



Astrodienst Ephemeris Tables for the year 1659

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming
Dieter Koch and Alois Treindl
based on Swiss Ephemeris
Code D5EPX

ASTRODIENST EPHEMERIS for the year 1659
geocentric

JANUARY 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
W 1	6 42 13	10°34'03"	17°14'14"	15°35'45"	23°35'23"	11°22'11"	11°R27	28°53'28"	21°13'21"	4°33'42"	18°R45	1°44'17"	0°20'47"	8°11'11"	5°25'58"	W 1
T 2	6 46 10	11°41'39"	29°20'20"	17°33'24"	24°14'24"	12° 5'12"	11°Q21	28°57'28"	21°16'21"	4°37'18"	18°I44	1°45'10"	0°17'00"	8°17'00"	5°31'00"	T 2
F 3	6 50 6	12°42'49"	11°18'14"	19°12'19"	24°51'24"	12°48'11"	11°14'	29° 1'29"	21°20'21"	4°39'18"	18°43'	1°47'10"	0°14'00"	8°24'00"	5°37'00"	F 3
S 4	6 54 3	13°43'58"	23° 2'20"	20°52'25"	25°27'13"	13°31'11"	8 29° 4'	21°23'29"	21°23'29"	4°41'18"	18°42'	1°48'10"	0°10'00"	8°31'00"	5°43'00"	S 4
S 5	6 57 59	14°45'07"	4°14'49"	22°32'26"	2° 2'14"	14°14'11"	2 29° 7'	21°27'29"	21°27'29"	4°43'18"	18°41'	1°R49	0° 7'00"	8°37'00"	5°49'00"	S 5
M 6	7 1 56	15°46'15"	16°37'24"	24°12'26"	26°35'14"	14°57'10"	55 29°11'	21°30'29"	21°30'29"	4°46'18"	18°40'	1°47'10"	0° 4'00"	8°44'00"	5°55'00"	M 6
T 7	7 5 52	16°47'23"	28°30'25"	25°52'27"	7 15°40'10"	48 29°14'	21°34'29"	21°34'29"	4°48'18"	18°39'	1°44'10"	0° 1'00"	8°50'00"	6° 1'00"	6° 1'00"	T 7
W 8	7 9 49	17°48'30"	10°31'27"	27°32'16"	23°37'28"	6 17° 7'10"	42 29°17'	21°37'29"	21°37'29"	4°50'18"	18°38'	1°38'	29°14'58"	8°57'00"	6° 7'00"	W 8
T 9	7 13 45	18°49'37"	22°42'29"	23°13'28"	28° 6'17"	7 10°35'29"	20 21°41'	21°41'29"	4°52'18"	18°37'	1°31'	29°55'	9° 4'00"	6°13'00"	6°13'00"	T 9
F 10	7 17 42	19°50'43"	5° 3'00"	28°33'17"	50 28°33'	17°50'10"	28 29°23'	21°44'29"	21°44'29"	4°55'18"	18°36'	1°21'	29°51'	9°10'00"	6°19'00"	F 10
S 11	7 21 39	20°51'49"	17°35'2°	28°58'18"	33 18°33'	10°21'29"	26 21°48'	21°48'29"	4°57'18"	18°35'	1°12'	29°48'	9°17'00"	6°25'00"	6°25'00"	S 11
S 12	7 25 35	21°52'54"	0°19'19"	4°14'29"	29°21'19"	19°16'10"	13 29°29'	21°51'29"	4°59'18"	18°34'	1° 3'	29°45'	9°24'00"	6°31'00"	6°31'00"	S 12
M13	7 29 32	22°54'00"	13°15'5°	5°53'29"	42 20° 0'	10° 6'29"	32 21°55'	21°55'29"	5° 1'18"	18°33'	0°55'	29°42'	9°30'00"	6°37'00"	6°37'00"	M13
T 14	7 33 28	23°55'04"	26°23'7°	32 0° 2'	20°43'9°	59 29°34'	21°58'29"	21°58'29"	5° 3'18"	18°32'	0°49'	29°39'	9°37'00"	6°43'00"	6°43'00"	T 14
W15	7 37 25	24°56'09"	9°45'9°	11° 0'19"	21°27'9°	51 29°37'	22° 2'29"	22° 2'29"	5° 6'18"	18°31'	0°46'	29°35'	9°44'00"	6°49'00"	6°49'00"	W15
T 16	7 41 21	25°57'13"	23°22'10°	48 0°34'22"	10° 9°44'	29°39'22°	6 5° 8'	18°30'0°	D44 29°32'	9°50'6°	55 6°55'	7° 1'00"	7° 1'00"	7° 1'00"	T 16	
F 17	7 45 18	26°58'16"	7°15'12°	24° 0°48'	22°54'9°	36 29°41'	22° 9'5°	10'18°	30'0°	45 29°29'	9°57'7°	1'00"	7° 1'00"	7° 1'00"	F 17	
S 18	7 49 14	27°59'20"	21°23'13°	58 0°59'23°	37 9°29'	29°44'22°	13 5°12'	18°29'0°	45 29°26'	10° 4'7°	6 7° 6'	7° 6'	7° 6'	7° 6'	S 18	
S 19	7 53 11	29° 0'22"	5°48'15°	30 1° 7'	24°21'9°	21'29°	16 5°14'	18°28'0°	R46 29°23'	10°10'7°	12 7°12'	7°12'	7°12'	7°12'	S 19	
M20	7 57 8	0° 1'25"	20°25'17°	0 1°14'	25° 4'9°	13 29°48'	22°20'5°	16'18°	27'0°	44 29°20'	10°17'7°	18 M20	7°18'	7°18'	M20	
T 21	8 1 4	1° 2'27"	5°10'18°	26° 1°18'	25°48'9°	5 29°49'	22°23'5°	18'18°	26'0°	40 29°16'	10°24'7°	21 T 21	7°24'	7°24'	T 21	
W22	8 5 1	2° 3'28"	19°57'19°	49 1°R19'	26°32'8°	57 29°51'	22°27'5°	20'18°	25'0°	33 29°13'	10°30'7°	22 W22	7°29'	7°29'	W22	
T 23	8 8 57	3° 4'28"	4°38'21°	7 1°19'	27°15'8°	49 29°53'	22°30'5°	23'18°	25'0°	24 29°10'	10°37'7°	23 T 23	7°35'	7°35'	T 23	
F 24	8 12 54	4° 5'27"	19° 5'22°	21° 1°15'	27°59'8°	41 29°55'	22°34'5°	25'18°	24'0°	13 29° 7'	10°44'7°	24 F 24	7°41'	7°41'	F 24	
S 25	8 16 50	5° 6'25"	3°11'23°	28° 1° 9'	28°43'8°	33 29°56'	22°37'5°	27'18°	23'0°	2 29° 4'	10°50'7°	25 S 25	7°46'	7°46'	S 25	
S 26	8 20 47	6° 7'21"	16°52'24°	29 1° 1'	29°27'8°	25 29°57'	22°41'5°	29'18°	22'29°	1 29° 1'	10°57'7°	26 S 26	7°52'	7°52'	S 26	
M27	8 24 43	7° 8'17"	0°19'25°	23 0°50'	0°11'8°	17 29°59'	22°44'5°	31'18°	22'29°	45 28°57'	11° 3'7°	27 M27	7°57'	7°57'	M27	
T 28	8 28 40	8° 9'11"	12°55'26°	8 0°37'	0°55'8°	9 29°59'	22°48'5°	33'18°	21'29°	39 28°54'	11°10'8°	28 T 28	8° 3'00"	8° 3'00"	T 28	
W29	8 32 37	9°10'04"	25°21'26°	45 0°21'	1°38'8°	1 0°11'	22°51'5°	35'18°	20'29°	36 28°51'	11°17'8°	29 W29	8° 8'00"	8° 8'00"	W29	
T 30	8 36 33	10°10'56"	7°29'27°	12 0° 3'	2°22'7°	54 0° 2'	22°54'5°	37'18°	19'29°	D35 28°48'	11°23'8°	30 T 30	8°14'	8°14'	T 30	
F 31	8 40 30	11°11'46"	19°25'27°	28 2°28'	29°42'3°	6 7°46'	0°11'3'	22°58'5°	39'18°	19 29°13'	11°30'8°	31 F 31	8°19'	8°19'	F 31	

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓		
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
W 1	23s 3	10n 9	3n39	24s35	2s 4	13s32	0n 9	22s19	0s 8	18n 7	0n46	8s49	2n26	22s16	0s28	22s26	0n58	15n 2	8s 0	20s33	20s15	21n 1	17s24	5n58											
T 2	22 58	13 52	2 48	24 24	2 6	13 11	0 19	22 25	0 8	18 9	0 46	8 50	2 26	22 16	0 28	22 26	0 58	15 2	8 0	20 33	20 15	21 1	17 24	5 58											
F 3	22 52	16 58	1 50	24 11	2 7	12 49	0 28	22 31	0 9	18 11	0 46	8 51	2 27	22 15	0 28	22 26	0 58	15 2	8 0	20 33	20 14	21 1	17 24	5 59											
S 4	22 46	19 20	0 48	23 57	2 7	12 28	0 38	22 38	0 10	18 13	0 47	8 52	2 27	22 14	0 28	22 26	0 58	15 2	8 0	20 34	20 13	21 1	17 23	5 59											
S 5	22 40	20 52	0s16	23 41	2 7	12 6	0 48	22 43	0 11	18 15	0 47	8 53	2 27	22 14	0 28	22 26	0 58	15 2	8 0	20 34	20 13	21 2	17 23	5 59											
M 6	22 33	21 29	1 19	23 23	2 7	11 45	0 59	22 49	0 11	18 17	0 47	8 54	2 27	22 13	0 28	22 26	0 58	15 2	8 0	20 33	20 12	21 2	17 22	5 59											
T 7	22 26	21 9	2 20	23 4	2 6	11 24	1 9	22 54	0 12	18 19	0 47	8 55	2 27	22 13	0 28	22 26	0 58	15 2	8 0	20 33	20 11	21 2	17 22	5 59											
W 8	22 18	19 51	3 14	22 43	2 4	11 4	1 21	23 0	0 13	18 21	0 47	8 56	2 28	22 12	0 28	22 26	0 58	15 2	7 59	20 32	20 11	21 2	17 22	5 59											
T 9	22 9	17 37	4 0	22 21	2 2	10 43	1 32	23 5	0 13	18 23	0 48	8 57	2 28	22 12	0 28	22 26	0 58	15 2	7 59	20 30	20 10	21 2	17 21	5 59											
F 10	22 1	14 35	4 35	21 57	2 0	10 23	1 43	23 9	0 14	18 25	0 48	8 58	2 28	22 11	0 28	22 25	0 58	15 2	7 59	20 28	20 9	21 2	17 21	6 0											
S 11	21 52	10 51	4 58	21 31	1 57	10 3	1 55	23 14	0 15	18 27	0 48	8 59	2 28	22 11	0 28	22 25	0 58	15 2	7 59	20 26	20 9	21 3	17 20	6 0											
S 12	21 42	6 36	5 7	21 4	1 53	9 44	2 7	23 18	0 15	18 29	0 48	8 59	2 29	22 10	0 28	22 25	0 58	15 2	7 59	20 24	20 8	21 3	17 20	6 0											
M13	21 32	1 59	5 0	20 35	1 49	9 25	2 20	23 22	0 16	18 31	0 48	9 0	2 29	22 9	0 28	22 25	0 58	15 2	7 59	20 23	20 7	21 3	17 19	6 0											
T 14	21 22	2s48	4 37	20 5	1 44	9 6	2 32	23 26	0 17	18 33	0 48	9 1	2 29	22 9	0 28	22 25	0 58	15 2	7 59	20 21	20 7	21 3	17 19	6 0											
W15	21 11	7 32	3 59	19 34	1 38	8 48	2 45	23 30	0 17	18 35	0 49	9 1	2 29	22 8	0 28	22 25	0 58	15 2	7 58	20 21	20 6	21 3	17 18	6 1											
T 16	21 0	11 59	3 7	19 1	1 32	8 31	2 58	23 33	0 18	18 38	0 49	9 2	2 30	22 8	0 28	22 25	0 58	15 2	7 58	20 21	20 5	21 3	17 18	6 1											
F 17	20 48	15 53	2 3	18 28	1 24	8 14	3 12	23 36	0 19	18 40	0 49	9 3	2 30	22 7	0 28	22 25	0 58	15 3	7 58	20 21	20 5	21 3	17 17	6 1											
S 18	20 36	18 57	0 50	17 53	1 16	7 57	3 25	23 39	0 20	18 42	0 49	9 3	2 30	22 7	0 28	22 25	0 58	15 3	7 58	20 21	20 4	21 3	17 17	6 1											
S 19	20 24	20 52	0n27	17 17	1 7	7 41	3 39	23 42	0 20	18 44	0 49	9 4	2 30	22 6	0 28	22 25	0 58	15 3	7 58	20 21	20 3	21 4	17 16	6 1											
M20	20 11	21 25	1 43	16 41	0 58	7 26	3 53	23 44	0 21	18 47	0 49	9 4	2 31	22 6	0 28	22 25	0 58	15 3	7 58	20 20	20 3	21 4	17 16	6 2											
T 21	19 58	20 30	2 53	16 4	0 47	7 11	4 7	23 47	0 22	18 49	0 50	9 4	2 31	22 5	0 28	22 25	0 58	15 3	7 57	20 20	20 2	21 4	17 15	6 2											
W22	19 44	18 11	3 51	15 28	0 36	6 58	4 21	23 49	0 23	18 51	0 50	9 5	2 31	22 4	0 28	22 24	0 58	15 3	7 57	20 18	20 1	21 4	17 15	6 2											
T 23	19 30	14 42	4 34	14 51	0 23	6 45	4 35	23 50	0 23	18 53	0 50	9 5	2 31	22 4	0 28	22 24	0 58	15 3	7 57	20 16	20 0	21 4	17 14	6 2											
F 24	19 16	10 24	4 58	14 15	0 10	6 32	4 49	23 52	0 24	18 55	0 50	9 5	2 32	22 3	0 28	22 24	0 58	15 3	7 57	20 14	20 0	21 4	17 13	6 3											
S 25	19 1	5 39	5 3	13 39	0n 4	6 21	5 3	23 53	0 25	18 58	0 50	9 6	2 32	22 3	0 28	22 24	0 58	15 3	7 57	20 12	19 59	21 4	17 13	6 3											
S 26	18 47	0 44	4 51	13 5	0 19	6 11	5 18	23 54	0 25	19 0	0 50	9 6	2 32	22 2	0 28	22 24	0 58	15 3	7 57	20 10	19 58	21 4	17 12	6 3											
M27	18 31	4n 3	4 23	12 33	0 34	6 1	5 32	23 55	0 26	19 2	0 50	9 6	2 33	22 2	0 28	22 24	0 58	15 4	7 56	20 8	19 58	21 4	17 12	6 4											
T 28	18 16	8 31	3 42	12 2	0 51	5 53	5 46	23 56	0 27	19 4	0 50	9 6	2 33	22 1	0 28	22 24	0 58	15 4	7 56	20 7	19 57	21 4	17 11	6 4											
W29	18 0	12 29	2 52	11 34	1 7	5 45	6 0	23 56	0 28	19 6	0 51	9 6	2 33	22 0	0 28	22 24	0 58	15 4	7 56	20 6	19 56	21 4	17 10	6 4											
T 30	17 43	15 51	1 55	11 9	1 24	5 39	6 13	23 56	0 28	19 9	0 51	9 7	2 33	22 0	0 28	22 24	0 58	15 4	7 56	20 6	19 56	21 4	17 10	6 5											
F 31	17s27	18n29	0n54	10s47	1n41	5s33	6n27	23s56	0s29	19n11	0n51	9s 7	2n34	21s59	0s28	22s24	0n58	15n 4	7s56	20s 6	19s55	21n 4	17s 9	6n 5											

