

Mon Jul 1, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.2'		v = 2.8' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.3'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	192°16.3'	N 23°12.7'	22°49.6'	S 22°16.2'	349°27.6'	S 21°55.1'	156°57.5'	N 21°25.8'
1	207°15.4'	N 23°12.8'	37°52.3'	S 22°16.2'	4°30.3'	S 21°55.1'	171°58.3'	N 21°25.5'
2	222°14.6'	N 23°13.0'	52°55.1'	S 22°16.2'	19°32.9'	S 21°55.1'	186°59.1'	N 21°25.2'
3	237°13.7'	N 23°13.2'	67°57.9'	S 22°16.2'	34°35.6'	S 21°55.1'	201°59.9'	N 21°24.8'
4	252°12.8'	N 23°13.4'	83°00.6'	S 22°16.2'	49°38.3'	S 21°55.2'	217°00.7'	N 21°24.5'
5	267°12.0'	N 23°13.5'	98°03.4'	S 22°16.1'	64°40.9'	S 21°55.2'	232°01.5'	N 21°24.2'
6	282°11.1'	N 23°13.7'	113°06.1'	S 22°16.1'	79°43.6'	S 21°55.2'	247°02.3'	N 21°23.8'
7	297°10.3'	N 23°13.9'	128°08.9'	S 22°16.1'	94°46.2'	S 21°55.2'	262°03.1'	N 21°23.5'
8	312°09.4'	N 23°14.0'	143°11.7'	S 22°16.1'	109°48.9'	S 21°55.3'	277°03.9'	N 21°23.2'
9	327°08.5'	N 23°14.2'	158°14.4'	S 22°16.1'	124°51.5'	S 21°55.3'	292°04.7'	N 21°22.8'
10	342°07.7'	N 23°14.4'	173°17.2'	S 22°16.0'	139°54.2'	S 21°55.3'	307°05.5'	N 21°22.5'
11	357°06.8'	N 23°14.5'	188°19.9'	S 22°16.0'	154°56.9'	S 21°55.4'	322°06.3'	N 21°22.1'
12	12°05.9'	N 23°14.7'	203°22.7'	S 22°16.0'	169°59.5'	S 21°55.4'	337°07.1'	N 21°21.8'
13	27°05.1'	N 23°14.9'	218°25.5'	S 22°16.0'	185°02.2'	S 21°55.4'	352°07.9'	N 21°21.5'
14	42°04.2'	N 23°15.0'	233°28.2'	S 22°16.0'	200°04.8'	S 21°55.4'	7°08.7'	N 21°21.1'
15	57°03.4'	N 23°15.2'	248°31.0'	S 22°15.9'	215°07.5'	S 21°55.5'	22°09.4'	N 21°20.8'
16	72°02.5'	N 23°15.3'	263°33.7'	S 22°15.9'	230°10.1'	S 21°55.5'	37°10.2'	N 21°20.5'
17	87°01.6'	N 23°15.5'	278°36.5'	S 22°15.9'	245°12.8'	S 21°55.5'	52°11.0'	N 21°20.1'
18	102°00.8'	N 23°15.6'	293°39.2'	S 22°15.9'	260°15.5'	S 21°55.5'	67°11.8'	N 21°19.8'
19	116°59.9'	N 23°15.8'	308°42.0'	S 22°15.9'	275°18.1'	S 21°55.6'	82°12.6'	N 21°19.4'
20	131°59.0'	N 23°16.0'	323°44.8'	S 22°15.8'	290°20.8'	S 21°55.6'	97°13.4'	N 21°19.1'
21	146°58.2'	N 23°16.1'	338°47.5'	S 22°15.8'	305°23.4'	S 21°55.6'	112°14.2'	N 21°18.8'
22	161°57.3'	N 23°16.3'	353°50.3'	S 22°15.8'	320°26.1'	S 21°55.7'	127°15.0'	N 21°18.4'
23	176°56.4'	N 23°16.4'	8°53.0'	S 22°15.8'	335°28.7'	S 21°55.7'	142°15.8'	N 21°18.1'

Tue Jul 2, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.1'		v = 2.8' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.3'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	191°55.6'	N 23°16.6'	23°55.8'	S 22°15.8'	350°31.4'	S 21°55.7'	157°16.6'	N 21°17.8'
1	206°54.7'	N 23°16.7'	38°58.5'	S 22°15.7'	5°34.1'	S 21°55.7'	172°17.4'	N 21°17.4'
2	221°53.9'	N 23°16.9'	54°01.3'	S 22°15.7'	20°36.7'	S 21°55.8'	187°18.2'	N 21°17.1'
3	236°53.0'	N 23°17.0'	69°04.1'	S 22°15.7'	35°39.4'	S 21°55.8'	202°19.0'	N 21°16.7'
4	251°52.1'	N 23°17.1'	84°06.8'	S 22°15.7'	50°42.0'	S 21°55.8'	217°19.8'	N 21°16.4'
5	266°51.3'	N 23°17.3'	99°09.6'	S 22°15.7'	65°44.7'	S 21°55.8'	232°20.6'	N 21°16.0'
6	281°50.4'	N 23°17.4'	114°12.3'	S 22°15.6'	80°47.3'	S 21°55.9'	247°21.4'	N 21°15.7'
7	296°49.5'	N 23°17.6'	129°15.1'	S 22°15.6'	95°50.0'	S 21°55.9'	262°22.2'	N 21°15.4'
8	311°48.7'	N 23°17.7'	144°17.8'	S 22°15.6'	110°52.7'	S 21°55.9'	277°23.0'	N 21°15.0'
9	326°47.8'	N 23°17.8'	159°20.6'	S 22°15.6'	125°55.3'	S 21°56.0'	292°23.8'	N 21°14.7'
10	341°46.9'	N 23°18.0'	174°23.3'	S 22°15.6'	140°58.0'	S 21°56.0'	307°24.6'	N 21°14.3'
11	356°46.1'	N 23°18.1'	189°26.1'	S 22°15.5'	156°00.6'	S 21°56.0'	322°25.4'	N 21°14.0'
12	11°45.2'	N 23°18.3'	204°28.9'	S 22°15.5'	171°03.3'	S 21°56.0'	337°26.2'	N 21°13.7'
13	26°44.3'	N 23°18.4'	219°31.6'	S 22°15.5'	186°06.0'	S 21°56.1'	352°27.0'	N 21°13.3'
14	41°43.5'	N 23°18.5'	234°34.4'	S 22°15.5'	201°08.6'	S 21°56.1'	7°27.8'	N 21°13.0'
15	56°42.6'	N 23°18.7'	249°37.1'	S 22°15.5'	216°11.3'	S 21°56.1'	22°28.6'	N 21°12.6'
16	71°41.7'	N 23°18.8'	264°39.9'	S 22°15.5'	231°13.9'	S 21°56.1'	37°29.4'	N 21°12.3'
17	86°40.9'	N 23°18.9'	279°42.6'	S 22°15.4'	246°16.6'	S 21°56.2'	52°30.2'	N 21°11.9'
18	101°40.0'	N 23°19.0'	294°45.4'	S 22°15.4'	261°19.2'	S 21°56.2'	67°31.0'	N 21°11.6'
19	116°39.1'	N 23°19.2'	309°48.1'	S 22°15.4'	276°21.9'	S 21°56.2'	82°31.8'	N 21°11.2'
20	131°38.3'	N 23°19.3'	324°50.9'	S 22°15.4'	291°24.6'	S 21°56.3'	97°32.6'	N 21°10.9'
21	146°37.4'	N 23°19.4'	339°53.6'	S 22°15.4'	306°27.2'	S 21°56.3'	112°33.4'	N 21°10.6'
22	161°36.5'	N 23°19.5'	354°56.4'	S 22°15.3'	321°29.9'	S 21°56.3'	127°34.2'	N 21°10.2'
23	176°35.7'	N 23°19.7'	9°59.1'	S 22°15.3'	336°32.5'	S 21°56.3'	142°35.0'	N 21°09.9'

Wed Jul 3, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.1'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.3'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	191°34.8'	N 23°19.8'	25°01.9'	S 22°15.3'	351°35.2'	S 21°56.4'	157°35.8'	N 21°09.5'
1	206°33.9'	N 23°19.9'	40°04.6'	S 22°15.3'	6°37.9'	S 21°56.4'	172°36.6'	N 21°09.2'
2	221°33.1'	N 23°20.0'	55°07.4'	S 22°15.3'	21°40.5'	S 21°56.4'	187°37.4'	N 21°08.8'
3	236°32.2'	N 23°20.1'	70°10.1'	S 22°15.2'	36°43.2'	S 21°56.4'	202°38.2'	N 21°08.5'
4	251°31.3'	N 23°20.3'	85°12.9'	S 22°15.2'	51°45.8'	S 21°56.5'	217°39.0'	N 21°08.1'
5	266°30.5'	N 23°20.4'	100°15.7'	S 22°15.2'	66°48.5'	S 21°56.5'	232°39.8'	N 21°07.8'
6	281°29.6'	N 23°20.5'	115°18.4'	S 22°15.2'	81°51.1'	S 21°56.5'	247°40.6'	N 21°07.4'
7	296°28.7'	N 23°20.6'	130°21.2'	S 22°15.2'	96°53.8'	S 21°56.6'	262°41.4'	N 21°07.1'
8	311°27.9'	N 23°20.7'	145°23.9'	S 22°15.1'	111°56.5'	S 21°56.6'	277°42.2'	N 21°06.7'
9	326°27.0'	N 23°20.8'	160°26.7'	S 22°15.1'	126°59.1'	S 21°56.6'	292°43.0'	N 21°06.4'
10	341°26.1'	N 23°20.9'	175°29.4'	S 22°15.1'	142°01.8'	S 21°56.6'	307°43.8'	N 21°06.0'
11	356°25.2'	N 23°21.0'	190°32.2'	S 22°15.1'	157°04.4'	S 21°56.7'	322°44.6'	N 21°05.7'
12	11°24.4'	N 23°21.1'	205°34.9'	S 22°15.1'	172°07.1'	S 21°56.7'	337°45.4'	N 21°05.3'
13	26°23.5'	N 23°21.2'	220°37.7'	S 22°15.1'	187°09.8'	S 21°56.7'	352°46.2'	N 21°05.0'
14	41°22.6'	N 23°21.4'	235°40.4'	S 22°15.0'	202°12.4'	S 21°56.7'	7°47.0'	N 21°04.6'
15	56°21.8'	N 23°21.5'	250°43.1'	S 22°15.0'	217°15.1'	S 21°56.8'	22°47.8'	N 21°04.3'
16	71°20.9'	N 23°21.6'	265°45.9'	S 22°15.0'	232°17.7'	S 21°56.8'	37°48.6'	N 21°03.9'
17	86°20.0'	N 23°21.7'	280°48.6'	S 22°15.0'	247°20.4'	S 21°56.8'	52°49.4'	N 21°03.6'
18	101°19.2'	N 23°21.8'	295°51.4'	S 22°15.0'	262°23.1'	S 21°56.8'	67°50.2'	N 21°03.2'
19	116°18.3'	N 23°21.9'	310°54.1'	S 22°14.9'	277°25.7'	S 21°56.9'	82°51.0'	N 21°02.9'
20	131°17.4'	N 23°22.0'	325°56.9'	S 22°14.9'	292°28.4'	S 21°56.9'	97°51.8'	N 21°02.5'
21	146°16.5'	N 23°22.1'	340°59.6'	S 22°14.9'	307°31.0'	S 21°56.9'	112°52.6'	N 21°02.2'
22	161°15.7'	N 23°22.1'	356°02.4'	S 22°14.9'	322°33.7'	S 21°57.0'	127°53.4'	N 21°01.8'
23	176°14.8'	N 23°22.2'	11°05.1'	S 22°14.9'	337°36.3'	S 21°57.0'	142°54.2'	N 21°01.5'

Thu Jul 4, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.1'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	191°13.9'	N 23°22.3'	26°07.9'	S 22°14.8'	352°39.0'	S 21°57.0'	157°55.0'	N 21°01.1'
1	206°13.1'	N 23°22.4'	41°10.6'	S 22°14.8'	7°41.7'	S 21°57.0'	172°55.8'	N 21°00.8'
2	221°12.2'	N 23°22.5'	56°13.4'	S 22°14.8'	22°44.3'	S 21°57.1'	187°56.6'	N 21°00.4'
3	236°11.3'	N 23°22.6'	71°16.1'	S 22°14.8'	37°47.0'	S 21°57.1'	202°57.4'	N 21°00.1'
4	251°10.5'	N 23°22.7'	86°18.9'	S 22°14.8'	52°49.6'	S 21°57.1'	217°58.2'	N 20°59.7'
5	266°09.6'	N 23°22.8'	101°21.6'	S 22°14.7'	67°52.3'	S 21°57.1'	232°59.0'	N 20°59.4'
6	281°08.7'	N 23°22.9'	116°24.4'	S 22°14.7'	82°55.0'	S 21°57.2'	247°59.8'	N 20°59.0'
7	296°07.8'	N 23°22.9'	131°27.1'	S 22°14.7'	97°57.6'	S 21°57.2'	263°00.6'	N 20°58.7'
8	311°07.0'	N 23°23.0'	146°29.8'	S 22°14.7'	113°00.3'	S 21°57.2'	278°01.4'	N 20°58.3'
9	326°06.1'	N 23°23.1'	161°32.6'	S 22°14.7'	128°02.9'	S 21°57.3'	293°02.2'	N 20°58.0'
10	341°05.2'	N 23°23.2'	176°35.3'	S 22°14.7'	143°05.6'	S 21°57.3'	308°03.0'	N 20°57.6'
11	356°04.4'	N 23°23.3'	191°38.1'	S 22°14.6'	158°08.3'	S 21°57.3'	323°03.9'	N 20°57.2'
12	11°03.5'	N 23°23.3'	206°40.8'	S 22°14.6'	173°10.9'	S 21°57.3'	338°04.7'	N 20°56.9'
13	26°02.6'	N 23°23.4'	221°43.6'	S 22°14.6'	188°13.6'	S 21°57.4'	353°05.5'	N 20°56.5'
14	41°01.7'	N 23°23.5'	236°46.3'	S 22°14.6'	203°16.2'	S 21°57.4'	8°06.3'	N 20°56.2'
15	56°00.9'	N 23°23.6'	251°49.1'	S 22°14.6'	218°18.9'	S 21°57.4'	23°07.1'	N 20°55.8'
16	70°60.0'	N 23°23.6'	266°51.8'	S 22°14.5'	233°21.6'	S 21°57.4'	38°07.9'	N 20°55.5'
17	85°59.1'	N 23°23.7'	281°54.5'	S 22°14.5'	248°24.2'	S 21°57.5'	53°08.7'	N 20°55.1'
18	100°58.3'	N 23°23.8'	296°57.3'	S 22°14.5'	263°26.9'	S 21°57.5'	68°09.5'	N 20°54.8'
19	115°57.4'	N 23°23.9'	312°00.0'	S 22°14.5'	278°29.5'	S 21°57.5'	83°10.3'	N 20°54.4'
20	130°56.5'	N 23°23.9'	327°02.8'	S 22°14.5'	293°32.2'	S 21°57.6'	98°11.1'	N 20°54.0'
21	145°55.6'	N 23°24.0'	342°05.5'	S 22°14.5'	308°34.9'	S 21°57.6'	113°11.9'	N 20°53.7'
22	160°54.8'	N 23°24.1'	357°08.3'	S 22°14.4'	323°37.5'	S 21°57.6'	128°12.7'	N 20°53.3'
23	175°53.9'	N 23°24.1'	12°11.0'	S 22°14.4'	338°40.2'	S 21°57.6'	143°13.5'	N 20°53.0'

