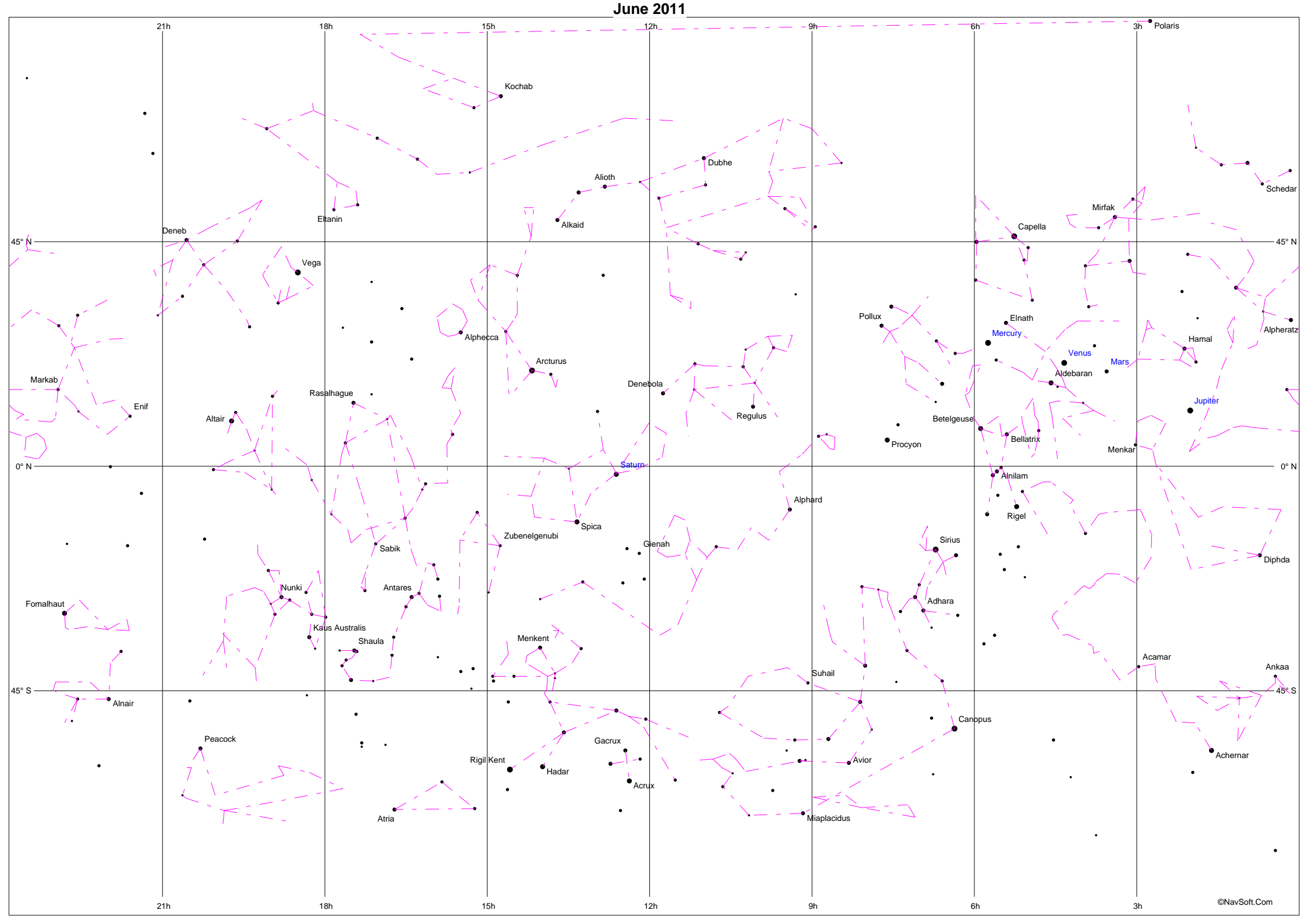




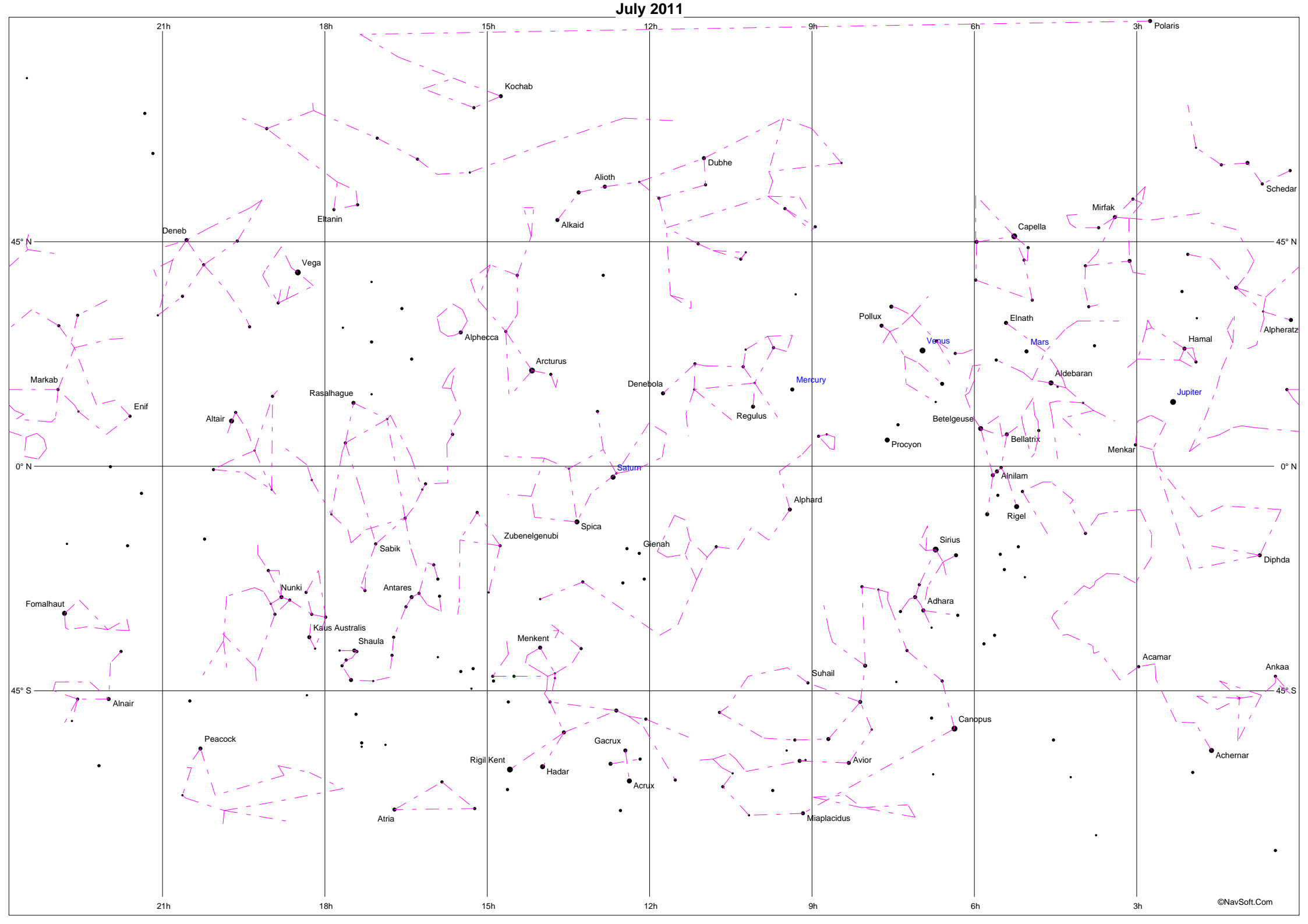