ASTRODIENST EPHEMERIS for the year 1659

geocentric

FEBRUARY 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	8 44 26	12 ²² 12'34	1 ¹¹ 13	27°R34	29°R19	3 ³ 50	7°R38	0 ¹¹ 3	23 ³ 1	5 ³ 40	18°R18	29°R36	28 ¹¹ 41	11 ¹¹ 37	8 ³ 25	S 1	
S 2	8 48 23	13°13'21	13° 0	27 ²² 29	28 ²² 54	4°34	7 ¹² 30	0° 4	23° 5	5°42	18 ¹¹ 18	29 ¹¹ 35	28°38	11°43	8°30	S 2	
M 3	8 52 19	14°14'07	24°50	27°13	28°26	5°19	7°22	0° 4	23° 8	5°44	18°17	29°32	28°35	11°50	8°35	M 3	
T 4	8 56 16	15°14'51	6 ²² 48	26°46	27°57	6° 3	7°14	0° 5	23°11	5°46	18°16	29°26	28°32	11°57	8°40	T 4	
W 5	9 0 12	16°15'34	18°57	26° 9	27°26	6°47	7° 6	0° 5	23°15	5°48	18°16	29°18	28°29	12° 3	8°46	W 5	
T 6	9 4 9	17°16'15	1 ¹² 20	25°23	26°53	7°31	6°58	0° 5	23°18	5°50	18°15	29° 7	28°26	12°10	8°51	T 6	
F 7	9 8 6	18°16'55	13°57	24°29	26°19	8°15	6°51	0° 6	23°21	5°52	18°15	28°54	28°22	12°17	8°56	F 7	
S 8	9 12 2	19°17'33	26°49	23°29	25°44	8°59	6°43	0°R 6	23°25	5°53	18°14	28°41	28°19	12°23	9° 1	S 8	
S 9	9 15 59	20°18'10	9 ¹¹ 54	22°24	25° 8	9°44	6°35	0° 5	23°28	5°55	18°14	28°27	28°16	12°30	9° 6	S 9	
M10	9 19 55	21°18'45	23°12	21°16	24°31	10°28	6°28	0° 5	23°31	5°57	18°13	28°16	28°13	12°37	9°11	M10	
T 11	9 23 52	22°19'19	6 ²² 41	20° 7	23°54	11°12	6°20	0° 5	23°34	5°59	18°13	28° 7	28°10	12°43	9°16	T 11	
W12	9 27 48	23°19'52	20°18	18°59	23°16	11°57	6°13	0° 5	23°38	6° 0	18°12	28° 1	28° 6	12°50	9°21	W12	
T 13	9 31 45	24°20'24	4 ¹¹ 4	17°53	22°39	12°41	6° 6	0° 4	23°41	6° 2	18°12	27°58	28° 3	12°56	9°26	T 13	
F 14	9 35 41	25°20'54	17°58	16°50	22° 2	13°26	5°58	0° 3	23°44	6° 4	18°12	27°57	28° 0	13° 3	9°30	F 14	
S 15	9 39 38	26°21'23	1 ¹² 59	15°53	21°25	14°10	5°51	0° 3	23°47	6° 5	18°11	27°57	27°57	13°10	9°35	S 15	
S 16	9 43 35	27°21'51	16° 8	15° 2	20°49	14°55	5°44	0° 2	23°50	6° 7	18°11	27°56	27°54	13°16	9°40	S 16	
M17	9 47 31	28°22'17	0 ¹² 23	14°18	20°15	15°39	5°37	0° 1	23°53	6° 8	18°11	27°54	27°51	13°23	9°44	M17	
T 18	9 51 28	29°22'42	14°43	13°41	19°42	16°24	5°31	29 ²² 59	23°56	6°10	18°10	27°49	27°47	13°30	9°49	T 18	
W19	9 55 24	0 ¹² 23'06	29° 2	13°11	19°10	17° 8	5°24	29°59	23°59	6°12	18°10	27°41	27°44	13°36	9°53	W19	
T 20	9 59 21	1°23'28	13 ²² 18	12°48	18°40	17°53	5°17	29°57	24° 2	6°13	18°10	27°30	27°41	13°43	9°58	T 20	
F 21	10 3 17	2°23'48	27°24	12°33	18°11	18°37	5°11	29°56	24° 5	6°14	18°10	27°18	27°38	13°50	10° 2	F 21	
S 22	10 7 14	3°24'07	11 ¹² 14	12°24	17°45	19°22	5° 5	29°55	24° 8	6°16	18° 9	27° 5	27°35	13°56	10° 7	S 22	
S 23	10 11 10	4°24'24	24°45	12°D23	17°21	20° 7	4°58	29°53	24°11	6°17	18° 9	26°53	27°32	14° 3	10°11	S 23	
M24	10 15 7	5°24'39	7°Y54	12°28	16°59	20°52	4°52	29°52	24°14	6°19	18° 9	26°43	27°28	14°10	10°15	M24	
T 25	10 19 4	6°24'52	20°41	12°39	16°39	21°36	4°47	29°50	24°17	6°20	18° 9	26°36	27°25	14°16	10°19	T 25	
W26	10 23 0	7°25'03	3 ¹² 8	12°57	16°22	22°21	4°41	29°48	24°20	6°21	18° 9	26°31	27°22	14°23	10°23	W26	
T 27	10 26 57	8°25'12	15°17	13°19	16° 7	23° 6	4°35	29°46	24°23	6°23	18° 9	26°29	27°19	14°30	10°27	T 27	
F 28	10 30 53	9 ¹² 25'18	27 ¹² 14	13 ²² 47	15 ²² 54	23 ²² 51	4 ¹² 30	29 ²² 44	24 ²² 25	6 ¹² 24	18 ¹² 9	26°D29	27 ¹² 16	14 ¹² 36	10 ¹² 31	F 28	

Day	☉	☾		♀		♀		♂		♂		♄	♅		♅		♅		♅		♁	♁	♂	♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	lat
S 1	17s10	20n18	0s 9	10s29	1n58	5s29	6n40	23s55	0s30	19n13	0n51	9s 7	2n34	21s59	0s28	22s24	0n58	15n 4	7s55	20s 6	19s54	21n 4	17s 8	6n 5	
S 2	16 53	21 14	1 11	10 15	2 15	5 26	6 52	23 55	0 31	19 15	0 51	9 7	2 34	21 58	0 28	22 23	0 58	15 4	7 55	20 6	19 54	21 4	17 8	6 6	
M 3	16 35	21 13	2 10	10 6	2 31	5 24	7 5	23 54	0 31	19 17	0 51	9 7	2 34	21 58	0 28	22 23	0 58	15 5	7 55	20 5	19 53	21 5	17 7	6 6	
T 4	16 18	20 15	3 4	10 0	2 46	5 22	7 16	23 53	0 32	19 19	0 51	9 6	2 35	21 57	0 28	22 23	0 58	15 5	7 55	20 4	19 52	21 5	17 6	6 6	
W 5	16 0	18 20	3 50	10 0	3 0	5 23	7 27	23 51	0 33	19 21	0 51	9 6	2 35	21 57	0 28	22 23	0 58	15 5	7 55	20 2	19 51	21 5	17 6	6 7	
T 6	15 41	15 34	4 26	10 3	3 13	5 24	7 38	23 50	0 34	19 23	0 51	9 6	2 35	21 56	0 28	22 23	0 58	15 5	7 54	20 0	19 51	21 5	17 5	6 7	
F 7	15 23	12 2	4 50	10 11	3 23	5 26	7 47	23 48	0 34	19 25	0 51	9 6	2 35	21 55	0 28	22 23	0 58	15 5	7 54	19 57	19 50	21 5	17 4	6 7	
S 8	15 4	7 53	5 0	10 23	3 32	5 29	7 56	23 46	0 35	19 27	0 51	9 6	2 36	21 55	0 28	22 23	0 58	15 5	7 54	19 54	19 49	21 5	17 4	6 8	
S 9	14 45	3 19	4 55	10 38	3 38	5 33	8 4	23 43	0 36	19 29	0 52	9 5	2 36	21 54	0 28	22 23	0 58	15 5	7 54	19 51	19 49	21 5	17 3	6 8	
M10	14 25	1s28	4 33	10 55	3 42	5 39	8 11	23 41	0 37	19 31	0 52	9 5	2 36	21 54	0 28	22 23	0 58	15 6	7 54	19 49	19 48	21 5	17 2	6 8	
T 11	14 6	6 16	3 56	11 15	3 44	5 45	8 17	23 38	0 37	19 33	0 52	9 5	2 36	21 53	0 28	22 23	0 58	15 6	7 53	19 47	19 47	21 5	17 1	6 9	
W12	13 46	10 48	3 5	11 37	3 43	5 52	8 23	23 35	0 38	19 35	0 52	9 4	2 37	21 53	0 28	22 23	0 58	15 6	7 53	19 45	19 46	21 5	17 1	6 9	
T 13	13 26	14 49	2 3	12 0	3 41	5 59	8 27	23 31	0 39	19 37	0 52	9 4	2 37	21 52	0 29	22 22	0 58	15 6	7 53	19 45	19 46	21 5	17 0	6 10	
F 14	13 6	18 3	0 53	12 23	3 36	6 8	8 30	23 28	0 40	19 39	0 52	9 3	2 37	21 52	0 29	22 22	0 58	15 6	7 53	19 44	19 45	21 5	16 59	6 10	
S 15	12 45	20 15	0n21	12 47	3 29	6 17	8 33	23 24	0 40	19 41	0 52	9 3	2 37	21 51	0 29	22 22	0 58	15 7	7 53	19 44	19 44	21 5	16 59	6 11	
S 16	12 25	21 11	1 35	13 9	3 21	6 27	8 34	23 20	0 41	19 43	0 52	9 2	2 38	21 51	0 29	22 22	0 58	15 7	7 52	19 44	19 44	21 5	16 58	6 11	
M17	12 4	20 46	2 42	13 32	3 11	6 37	8 35	23 15	0 42	19 44	0 52	9 2	2 38	21 50	0 29	22 22	0 58	15 7	7 52	19 44	19 43	21 5	16 57	6 11	
T 18	11 43	19 1	3 40	13 53	3 0	6 47	8 34	23 11	0 43	19 46	0 52	9 1	2 38	21 50	0 29	22 22	0 58	15 7	7 52	19 43	19 42	21 4	16 56	6 12	
W19	11 21	16 5	4 24	14 12	2 48	6 58	8 33	23 6	0 43	19 48	0 52	9 1	2 38	21 49	0 29	22 22	0 58	15 7	7 52	19 41	19 41	21 4	16 56	6 12	
T 20	11 0	12 12	4 51	14 30	2 36	7 9	8 31	23 1	0 44	19 49	0 52	9 0	2 39	21 49	0 29	22 22	0 58	15 7	7 52	19 38	19 41	21 4	16 55	6 13	
F 21	10 38	7 42	5 0	14 47	2 23	7 21	8 28	22 56	0 45	19 51	0 52	8 59	2 39	21 48	0 29	22 22	0 58	15 8	7 51	19 35	19 40	21 4	16 54	6 13	
S 22	10 17	2 52	4 51	15 2	2 10	7 32	8 24	22 50	0 46	19 53	0 52	8 59	2 39	21 48	0 29	22 22	0 58	15 8	7 51	19 33	19 39	21 4	16 53	6 14	
S 23	9 55	1n59	4 26	15 15	1 56	7 44	8 19	22 44	0 47	19 54	0 52	8 58	2 39	21 47	0 29	22 22	0 58	15 8	7 51	19 30	19 39	21 4	16 52	6 14	
M24	9 33	6 37	3 47	15 27	1 43	7 55	8 14	22 38	0 47	19 56	0 52	8 57	2 40	21 47	0 29	22 22	0 58	15 8	7 51	19 27	19 38	21 4	16 52	6 15	
T 25	9 10	10 50	2 58	15 36	1 30	8 7	8 8	22 32	0 48	19 57	0 52	8 56	2 40	21 46	0 29	22 21	0 58	15 8	7 50	19 26	19 37	21 4	16 51	6 15	
W26	8 48	14 28	2 1	15 44	1 16	8 18	8 1	22 26	0 49	19 58	0 52	8 55	2 40	21 46	0 29	22 21	0 58	15 9	7 50	19 25	19 36	21 4	16 50	6 16	
T 27	8 26	17 23	0 59	15 50	1 3	8 29	7 54	22 19	0 50	20 0	0 52	8 54	2 40	21 45	0 29	22 21	0 59	15 9	7 50	19 24	19 36	21 4	16 49	6 16	
F 28	8s 3	19n31	0s 4	15s55	0n51	8s40	7n47	22s12	0s50	20n 1	0n52	8s54	2n41	21s45	0s29	22s21	0n59	15n 9	7s50	19s24	19s35	21n 4	16s48	6n17	

Julian Day Number = 2327028.5, Delta T = 37.01 sec

Ecliptic obliquity = 23°28'56, Nutation = 0°00'16, out-of-bounds declination in red

ASTRODIENST EPHEMERIS for the year 1659

geocentric

MARCH 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	10 34 50	10 ^h 25'23	9 ^h 11' 4	14 ^h 19'19	15 ^h R44	24 ^h 35	4 ^h R24	29 ^h R42	24 ^h 38	6 ^h 25	18 ^h R 9	26 ^h R29	27 ^h 12	14 ^h 11'43	10 ^h 35	S 1
S 2	10 38 46	11 ^h 25'26	20 ^h 52	14 ^h 56	15 ^h 36	25 ^h 20	4 ^h 19	29 ^h 40	24 ^h 31	6 ^h 26	18 ^h D 9	26 ^h 12	27 ^h 9	14 ^h 50	10 ^h 39	S 2
M 3	10 42 43	12 ^h 25'26	20 ^h 44	15 ^h 36	15 ^h 31	26 ^h 5	4 ^h 14	29 ^h 37	24 ^h 33	6 ^h 28	18 ^h II 9	26 ^h 27	27 ^h 6	14 ^h 56	10 ^h 43	M 3
T 4	10 46 39	13 ^h 25'25	14 ^h 45	16 ^h 21	15 ^h 29	26 ^h 50	4 ^h 9	29 ^h 35	24 ^h 36	6 ^h 29	18 ^h 9	26 ^h 22	27 ^h 3	15 ^h 3	10 ^h 46	T 4
W 5	10 50 36	14 ^h 25'21	26 ^h 59	17 ^h 9	15 ^h D28	27 ^h 35	4 ^h 5	29 ^h 33	24 ^h 39	6 ^h 30	18 ^h 9	26 ^h 16	27 ^h 0	15 ^h 9	10 ^h 50	W 5
T 6	10 54 32	15 ^h 25'15	9 ^h 12	18 ^h 1	15 ^h 30	28 ^h 20	4 ^h 0	29 ^h 30	24 ^h 41	6 ^h 31	18 ^h 9	26 ^h 6	26 ^h 57	15 ^h 16	10 ^h 54	T 6
F 7	10 58 29	16 ^h 25'07	22 ^h 19	18 ^h 56	15 ^h 35	29 ^h 5	3 ^h 56	29 ^h 27	24 ^h 44	6 ^h 32	18 ^h 9	25 ^h 55	26 ^h 53	15 ^h 23	10 ^h 57	F 7
S 8	11 2 26	17 ^h 24'56	5 ^h 17	19 ^h 53	15 ^h 42	29 ^h 50	3 ^h 52	29 ^h 25	24 ^h 46	6 ^h 33	18 ^h 9	25 ^h 44	26 ^h 50	15 ^h 29	11 ^h 0	S 8
S 9	11 6 22	18 ^h 24'44	18 ^h 54	20 ^h 54	15 ^h 51	0 ^h 35	3 ^h 48	29 ^h 22	24 ^h 49	6 ^h 34	18 ^h 9	25 ^h 32	26 ^h 47	15 ^h 36	11 ^h 4	S 9
M10	11 10 19	19 ^h 24'30	2 ^h 16	21 ^h 57	16 ^h 2	1 ^h 20	3 ^h 44	29 ^h 19	24 ^h 51	6 ^h 35	18 ^h 9	25 ^h 22	26 ^h 44	15 ^h 43	11 ^h 7	M10
T 11	11 14 15	20 ^h 24'13	16 ^h 31	23 ^h 2	16 ^h 15	2 ^h 5	3 ^h 40	29 ^h 16	24 ^h 53	6 ^h 36	18 ^h 9	25 ^h 14	26 ^h 41	15 ^h 49	11 ^h 10	T 11
W12	11 18 12	21 ^h 23'55	0 ^h 13	24 ^h 10	16 ^h 31	2 ^h 50	3 ^h 37	29 ^h 13	24 ^h 56	6 ^h 37	18 ^h 10	25 ^h 9	26 ^h 38	15 ^h 56	11 ^h 13	W12
T 13	11 22 8	22 ^h 23'35	14 ^h 40	25 ^h 19	16 ^h 48	3 ^h 35	3 ^h 34	29 ^h 10	24 ^h 58	6 ^h 38	18 ^h 10	25 ^h 7	26 ^h 34	16 ^h 3	11 ^h 16	T 13
F 14	11 26 5	23 ^h 23'14	28 ^h 49	26 ^h 31	17 ^h 7	4 ^h 20	3 ^h 31	29 ^h 7	25 ^h 0	6 ^h 39	18 ^h 10	25 ^h D 6	26 ^h 31	16 ^h 9	11 ^h 19	F 14
S 15	11 30 1	24 ^h 22'51	12 ^h 58	27 ^h 45	17 ^h 29	5 ^h 5	3 ^h 28	29 ^h 3	25 ^h 2	6 ^h 40	18 ^h 10	25 ^h 7	26 ^h 28	16 ^h 16	11 ^h 22	S 15
S 16	11 33 58	25 ^h 22'26	27 ^h 6	29 ^h 1	17 ^h 52	5 ^h 51	3 ^h 25	29 ^h 0	25 ^h 5	6 ^h 40	18 ^h 11	25 ^h R 7	26 ^h 25	16 ^h 23	11 ^h 25	S 16
M17	11 37 55	26 ^h 21'59	11 ^h 10	0 ^h 19	18 ^h 17	6 ^h 36	3 ^h 23	28 ^h 57	25 ^h 7	6 ^h 41	18 ^h 11	25 ^h 6	26 ^h 22	16 ^h 29	11 ^h 28	M17
T 18	11 41 51	27 ^h 21'31	25 ^h 12	1 ^h 38	18 ^h 43	7 ^h 21	3 ^h 20	28 ^h 53	25 ^h 9	6 ^h 42	18 ^h 11	25 ^h 3	26 ^h 18	16 ^h 36	11 ^h 31	T 18
W19	11 45 48	28 ^h 21'00	9 ^h 37	3 ^h 0	19 ^h 11	8 ^h 6	3 ^h 18	28 ^h 49	25 ^h 11	6 ^h 43	18 ^h 12	24 ^h 58	26 ^h 15	16 ^h 43	11 ^h 33	W19
T 20	11 49 44	29 ^h 20'28	22 ^h 56	4 ^h 22	19 ^h 41	8 ^h 51	3 ^h 16	28 ^h 46	25 ^h 13	6 ^h 43	18 ^h 12	24 ^h 50	26 ^h 12	16 ^h 49	11 ^h 36	T 20
F 21	11 53 41	0 ^h 19'54	6 ^h 34	5 ^h 47	20 ^h 12	9 ^h 37	3 ^h 14	28 ^h 42	25 ^h 15	6 ^h 44	18 ^h 12	24 ^h 41	26 ^h 9	16 ^h 56	11 ^h 38	F 21
S 22	11 57 37	1 ^h 19'18	19 ^h 59	7 ^h 13	20 ^h 45	10 ^h 22	3 ^h 13	28 ^h 38	25 ^h 17	6 ^h 44	18 ^h 13	24 ^h 31	26 ^h 6	17 ^h 3	11 ^h 41	S 22
S 23	12 1 34	2 ^h 18'40	3 ^h 19	8 ^h 40	21 ^h 19	11 ^h 7	3 ^h 11	28 ^h 35	25 ^h 19	6 ^h 45	18 ^h 13	24 ^h 22	26 ^h 3	17 ^h 9	11 ^h 43	S 23
M24	12 5 30	3 ^h 18'00	16 ^h 3	10 ^h 9	21 ^h 54	11 ^h 53	3 ^h 10	28 ^h 31	25 ^h 21	6 ^h 46	18 ^h 14	24 ^h 15	25 ^h 59	17 ^h 16	11 ^h 45	M24
T 25	12 9 27	4 ^h 17'18	28 ^h 40	11 ^h 40	22 ^h 31	12 ^h 38	3 ^h 9	28 ^h 27	25 ^h 22	6 ^h 46	18 ^h 14	24 ^h 9	25 ^h 56	17 ^h 23	11 ^h 47	T 25
W26	12 13 24	5 ^h 16'34	11 ^h 18	13 ^h 12	23 ^h 8	13 ^h 23	3 ^h 8	28 ^h 23	25 ^h 24	6 ^h 46	18 ^h 15	24 ^h 6	25 ^h 53	17 ^h 29	11 ^h 49	W26
T 27	12 17 20	6 ^h 15'47	23 ^h 7	14 ^h 45	23 ^h 47	14 ^h 8	3 ^h 8	28 ^h 19	25 ^h 26	6 ^h 47	18 ^h 15	24 ^h D 5	25 ^h 50	17 ^h 36	11 ^h 51	T 27
F 28	12 21 17	7 ^h 14'59	5 ^h 11	16 ^h 20	24 ^h 28	14 ^h 54	3 ^h 7	28 ^h 15	25 ^h 27	6 ^h 47	18 ^h 16	24 ^h 6	25 ^h 47	17 ^h 43	11 ^h 53	F 28
S 29	12 25 13	8 ^h 14'08	16 ^h 54	17 ^h 57	25 ^h 9	15 ^h 39	3 ^h 7	28 ^h 11	25 ^h 29	6 ^h 48	18 ^h 16	24 ^h 7	25 ^h 43	17 ^h 49	11 ^h 55	S 29
S 30	12 29 10	9 ^h 13'14	28 ^h 42	19 ^h 34	25 ^h 51	16 ^h 24	3 ^h D 7	28 ^h 6	25 ^h 31	6 ^h 48	18 ^h 17	24 ^h 9	25 ^h 40	17 ^h 56	11 ^h 57	S 30
M31	12 33 6	10 ^h 12'19	10 ^h 34	21 ^h 14	26 ^h 34	17 ^h 10	3 ^h 7	28 ^h 2	25 ^h 32	6 ^h 48	18 ^h II 18	24 ^h R 9	25 ^h 13	18 ^h II 2	11 ^h 59	M31