Fri Jul 5, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.0'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	190°53.0'	N 23°24.2'	27°13.7'	S 22°14.4'	353°42.8'	S 21°57.7'	158°14.3'	N 20°52.6'
1	205°52.1'	N 23°24.3'	42°16.5'	S 22°14.4'	8°45.5'	S 21°57.7'	173°15.1'	N 20°52.3'
2	220°51.3'	N 23°24.3'	57°19.2'	S 22°14.4'	23°48.2'	S 21°57.7'	188°15.9'	N 20°51.9'
3	235°50.4'	N 23°24.4'	72°22.0'	S 22°14.3'	38°50.8'	S 21°57.7'	203°16.7'	N 20°51.5'
4	250°49.5'	N 23°24.4'	87°24.7'	S 22°14.3'	53°53.5'	S 21°57.8'	218°17.6'	N 20°51.2'
5	265°48.7'	N 23°24.5'	102°27.4'	S 22°14.3'	68°56.1'	S 21°57.8'	233°18.4'	N 20°50.8'
6	280°47.8'	N 23°24.6'	117°30.2'	S 22°14.3'	83°58.8'	S 21°57.8'	248°19.2'	N 20°50.5'
7	295°46.9'	N 23°24.6'	132°32.9'	S 22°14.3'	99°01.5'	S 21°57.9'	263°20.0'	N 20°50.1'
8	310°46.0'	N 23°24.7'	147°35.7'	S 22°14.2'	114°04.1'	S 21°57.9'	278°20.8'	N 20°49.7'
9	325°45.2'	N 23°24.7'	162°38.4'	S 22°14.2'	129°06.8'	S 21°57.9'	293°21.6'	N 20°49.4'
10	340°44.3'	N 23°24.8'	177°41.1'	S 22°14.2'	144°09.4'	S 21°57.9'	308°22.4'	N 20°49.0'
11	355°43.4'	N 23°24.8'	192°43.9'	S 22°14.2'	159°12.1'	S 21°58.0'	323°23.2'	N 20°48.7'
12	10°42.5'	N 23°24.9'	207°46.6'	S 22°14.2'	174°14.8'	S 21°58.0'	338°24.0'	N 20°48.3'
13	25°41.7'	N 23°24.9'	222°49.4'	S 22°14.2'	189°17.4'	S 21°58.0'	353°24.8'	N 20°47.9'
14	40°40.8'	N 23°25.0'	237°52.1'	S 22°14.1'	204°20.1'	S 21°58.0'	8°25.6'	N 20°47.6'
15	55°39.9'	N 23°25.0'	252°54.8'	S 22°14.1'	219°22.7'	S 21°58.1'	23°26.4'	N 20°47.2'
16	70°39.0'	N 23°25.1'	267°57.6'	S 22°14.1'	234°25.4'	S 21°58.1'	38°27.3'	N 20°46.8'
17	85°38.2'	N 23°25.1'	283°00.3'	S 22°14.1'	249°28.1'	S 21°58.1'	53°28.1'	N 20°46.5'
18	100°37.3'	N 23°25.1'	298°03.1'	S 22°14.1'	264°30.7'	S 21°58.2'	68°28.9'	N 20°46.1'
19	115°36.4'	N 23°25.2'	313°05.8'	S 22°14.0'	279°33.4'	S 21°58.2'	83°29.7'	N 20°45.8'
20	130°35.5'	N 23°25.2'	328°08.5'	S 22°14.0'	294°36.0'	S 21°58.2'	98°30.5'	N 20°45.4'
21	145°34.7'	N 23°25.3'	343°11.3'	S 22°14.0'	309°38.7'	S 21°58.2'	113°31.3'	N 20°45.0'
22	160°33.8'	N 23°25.3'	358°14.0'	S 22°14.0'	324°41.4'	S 21°58.3'	128°32.1'	N 20°44.7'
23	175°32.9'	N 23°25.3'	13°16.7'	S 22°14.0'	339°44.0'	S 21°58.3'	143°32.9'	N 20°44.3'

Sat Jul 6, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.0'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	190°32.1'	N 23°25.4'	28°19.5'	S 22°14.0'	354°46.7'	S 21°58.3'	158°33.7'	N 20°43.9'
1	205°31.2'	N 23°25.4'	43°22.2'	S 22°13.9'	9°49.3'	S 21°58.3'	173°34.5'	N 20°43.6'
2	220°30.3'	N 23°25.4'	58°25.0'	S 22°13.9'	24°52.0'	S 21°58.4'	188°35.4'	N 20°43.2'
3	235°29.4'	N 23°25.5'	73°27.7'	S 22°13.9'	39°54.7'	S 21°58.4'	203°36.2'	N 20°42.8'
4	250°28.6'	N 23°25.5'	88°30.4'	S 22°13.9'	54°57.3'	S 21°58.4'	218°37.0'	N 20°42.5'
5	265°27.7'	N 23°25.5'	103°33.2'	S 22°13.9'	69°60.0'	S 21°58.5'	233°37.8'	N 20°42.1'
6	280°26.8'	N 23°25.6'	118°35.9'	S 22°13.8'	85°02.6'	S 21°58.5'	248°38.6'	N 20°41.7'
7	295°25.9'	N 23°25.6'	133°38.6'	S 22°13.8'	100°05.3'	S 21°58.5'	263°39.4'	N 20°41.4'
8	310°25.1'	N 23°25.6'	148°41.4'	S 22°13.8'	115°08.0'	S 21°58.5'	278°40.2'	N 20°41.0'
9	325°24.2'	N 23°25.6'	163°44.1'	S 22°13.8'	130°10.6'	S 21°58.6'	293°41.0'	N 20°40.6'
10	340°23.3'	N 23°25.7'	178°46.8'	S 22°13.8'	145°13.3'	S 21°58.6'	308°41.8'	N 20°40.3'
11	355°22.4'	N 23°25.7'	193°49.6'	S 22°13.8'	160°15.9'	S 21°58.6'	323°42.7'	N 20°39.9'
12	10°21.6'	N 23°25.7'	208°52.3'	S 22°13.7'	175°18.6'	S 21°58.6'	338°43.5'	N 20°39.5'
13	25°20.7'	N 23°25.7'	223°55.0'	S 22°13.7'	190°21.3'	S 21°58.7'	353°44.3'	N 20°39.2'
14	40°19.8'	N 23°25.7'	238°57.8'	S 22°13.7'	205°23.9'	S 21°58.7'	8°45.1'	N 20°38.8'
15	55°18.9'	N 23°25.8'	254°00.5'	S 22°13.7'	220°26.6'	S 21°58.7'	23°45.9'	N 20°38.4'
16	70°18.1'	N 23°25.8'	269°03.2'	S 22°13.7'	235°29.2'	S 21°58.8'	38°46.7'	N 20°38.1'
17	85°17.2'	N 23°25.8'	284°06.0'	S 22°13.7'	250°31.9'	S 21°58.8'	53°47.5'	N 20°37.7'
18	100°16.3'	N 23°25.8'	299°08.7'	S 22°13.6'	265°34.6'	S 21°58.8'	68°48.3'	N 20°37.3'
19	115°15.4'	N 23°25.8'	314°11.4'	S 22°13.6'	280°37.2'	S 21°58.8'	83°49.1'	N 20°37.0'
20	130°14.6'	N 23°25.8'	329°14.2'	S 22°13.6'	295°39.9'	S 21°58.9'	98°50.0'	N 20°36.6'
21	145°13.7'	N 23°25.8'	344°16.9'	S 22°13.6'	310°42.5'	S 21°58.9'	113°50.8'	N 20°36.2'
22	160°12.8'	N 23°25.8'	359°19.6'	S 22°13.6'	325°45.2'	S 21°58.9'	128°51.6'	N 20°35.9'
23	175°11.9'	N 23°25.9'	14°22.4'	S 22°13.5'	340°47.9'	S 21°58.9'	143°52.4'	N 20°35.5'

Sun Jul 7, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.0'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	190°11.1'	N 23°25.9'	29°25.1'	S 22°13.5'	355°50.5'	S 21°59.0'	158°53.2'	N 20°35.1'
1	205°10.2'	N 23°25.9'	44°27.8'	S 22°13.5'	10°53.2'	S 21°59.0'	173°54.0'	N 20°34.8'
2	220°09.3'	N 23°25.9'	59°30.5'	S 22°13.5'	25°55.8'	S 21°59.0'	188°54.8'	N 20°34.4'
3	235°08.4'	N 23°25.9'	74°33.3'	S 22°13.5'	40°58.5'	S 21°59.1'	203°55.7'	N 20°34.0'
4	250°07.6'	N 23°25.9'	89°36.0'	S 22°13.5'	56°01.2'	S 21°59.1'	218°56.5'	N 20°33.6'
5	265°06.7'	N 23°25.9'	104°38.7'	S 22°13.4'	71°03.8'	S 21°59.1'	233°57.3'	N 20°33.3'
6	280°05.8'	N 23°25.9'	119°41.5'	S 22°13.4'	86°06.5'	S 21°59.1'	248°58.1'	N 20°32.9'
7	295°04.9'	N 23°25.9'	134°44.2'	S 22°13.4'	101°09.1'	S 21°59.2'	263°58.9'	N 20°32.5'
8	310°04.1'	N 23°25.9'	149°46.9'	S 22°13.4'	116°11.8'	S 21°59.2'	278°59.7'	N 20°32.1'
9	325°03.2'	N 23°25.9'	164°49.7'	S 22°13.4'	131°14.5'	S 21°59.2'	294°00.5'	N 20°31.8'
10	340°02.3'	N 23°25.9'	179°52.4'	S 22°13.4'	146°17.1'	S 21°59.2'	309°01.4'	N 20°31.4'
11	355°01.4'	N 23°25.9'	194°55.1'	S 22°13.3'	161°19.8'	S 21°59.3'	324°02.2'	N 20°31.0'
12	10°00.5'	N 23°25.8'	209°57.8'	S 22°13.3'	176°22.4'	S 21°59.3'	339°03.0'	N 20°30.7'
13	24°59.7'	N 23°25.8'	225°00.6'	S 22°13.3'	191°25.1'	S 21°59.3'	354°03.8'	N 20°30.3'
14	39°58.8'	N 23°25.8'	240°03.3'	S 22°13.3'	206°27.8'	S 21°59.4'	9°04.6'	N 20°29.9'
15	54°57.9'	N 23°25.8'	255°06.0'	S 22°13.3'	221°30.4'	S 21°59.4'	24°05.4'	N 20°29.5'
16	69°57.0'	N 23°25.8'	270°08.7'	S 22°13.2'	236°33.1'	S 21°59.4'	39°06.3'	N 20°29.2'
17	84°56.2'	N 23°25.8'	285°11.5'	S 22°13.2'	251°35.7'	S 21°59.4'	54°07.1'	N 20°28.8'
18	99°55.3'	N 23°25.8'	300°14.2'	S 22°13.2'	266°38.4'	S 21°59.5'	69°07.9'	N 20°28.4'
19	114°54.4'	N 23°25.8'	315°16.9'	S 22°13.2'	281°41.1'	S 21°59.5'	84°08.7'	N 20°28.0'
20	129°53.5'	N 23°25.7'	330°19.7'	S 22°13.2'	296°43.7'	S 21°59.5'	99°09.5'	N 20°27.7'
21	144°52.7'	N 23°25.7'	345°22.4'	S 22°13.2'	311°46.4'	S 21°59.5'	114°10.3'	N 20°27.3'
22	159°51.8'	N 23°25.7'	0°25.1'	S 22°13.1'	326°49.1'	S 21°59.6'	129°11.1'	N 20°26.9'
23	174°50.9'	N 23°25.7'	15°27.8'	S 22°13.1'	341°51.7'	S 21°59.6'	144°12.0'	N 20°26.5'

Mon Jul 8, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.0'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	189°50.0'	N 23°25.7'	30°30.6'	S 22°13.1'	356°54.4'	S 21°59.6'	159°12.8'	N 20°26.2'
1	204°49.2'	N 23°25.6'	45°33.3'	S 22°13.1'	11°57.0'	S 21°59.6'	174°13.6'	N 20°25.8'
2	219°48.3'	N 23°25.6'	60°36.0'	S 22°13.1'	26°59.7'	S 21°59.7'	189°14.4'	N 20°25.4'
3	234°47.4'	N 23°25.6'	75°38.7'	S 22°13.1'	42°02.4'	S 21°59.7'	204°15.2'	N 20°25.0'
4	249°46.5'	N 23°25.6'	90°41.5'	S 22°13.0'	57°05.0'	S 21°59.7'	219°16.1'	N 20°24.7'
5	264°45.7'	N 23°25.5'	105°44.2'	S 22°13.0'	72°07.7'	S 21°59.8'	234°16.9'	N 20°24.3'
6	279°44.8'	N 23°25.5'	120°46.9'	S 22°13.0'	87°10.3'	S 21°59.8'	249°17.7'	N 20°23.9'
7	294°43.9'	N 23°25.5'	135°49.6'	S 22°13.0'	102°13.0'	S 21°59.8'	264°18.5'	N 20°23.5'
8	309°43.0'	N 23°25.4'	150°52.3'	S 22°13.0'	117°15.7'	S 21°59.8'	279°19.3'	N 20°23.1'
9	324°42.2'	N 23°25.4'	165°55.1'	S 22°13.0'	132°18.3'	S 21°59.9'	294°20.1'	N 20°22.8'
10	339°41.3'	N 23°25.4'	180°57.8'	S 22°12.9'	147°21.0'	S 21°59.9'	309°21.0'	N 20°22.4'
11	354°40.4'	N 23°25.3'	196°00.5'	S 22°12.9'	162°23.6'	S 21°59.9'	324°21.8'	N 20°22.0'
12	9°39.5'	N 23°25.3'	211°03.2'	S 22°12.9'	177°26.3'	S 21°59.9'	339°22.6'	N 20°21.6'
13	24°38.7'	N 23°25.3'	226°06.0'	S 22°12.9'	192°29.0'	S 21°60.0'	354°23.4'	N 20°21.2'
14	39°37.8'	N 23°25.2'	241°08.7'	S 22°12.9'	207°31.6'	S 22°00.0'	9°24.2'	N 20°20.9'
15	54°36.9'	N 23°25.2'	256°11.4'	S 22°12.9'	222°34.3'	S 22°00.0'	24°25.1'	N 20°20.5'
16	69°36.0'	N 23°25.1'	271°14.1'	S 22°12.8'	237°36.9'	S 22°00.1'	39°25.9'	N 20°20.1'
17	84°35.2'	N 23°25.1'	286°16.8'	S 22°12.8'	252°39.6'	S 22°00.1'	54°26.7'	N 20°19.7'
18	99°34.3'	N 23°25.1'	301°19.6'	S 22°12.8'	267°42.3'	S 22°00.1'	69°27.5'	N 20°19.3'
19	114°33.4'	N 23°25.0'	316°22.3'	S 22°12.8'	282°44.9'	S 22°00.1'	84°28.3'	N 20°19.0'
20	129°32.5'	N 23°25.0'	331°25.0'	S 22°12.8'	297°47.6'	S 22°00.2'	99°29.2'	N 20°18.6'
21	144°31.6'	N 23°24.9'	346°27.7'	S 22°12.7'	312°50.2'	S 22°00.2'	114°30.0'	N 20°18.2'
22	159°30.8'	N 23°24.9'	1°30.4'	S 22°12.7'	327°52.9'	S 22°00.2'	129°30.8'	N 20°17.8'
23	174°29.9'	N 23°24.8'	16°33.2'	S 22°12.7'	342°55.6'	S 22°00.2'	144°31.6'	N 20°17.4'