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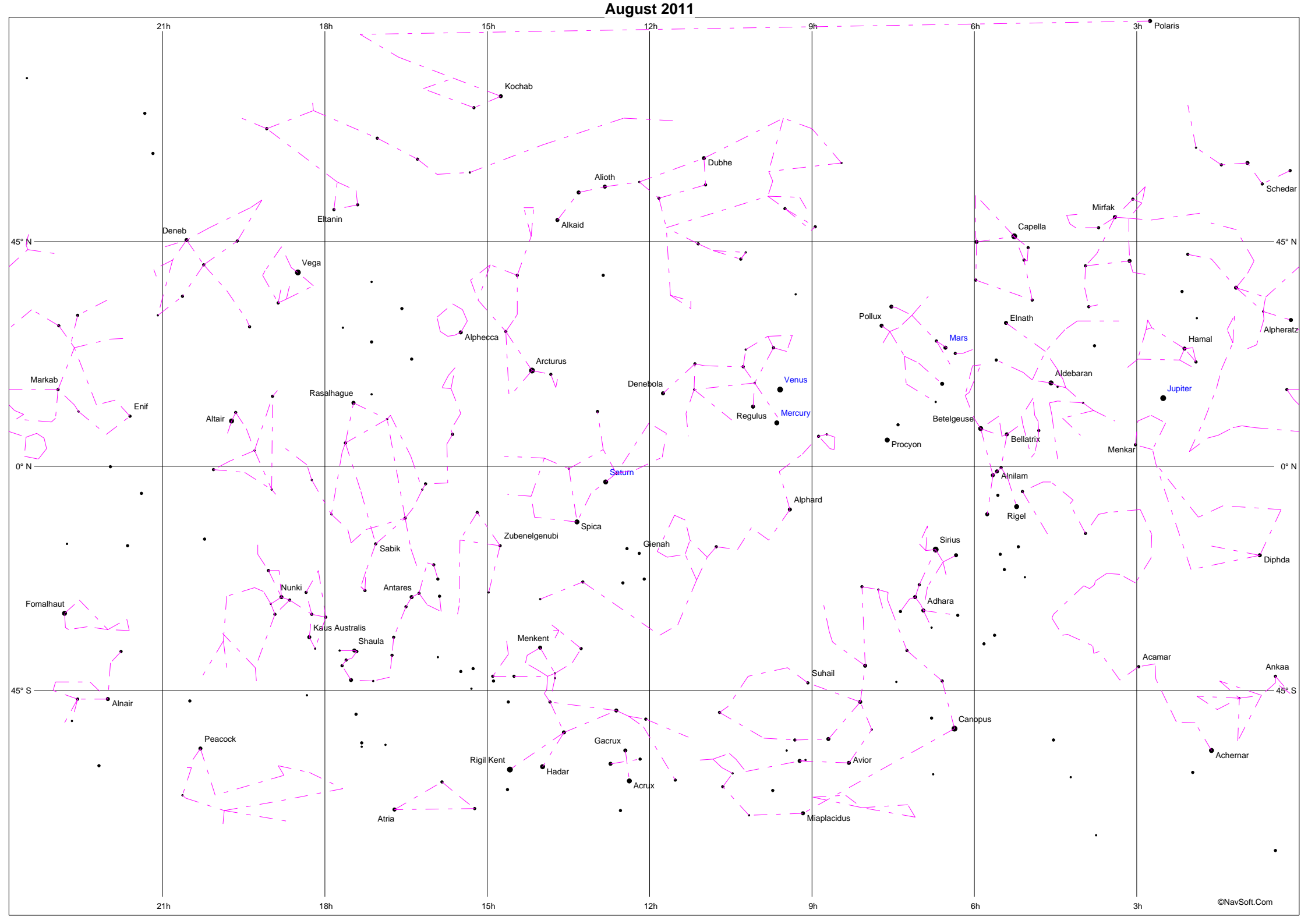
