March	17. 18 .	19 (Tue	Wed T	hu.)								
- Iviai ci	Aries				ırs	Jupiter		Saturn				
Tue	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec		SHA	Dec
0	174°15.3	146°51.6	11°21.3	156°34.8	7°10.4	38°05.9	17°44.1	290°52.4	-19°02.8	Alpheratz	357°42.6	29°10.4
1 2	189°17.7 204°20.2	161°51.3 176°50.9	11°22.5 11°23.7	171°35.6 186°36.3	7° 11.1 7° 11.9	53°08.5 68°11.1	17°44.2 17°44.2	305°54.8 320°57.3	-19°02.8 -19°02.8	Ankaa Schedar	353°15.0 349°39.6	-42°13.5 56°37.2
3	219°22.6	191°50.5	11°24.9	201°37.0	7°12.6	83°13.8	17°44.2	335°59.8	-19°02.8	Diphda	348° 54.9	-17°54.4
4	234°25.1	206° 50.2	11°26.1	216°37.7	7°13.4	98°16.4	17°44.3	351°02.2	-19°02.8	Achernar	335° 26.5	-57°09.8
5	249°27.6	221°49.8	11°27.3	231°38.4	$7^{\circ}14.1$	113°19.1	17°44.4	6°04.7	-19°02.8	Hamal	$327^{\circ}59.7$	23°31.9
6	264°30.0	236°49.4	11°28.5	246°39.2	7°14.8	128°21.7	17°44.4	21°07.2	-19°02.8	Polaris	317° 30.7	89°19.9
7	279°32.5	251°49.1	11°29.7	261°39.9	7°15.6	143°24.3	17°44.5	36°09.7	-19°02.8	Akamar	315° 17.7	-40°15.0
8	294°35.0	266°48.7	11°30.8	276°40.6	7°16.3	158°27.0	17°44.5	51°12.1	-19°02.7	Menkar	314°14.0	4°08.7
9 10	309°37.4 324°39.9	281°48.3 296°47.9	11°32.0 11°33.2	291°41.3 306°42.0	7° 17.1 7° 17.8	173°29.6 188°32.3	17°44.6 17°44.6	66° 14.6 81° 17.1	-19°02.7 -19°02.7	Mirfak Aldebaran	308°38.8 290°48.1	49°54.9 16°32.2
11	339°42.4	311°47.6	11°34.4	321°42.8	7°18.5	203°34.9	17°44.7	96° 19.6	-19°02.7	Rigel	281°10.9	-8°11.4
12	354°44.8	326° 47.2	11°35.6	336°43.5	7°19.3	218°37.5	17°44.7	111°22.0	-19°02.7	Capella	280°32.7	46°00.8
13	9°47.3	341°46.8	11°36.8	351°44.2	7°20.0	233°40.2	17°44.8	126° 24.5	-19°02.7	Bellatrix	278°30.7	6°21.5
14	24°49.8	356° 46.4	11°38.0	6°44.9	$7^{\circ}20.7$	248°42.8	17°44.8	141°27.0	-19°02.7	Elnath	$278^{\circ}11.1$	28°37.1
15	39°52.2	11°46.1	11°39.1	21°45.6	7°21.5	263°45.4	17°44.8	156° 29.5	-19°02.7	Alnilam	275° 45.2	-1°11.9
16	54°54.7	26°45.7	11°40.3	36°46.3	7°22.2	278°48.1	17°44.9	171°32.0	-19°02.7	Betelgeuse	270°60.0	7°24.3
17	69°57.1	41°45.3	11°41.5	51°47.1	7°23.0	293°50.7	17°44.9	186°34.4	-19°02.7	Canopus	263°55.5	-52°42.7
18 19	84°59.6 100°02.1	56°45.0 71°44.6	11° 42.7 11° 43.9	66°47.8 81°48.5	7°23.7 7°24.4	308°53.4 323°56.0	17°45.0 17°45.0	201°36.9 216°39.4	-19°02.7 -19°02.7	Sirius Adara	258° 32.5 255° 11.4	-16°44.5 -29°00.0
20	115°04.5	86°44.2	11°45.1	96°49.2	7°25.2	338°58.6	17°45.1	231°41.9	-19°02.6	Procyon	244°58.2	5°11.0
21	130°07.0	101°43.8	11°46.2	111°49.9	7°25.9	354°01.3	17°45.1	246° 44.3	-19°02.6	Pollux	243° 26.0	27°59.2
22	145°09.5	116°43.5	11°47.4	126°50.7	7°26.6	9°03.9	17°45.2	261°46.8	-19°02.6	Avior	234° 17.1	-59°33.9