Tue Jul 9, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.1'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	189°29.0'	N 23°24.8'	31°35.9'	S 22°12.7'	357°58.2'	S 22°00.3'	159°32.4'	N 20°17.1'
1	204°28.1'	N 23°24.7'	46°38.6'	S 22°12.7'	13°00.9'	S 22°00.3'	174°33.3'	N 20°16.7'
2	219°27.3'	N 23°24.7'	61°41.3'	S 22°12.7'	28°03.6'	S 22°00.3'	189°34.1'	N 20°16.3'
3	234°26.4'	N 23°24.6'	76°44.0'	S 22°12.6'	43°06.2'	S 22°00.4'	204°34.9'	N 20°15.9'
4	249°25.5'	N 23°24.6'	91°46.8'	S 22°12.6'	58°08.9'	S 22°00.4'	219°35.7'	N 20°15.5'
5	264°24.6'	N 23°24.5'	106°49.5'	S 22°12.6'	73°11.5'	S 22°00.4'	234°36.5'	N 20°15.1'
6	279°23.8'	N 23°24.4'	121°52.2'	S 22°12.6'	88°14.2'	S 22°00.4'	249°37.4'	N 20°14.8'
7	294°22.9'	N 23°24.4'	136°54.9'	S 22°12.6'	103°16.9'	S 22°00.5'	264°38.2'	N 20°14.4'
8	309°22.0'	N 23°24.3'	151°57.6'	S 22°12.6'	118°19.5'	S 22°00.5'	279°39.0'	N 20°14.0'
9	324°21.1'	N 23°24.3'	167°00.3'	S 22°12.5'	133°22.2'	S 22°00.5'	294°39.8'	N 20°13.6'
10	339°20.3'	N 23°24.2'	182°03.1'	S 22°12.5'	148°24.8'	S 22°00.5'	309°40.6'	N 20°13.2'
11	354°19.4'	N 23°24.1'	197°05.8'	S 22°12.5'	163°27.5'	S 22°00.6'	324°41.5'	N 20°12.8'
12	9°18.5'	N 23°24.1'	212°08.5'	S 22°12.5'	178°30.2'	S 22°00.6'	339°42.3'	N 20°12.5'
13	24°17.6'	N 23°24.0'	227°11.2'	S 22°12.5'	193°32.8'	S 22°00.6'	354°43.1'	N 20°12.1'
14	39°16.8'	N 23°23.9'	242°13.9'	S 22°12.5'	208°35.5'	S 22°00.7'	9°43.9'	N 20°11.7'
15	54°15.9'	N 23°23.9'	257°16.6'	S 22°12.4'	223°38.1'	S 22°00.7'	24°44.8'	N 20°11.3'
16	69°15.0'	N 23°23.8'	272°19.4'	S 22°12.4'	238°40.8'	S 22°00.7'	39°45.6'	N 20°10.9'
17	84°14.1'	N 23°23.7'	287°22.1'	S 22°12.4'	253°43.5'	S 22°00.7'	54°46.4'	N 20°10.5'
18	99°13.3'	N 23°23.6'	302°24.8'	S 22°12.4'	268°46.1'	S 22°00.8'	69°47.2'	N 20°10.1'
19	114°12.4'	N 23°23.6'	317°27.5'	S 22°12.4'	283°48.8'	S 22°00.8'	84°48.1'	N 20°09.8'
20	129°11.5'	N 23°23.5'	332°30.2'	S 22°12.4'	298°51.4'	S 22°00.8'	99°48.9'	N 20°09.4'
21	144°10.6'	N 23°23.4'	347°32.9'	S 22°12.3'	313°54.1'	S 22°00.8'	114°49.7'	N 20°09.0'
22	159°09.8'	N 23°23.3'	2°35.6'	S 22°12.3'	328°56.8'	S 22°00.9'	129°50.5'	N 20°08.6'
23	174°08.9'	N 23°23.3'	17°38.4'	S 22°12.3'	343°59.4'	S 22°00.9'	144°51.3'	N 20°08.2'

Wed Jul 10, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.1'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	189°08.0'	N 23°23.2'	32°41.1'	S 22°12.3'	359°02.1'	S 22°00.9'	159°52.2'	N 20°07.8'
1	204°07.1'	N 23°23.1'	47°43.8'	S 22°12.3'	14°04.8'	S 22°00.9'	174°53.0'	N 20°07.4'
2	219°06.3'	N 23°23.0'	62°46.5'	S 22°12.3'	29°07.4'	S 22°01.0'	189°53.8'	N 20°07.0'
3	234°05.4'	N 23°22.9'	77°49.2'	S 22°12.3'	44°10.1'	S 22°01.0'	204°54.6'	N 20°06.6'
4	249°04.5'	N 23°22.9'	92°51.9'	S 22°12.2'	59°12.7'	S 22°01.0'	219°55.5'	N 20°06.3'
5	264°03.6'	N 23°22.8'	107°54.6'	S 22°12.2'	74°15.4'	S 22°01.1'	234°56.3'	N 20°05.9'
6	279°02.8'	N 23°22.7'	122°57.3'	S 22°12.2'	89°18.1'	S 22°01.1'	249°57.1'	N 20°05.5'
7	294°01.9'	N 23°22.6'	138°00.1'	S 22°12.2'	104°20.7'	S 22°01.1'	264°57.9'	N 20°05.1'
8	309°01.0'	N 23°22.5'	153°02.8'	S 22°12.2'	119°23.4'	S 22°01.1'	279°58.8'	N 20°04.7'
9	324°00.1'	N 23°22.4'	168°05.5'	S 22°12.2'	134°26.0'	S 22°01.2'	294°59.6'	N 20°04.3'
10	338°59.3'	N 23°22.3'	183°08.2'	S 22°12.1'	149°28.7'	S 22°01.2'	310°00.4'	N 20°03.9'
11	353°58.4'	N 23°22.2'	198°10.9'	S 22°12.1'	164°31.4'	S 22°01.2'	325°01.2'	N 20°03.5'
12	8°57.5'	N 23°22.1'	213°13.6'	S 22°12.1'	179°34.0'	S 22°01.2'	340°02.1'	N 20°03.1'
13	23°56.6'	N 23°22.0'	228°16.3'	S 22°12.1'	194°36.7'	S 22°01.3'	355°02.9'	N 20°02.7'
14	38°55.8'	N 23°21.9'	243°19.0'	S 22°12.1'	209°39.3'	S 22°01.3'	10°03.7'	N 20°02.4'
15	53°54.9'	N 23°21.8'	258°21.7'	S 22°12.1'	224°42.0'	S 22°01.3'	25°04.5'	N 20°02.0'
16	68°54.0'	N 23°21.7'	273°24.4'	S 22°12.0'	239°44.7'	S 22°01.4'	40°05.4'	N 20°01.6'
17	83°53.1'	N 23°21.6'	288°27.2'	S 22°12.0'	254°47.3'	S 22°01.4'	55°06.2'	N 20°01.2'
18	98°52.3'	N 23°21.5'	303°29.9'	S 22°12.0'	269°50.0'	S 22°01.4'	70°07.0'	N 20°00.8'
19	113°51.4'	N 23°21.4'	318°32.6'	S 22°12.0'	284°52.6'	S 22°01.4'	85°07.9'	N 20°00.4'
20	128°50.5'	N 23°21.3'	333°35.3'	S 22°12.0'	299°55.3'	S 22°01.5'	100°08.7'	N 20°00.0'
21	143°49.7'	N 23°21.2'	348°38.0'	S 22°12.0'	314°58.0'	S 22°01.5'	115°09.5'	N 19°59.6'
22	158°48.8'	N 23°21.1'	3°40.7'	S 22°11.9'	330°00.6'	S 22°01.5'	130°10.3'	N 19°59.2'
23	173°47.9'	N 23°21.0'	18°43.4'	S 22°11.9'	345°03.3'	S 22°01.5'	145°11.2'	N 19°58.8'

Thu Jul 11, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.1'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	188°47.0'	N 23°20.9'	33°46.1'	S 22°11.9'	0°06.0'	S 22°01.6'	160°12.0'	N 19°58.4'
1	203°46.2'	N 23°20.8'	48°48.8'	S 22°11.9'	15°08.6'	S 22°01.6'	175°12.8'	N 19°58.0'
2	218°45.3'	N 23°20.7'	63°51.5'	S 22°11.9'	30°11.3'	S 22°01.6'	190°13.6'	N 19°57.6'
3	233°44.4'	N 23°20.6'	78°54.2'	S 22°11.9'	45°13.9'	S 22°01.6'	205°14.5'	N 19°57.2'
4	248°43.5'	N 23°20.5'	93°56.9'	S 22°11.8'	60°16.6'	S 22°01.7'	220°15.3'	N 19°56.9'
5	263°42.7'	N 23°20.4'	108°59.6'	S 22°11.8'	75°19.3'	S 22°01.7'	235°16.1'	N 19°56.5'
6	278°41.8'	N 23°20.2'	124°02.3'	S 22°11.8'	90°21.9'	S 22°01.7'	250°17.0'	N 19°56.1'
7	293°40.9'	N 23°20.1'	139°05.0'	S 22°11.8'	105°24.6'	S 22°01.8'	265°17.8'	N 19°55.7'
8	308°40.0'	N 23°20.0'	154°07.8'	S 22°11.8'	120°27.2'	S 22°01.8'	280°18.6'	N 19°55.3'
9	323°39.2'	N 23°19.9'	169°10.5'	S 22°11.8'	135°29.9'	S 22°01.8'	295°19.4'	N 19°54.9'
10	338°38.3'	N 23°19.8'	184°13.2'	S 22°11.8'	150°32.6'	S 22°01.8'	310°20.3'	N 19°54.5'
11	353°37.4'	N 23°19.6'	199°15.9'	S 22°11.7'	165°35.2'	S 22°01.9'	325°21.1'	N 19°54.1'
12	8°36.6'	N 23°19.5'	214°18.6'	S 22°11.7'	180°37.9'	S 22°01.9'	340°21.9'	N 19°53.7'
13	23°35.7'	N 23°19.4'	229°21.3'	S 22°11.7'	195°40.5'	S 22°01.9'	355°22.8'	N 19°53.3'
14	38°34.8'	N 23°19.3'	244°24.0'	S 22°11.7'	210°43.2'	S 22°01.9'	10°23.6'	N 19°52.9'
15	53°33.9'	N 23°19.1'	259°26.7'	S 22°11.7'	225°45.9'	S 22°02.0'	25°24.4'	N 19°52.5'
16	68°33.1'	N 23°19.0'	274°29.4'	S 22°11.7'	240°48.5'	S 22°02.0'	40°25.2'	N 19°52.1'
17	83°32.2'	N 23°18.9'	289°32.1'	S 22°11.6'	255°51.2'	S 22°02.0'	55°26.1'	N 19°51.7'
18	98°31.3'	N 23°18.8'	304°34.8'	S 22°11.6'	270°53.8'	S 22°02.1'	70°26.9'	N 19°51.3'
19	113°30.4'	N 23°18.6'	319°37.5'	S 22°11.6'	285°56.5'	S 22°02.1'	85°27.7'	N 19°50.9'
20	128°29.6'	N 23°18.5'	334°40.2'	S 22°11.6'	300°59.2'	S 22°02.1'	100°28.6'	N 19°50.5'
21	143°28.7'	N 23°18.4'	349°42.9'	S 22°11.6'	316°01.8'	S 22°02.1'	115°29.4'	N 19°50.1'
22	158°27.8'	N 23°18.2'	4°45.6'	S 22°11.6'	331°04.5'	S 22°02.2'	130°30.2'	N 19°49.7'
23	173°27.0'	N 23°18.1'	19°48.3'	S 22°11.6'	346°07.1'	S 22°02.2'	145°31.1'	N 19°49.3'

Fri Jul 12, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.2'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	188°26.1'	N 23°18.0'	34°51.0'	S 22°11.5'	1°09.8'	S 22°02.2'	160°31.9'	N 19°48.9'
1	203°25.2'	N 23°17.8'	49°53.7'	S 22°11.5'	16°12.5'	S 22°02.2'	175°32.7'	N 19°48.5'
2	218°24.3'	N 23°17.7'	64°56.4'	S 22°11.5'	31°15.1'	S 22°02.3'	190°33.6'	N 19°48.1'
3	233°23.5'	N 23°17.5'	79°59.1'	S 22°11.5'	46°17.8'	S 22°02.3'	205°34.4'	N 19°47.7'
4	248°22.6'	N 23°17.4'	95°01.8'	S 22°11.5'	61°20.4'	S 22°02.3'	220°35.2'	N 19°47.3'
5	263°21.7'	N 23°17.2'	110°04.5'	S 22°11.5'	76°23.1'	S 22°02.3'	235°36.1'	N 19°46.9'
6	278°20.9'	N 23°17.1'	125°07.2'	S 22°11.4'	91°25.8'	S 22°02.4'	250°36.9'	N 19°46.5'
7	293°20.0'	N 23°17.0'	140°09.9'	S 22°11.4'	106°28.4'	S 22°02.4'	265°37.7'	N 19°46.1'
8	308°19.1'	N 23°16.8'	155°12.6'	S 22°11.4'	121°31.1'	S 22°02.4'	280°38.5'	N 19°45.7'
9	323°18.2'	N 23°16.7'	170°15.3'	S 22°11.4'	136°33.8'	S 22°02.5'	295°39.4'	N 19°45.3'
10	338°17.4'	N 23°16.5'	185°18.0'	S 22°11.4'	151°36.4'	S 22°02.5'	310°40.2'	N 19°44.9'
11	353°16.5'	N 23°16.4'	200°20.7'	S 22°11.4'	166°39.1'	S 22°02.5'	325°41.0'	N 19°44.5'
12	8°15.6'	N 23°16.2'	215°23.4'	S 22°11.4'	181°41.7'	S 22°02.5'	340°41.9'	N 19°44.1'
13	23°14.8'	N 23°16.1'	230°26.1'	S 22°11.3'	196°44.4'	S 22°02.6'	355°42.7'	N 19°43.7'
14	38°13.9'	N 23°15.9'	245°28.8'	S 22°11.3'	211°47.1'	S 22°02.6'	10°43.5'	N 19°43.3'
15	53°13.0'	N 23°15.8'	260°31.5'	S 22°11.3'	226°49.7'	S 22°02.6'	25°44.4'	N 19°42.9'
16	68°12.1'	N 23°15.6'	275°34.2'	S 22°11.3'	241°52.4'	S 22°02.6'	40°45.2'	N 19°42.5'
17	83°11.3'	N 23°15.4'	290°36.9'	S 22°11.3'	256°55.0'	S 22°02.7'	55°46.0'	N 19°42.1'
18	98°10.4'	N 23°15.3'	305°39.6'	S 22°11.3'	271°57.7'	S 22°02.7'	70°46.9'	N 19°41.7'
19	113°09.5'	N 23°15.1'	320°42.3'	S 22°11.2'	287°00.4'	S 22°02.7'	85°47.7'	N 19°41.3'
20	128°08.7'	N 23°15.0'	335°44.9'	S 22°11.2'	302°03.0'	S 22°02.7'	100°48.5'	N 19°40.9'
21	143°07.8'	N 23°14.8'	350°47.6'	S 22°11.2'	317°05.7'	S 22°02.8'	115°49.4'	N 19°40.5'
22	158°06.9'	N 23°14.6'	5°50.3'	S 22°11.2'	332°08.3'	S 22°02.8'	130°50.2'	N 19°40.1'
23	173°06.1'	N 23°14.5'	20°53.0'	S 22°11.2'	347°11.0'	S 22°02.8'	145°51.0'	N 19°39.7'

