

**2012 October 15, 16, 17 (Mon, Tue, Wed)**

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°	05:01	06:19	07:31	07:57	10:27	-											
Monday	00	23°55.8	218°30.4	7°17.8 N	140°25.1	22°09.4 S	308°49.7	21°53.8 N	174°11.4	9°45.2 S	Acamar	315°18.3	40°15.1 S	183°33.2	8°35.0 S	191°20.1	8.2	9°07.8 S	11.9	60.2	N 70°	05:04	06:15	07:19	07:38	09:48	12:15										
	01	38°58.3	233°30.1	16.7	155°25.7	09.8	323°52.2	53.8	189°13.6	45.3	Acnemar	335°26.5	57°10.2 S	198°33.3	36.0	205°47.3	8.2	19.7	11.9		N 80°	05:07	06:11	07:09	07:23	09:21	11:22										
	02	54°00.7	248°29.7	15.7	170°26.2	10.1	338°54.8	53.8	204°15.7	45.4	Acrux	173°10.5	63°10.1 S	213°33.5	36.9	220°14.5	8.0	31.6	11.9	60.3	66°	05:09	06:08	07:01	07:11	09:01	10:49										
	03	69°03.2	263°29.4	14.7	185°26.8	10.4	353°57.4	53.7	219°17.9	45.5	Adhara	255°12.8	28°59.2 S	228°33.6	37.8	234°41.5	8.1	43.5	11.7		64°	05:10	06:05	06:54	07:01	08:45	10:26										
	04	84°05.7	278°29.0	13.6	200°27.4	10.8	8°59.9	53.7	234°20.1	45.6	Aldebaran	290°49.7	16°32.1 N	243°33.7	38.7	249°08.6	7.9	55.2	11.8		62°	05:11	06:02	06:48	06:53	08:31	10:07										
	05	99°08.1	293°28.7	12.6	215°27.9	11.1	24°02.5	53.7	249°22.3	45.7				258°33.9	39.7	263°35.5	7.9	10°07.0 S	11.6		60°	05:12	06:00	06:43	06:46	08:20	09:52										
	06	114°10.6	308°28.3	11.6	230°28.5	11.4	39°05.0	53.7	264°24.5	45.8	Alioth	166°21.7	55°53.4 N	273°34.0	40.6	278°02.4	7.8	18.6	11.6		N 58°	05:13	05:58	06:38	06:39	08:10	09:38										
	07	129°13.1	323°28.0	10.5	245°29.0	11.8	54°07.6	53.7	279°26.6	45.9	Alkaid	152°59.8	49°15.0 N	288°34.1	41.5	292°29.2	7.7	30.2	11.6	60.4	56°	05:13	05:56	06:34	06:34	08:02	09:27										
	08	144°15.5	338°27.7	09.5	260°29.6	12.1	69°10.2	53.7	294°28.8	46.1	Alnair	27°44.0	46°53.9 S	303°34.3	42.4	306°55.9	7.7	41.8	11.5		54°	05:13	05:54	06:30	06:29	07:54	09:17										
	09	159°18.0	353°27.3	08.4	275°30.2	12.4	84°12.7	53.7	309°31.0	46.2	Alnilam	275°46.7	1°11.6 S	318°34.4	43.4	321°22.6	7.6	53.3	11.4		52°	05:14	05:53	06:27	06:24	07:47	09:09										
	10	174°20.4	8°27.0	07.4	290°30.7	12.8	99°15.3	53.7	324°33.2	46.3	Alphard	217°56.7	8°42.8 S	333°34.5	44.3	335°49.2	7.6	11°04.7 S	11.4		50°	05:14	05:51	06:24	06:20	07:41	09:01										
	11	189°22.9	23°26.6	06.4	305°31.3	13.1	114°17.8	53.7	339°35.3	46.4				348°34.7	45.2	350°15.8	7.4	16.1	11.3		45°	05:14	05:48	06:17	06:11	07:28	08:44										