23	$160^{\circ}11.9$	131°43.1	11°48.6	141°51.4	7°27.4	24°06.5	17°45.2	276°49.3	-19°02.6	Suhail	$222^{\circ}51.2$	-43°30.0
Mer.p	ass.:12:20	v-0.4 d1	.2 m-3.9	v0.7 d0.	7 m1.3	v2.6 d0.	0 m-2.3	v2.5 d0	.0 m0.4	Miaplacidus	221°38.6	-69°47.1
										Alphard	217°54.6	-8°43.8
Wed	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Regulus	207°41.9	11°53.3
0	175°14.4	146°42.7	11°49.8	156°52.1	7°28.1	39°09.2	17°45.3	291°51.8	-19°02.6	Dubhe Denebola	193°49.7 182°32.1	61°40.0 14°29.1
1	190°16.9	161°42.3	11°51.0	171°52.8	7°28.9	54°11.8	17°45.3	306°54.2	-19°02.6	Gienah	175°50.7	-17°37.7
2 3	205°19.3 220°21.8	176°42.0 191°41.6	11°52.1 11°53.3	186°53.5 201°54.3	7°29.6 7°30.3	69°14.4 84°17.1	17°45.4 17°45.4	321°56.7	-19°02.6	Acrux	173°07.2	-63°11.0
4	235°24.2	206°41.2	11°54.5	201 54.5 216°55.0	7°31.1	99°19.7	17°45.4 17°45.5	336°59.2 352°01.7	-19°02.6 -19°02.6	Gacrux	171°58.9	-57°11.9
5	250°26.7	221°40.8	11°55.7	231°55.7	7°31.8	114°22.3	17°45.5	7°04.2	-19°02.6	Alioth	166°19.2	55°52.5
6	265°29.2	236° 40.4	11°56.9	246°56.4	7°32.5	129°25.0	17°45.5	22°06.6	-19°02.6	Spica	158° 29.7	-11°14.5
7	280°31.6	251°40.1	11°58.0	261°57.1	$7^{\circ}33.3$	144°27.6	17°45.6	37°09.1	-19°02.5	Alcaid	152° 57.6 148° 45.5	49°14.1
8	295°34.1	266°39.7	11°59.2	276°57.9	7°34.0	159°30.2	17°45.6	52°11.6	-19°02.5	Hadar Menkent	146 45.5 148°05.8	-60°26.6 -36°26.6
9	310°36.6	281°39.3	12°00.4	291°58.6	7°34.7	174°32.8	17°45.7	67°14.1	-19°02.5	Arcturus	145°54.2	19°06.4
10	325°39.0	296°38.9	12°01.6	306°59.3	7°35.5	189°35.5 204°38.1	17°45.7	82°16.6	-19°02.5	Rigil Kent.	139° 49.5	-60°53.6
11 12	340°41.5 355°44.0	311°38.6 326°38.2	12°02.7 12°03.9	322°00.0 337°00.7	7°36.2 7°36.9	204 38.1 219°40.7	17°45.8 17°45.8	97° 19.0 112° 21.5	-19°02.5 -19°02.5	Zubenelg.	137°03.9	-16°06.2
13	10°46.4	341°37.8	12°05.1	352°01.5	7°37.7	234°43.4	17°45.9	127°24.0	-19°02.5	Kochab	137° 19.4	74°05.4
14	25°48.9	356° 37.4	12°06.3	7°02.2	7°38.4	249°46.0	17°45.9	142°26.5	-19°02.5	Alphecca	126°09.8	26°39.7
15	40°51.4	11°37.0	12°07.4	22°02.9	$7^{\circ}39.1$	264°48.6	17°46.0	157°29.0	-19°02.5	Antares	112°24.7	-26°27.7
16	55°53.8	26°36.7	12°08.6	37°03.6	7°39.9	279°51.3	17°46.0	172°31.4	-19°02.5	Atria Sabik	107°25.3 102°11.1	-69°02.8 -15°44.5
17	70°56.3	41°36.3	12°09.8	52°04.3	7°40.6	294°53.9	17°46.0	187°33.9	-19°02.4	Shaula	96°20.3	-37°06.6
18	85°58.7	56°35.9	12°10.9	67°05.0	7°41.4	309°56.5	17°46.1	202°36.4	-19°02.4	Rasalhague	96°05.4	12°33.0