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	7s40	20n45	1 s 6	15s57	0n38	8s50	7n39	22s 5	0s51	20n 2	0n52	8s53	2n41	21s44	0s29	22s21	0n59	15n 9	7s50	19s24	19s34	21n 4	16s48	6n17	
S 2	7 18	21 5	2 6	15 58	0 26	9 1	7 30	21 58	0 52	20 4	0 52	8 52	2 41	21 44	0 29	22 21	0 59	15 10	7 49	19 24	19 34	21 4	16 47	6 18	
M 3	6 55	20 27	3 0	15 58	0 14	9 11	7 21	21 50	0 53	20 5	0 52	8 51	2 41	21 43	0 29	22 21	0 59	15 10	7 49	19 24	19 33	21 4	16 46	6 18	
T 4	6 32	18 54	3 47	15 55	0 3	9 20	7 12	21 42	0 53	20 6	0 52	8 50	2 41	21 43	0 29	22 21	0 59	15 10	7 49	19 23	19 32	21 3	16 45	6 19	
W 5	6 9	16 29	4 24	15 51	0s 8	9 29	7 3	21 34	0 54	20 7	0 52	8 49	2 42	21 43	0 29	22 21	0 59	15 10	7 49	19 21	19 31	21 3	16 45	6 19	
T 6	5 45	13 15	4 50	15 46	0 19	9 38	6 53	21 26	0 55	20 8	0 52	8 47	2 42	21 42	0 29	22 21	0 59	15 10	7 49	19 19	19 31	21 3	16 44	6 20	
F 7	5 22	9 20	5 2	15 39	0 29	9 46	6 43	21 17	0 56	20 9	0 52	8 46	2 42	21 42	0 29	22 21	0 59	15 11	7 48	19 16	19 30	21 3	16 43	6 20	
S 8	4 59	4 54	4 58	15 30	0 39	9 54	6 33	21 9	0 56	20 10	0 52	8 45	2 42	21 41	0 29	22 21	0 59	15 11	7 48	19 13	19 29	21 3	16 42	6 21	
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M10	4 12	4s44	4 2	15 8	0 58	10 7	6 13	20 50	0 58	20 12	0 52	8 43	2 43	21 40	0 29	22 20	0 59	15 11	7 48	19 8	19 28	21 3	16 40	6 22	
T 11	3 49	9 26	3 10	14 54	1 6	10 13	6 3	20 41	0 59	20 13	0 52	8 42	2 43	21 40	0 29	22 20	0 59	15 12	7 47	19 6	19 27	21 3	16 40	6 22	
W12	3 25	13 40	2 7	14 40	1 14	10 19	5 52	20 32	1 0	20 13	0 52	8 40	2 43	21 40	0 29	22 20	0 59	15 12	7 47	19 5	19 26	21 3	16 39	6 23	
T 13	3 1	17 9	0 55	14 23	1 22	10 24	5 42	20 22	1 0	20 14	0 52	8 39	2 43	21 39	0 29	22 20	0 59	15 12	7 47	19 5	19 25	21 2	16 38	6 23	
F 14	2 38	19 37	0n20	14 6	1 29	10 28	5 31	20 12	1 1	20 15	0 52	8 38	2 43	21 39	0 29	22 20	0 59	15 12	7 47	19 5	19 25	21 2	16 37	6 24	
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S 16	1 51	20 45	2 42	13 26	1 42	10 34	5 10	19 51	1 3	20 16	0 52	8 35	2 44	21 38	0 29	22 20	0 59	15 13	7 46	19 5	19 23	21 2	16 36	6 25	
M17	1 27	19 21	3 41	13 4	1 48	10 37	5 0	19 41	1 3	20 17	0 52	8 34	2 44	21 38	0 29	22 20	0 59	15 13	7 46	19 5	19 22	21 2	16 35	6 26	
T 18	1 3	16 47	4 25	12 41	1 54	10 39	4 50	19 30	1 4	20 17	0 52	8 32	2 44	21 37	0 29	22 20	0 59	15 13	7 46	19 4	19 22	21 2	16 34	6 26	
W19	0 39	13 17	4 54	12 16	1 59	10 40	4 39	19 19	1 5	20 18	0 52	8 31	2 44	21 37	0 29	22 20	0 59	15 13	7 46	19 2	19 21	21 1	16 33	6 27	
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F 21	0n 8	4 29	4 59	11 23	2 8	10 41	4 19	18 56	1 6	20 18	0 52	8 28	2 44	21 36	0 29	22 20	0 59	15 14	7 45	18 58	19 19	21 1	16 32	6 28	
S 22	0 32	0n16	4 36	10 54	2 11	10 40	4 9	18 45	1 7	20 19	0 52	8 27	2 45	21 36	0 29	22 20	0 59	15 14	7 45	18 56	19 19	21 1	16 31	6 29	
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M24	1 19	9 15	3 10	9 53	2 17	10 37	3 49	18 21	1 9	20 19	0 52	8 24	2 45	21 35	0 29	22 20	0 59	15 15	7 45	18 52	19 17	21 1	16 29	6 30	
T 25	1 42	13 5	2 13	9 21	2 20	10 35	3 39	18 9	1 9	20 19	0 52	8 22	2 45	21 35	0 29	22 20	0 59	15 15	7 44	18 51	19 16	21 1	16 29	6 30	
W26	2 6	16 16	1 10	8 47	2 21	10 32	3 30	17 57	1 10	20 20	0 52	8 21	2 45	21 35	0 30	22 19	0 59	15 15	7 44	18 50	19 16	21 0	16 28	6 31	
T 27	2 29	18 40	0 5	8 12	2 23	10 28	3 20	17 45	1 11	20 20	0 51	8 19	2 45	21 35	0 30	22 19	0 59	15 15	7 44	18 50	19 15	21 0	16 27	6 32	
F 28	2 53	20 13	0s59	7 36	2 24	10 24	3 10	17 32	1 11	20 20	0 51	8 18	2 45	21 34	0 30	22 19	0 59	15 16	7 44	18 50	19 14	21 0	16 26	6 32	
S 29	3 16	20 50	2 0	6 59	2 24	10 19	3 1	17 19	1 12	20 20	0 51	8 16	2 45	21 34	0 30	22 19	0 59	15 16	7 44	18 50	19 13	20 59	16 26	6 33	
S 30	3 40	20 32	2 56	6 20	2 24	10 14	2 52	17 6	1 13	20 20	0 51	8 15	2 46	21 34	0 30	22 19	0 59	15 16	7 43	18 50	19 13	20 59	16 25	6 33	
M31	4n 3	19n19	3s45	5s41	2s23	10s 8	2n43	16s53	1s14	20n20	0n51	8s13	2n46	21s34	0s30	22s19	0n59	15n17	7s43	18s51	19s12	20n59	16s24	6n34	

ASTRODIENST EPHEMERIS for the year 1659

geocentric

APRIL 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	12 37 3	11°11'21"	22°35'	22°35'	27°18'	17°55'	3°7'	27°58'	25°34'	6°49'	18°18'	24°R 8	25°34'	18°11' 9	12°30'	T 1
W 2	12 40 59	12°10'21"	4°50'	24°37'	28° 3'	18°40'	3° 8'	27°54'	25°35'	6°49'	18°19'	24°M 6	25°31'	18°16'	12° 2'	W 2
T 3	12 44 56	13° 9'18"	17°23'	26°20'	28°49'	19°26'	3° 9'	27°49'	25°36'	6°49'	18°20'	24° 2	25°28'	18°22'	12° 3'	T 3
F 4	12 48 53	14° 8'13"	0°17'	28° 5'	29°36'	20°11'	3°10'	27°45'	25°38'	6°49'	18°20'	23°56'	25°24'	18°29'	12° 4'	F 4
S 5	12 52 49	15° 7'06"	13°34'	29°52'	0°24'	20°56'	3°11'	27°41'	25°39'	6°49'	18°21'	23°50'	25°21'	18°36'	12° 6'	S 5
S 6	12 56 46	16° 5'57"	27°14'	1°40'	1°12'	21°42'	3°12'	27°36'	25°40'	6°49'	18°22'	23°43'	25°18'	18°42'	12° 7'	S 6
M 7	13 0 42	17° 4'46"	11°15'	3°30'	2° 1'	22°27'	3°13'	27°32'	25°41'	6°49'	18°22'	23°38'	25°15'	18°49'	12° 8'	M 7
T 8	13 4 39	18° 3'32"	25°33'	5°21'	2°51'	23°13'	3°15'	27°27'	25°43'	6°49'	18°23'	23°34'	25°12'	18°56'	12° 9'	T 8
W 9	13 8 35	19° 2'17"	10°11'	7°14'	3°42'	23°58'	3°17'	27°23'	25°44'	6°49'	18°24'	23°31'	25° 9'	19° 2'	12°10'	W 9
T 10	13 12 32	20° 1'00"	24°35'	9° 8'	4°33'	24°43'	3°19'	27°18'	25°45'	6°49'	18°25'	23°D31	25° 5'	19° 9'	12°11'	T 10
F 11	13 16 28	20°59'41"	9°21' 9	11° 3'	5°25'	25°29'	3°21'	27°14'	25°46'	6°49'	18°26'	23°32'	25° 2'	19°16'	12°11'	F 11
S 12	13 20 25	21°58'20"	23°37'	13° 1'	6°18'	26°14'	3°23'	27° 9'	25°47'	6°49'	18°26'	23°33'	24°59'	19°22'	12°12'	S 12
S 13	13 24 21	22°56'58"	7°35'	14°59'	7°11'	27° 0'	3°26'	27° 5'	25°47'	6°49'	18°27'	23°34'	24°56'	19°29'	12°13'	S 13
M14	13 28 18	23°55'34"	22° 4'	17° 0'	8° 5'	27°45'	3°29'	27° 0'	25°48'	6°49'	18°28'	23°R35	24°53'	19°36'	12°13'	M14
T 15	13 32 15	24°54'08"	6°30'	19° 1'	8°59'	28°30'	3°31'	26°56'	25°49'	6°49'	18°29'	23°35'	24°49'	19°42'	12°13'	T 15
W16	13 36 11	25°52'41"	19°41'	21° 4'	9°54'	29°16'	3°34'	26°51'	25°50'	6°49'	18°30'	23°33'	24°46'	19°49'	12°14'	W16
T 17	13 40 8	26°51'12"	3°10'	23° 8'	10°50'	0°11'	3°38'	26°46'	25°51'	6°48'	18°31'	23°30'	24°43'	19°56'	12°14'	T 17
F 18	13 44 4	27°49'41"	16°24'	25°14'	11°45'	0°46'	3°41'	26°42'	25°51'	6°48'	18°32'	23°26'	24°40'	20° 2'	12°14'	F 18
S 19	13 48 1	28°48'09"	29°25'	27°20'	12°42'	1°32'	3°45'	26°37'	25°52'	6°48'	18°33'	23°22'	24°37'	20° 9'	12°R14	S 19
S 20	13 51 57	29°46'35"	12°12'	29°28'	13°39'	2°17'	3°48'	26°33'	25°52'	6°47'	18°34'	23°19'	24°34'	20°16'	12°14'	S 20
M21	13 55 54	0°34'45"	24°46'	1°36'	14°36'	3° 3'	3°52'	26°28'	25°53'	6°47'	18°35'	23°16'	24°30'	20°22'	12°14'	M21
T 22	13 59 50	1°43'21"	7° 8'	3°44'	15°34'	3°48'	3°56'	26°24'	25°53'	6°46'	18°36'	23°14'	24°27'	20°29'	12°14'	T 22
W23	14 3 47	2°41'42"	19°18'	5°53'	16°32'	4°33'	4° 1'	26°19'	25°54'	6°46'	18°37'	23°D13	24°24'	20°36'	12°14'	W23
T 24	14 7 44	3°40'01"	1°18'	8° 2'	17°30'	5°19'	4° 5'	26°14'	25°54'	6°46'	18°38'	23°13'	24°21'	20°42'	12°13'	T 24
F 25	14 11 40	4°38'17"	13°11'	10°11'	18°29'	6° 4'	4°10'	26°10'	25°54'	6°45'	18°39'	23°14'	24°18'	20°49'	12°13'	F 25
S 26	14 15 37	5°36'32"	25° 0'	12°19'	19°29'	6°49'	4°15'	26° 6'	25°55'	6°44'	18°40'	23°15'	24°14'	20°56'	12°13'	S 26
S 27	14 19 33	6°34'45"	6°49'	14°27'	20°28'	7°34'	4°19'	26° 1'	25°55'	6°44'	18°41'	23°17'	24°11'	21° 2'	12°12'	S 27
M28	14 23 30	7°32'56"	18°41'	16°33'	21°28'	8°20'	4°24'	25°57'	25°55'	6°43'	18°42'	23°18'	24° 8'	21° 9'	12°11'	M28
T 29	14 27 26	8°31'05"	0°41'	18°38'	22°28'	9° 5'	4°30'	25°52'	25°55'	6°43'	18°43'	23°19'	24° 5'	21°16'	12°11'	T 29
W30	14 31 23	9°29'12"	12°55'	20°41'	23°29'	9°50'	4°35'	25°48'	25°R55	6°42'	18°44'	23°R19	24°M 2	21°12'	12°30'	W30

Day	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	
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ASTRODIENST EPHEMERIS for the year 1659

