



Astrodienst Ephemeris Tables for the year 1649

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 1649
geocentric

JANUARY 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	6 43 51	11♌ 6'03	6♏15	20♌37	7♏23	15♏19	8♏46	10°R28	11♌ 8	13♌31	8°R33	14°R54	13♏43	21♏28	15°R15	F 1
S 2	6 47 47	12° 7'12	19°57	20°52	8°38	15°29	8°50	10♏24	11°12	13°33	8♏32	14♏50	13°40	21°34	15♏12	S 2
S 3	6 51 44	13° 8'21	3♏50	21°14	9°52	15°39	8°54	10°20	11°15	13°35	8°31	14°46	13°36	21°41	15° 8	S 3
M 4	6 55 41	14° 9'29	17°51	21°44	11° 7	15°48	8°58	10°16	11°18	13°37	8°30	14°42	13°33	21°48	15° 5	M 4
T 5	6 59 37	15°10'38	1♏56	22°19	12°21	15°57	9° 1	10°13	11°21	13°39	8°30	14°40	13°30	21°54	15° 1	T 5
W 6	7 3 34	16° 11'47	16° 5	22°59	13°36	16° 4	9° 5	10° 9	11°24	13°41	8°29	14°D40	13°27	22° 1	14°57	W 6
T 7	7 7 30	17°12'56	0♏14	23°45	14°50	16°12	9° 8	10° 6	11°28	13°43	8°28	14°40	13°24	22° 8	14°54	T 7
F 8	7 11 27	18°14'05	14°23	24°35	16° 5	16°18	9°11	10° 3	11°31	13°45	8°27	14°42	13°20	22°14	14°50	F 8
S 9	7 15 23	19°15'13	28°29	25°29	17°19	16°24	9°13	9°59	11°34	13°47	8°26	14°43	13°17	22°21	14°46	S 9
S 10	7 19 20	20°16'22	12♌31	26°26	18°33	16°29	9°16	9°56	11°37	13°49	8°25	14°R44	13°14	22°28	14°42	S 10
M11	7 23 16	21°17'30	26°26	27°27	19°48	16°34	9°19	9°53	11°40	13°51	8°24	14°43	13°11	22°34	14°38	M11
T 12	7 27 13	22°18'38	10♌11	28°30	21° 2	16°38	9°21	9°50	11°43	13°53	8°24	14°41	13° 8	22°41	14°34	T 12
W13	7 31 10	23°19'45	23°44	29°36	22°16	16°41	9°23	9°47	11°46	13°55	8°23	14°36	13° 5	22°48	14°30	W13
T 14	7 35 6	24°20'52	7♏ 2	0♌35	23°30	16°43	9°25	9°44	11°49	13°56	8°22	14°30	13° 1	22°55	14°26	T 14
F 15	7 39 3	25°21'58	20° 3	1°55	24°45	16°45	9°26	9°42	11°52	13°58	8°21	14°23	12°58	23° 1	14°22	F 15
S 16	7 42 59	26°23'03	2♏47	3° 7	25°59	16°46	9°28	9°39	11°55	14° 0	8°21	14°15	12°55	23° 8	14°18	S 16
S 17	7 46 56	27°24'07	15°13	4°21	27°13	16°R46	9°29	9°36	11°58	14° 2	8°20	14° 8	12°52	23°15	14°13	S 17
M18	7 50 52	28°25'10	27°25	5°37	28°27	16°45	9°30	9°34	12° 0	14° 4	8°19	14° 1	12°49	23°21	14° 9	M18
T 19	7 54 49	29°26'12	9♏26	6°54	29°41	16°44	9°31	9°32	12° 3	14° 5	8°19	13°57	12°46	23°28	14° 4	T 19
W20	7 58 46	0♏27'13	21°18	8°13	0♏55	16°42	9°32	9°30	12° 6	14° 7	8°18	13°55	12°42	23°35	14° 0	W20