19 20	101°01.2 116°03.7	71°35.5 86°35.1	12°12.1 12°13.3	82°05.8 97°06.5	7° 42.1 7° 42.8	324°59.1 340°01.8	17°46.1 17°46.2	217°38.9 232°41.4	-19°02.4 -19°02.4	Etamin	90°45.6	51°29.1
21	131°06.1	101°34.8	12°14.5	112°07.2	7°43.6	355°04.4	17°46.2	247°43.8	-19°02.4	Kaus Aust.	83°42.3	-34°22.3
22	146°08.6	116°34.4	12° 15.6	127°07.9	7°44.3	10°07.0	17°46.3	262°46.3	-19°02.4	Vega	80°38.3	38°47.7
23		131°34.0	12°16.8	142°08.6	7°45.0	25°09.7	17°46.3	277°48.8	-19°02.4	Nunki	75°57.0	-26°16.4
Mer.p	ass.:12:17	v-0.4 d1	.2 m-3.9	v0.7 d0.	7 m1.3	v2.6 d0.	0 m-2.3	v2.5 d0	.0 m0.4	Altair Peacock	62°07.3 53°17.8	8°54.5 -56°40.8
										Deneb	49°30.9	45°20.0
Thu	GHA	GHA	Dec	GHA	Dec	GHA	Dec	GHA	Dec	Enif	33°46.2	9°56.7
0	176°13.5	146°33.6	12°18.0	157°09.4	7°45.8	40°12.3	17°46.4	292°51.3	-19°02.4	Alnair	27°42.7	-46°53.1
1	191°16.0	161°33.2	12°19.1	172°10.1	7°46.5	55°14.9	17°46.4	307°53.8	-19°02.4	Fomalhaut	15°23.1	-29°32.5
3	206°18.5 221°20.9	176°32.8 191°32.5	12°20.3 12°21.5	187°10.8 202°11.5	7° 47.2 7° 48.0	70°17.5 85°20.2	17°46.4 17°46.5	322°56.3	-19°02.4 -19°02.4	Scheat	13°52.6	28°09.8
4	221 20.9 236°23.4	206°32.1	12°21.5 12°22.6	202°11.5 217°12.2	7°48.0 7°48.7	100°22.8	17°46.5 17°46.5	337°58.7 353°01.2	-19°02.4 -19°02.3	Markab	13°37.4	15°17.2
5	250°25.4 251°25.9	200 32.1 221°31.7	12°23.8	232°13.0	7°49.4	115°25.4	17°46.6	8°03.7	-19 02.3 -19°02.3	2015/3/1	SHA	Mer.pass
6	266°28.3	236°31.3	12°25.0	247°13.7	7°50.1	130°28.0	17°46.6	23°06.2	-19°02.3	Venus	332°36.4 342°19.6	14:13
7	281°30.8	251°30.9	12°26.1	262°14.4	7°50.9	145°30.7	17°46.7	38°08.7	-19°02.3	Mars Jupiter	342° 19.6 223° 50.6	13:33 21:24
8	296°33.2	266°30.5	12°27.3	277°15.1	7°51.6	160°33.3	17°46.7	53° 11.2	-19°02.3	Saturn	116°37.1	04:36
9	311°35.7	281°30.2	12°28.5	292°15.8	7°52.3	175°35.9	17°46.7	68° 13.6	-19°02.3	2015/3/1	SHA	Mer.pass
10	326°38.2	296°29.8	12°29.6	307°16.5	7°53.1	190°38.5	17°46.8	83°16.1	-19°02.3	Venus	331°28.3	14:14
11 12	341°40.6 356°43.1	311°29.4 326°29.0	12°30.8 12°31.9	322°17.3 337°18.0	7°53.8 7°54.5	205°41.2 220°43.8	17°46.8 17°46.9	98° 18.6 113° 21.1	-19°02.3 -19°02.3	Mars	341°37.7	13:32
13	11°45.6	341°28.6	12°33.1	352°18.7	7°55.3	220 43.6 235°46.4	17°46.9	113 21.1 128° 23.6	-19 02.3 -19°02.3	Jupiter	223°54.8	21:20
14	26°48.0	356°28.2	12°34.3	7°19.4	7°56.0	250°49.0	17°47.0	143° 26.1	-19°02.2	Saturn	116°37.4	04:32
15	41°50.5	11°27.8	12°35.4	22°20.1	7°56.7	265°51.6	17°47.0	158° 28.5	-19°02.2	2015/3/1	SHA	Mer.pass
16	56°53.0	26° 27.5	12°36.6	37°20.9	$7^{\circ}57.5$	280°54.3	17°47.1	173°31.0	-19°02.2	Venus	330°20.1	14:14
17	71°55.4	41°27.1	12°37.8	52°21.6	7°58.2	295°56.9	17°47.1	188°33.5	-19°02.2	Mars	340°55.8	13:31