geocentric

MAY 1659 GC

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Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	14 35 19	10♂27'17	25♂25	22♂42	24♂30	10♂35	4♂41	25°R43	25°R55	6°R41	18♂46	23°R18	23♂59	21♂29	12°R 9	T 1
F 2	14 39 16	11°25'20	8♂18	24°41	25°31	11°21	4°46	25♂39	25♂55	6♂41	18°47	23♂17	23°55	21°36	12♂8	F 2
S 3	14 43 13	12°23'21	21°34	26°38	26°33	12° 6	4°52	25°35	25°55	6°40	18°48	23°16	23°52	21°42	12° 7	S 3
S 4	14 47 9	13°21'20	5♂17	28°31	27°34	12°51	4°58	25°31	25°55	6°39	18°49	23°15	23°49	21°49	12° 6	S 4
M 5	14 51 6	14°19'17	19°24	0♂22	28°36	13°36	5° 4	25°26	25°54	6°38	18°50	23°14	23°46	21°56	12° 4	M 5
T 6	14 55 2	15°17'13	3♂54	2°10	29°39	14°21	5°10	25°22	25°54	6°37	18°51	23°13	23°43	22° 2	12° 3	T 6
W 7	14 58 59	16°15'07	18°41	3°55	0♂41	15° 6	5°17	25°18	25°54	6°37	18°53	23°D13	23°40	22° 9	12° 2	W 7
T 8	15 2 55	17°13'00	3♂37	5°37	1°44	15°51	5°23	25°14	25°54	6°36	18°54	23°13	23°36	22°16	12° 0	T 8
F 9	15 6 52	18°10'51	18°35	7°15	2°47	16°36	5°30	25°10	25°53	6°35	18°55	23°13	23°33	22°22	11°59	F 9
S 10	15 10 48	19° 8'41	3♂26	8°50	3°51	17°21	5°37	25° 6	25°53	6°34	18°56	23°13	23°30	22°29	11°57	S 10
S 11	15 14 45	20° 6'30	18° 5	10°22	4°54	18° 6	5°44	25° 2	25°52	6°33	18°58	23°14	23°27	22°36	11°55	S 11
M12	15 18 42	21° 4'17	2♂26	11°49	5°58	18°51	5°51	24°58	25°52	6°32	18°59	23°14	23°24	22°42	11°54	M12
T 13	15 22 38	22° 2'04	16°27	13°14	7° 2	19°36	5°58	24°54	25°51	6°31	19° 0	23°14	23°20	22°49	11°52	T 13
W14	15 26 35	22°59'49	0♂7	14°34	8° 6	20°21	6° 6	24°51	25°50	6°30	19° 1	23°14	23°17	22°55	11°50	W14
T 15	15 30 31	23°57'33	13°26	15°51	9°11	21° 6	6°13	24°47	25°50	6°29	19° 3	23°14	23°14	23° 2	11°48	T 15
F 16	15 34 28	24°55'16	26°26	17° 4	10°15	21°51	6°21	24°43	25°49	6°28	19° 4	23°14	23°11	23° 9	11°46	F 16
S 17	15 38 24	25°52'57	9♂9	18°14	11°20	22°36	6°28	24°40	25°48	6°27	19° 5	23°14	23° 8	23°15	11°44	S 17
S 18	15 42 21	26°50'38	21°38	19°19	12°25	23°20	6°36	24°36	25°47	6°25	19° 7	23°15	23° 5	23°22	11°42	S 18
M19	15 46 17	27°48'18	3♂54	20°21	13°30	24° 5	6°44	24°33	25°46	6°24	19° 8	23°15	23° 1	23°29	11°39	M19
T 20	15 50 14	28°45'56	16° 1	21°19	14°36	24°50	6°52	24°29	25°46	6°23	19° 9	23°15	22°58	23°35	11°37	T 20
W21	15 54 11	29°43'34	28° 0	22°12	15°41	25°35	7° 1	24°26	25°45	6°22	19°11	23°R15	22°55	23°42	11°35	W21
T 22	15 58 7	0♂41'10	9♂54	23° 2	16°47	26°19	7° 9	24°23	25°44	6°21	19°12	23°15	22°52	23°49	11°32	T 22
F 23	16 2 4	1°38'45	21°43	23°47	17°53	27° 4	7°17	24°20	25°42	6°19	19°13	23°14	22°49	23°55	11°30	F 23
S 24	16 6 0	2°36'19	3♂32	24°28	18°59	27°48	7°26	24°16	25°41	6°18	19°15	23°13	22°46	24° 2	11°27	S 24
S 25	16 9 57	3°33'52	15°21	25° 5	20° 5	28°33	7°35	24°13	25°40	6°17	19°16	23°12	22°42	24° 9	11°25	S 25
M26	16 13 53	4°31'23	27°15	25°37	21°11	29°17	7°44	24°11	25°39	6°16	19°17	23°10	22°39	24°15	11°22	M26
T 27	16 17 50	5°28'53	9♂17	26° 5	22°18	0♂2	7°52	24° 8	25°38	6°14	19°19	23° 9	22°36	24°22	11°19	T 27
W28	16 21 46	6°26'22	21°30	26°28	23°24	0°46	8° 1	24° 5	25°37	6°13	19°20	23° 8	22°33	24°29	11°17	W28
T 29	16 25 43	7°23'49	3♂58	26°47	24°31	1°30	8°11	24° 2	25°35	6°12	19°22	23°D 7	22°30	24°35	11°14	T 29
F 30	16 29 40	8°21'15	16°46	27° 1	25°38	2°14	8°20	24° 0	25°34	6°10	19°23	23° 8	22°26	24°42	11°11	F 30
S 31	16 33 36	9♂18'40	29♂57	27♂11	26°Y45	2°Y59	8♂29	23♂57	25♂33	6♂9	19♂24	23♂8	22♂23	24♂49	11♂8	S 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
T 1	14n59	8n 6	5s17	19n51	1n25	2s58	0s51	9s 3	1s34	19n56	0n49	7s23	2n46	21s30	0s31	22s19
F 2	15 17	3 44	5 6	20 30	1 34	2 38	0 55	8 47	1 34	19 54	0 49	7 22	2 46	21 30	0 31	22 19
S 3	15 35	0s56	4 39	21 6	1 42	2 18	1 0	8 30	1 35	19 53	0 49	7 20	2 46	21 30	0 31	22 19
S 4	15 53	5 42	3 56	21 39	1 50	1 57	1 4	8 13	1 36	19 51	0 49	7 19	2 45	21 30	0 31	22 19
M 5	16 10	10 20	2 57	22 10	1 57	1 36	1 9	7 56	1 36	19 50	0 49	7 17	2 45	21 30	0 31	22 19
T 6	16 27	14 29	1 45	22 38	2 3	1 15	1 13	7 39	1 37	19 48	0 49	7 16	2 45	21 31	0 31	22 19
W 7	16 44	17 49	0 25	23 4	2 8	0 54	1 17	7 22	1 37	19 46	0 49	7 14	2 45	21 31	0 31	22 19
T 8	17 0	19 58	0n57	23 28	2 13	0 32	1 20	7 5	1 38	19 45	0 49	7 13	2 45	21 31	0 31	22 19
F 9	17 16	20 44	2 16	23 49	2 17	0 11	1 24	6 48	1 38	19 43	0 49	7 12	2 45	21 31	0 31	22 19
S 10	17 32	20 1	3 25	24 7	2 20	0n11	1 28	6 31	1 39	19 41	0 49	7 10	2 45	21 31	0 31	22 19
S 11	17 48	17 58	4 20	24 23	2 22	0 34	1 31	6 14	1 39	19 40	0 49	7 9	2 45	21 31	0 31	22 19
M12	18 3	14 49	4 57	24 37	2 24	0 56	1 34	5 57	1 40	19 38	0 49	7 8	2 45	21 31	0 31	22 19
T 13	18 19	10 55	5 16	24 49	2 24	1 18	1 38	5 39	1 40	19 36	0 49	7 7	2 44	21 31	0 31	22 19
W14	18 33	6 32	5 15	24 58	2 24	1 41	1 41	5 22	1 41	19 34	0 49	7 5	2 44	21 31	0 31	22 19
T 15	18 48	1 56	4 58	25 6	2 23	2 4	1 43	5 5	1 41	19 32	0 49	7 4	2 44	21 32	0 31	22 19
F 16	19 2	2n39	4 26	25 11	2 21	2 26	1 46	4 48	1 41	19 30	0 49	7 3	2 44	21 32	0 31	22 19
S 17	19 16	7 1	3 41	25 15	2 17	2 49	1 49	4 30	1 42	19 28	0 49	7 2	2 44	21 32	0 31	22 19
S 18	19 29	11 1	2 47	25 16	2 14	3 12	1 51	4 13	1 42	19 26	0 48	7 1	2 44	21 32	0 31	22 19
M19	19 42	14 30	1 45	25 16	2 9	3 36	1 54	3 55	1 43	19 24	0 48	7 0	2 43	21 32	0 31	22 19
T 20	19 55	17 18	0 40	25 15	2 3	3 59	1 56	3 38	1 43	19 22	0 48	6 59	2 43	21 33	0 31	22 20
W21	20 8	19 19	0s26	25 11	1 56	4 22	1 58	3 21	1 44	19 20	0 48	6 58	2 43	21 33	0 31	22 20
T 22	20 20	20 28	1 31	25 7	1 49	4 45	2 0	3 3	1 44	19 18	0 48	6 56	2 43	21 33	0 31	22 20
F 23	20 32	20 42	2 32	25 0	1 40	5 9	2 2	2 46	1 44	19 16	0 48	6 56	2 43	21 33	0 31	22 20
S 24	20 43	20 1	3 25	24 53	1 31	5 32	2 4	2 29	1 45	19 13	0 48	6 55	2 42	21 33	0 31	22 20
S 25	20 54	18 27	4 10	24 44	1 21	5 56	2 5	2 11	1 45	19 11	0 48	6 54	2 42	21 34	0 31	22 20
M26	21 5	16 5	4 45	24 34	1 10	6 19	2 7	1 54	1 45	19 9	0 48	6 53	2 42	21 34	0 31	22 20
T 27	21 15	13 1	5 7	24 23	0 58	6 42	2 8	1 36	1 46	19 6	0 48	6 52	2 42	21 34	0 31	22 20
W28	21 25	9 22	5 17	24 11	0 45	7 6	2 10	1 19	1 46	19 4	0 48	6 51	2 42	21 34	0 32	22 20
T 29	21 35	5 14	5 11	23 59	0 32	7 29	2 11	1 2	1 47	19 2	0 48	6 50	2 41	21 35	0 32	22 20
F 30	21 44	0 47	4 50	23 45	0 18	7 52	2 12	0 44	1 47	18 59	0 48	6 49	2 41	21 35	0 32	22 20
S 31	21n53	3s51	4s14	23n30	0n 3	8n16	2s13	0s27	1s47	18n57	0n48	6s49	2n41	21s35	0s32	22s20

Julian Day Number = 2327117.5, Delta T = 36.84 sec
 Ecliptic obliquity = 23°28'56", Nutation = 0°00'13", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°59'07", Lahiri = 19°06'07"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1659

geocentric

JUNE 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	16 37 33	10 ^{II} 16'04	13 [♂] 33	27 ^{II} 15	27 [♀] 52	3 [♀] 43	8 [♂] 39	23 [♂] R55	25 [♂] R31	6 [♂] R 7	19 ^{II} 26	23 [♂] 11	22 [♂] 17	25 [♂] 2	11 [♂] 2	S 1
M 2	16 41 29	11 [♂] 13'27	27 [♂] 36	27 [♂] R16	28 [♂] 59	4 [♂] 27	8 [♂] 48	23 [♂] ♂52	25 [♂] ♂30	6 [♂] 6	19 [♂] 27	23 [♂] 11	22 [♂] 17	25 [♂] 2	11 [♂] 2	M 2
T 3	16 45 26	12 [♂] 10'48	12 [♂] 5	27 [♂] 11	0 [♂] 6	5 [♂] 11	8 [♂] 58	23 [♂] 50	25 [♂] 28	6 [♂] 5	19 [♂] 29	23 [♂] 12	22 [♂] 14	25 [♂] 9	10 [♂] 59	T 3
W 4	16 49 22	13 [♂] 8'09	26 [♂] 56	27 [♂] 3	1 [♂] 13	5 [♂] 55	9 [♂] 7	23 [♂] 48	25 [♂] 27	6 [♂] 3	19 [♂] 30	23 [♂] R12	22 [♂] 11	25 [♂] 15	10 [♂] 56	W 4
T 5	16 53 19	14 [♂] 5'29	12 [♂] 2	26 [♂] 50	2 [♂] 21	6 [♂] 39	9 [♂] 17	23 [♂] 46	25 [♂] 25	6 [♂] 2	19 [♂] 31	23 [♂] 11	22 [♂] 7	25 [♂] 22	10 [♂] 52	T 5
F 6	16 57 15	15 [♂] 2'48	27 [♂] 14	26 [♂] 33	3 [♂] 29	7 [♂] 22	9 [♂] 27	23 [♂] 44	25 [♂] 23	6 [♂] 0	19 [♂] 33	23 [♂] 9	22 [♂] 4	25 [♂] 29	10 [♂] 49	F 6
S 7	17 1 12	16 [♂] 0'06	12 [♂] ♂24	26 [♂] 13	4 [♂] 36	8 [♂] 6	9 [♂] 37	23 [♂] 42	25 [♂] 22	5 [♂] 59	19 [♂] 34	23 [♂] 7	22 [♂] 1	25 [♂] 35	10 [♂] 46	S 7
S 8	17 5 9	16 [♂] 57'24	27 [♂] 21	25 [♂] 49	5 [♂] 44	8 [♂] 50	9 [♂] 47	23 [♂] 40	25 [♂] 20	5 [♂] 57	19 [♂] 36	23 [♂] 4	21 [♂] 58	25 [♂] 42	10 [♂] 43	S 8
M 9	17 9 5	17 [♂] 54'41	11 [♂] ♂58	25 [♂] 22	6 [♂] 52	9 [♂] 34	9 [♂] 57	23 [♂] 38	25 [♂] 18	5 [♂] 56	19 [♂] 37	23 [♂] 1	21 [♂] 55	25 [♂] 49	10 [♂] 39	M 9
T 10	17 13 2	18 [♂] 51'58	26 [♂] 10	24 [♂] 53	8 [♂] 0	10 [♂] 17	10 [♂] 8	23 [♂] 36	25 [♂] 17	5 [♂] 54	19 [♂] 39	22 [♂] 58	21 [♂] 52	25 [♂] 56	10 [♂] 36	T 10
W11	17 16 58	19 [♂] 49'15	9 [♂] ♂55	24 [♂] 22	9 [♂] 9	11 [♂] 1	10 [♂] 18	23 [♂] 35	25 [♂] 15	5 [♂] 53	19 [♂] 40	22 [♂] 57	21 [♂] 48	26 [♂] 2	10 [♂] 32	W11
T 12	17 20 55	20 [♂] 46'31	23 [♂] 14	23 [♂] 49	10 [♂] 17	11 [♂] 44	10 [♂] 28	23 [♂] 33	25 [♂] 13	5 [♂] 51	19 [♂] 41	22 [♂] D56	21 [♂] 45	26 [♂] 9	10 [♂] 29	T 12
F 13	17 24 51	21 [♂] 43'47	6 [♂] ♀ 9	23 [♂] 15	11 [♂] 25	12 [♂] 28	10 [♂] 39	23 [♂] 32	25 [♂] 11	5 [♂] 49	19 [♂] 43	22 [♂] 57	21 [♂] 42	26 [♂] 16	10 [♂] 25	F 13
S 14	17 28 48	22 [♂] 41'03	18 [♂] 44	22 [♂] 41	12 [♂] 34	13 [♂] 11	10 [♂] 50	23 [♂] 31	25 [♂] 9	5 [♂] 48	19 [♂] 44	22 [♂] 58	21 [♂] 39	26 [♂] 22	10 [♂] 22	S 14
S 15	17 32 44	23 [♂] 38'18	1 [♂] 2	22 [♂] 7	13 [♂] 42	13 [♂] 54	11 [♂] 0	23 [♂] 30	25 [♂] 7	5 [♂] 46	19 [♂] 46	23 [♂] 0	21 [♂] 36	26 [♂] 29	10 [♂] 18	S 15
M16	17 36 41	24 [♂] 35'33	13 [♂] 7	21 [♂] 33	14 [♂] 51	14 [♂] 38	11 [♂] 11	23 [♂] 28	25 [♂] 5	5 [♂] 45	19 [♂] 47	23 [♂] 1	21 [♂] 32	26 [♂] 36	10 [♂] 15	M16
T 17	17 40 38	25 [♂] 32'49	25 [♂] 4	21 [♂] 1	16 [♂] 0	15 [♂] 21	11 [♂] 22	23 [♂] 27	25 [♂] 3	5 [♂] 43	19 [♂] 48	23 [♂] R 2	21 [♂] 29	26 [♂] 42	10 [♂] 11	T 17
W18	17 44 34	26 [♂] 30'03	6 [♂] II56	20 [♂] 31	17 [♂] 9	16 [♂] 4	11 [♂] 33	23 [♂] 27	25 [♂] 1	5 [♂] 42	19 [♂] 50	23 [♂] 1	21 [♂] 26	26 [♂] 49	10 [♂] 8	W18
T 19	17 48 31	27 [♂] 27'18	18 [♂] 44	20 [♂] 3	18 [♂] 18	16 [♂] 47	11 [♂] 44	23 [♂] 26	24 [♂] 59	5 [♂] 40	19 [♂] 51	22 [♂] 58	21 [♂] 23	26 [♂] 56	10 [♂] 4	T 19
F 20	17 52 27	28 [♂] 24'32	0 [♂] ♂33	19 [♂] 39	19 [♂] 27	17 [♂] 30	11 [♂] 55	23 [♂] 25	24 [♂] 57	5 [♂] 38	19 [♂] 53	22 [♂] 54	21 [♂] 20	27 [♂] 2	10 [♂] 0	F 20
S 21	17 56 24	29 [♂] 21'46	12 [♂] 23	19 [♂] 17	20 [♂] 36	18 [♂] 12	12 [♂] 6	23 [♂] 24	24 [♂] 55	5 [♂] 37	19 [♂] 54	22 [♂] 48	21 [♂] 17	27 [♂] 9	9 [♂] 57	S 21
S 22	18 0 20	0 [♂] ♂19'00	24 [♂] 16	18 [♂] 59	21 [♂] 45	18 [♂] 55	12 [♂] 17	23 [♂] 24	24 [♂] 53	5 [♂] 35	19 [♂] 55	22 [♂] 42	21 [♂] 13	27 [♂] 16	9 [♂] 53	S 22
M23	18 4 17	1 [♂] 16'13	6 [♂] ♂16	18 [♂] 45	22 [♂] 54	19 [♂] 38	12 [♂] 28	23 [♂] 23	24 [♂] 51	5 [♂] 34	19 [♂] 57	22 [♂] 35	21 [♂] 10	27 [♂] 22	9 [♂] 49	M23
T 24	18 8 13	2 [♂] 13'26	18 [♂] 23	18 [♂] 36	24 [♂] 4	20 [♂] 20	12 [♂] 40	23 [♂] 23	24 [♂] 49	5 [♂] 32	19 [♂] 58	22 [♂] 28	21 [♂] 7	27 [♂] 29	9 [♂] 45	T 24
W25	18 12 10	3 [♂] 10'39	0 [♂] ♂40	18 [♂] 31	25 [♂] 13	21 [♂] 3	12 [♂] 51	23 [♂] 23	24 [♂] 47	5 [♂] 30	20 [♂] 0	22 [♂] 23	21 [♂] 4	27 [♂] 36	9 [♂] 42	W25
T 26	18 16 7	4 [♂] 7'51	13 [♂] 10	18 [♂] D30	26 [♂] 23	21 [♂] 45	13 [♂] 3	23 [♂] 23	24 [♂] 45	5 [♂] 29	20 [♂] 1	22 [♂] 19	21 [♂] 1	27 [♂] 42	9 [♂] 38	T 26
F 27	18 20 3	5 [♂] 5'03	25 [♂] 56	18 [♂] 34	27 [♂] 32	22 [♂] 27	13 [♂] 14	23 [♂] D23	24 [♂] 42	5 [♂] 27	20 [♂] 2	22 [♂] 17	20 [♂] 58	27 [♂] 49	9 [♂] 34	F 27
S 28	18 24 0	6 [♂] 2'14	9 [♂] ♂ 2	18 [♂] 44	28 [♂] 42	23 [♂] 9	13 [♂] 26	23 [♂] 23	24 [♂] 40	5 [♂] 25	20 [♂] 4	22 [♂] D17	20 [♂] 54	27 [♂] 56	9 [♂] 30	S 28
S 29	18 27 56	6 [♂] 59'25	22 [♂] 30	18 [♂] 58	29 [♂] 52	23 [♂] 51	13 [♂] 37	23 [♂] 23	24 [♂] 38	5 [♂] 24	20 [♂] 5	22 [♂] 18	20 [♂] 51	28 [♂] 2	9 [♂] 26	S 29
M30	18 31 53	7 [♂] ♂56'36	6 [♂] II23	19 [♂] II17	1 [♂] II 2	24 [♂] ♀33	13 [♂] ♂49	23 [♂] ♂23	24 [♂] ♂36	5 [♂] ♂22	20 [♂] II 7	22 [♂] II19	20 [♂] II48	28 [♂] II 9	9 [♂] ♂23	M30