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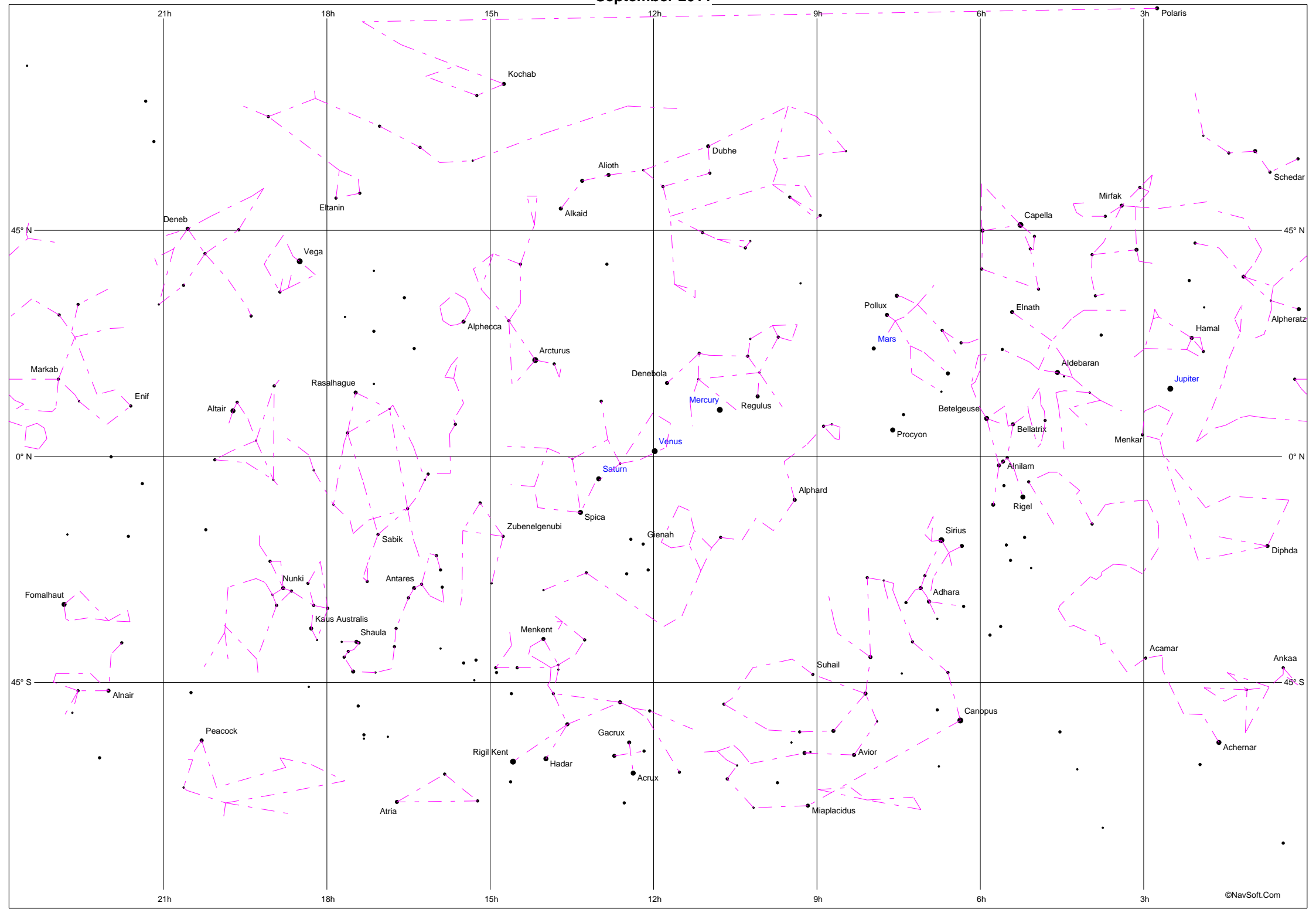