Sat Jul 13, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.2'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	188°05.2'	N 23°14.3'	35°55.7'	S 22°11.2'	2°13.7'	S 22°02.9'	160°51.9'	N 19°39.3'
1	203°04.3'	N 23°14.1'	50°58.4'	S 22°11.2'	17°16.3'	S 22°02.9'	175°52.7'	N 19°38.9'
2	218°03.4'	N 23°14.0'	66°01.1'	S 22°11.1'	32°19.0'	S 22°02.9'	190°53.6'	N 19°38.4'
3	233°02.6'	N 23°13.8'	81°03.8'	S 22°11.1'	47°21.6'	S 22°02.9'	205°54.4'	N 19°38.0'
4	248°01.7'	N 23°13.6'	96°06.5'	S 22°11.1'	62°24.3'	S 22°03.0'	220°55.2'	N 19°37.6'
5	263°00.8'	N 23°13.5'	111°09.2'	S 22°11.1'	77°27.0'	S 22°03.0'	235°56.1'	N 19°37.2'
6	277°60.0'	N 23°13.3'	126°11.9'	S 22°11.1'	92°29.6'	S 22°03.0'	250°56.9'	N 19°36.8'
7	292°59.1'	N 23°13.1'	141°14.6'	S 22°11.1'	107°32.3'	S 22°03.0'	265°57.7'	N 19°36.4'
8	307°58.2'	N 23°12.9'	156°17.3'	S 22°11.1'	122°34.9'	S 22°03.1'	280°58.6'	N 19°36.0'
9	322°57.4'	N 23°12.8'	171°20.0'	S 22°11.0'	137°37.6'	S 22°03.1'	295°59.4'	N 19°35.6'
10	337°56.5'	N 23°12.6'	186°22.7'	S 22°11.0'	152°40.3'	S 22°03.1'	311°00.2'	N 19°35.2'
11	352°55.6'	N 23°12.4'	201°25.3'	S 22°11.0'	167°42.9'	S 22°03.1'	326°01.1'	N 19°34.8'
12	7°54.8'	N 23°12.2'	216°28.0'	S 22°11.0'	182°45.6'	S 22°03.2'	341°01.9'	N 19°34.4'
13	22°53.9'	N 23°12.0'	231°30.7'	S 22°11.0'	197°48.2'	S 22°03.2'	356°02.7'	N 19°34.0'
14	37°53.0'	N 23°11.9'	246°33.4'	S 22°11.0'	212°50.9'	S 22°03.2'	11°03.6'	N 19°33.6'
15	52°52.2'	N 23°11.7'	261°36.1'	S 22°11.0'	227°53.6'	S 22°03.3'	26°04.4'	N 19°33.2'
16	67°51.3'	N 23°11.5'	276°38.8'	S 22°10.9'	242°56.2'	S 22°03.3'	41°05.3'	N 19°32.7'
17	82°50.4'	N 23°11.3'	291°41.5'	S 22°10.9'	257°58.9'	S 22°03.3'	56°06.1'	N 19°32.3'
18	97°49.6'	N 23°11.1'	306°44.2'	S 22°10.9'	273°01.5'	S 22°03.3'	71°06.9'	N 19°31.9'
19	112°48.7'	N 23°10.9'	321°46.9'	S 22°10.9'	288°04.2'	S 22°03.4'	86°07.8'	N 19°31.5'
20	127°47.8'	N 23°10.7'	336°49.6'	S 22°10.9'	303°06.9'	S 22°03.4'	101°08.6'	N 19°31.1'
21	142°47.0'	N 23°10.5'	351°52.2'	S 22°10.9'	318°09.5'	S 22°03.4'	116°09.4'	N 19°30.7'
22	157°46.1'	N 23°10.4'	6°54.9'	S 22°10.9'	333°12.2'	S 22°03.4'	131°10.3'	N 19°30.3'
23	172°45.2'	N 23°10.2'	21°57.6'	S 22°10.8'	348°14.8'	S 22°03.5'	146°11.1'	N 19°29.9'

Sun Jul 14, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.2'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	187°44.4'	N 23°10.0'	37°00.3'	S 22°10.8'	3°17.5'	S 22°03.5'	161°12.0'	N 19°29.5'
1	202°43.5'	N 23°09.8'	52°03.0'	S 22°10.8'	18°20.2'	S 22°03.5'	176°12.8'	N 19°29.1'
2	217°42.6'	N 23°09.6'	67°05.7'	S 22°10.8'	33°22.8'	S 22°03.5'	191°13.6'	N 19°28.6'
3	232°41.8'	N 23°09.4'	82°08.4'	S 22°10.8'	48°25.5'	S 22°03.6'	206°14.5'	N 19°28.2'
4	247°40.9'	N 23°09.2'	97°11.1'	S 22°10.8'	63°28.1'	S 22°03.6'	221°15.3'	N 19°27.8'
5	262°40.0'	N 23°09.0'	112°13.7'	S 22°10.8'	78°30.8'	S 22°03.6'	236°16.1'	N 19°27.4'
6	277°39.2'	N 23°08.8'	127°16.4'	S 22°10.7'	93°33.5'	S 22°03.7'	251°17.0'	N 19°27.0'
7	292°38.3'	N 23°08.6'	142°19.1'	S 22°10.7'	108°36.1'	S 22°03.7'	266°17.8'	N 19°26.6'
8	307°37.4'	N 23°08.4'	157°21.8'	S 22°10.7'	123°38.8'	S 22°03.7'	281°18.7'	N 19°26.2'
9	322°36.6'	N 23°08.2'	172°24.5'	S 22°10.7'	138°41.4'	S 22°03.7'	296°19.5'	N 19°25.8'
10	337°35.7'	N 23°08.0'	187°27.2'	S 22°10.7'	153°44.1'	S 22°03.8'	311°20.3'	N 19°25.4'
11	352°34.8'	N 23°07.8'	202°29.8'	S 22°10.7'	168°46.8'	S 22°03.8'	326°21.2'	N 19°24.9'
12	7°34.0'	N 23°07.5'	217°32.5'	S 22°10.7'	183°49.4'	S 22°03.8'	341°22.0'	N 19°24.5'
13	22°33.1'	N 23°07.3'	232°35.2'	S 22°10.6'	198°52.1'	S 22°03.8'	356°22.9'	N 19°24.1'
14	37°32.2'	N 23°07.1'	247°37.9'	S 22°10.6'	213°54.7'	S 22°03.9'	11°23.7'	N 19°23.7'
15	52°31.4'	N 23°06.9'	262°40.6'	S 22°10.6'	228°57.4'	S 22°03.9'	26°24.5'	N 19°23.3'
16	67°30.5'	N 23°06.7'	277°43.3'	S 22°10.6'	244°00.1'	S 22°03.9'	41°25.4'	N 19°22.9'
17	82°29.6'	N 23°06.5'	292°46.0'	S 22°10.6'	259°02.7'	S 22°03.9'	56°26.2'	N 19°22.5'
18	97°28.8'	N 23°06.3'	307°48.6'	S 22°10.6'	274°05.4'	S 22°04.0'	71°27.1'	N 19°22.0'
19	112°27.9'	N 23°06.0'	322°51.3'	S 22°10.6'	289°08.0'	S 22°04.0'	86°27.9'	N 19°21.6'
20	127°27.1'	N 23°05.8'	337°54.0'	S 22°10.5'	304°10.7'	S 22°04.0'	101°28.7'	N 19°21.2'
21	142°26.2'	N 23°05.6'	352°56.7'	S 22°10.5'	319°13.4'	S 22°04.0'	116°29.6'	N 19°20.8'
22	157°25.3'	N 23°05.4'	7°59.4'	S 22°10.5'	334°16.0'	S 22°04.1'	131°30.4'	N 19°20.4'
23	172°24.5'	N 23°05.2'	23°02.0'	S 22°10.5'	349°18.7'	S 22°04.1'	146°31.3'	N 19°20.0'

Mon Jul 15, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.2'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	187°23.6'	N 23°04.9'	38°04.7'	S 22°10.5'	4°21.3'	S 22°04.1'	161°32.1'	N 19°19.5'
1	202°22.7'	N 23°04.7'	53°07.4'	S 22°10.5'	19°24.0'	S 22°04.2'	176°32.9'	N 19°19.1'
2	217°21.9'	N 23°04.5'	68°10.1'	S 22°10.5'	34°26.7'	S 22°04.2'	191°33.8'	N 19°18.7'
3	232°21.0'	N 23°04.3'	83°12.8'	S 22°10.4'	49°29.3'	S 22°04.2'	206°34.6'	N 19°18.3'
4	247°20.2'	N 23°04.0'	98°15.4'	S 22°10.4'	64°32.0'	S 22°04.2'	221°35.5'	N 19°17.9'
5	262°19.3'	N 23°03.8'	113°18.1'	S 22°10.4'	79°34.6'	S 22°04.3'	236°36.3'	N 19°17.5'
6	277°18.4'	N 23°03.6'	128°20.8'	S 22°10.4'	94°37.3'	S 22°04.3'	251°37.2'	N 19°17.0'
7	292°17.6'	N 23°03.4'	143°23.5'	S 22°10.4'	109°40.0'	S 22°04.3'	266°38.0'	N 19°16.6'
8	307°16.7'	N 23°03.1'	158°26.2'	S 22°10.4'	124°42.6'	S 22°04.3'	281°38.8'	N 19°16.2'
9	322°15.8'	N 23°02.9'	173°28.8'	S 22°10.4'	139°45.3'	S 22°04.4'	296°39.7'	N 19°15.8'
10	337°15.0'	N 23°02.7'	188°31.5'	S 22°10.4'	154°47.9'	S 22°04.4'	311°40.5'	N 19°15.4'
11	352°14.1'	N 23°02.4'	203°34.2'	S 22°10.3'	169°50.6'	S 22°04.4'	326°41.4'	N 19°15.0'
12	7°13.3'	N 23°02.2'	218°36.9'	S 22°10.3'	184°53.2'	S 22°04.4'	341°42.2'	N 19°14.5'
13	22°12.4'	N 23°01.9'	233°39.5'	S 22°10.3'	199°55.9'	S 22°04.5'	356°43.1'	N 19°14.1'
14	37°11.5'	N 23°01.7'	248°42.2'	S 22°10.3'	214°58.6'	S 22°04.5'	11°43.9'	N 19°13.7'
15	52°10.7'	N 23°01.5'	263°44.9'	S 22°10.3'	230°01.2'	S 22°04.5'	26°44.7'	N 19°13.3'
16	67°09.8'	N 23°01.2'	278°47.6'	S 22°10.3'	245°03.9'	S 22°04.6'	41°45.6'	N 19°12.9'
17	82°09.0'	N 23°01.0'	293°50.3'	S 22°10.3'	260°06.5'	S 22°04.6'	56°46.4'	N 19°12.4'
18	97°08.1'	N 23°00.7'	308°52.9'	S 22°10.2'	275°09.2'	S 22°04.6'	71°47.3'	N 19°12.0'
19	112°07.2'	N 23°00.5'	323°55.6'	S 22°10.2'	290°11.9'	S 22°04.6'	86°48.1'	N 19°11.6'
20	127°06.4'	N 23°00.2'	338°58.3'	S 22°10.2'	305°14.5'	S 22°04.7'	101°49.0'	N 19°11.2'
21	142°05.5'	N 22°60.0'	354°01.0'	S 22°10.2'	320°17.2'	S 22°04.7'	116°49.8'	N 19°10.8'
22	157°04.7'	N 22°59.7'	9°03.6'	S 22°10.2'	335°19.8'	S 22°04.7'	131°50.7'	N 19°10.3'
23	172°03.8'	N 22°59.5'	24°06.3'	S 22°10.2'	350°22.5'	S 22°04.7'	146°51.5'	N 19°09.9'

Tue Jul 16, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.3'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.8' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	187°02.9'	N 22°59.2'	39°09.0'	S 22°10.2'	5°25.2'	S 22°04.8'	161°52.3'	N 19°09.5'
1	202°02.1'	N 22°59.0'	54°11.7'	S 22°10.2'	20°27.8'	S 22°04.8'	176°53.2'	N 19°09.1'
2	217°01.2'	N 22°58.7'	69°14.3'	S 22°10.1'	35°30.5'	S 22°04.8'	191°54.0'	N 19°08.7'
3	232°00.4'	N 22°58.5'	84°17.0'	S 22°10.1'	50°33.1'	S 22°04.8'	206°54.9'	N 19°08.2'
4	246°59.5'	N 22°58.2'	99°19.7'	S 22°10.1'	65°35.8'	S 22°04.9'	221°55.7'	N 19°07.8'
5	261°58.6'	N 22°58.0'	114°22.3'	S 22°10.1'	80°38.5'	S 22°04.9'	236°56.6'	N 19°07.4'
6	276°57.8'	N 22°57.7'	129°25.0'	S 22°10.1'	95°41.1'	S 22°04.9'	251°57.4'	N 19°07.0'
7	291°56.9'	N 22°57.5'	144°27.7'	S 22°10.1'	110°43.8'	S 22°04.9'	266°58.3'	N 19°06.5'
8	306°56.1'	N 22°57.2'	159°30.4'	S 22°10.1'	125°46.4'	S 22°05.0'	281°59.1'	N 19°06.1'
9	321°55.2'	N 22°56.9'	174°33.0'	S 22°10.1'	140°49.1'	S 22°05.0'	296°60.0'	N 19°05.7'
10	336°54.4'	N 22°56.7'	189°35.7'	S 22°10.0'	155°51.7'	S 22°05.0'	312°00.8'	N 19°05.3'
11	351°53.5'	N 22°56.4'	204°38.4'	S 22°10.0'	170°54.4'	S 22°05.1'	327°01.6'	N 19°04.8'
12	6°52.6'	N 22°56.1'	219°41.0'	S 22°10.0'	185°57.1'	S 22°05.1'	342°02.5'	N 19°04.4'
13	21°51.8'	N 22°55.9'	234°43.7'	S 22°10.0'	200°59.7'	S 22°05.1'	357°03.3'	N 19°04.0'
14	36°50.9'	N 22°55.6'	249°46.4'	S 22°10.0'	216°02.4'	S 22°05.1'	12°04.2'	N 19°03.6'
15	51°50.1'	N 22°55.3'	264°49.1'	S 22°10.0'	231°05.0'	S 22°05.2'	27°05.0'	N 19°03.1'
16	66°49.2'	N 22°55.1'	279°51.7'	S 22°10.0'	246°07.7'	S 22°05.2'	42°05.9'	N 19°02.7'
17	81°48.4'	N 22°54.8'	294°54.4'	S 22°10.0'	261°10.4'	S 22°05.2'	57°06.7'	N 19°02.3'
18	96°47.5'	N 22°54.5'	309°57.1'	S 22°09.9'	276°13.0'	S 22°05.2'	72°07.6'	N 19°01.9'
19	111°46.6'	N 22°54.2'	324°59.7'	S 22°09.9'	291°15.7'	S 22°05.3'	87°08.4'	N 19°01.4'
20	126°45.8'	N 22°54.0'	340°02.4'	S 22°09.9'	306°18.3'	S 22°05.3'	102°09.3'	N 19°01.0'
21	141°44.9'	N 22°53.7'	355°05.1'	S 22°09.9'	321°21.0'	S 22°05.3'	117°10.1'	N 19°00.6'
22	156°44.1'	N 22°53.4'	10°07.7'	S 22°09.9'	336°23.6'	S 22°05.3'	132°11.0'	N 19°00.2'
23	171°43.2'	N 22°53.1'	25°10.4'	S 22°09.9'	351°26.3'	S 22°05.4'	147°11.8'	N 18°59.7'