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	22n 2	8s28	3s22	23n15	0s12	8n39	2s14	0s10	1s47	18n54	0n48	6s48	2n41	21s36	0s32	22s20	1n 0	15n31	7s34	18s36	18s23	20n37	15s54	7n 8			
M 2	22 10	12 46	2 17	22 59	0 28	9 2	2 14	0n 7	1 48	18 52	0 48	6 47	2 41	21 36	0 32	22 20	1 0	15 31	7 34	18 36	18 22	20 36	15 54	7 9			
T 3	22 18	16 27	1 1	22 42	0 45	9 25	2 15	0 25	1 48	18 49	0 48	6 47	2 40	21 36	0 32	22 20	1 0	15 31	7 34	18 36	18 22	20 36	15 54	7 9			
W 4	22 25	19 10	0n21	22 25	1 1	9 48	2 16	0 42	1 48	18 46	0 48	6 46	2 40	21 36	0 32	22 20	1 0	15 31	7 34	18 36	18 21	20 35	15 54	7 10			
T 5	22 32	20 35	1 42	22 8	1 18	10 11	2 16	0 59	1 49	18 44	0 48	6 46	2 40	21 37	0 32	22 20	1 0	15 32	7 34	18 36	18 20	20 35	15 54	7 10			
F 6	22 38	20 30	2 57	21 51	1 36	10 34	2 16	1 16	1 49	18 41	0 48	6 45	2 40	21 37	0 32	22 20	1 0	15 32	7 34	18 36	18 19	20 34	15 53	7 10			
S 7	22 45	18 56	3 59	21 33	1 53	10 56	2 16	1 33	1 49	18 38	0 48	6 45	2 39	21 37	0 32	22 21	1 0	15 32	7 34	18 35	18 18	20 34	15 53	7 11			
S 8	22 50	16 5	4 44	21 15	2 10	11 19	2 16	1 50	1 49	18 36	0 48	6 44	2 39	21 38	0 32	22 21	1 0	15 32	7 34	18 34	18 17	20 33	15 53	7 11			
M 9	22 56	12 17	5 9	20 58	2 26	11 41	2 16	2 7	1 49	18 33	0 48	6 44	2 39	21 38	0 32	22 21	1 0	15 32	7 34	18 33	18 17	20 32	15 53	7 11			
T 10	23 1	7 53	5 14	20 41	2 42	12 3	2 16	2 24	1 50	18 30	0 48	6 43	2 39	21 38	0 32	22 21	1 0	15 32	7 34	18 33	18 16	20 32	15 53	7 12			
W11	23 5	3 13	5 1	20 24	2 58	12 25	2 16	2 41	1 50	18 27	0 48	6 43	2 38	21 39	0 32	22 21	1 0	15 33	7 33	18 32	18 15	20 31	15 53	7 12			
T 12	23 10	1n28	4 32	20 8	3 13	12 47	2 16	2 58	1 50	18 24	0 48	6 43	2 38	21 39	0 32	22 21	1 0	15 33	7 33	18 32	18 14	20 31	15 53	7 12			
F 13	23 13	5 57	3 50	19 52	3 26	13 8	2 15	3 14	1 50	18 22	0 48	6 42	2 38	21 40	0 32	22 21	1 0	15 33	7 33	18 33	18 13	20 30	15 53	7 12			
S 14	23 17	10 5	2 57	19 38	3 39	13 30	2 15	3 31	1 50	18 19	0 48	6 42	2 38	21 40	0 32	22 21	1 0	15 33	7 33	18 33	18 12	20 30	15 53	7 13			
S 15	23 20	13 41	1 58	19 24	3 51	13 51	2 14	3 48	1 51	18 16	0 48	6 42	2 37	21 40	0 32	22 21	1 0	15 33	7 33	18 33	18 12	20 29	15 53	7 13			
M16	23 22	16 40	0 54	19 12	4 1	14 12	2 14	4 4	1 51	18 13	0 47	6 42	2 37	21 41	0 32	22 21	1 0	15 33	7 33	18 34	18 11	20 29	15 53	7 13			
T 17	23 24	18 53	0s11	19 1	4 10	14 32	2 13	4 21	1 51	18 10	0 47	6 42	2 37	21 41	0 32	22 21	1 0	15 33	7 33	18 34	18 10	20 28	15 53	7 13			
W18	23 26	20 16	1 15	18 51	4 18	14 52	2 12	4 37	1 51	18 7	0 47	6 42	2 37	21 41	0 32	22 21	1 0	15 34	7 33	18 34	18 9	20 28	15 53	7 14			
T 19	23 27	20 45	2 16	18 43	4 24	15 12	2 11	4 54	1 51	18 4	0 47	6 42	2 36	21 42	0 32	22 21	1 0	15 34	7 33	18 33	18 8	20 27	15 53	7 14			
F 20	23 28	20 18	3 10	18 36	4 29	15 32	2 10	5 10	1 51	18 0	0 47	6 42	2 36	21 42	0 32	22 21	1 0	15 34	7 33	18 32	18 8	20 26	15 54	7 14			
S 21	23 29	18 58	3 57	18 31	4 32	15 52	2 9	5 26	1 51	17 57	0 47	6 42	2 36	21 43	0 32	22 21	1 0	15 34	7 33	18 30	18 7	20 26	15 54	7 14			
S 22	23 29	16 49	4 33	18 28	4 34	16 11	2 8	5 42	1 51	17 54	0 47	6 42	2 36	21 43	0 32	22 22	1 0	15 34	7 33	18 29	18 6	20 25	15 54	7 14			
M23	23 29	13 56	4 58	18 27	4 35	16 30	2 6	5 58	1 51	17 51	0 47	6 42	2 35	21 43	0 32	22 22	1 0	15 34	7 33	18 27	18 5	20 25	15 54	7 14			
T 24	23 28	10 26	5 9	18 27	4 34	16 48	2 5	6 14	1 51	17 48	0 47	6 42	2 35	21 44	0 32	22 22	1 0	15 34	7 33	18 25	18 4	20 24	15 54	7 15			
W25	23 27	6 28	5 7	18 29	4 31	17 6	2 4	6 30	1 51	17 44	0 47	6 42	2 35	21 44	0 32	22 22	1 0	15 34	7 33	18 24	18 3	20 24	15 54	7 15			
T 26	23 25	2 10	4 50	18 32	4 28	17 24	2 2	6 46	1 51	17 41	0 47	6 42	2 35	21 45	0 32	22 22	1 0	15 34	7 33	18 23	18 3	20 23	15 54	7 15			
F 27	23 23	2s20	4 18	18 37	4 23	17 41	2 0	7 2	1 51	17 38	0 47	6 42	2 34	21 45	0 32	22 22	1 0	15 35	7 33	18 22	18 2	20 22	15 54	7 15			
S 28	23 21	6 51	3 33	18 44	4 17	17 58	1 59	7 17	1 51	17 35	0 47	6 43	2 34	21 45	0 32	22 22	1 0	15 35	7 33	18 22	18 1	20 22	15 55	7 15			
S 29	23 18	11 10	2 34	18 52	4 11	18 15	1 57	7 33	1 51	17 31	0 47	6 43	2 34	21 46	0 32	22 22	1 0	15 35	7 33	18 23	18 0	20 21	15 55	7 15			
M30	23n15	15s 1	1s25	19n 1	4s 3	18n31	1s55	7n48	1s51	17n28	0n47	6s43	2n34	21s46	0s32	22s22	1n 0	15n35	7s33	18s23	17s59	20n21	15s55	7n15			

ASTRODIENST EPHEMERIS for the year 1659

geocentric

JULY 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	18 35 49	8°53'47	20°41	19°41	2°11	25°15	14°1	23°24	24°R33	5°R21	20°II 8	22°R19	20°45	28°II16	9°R19	T 1
W 2	18 39 46	9°50'57	5°23	20°11	3°21	25°57	14°13	23°24	24°331	5°319	20° 9	22°M19	20°42	28°22	9°315	W 2
T 3	18 43 42	10°48'08	20°24	20°45	4°31	26°39	14°25	23°25	24°29	5°17	20°11	22°16	20°38	28°29	9°11	T 3
F 4	18 47 39	11°45'18	5°36	21°24	5°41	27°20	14°36	23°26	24°26	5°16	20°12	22°12	20°35	28°36	9° 8	F 4
S 5	18 51 36	12°42'29	20°50	22° 8	6°52	28° 2	14°48	23°26	24°24	5°14	20°13	22° 5	20°32	28°42	9° 4	S 5
S 6	18 55 32	13°39'40	5°55	22°57	8° 2	28°43	15° 0	23°27	24°22	5°13	20°15	21°58	20°29	28°49	9° 0	S 6
M 7	18 59 29	14°36'51	20°42	23°51	9°12	29°24	15°13	23°28	24°19	5°11	20°16	21°50	20°26	28°56	8°56	M 7
T 8	19 3 25	15°34'02	5°4	24°50	10°23	0°8 5	15°25	23°29	24°17	5° 9	20°17	21°43	20°23	29° 2	8°53	T 8
W 9	19 7 22	16°31'14	18°56	25°53	11°33	0°46	15°37	23°30	24°15	5° 8	20°18	21°38	20°19	29° 9	8°49	W 9
T 10	19 11 18	17°28'27	2°20	27° 1	12°43	1°27	15°49	23°32	24°12	5° 6	20°20	21°35	20°16	29°16	8°45	T 10
F 11	19 15 15	18°25'40	15°16	28°14	13°54	2° 8	16° 1	23°33	24°10	5° 5	20°21	21°D34	20°13	29°22	8°41	F 11
S 12	19 19 11	19°22'54	27°50	29°31	15° 5	2°49	16°14	23°34	24° 7	5° 3	20°22	21°34	20°10	29°29	8°38	S 12
S 13	19 23 8	20°20'09	10°8 4	0°52	16°15	3°29	16°26	23°36	24° 5	5° 2	20°24	21°35	20° 7	29°36	8°34	S 13
M14	19 27 5	21°17'24	22° 5	2°18	17°26	4°10	16°38	23°38	24° 3	5° 0	20°25	21°R35	20° 4	29°42	8°30	M14
T 15	19 31 1	22°14'40	3°II58	3°48	18°37	4°50	16°51	23°39	24° 0	4°58	20°26	21°35	20° 0	29°49	8°27	T 15
W16	19 34 58	23°11'57	15°46	5°22	19°48	5°30	17° 3	23°41	23°58	4°57	20°27	21°32	19°57	29°56	8°23	W16
T 17	19 38 54	24° 9'14	27°34	7° 0	20°59	6°10	17°16	23°43	23°55	4°55	20°29	21°26	19°54	0°2	8°20	T 17
F 18	19 42 51	25° 6'33	9°524	8°42	22°10	6°50	17°28	23°45	23°53	4°54	20°30	21°19	19°51	0° 9	8°16	F 18
S 19	19 46 47	26° 3'51	21°19	10°27	23°21	7°30	17°41	23°47	23°51	4°52	20°31	21° 8	19°48	0°16	8°13	S 19
S 20	19 50 44	27° 1'11	3°20	12°15	24°32	8°10	17°53	23°50	23°48	4°51	20°32	20°57	19°44	0°22	8° 9	S 20
M21	19 54 41	27°58'31	15°29	14° 7	25°44	8°49	18° 6	23°52	23°46	4°49	20°33	20°45	19°41	0°29	8° 6	M21
T 22	19 58 37	28°55'52	27°47	16° 2	26°55	9°29	18°19	23°54	23°43	4°48	20°34	20°33	19°38	0°36	8° 2	T 22
W23	20 2 34	29°53'13	10°14	17°59	28° 6	10° 8	18°32	23°57	23°41	4°47	20°36	20°23	19°35	0°43	7°59	W23
T 24	20 6 30	0°50'53	22°53	19°58	29°18	10°47	18°44	23°59	23°39	4°45	20°37	20°16	19°32	0°49	7°55	T 24
F 25	20 10 27	1°47'57	5°45	21°59	0°29	11°26	18°57	24° 2	23°36	4°44	20°38	20°10	19°29	0°56	7°52	F 25
S 26	20 14 23	2°45'20	18°53	24° 1	1°41	12° 4	19°10	24° 5	23°34	4°42	20°39	20° 8	19°25	1° 3	7°49	S 26
S 27	20 18 20	3°42'44	2°17	26° 5	2°52	12°43	19°23	24° 8	23°32	4°41	20°40	20°D 7	19°22	1° 9	7°46	S 27
M28	20 22 16	4°40'08	16° 2	28° 9	4° 4	13°21	19°35	24°11	23°29	4°40	20°41	20°R 7	19°19	1°16	7°43	M28
T 29	20 26 13	5°37'33	0°7	0°14	5°15	13°59	19°48	24°14	23°27	4°38	20°42	20° 7	19°16	1°23	7°39	T 29
W30	20 30 9	6°34'58	14°34	2°20	6°27	14°38	20° 1	24°17	23°25	4°37	20°43	20° 5	19°13	1°29	7°36	W30
T 31	20 34 6	7°32'25	29°18	4°25	7°39	15°15	20°14	24°20	23°22	4°36	20°II44	20°M 1	19°M10	1°36	7°33	T 31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
T 1	23n11	18s 6	0s 9	19n11	3s54	18n47	1s53	8n 4	1s51	17n24	0n47	6s44	2n33	21s47	0s32	22s22
W 2	23 7 20	5 1n10	19 23	3 45	19 2	1 51	8 19	1 51	17 21	0 47	6 44	2 33	21 47	0 32	22 22	1 0
T 3	23 2 20	43 2 26	19 36	3 34	19 17	1 49	8 34	1 51	17 18	0 47	6 45	2 33	21 48	0 32	22 22	1 0
F 4	22 58 19	50 3 32	19 49	3 24	19 32	1 47	8 49	1 51	17 14	0 47	6 45	2 32	21 48	0 32	22 22	1 0
S 5	22 52 17	32 4 23	20 3	3 12	19 46	1 45	9 4	1 51	17 11	0 47	6 46	2 32	21 48	0 32	22 23	1 0
S 6	22 47 14	3 4 55	20 18	3 0	19 59	1 43	9 19	1 51	17 7	0 47	6 46	2 32	21 49	0 32	22 23	1 0
M 7	22 41 9	46 5 7	20 33	2 48	20 12	1 41	9 33	1 51	17 3	0 47	6 47	2 32	21 49	0 32	22 23	1 0
T 8	22 34 5 2	4 59	20 48	2 35	20 25	1 39	9 48	1 51	17 0	0 47	6 48	2 31	21 50	0 32	22 23	1 0
W 9	22 28 0 12	4 33	21 3	2 22	20 37	1 36	10 2	1 50	16 56	0 47	6 48	2 31	21 50	0 32	22 23	1 0
T 10	22 20 4n29	3 53	21 18	2 9	20 49	1 34	10 17	1 50	16 53	0 47	6 49	2 31	21 51	0 32	22 23	1 0
F 11	22 13 8 49	3 2	21 33	1 55	21 0	1 32	10 31	1 50	16 49	0 47	6 50	2 31	21 51	0 32	22 23	1 0
S 12	22 5 12 39	2 4	21 47	1 41	21 10	1 29	10 45	1 50	16 45	0 47	6 50	2 30	21 51	0 32	22 23	1 0
S 13	21 56 15 50	1 1	22 1	1 28	21 20	1 27	10 59	1 50	16 42	0 47	6 51	2 30	21 52	0 32	22 23	1 0
M14	21 48 18 17	0s 3	22 14	1 14	21 29	1 24	11 13	1 50	16 38	0 47	6 52	2 30	21 52	0 32	22 23	1 0
T 15	21 39 19 54	1 6	22 25	1 0	21 38	1 22	11 26	1 49	16 34	0 47	6 53	2 30	21 53	0 32	22 23	1 0
W16	21 29 20 38	2 6	22 35	0 47	21 47	1 19	11 40	1 49	16 30	0 48	6 54	2 29	21 53	0 32	22 23	1 0
T 17	21 19 20 28	3 0	22 44	0 34	21 54	1 16	11 53	1 49	16 27	0 48	6 55	2 29	21 54	0 32	22 23	1 0
F 18	21 9 19 23	3 46	22 51	0 21	22 1	1 14	12 7	1 49	16 23	0 48	6 56	2 29	21 54	0 32	22 24	1 0
S 19	20 58 17 28	4 23	22 56	0 8	22 8	1 11	12 20	1 48	16 19	0 48	6 57	2 28	21 54	0 32	22 24	1 0
S 20	20 47 14 46	4 48	22 59	0n 4	22 14	1 8	12 33	1 48	16 15	0 48	6 58	2 28	21 55	0 32	22 24	1 0
M21	20 36 11 25	5 1	23 0	0 16	22 19	1 5	12 46	1 48	16 11	0 48	6 59	2 28	21 55	0 32	22 24	1 0
T 22	20 25 7 34	5 0	22 58	0 27	22 24	1 3	12 59	1 47	16 7	0 48	7 0	2 28	21 56	0 32	22 24	1 0
W23	20 13 3 21	4 45	22 54	0 38	22 28	1 0	13 11	1 47	16 3	0 48	7 1	2 27	21 56	0 32	22 24	1 0
T 24	20 0 1s 5	4 15	22 47	0 48	22 32	0 57	13 24	1 47	15 59	0 48	7 2	2 27	21 56	0 32	22 24	1 0
F 25	19 48 5 32	3 32	22 37	0 57	22 35	0 54	13 36	1 46	15 56	0 48	7 4	2 27	21 57	0 32	22 24	1 0
S 26	19 35 9 50	2 38	22 25	1 5	22 37	0 51	13 48	1 46	15 52	0 48	7 5	2 27	21 57	0 32	22 24	1 0
S 27	19 21 13 45	1 33	22 10	1 13	22 39	0 48	14 0	1 46	15 48	0 48	7 6	2 26	21 58	0 32	22 24	1 0
M28	19 8 17 1	0 22	21 52	1 20	22 40	0 46	14 12	1 45	15 44	0 48	7 8	2 26	21 58	0 32	22 24	1 0
T 29	18 54 19 21	0n53	21 32	1 26	22 40	0 43	14 24	1 45	15 40	0 48	7 9	2 26	21 59	0 32	22 24	1 0
W30	18 40 20 30	2 6	21 9	1 31	22 40	0 40	14 36	1 44	15 35	0 48	7 10	2 26	21 59	0 32	22 24	1 0
T 31	18n25	20s17	3n12	20n44	1n36	22n39	0s37	14n47	1s44	15n31	0n48	7s12	2n25	21s59	0s32	22s25