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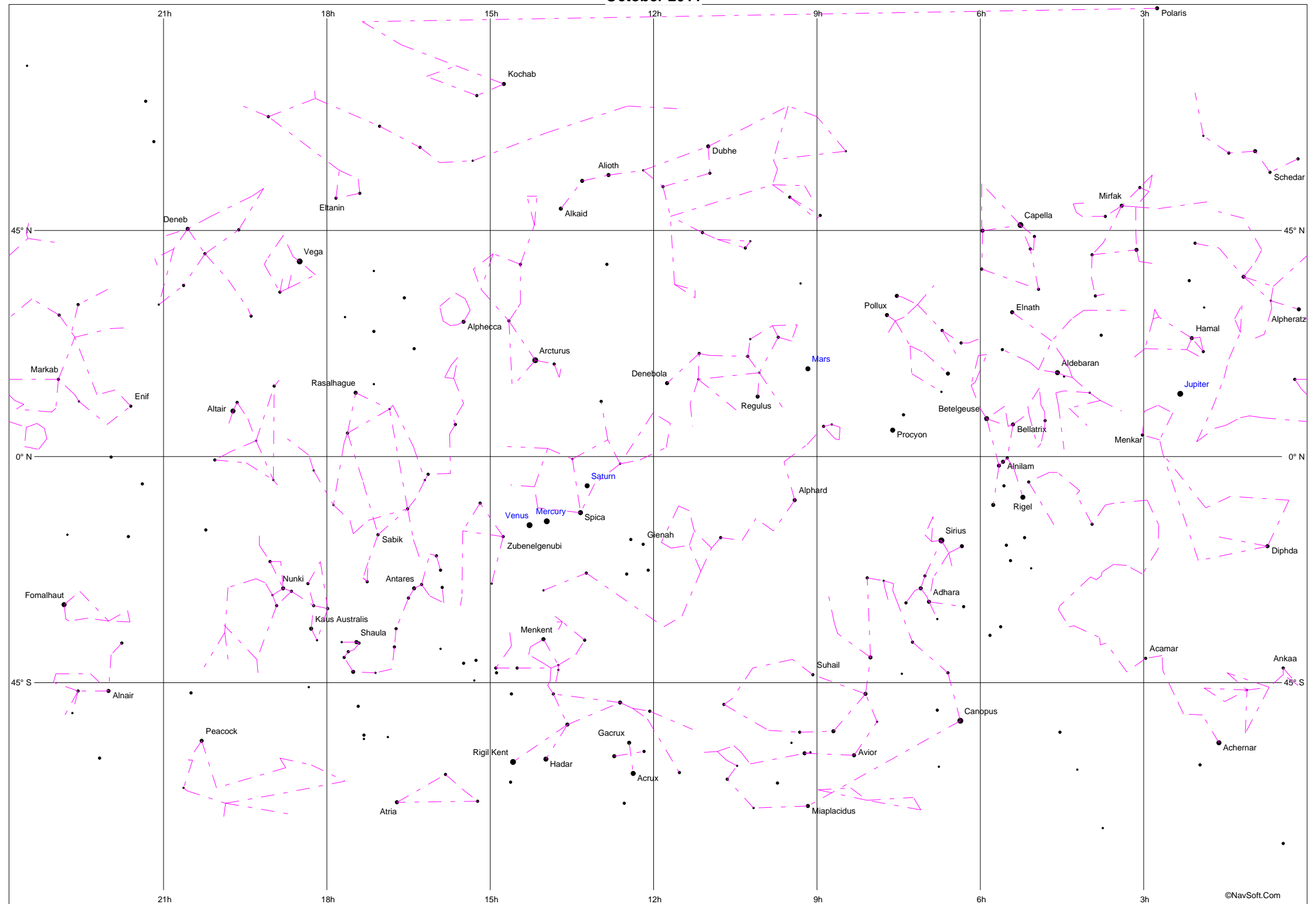