18	86°57.9	56°26.7	12°38.9	67°22.3	7°58.9	310°59.5	17°47.1	203°36.0	-19°02.2	Jupiter	223°58.8	21:15
19 20	102°00.3 117°02.8	71°26.3 86°25.9	12°40.1	82°23.0	7°59.7 8°00.4	326°02.1 341°04.7	17°47.2	218°38.5 233°41.0	-19°02.2 -19°02.2	Saturn	116°37.8	04:28
20	117°02.8 132°05.3	101°25.5	12°41.2 12°42.4	97°23.7 112°24.4	8°00.4 8°01.1	341°04.7 356°07.4	17°47.2 17°47.3	233°41.0 248°43.5	-19°02.2 -19°02.2	Horizor	ntal paralax	2.1
22	132 03.3 147°07.7	116° 25.1	12° 43.5	112 24.4 127°25.2	8°01.1	11°10.0	17°47.3	263° 45.9	-19 02.2 -19°02.2		Venus:	0.1
23	162°10.2	131°24.7	12°44.7	142°25.9	8°02.6	26°12.6	17°47.3	278° 48.4	-19°02.2	L	Mars:	0.1
Mer.p	ass.:12:13	v-0.4 d1		v0.7 d0.		v2.6 d0.		v2.5 d0				

## 2015 March 17 to Mar. 19

h	Su	Moon												
Tue	GHA	Dec	GHA	ν	Dec	d	HP		Twi	light				vilight
0	177°51.6	-1°33.7	224°44.2	6.7	-13°40.9	7.7	60.1	Lat.	Naut.	Civil	Sunrise	Sunset	Civil	Naut.
1	192°51.8	-1°32.7	239°10.0	6.7	-13°33.1	7.8	60.2	72	03:37	05:03	06:11	18:08	19:16	20:44
2 3	207°51.9 222°52.1	-1°31.7 -1°30.7	253°35.7 268°01.4	6.7	-13°25.2 -13°17.2	7.9 8.0	60.2 60.2	70 68	03:53	05:09 05:14	06:10	18:08	19:09	20:26
4	237°52.3	-1 30.7 -1°29.7	282°27.2	6.7 6.7	-13 17.2 -13°09.2	8.1	60.2	66	04:06 04:17	05:14	06:10 06:10	18:08 18:08	19:04 18:60	20:13 20:02
5	252°52.5	-1°28.7	296°52.9	6.7	-13°01.0	8.2	60.3	64	04:25	05:22	06:09	18:09	18:56	19:54
6	267°52.6	-1°27.7	311°18.7	6.7	$-12^{\circ}52.8$	8.3	60.3	62	04:32	05:25	06:09	18:09	18:53	19:46
7	282°52.8	-1°26.8	325°44.4	6.7	-12°44.4	8.4	60.4	60	04:38	05:28	06:09	18:09	18:50	19:40
8	297°53.0	-1°25.8	340°10.1	6.7	-12°36.0	8.5	60.4	58	04:43	05:30	06:09	18:09	18:48	19:35
9	312°53.2	-1°24.8	354°35.9	6.7	-12°27.5	8.6	60.4	56	04:48	05:32	06:09	18:09	18:46	19:30
10	327°53.4 342°53.5	-1°23.8 -1°22.8	9°01.6 23°27.4	6.8	-12° 18.8 -12° 10.1	8.7	60.4	54 52	04:52	05:33	06:08	18:09	18:44	19:26
11 12	342 53.5 357°53.7	-1 22.8 -1°21.8	23 27.4 37°53.1	6.8 6.8	-12 10.1 -12°01.3	8.8 8.8	60.5 60.5	52 50	04:55 04:58	05:35 05:36	06:08 06:08	18:09 18:09	18:43 18:41	19:22 19:19
13	12°53.9	-1°20.8	52°18.9	6.8	-12 01.3 -11°52.4	8.9	60.5	45	05:04	05:39	06:08	18:09	18:39	19:13
14	27°54.1	-1°19.8	66°44.7	6.8	-11°43.5	9.0	60.5	40	05:09	05:40	06:07	18:09	18:37	19:08
15	42°54.2	-1°18.8	81°10.4	6.8	-11°34.4	9.1	60.6	35	05:13	05:42	06:07	18:10	18:35	19:04
16	57°54.4	-1°17.9	95°36.2	6.8	-11°25.2	9.2	60.6	30	05:15	05:43	06:07	18:10	18:34	19:02
17	72°54.6	-1°16.9	110°02.0	6.8	-11°16.0	9.3	60.6	20	05:19	05:44	06:06	18:10	18:32	18:58