T 21	8 2 42	1°28'13	3♏ 8	9°32	2° 9	16°39	9°33	9°27	12° 9	14° 9	8°17	13°D54	12°39	23°41	13°56	T 21
F 22	8 6 39	2°29'12	15° 0	10°53	3°23	16°35	9°33	9°25	12°11	14°10	8°17	13°55	12°36	23°48	13°51	F 22
S 23	8 10 35	3°30'10	27° 0	12°15	4°37	16°31	9°R33	9°24	12°14	14°12	8°16	13°56	12°33	23°55	13°47	S 23
S 24	8 14 32	4°31'06	9♏13	13°39	5°50	16°25	9°33	9°22	12°17	14°14	8°15	13°R57	12°30	24° 1	13°42	S 24
M25	8 18 28	5°32'01	21°43	15° 3	7° 4	16°19	9°33	9°20	12°19	14°15	8°15	13°57	12°26	24° 8	13°38	M25
T 26	8 22 25	6°32'56	4♏33	16°28	8°18	16°13	9°33	9°19	12°22	14°17	8°14	13°55	12°23	24°15	13°33	T 26
W27	8 26 21	7°33'48	17°46	17°54	9°32	16° 5	9°32	9°17	12°24	14°18	8°14	13°50	12°20	24°22	13°28	W27
T 28	8 30 18	8°34'40	1♏21	19°21	10°45	15°57	9°31	9°16	12°27	14°20	8°13	13°43	12°17	24°28	13°24	T 28
F 29	8 34 15	9°35'31	15°17	20°49	11°59	15°48	9°30	9°15	12°29	14°21	8°13	13°35	12°14	24°35	13°19	F 29
S 30	8 38 11	10°36'20	29°29	22°17	13°12	15°38	9°29	9°13	12°31	14°23	8°12	13°25	12°11	24°42	13°14	S 30
S 31	8 42 8	11♏37'08	13♏51	23♌47	14♏26	15♏27	9♏28	9♏12	12♌34	14♌24	8♏12	13♏16	12♏ 7	24♏48	13♏10	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	23s 1	22n42	4n 5	20s17	2n53	20s 5	1s41	8n42	3n 9	2s15	1n20	20n25	1s40	22s 7	0n 2	21s 2	1n26	11n20	10s34	22n38	22n29	4n36	9n14	7s23			
S 2	22 56	19 21	4 44	20 25	2 46	19 46	1 41	8 39	3 10	2 16	1 21	20 24	1 40	22 8	0 2	21 2	1 26	11 20	10 34	22 37	22 29	4 39	9 15	7 23			
S 3	22 50	14 53	5 7	20 34	2 38	19 26	1 41	8 37	3 12	2 18	1 21	20 24	1 40	22 8	0 2	21 3	1 26	11 20	10 33	22 37	22 29	4 42	9 15	7 23			
M 4	22 44	9 36	5 12	20 44	2 30	19 6	1 42	8 35	3 14	2 19	1 21	20 24	1 39	22 9	0 2	21 3	1 26	11 20	10 33	22 36	22 28	4 45	9 16	7 24			
T 5	22 37	3 48	4 59	20 55	2 21	18 45	1 42	8 34	3 16	2 20	1 21	20 23	1 39	22 9	0 2	21 3	1 26	11 20	10 33	22 36	22 28	4 48	9 16	7 24			
W 6	22 30	2s13	4 27	21 6	2 13	18 24	1 41	8 32	3 18	2 21	1 22	20 23	1 39	22 10	0 2	21 3	1 26	11 20	10 33	22 36	22 27	4 51	9 17	7 25			
T 7	22 22	8 9	3 39	21 17	2 3	18 2	1 41	8 31	3 20	2 22	1 22	20 23	1 39	22 10	0 2	21 4	1 26	11 20	10 33	22 36	22 27	4 54	9 18	7 25			
F 8	22 14	13 40	2 38	21 28	1 54	17 39	1 41	8 30	3 21	2 23	1 22	20 22	1 38	22 11	0 2	21 4	1 27	11 20	10 33	22 36	22 27	4 57	9 19	7 25			