Wed Jul 17, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.9' d = 0.3'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	186°42.4'	N 22°52.9'	40°13.1'	S 22°09.9'	6°29.0'	S 22°05.4'	162°12.7'	N 18°59.3'
1	201°41.5'	N 22°52.6'	55°15.7'	S 22°09.9'	21°31.6'	S 22°05.4'	177°13.5'	N 18°58.9'
2	216°40.7'	N 22°52.3'	70°18.4'	S 22°09.8'	36°34.3'	S 22°05.4'	192°14.4'	N 18°58.5'
3	231°39.8'	N 22°52.0'	85°21.1'	S 22°09.8'	51°36.9'	S 22°05.5'	207°15.2'	N 18°58.0'
4	246°39.0'	N 22°51.7'	100°23.7'	S 22°09.8'	66°39.6'	S 22°05.5'	222°16.1'	N 18°57.6'
5	261°38.1'	N 22°51.4'	115°26.4'	S 22°09.8'	81°42.3'	S 22°05.5'	237°16.9'	N 18°57.2'
6	276°37.3'	N 22°51.2'	130°29.1'	S 22°09.8'	96°44.9'	S 22°05.5'	252°17.8'	N 18°56.7'
7	291°36.4'	N 22°50.9'	145°31.7'	S 22°09.8'	111°47.6'	S 22°05.6'	267°18.6'	N 18°56.3'
8	306°35.5'	N 22°50.6'	160°34.4'	S 22°09.8'	126°50.2'	S 22°05.6'	282°19.5'	N 18°55.9'
9	321°34.7'	N 22°50.3'	175°37.1'	S 22°09.8'	141°52.9'	S 22°05.6'	297°20.3'	N 18°55.5'
10	336°33.8'	N 22°50.0'	190°39.7'	S 22°09.7'	156°55.5'	S 22°05.7'	312°21.2'	N 18°55.0'
11	351°33.0'	N 22°49.7'	205°42.4'	S 22°09.7'	171°58.2'	S 22°05.7'	327°22.0'	N 18°54.6'
12	6°32.1'	N 22°49.4'	220°45.1'	S 22°09.7'	187°00.9'	S 22°05.7'	342°22.9'	N 18°54.2'
13	21°31.3'	N 22°49.1'	235°47.7'	S 22°09.7'	202°03.5'	S 22°05.7'	357°23.7'	N 18°53.7'
14	36°30.4'	N 22°48.8'	250°50.4'	S 22°09.7'	217°06.2'	S 22°05.8'	12°24.6'	N 18°53.3'
15	51°29.6'	N 22°48.5'	265°53.0'	S 22°09.7'	232°08.8'	S 22°05.8'	27°25.4'	N 18°52.9'
16	66°28.7'	N 22°48.2'	280°55.7'	S 22°09.7'	247°11.5'	S 22°05.8'	42°26.3'	N 18°52.5'
17	81°27.9'	N 22°47.9'	295°58.4'	S 22°09.7'	262°14.2'	S 22°05.8'	57°27.1'	N 18°52.0'
18	96°27.0'	N 22°47.6'	311°01.0'	S 22°09.6'	277°16.8'	S 22°05.9'	72°28.0'	N 18°51.6'
19	111°26.2'	N 22°47.3'	326°03.7'	S 22°09.6'	292°19.5'	S 22°05.9'	87°28.8'	N 18°51.2'
20	126°25.3'	N 22°47.0'	341°06.4'	S 22°09.6'	307°22.1'	S 22°05.9'	102°29.7'	N 18°50.7'
21	141°24.5'	N 22°46.7'	356°09.0'	S 22°09.6'	322°24.8'	S 22°05.9'	117°30.5'	N 18°50.3'
22	156°23.6'	N 22°46.4'	11°11.7'	S 22°09.6'	337°27.4'	S 22°06.0'	132°31.4'	N 18°49.9'
23	171°22.8'	N 22°46.1'	26°14.3'	S 22°09.6'	352°30.1'	S 22°06.0'	147°32.2'	N 18°49.4'

Thu Jul 18, 2019 UTC

UTC	Venus -3.8		Jupiter -2.4		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.3'		v = 2.7' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	186°21.9'	N 22°45.8'	41°17.0'	S 22°09.6'	7°32.8'	S 22°06.0'	162°33.1'	N 18°49.0'
1	201°21.1'	N 22°45.5'	56°19.7'	S 22°09.6'	22°35.4'	S 22°06.0'	177°33.9'	N 18°48.6'
2	216°20.2'	N 22°45.2'	71°22.3'	S 22°09.5'	37°38.1'	S 22°06.1'	192°34.8'	N 18°48.1'
3	231°19.4'	N 22°44.9'	86°25.0'	S 22°09.5'	52°40.7'	S 22°06.1'	207°35.6'	N 18°47.7'
4	246°18.5'	N 22°44.6'	101°27.6'	S 22°09.5'	67°43.4'	S 22°06.1'	222°36.5'	N 18°47.3'
5	261°17.7'	N 22°44.3'	116°30.3'	S 22°09.5'	82°46.0'	S 22°06.1'	237°37.3'	N 18°46.8'
6	276°16.8'	N 22°43.9'	131°33.0'	S 22°09.5'	97°48.7'	S 22°06.2'	252°38.2'	N 18°46.4'
7	291°16.0'	N 22°43.6'	146°35.6'	S 22°09.5'	112°51.4'	S 22°06.2'	267°39.0'	N 18°46.0'
8	306°15.1'	N 22°43.3'	161°38.3'	S 22°09.5'	127°54.0'	S 22°06.2'	282°39.9'	N 18°45.5'
9	321°14.3'	N 22°43.0'	176°40.9'	S 22°09.5'	142°56.7'	S 22°06.3'	297°40.7'	N 18°45.1'
10	336°13.4'	N 22°42.7'	191°43.6'	S 22°09.5'	157°59.3'	S 22°06.3'	312°41.6'	N 18°44.7'
11	351°12.6'	N 22°42.4'	206°46.2'	S 22°09.4'	173°02.0'	S 22°06.3'	327°42.4'	N 18°44.2'
12	6°11.7'	N 22°42.0'	221°48.9'	S 22°09.4'	188°04.6'	S 22°06.3'	342°43.3'	N 18°43.8'
13	21°10.9'	N 22°41.7'	236°51.6'	S 22°09.4'	203°07.3'	S 22°06.4'	357°44.1'	N 18°43.4'
14	36°10.1'	N 22°41.4'	251°54.2'	S 22°09.4'	218°10.0'	S 22°06.4'	12°45.0'	N 18°42.9'
15	51°09.2'	N 22°41.1'	266°56.9'	S 22°09.4'	233°12.6'	S 22°06.4'	27°45.9'	N 18°42.5'
16	66°08.4'	N 22°40.7'	281°59.5'	S 22°09.4'	248°15.3'	S 22°06.4'	42°46.7'	N 18°42.1'
17	81°07.5'	N 22°40.4'	297°02.2'	S 22°09.4'	263°17.9'	S 22°06.5'	57°47.6'	N 18°41.6'
18	96°06.7'	N 22°40.1'	312°04.8'	S 22°09.4'	278°20.6'	S 22°06.5'	72°48.4'	N 18°41.2'
19	111°05.8'	N 22°39.7'	327°07.5'	S 22°09.4'	293°23.2'	S 22°06.5'	87°49.3'	N 18°40.8'
20	126°05.0'	N 22°39.4'	342°10.1'	S 22°09.3'	308°25.9'	S 22°06.5'	102°50.1'	N 18°40.3'
21	141°04.1'	N 22°39.1'	357°12.8'	S 22°09.3'	323°28.6'	S 22°06.6'	117°51.0'	N 18°39.9'
22	156°03.3'	N 22°38.8'	12°15.4'	S 22°09.3'	338°31.2'	S 22°06.6'	132°51.8'	N 18°39.4'
23	171°02.4'	N 22°38.4'	27°18.1'	S 22°09.3'	353°33.9'	S 22°06.6'	147°52.7'	N 18°39.0'

Fri Jul 19, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.4'		v = 2.6' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	186°01.6'	N 22°38.1'	42°20.8'	S 22°09.3'	8°36.5'	S 22°06.6'	162°53.5'	N 18°38.6'
1	201°00.8'	N 22°37.7'	57°23.4'	S 22°09.3'	23°39.2'	S 22°06.7'	177°54.4'	N 18°38.1'
2	215°59.9'	N 22°37.4'	72°26.1'	S 22°09.3'	38°41.8'	S 22°06.7'	192°55.3'	N 18°37.7'
3	230°59.1'	N 22°37.1'	87°28.7'	S 22°09.3'	53°44.5'	S 22°06.7'	207°56.1'	N 18°37.3'
4	245°58.2'	N 22°36.7'	102°31.4'	S 22°09.3'	68°47.2'	S 22°06.7'	222°57.0'	N 18°36.8'
5	260°57.4'	N 22°36.4'	117°34.0'	S 22°09.2'	83°49.8'	S 22°06.8'	237°57.8'	N 18°36.4'
6	275°56.5'	N 22°36.0'	132°36.7'	S 22°09.2'	98°52.5'	S 22°06.8'	252°58.7'	N 18°35.9'
7	290°55.7'	N 22°35.7'	147°39.3'	S 22°09.2'	113°55.1'	S 22°06.8'	267°59.5'	N 18°35.5'
8	305°54.9'	N 22°35.4'	162°42.0'	S 22°09.2'	128°57.8'	S 22°06.8'	283°00.4'	N 18°35.1'
9	320°54.0'	N 22°35.0'	177°44.6'	S 22°09.2'	144°00.4'	S 22°06.9'	298°01.2'	N 18°34.6'
10	335°53.2'	N 22°34.7'	192°47.3'	S 22°09.2'	159°03.1'	S 22°06.9'	313°02.1'	N 18°34.2'
11	350°52.3'	N 22°34.3'	207°49.9'	S 22°09.2'	174°05.7'	S 22°06.9'	328°03.0'	N 18°33.7'
12	5°51.5'	N 22°34.0'	222°52.6'	S 22°09.2'	189°08.4'	S 22°07.0'	343°03.8'	N 18°33.3'
13	20°50.7'	N 22°33.6'	237°55.2'	S 22°09.2'	204°11.1'	S 22°07.0'	358°04.7'	N 18°32.9'
14	35°49.8'	N 22°33.3'	252°57.9'	S 22°09.1'	219°13.7'	S 22°07.0'	13°05.5'	N 18°32.4'
15	50°49.0'	N 22°32.9'	268°00.5'	S 22°09.1'	234°16.4'	S 22°07.0'	28°06.4'	N 18°32.0'
16	65°48.1'	N 22°32.6'	283°03.2'	S 22°09.1'	249°19.0'	S 22°07.1'	43°07.2'	N 18°31.5'
17	80°47.3'	N 22°32.2'	298°05.8'	S 22°09.1'	264°21.7'	S 22°07.1'	58°08.1'	N 18°31.1'
18	95°46.4'	N 22°31.9'	313°08.5'	S 22°09.1'	279°24.3'	S 22°07.1'	73°09.0'	N 18°30.7'
19	110°45.6'	N 22°31.5'	328°11.1'	S 22°09.1'	294°27.0'	S 22°07.1'	88°09.8'	N 18°30.2'
20	125°44.8'	N 22°31.1'	343°13.8'	S 22°09.1'	309°29.7'	S 22°07.2'	103°10.7'	N 18°29.8'
21	140°43.9'	N 22°30.8'	358°16.4'	S 22°09.1'	324°32.3'	S 22°07.2'	118°11.5'	N 18°29.3'
22	155°43.1'	N 22°30.4'	13°19.0'	S 22°09.1'	339°35.0'	S 22°07.2'	133°12.4'	N 18°28.9'
23	170°42.3'	N 22°30.1'	28°21.7'	S 22°09.0'	354°37.6'	S 22°07.2'	148°13.2'	N 18°28.5'