18	87°54.8	-1°15.9	124°27.8	6.8	-11°06.7	9.4	60.7	10	05:20	05:45	06:06	18:11	18:32	18:56
19 20	102°55.0 117°55.1	-1°14.9 -1°13.9	138°53.6 153°19.4	6.8 6.8	-10° 57.3 -10° 47.8	9.4 9.5	60.7 60.7	0 -10	05:20 05:19	05:44 05:43	06:05 06:04	18:11 18:12	18:32 18:33	18:56 18:57
20	132° 55.3	-1 13.9 -1°12.9	167°45.2	6.8	-10 47.8 -10°38.2	9.5 9.6	60.7	-20	05:19	05:43	06:04	18:13	18:35	19:00
22	147°55.5	-1°11.9	182°11.0	6.8	-10° 38.2 -10° 28.6	9.7	60.7	-30	05:10	05:38	06:02	18:14	18:38	19:06
23	162°55.7	-1°10.9	196°36.8	6.8	-10° 18.9	9.8	60.8	-35	05:06	05:36	06:01	18:15	18:40	19:09
	SD.=16.1	d=1.0			S.D.=16.4			-40	05:01	05:33	06:00	18:15	18:42	19:14
								-45	04:55	05:30	05:59	18:16	18:46	19:20
Wed	GHA	Dec	GHA	ν	Dec	d	HP	-50	04:47	05:26	05:58	18:17	18:50	19:28
0	177°55.9	-1°09.9	211°02.6	6.8	-10°09.1	9.8	60.8	-52	04:43	05:24	05:57	18:18	18:52	19:32
1	192°56.0	-1°09.0	225°28.5	6.8	-9°59.2	9.9	60.8	-54	04:39	05:21	05:57	18:18	18:54	19:36
2	207°56.2	-1°08.0	239°54.3	6.8	-9°49.3	10.0	60.8	-56 -58	04:34 04:28	05:19 05:16	05:56 05:55	18:19 18:20	18:56 18:59	19:41 19:46
3	222°56.4	-1°07.0	254°20.2	6.9	-9°39.3	10.1	60.9	-60	04:20	05:10	05:54	18:21	19:02	19:53
4	237° 56.6	-1°06.0	268°46.0	6.9	-9°29.2	10.1	60.9		0		00.01	10.21	15.02	13.00
5 6	252° 56.8 267° 56.9	-1°05.0 -1°04.0	283°11.9 297°37.8	6.9	-9° 19.0 -9° 08.8	10.2 10.3	60.9 60.9		1	Moonrise	, ,		Moonset	
7	282°57.1	-1 04.0 -1°03.0	312°03.6	6.9 6.9	-9 06.6 -8°58.5	10.3	60.9	Lat.	Tue	Wed	Thu	Tue	Wed	Thu
8	297°57.3	-1°02.0	326°29.5	6.9	-8°48.1	10.3	61.0	72	06:17	06:11	06:06	12:45	14:50	16:54
9	312°57.5	-1°01.0	340°55.4	6.9	-8° 37.7	10.5	61.0	70	05:53	05:57	05:59	13:08	15:02	16:58
10	327°57.7	-1°00.1	355°21.3	6.9	-8°27.2	10.5	61.0	68	05:35	05:45	05:53	13:25	15:12	17:01
11	342° 57.8	0°59.1	9°47.3	6.9	-8°16.6	10.6	61.0	66	05:20	05:36	05:49	13:39	15:20	17:04
12	357°58.0	0°58.1	24°13.2	6.9	-8°06.0	10.7	61.0	64	05:07	05:28	05:45	13:50	15:27	17:06
13	12°58.2	0°57.1	38°39.1	6.9	-7°55.3	10.7	61.1	62	04:57	05:21	05:41	13:60	15:33	17:08
14	27°58.4 42°58.6	0°56.1	53°05.1 67°31.0	7.0	-7°44.6 -7°33.8	10.8	61.1	60 58	04:48 04:40	05:15 05:10	05:38 05:35	14:08 14:15	15:38 15:42	17:10
15 16	42 58.6 57°58.7	0°55.1 0°54.1	81°57.0	7.0 7.0	-7°22.9	10.8 10.9	61.1 61.1	56	04:40	05:10	05:33	14:15	15:42	17:11 17:13
17	72°58.9	0°53.1	96°23.0	7.0	-7°12.0	10.9	61.1	54	04:33	05:01	05:31	14:27	15:49	17:14
18	87°59.1	0°52.2	110°49.0	7.0	-7°01.0	11.0	61.1	52	04:21	04:57	05:29	14:32	15:52	17:15
19	102°59.3	0°51.2	125°15.0	7.0	-6°50.0	11.0	61.1	50	04:16	04:53	05:27	14:37	15:55	17:16