Julian Day Number = 2327178.5, Delta T = 36.73 sec

Ecliptic obliquity = 23°28'54", Nutation = 0°00'14", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 19°59'15", Lahiri = 19°06'15"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1659

geocentric

AUGUST 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	20 38 3	8♂29°52	14♂16	6♂30	8♂51	15♂53	20♂27	24♂23	23°R20	4°R34	20♂45	19°R54	19♂6	1♂43	7°R30	F 1
S 2	20 41 59	9°27'20	29°18	8°34	10° 3	16°31	20°40	24°27	23♂18	4♂33	20°46	19♂45	19° 3	1°49	7♂27	S 2
S 3	20 45 56	10°24'49	14♂16	10°37	11°15	17° 8	20°53	24°30	23°15	4°32	20°47	19°35	19° 0	1°56	7°25	S 3
M 4	20 49 52	11°22'18	29° 0	12°40	12°27	17°45	21° 6	24°34	23°13	4°31	20°48	19°24	18°57	2° 3	7°22	M 4
T 5	20 53 49	12°19'50	13♂22	14°42	13°39	18°22	21°19	24°37	23°11	4°29	20°49	19°14	18°54	2° 9	7°19	T 5
W 6	20 57 45	13°17'22	27°18	16°42	14°51	18°59	21°32	24°41	23° 9	4°28	20°50	19° 6	18°50	2°16	7°16	W 6
T 7	21 1 42	14°14'56	10♂45	18°42	16° 3	19°36	21°45	24°45	23° 6	4°27	20°51	19° 0	18°47	2°23	7°14	T 7
F 8	21 5 38	15°12'31	23°44	20°40	17°16	20°12	21°58	24°48	23° 4	4°26	20°52	18°57	18°44	2°29	7°11	F 8
S 9	21 9 35	16°10'07	6♂20	22°36	18°28	20°49	22°11	24°52	23° 2	4°25	20°53	18°56	18°41	2°36	7° 9	S 9
S 10	21 13 32	17° 7'46	18°35	24°32	19°40	21°25	22°24	24°56	23° 0	4°24	20°54	18°56	18°38	2°43	7° 6	S 10
M 11	21 17 28	18° 5'26	0♂37	26°25	20°53	22° 1	22°37	25° 1	22°58	4°23	20°55	18°55	18°35	2°49	7° 4	M 11
T 12	21 21 25	19° 3'07	12°29	28°18	22° 5	22°36	22°50	25° 5	22°56	4°22	20°55	18°54	18°31	2°56	7° 1	T 12
W 13	21 25 21	20° 0'50	24°18	0♂9	23°18	23°12	23° 3	25° 9	22°54	4°21	20°56	18°51	18°28	3° 3	6°59	W 13
T 14	21 29 18	20°58'34	6♂7	1°59	24°31	23°47	23°16	25°13	22°52	4°20	20°57	18°45	18°25	3°10	6°57	T 14
F 15	21 33 14	21°56'21	18° 1	3°47	25°43	24°22	23°29	25°18	22°50	4°19	20°58	18°36	18°22	3°16	6°55	F 15
S 16	21 37 11	22°54'08	0♂2	5°34	26°56	24°57	23°42	25°22	22°48	4°18	20°59	18°24	18°19	3°23	6°53	S 16
S 17	21 41 7	23°51'57	12°13	7°19	28° 9	25°31	23°56	25°27	22°46	4°17	20°59	18°12	18°15	3°30	6°51	S 17
M 18	21 45 4	24°49'48	24°35	9° 3	29°22	26° 5	24° 9	25°31	22°44	4°16	21° 0	17°58	18°12	3°36	6°49	M 18
T 19	21 49 1	25°47'40	7♂8	10°46	0♂34	26°40	24°22	25°36	22°42	4°15	21° 1	17°45	18° 9	3°43	6°47	T 19
W 20	21 52 57	26°45'33	19°52	12°27	1°47	27°13	24°35	25°41	22°40	4°14	21° 2	17°34	18° 6	3°50	6°45	W 20
T 21	21 56 54	27°43'28	2♂48	14° 7	3° 0	27°47	24°48	25°46	22°38	4°13	21° 2	17°25	18° 3	3°56	6°43	T 21
F 22	22 0 50	28°41'24	15°54	15°46	4°13	28°20	25° 1	25°51	22°36	4°13	21° 3	17°19	18° 0	4° 3	6°41	F 22
S 23	22 4 47	29°39'22	29°13	17°23	5°27	28°53	25°14	25°56	22°35	4°12	21° 3	17°16	17°56	4°10	6°40	S 23
S 24	22 8 43	0♂37'21	12♂43	18°59	6°40	29°26	25°27	26° 1	22°33	4°11	21° 4	17°D15	17°53	4°16	6°38	S 24
M 25	22 12 40	1°35'21	26°28	20°34	7°53	29°58	25°40	26° 6	22°31	4°10	21° 5	17°R15	17°50	4°23	6°37	M 25
T 26	22 16 36	2°33'23	10♂26	22° 7	9° 6	0♂31	25°53	26°11	22°30	4°10	21° 5	17°15	17°47	4°30	6°36	T 26
W 27	22 20 33	3°31'26	24°39	23°40	10°19	1° 3	26° 6	26°16	22°28	4° 9	21° 6	17°13	17°44	4°36	6°34	W 27
T 28	22 24 30	4°29'30	9♂5	25°10	11°33	1°34	26°19	26°21	22°26	4° 9	21° 6	17°10	17°41	4°43	6°33	T 28
F 29	22 28 26	5°27'36	23°41	26°40	12°46	2° 6	26°32	26°27	22°25	4° 8	21° 7	17° 3	17°37	4°50	6°32	F 29
S 30	22 32 23	6°25'43	8♂20	28° 8	14° 0	2°37	26°45	26°32	22°23	4° 7	21° 7	16°55	17°34	4°56	6°31	S 30
S 31	22 36 19	7♂23'52	22♂57	29♂35	15♂13	3♂8	26♂58	26♂38	22♂22	4♂7	21♂8	16♂45	17♂31	5♂3	6♂30	S 31

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
F 1	18n10	18s39	4n 5	20n17	1n39	22n37	0s34	14n58	1s43	15n27	0n48	7s13	2n25	22s 0	0s32	22s25	1n 0	15n36	7s34	17s45	17s32	19n59	16s 5	7n11			
S 2	17 55	15 44	4 42	19 48	1 42	22 35	0 31	15 10	1 43	15 23	0 48	7 15	2 25	22 0	0 32	22 25	1 0	15 36	7 35	17 42	17 31	19 58	16 6	7 11			
S 3	17 40	11 48	5 0	19 16	1 44	22 32	0 28	15 21	1 42	15 19	0 48	7 16	2 25	22 0	0 32	22 25	1 0	15 36	7 35	17 40	17 30	19 57	16 6	7 11			
M 4	17 24	7 12	4 57	18 43	1 45	22 29	0 25	15 32	1 42	15 15	0 48	7 18	2 24	22 1	0 32	22 25	1 0	15 36	7 35	17 37	17 29	19 57	16 7	7 11			
T 5	17 8	2 19	4 35	18 9	1 46	22 25	0 22	15 42	1 41	15 11	0 48	7 19	2 24	22 1	0 32	22 25	0 59	15 36	7 35	17 34	17 28	19 56	16 7	7 10			
W 6	16 52	2n33	3 57	17 33	1 46	22 20	0 19	15 53	1 41	15 7	0 48	7 21	2 24	22 2	0 32	22 25	0 59	15 36	7 35	17 32	17 27	19 55	16 8	7 10			
T 7	16 35	7 8	3 7	16 55	1 45	22 15	0 16	16 3	1 40	15 3	0 48	7 22	2 24	22 2	0 32	22 25	0 59	15 36	7 35	17 30	17 27	19 54	16 8	7 10			
F 8	16 18	11 14	2 9	16 16	1 44	22 9	0 13	16 14	1 40	14 58	0 48	7 24	2 24	22 2	0 32	22 25	0 59	15 36	7 35	17 29	17 26	19 54	16 9	7 9			
S 9	16 1	14 42	1 6	15 37	1 42	22 2	0 11	16 24	1 39	14 54	0 48	7 26	2 23	22 3	0 32	22 25	0 59	15 36	7 35	17 29	17 25	19 53	16 9	7 9			
S 10	15 44	17 25	0 2	14 56	1 40	21 55	0 8	16 34	1 38	14 50	0 48	7 27	2 23	22 3	0 32	22 25	0 59	15 36	7 35	17 29	17 24	19 52	16 10	7 9			
M11	15 26	19 19	1s 2	14 15	1 37	21 47	0 5	16 44	1 38	14 46	0 48	7 29	2 23	22 3	0 32	22 25	0 59	15 36	7 35	17 29	17 23	19 51	16 10	7 8			
T 12	15 8	20 20	2 1	13 33	1 33	21 38	0 2	16 53	1 37	14 42	0 49	7 31	2 23	22 4	0 32	22 25	0 59	15 36	7 35	17 28	17 22	19 51	16 11	7 8			
W13	14 50	20 26	2 55	12 50	1 30	21 29	0n 1	17 3	1 37	14 37	0 49	7 32	2 22	22 4	0 32	22 25	0 59	15 36	7 36	17 27	17 21	19 50	16 11	7 7			
T 14	14 32	19 39	3 42	12 7	1 25	21 19	0 4	17 12	1 36	14 33	0 49	7 34	2 22	22 4	0 32	22 26	0 59	15 36	7 36	17 26	17 20	19 49	16 12	7 7			
F 15	14 13	17 59	4 19	11 23	1 20	21 9	0 6	17 21	1 35	14 29	0 49	7 36	2 22	22 5	0 32	22 26	0 59	15 36	7 36	17 23	17 20	19 48	16 12	7 7			
S 16	13 54	15 32	4 45	10 39	1 15	20 58	0 9	17 31	1 34	14 25	0 49	7 38	2 22	22 5	0 32	22 26	0 59	15 36	7 36	17 20	17 19	19 48	16 13	7 6			
S 17	13 35	12 23	4 59	9 55	1 10	20 46	0 12	17 39	1 34	14 20	0 49	7 40	2 22	22 5	0 32	22 26	0 59	15 36	7 36	17 17	17 18	19 47	16 13	7 6			
M18	13 16	8 40	4 58	9 11	1 4	20 34	0 15	17 48	1 33	14 16	0 49	7 41	2 21	22 6	0 32	22 26	0 59	15 36	7 36	17 13	17 17	19 46	16 14	7 5			
T 19	12 57	4 31	4 43	8 26	0 58	20 21	0 17	17 57	1 32	14 12	0 49	7 43	2 21	22 6	0 32	22 26	0 59	15 35	7 36	17 9	17 16	19 45	16 14	7 5			
W20	12 37	0 7	4 14	7 42	0 52	20 7	0 20	18 5	1 31	14 7	0 49	7 45	2 21	22 6	0 32	22 26	0 59	15 35	7 36	17 6	17 15	19 44	16 15	7 5			
T 21	12 17	4s21	3 32	6 57	0 45	19 53	0 23	18 14	1 31	14 3	0 49	7 47	2 21	22 7	0 32	22 26	0 59	15 35	7 36	17 4	17 14	19 44	16 15	7 4			
F 22	11 57	8 42	2 38	6 13	0 38	19 39	0 25	18 22	1 30	13 59	0 49	7 49	2 21	22 7	0 32	22 26	0 59	15 35	7 36	17 2	17 13	19 43	16 16	7 4			
S 23	11 37	12 41	1 34	5 28	0 31	19 24	0 28	18 30	1 29	13 54	0 49	7 51	2 20	22 7	0 32	22 26	0 59	15 35	7 37	17 1	17 12	19 42	16 16	7 3			
S 24	11 16	16 4	0 24	4 44	0 24	19 8	0 30	18 38	1 28	13 50	0 49	7 53	2 20	22 7	0 32	22 26	0 59	15 35	7 37	17 1	17 12	19 41	16 17	7 3			
M25	10 56	18 37	0n49	4 0	0 17	18 52	0 33	18 46	1 27	13 46	0 49	7 55	2 20	22 8	0 32	22 26	0 59	15 35	7 37	17 1	17 11	19 40	16 17	7 2			
T 26	10 35	20 5	2 0	3 16	0 9	18 35	0 35	18 53	1 26	13 41	0 49	7 57	2 20	22 8	0 32	22 26	0 59	15 35	7 37	17 1	17 10	19 39	16 18	7 2			
W27	10 14	20 18	3 5	2 33	0 1	18 17	0 38	19 1	1 26	13 37	0 50	7 59	2 20	22 8	0 32	22 26	0 59	15 35	7 37	17 0	17 9	19 39	16 18	7 1			
T 28	9 53	19 12	3 59	1 49	0s 7	18 0	0 40	19 8	1 25	13 33	0 50	8 1	2 19	22 8	0 32	22 26	0 59	15 35	7 37	16 59	17 8	19 38	16 19	7 1			
F 29	9 32	16 50	4 38	1 6	0 15	17 41	0 42	19 15	1 24	13 28	0 50	8 4	2 19	22 9	0 32	22 26	0 59	15 35	7 37	16 57	17 7	19 37	16 19	7 0			
S 30	9 10	13 24	4 59	0 24	0 23	17 22	0 45	19 22	1 23	13 24	0 50	8 6	2 19	22 9	0 32	22 26	0 59	15 35	7 37	16 55	17 6	19 36	16 20	7 0			
S 31	8n49	9s 9	5n 0	0s18	0s31	17n 3	0n47	19n29	1s22	13n20	0n50	8s 8	2n19	22s 9	0s32	22s27	0n59	15n35	7s37	16s52	17s 5	19n35	16s20	7n 0			