S 9	22 6	18 26	1 28	21 40	1 45	17 16	1 41	8 30	3 23	2 24	1 22	20 22	1 38	22 11	0 2	21 4	1 27	11 20	10 32	22 36	22 26	5 0	9 19	7 26			
S 10	21 57	22 8	0 12	21 51	1 35	16 53	1 40	8 30	3 25	2 25	1 23	20 22	1 38	22 11	0 2	21 4	1 27	11 20	10 32	22 37	22 26	5 3	9 20	7 26			
M11	21 48	24 30	1s 3	22 2	1 26	16 29	1 40	8 29	3 27	2 25	1 23	20 22	1 38	22 12	0 2	21 4	1 27	11 20	10 32	22 37	22 25	5 6	9 21	7 26			
T 12	21 38	25 19	2 14	22 12	1 16	16 5	1 39	8 30	3 29	2 26	1 23	20 21	1 38	22 12	0 2	21 5	1 27	11 21	10 32	22 36	22 25	5 9	9 22	7 26			
W13	21 28	24 37	3 16	22 22	1 7	15 40	1 39	8 30	3 31	2 27	1 24	20 21	1 37	22 13	0 2	21 5	1 27	11 21	10 32	22 36	22 25	5 12	9 23	7 27			
T 14	21 17	22 31	4 6	22 31	0 58	15 15	1 38	8 31	3 33	2 27	1 24	20 21	1 37	22 13	0 2	21 5	1 27	11 21	10 31	22 35	22 24	5 15	9 24	7 27			
F 15	21 6	19 17	4 42	22 40	0 48	14 50	1 37	8 32	3 35	2 28	1 24	20 21	1 37	22 13	0 2	21 5	1 27	11 21	10 31	22 34	22 24	5 18	9 25	7 27			
S 16	20 55	15 12	5 3	22 48	0 39	14 24	1 36	8 33	3 36	2 28	1 24	20 21	1 37	22 14	0 2	21 5	1 27	11 21	10 31	22 33	22 24	5 21	9 26	7 27			
S 17	20 43	10 34	5 9	22 55	0 30	13 57	1 35	8 35	3 38	2 28	1 25	20 21	1 37	22 14	0 2	21 6	1 27	11 21	10 31	22 32	22 23	5 24	9 27	7 28			
M18	20 31	5 37	5 0	23 0	0 21	13 31	1 34	8 37	3 40	2 28	1 25	20 20	1 36	22 15	0 2	21 6	1 27	11 21	10 31	22 32	22 23	5 27	9 28	7 28			
T 19	20 19	0 32	4 39	23 5	0 13	13 4	1 33	8 39	3 42	2 29	1 25	20 20	1 36	22 15	0 2	21 6	1 27	11 21	10 30	22 31	22 22	5 30	9 29	7 28			
W20	20 6	4n31	4 6	23 9	0 4	12 36	1 32	8 42	3 44	2 29	1 25	20 20	1 36	22 15	0 2	21 6	1 27	11 21	10 30	22 31	22 22	5 33	9 30	7 28			
T 21	19 52	9 25	3 22	23 12	0s 4	12 9	1 31	8 44	3 46	2 29	1 26	20 20	1 36	22 16	0 2	21 6	1 27	11 21	10 30	22 31	22 21	5 36	9 31	7 28			
F 22	19 39	13 59	2 30	23 14	0 12	11 41	1 30	8 48	3 47	2 28	1 26	20 20	1 35	22 16	0 2	21 6	1 27	11 22	10 30	22 31	22 21	5 39	9 32	7 28			
S 23	19 25	18 4	1 30	23 15	0 20	11 12	1 28	8 51	3 49	2 28	1 26	20 20	1 35	22 16	0 2	21 7	1 27	11 22	10 29	22 31	22 21	5 42	9 33	7 28			
S 24	19 10	21 27	0 26	23 14	0 27	10 44	1 27	8 55	3 51	2 28	1 27	20 20	1 35	22 17	0 2	21 7	1 27	11 22	10 29	22 31	22 20	5 45	9 35	7 29			