Sat Jul 20, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.4'		v = 2.6' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.4'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	185°41.4'	N 22°29.7'	43°24.3'	S 22°09.0'	9°40.3'	S 22°07.3'	163°14.1'	N 18°28.0'
1	200°40.6'	N 22°29.3'	58°27.0'	S 22°09.0'	24°42.9'	S 22°07.3'	178°15.0'	N 18°27.6'
2	215°39.7'	N 22°29.0'	73°29.6'	S 22°09.0'	39°45.6'	S 22°07.3'	193°15.8'	N 18°27.1'
3	230°38.9'	N 22°28.6'	88°32.3'	S 22°09.0'	54°48.2'	S 22°07.3'	208°16.7'	N 18°26.7'
4	245°38.1'	N 22°28.2'	103°34.9'	S 22°09.0'	69°50.9'	S 22°07.4'	223°17.5'	N 18°26.2'
5	260°37.2'	N 22°27.9'	118°37.6'	S 22°09.0'	84°53.6'	S 22°07.4'	238°18.4'	N 18°25.8'
6	275°36.4'	N 22°27.5'	133°40.2'	S 22°09.0'	99°56.2'	S 22°07.4'	253°19.3'	N 18°25.3'
7	290°35.6'	N 22°27.1'	148°42.9'	S 22°09.0'	114°58.9'	S 22°07.4'	268°20.1'	N 18°24.9'
8	305°34.7'	N 22°26.7'	163°45.5'	S 22°09.0'	130°01.5'	S 22°07.5'	283°21.0'	N 18°24.5'
9	320°33.9'	N 22°26.4'	178°48.1'	S 22°08.9'	145°04.2'	S 22°07.5'	298°21.8'	N 18°24.0'
10	335°33.0'	N 22°26.0'	193°50.8'	S 22°08.9'	160°06.8'	S 22°07.5'	313°22.7'	N 18°23.6'
11	350°32.2'	N 22°25.6'	208°53.4'	S 22°08.9'	175°09.5'	S 22°07.5'	328°23.6'	N 18°23.1'
12	5°31.4'	N 22°25.2'	223°56.1'	S 22°08.9'	190°12.1'	S 22°07.6'	343°24.4'	N 18°22.7'
13	20°30.5'	N 22°24.9'	238°58.7'	S 22°08.9'	205°14.8'	S 22°07.6'	358°25.3'	N 18°22.2'
14	35°29.7'	N 22°24.5'	254°01.3'	S 22°08.9'	220°17.5'	S 22°07.6'	13°26.1'	N 18°21.8'
15	50°28.9'	N 22°24.1'	269°04.0'	S 22°08.9'	235°20.1'	S 22°07.6'	28°27.0'	N 18°21.3'
16	65°28.0'	N 22°23.7'	284°06.6'	S 22°08.9'	250°22.8'	S 22°07.7'	43°27.9'	N 18°20.9'
17	80°27.2'	N 22°23.3'	299°09.3'	S 22°08.9'	265°25.4'	S 22°07.7'	58°28.7'	N 18°20.5'
18	95°26.4'	N 22°23.0'	314°11.9'	S 22°08.9'	280°28.1'	S 22°07.7'	73°29.6'	N 18°20.0'
19	110°25.5'	N 22°22.6'	329°14.6'	S 22°08.8'	295°30.7'	S 22°07.7'	88°30.4'	N 18°19.6'
20	125°24.7'	N 22°22.2'	344°17.2'	S 22°08.8'	310°33.4'	S 22°07.8'	103°31.3'	N 18°19.1'
21	140°23.9'	N 22°21.8'	359°19.8'	S 22°08.8'	325°36.0'	S 22°07.8'	118°32.2'	N 18°18.7'
22	155°23.0'	N 22°21.4'	14°22.5'	S 22°08.8'	340°38.7'	S 22°07.8'	133°33.0'	N 18°18.2'
23	170°22.2'	N 22°21.0'	29°25.1'	S 22°08.8'	355°41.4'	S 22°07.9'	148°33.9'	N 18°17.8'

Sun Jul 21, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.4'		v = 2.6' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	185°21.4'	N 22°20.6'	44°27.7'	S 22°08.8'	10°44.0'	S 22°07.9'	163°34.7'	N 18°17.3'
1	200°20.5'	N 22°20.2'	59°30.4'	S 22°08.8'	25°46.7'	S 22°07.9'	178°35.6'	N 18°16.9'
2	215°19.7'	N 22°19.9'	74°33.0'	S 22°08.8'	40°49.3'	S 22°07.9'	193°36.5'	N 18°16.4'
3	230°18.9'	N 22°19.5'	89°35.7'	S 22°08.8'	55°52.0'	S 22°08.0'	208°37.3'	N 18°16.0'
4	245°18.1'	N 22°19.1'	104°38.3'	S 22°08.8'	70°54.6'	S 22°08.0'	223°38.2'	N 18°15.5'
5	260°17.2'	N 22°18.7'	119°40.9'	S 22°08.7'	85°57.3'	S 22°08.0'	238°39.1'	N 18°15.1'
6	275°16.4'	N 22°18.3'	134°43.6'	S 22°08.7'	100°59.9'	S 22°08.0'	253°39.9'	N 18°14.6'
7	290°15.6'	N 22°17.9'	149°46.2'	S 22°08.7'	116°02.6'	S 22°08.1'	268°40.8'	N 18°14.2'
8	305°14.7'	N 22°17.5'	164°48.8'	S 22°08.7'	131°05.2'	S 22°08.1'	283°41.6'	N 18°13.7'
9	320°13.9'	N 22°17.1'	179°51.5'	S 22°08.7'	146°07.9'	S 22°08.1'	298°42.5'	N 18°13.3'
10	335°13.1'	N 22°16.7'	194°54.1'	S 22°08.7'	161°10.6'	S 22°08.1'	313°43.4'	N 18°12.8'
11	350°12.2'	N 22°16.3'	209°56.8'	S 22°08.7'	176°13.2'	S 22°08.2'	328°44.2'	N 18°12.4'
12	5°11.4'	N 22°15.9'	224°59.4'	S 22°08.7'	191°15.9'	S 22°08.2'	343°45.1'	N 18°11.9'
13	20°10.6'	N 22°15.5'	240°02.0'	S 22°08.7'	206°18.5'	S 22°08.2'	358°46.0'	N 18°11.5'
14	35°09.8'	N 22°15.1'	255°04.7'	S 22°08.7'	221°21.2'	S 22°08.2'	13°46.8'	N 18°11.0'
15	50°08.9'	N 22°14.6'	270°07.3'	S 22°08.6'	236°23.8'	S 22°08.3'	28°47.7'	N 18°10.6'
16	65°08.1'	N 22°14.2'	285°09.9'	S 22°08.6'	251°26.5'	S 22°08.3'	43°48.6'	N 18°10.1'
17	80°07.3'	N 22°13.8'	300°12.6'	S 22°08.6'	266°29.1'	S 22°08.3'	58°49.4'	N 18°09.7'
18	95°06.5'	N 22°13.4'	315°15.2'	S 22°08.6'	281°31.8'	S 22°08.3'	73°50.3'	N 18°09.2'
19	110°05.6'	N 22°13.0'	330°17.8'	S 22°08.6'	296°34.4'	S 22°08.4'	88°51.1'	N 18°08.8'
20	125°04.8'	N 22°12.6'	345°20.5'	S 22°08.6'	311°37.1'	S 22°08.4'	103°52.0'	N 18°08.3'
21	140°04.0'	N 22°12.2'	0°23.1'	S 22°08.6'	326°39.7'	S 22°08.4'	118°52.9'	N 18°07.9'
22	155°03.2'	N 22°11.8'	15°25.7'	S 22°08.6'	341°42.4'	S 22°08.4'	133°53.7'	N 18°07.4'
23	170°02.3'	N 22°11.3'	30°28.4'	S 22°08.6'	356°45.1'	S 22°08.5'	148°54.6'	N 18°07.0'

Mon Jul 22, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.4'		v = 2.6' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	185°01.5'	N 22°10.9'	45°31.0'	S 22°08.6'	11°47.7'	S 22°08.5'	163°55.5'	N 18°06.5'
1	200°00.7'	N 22°10.5'	60°33.6'	S 22°08.6'	26°50.4'	S 22°08.5'	178°56.3'	N 18°06.1'
2	214°59.9'	N 22°10.1'	75°36.2'	S 22°08.5'	41°53.0'	S 22°08.5'	193°57.2'	N 18°05.6'
3	229°59.0'	N 22°09.7'	90°38.9'	S 22°08.5'	56°55.7'	S 22°08.6'	208°58.1'	N 18°05.2'
4	244°58.2'	N 22°09.2'	105°41.5'	S 22°08.5'	71°58.3'	S 22°08.6'	223°58.9'	N 18°04.7'
5	259°57.4'	N 22°08.8'	120°44.1'	S 22°08.5'	87°01.0'	S 22°08.6'	238°59.8'	N 18°04.3'
6	274°56.6'	N 22°08.4'	135°46.8'	S 22°08.5'	102°03.6'	S 22°08.6'	254°00.7'	N 18°03.8'
7	289°55.7'	N 22°08.0'	150°49.4'	S 22°08.5'	117°06.3'	S 22°08.7'	269°01.5'	N 18°03.3'
8	304°54.9'	N 22°07.5'	165°52.0'	S 22°08.5'	132°08.9'	S 22°08.7'	284°02.4'	N 18°02.9'
9	319°54.1'	N 22°07.1'	180°54.7'	S 22°08.5'	147°11.6'	S 22°08.7'	299°03.3'	N 18°02.4'
10	334°53.3'	N 22°06.7'	195°57.3'	S 22°08.5'	162°14.2'	S 22°08.7'	314°04.1'	N 18°02.0'
11	349°52.4'	N 22°06.3'	210°59.9'	S 22°08.5'	177°16.9'	S 22°08.8'	329°05.0'	N 18°01.5'
12	4°51.6'	N 22°05.8'	226°02.5'	S 22°08.5'	192°19.5'	S 22°08.8'	344°05.9'	N 18°01.1'
13	19°50.8'	N 22°05.4'	241°05.2'	S 22°08.4'	207°22.2'	S 22°08.8'	359°06.7'	N 18°00.6'
14	34°50.0'	N 22°05.0'	256°07.8'	S 22°08.4'	222°24.9'	S 22°08.8'	14°07.6'	N 18°00.2'
15	49°49.2'	N 22°04.5'	271°10.4'	S 22°08.4'	237°27.5'	S 22°08.9'	29°08.5'	N 17°59.7'
16	64°48.3'	N 22°04.1'	286°13.0'	S 22°08.4'	252°30.2'	S 22°08.9'	44°09.3'	N 17°59.2'
17	79°47.5'	N 22°03.7'	301°15.7'	S 22°08.4'	267°32.8'	S 22°08.9'	59°10.2'	N 17°58.8'
18	94°46.7'	N 22°03.2'	316°18.3'	S 22°08.4'	282°35.5'	S 22°08.9'	74°11.1'	N 17°58.3'
19	109°45.9'	N 22°02.8'	331°20.9'	S 22°08.4'	297°38.1'	S 22°09.0'	89°11.9'	N 17°57.9'
20	124°45.1'	N 22°02.3'	346°23.5'	S 22°08.4'	312°40.8'	S 22°09.0'	104°12.8'	N 17°57.4'
21	139°44.2'	N 22°01.9'	1°26.2'	S 22°08.4'	327°43.4'	S 22°09.0'	119°13.7'	N 17°57.0'
22	154°43.4'	N 22°01.5'	16°28.8'	S 22°08.4'	342°46.1'	S 22°09.0'	134°14.5'	N 17°56.5'
23	169°42.6'	N 22°01.0'	31°31.4'	S 22°08.4'	357°48.7'	S 22°09.1'	149°15.4'	N 17°56.1'

Tue Jul 23, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.5'		v = 2.6' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	184°41.8'	N 22°00.6'	46°34.0'	S 22°08.4'	12°51.4'	S 22°09.1'	164°16.3'	N 17°55.6'
1	199°41.0'	N 22°00.1'	61°36.7'	S 22°08.3'	27°54.0'	S 22°09.1'	179°17.1'	N 17°55.1'
2	214°40.2'	N 21°59.7'	76°39.3'	S 22°08.3'	42°56.7'	S 22°09.1'	194°18.0'	N 17°54.7'
3	229°39.3'	N 21°59.2'	91°41.9'	S 22°08.3'	57°59.3'	S 22°09.2'	209°18.9'	N 17°54.2'
4	244°38.5'	N 21°58.8'	106°44.5'	S 22°08.3'	73°02.0'	S 22°09.2'	224°19.7'	N 17°53.8'
5	259°37.7'	N 21°58.3'	121°47.2'	S 22°08.3'	88°04.6'	S 22°09.2'	239°20.6'	N 17°53.3'
6	274°36.9'	N 21°57.9'	136°49.8'	S 22°08.3'	103°07.3'	S 22°09.2'	254°21.5'	N 17°52.8'
7	289°36.1'	N 21°57.4'	151°52.4'	S 22°08.3'	118°09.9'	S 22°09.3'	269°22.4'	N 17°52.4'
8	304°35.3'	N 21°57.0'	166°55.0'	S 22°08.3'	133°12.6'	S 22°09.3'	284°23.2'	N 17°51.9'
9	319°34.5'	N 21°56.5'	181°57.6'	S 22°08.3'	148°15.3'	S 22°09.3'	299°24.1'	N 17°51.5'
10	334°33.6'	N 21°56.1'	197°00.3'	S 22°08.3'	163°17.9'	S 22°09.3'	314°25.0'	N 17°51.0'
11	349°32.8'	N 21°55.6'	212°02.9'	S 22°08.3'	178°20.6'	S 22°09.4'	329°25.8'	N 17°50.5'
12	4°32.0'	N 21°55.1'	227°05.5'	S 22°08.3'	193°23.2'	S 22°09.4'	344°26.7'	N 17°50.1'
13	19°31.2'	N 21°54.7'	242°08.1'	S 22°08.2'	208°25.9'	S 22°09.4'	359°27.6'	N 17°49.6'
14	34°30.4'	N 21°54.2'	257°10.7'	S 22°08.2'	223°28.5'	S 22°09.4'	14°28.4'	N 17°49.2'
15	49°29.6'	N 21°53.8'	272°13.4'	S 22°08.2'	238°31.2'	S 22°09.5'	29°29.3'	N 17°48.7'
16	64°28.8'	N 21°53.3'	287°16.0'	S 22°08.2'	253°33.8'	S 22°09.5'	44°30.2'	N 17°48.2'
17	79°27.9'	N 21°52.8'	302°18.6'	S 22°08.2'	268°36.5'	S 22°09.5'	59°31.0'	N 17°47.8'
18	94°27.1'	N 21°52.4'	317°21.2'	S 22°08.2'	283°39.1'	S 22°09.5'	74°31.9'	N 17°47.3'
19	109°26.3'	N 21°51.9'	332°23.8'	S 22°08.2'	298°41.8'	S 22°09.6'	89°32.8'	N 17°46.9'
20	124°25.5'	N 21°51.4'	347°26.4'	S 22°08.2'	313°44.4'	S 22°09.6'	104°33.7'	N 17°46.4'
21	139°24.7'	N 21°51.0'	2°29.1'	S 22°08.2'	328°47.1'	S 22°09.6'	119°34.5'	N 17°45.9'
22	154°23.9'	N 21°50.5'	17°31.7'	S 22°08.2'	343°49.7'	S 22°09.6'	134°35.4'	N 17°45.5'
23	169°23.1'	N 21°50.0'	32°34.3'	S 22°08.2'	358°52.4'	S 22°09.7'	149°36.3'	N 17°45.0'