ASTRODIENST EPHEMERIS for the year 1659

geocentric

OCTOBER 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	0 38 32	7 ^h 42 ^m 34 ^s	13 ^h 36 ^m	26 ^h R12	23 ^h 32 ^m	15 ^h II51	3 ^h 26 ^m	29 ^h 52 ^m	21 ^h R58	4 ^h 7 ^m	21 ^h R12	14 ^h R30	15 ^h 52 ^m	8 ^h 31 ^m	6 ^h 39 ^m	W 1
T 2	0 42 29	8 ^h 41 ^m 45 ^s	26 ^h 47 ^m	25 ^h 52 ^m	24 ^h 47 ^m	16 ^h 8	3 ^h 37 ^m	29 ^h 59 ^m	21 ^h D58	4 ^h 7	21 ^h II11	14 ^h 27 ^m	15 ^h 49 ^m	8 ^h 37 ^m	6 ^h 41 ^m	T 2
F 3	0 46 25	9 ^h 40 ^m 58 ^s	9 ^h 38 ^m	25 ^h 24 ^m	26 ^h 2	16 ^h 24	3 ^h 49 ^m	0 ^h 11 ^m 6	21 ^h 58 ^m	4 ^h 8	21 ^h 11	14 ^h D26	15 ^h 46 ^m	8 ^h 44 ^m	6 ^h 42 ^m	F 3
S 4	0 50 22	10 ^h 40 ^m 13 ^s	22 ^h 11 ^m	24 ^h 47 ^m	27 ^h 16 ^m	16 ^h 40	4 ^h 1	0 ^h 13 ^m	21 ^h 58 ^m	4 ^h 8	21 ^h 11	14 ^h 26 ^m	15 ^h 43 ^m	8 ^h 51 ^m	6 ^h 44 ^m	S 4
S 5	0 54 19	11 ^h 39 ^m 10 ^s	4 ^h II27	24 ^h 3	28 ^h 31 ^m	16 ^h 55	4 ^h 13 ^m	0 ^h 20 ^m	21 ^h 58 ^m	4 ^h 9	21 ^h 11	14 ^h 27 ^m	15 ^h 40 ^m	8 ^h 57 ^m	6 ^h 46 ^m	S 5
M 6	0 58 15	12 ^h 38 ^m 50 ^s	16 ^h 31 ^m	23 ^h 11 ^m	29 ^h 46 ^m	17 ^h 9	4 ^h 24 ^m	0 ^h 27 ^m	21 ^h 58 ^m	4 ^h 10	21 ^h 10	14 ^h 29 ^m	15 ^h 37 ^m	9 ^h 4	6 ^h 48 ^m	M 6
T 7	1 2 12	13 ^h 38 ^m 12 ^s	28 ^h 26 ^m	22 ^h 13 ^m	1 ^h 1	17 ^h 23	4 ^h 36 ^m	0 ^h 34 ^m	21 ^h 58 ^m	4 ^h 10	21 ^h 10	14 ^h 31 ^m	15 ^h 33 ^m	9 ^h 11 ^m	6 ^h 50 ^m	T 7
W 8	1 6 8	14 ^h 37 ^m 36 ^s	10 ^h 31 ^m	21 ^h 8	2 ^h 16 ^m	17 ^h 36	4 ^h 47 ^m	0 ^h 41 ^m	21 ^h 59 ^m	4 ^h 11	21 ^h 10	14 ^h R31	15 ^h 30 ^m	9 ^h 17 ^m	6 ^h 52 ^m	W 8
T 9	1 10 5	15 ^h 37 ^m 03 ^s	22 ^h 10 ^m	19 ^h 59 ^m	3 ^h 31 ^m	17 ^h 48	4 ^h 58 ^m	0 ^h 48 ^m	21 ^h 59 ^m	4 ^h 12	21 ^h 9	14 ^h 31 ^m	15 ^h 27 ^m	9 ^h 24 ^m	6 ^h 54 ^m	T 9
F 10	1 14 1	16 ^h 36 ^m 31 ^s	4 ^h 8	18 ^h 47 ^m	4 ^h 46 ^m	18 ^h 0	5 ^h 10 ^m	0 ^h 55 ^m	22 ^h 0	4 ^h 13	21 ^h 9	14 ^h 30 ^m	15 ^h 24 ^m	9 ^h 31 ^m	6 ^h 56 ^m	F 10
S 11	1 17 58	17 ^h 36 ^m 02 ^s	16 ^h 17 ^m	17 ^h 34 ^m	6 ^h 1	18 ^h 11	5 ^h 21 ^m	1 ^h 2	22 ^h 0	4 ^h 13	21 ^h 8	14 ^h 27 ^m	15 ^h 21 ^m	9 ^h 38 ^m	6 ^h 59 ^m	S 11
S 12	1 21 54	18 ^h 35 ^m 36 ^s	28 ^h 40 ^m	16 ^h 21 ^m	7 ^h 16 ^m	18 ^h 21	5 ^h 32 ^m	1 ^h 9	22 ^h 0	4 ^h 14	21 ^h 8	14 ^h 24 ^m	15 ^h 18 ^m	9 ^h 44 ^m	7 ^h 1	S 12
M13	1 25 51	19 ^h 35 ^m 11 ^s	11 ^h 21 ^m	15 ^h 12 ^m	8 ^h 31 ^m	18 ^h 31	5 ^h 43 ^m	1 ^h 16 ^m	22 ^h 1	4 ^h 15	21 ^h 8	14 ^h 20 ^m	15 ^h 14 ^m	9 ^h 51 ^m	7 ^h 3	M13
T 14	1 29 48	20 ^h 34 ^m 49 ^s	24 ^h 21 ^m	14 ^h 8	9 ^h 46 ^m	18 ^h 40	5 ^h 54 ^m	1 ^h 23 ^m	22 ^h 2	4 ^h 16	21 ^h 7	14 ^h 16 ^m	15 ^h 11 ^m	9 ^h 58 ^m	7 ^h 6	T 14
W15	1 33 44	21 ^h 34 ^m 29 ^s	7 ^h 41 ^m	13 ^h 12 ^m	11 ^h 1	18 ^h 48	6 ^h 5	1 ^h 30 ^m	22 ^h 2	4 ^h 17	21 ^h 7	14 ^h 13 ^m	15 ^h 8	10 ^h 4	7 ^h 8	W15
T 16	1 37 41	22 ^h 34 ^m 11 ^s	21 ^h 19 ^m	12 ^h 23 ^m	12 ^h 16 ^m	18 ^h 55	6 ^h 16 ^m	1 ^h 38 ^m	22 ^h 3	4 ^h 18	21 ^h 6	14 ^h 10 ^m	15 ^h 5	10 ^h 11 ^m	7 ^h 11 ^m	T 16
F 17	1 41 37	23 ^h 33 ^m 55 ^s	5 ^h 11 ^m 13	11 ^h 45 ^m	13 ^h 31 ^m	19 ^h 1	6 ^h 27 ^m	1 ^h 45 ^m	22 ^h 4	4 ^h 19	21 ^h 5	14 ^h 9	15 ^h 2	10 ^h 18 ^m	7 ^h 14 ^m	F 17
S 18	1 45 34	24 ^h 33 ^m 41 ^s	19 ^h 20 ^m	11 ^h 18 ^m	14 ^h 46 ^m	19 ^h 7	6 ^h 37 ^m	1 ^h 52 ^m	22 ^h 5	4 ^h 20	21 ^h 5	14 ^h D 9	14 ^h 58 ^m	10 ^h 24 ^m	7 ^h 17 ^m	S 18
S 19	1 49 30	25 ^h 33 ^m 29 ^s	3 ^h 7 ^m 35	11 ^h 2	16 ^h 1	19 ^h 12	6 ^h 48 ^m	1 ^h 59 ^m	22 ^h 5	4 ^h 21	21 ^h 4	14 ^h 10 ^m	14 ^h 55 ^m	10 ^h 31 ^m	7 ^h 20 ^m	S 19
M20	1 53 27	26 ^h 33 ^m 19 ^s	17 ^h 51 ^m	10 ^h D57	17 ^h 16 ^m	19 ^h 16	6 ^h 58 ^m	2 ^h 6	22 ^h 6	4 ^h 22	21 ^h 4	14 ^h 11 ^m	14 ^h 52 ^m	10 ^h 38 ^m	7 ^h 22 ^m	M20
T 21	1 57 23	27 ^h 33 ^m 10 ^s	2 ^h 31 ^m 14	11 ^h 3	18 ^h 31 ^m	19 ^h 19	7 ^h 9	2 ^h 13 ^m	22 ^h 7	4 ^h 23	21 ^h 3	14 ^h 12 ^m	14 ^h 49 ^m	10 ^h 44 ^m	7 ^h 26 ^m	T 21
W22	2 1 20	28 ^h 33 ^m 03 ^s	16 ^h 31 ^m	11 ^h 20 ^m	19 ^h 47 ^m	19 ^h 22	7 ^h 19 ^m	2 ^h 21 ^m	22 ^h 8	4 ^h 24	21 ^h 2	14 ^h 13 ^m	14 ^h 46 ^m	10 ^h 51 ^m	7 ^h 29 ^m	W22
T 23	2 5 17	29 ^h 32 ^m 58 ^s	0 ^h 33 ^m 46	11 ^h 47 ^m	21 ^h 2	19 ^h 23	7 ^h 29 ^m	2 ^h 28 ^m	22 ^h 9	4 ^h 26	21 ^h 2	14 ^h R13	14 ^h 43 ^m	10 ^h 58 ^m	7 ^h 32 ^m	T 23
F 24	2 9 13	0 ^h 32 ^m 54 ^s	14 ^h 46 ^m	12 ^h 24 ^m	22 ^h 17 ^m	19 ^h R24	7 ^h 39 ^m	2 ^h 35 ^m	22 ^h 11	4 ^h 27	21 ^h 1	14 ^h 13 ^m	14 ^h 39 ^m	11 ^h 5	7 ^h 35 ^m	F 24
S 25	2 13 10	1 ^h 32 ^m 52 ^s	28 ^h 41 ^m	13 ^h 9	23 ^h 32 ^m	19 ^h 24	7 ^h 49 ^m	2 ^h 42 ^m	22 ^h 12	4 ^h 28	21 ^h 0	14 ^h 12 ^m	14 ^h 36 ^m	11 ^h 11 ^m	7 ^h 38 ^m	S 25
S 26	2 17 6	2 ^h 32 ^m 52 ^s	12 ^h 25 ^m	14 ^h 2	24 ^h 48 ^m	19 ^h 23	7 ^h 59 ^m	2 ^h 50 ^m	22 ^h 13	4 ^h 29	21 ^h 0	14 ^h 10 ^m	14 ^h 33 ^m	11 ^h 18 ^m	7 ^h 42 ^m	S 26
M27	2 21 3	3 ^h 32 ^m 53 ^s	25 ^h 57 ^m	15 ^h 1	26 ^h 3	19 ^h 21	8 ^h 9	2 ^h 57 ^m	22 ^h 14	4 ^h 31	20 ^h 59	14 ^h 9	14 ^h 30 ^m	11 ^h 25 ^m	7 ^h 45 ^m	M27
T 28	2 24 59	4 ^h 32 ^m 56 ^s	9 ^h 16 ^m	16 ^h 6	27 ^h 18 ^m	19 ^h 18	8 ^h 19 ^m	3 ^h 4	22 ^h 15	4 ^h 32	20 ^h 58	14 ^h 8	14 ^h 27 ^m	11 ^h 31 ^m	7 ^h 48 ^m	T 28
W29	2 28 56	5 ^h 33 ^m 00 ^s	22 ^h 22 ^m	17 ^h 17 ^m	28 ^h 33 ^m	19 ^h 14	8 ^h 29 ^m	3 ^h 11 ^m	22 ^h 17	4 ^h 33	20 ^h 57	14 ^h 7	14 ^h 23 ^m	11 ^h 38 ^m	7 ^h 52 ^m	W29
T 30	2 32 52	6 ^h 33 ^m 07 ^s	5 ^h 8 ^m 13	18 ^h 32 ^m	29 ^h 49 ^m	19 ^h 10	8 ^h 38 ^m	3 ^h 18 ^m	22 ^h 18	4 ^h 35	20 ^h 57	14 ^h 6	14 ^h 20 ^m	11 ^h 45 ^m	7 ^h 56 ^m	T 30
F 31	2 36 49	7 ^h 33 ^m 15 ^s	17 ^h 50 ^m	19 ^h 51 ^m	1 ^h 4	19 ^h II 4	8 ^h 47 ^m	3 ^h 11 ^m 26	22 ^h 20	4 ^h 36	20 ^h II56	14 ^h D 6	14 ^h 17 ^m	11 ^h 51 ^m	7 ^h 59 ^m	F 31

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
W 1	3s 4	7n50	2n40	13s26	3s33	3n55	1n28	22n 4	0s40	11n 6	0n53	9s21	2n15	22s13	0s32	22s28	0n57	15n31	7s41	16s13	16s37	19n 7	16s36	6n44			
T 2	3 27	11 49	1 35	13 15	3 29	3 25	1 28	22 8	0 38	11 2	0 53	9 23	2 15	22 13	0 32	22 28	0 57	15 31	7 41	16 12	16 36	19 6	16 36	6 43			
F 3	3 51	15 8	0 26	12 59	3 23	2 56	1 28	22 11	0 36	10 57	0 54	9 26	2 14	22 13	0 32	22 28	0 57	15 31	7 42	16 12	16 35	19 5	16 37	6 43			
S 4	4 14	17 40	0s42	12 39	3 15	2 26	1 28	22 15	0 34	10 53	0 54	9 28	2 14	22 12	0 32	22 28	0 57	15 31	7 42	16 12	16 34	19 4	16 37	6 42			
S 5	4 37	19 19	1 47	12 14	3 6	1 56	1 28	22 18	0 32	10 49	0 54	9 31	2 14	22 12	0 32	22 28	0 57	15 30	7 42	16 12	16 34	19 4	16 37	6 42			
M 6	5 0	20 2	2 47	11 44	2 55	1 27	1 28	22 21	0 31	10 45	0 54	9 33	2 14	22 12	0 32	22 28	0 57	15 30	7 42	16 13	16 33	19 3	16 38	6 41			
T 7	5 23	19 50	3 38	11 10	2 42	0 57	1 28	22 24	0 29	10 41	0 54	9 36	2 14	22 12	0 32	22 28	0 57	15 30	7 42	16 13	16 32	19 2	16 38	6 41			
W 8	5 46	18 46	4 20	10 32	2 28	0 27	1 28	22 28	0 27	10 37	0 54	9 38	2 14	22 12	0 32	22 28	0 57	15 30	7 42	16 13	16 31	19 1	16 39	6 40			
T 9	6 9	16 53	4 50	9 51	2 11	0s 3	1 28	22 31	0 25	10 33	0 54	9 41	2 14	22 12	0 32	22 28	0 57	15 30	7 42	16 13	16 30	19 0	16 39	6 40			
F 10	6 32	14 15	5 9	9 7	1 53	0 33	1 28	22 34	0 23	10 29	0 55	9 43	2 14	22 12	0 32	22 28	0 57	15 30	7 42	16 13	16 29	18 59	16 39	6 39			
S 11	6 55	11 0	5 14	8 21	1 34	1 3	1 27	22 37	0 20	10 25	0 55	9 46	2 14	22 12	0 32	22 28	0 57	15 30	7 42	16 12	16 28	18 58	16 40	6 39			
S 12	7 18	7 12	5 4	7 35	1 14	1 33	1 27	22 40	0 18	10 21	0 55	9 48	2 14	22 12	0 31	22 28	0 57	15 30	7 43	16 11	16 27	18 57	16 40	6 38			
M 13	7 41	3 0	4 40	6 49	0 53	2 3	1 26	22 43	0 16	10 17	0 55	9 51	2 14	22 12	0 31	22 28	0 57	15 29	7 43	16 10	16 26	18 56	16 40	6 38			
T 14	8 3	1s26	4 1	6 5	0 33	2 33	1 26	22 46	0 14	10 13	0 55	9 53	2 14	22 12	0 31	22 28	0 57	15 29	7 43	16 9	16 25	18 55	16 41	6 37			
W 15	8 26	5 55	3 8	5 24	0 12	3 3	1 25	22 49	0 12	10 9	0 55	9 56	2 14	22 12	0 31	22 28	0 57	15 29	7 43	16 8	16 24	18 54	16 41	6 37			
T 16	8 48	10 13	2 3	4 47	0n 7	3 33	1 25	22 52	0 9	10 5	0 56	9 58	2 14	22 11	0 31	22 28	0 57	15 29	7 43	16 7	16 23	18 53	16 41	6 36			
F 17	9 10	14 3	0 49	4 15	0 26	4 3	1 24	22 55	0 7	10 2	0 56	10 1	2 14	22 11	0 31	22 28	0 57	15 29	7 43	16 7	16 22	18 52	16 42	6 36			
S 18	9 32	17 8	0n29	3 49	0 43	4 33	1 23	22 57	0 5	9 58	0 56	10 3	2 14	22 11	0 31	22 28	0 57	15 29	7 43	16 7	16 21	18 51	16 42	6 35			
S 19	9 54	19 11	1 45	3 28	0 59	5 3	1 22	23 0	0 2	9 54	0 56	10 6	2 14	22 11	0 31	22 28	0 57	15 29	7 43	16 7	16 20	18 50	16 42	6 35			
M 20	10 16	20 1	2 56	3 13	1 14	5 32	1 21	23 3	0n 0	9 50	0 56	10 8	2 13	22 11	0 31	22 28	0 56	15 28	7 43	16 7	16 20	18 49	16 43	6 34			
T 21	10 37	19 32	3 56	3 4	1 26	6 2	1 20	23 6	0 3	9 47	0 56	10 11	2 13	22 11	0 31	22 28	0 56	15 28	7 43	16 8	16 19	18 48	16 43	6 34			
W 22	10 59	17 49	4 40	3 0	1 37	6 31	1 19	23 8	0 5	9 43	0 57	10 13	2 13	22 10	0 31	22 28	0 56	15 28	7 44	16 8	16 18	18 47	16 43	6 34			
T 23	11 20	15 1	5 8	3 2	1 46	7 1	1 18	23 11	0 8	9 39	0 57	10 16	2 13	22 10	0 31	22 28	0 56	15 28	7 44	16 8	16 17	18 46	16 44	6 33			
F 24	11 41	11 23	5 16	3 10	1 54	7 30	1 17	23 14	0 10	9 36	0 57	10 18	2 13	22 10	0 31	22 28	0 56	15 28	7 44	16 8	16 16	18 45	16 44	6 33			
S 25	12 2	7 10	5 6	3 22	2 0	7 59	1 16	23 16	0 13	9 32	0 57	10 21	2 13	22 10	0 31	22 28	0 56	15 28	7 44	16 8	16 15	18 44	16 44	6 32			
S 26	12 23	2 37	4 39	3 38	2 5	8 28	1 15	23 19	0 15	9 29	0 57	10 23	2 13	22 10	0 31	22 28	0 56	15 28	7 44	16 7	16 14	18 43	16 44	6 32			
M 27	12 43	2n 0	3 56	3 58	2 8	8 56	1 13	23 21	0 18	9 25	0 58	10 26	2 13	22 9	0 31	22 28	0 56	15 27	7 44	16 7	16 13	18 41	16 45	6 31			
T 28	13 4	6 27	3 1	4 21	2 10	9 25	1 12	23 24	0 21	9 22	0 58	10 28	2 13	22 9	0 31	22 28	0 56	15 27	7 44	16 6	16 12	18 40	16 45	6 31			
W 29	13 24	10 32	1 58	4 47	2 11	9 53	1 11	23 26	0 24	9 18	0 58	10 31	2 13	22 9	0 31	22 28	0 56	15 27	7 44	16 6	16 11	18 39	16 45	6 30			
T 30	13 44	14 3	0 49	5 15	2 11	10 21	1 9	23 29	0 26	9 15	0 58	10 33	2 13	22 9	0 31	22 28	0 56	15 27	7 44	16 6	16 10	18 38	16 45	6 30			
F 31	14s 3	16n51	0s21	5s46	2n10	10s48	1n 8	23n31	0n29	9n11	0n58	10s35	2n13	22s 8	0s31	22s28	0n56	15n27	7s44	16s 6	16s 9	18n37	16s45	6n30			

ASTRODIENST EPHEMERIS for the year 1659
geocentric

NOVEMBER 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	2 40 45	8♉33°25	0♊13	21♋13	2♉19	18°R58	8♉57	3♉33	22♋21	4♋38	20°R55	14♉6	14♉14	11♋58	8♋3	S 1
S 2	2 44 42	9°33'37	12°25	22°37	3°35	18♊51	9°6	3°40	22°23	4°39	20♊54	14°7	14°11	12°5	8°7	S 2
M 3	2 48 39	10°33'51	24°26	24°4	4°50	18°43	9°15	3°47	22°24	4°41	20°53	14°7	14°8	12°12	8°11	M 3
T 4	2 52 35	11°34'07	6♋21	25°33	6°5	18°34	9°24	3°54	22°26	4°42	20°53	14°8	14°4	12°18	8°15	T 4
W 5	2 56 32	12°34'25	18°12	27°4	7°21	18°24	9°33	4°2	22°28	4°44	20°52	14°8	14°1	12°25	8°19	W 5
T 6	3 0 28	13°34'45	0♌3	28°35	8°36	18°14	9°42	4°9	22°29	4°45	20°51	14°8	13°58	12°32	8°23	T 6
F 7	3 4 25	14°35'07	12°0	0♍8	9°51	18°2	9°50	4°16	22°31	4°47	20°50	14°8	13°55	12°38	8°27	F 7
S 8	3 8 21	15°35'30	24°7	1°41	11°7	17°50	9°59	4°23	22°33	4°48	20°49	14°8	13°52	12°45	8°31	S 8
S 9	3 12 18	16°35'56	6♎28	3°16	12°22	17°37	10°7	4°30	22°35	4°50	20°48	14°8	13°49	12°52	8°35	S 9
M10	3 16 14	17°36'24	19°8	4°50	13°38	17°23	10°16	4°37	22°37	4°52	20°47	14°8	13°45	12°59	8°39	M10
T 11	3 20 11	18°36'53	2♌10	6°25	14°53	17°8	10°24	4°44	22°39	4°53	20°46	14°9	13°42	13°5	8°43	T 11
W12	3 24 8	19°37'24	15°36	8°0	16°8	16°52	10°32	4°51	22°41	4°55	20°45	14°9	13°39	13°12	8°48	W12
T 13	3 28 4	20°37'57	29°26	9°36	17°24	16°36	10°40	4°59	22°43	4°57	20°44	14°10	13°36	13°19	8°52	T 13
F 14	3 32 1	21°38'32	13♉38	11°11	18°39	16°19	10°48	5°6	22°45	4°59	20°43	14°R10	13°33	13°25	8°57	F 14
S 15	3 35 57	22°39'08	28°9	12°46	19°55	16°1	10°55	5°13	22°47	5°0	20°42	14°10	13°29	13°32	9°1	S 15
S 16	3 39 54	23°39'46	12♊52	14°22	21°10	15°43	11°3	5°20	22°49	5°2	20°41	14°9	13°26	13°39	9°6	S 16
M17	3 43 50	24°40'25	27°40	15°57	22°26	15°24	11°10	5°27	22°51	5°4	20°40	14°8	13°23	13°45	9°10	M17
T 18	3 47 47	25°41'05	12♋27	17°32	23°41	15°4	11°17	5°33	22°54	5°6	20°39	14°6	13°20	13°52	9°15	T 18
W19	3 51 43	26°41'47	27°4	19°8	24°57	14°44	11°24	5°40	22°56	5°8	20°38	14°5	13°17	13°59	9°20	W19
T 20	3 55 40	27°42'29	11♌27	20°43	26°12	14°23	11°31	5°47	22°58	5°10	20°37	14°4	13°14	14°6	9°24	T 20
F 21	3 59 37	28°43'13	25°33	22°18	27°27	14°2	11°38	5°54	23°1	5°11	20°36	14°D3	13°10	14°12	9°29	F 21
S 22	4 3 33	29°43'57	9♉20	23°53	28°43	13°40	11°45	6°1	23°3	5°13	20°35	14°4	13°7	14°19	9°34	S 22
S 23	4 7 30	0♊44'43	22°49	25°28	29°58	13°18	11°51	6°8	23°6	5°15	20°34	14°5	13°4	14°26	9°39	S 23
M24	4 11 26	1°45'30	6♉1	27°2	1♊14	12°56	11°58	6°15	23°8	5°17	20°32	14°6	13°1	14°32	9°44	M24
T 25	4 15 23	2°46'17	18°58	28°37	2°29	12°34	12°4	6°21	23°11	5°19	20°31	14°7	12°58	14°39	9°49	T 25
W26	4 19 19	3°47'06	1♋40	0♊11	3°45	12°11	12°10	6°28	23°13	5°21	20°30	14°9	12°55	14°46	9°54	W26
T 27	4 23 16	4°47'55	14°11	1°46	5°0	11°48	12°16	6°35	23°16	5°23	20°29	14°R9	12°51	14°52	9°59	T 27
F 28	4 27 12	5°48'46	26°31	3°20	6°16	11°25	12°22	6°41	23°18	5°25	20°28	14°8	12°48	14°59	10°4	F 28
S 29	4 31 9	6°49'38	8♊42	4°54	7°31	11°2	12°27	6°48	23°21	5°27	20°27	14°7	12°45	15°6	10°9	S 29
S 30	4 35 6	7♊50'31	20♊46	6♊29	8♊47	10♊38	12♉33	6♉54	23♋24	5♋29	20♊26	14♉4	12♉42	15♋13	10♋14	S 30