M25	18 55	23 55	0n42	23 13	0 35	10 15	1 25	8 59	3 53	2 28	1 27	20 20	1 35	22 17	0 2	21 7	1 27	11 22	10 29	22 31	22 20	5 48	9 36	7 29			
T 26	18 40	25 13	1 48	23 10	0 42	9 46	1 23	9 3	3 54	2 27	1 27	20 20	1 34	22 18	0 2	21 7	1 27	11 22	10 29	22 31	22 19	5 51	9 37	7 29			
W27	18 25	25 8	2 51	23 6	0 49	9 16	1 22	9 7	3 56	2 27	1 27	20 20	1 34	22 18	0 2	21 7	1 27	11 22	10 28	22 30	22 19	5 54	9 38	7 29			
T 28	18 9	23 34	3 46	23 0	0 56	8 47	1 20	9 12	3 58	2 26	1 28	20 20	1 34	22 18	0 2	21 7	1 27	11 23	10 28	22 29	22 19	5 57	9 39	7 29			
F 29	17 53	20 33	4 29	22 54	1 2	8 17	1 18	9 17	3 59	2 26	1 28	20 20	1 34	22 18	0 2	21 7	1 27	11 23	10 28	22 28	22 18	6 0	9 41	7 29			
S 30	17 37	16 17	4 56	22 46	1 8	7 47	1 16	9 22	4 1	2 25	1 28	20 20	1 33	22 19	0 2	21 8	1 27	11 23	10 28	22 27	22 18	6 3	9 42	7 29			
S 31	17s20	11n 2	5n 4	22s36	1s14	7s17	1s14	9n28	4n 2	2s24	1n28	20n20	1s33	22s19	0n 2	21s 8	1n27	11n23	10s28	22n26	22n17	6n 6	9n43	7s29			

ASTRODIENST EPHEMERIS for the year 1649
geocentric

FEBRUARY 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	8 46 4	12 ³⁷ 55	28 ¹⁸ 18	25 ³¹ 17	15 ³⁹ 39	15°R15	9°R26	9°R11	12 ³⁷ 36	14 ²⁷ 26	8°R11	13°R 7	12 ¹¹ 4	24 ⁵⁵ 55	13°R 5	M 1
T 2	8 50 1	13°38'41	12 ⁴⁴ 44	26°48	16°52	15 ¹⁷ 3	9 ²⁵ 25	9 ¹¹ 11	12°38	14°27	8 ¹¹ 11	13 ¹¹ 1	12° 1	25° 2	13 ⁰ 0	T 2
W 3	8 53 57	14°39'26	27° 3	28°20	18° 6	14°50	9°23	9°10	12°40	14°28	8°11	12°57	11°58	25° 8	12°56	W 3
T 4	8 57 54	15°40'10	11 ¹⁴ 14	29°53	19°19	14°36	9°21	9° 9	12°43	14°30	8°10	12°D56	11°55	25°15	12°51	T 4
F 5	9 1 50	16°40'53	25°14	1 ²⁷ 27	20°32	14°22	9°18	9° 9	12°45	14°31	8°10	12°56	11°52	25°22	12°46	F 5
S 6	9 5 47	17°41'35	9 ⁴ 4	3° 1	21°45	14° 6	9°16	9° 9	12°47	14°32	8°10	12°R57	11°48	25°28	12°42	S 6
S 7	9 9 44	18°42'16	22°43	4°37	22°58	13°51	9°13	9° 8	12°49	14°34	8° 9	12°56	11°45	25°35	12°37	S 7
M 8	9 13 40	19°42'56	6 ¹³ 13	6°13	24°11	13°34	9°10	9°D 8	12°51	14°35	8° 9	12°54	11°42	25°42	12°33	M 8
T 9	9 17 37	20°43'35	19°32	7°50	25°24	13°16	9° 7	9° 8	12°53	14°36	8° 9	12°49	11°39	25°48	12°28	T 9
W10	9 21 33	21°44'12	2 ⁴¹ 41	9°28	26°37	12°58	9° 4	9° 8	12°55	14°37	8° 9	12°41	11°36	25°55	12°23	W10
T 11	9 25 30	22°44'48	15°38	11° 7	27°49	12°40	9° 1	9° 9	12°56	14°38	8° 8	12°30	11°32	26° 2	12°19	T 11