Wed Jul 24, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.5'		v = 2.6' d = 0.0'		v = 2.7' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	184°22.3'	N 21°49.6'	47°36.9'	S 22°08.2'	13°55.0'	S 22°09.7'	164°37.1'	N 17°44.5'
1	199°21.5'	N 21°49.1'	62°39.5'	S 22°08.2'	28°57.7'	S 22°09.7'	179°38.0'	N 17°44.1'
2	214°20.6'	N 21°48.6'	77°42.1'	S 22°08.1'	44°00.3'	S 22°09.7'	194°38.9'	N 17°43.6'
3	229°19.8'	N 21°48.1'	92°44.8'	S 22°08.1'	59°03.0'	S 22°09.8'	209°39.8'	N 17°43.2'
4	244°19.0'	N 21°47.7'	107°47.4'	S 22°08.1'	74°05.6'	S 22°09.8'	224°40.6'	N 17°42.7'
5	259°18.2'	N 21°47.2'	122°50.0'	S 22°08.1'	89°08.3'	S 22°09.8'	239°41.5'	N 17°42.2'
6	274°17.4'	N 21°46.7'	137°52.6'	S 22°08.1'	104°10.9'	S 22°09.8'	254°42.4'	N 17°41.8'
7	289°16.6'	N 21°46.2'	152°55.2'	S 22°08.1'	119°13.6'	S 22°09.9'	269°43.3'	N 17°41.3'
8	304°15.8'	N 21°45.7'	167°57.8'	S 22°08.1'	134°16.2'	S 22°09.9'	284°44.1'	N 17°40.8'
9	319°15.0'	N 21°45.3'	183°00.4'	S 22°08.1'	149°18.9'	S 22°09.9'	299°45.0'	N 17°40.4'
10	334°14.2'	N 21°44.8'	198°03.1'	S 22°08.1'	164°21.5'	S 22°09.9'	314°45.9'	N 17°39.9'
11	349°13.4'	N 21°44.3'	213°05.7'	S 22°08.1'	179°24.2'	S 22°10.0'	329°46.7'	N 17°39.4'
12	4°12.6'	N 21°43.8'	228°08.3'	S 22°08.1'	194°26.8'	S 22°10.0'	344°47.6'	N 17°39.0'
13	19°11.8'	N 21°43.3'	243°10.9'	S 22°08.1'	209°29.5'	S 22°10.0'	359°48.5'	N 17°38.5'
14	34°11.0'	N 21°42.8'	258°13.5'	S 22°08.1'	224°32.1'	S 22°10.0'	14°49.4'	N 17°38.0'
15	49°10.2'	N 21°42.4'	273°16.1'	S 22°08.0'	239°34.8'	S 22°10.1'	29°50.2'	N 17°37.6'
16	64°09.4'	N 21°41.9'	288°18.7'	S 22°08.0'	254°37.4'	S 22°10.1'	44°51.1'	N 17°37.1'
17	79°08.6'	N 21°41.4'	303°21.3'	S 22°08.0'	269°40.1'	S 22°10.1'	59°52.0'	N 17°36.7'
18	94°07.7'	N 21°40.9'	318°23.9'	S 22°08.0'	284°42.7'	S 22°10.1'	74°52.9'	N 17°36.2'
19	109°06.9'	N 21°40.4'	333°26.6'	S 22°08.0'	299°45.4'	S 22°10.2'	89°53.7'	N 17°35.7'
20	124°06.1'	N 21°39.9'	348°29.2'	S 22°08.0'	314°48.0'	S 22°10.2'	104°54.6'	N 17°35.3'
21	139°05.3'	N 21°39.4'	3°31.8'	S 22°08.0'	329°50.7'	S 22°10.2'	119°55.5'	N 17°34.8'
22	154°04.5'	N 21°38.9'	18°34.4'	S 22°08.0'	344°53.3'	S 22°10.2'	134°56.4'	N 17°34.3'
23	169°03.7'	N 21°38.4'	33°37.0'	S 22°08.0'	359°56.0'	S 22°10.3'	149°57.2'	N 17°33.9'

Thu Jul 25, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.5'		v = 2.6' d = 0.0'		v = 2.6' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	184°02.9'	N 21°37.9'	48°39.6'	S 22°08.0'	14°58.6'	S 22°10.3'	164°58.1'	N 17°33.4'
1	199°02.1'	N 21°37.4'	63°42.2'	S 22°08.0'	30°01.3'	S 22°10.3'	179°59.0'	N 17°32.9'
2	214°01.3'	N 21°36.9'	78°44.8'	S 22°08.0'	45°03.9'	S 22°10.3'	194°59.8'	N 17°32.4'
3	229°00.5'	N 21°36.4'	93°47.4'	S 22°08.0'	60°06.6'	S 22°10.4'	210°00.7'	N 17°32.0'
4	243°59.7'	N 21°35.9'	108°50.0'	S 22°08.0'	75°09.2'	S 22°10.4'	225°01.6'	N 17°31.5'
5	258°58.9'	N 21°35.4'	123°52.6'	S 22°07.9'	90°11.9'	S 22°10.4'	240°02.5'	N 17°31.0'
6	273°58.1'	N 21°34.9'	138°55.2'	S 22°07.9'	105°14.5'	S 22°10.4'	255°03.4'	N 17°30.6'
7	288°57.3'	N 21°34.4'	153°57.9'	S 22°07.9'	120°17.2'	S 22°10.5'	270°04.2'	N 17°30.1'
8	303°56.5'	N 21°33.9'	169°00.5'	S 22°07.9'	135°19.8'	S 22°10.5'	285°05.1'	N 17°29.6'
9	318°55.7'	N 21°33.4'	184°03.1'	S 22°07.9'	150°22.5'	S 22°10.5'	300°06.0'	N 17°29.2'
10	333°54.9'	N 21°32.9'	199°05.7'	S 22°07.9'	165°25.1'	S 22°10.5'	315°06.9'	N 17°28.7'
11	348°54.1'	N 21°32.4'	214°08.3'	S 22°07.9'	180°27.8'	S 22°10.6'	330°07.7'	N 17°28.2'
12	3°53.3'	N 21°31.9'	229°10.9'	S 22°07.9'	195°30.4'	S 22°10.6'	345°08.6'	N 17°27.8'
13	18°52.5'	N 21°31.3'	244°13.5'	S 22°07.9'	210°33.1'	S 22°10.6'	0°09.5'	N 17°27.3'
14	33°51.7'	N 21°30.8'	259°16.1'	S 22°07.9'	225°35.7'	S 22°10.6'	15°10.4'	N 17°26.8'
15	48°50.9'	N 21°30.3'	274°18.7'	S 22°07.9'	240°38.4'	S 22°10.7'	30°11.2'	N 17°26.3'
16	63°50.1'	N 21°29.8'	289°21.3'	S 22°07.9'	255°41.0'	S 22°10.7'	45°12.1'	N 17°25.9'
17	78°49.4'	N 21°29.3'	304°23.9'	S 22°07.9'	270°43.7'	S 22°10.7'	60°13.0'	N 17°25.4'
18	93°48.6'	N 21°28.8'	319°26.5'	S 22°07.9'	285°46.3'	S 22°10.7'	75°13.9'	N 17°24.9'
19	108°47.8'	N 21°28.2'	334°29.1'	S 22°07.9'	300°49.0'	S 22°10.8'	90°14.7'	N 17°24.5'
20	123°47.0'	N 21°27.7'	349°31.7'	S 22°07.8'	315°51.6'	S 22°10.8'	105°15.6'	N 17°24.0'
21	138°46.2'	N 21°27.2'	4°34.3'	S 22°07.8'	330°54.3'	S 22°10.8'	120°16.5'	N 17°23.5'
22	153°45.4'	N 21°26.7'	19°36.9'	S 22°07.8'	345°56.9'	S 22°10.8'	135°17.4'	N 17°23.0'
23	168°44.6'	N 21°26.2'	34°39.5'	S 22°07.8'	0°59.6'	S 22°10.9'	150°18.3'	N 17°22.6'

Fri Jul 26, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.5'		v = 2.6' d = 0.0'		v = 2.6' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	183°43.8'	N 21°25.6'	49°42.1'	S 22°07.8'	16°02.2'	S 22°10.9'	165°19.1'	N 17°22.1'
1	198°43.0'	N 21°25.1'	64°44.7'	S 22°07.8'	31°04.9'	S 22°10.9'	180°20.0'	N 17°21.6'
2	213°42.2'	N 21°24.6'	79°47.3'	S 22°07.8'	46°07.5'	S 22°10.9'	195°20.9'	N 17°21.2'
3	228°41.4'	N 21°24.1'	94°49.9'	S 22°07.8'	61°10.2'	S 22°10.9'	210°21.8'	N 17°20.7'
4	243°40.6'	N 21°23.5'	109°52.5'	S 22°07.8'	76°12.8'	S 22°11.0'	225°22.6'	N 17°20.2'
5	258°39.8'	N 21°23.0'	124°55.1'	S 22°07.8'	91°15.5'	S 22°11.0'	240°23.5'	N 17°19.7'
6	273°39.0'	N 21°22.5'	139°57.7'	S 22°07.8'	106°18.1'	S 22°11.0'	255°24.4'	N 17°19.3'
7	288°38.2'	N 21°21.9'	155°00.3'	S 22°07.8'	121°20.8'	S 22°11.0'	270°25.3'	N 17°18.8'
8	303°37.5'	N 21°21.4'	170°02.9'	S 22°07.8'	136°23.4'	S 22°11.1'	285°26.2'	N 17°18.3'
9	318°36.7'	N 21°20.9'	185°05.5'	S 22°07.8'	151°26.0'	S 22°11.1'	300°27.0'	N 17°17.8'
10	333°35.9'	N 21°20.3'	200°08.1'	S 22°07.8'	166°28.7'	S 22°11.1'	315°27.9'	N 17°17.4'
11	348°35.1'	N 21°19.8'	215°10.7'	S 22°07.8'	181°31.3'	S 22°11.1'	330°28.8'	N 17°16.9'
12	3°34.3'	N 21°19.3'	230°13.3'	S 22°07.8'	196°34.0'	S 22°11.2'	345°29.7'	N 17°16.4'
13	18°33.5'	N 21°18.7'	245°15.9'	S 22°07.7'	211°36.6'	S 22°11.2'	0°30.6'	N 17°15.9'
14	33°32.7'	N 21°18.2'	260°18.5'	S 22°07.7'	226°39.3'	S 22°11.2'	15°31.4'	N 17°15.5'
15	48°31.9'	N 21°17.6'	275°21.1'	S 22°07.7'	241°41.9'	S 22°11.2'	30°32.3'	N 17°15.0'
16	63°31.1'	N 21°17.1'	290°23.7'	S 22°07.7'	256°44.6'	S 22°11.3'	45°33.2'	N 17°14.5'
17	78°30.4'	N 21°16.6'	305°26.3'	S 22°07.7'	271°47.2'	S 22°11.3'	60°34.1'	N 17°14.0'
18	93°29.6'	N 21°16.0'	320°28.9'	S 22°07.7'	286°49.9'	S 22°11.3'	75°35.0'	N 17°13.6'
19	108°28.8'	N 21°15.5'	335°31.5'	S 22°07.7'	301°52.5'	S 22°11.3'	90°35.8'	N 17°13.1'
20	123°28.0'	N 21°14.9'	350°34.1'	S 22°07.7'	316°55.2'	S 22°11.4'	105°36.7'	N 17°12.6'
21	138°27.2'	N 21°14.4'	5°36.7'	S 22°07.7'	331°57.8'	S 22°11.4'	120°37.6'	N 17°12.1'
22	153°26.4'	N 21°13.8'	20°39.2'	S 22°07.7'	347°00.5'	S 22°11.4'	135°38.5'	N 17°11.7'
23	168°25.6'	N 21°13.3'	35°41.8'	S 22°07.7'	2°03.1'	S 22°11.4'	150°39.4'	N 17°11.2'

Sat Jul 27, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.6'		v = 2.6' d = 0.0'		v = 2.6' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	183°24.9'	N 21°12.7'	50°44.4'	S 22°07.7'	17°05.8'	S 22°11.5'	165°40.2'	N 17°10.7'
1	198°24.1'	N 21°12.2'	65°47.0'	S 22°07.7'	32°08.4'	S 22°11.5'	180°41.1'	N 17°10.2'
2	213°23.3'	N 21°11.6'	80°49.6'	S 22°07.7'	47°11.1'	S 22°11.5'	195°42.0'	N 17°09.8'
3	228°22.5'	N 21°11.1'	95°52.2'	S 22°07.7'	62°13.7'	S 22°11.5'	210°42.9'	N 17°09.3'
4	243°21.7'	N 21°10.5'	110°54.8'	S 22°07.7'	77°16.3'	S 22°11.6'	225°43.8'	N 17°08.8'
5	258°20.9'	N 21°10.0'	125°57.4'	S 22°07.7'	92°19.0'	S 22°11.6'	240°44.6'	N 17°08.3'
6	273°20.2'	N 21°09.4'	140°60.0'	S 22°07.7'	107°21.6'	S 22°11.6'	255°45.5'	N 17°07.8'
7	288°19.4'	N 21°08.9'	156°02.6'	S 22°07.6'	122°24.3'	S 22°11.6'	270°46.4'	N 17°07.4'
8	303°18.6'	N 21°08.3'	171°05.2'	S 22°07.6'	137°26.9'	S 22°11.6'	285°47.3'	N 17°06.9'
9	318°17.8'	N 21°07.7'	186°07.8'	S 22°07.6'	152°29.6'	S 22°11.7'	300°48.2'	N 17°06.4'
10	333°17.0'	N 21°07.2'	201°10.3'	S 22°07.6'	167°32.2'	S 22°11.7'	315°49.1'	N 17°05.9'
11	348°16.3'	N 21°06.6'	216°12.9'	S 22°07.6'	182°34.9'	S 22°11.7'	330°49.9'	N 17°05.4'
12	3°15.5'	N 21°06.1'	231°15.5'	S 22°07.6'	197°37.5'	S 22°11.7'	345°50.8'	N 17°05.0'
13	18°14.7'	N 21°05.5'	246°18.1'	S 22°07.6'	212°40.2'	S 22°11.8'	0°51.7'	N 17°04.5'
14	33°13.9'	N 21°04.9'	261°20.7'	S 22°07.6'	227°42.8'	S 22°11.8'	15°52.6'	N 17°04.0'
15	48°13.1'	N 21°04.4'	276°23.3'	S 22°07.6'	242°45.5'	S 22°11.8'	30°53.5'	N 17°03.5'
16	63°12.4'	N 21°03.8'	291°25.9'	S 22°07.6'	257°48.1'	S 22°11.8'	45°54.3'	N 17°03.0'
17	78°11.6'	N 21°03.2'	306°28.5'	S 22°07.6'	272°50.7'	S 22°11.9'	60°55.2'	N 17°02.6'
18	93°10.8'	N 21°02.7'	321°31.1'	S 22°07.6'	287°53.4'	S 22°11.9'	75°56.1'	N 17°02.1'
19	108°10.0'	N 21°02.1'	336°33.6'	S 22°07.6'	302°56.0'	S 22°11.9'	90°57.0'	N 17°01.6'
20	123°09.2'	N 21°01.5'	351°36.2'	S 22°07.6'	317°58.7'	S 22°11.9'	105°57.9'	N 17°01.1'
21	138°08.5'	N 21°00.9'	6°38.8'	S 22°07.6'	333°01.3'	S 22°12.0'	120°58.8'	N 17°00.6'
22	153°07.7'	N 21°00.4'	21°41.4'	S 22°07.6'	348°04.0'	S 22°12.0'	135°59.6'	N 17°00.2'
23	168°06.9'	N 20°59.8'	36°44.0'	S 22°07.6'	3°06.6'	S 22°12.0'	151°00.5'	N 16°59.7'