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat
S 1	14s23	18n48	1s28	6s19	2n8	11s16	1n6	23n33	0n32	9n8	0n59	10s38	2n13	22s8	0s31	22s28
S 2	14 42	19 50	2 31	6 52	2 6	11 43	1 5	23 36	0 35	9 5	0 59	10 40	2 13	22 8	0 31	22 28
M 3	15 1	19 56	3 26	7 27	2 2	12 10	1 3	23 38	0 38	9 1	0 59	10 43	2 13	22 8	0 31	22 28
T 4	15 20	19 9	4 11	8 3	1 59	12 37	1 1	23 40	0 41	8 58	0 59	10 45	2 13	22 7	0 31	22 28
W 5	15 38	17 31	4 46	8 40	1 55	13 3	0 59	23 42	0 44	8 55	0 59	10 47	2 13	22 7	0 31	22 28
T 6	15 57	15 9	5 8	9 17	1 50	13 29	0 58	23 44	0 47	8 52	1 0	10 50	2 13	22 7	0 31	22 28
F 7	16 15	12 8	5 17	9 54	1 45	13 55	0 56	23 46	0 50	8 49	1 0	10 52	2 13	22 6	0 31	22 28
S 8	16 32	8 35	5 13	10 32	1 40	14 20	0 54	23 48	0 53	8 46	1 0	10 55	2 13	22 6	0 31	22 28
S 9	16 50	4 36	4 54	11 9	1 34	14 45	0 52	23 50	0 56	8 43	1 0	10 57	2 13	22 6	0 31	22 28
M10	17 7	0 19	4 20	11 46	1 28	15 10	0 50	23 51	0 59	8 40	1 0	10 59	2 13	22 5	0 31	22 28
T 11	17 24	4s7	3 33	12 24	1 22	15 34	0 48	23 53	1 2	8 37	1 1	11 2	2 14	22 5	0 31	22 28
W12	17 40	8 29	2 32	13 1	1 16	15 58	0 46	23 54	1 5	8 34	1 1	11 4	2 14	22 5	0 31	22 28
T 13	17 56	12 33	1 21	13 37	1 9	16 21	0 44	23 56	1 8	8 31	1 1	11 6	2 14	22 4	0 31	22 28
F 14	18 12	16 0	0 3	14 13	1 2	16 44	0 42	23 57	1 11	8 29	1 1	11 9	2 14	22 4	0 31	22 28
S 15	18 28	18 32	1n17	14 49	0 56	17 7	0 40	23 58	1 14	8 26	1 2	11 11	2 14	22 4	0 31	22 28
S 16	18 43	19 52	2 33	15 24	0 49	17 29	0 38	23 59	1 17	8 23	1 2	11 13	2 14	22 3	0 31	22 28
M17	18 58	19 49	3 38	15 58	0 42	17 50	0 35	24 0	1 20	8 21	1 2	11 15	2 14	22 3	0 31	22 28
T 18	19 13	18 25	4 30	16 32	0 35	18 11	0 33	24 1	1 23	8 18	1 2	11 18	2 14	22 2	0 31	22 28
W19	19 27	15 50	5 3	17 5	0 28	18 32	0 31	24 2	1 26	8 16	1 2	11 20	2 14	22 2	0 31	22 27
T 20	19 41	12 19	5 16	17 37	0 22	18 52	0 29	24 2	1 29	8 13	1 3	11 22	2 14	22 2	0 31	22 27
F 21	19 55	8 9	5 10	18 8	0 15	19 12	0 26	24 2	1 32	8 11	1 3	11 24	2 14	22 1	0 31	22 27
S 22	20 8	3 40	4 46	18 39	0 8	19 31	0 24	24 3	1 34	8 9	1 3	11 26	2 14	22 1	0 31	22 27
S 23	20 21	0n56	4 7	19 9	0 1	19 49	0 22	24 3	1 37	8 6	1 3	11 29	2 14	22 0	0 31	22 27
M24	20 33	5 23	3 15	19 37	0s6	20 7	0 20	24 3	1 40	8 4	1 4	11 31	2 14	22 0	0 31	22 27
T 25	20 45	9 31	2 15	20 5	0 12	20 25	0 17	24 3	1 43	8 2	1 4	11 33	2 14	22 0	0 31	22 27
W26	20 57	13 9	1 8	20 32	0 19	20 42	0 15	24 2	1 46	8 0	1 4	11 35	2 14	21 59	0 31	22 27
T 27	21 8	16 7	0s0	20 58	0 26	20 58	0 13	24 2	1 48	7 58	1 4	11 37	2 14	21 59	0 31	22 27
F 28	21 19	18 19	1 8	21 23	0 32	21 14	0 10	24 1	1 51	7 56	1 5	11 39	2 15	21 58	0 31	22 27
S 29	21 29	19 38	2 11	21 47	0 38	21 29	0 8	24 0	1 53	7 54	1 5	11 41	2 15	21 58	0 31	22 27
S 30	21s39	20n2	3s8	22s10	0s45	21s43	0n5	24n0	1n56	7n52	1n5	11s43	2n15	21s57	0s31	22s27

Julian Day Number = 2327301.5, Delta T = 36.50 sec
Ecliptic obliquity = 23°28'54", Nutation = 0°00'11", out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 19°59'32", Lahiri = 19°06'32"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1659

geocentric

DECEMBER 1659 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	4 39 2	8°51'25	2°43	8°3	10°18	10°R15	12°38	7°1	23°26	5°31	20°R25	14°R 0	12°39	15°19	10°19	M 1
T 2	4 42 59	9°52'20	14°36	9°37	11°18	9°II52	12°43	7° 7	23°29	5°34	20°II23	13°II55	12°35	15°26	10°24	T 2
W 3	4 46 55	10°53'16	26°27	11°11	12°33	9°29	12°48	7°14	23°32	5°36	20°22	13°50	12°32	15°33	10°30	W 3
T 4	4 50 52	11°54'14	8°18	12°46	13°49	9° 6	12°53	7°20	23°35	5°38	20°21	13°46	12°29	15°39	10°35	T 4
F 5	4 54 48	12°55'12	20°14	14°20	15° 4	8°44	12°57	7°27	23°38	5°40	20°20	13°42	12°26	15°46	10°40	F 5
S 6	4 58 45	13°56'12	2°18	15°54	16°20	8°21	13° 2	7°33	23°41	5°42	20°19	13°40	12°23	15°53	10°46	S 6
S 7	5 2 41	14°57'12	14°34	17°29	17°35	7°59	13° 6	7°39	23°43	5°44	20°18	13°D39	12°20	16° 0	10°51	S 7
M 8	5 6 38	15°58'14	27° 8	19° 3	18°50	7°37	13°10	7°45	23°46	5°46	20°16	13°40	12°16	16° 6	10°56	M 8
T 9	5 10 35	16°59'17	10°13	20°38	20° 6	7°16	13°14	7°52	23°49	5°48	20°15	13°41	12°13	16°13	11° 2	T 9
W10	5 14 31	18° 0'21	23°24	22°13	21°21	6°55	13°18	7°58	23°52	5°51	20°14	13°43	12°10	16°20	11° 7	W10
T 11	5 18 28	19° 1'26	7°12	23°47	22°37	6°35	13°22	8° 4	23°55	5°53	20°13	13°R44	12° 7	16°26	11°13	T 11
F 12	5 22 24	20° 2'31	21°28	25°22	23°52	6°15	13°25	8°10	23°58	5°55	20°12	13°44	12° 4	16°33	11°18	F 12
S 13	5 26 21	21° 3'38	6°18	26°57	25° 8	5°56	13°28	8°16	24° 2	5°57	20°11	13°42	12° 1	16°40	11°24	S 13
S 14	5 30 17	22° 4'45	21° 9	28°33	26°23	5°37	13°31	8°22	24° 5	5°59	20° 9	13°39	11°57	16°47	11°29	S 14
M15	5 34 14	23° 5'53	6°20	0°3 8	27°39	5°19	13°34	8°27	24° 8	6° 2	20° 8	13°33	11°54	16°53	11°35	M15
T 16	5 38 11	24° 7'02	21°31	1°43	28°54	5° 1	13°37	8°33	24°11	6° 4	20° 7	13°27	11°51	17° 0	11°40	T 16
W17	5 42 7	25° 8'10	6°32	3°19	0°3 10	4°44	13°39	8°39	24°14	6° 6	20° 6	13°21	11°48	17° 7	11°46	W17
T 18	5 46 4	26° 9'19	21°16	4°55	1°25	4°28	13°41	8°45	24°17	6° 8	20° 5	13°15	11°45	17°13	11°51	T 18
F 19	5 50 0	27°10'28	5°35	6°31	2°41	4°13	13°44	8°50	24°21	6°11	20° 3	13°11	11°41	17°20	11°57	F 19
S 20	5 53 57	28°11'37	19°28	8° 7	3°56	3°58	13°46	8°56	24°24	6°13	20° 2	13° 9	11°38	17°27	12° 3	S 20
S 21	5 57 53	29°12'46	2°56	9°43	5°12	3°45	13°47	9° 1	24°27	6°15	20° 1	13°D 9	11°35	17°34	12° 8	S 21
M22	6 1 50	0°3 13'55	16° 0	11°18	6°27	3°32	13°49	9° 7	24°30	6°17	20° 0	13° 9	11°32	17°40	12°14	M22
T 23	6 5 46	1°15'04	28°44	12°54	7°43	3°19	13°50	9°12	24°34	6°20	19°59	13°11	11°29	17°47	12°20	T 23
W24	6 9 43	2°16'13	11°13	14°30	8°58	3° 8	13°51	9°17	24°37	6°22	19°58	13°R12	11°26	17°54	12°25	W24
T 25	6 13 40	3°17'22	23°28	16° 6	10°13	2°57	13°52	9°22	24°40	6°24	19°57	13°11	11°22	18° 0	12°31	T 25
F 26	6 17 36	4°18'31	5°34	17°41	11°29	2°47	13°53	9°28	24°44	6°26	19°55	13° 8	11°19	18° 7	12°37	F 26
S 27	6 21 33	5°19'40	17°34	19°16	12°44	2°38	13°54	9°33	24°47	6°29	19°54	13° 3	11°16	18°14	12°42	S 27
S 28	6 25 29	6°20'49	29°30	20°51	14° 0	2°30	13°54	9°38	24°50	6°31	19°53	12°55	11°13	18°21	12°48	S 28
M29	6 29 26	7°21'58	11°23	22°25	15°15	2°23	13°54	9°43	24°54	6°33	19°52	12°45	11°10	18°27	12°54	M29
T 30	6 33 22	8°23'07	23°15	23°58	16°31	2°16	13°R54	9°47	24°57	6°36	19°51	12°34	11° 7	18°34	13° 0	T 30
W31	6 37 19	9°24'16	5°17	25°30	17°36	2°II11	13°54	9°II52	25°3 1	6°38	19°II50	12°II23	11°II 3	18°34	13°3 5	W31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	
M 1	21s49	19n31	3s56	22s32	0s51	21s57	0n 3	23n59	1n58	7n50	1n 5	11s45	2n15	21s57	0s31	M 1
T 2	21 58	18 9	4 33	22 52	0 57	22 10	0 1	23 58	2 1	7 49	1 6	11 47	2 15	21 56	0 31	T 2
W 3	22 7	16 1	4 59	23 12	1 3	22 22	0s 2	23 56	2 3	7 47	1 6	11 49	2 15	21 56	0 31	W 3
T 4	22 15	13 12	5 12	23 30	1 8	22 34	0 4	23 55	2 5	7 45	1 6	11 51	2 15	21 55	0 31	T 4
F 5	22 23	9 51	5 11	23 47	1 14	22 45	0 7	23 54	2 8	7 44	1 6	11 53	2 15	21 55	0 31	F 5
S 6	22 31	6 3	4 57	24 3	1 19	22 56	0 9	23 52	2 10	7 42	1 7	11 55	2 15	21 54	0 31	S 6
S 7	22 38	1 57	4 29	24 17	1 24	23 5	0 11	23 51	2 12	7 41	1 7	11 57	2 15	21 54	0 31	S 7
M 8	22 44	2s20	3 47	24 31	1 29	23 14	0 14	23 49	2 14	7 40	1 7	11 59	2 16	21 53	0 31	M 8
T 9	22 51	6 39	2 54	24 43	1 34	23 23	0 16	23 47	2 15	7 38	1 8	12 1	2 16	21 53	0 31	T 9
W10	22 56	10 47	1 49	24 53	1 39	23 30	0 18	23 46	2 17	7 37	1 8	12 3	2 16	21 52	0 31	W10
T 11	23 2	14 30	0 36	25 3	1 43	23 37	0 21	23 44	2 19	7 36	1 8	12 4	2 16	21 52	0 31	T 11
F 12	23 6	17 29	0n42	25 11	1 47	23 43	0 23	23 42	2 21	7 35	1 8	12 6	2 16	21 51	0 31	F 12
S 13	23 11	19 25	1 59	25 17	1 51	23 49	0 25	23 40	2 22	7 34	1 9	12 8	2 16	21 51	0 30	S 13
S 14	23 15	20 2	3 9	25 23	1 54	23 54	0 28	23 38	2 24	7 33	1 9	12 10	2 16	21 50	0 30	S 14
M15	23 18	19 13	4 7	25 26	1 57	23 58	0 30	23 36	2 25	7 32	1 9	12 12	2 16	21 49	0 30	M15
T 16	23 21	17 2	4 47	25 29	2 0	24 1	0 32	23 34	2 26	7 31	1 9	12 13	2 17	21 49	0 30	T 16
W17	23 24	13 42	5 7	25 29	2 3	24 3	0 35	23 33	2 28	7 31	1 10	12 15	2 17	21 48	0 30	W17
T 18	23 26	9 36	5 6	25 29	2 5	24 5	0 37	23 31	2 29	7 30	1 10	12 17	2 17	21 48	0 30	T 18
F 19	23 27	5 2	4 46	25 26	2 7	24 6	0 39	23 29	2 30	7 29	1 10	12 18	2 17	21 47	0 30	F 19
S 20	23 28	0 21	4 10	25 22	2 9	24 6	0 41	23 27	2 31	7 29	1 11	12 20	2 17	21 47	0 30	S 20
S 21	23 29	4n14	3 20	25 17	2 10	24 6	0 43	23 25	2 32	7 29	1 11	12 21	2 17	21 46	0 30	S 21
M22	23 29	8 29	2 22	25 10	2 11	24 5	0 45	23 24	2 33	7 28	1 11	12 23	2 18	21 45	0 30	M22
T 23	23 29	12 15	1 17	25 1	2 11	24 3	0 47	23 22	2 34	7 28	1 11	12 25	2 18	21 45	0 30	T 23
W24	23 28	15 23	0 11	24 51	2 11	24 0	0 49	23 21	2 34	7 28	1 12	12 26	2 18	21 44	0 30	W24
T 25	23 26	17 47	0s55	24 40	2 10	23 56	0 51	23 19	2 35	7 28	1 12	12 28	2 18	21 44	0 30	T 25
F 26	23 25	19 21	1 57	24 26	2 9	23 52	0 53	23 18	2 36	7 28	1 12	12 29	2 18	21 43	0 30	F 26
S 27	23 22	20 1	2 54	24 11	2 7	23 47	0 55	23 17	2 36	7 28	1 13	12 30	2 18	21 42	0 30	S 27
S 28	23 20	19 47	3 42	23 55	2 5	23 42	0 57	23 16	2 37	7 28	1 13	12 32	2 18	21 42	0 30	S 28
M29	23 17	18 40	4 20	23 37	2 2	23 35	0 59	23 15	2 37	7 28	1 13	12 33	2 19	21 41	0 30	M29
T 30	23 13	16 45	4 47	23 17	1 58	23 28	1 1	23 14	2 38	7 28	1 13	12 35	2 19	21 41	0 30	T 30
W31	23s 9	14n 8	5s 2	22s56	1s54	23s20	1s 3	23n13	2n38	7n29	1n14	12s36	2n19	21s40	0s30	W31

Julian Day Number = 2327331.5, Delta T = 36.44 sec

Ecliptic obliquity = 23°28'53", Nutation = 0°00'11", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 19°59'36", Lahiri = 19°06'36"Greg. Calendar