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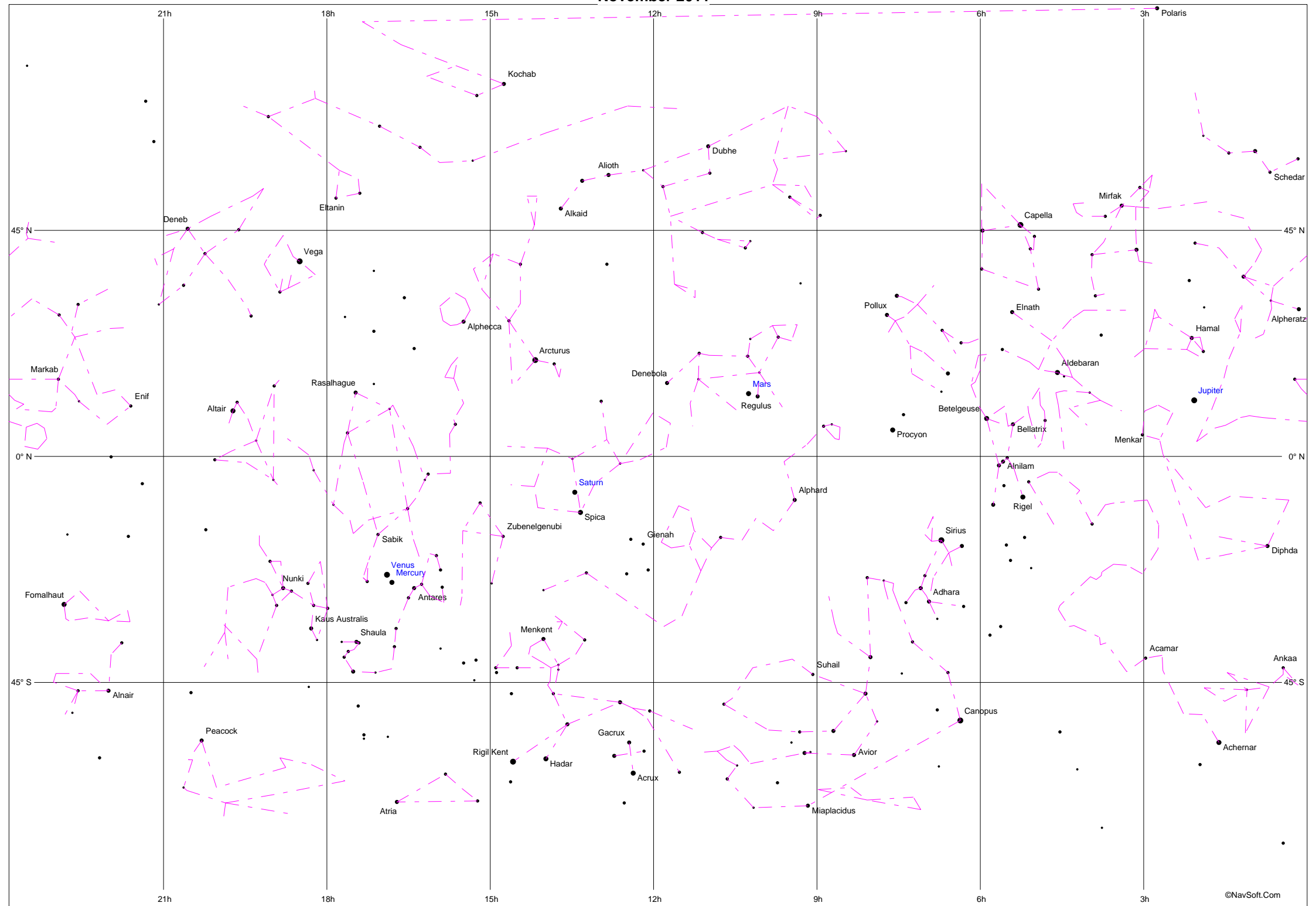
September 2011



October 2011



# November 2011



# December 2011