	12	204°25.4	38°26.3	7°05.3 N	320°31.8	22°13.4 S	129°20.4	21°53.6 N	354°37.5	9°46.5 S	Alphecca	126°11.7	26°40.5 N	3°34.8	8°46.1 S	4°42.2	7.4	11°27.4 S	11.2	60.5	N 40°	05:13	05:44	06:12	06:04	07:18	08:31										
	13	219°27.8	53°25.9	04.3	335°32.4	13.8	144°23.0	53.6	9°39.7	46.6	Alpheratz	357°43.6	29°09.9 N	18°35.0	47.0	19°08.6	7.4	38.6	11.2		35°	05:12	05:41	06:07	05:58	07:08	08:19										
	14	234°30.3	68°25.6	03.3	350°32.9	14.1	159°25.5	53.6	24°41.9	46.7	Altair	62°08.7	8°54.5 N	33°35.1	48.0	33°35.0	7.2	49.8	11.1		30°	05:11	05:39	06:03	05:52	07:00	08:09										
	15	249°32.8	83°25.3	02.2	5°33.5	14.4	174°28.1	53.6	39°44.1	46.8	Ankaa	353°15.8	42°14.1 S	48°35.2	48.9	48°01.2	7.2	12°00.9 S	11.0		20°	05:07	05:33	05:55	05:43	06:47	07:52										
	16	264°35.2	98°24.9	01.2	20°34.1	14.8	189°30.7	53.6	54°36.2	46.9	Antares	112°27.1	26°27.5 S	63°35.4	49.8	62°27.4	7.1	11.9	10.9		N 10°	05:03	05:27	05:49	05:35	06:35	07:37										
	17	279°37.7	113°24.6	00.1	35°34.6	15.1	204°33.2	53.6	69°48.4	47.0				78°35.5	50.7	76°53.5	7.1	22.8	10.9		0°	04:57	05:21	05:42	05:27	06:24	07:23										
	18	294°40.2	128°24.2	6°59.1 N	50°35.2	15.4	219°35.8	53.6	84°50.6	47.1	Arcturus	145°56.5	19°07.1 N	93°35.6	51.6	91°19.6	7.0	33.7	10.8	60.6	S 10°	04:50	05:14	05:36	05:20	06:13	07:09										
	19	309°42.6	143°23.9	58.0	65°35.7	15.8	234°38.4	53.6	99°52.8	47.2	Atria	107°29.7	69°03.1 S	108°35.8	52.6	105°45.6	6.9	44.5	10.7		20°	04:40	05:06	05:29	05:12	06:01	06:55										
	20	324°45.1	158°23.5	57.0	80°36.3	16.1	249°40.9	53.6	114°55.0	47.3	Avior	234°18.3	59°32.8 S	123°35.9	53.5	120°11.5	6.8	55.2	10.7		30°	04:27	04:56	05:21	05:03	05:48	06:38										
	21	339°47.6	173°23.2	56.0	95°36.8	16.4	264°43.5	53.6	129°57.1	47.4	Bellatrix	278°32.7	6°21.7 N	138°36.0	54.4	134°37.3	6.8	13°05.9 S	10.5		35°	04:19	04:50	05:16	04:58	05:40	06:28										
	22	354°50.0	188°22.9	54.9	110°37.4	16.7	279°46.1	53.5	144°59.3	47.5	Betelgeuse	271°01.7	7°24.5 N	153°36.2	55.3	149°03.1	6.7	16.4	10.5		40°	04:09	04:43	05:10	04:52	05:32	06:17										
23	9°52.5	203°22.5	53.9	125°38.0	17.1	294°48.6	53.5	160°01.5	47.6				168°36.3	56.2	163°28.8	6.6	26.9	10.4		45°	03:57	04:34	05:04	04:45	05:22	06:04											
Tuesday	00	24°54.9	218°22.2	6°52.8 N	140°38.5	22°17.4 S	309°51.2	21°53.5 N	175°03.7	9°47.7 S	Canopus	263°56.2	52°42.0 S	183°36.4	8°57.2 S	177°54.4	6.6	13°37.3 S	10.3	60.6	S 50°	03:41	04:23	04:57	04:37	05:10	05:41										