20	117°59.5	0°50.2	139°41.0	7.0	-6°38.9	11.1	61.2	45	04:05	04:46	05:23	14:46	16:02	17:18
21	132°59.6	0°49.2	154°07.0	7.0	-6°27.8	11.1	61.2	40	03:56	04:39	05:20	14:55	16:07	17:20
22	147°59.8	0°48.2	168°33.0	7.0	-6° 16.6	11.2	61.2	35	03:48	04:34	05:17	15:02	16:11	17:22
23	163°00.0	0°47.2	182°59.0	7.0	-6°05.4	11.2	61.2	30	03:41	04:29	05:14	15:08	16:15	17:23
	SD.=16.1	d=1.0			S.D.=16.6			20 10	03:29 03:19	04:20 04:13	05:10 05:06	15:18 15:27	16:22 16:27	17:25 17:27
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Thu	GHA	Dec	GHA	$\nu$	Dec	d	HP							17:31
0			10700			11 ^		-10	02:59	03:59	04:59	15:44	16:38	
	178°00.2	0°46.2	197°25.1	7.0	-5°54.2	11.3	61.2	-10 -20	02:59 02:48	03:59	04:59 04:55	15:44 15:54	16:44	17:33
1 2	193°00.4	0°46.2 0°45.2	211°51.1	7.1	-5°42.9	11.3	61.2	-20 -30	02:48 02:36	03:51 03:43	04:55 04:51	15:54 16:04	16:44 16:50	17:35
2	193°00.4 208°00.6	0°46.2 0°45.2 0°44.2	211°51.1 226°17.2	7.1 7.1	-5° 42.9 -5° 31.5	11.3 11.4	61.2 61.2	-20 -30 -35	02:48 02:36 02:29	03:51 03:43 03:38	04:55 04:51 04:48	15:54 16:04 16:10	16:44 16:50 16:54	17:35 17:36
	193°00.4	0°46.2 0°45.2	211°51.1	7.1	-5°42.9	11.3 11.4 11.4	61.2 61.2 61.2	-20 -30 -35 -40	02:48 02:36 02:29 02:21	03:51 03:43 03:38 03:32	04:55 04:51 04:48 04:45	15:54 16:04 16:10 16:16	16:44 16:50 16:54 16:58	17:35 17:36 17:38
2 3	193°00.4 208°00.6 223°00.7	0°46.2 0°45.2 0°44.2 0°43.3	211°51.1 226°17.2 240°43.3	7.1 7.1 7.1	-5° 42.9 -5° 31.5 -5° 20.1	11.3 11.4	61.2 61.2	-20 -30 -35 -40 -45	02:48 02:36 02:29 02:21 02:12	03:51 03:43 03:38 03:32 03:26	04:55 04:51 04:48 04:45 04:42	15:54 16:04 16:10 16:16 16:24	16:44 16:50 16:54 16:58 17:03	17:35 17:36 17:38 17:39
2 3 4 5 6	193°00.4 208°00.6 223°00.7 238°00.9 253°01.1 268°01.3	0°46.2 0°45.2 0°44.2 0°43.3 0°42.3 0°41.3 0°40.3	211°51.1 226°17.2 240°43.3 255°09.4 269°35.5 284°01.6	7.1 7.1 7.1 7.1 7.1 7.1	-5° 42.9 -5° 31.5 -5° 20.1 -5° 08.7 -4° 57.2 -4° 45.7	11.3 11.4 11.4 11.4 11.5 11.5	61.2 61.2 61.2 61.2 61.3 61.3	-20 -30 -35 -40 -45 -50	02:48 02:36 02:29 02:21 02:12 02:01	03:51 03:43 03:38 03:32 03:26 03:18	04:55 04:51 04:48 04:45 04:42 04:38	15:54 16:04 16:10 16:16 16:24 16:33	16:44 16:50 16:54 16:58 17:03 17:08	17:35 17:36 17:38 17:39 17:41
2 3 4 5 6 7	193°00.4 208°00.6 223°00.7 238°00.9 253°01.1 268°01.3 283°01.5	0°46.2 0°45.2 0°44.2 0°43.3 0°42.3 0°41.3 0°40.3 0°39.3	211°51.1 226°17.2 240°43.3 255°09.4 269°35.5 284°01.6 298°27.7	7.1 7.1 7.1 7.1 7.1 7.1 7.1	-5° 42.9 -5° 31.5 -5° 20.1 -5° 08.7 -4° 57.2 -4° 45.7 -4° 34.2	11.3 11.4 11.4 11.5 11.5 11.6	61.2 61.2 61.2 61.2 61.3 61.3	-20 -30 -35 -40 -45 -50 -52	02:48 02:36 02:29 02:21 02:12 02:01 01:55	03:51 03:43 03:38 03:32 03:26 03:18 03:14	04:55 04:51 04:48 04:45 04:42 04:38 04:36	15:54 16:04 16:10 16:16 16:24 16:33 16:37	16:44 16:50 16:54 16:58 17:03 17:08 17:11	17:35 17:36 17:38 17:39 17:41 17:42