F 12	9 29 26	23°45'22	28°24	12°46	29° 2	12°21	8°57	9° 9	12°58	14°39	8° 8	12°18	11°29	26° 9	12°14	F 12
S 13	9 33 23	24°45'55	10 ⁵⁶ 56	14°27	0 ¹⁵ 15	12° 1	8°53	9° 9	13° 0	14°40	8° 8	12° 4	11°26	26°15	12°10	S 13
S 14	9 37 19	25°46'26	23°16	16° 8	1°27	11°40	8°50	9°10	13° 2	14°41	8° 8	11°51	11°23	26°22	12° 5	S 14
M15	9 41 16	26°46'55	5 ²⁴ 24	17°50	2°40	11°20	8°45	9°11	13° 3	14°42	8° 8	11°40	11°20	26°29	12° 1	M15
T 16	9 45 13	27°47'22	17°21	19°34	3°52	10°58	8°41	9°11	13° 5	14°43	8° 8	11°31	11°17	26°35	11°56	T 16
W17	9 49 9	28°47'48	29°13	21°18	5° 4	10°37	8°37	9°12	13° 6	14°44	8° 8	11°24	11°13	26°42	11°52	W17
T 18	9 53 6	29°48'12	11 ¹⁸ 18	23° 3	6°17	10°14	8°32	9°13	13° 8	14°45	8° 7	11°21	11°10	26°49	11°48	T 18
F 19	9 57 2	0 ³³ 33	22°51	24°49	7°29	9°52	8°28	9°15	13° 9	14°46	8° 7	11°19	11° 7	26°55	11°43	F 19
S 20	10 0 59	1°48'53	4 ⁴⁹ 49	26°37	8°41	9°29	8°23	9°16	13°11	14°47	8°D 7	11°19	11° 4	27° 2	11°39	S 20
S 21	10 4 55	2°49'11	16°59	28°25	9°53	9° 6	8°18	9°17	13°12	14°48	8° 7	11°19	11° 1	27° 9	11°35	S 21
M22	10 8 52	3°49'27	29°28	0 ¹⁴ 14	11° 5	8°43	8°12	9°19	13°13	14°49	8° 7	11°18	10°58	27°15	11°31	M22
T 23	10 12 48	4°49'41	12 ²⁸ 28	2° 4	12°16	8°19	8° 7	9°20	13°15	14°49	8° 8	11°15	10°54	27°22	11°27	T 23
W24	10 16 45	5°49'53	25°37	3°55	13°28	7°56	8° 2	9°22	13°16	14°50	8° 8	11° 9	10°51	27°29	11°22	W24
T 25	10 20 42	6°50'03	9 ²² 22	5°47	14°40	7°32	7°56	9°24	13°17	14°51	8° 8	11° 1	10°48	27°35	11°18	T 25
F 26	10 24 38	7°50'11	23°34	7°40	15°51	7° 8	7°50	9°26	13°18	14°51	8° 8	10°50	10°45	27°42	11°15	F 26
S 27	10 28 35	8°50'16	8 ¹⁷ 17	9°34	17° 2	6°45	7°44	9°28	13°19	14°52	8° 8	10°38	10°42	27°49	11°11	S 27
S 28	10 32 31	9 ⁵⁰ 50	22 ⁵⁵ 55	11 ¹⁴ 14	18 ¹⁴ 14	6 ²¹ 21	7 ³⁸ 38	9 ³⁰ 30	13 ²⁰ 20	14 ⁵³ 53	8 ¹¹ 11	10 ²⁷ 27	10 ³⁸ 38	27 ⁵⁵ 55	11 ⁰⁷ 07	S 28

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑	♒	♓	♈	♉		
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	lat	
M 1	17s 3	5n10	4n54	22s26	1s20	6s46	1s12	9n34	4n 4	2s23	1n29	20n20	1s33	22s19	0n 2	21s 8	1n27	11n23	10s27	22n25	22n17	6n 9	9n45	7s29
T 2	16 46	0s58	4 25	22 14	1 25	6 16	1 10	9 40	4 5	2 22	1 29	20 21	1 33	22 20	0 2	21 8	1 27	11 23	10 27	22 24	22 17	6 12	9 46	7 28