	01	39°57.4	233°21.8	51.8	155°39.1	17.7	324°53.8	53.8	190°05.8	47.8	Capella	280°34.9	46°00.4 N	198°36.0	49.0	192°20.0	6.5	47.6	10.2	60.7	52°	03:33	04:17	04:53	04:33	05:04	05:49										
	02	54°59.9	248°21.5	50.7	170°39.6	18.1	339°56.3	53.5	205°08.0	47.9	Deneb	49°31.7	45°20.0 N	213°36.7	59.0	206°45.5	6.4	57.8	10.1		54°	03:25	04:12	04:49	04:29	04:58	05:33										
	03	70°02.3	263°21.1	49.7	185°40.2	18.4	354°58.9	53.6	220°10.2	48.1	Denebola	182°34.4	14°30.0 N	228°36.6	54.9	221°10.9	6.4	14°07.9 S	10.0		56°	03:15	04:05	04:45	04:25	04:51	05:24										
	04	85°04.8	278°20.8	48.7	200°40.7	18.7	10°01.5	53.5	235°12.4	48.2	Diphda	348°56.0	17°54.8 S	243°36.9	9°00.8 S	235°36.3	6.3	17.9	10.0		58°	03:03	03:58	04:40	04:20	04:44	05:14										
	05	100°07.3	293°20.5	47.6	215°41.3	19.0	25°04.0	53.5	250°14.6	48.3				258°37.1	01.8	250°01.6	6.2	27.9	9.8		S 60°	02:49	03:49	04:35	04:14	04:35	05:02										
	06	115°09.7	308°20.1	46.6	230°41.8	19.4	40°06.6	53.5	265°16.7	48.4	Dubhe	193°52.8	61°40.7 N	273°37.2	02.7	264°26.8	6.2	37.7	9.8		S 62°	02:33	03:39	04:28	04:08	04:25	04:49										
	07	130°12.2	323°19.8	45.5	245°42.4	19.7	55°09.2	53.4	280°18.9	48.5	Elainath	278°13.0	28°37.0 N	288°37.3	03.6	278°52.0	6.1	47.5	9.6																		
	08	145°14.7	338°19.4	44.5	260°42.9	20.0	70°11.7	53.4	295°21.1	48.6	Eltanin	90°46.6	51°29.6 N	303°37.5	04.5	293°17.1	6.0	57.1	9.6																		
	09	160°17.1	353°19.1	43.4	275°43.5	20.3	85°14.3	53.4	310°23.3	48.7	Enif	33°47.4	9°56.3 N	318°37.6	05.4	307°42.1	6.0	15°06.7 S	9.4																		
	10	175°19.6	8°18.8	42.4	290°44.0	20.7	100°16.9	53.4	325°25.5	48.8	Fomalhaut	15°24.2	29°33.1 S	333°37.7	06.3	322°07.1	5.9	16.1	9.4																		
	11	190°22.0	23°18.4	41.3	305°44.6	21.0	115°19.4	53.4	340°27.6	48.9				348°37.9	07.3	346°32.0	5.9	25.5	9.2																		
	12	205°24.5	38°18.1	6°40.3 N	320°45.1	22°21.3 S	130°22.0	21°53.4 N	355°29.8	9°49.0 S	Gacrux	172°02.0	57°11.0 S	3°38.0	9°08.2 S	350°56.9	5.7	15°34.7 S	9.1	60.8	N 70°	16:11	17:14	18:24	15:22	15:11	14:50										
	13	220°27.0	53°17.7	39.2	335°45.7	21.6	145°24.6	53.4	10°32.0	49.1	Gienah	175°53.1	17°36.7 S	18°38.1	09.1	5°21.6	5.8	43.8	9.1		68°	16:21	17:18	18:22	15:39	15:39	15:44										
	14	235°29.4	68°17.4	38.2	350°46.2	21.9	160°27.2	53.4	25°34.2	49.2	Hadar	148°49.2	60°26.0 S	33°38.2	10.0	19°46.4	5.6	52.9	8.9																		