2 3 4 5 6 7 8	193°00.4 208°00.6 223°00.7 238°00.9 253°01.1 268°01.3 283°01.5 298°01.6	0°46.2 0°45.2 0°44.2 0°43.3 0°42.3 0°41.3 0°40.3 0°39.3 0°38.3	211°51.1 226°17.2 240°43.3 255°09.4 269°35.5 284°01.6 298°27.7 312°53.8	7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1	-5° 42.9 -5° 31.5 -5° 20.1 -5° 08.7 -4° 57.2 -4° 45.7 -4° 34.2 -4° 22.6	11.3 11.4 11.4 11.5 11.5 11.6 11.6	61.2 61.2 61.2 61.3 61.3 61.3	-20 -30 -35 -40 -45 -50	02:48 02:36 02:29 02:21 02:12 02:01	03:51 03:43 03:38 03:32 03:26 03:18	04:55 04:51 04:48 04:45 04:42 04:38	15:54 16:04 16:10 16:16 16:24 16:33	16:44 16:50 16:54 16:58 17:03 17:08 17:11 17:14	17:35 17:36 17:38 17:39 17:41
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2 3 4 5 6 7 8 9	193° 00.4 208° 00.6 223° 00.7 238° 00.9 253° 01.1 268° 01.3 283° 01.5 298° 01.6 313° 01.8 328° 02.0	0°46.2 0°45.2 0°44.2 0°43.3 0°42.3 0°41.3 0°40.3 0°39.3 0°38.3 0°37.3 0°36.3	211°51.1 226°17.2 240°43.3 255°09.4 269°35.5 284°01.6 298°27.7 312°53.8 327°19.9 341°46.1	7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1	-5° 42.9 -5° 31.5 -5° 20.1 -5° 08.7 -4° 57.2 -4° 45.7 -4° 34.2 -4° 22.6 -4° 11.0 -3° 59.4	11.3 11.4 11.4 11.5 11.5 11.6 11.6 11.6	61.2 61.2 61.2 61.3 61.3 61.3 61.3 61.3	-20 -30 -35 -40 -45 -50 -52 -54 -56	02:48 02:36 02:29 02:21 02:12 02:01 01:55 01:50 01:43	03:51 03:43 03:38 03:32 03:26 03:18 03:14 03:10 03:06	04:55 04:51 04:48 04:45 04:42 04:38 04:36 04:34 04:32	15:54 16:04 16:10 16:16 16:24 16:33 16:37 16:42 16:47	16:44 16:50 16:54 16:58 17:03 17:08 17:11 17:14 17:17	17:35 17:36 17:38 17:39 17:41 17:42 17:43 17:44
2 3 4 5 6 7 8 9 10 11	193° 00.4 208° 00.6 223° 00.7 238° 00.9 253° 01.1 268° 01.3 283° 01.5 298° 01.6 313° 01.8 328° 02.0 343° 02.2	0°46.2 0°45.2 0°44.2 0°43.3 0°41.3 0°40.3 0°39.3 0°38.3 0°37.3 0°36.3 0°35.3	211°51.1 226°17.2 240°43.3 255°09.4 260°35.5 284°01.6 298°27.7 312°53.8 327°19.9 341°46.1 356°12.2	7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1	-5° 42.9 -5° 31.5 -5° 20.1 -5° 08.7 -4° 57.2 -4° 45.7 -4° 34.2 -4° 22.6 -4° 11.0 -3° 59.4 -3° 47.7	11.3 11.4 11.4 11.5 11.5 11.6 11.6 11.6 11.7	61.2 61.2 61.2 61.3 61.3 61.3 61.3 61.3 61.3	-20 -30 -35 -40 -45 -50 -52 -54 -56 -58	02:48 02:36 02:29 02:21 02:12 02:01 01:55 01:50 01:43 01:36	03:51 03:43 03:38 03:32 03:26 03:18 03:14 03:10 03:06 03:01	04:55 04:51 04:48 04:45 04:42 04:38 04:36 04:34 04:32 04:29	15:54 16:04 16:10 16:16 16:24 16:33 16:37 16:42 16:47 16:53	16:44 16:50 16:54 16:58 17:03 17:08 17:11 17:14 17:17 17:20	17:35 17:36 17:38 17:39 17:41 17:42 17:43 17:44 17:45