W 3	16 28	7 2	3 39	22 0	1 30	5 45	1 8	9 46	4 7	2 21	1 29	20 21	1 32	22 20	0 2	21 8	1 27	11 24	10 27	22 24	22 16	6 15	9 47	7 28
T 4	16 10	12 41	2 41	21 46	1 35	5 14	1 5	9 53	4 8	2 20	1 29	20 21	1 32	22 20	0 2	21 8	1 27	11 24	10 27	22 24	22 16	6 18	9 49	7 28
F 5	15 52	17 36	1 33	21 30	1 40	4 43	1 3	10 0	4 9	2 19	1 30	20 21	1 32	22 21	0 2	21 8	1 27	11 24	10 26	22 24	22 15	6 21	9 50	7 28
S 6	15 34	21 31	0 21	21 12	1 44	4 12	1 1	10 7	4 10	2 18	1 30	20 21	1 32	22 21	0 2	21 8	1 27	11 24	10 26	22 24	22 15	6 24	9 52	7 28
S 7	15 15	24 9	0s52	20 53	1 48	3 41	0 58	10 14	4 12	2 17	1 30	20 21	1 31	22 21	0 2	21 9	1 27	11 24	10 26	22 24	22 14	6 27	9 53	7 28
M 8	14 56	25 21	2 0	20 33	1 51	3 10	0 55	10 21	4 13	2 15	1 30	20 22	1 31	22 21	0 2	21 9	1 27	11 25	10 26	22 23	22 14	6 30	9 54	7 28
T 9	14 37	25 3	3 1	20 11	1 54	2 38	0 53	10 29	4 14	2 14	1 31	20 22	1 31	22 22	0 2	21 9	1 27	11 25	10 25	22 23	22 14	6 33	9 56	7 27
W10	14 17	23 21	3 52	19 48	1 57	2 7	0 50	10 37	4 15	2 12	1 31	20 22	1 31	22 22	0 2	21 9	1 28	11 25	10 25	22 22	22 13	6 36	9 57	7 27
T 11	13 58	20 27	4 29	19 23	2 0	1 35	0 47	10 45	4 15	2 11	1 31	20 22	1 30	22 22	0 2	21 9	1 28	11 25	10 25	22 20	22 13	6 39	9 59	7 27
F 12	13 38	16 37	4 52	18 57	2 2	1 4	0 45	10 53	4 16	2 9	1 31	20 23	1 30	22 22	0 2	21 9	1 28	11 25	10 24	22 19	22 12	6 42	10 0	7 27
S 13	13 18	12 7	5 1	18 30	2 3	0 32	0 42	11 1	4 17	2 8	1 32	20 23	1 30	22 23	0 2	21 9	1 28	11 26	10 24	22 17	22 12	6 45	10 2	7 27
S 14	12 57	7 12	4 55	18 1	2 5	0 1	0 39	11 10	4 17	2 6	1 32	20 23	1 30	22 23	0 2	21 9	1 28	11 26	10 24	22 15	22 11	6 48	10 3	7 26
M15	12 37	2 5	4 36	17 31	2 6	0n31	0 36	11 18	4 18	2 4	1 32	20 24	1 29	22 23	0 2	21 9	1 28	11 26	10 24	22 14	22 11	6 51	10 5	7 26
T 16	12 16	3n 3	4 5	16 59	2 6	1 2	0 33	11 27	4 18	2 2	1 32	20 24	1 29	22 23	0 2	21 9	1 28	11 26	10 23	22 12	22 10	6 54	10 6	7 26
W17	11 55	8 3	3 23	16 25	2 7	1 34	0 30	11 35	4 19	2 0	1 33	20 25	1 29	22 23	0 2	21 9	1 28	11 27	10 23	22 12	22 10	6 57	10 8	7 25
T 18	11 34	12 44	2 33	15 51	2 6	2 6	0 26	11 44	4 19	1 58	1 33	20 25	1 29	22 24	0 2	21 9	1 28	11 27	10 23	22 11	22 10	7 0	10 9	7 25
F 19	11 12	16 58	1 36	15 15	2 5	2 37	0 23	11 53	4 19	1 56	1 33	20 25	1 28	22 24	0 2	21 10	1 28	11 27	10 23	22 11	22 9	7 3	10 11	7 25