Sun Jul 28, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.6'		v = 2.6' d = 0.0'		v = 2.6' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	183°06.1'	N 20°59.2'	51°46.6'	S 22°07.6'	18°09.3'	S 22°12.0'	166°01.4'	N 16°59.2'
1	198°05.4'	N 20°58.6'	66°49.2'	S 22°07.6'	33°11.9'	S 22°12.1'	181°02.3'	N 16°58.7'
2	213°04.6'	N 20°58.1'	81°51.7'	S 22°07.6'	48°14.5'	S 22°12.1'	196°03.2'	N 16°58.2'
3	228°03.8'	N 20°57.5'	96°54.3'	S 22°07.5'	63°17.2'	S 22°12.1'	211°04.1'	N 16°57.8'
4	243°03.0'	N 20°56.9'	111°56.9'	S 22°07.5'	78°19.8'	S 22°12.1'	226°05.0'	N 16°57.3'
5	258°02.3'	N 20°56.3'	126°59.5'	S 22°07.5'	93°22.5'	S 22°12.2'	241°05.8'	N 16°56.8'
6	273°01.5'	N 20°55.7'	142°02.1'	S 22°07.5'	108°25.1'	S 22°12.2'	256°06.7'	N 16°56.3'
7	288°00.7'	N 20°55.2'	157°04.7'	S 22°07.5'	123°27.8'	S 22°12.2'	271°07.6'	N 16°55.8'
8	302°60.0'	N 20°54.6'	172°07.2'	S 22°07.5'	138°30.4'	S 22°12.2'	286°08.5'	N 16°55.3'
9	317°59.2'	N 20°54.0'	187°09.8'	S 22°07.5'	153°33.1'	S 22°12.2'	301°09.4'	N 16°54.9'
10	332°58.4'	N 20°53.4'	202°12.4'	S 22°07.5'	168°35.7'	S 22°12.3'	316°10.3'	N 16°54.4'
11	347°57.6'	N 20°52.8'	217°15.0'	S 22°07.5'	183°38.3'	S 22°12.3'	331°11.1'	N 16°53.9'
12	2°56.9'	N 20°52.2'	232°17.6'	S 22°07.5'	198°41.0'	S 22°12.3'	346°12.0'	N 16°53.4'
13	17°56.1'	N 20°51.6'	247°20.1'	S 22°07.5'	213°43.6'	S 22°12.3'	1°12.9'	N 16°52.9'
14	32°55.3'	N 20°51.1'	262°22.7'	S 22°07.5'	228°46.3'	S 22°12.4'	16°13.8'	N 16°52.4'
15	47°54.6'	N 20°50.5'	277°25.3'	S 22°07.5'	243°48.9'	S 22°12.4'	31°14.7'	N 16°51.9'
16	62°53.8'	N 20°49.9'	292°27.9'	S 22°07.5'	258°51.6'	S 22°12.4'	46°15.6'	N 16°51.5'
17	77°53.0'	N 20°49.3'	307°30.5'	S 22°07.5'	273°54.2'	S 22°12.4'	61°16.5'	N 16°51.0'
18	92°52.3'	N 20°48.7'	322°33.0'	S 22°07.5'	288°56.9'	S 22°12.5'	76°17.4'	N 16°50.5'
19	107°51.5'	N 20°48.1'	337°35.6'	S 22°07.5'	303°59.5'	S 22°12.5'	91°18.2'	N 16°50.0'
20	122°50.7'	N 20°47.5'	352°38.2'	S 22°07.5'	319°02.1'	S 22°12.5'	106°19.1'	N 16°49.5'
21	137°50.0'	N 20°46.9'	7°40.8'	S 22°07.5'	334°04.8'	S 22°12.5'	121°20.0'	N 16°49.0'
22	152°49.2'	N 20°46.3'	22°43.4'	S 22°07.5'	349°07.4'	S 22°12.6'	136°20.9'	N 16°48.6'
23	167°48.4'	N 20°45.7'	37°45.9'	S 22°07.5'	4°10.1'	S 22°12.6'	151°21.8'	N 16°48.1'

Mon Jul 29, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.6'		v = 2.6' d = 0.0'		v = 2.6' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	182°47.7'	N 20°45.1'	52°48.5'	S 22°07.5'	19°12.7'	S 22°12.6'	166°22.7'	N 16°47.6'
1	197°46.9'	N 20°44.5'	67°51.1'	S 22°07.5'	34°15.4'	S 22°12.6'	181°23.6'	N 16°47.1'
2	212°46.1'	N 20°43.9'	82°53.7'	S 22°07.5'	49°18.0'	S 22°12.7'	196°24.4'	N 16°46.6'
3	227°45.4'	N 20°43.3'	97°56.2'	S 22°07.5'	64°20.6'	S 22°12.7'	211°25.3'	N 16°46.1'
4	242°44.6'	N 20°42.7'	112°58.8'	S 22°07.4'	79°23.3'	S 22°12.7'	226°26.2'	N 16°45.6'
5	257°43.8'	N 20°42.1'	128°01.4'	S 22°07.4'	94°25.9'	S 22°12.7'	241°27.1'	N 16°45.1'
6	272°43.1'	N 20°41.5'	143°04.0'	S 22°07.4'	109°28.6'	S 22°12.7'	256°28.0'	N 16°44.7'
7	287°42.3'	N 20°40.9'	158°06.5'	S 22°07.4'	124°31.2'	S 22°12.8'	271°28.9'	N 16°44.2'
8	302°41.5'	N 20°40.3'	173°09.1'	S 22°07.4'	139°33.9'	S 22°12.8'	286°29.8'	N 16°43.7'
9	317°40.8'	N 20°39.6'	188°11.7'	S 22°07.4'	154°36.5'	S 22°12.8'	301°30.7'	N 16°43.2'
10	332°40.0'	N 20°39.0'	203°14.3'	S 22°07.4'	169°39.1'	S 22°12.8'	316°31.5'	N 16°42.7'
11	347°39.3'	N 20°38.4'	218°16.8'	S 22°07.4'	184°41.8'	S 22°12.9'	331°32.4'	N 16°42.2'
12	2°38.5'	N 20°37.8'	233°19.4'	S 22°07.4'	199°44.4'	S 22°12.9'	346°33.3'	N 16°41.7'
13	17°37.7'	N 20°37.2'	248°22.0'	S 22°07.4'	214°47.1'	S 22°12.9'	1°34.2'	N 16°41.2'
14	32°37.0'	N 20°36.6'	263°24.6'	S 22°07.4'	229°49.7'	S 22°12.9'	16°35.1'	N 16°40.7'
15	47°36.2'	N 20°36.0'	278°27.1'	S 22°07.4'	244°52.4'	S 22°13.0'	31°36.0'	N 16°40.3'
16	62°35.5'	N 20°35.3'	293°29.7'	S 22°07.4'	259°55.0'	S 22°13.0'	46°36.9'	N 16°39.8'
17	77°34.7'	N 20°34.7'	308°32.3'	S 22°07.4'	274°57.6'	S 22°13.0'	61°37.8'	N 16°39.3'
18	92°33.9'	N 20°34.1'	323°34.8'	S 22°07.4'	290°00.3'	S 22°13.0'	76°38.7'	N 16°38.8'
19	107°33.2'	N 20°33.5'	338°37.4'	S 22°07.4'	305°02.9'	S 22°13.1'	91°39.6'	N 16°38.3'
20	122°32.4'	N 20°32.9'	353°40.0'	S 22°07.4'	320°05.6'	S 22°13.1'	106°40.4'	N 16°37.8'
21	137°31.7'	N 20°32.2'	8°42.5'	S 22°07.4'	335°08.2'	S 22°13.1'	121°41.3'	N 16°37.3'
22	152°30.9'	N 20°31.6'	23°45.1'	S 22°07.4'	350°10.9'	S 22°13.1'	136°42.2'	N 16°36.8'
23	167°30.1'	N 20°31.0'	38°47.7'	S 22°07.4'	5°13.5'	S 22°13.1'	151°43.1'	N 16°36.3'

Tue Jul 30, 2019 UTC

UTC	Venus -3.8		Jupiter -2.3		Saturn +0.1		Mars +1.8	
	v = -0.8' d = 0.6'		v = 2.6' d = 0.0'		v = 2.6' d = 0.0'		v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	182°29.4'	N 20°30.4'	53°50.3'	S 22°07.4'	20°16.1'	S 22°13.2'	166°44.0'	N 16°35.8'
1	197°28.6'	N 20°29.7'	68°52.8'	S 22°07.4'	35°18.8'	S 22°13.2'	181°44.9'	N 16°35.4'
2	212°27.9'	N 20°29.1'	83°55.4'	S 22°07.4'	50°21.4'	S 22°13.2'	196°45.8'	N 16°34.9'
3	227°27.1'	N 20°28.5'	98°58.0'	S 22°07.4'	65°24.1'	S 22°13.2'	211°46.7'	N 16°34.4'
4	242°26.4'	N 20°27.9'	114°00.5'	S 22°07.4'	80°26.7'	S 22°13.3'	226°47.6'	N 16°33.9'
5	257°25.6'	N 20°27.2'	129°03.1'	S 22°07.4'	95°29.3'	S 22°13.3'	241°48.5'	N 16°33.4'
6	272°24.9'	N 20°26.6'	144°05.7'	S 22°07.4'	110°32.0'	S 22°13.3'	256°49.3'	N 16°32.9'
7	287°24.1'	N 20°26.0'	159°08.2'	S 22°07.4'	125°34.6'	S 22°13.3'	271°50.2'	N 16°32.4'
8	302°23.4'	N 20°25.3'	174°10.8'	S 22°07.4'	140°37.3'	S 22°13.4'	286°51.1'	N 16°31.9'
9	317°22.6'	N 20°24.7'	189°13.4'	S 22°07.4'	155°39.9'	S 22°13.4'	301°52.0'	N 16°31.4'
10	332°21.9'	N 20°24.1'	204°15.9'	S 22°07.4'	170°42.5'	S 22°13.4'	316°52.9'	N 16°30.9'
11	347°21.1'	N 20°23.4'	219°18.5'	S 22°07.3'	185°45.2'	S 22°13.4'	331°53.8'	N 16°30.4'
12	2°20.4'	N 20°22.8'	234°21.1'	S 22°07.3'	200°47.8'	S 22°13.4'	346°54.7'	N 16°29.9'
13	17°19.6'	N 20°22.1'	249°23.6'	S 22°07.3'	215°50.5'	S 22°13.5'	1°55.6'	N 16°29.4'
14	32°18.9'	N 20°21.5'	264°26.2'	S 22°07.3'	230°53.1'	S 22°13.5'	16°56.5'	N 16°29.0'
15	47°18.1'	N 20°20.9'	279°28.8'	S 22°07.3'	245°55.7'	S 22°13.5'	31°57.4'	N 16°28.5'
16	62°17.4'	N 20°20.2'	294°31.3'	S 22°07.3'	260°58.4'	S 22°13.5'	46°58.3'	N 16°28.0'
17	77°16.6'	N 20°19.6'	309°33.9'	S 22°07.3'	276°01.0'	S 22°13.6'	61°59.2'	N 16°27.5'
18	92°15.9'	N 20°18.9'	324°36.4'	S 22°07.3'	291°03.7'	S 22°13.6'	77°00.0'	N 16°27.0'
19	107°15.1'	N 20°18.3'	339°39.0'	S 22°07.3'	306°06.3'	S 22°13.6'	92°00.9'	N 16°26.5'
20	122°14.4'	N 20°17.6'	354°41.6'	S 22°07.3'	321°08.9'	S 22°13.6'	107°01.8'	N 16°26.0'
21	137°13.6'	N 20°17.0'	9°44.1'	S 22°07.3'	336°11.6'	S 22°13.7'	122°02.7'	N 16°25.5'
22	152°12.9'	N 20°16.4'	24°46.7'	S 22°07.3'	351°14.2'	S 22°13.7'	137°03.6'	N 16°25.0'
23	167°12.1'	N 20°15.7'	39°49.3'	S 22°07.3'	6°16.9'	S 22°13.7'	152°04.5'	N 16°24.5'

Wed Jul 31, 2019 UTC

UTC	Venus -3.8 v = -0.7' d = 0.7'		Jupiter -2.3 v = 2.6' d = 0.0'		Saturn +0.1 v = 2.6' d = 0.0'		Mars +1.8 v = 0.9' d = 0.5'	
	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	182°11.4'	N 20°15.1'	54°51.8'	S 22°07.3'	21°19.5'	S 22°13.7'	167°05.4'	N 16°24.0'
1	197°10.6'	N 20°14.4'	69°54.4'	S 22°07.3'	36°22.1'	S 22°13.7'	182°06.3'	N 16°23.5'
2	212°09.9'	N 20°13.8'	84°56.9'	S 22°07.3'	51°24.8'	S 22°13.8'	197°07.2'	N 16°23.0'
3	227°09.1'	N 20°13.1'	99°59.5'	S 22°07.3'	66°27.4'	S 22°13.8'	212°08.1'	N 16°22.5'
4	242°08.4'	N 20°12.4'	115°02.1'	S 22°07.3'	81°30.1'	S 22°13.8'	227°09.0'	N 16°22.0'
5	257°07.6'	N 20°11.8'	130°04.6'	S 22°07.3'	96°32.7'	S 22°13.8'	242°09.9'	N 16°21.5'
6	272°06.9'	N 20°11.1'	145°07.2'	S 22°07.3'	111°35.3'	S 22°13.9'	257°10.8'	N 16°21.0'
7	287°06.2'	N 20°10.5'	160°09.7'	S 22°07.3'	126°38.0'	S 22°13.9'	272°11.7'	N 16°20.5'
8	302°05.4'	N 20°09.8'	175°12.3'	S 22°07.3'	141°40.6'	S 22°13.9'	287°12.6'	N 16°20.0'
9	317°04.7'	N 20°09.2'	190°14.8'	S 22°07.3'	156°43.3'	S 22°13.9'	302°13.4'	N 16°19.5'
10	332°03.9'	N 20°08.5'	205°17.4'	S 22°07.3'	171°45.9'	S 22°14.0'	317°14.3'	N 16°19.0'
11	347°03.2'	N 20°07.8'	220°20.0'	S 22°07.3'	186°48.5'	S 22°14.0'	332°15.2'	N 16°18.5'
12	2°02.5'	N 20°07.2'	235°22.5'	S 22°07.3'	201°51.2'	S 22°14.0'	347°16.1'	N 16°18.1'
13	17°01.7'	N 20°06.5'	250°25.1'	S 22°07.3'	216°53.8'	S 22°14.0'	2°17.0'	N 16°17.6'
14	32°01.0'	N 20°05.9'	265°27.6'	S 22°07.3'	231°56.4'	S 22°14.0'	17°17.9'	N 16°17.1'
15	47°00.2'	N 20°05.2'	280°30.2'	S 22°07.3'	246°59.1'	S 22°14.1'	32°18.8'	N 16°16.6'
16	61°59.5'	N 20°04.5'	295°32.7'	S 22°07.3'	262°01.7'	S 22°14.1'	47°19.7'	N 16°16.1'
17	76°58.8'	N 20°03.9'	310°35.3'	S 22°07.3'	277°04.4'	S 22°14.1'	62°20.6'	N 16°15.6'
18	91°58.0'	N 20°03.2'	325°37.9'	S 22°07.3'	292°07.0'	S 22°14.1'	77°21.5'	N 16°15.1'
19	106°57.3'	N 20°02.5'	340°40.4'	S 22°07.3'	307°09.6'	S 22°14.2'	92°22.4'	N 16°14.6'
20	121°56.5'	N 20°01.8'	355°43.0'	S 22°07.3'	322°12.3'	S 22°14.2'	107°23.3'	N 16°14.1'
21	136°55.8'	N 20°01.2'	10°45.5'	S 22°07.3'	337°14.9'	S 22°14.2'	122°24.2'	N 16°13.6'
22	151°55.1'	N 20°00.5'	25°48.1'	S 22°07.3'	352°17.6'	S 22°14.2'	137°25.1'	N 16°13.1'
23	166°54.3'	N 19°59.8'	40°50.6'	S 22°07.3'	7°20.2'	S 22°14.3'	152°26.0'	N 16°12.6'