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2 3 4 5 6 7 8 9 10 11	193° 00.4 208° 00.6 223° 00.7 238° 00.9 253° 01.1 268° 01.3 283° 01.5 298° 01.6 313° 01.8 328° 02.0 343° 02.2 358° 02.4 13° 02.6 28° 02.7	0°46.2 0°45.2 0°44.2 0°43.3 0°42.3 0°40.3 0°39.3 0°37.3 0°37.3 0°35.3 0°35.3 0°34.4	211°51.1 226°17.2 240°43.3 255°09.4 260°35.5 284°01.6 298°27.7 312°53.8 327°19.9 341°46.1 356°12.2 10°38.4	7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1	-5° 42.9 -5° 31.5 -5° 20.1 -5° 08.7 -4° 57.2 -4° 34.2 -4° 22.6 -4° 11.0 -3° 59.4 -3° 47.7 -3° 36.0 -3° 24.3 -3° 12.6	11.3 11.4 11.4 11.5 11.5 11.6 11.6 11.6 11.7	61.2 61.2 61.2 61.3 61.3 61.3 61.3 61.3 61.3 61.3	-20 -30 -35 -40 -45 -50 -52 -54 -56 -58	02:48 02:36 02:29 02:21 02:01 01:55 01:50 01:43 01:36 01:28	03:51 03:43 03:38 03:32 03:26 03:18 03:14 03:10 03:06 03:01 02:55	04:55 04:51 04:48 04:45 04:42 04:38 04:36 04:34 04:32 04:29	15:54 16:04 16:10 16:16 16:24 16:33 16:37 16:42 16:47 16:53	16:44 16:50 16:54 16:58 17:03 17:08 17:11 17:14 17:17 17:20 17:24	17:35 17:36 17:38 17:39 17:41 17:42 17:43 17:44 17:45
2 3 4 5 6 7 8 9 10 11 12 13 14 15	193° 00.4 208° 00.6 223° 00.7 238° 00.9 253° 01.1 268° 01.3 283° 01.5 298° 01.6 313° 01.8 328° 02.0 343° 02.2 358° 02.4 13° 02.6 28° 02.7 43° 02.9	0°46.2 0°45.2 0°44.2 0°43.3 0°41.3 0°40.3 0°39.3 0°37.3 0°37.3 0°35.3 0°35.3 0°34.4 0°33.4	211°51.1 226°17.2 240°43.3 255°09.4 269°35.5 284°01.6 298°27.7 312°53.8 327°19.9 341°46.1 356°12.2 10°38.4 25°04.5 39°30.7 53°56.9	7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.1 7.2 7.2 7.2 7.2	-5° 42.9 -5° 31.5 -5° 20.1 -5° 08.7 -4° 57.2 -4° 45.7 -4° 34.2 -4° 22.6 -4° 11.0 -3° 59.4 -3° 47.7 -3° 36.0 -3° 24.3 -3° 12.6 -3° 00.8	11.3 11.4 11.4 11.4 11.5 11.6 11.6 11.6 11.7 11.7 11.7	61.2 61.2 61.2 61.3 61.3 61.3 61.3 61.3 61.3 61.3 61.3	-20 -30 -35 -40 -45 -50 -52 -54 -56 -58 -60	02:48 02:36 02:29 02:21 02:12 02:01 01:55 01:50 01:43 01:36 01:28	03:51 03:43 03:38 03:32 03:26 03:18 03:14 03:10 03:06 03:01 02:55	04:55 04:51 04:48 04:45 04:42 04:38 04:36 04:34 04:32 04:29 04:26	15:54 16:04 16:10 16:16 16:24 16:33 16:37 16:42 16:47 16:53 16:59 Mer. Upper	16:44 16:50 16:54 16:58 17:03 17:08 17:11 17:14 17:17 17:20 17:24 Moon Pass.	17:35 17:36 17:38 17:39 17:41 17:42 17:43 17:44 17:45 17:46
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