S 20	10 51	20 34	0 34	14 37	2 4	3 9	0 20	12 1	4 19	1 54	1 33	20 26	1 28	22 24	0 2	21 10	1 28	11 27	10 22	22 11	22 9	7 6	10 12	7 24
S 21	10 29	23 21	0n30	13 58	2 3	3 40	0 17	12 10	4 19	1 52	1 33	20 26	1 28	22 24	0 2	21 10	1 28	11 28	10 22	22 11	22 8	7 9	10 14	7 24
M22	10 8	25 4	1 34	13 17	2 0	4 11	0 13	12 19	4 19	1 50	1 34	20 27	1 28	22 24	0 2	21 10	1 28	11 28	10 22	22 11	22 8	7 12	10 15	7 23
T 23	9 46	25 30	2 36	12 35	1 58	4 43	0 10	12 27	4 18	1 47	1 34	20 27	1 27	22 24	0 2	21 10	1 28	11 28	10 22	22 10	22 7	7 15	10 17	7 23
W24	9 23	24 31	3 31	11 52	1 54	5 14	0 6	12 36	4 18	1 45	1 34	20 28	1 27	22 25	0 1	21 10	1 28	11 28	10 21	22 9	22 7	7 18	10 18	7 23
T 25	9 1	22 3	4 16	11 7	1 51	5 45	0 3	12 44	4 18	1 43	1 34	20 28	1 27	22 25	0 1	21 10	1 28	11 29	10 21	22 8	22 6	7 20	10 20	7 22
F 26	8 39	18 12	4 47	10 21	1 47	6 16	0n 1	12 53	4 17	1 40	1 34	20 29	1 27	22 25	0 1	21 10	1 28	11 29	10 21	22 7	22 6	7 23	10 21	7 22
S 27	8 16	13 10	5 0	9 34	1 42	6 46	0 4	13 1	4 16	1 38	1 35	20 29	1 26	22 25	0 1	21 10	1 28	11 29	10 21	22 5	22 6	7 26	10 23	7 21
S 28	7s54	7n18	4n53	8s45	1s36	7n17	0n 8	13n 9	4n16	1s35	1n35	20n30	1s26	22s25	0n 1	21s10	1n28	11n30	10s20	22n 3	22n 5	7n29	10n24	7s21

Julian Day Number = 2323376.5, Delta T = 43.95 sec
Ecliptic obliquity = 23°29'09, Nutation = - 0°00'15, out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 19°50'32, Lahiri = 18°57'33Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1649
geocentric

MARCH 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	10 36 28	10 ^h 50'22	7 ^h 50'50	13 ^h 24'24	19 ^h 25'25	5 ^h 57'57	7 ^h 32'32	9 ^h 32'32	13 ^h 21'21	14 ^h 53'53	8 ^h 11'11	10 ^h 16'16	10 ^h 35'35	28 ^h 2'2	11 ^h 18'3	M 1
T 2	10 40 24	11 ^h 50'23	22 ^h 41'41	15 ^h 21'21	20 ^h 36'36	5 ^h 34'34	7 ^h 26'26	9 ^h 34'34	13 ^h 22'22	14 ^h 54'54	8 ^h 9'9	10 ^h 11'11	10 ^h 32'32	28 ^h 9'9	10 ^h 59'9	T 2
W 3	10 44 21	12 ^h 50'21	7 ^h 11'22	17 ^h 18'18	21 ^h 47'47	5 ^h 11'11	7 ^h 20'20	9 ^h 37'37	13 ^h 23'23	14 ^h 54'54	8 ^h 9'9	10 ^h 3'3	10 ^h 29'29	28 ^h 15'15	10 ^h 56'56	W 3
T 4	10 48 17	13 ^h 50'19	21 ^h 47'47	19 ^h 15'15	22 ^h 58'58	4 ^h 48'48	7 ^h 13'13	9 ^h 39'39	13 ^h 23'23	14 ^h 55'55	8 ^h 9'9	10 ^h 0'0	10 ^h 26'26	28 ^h 22'22	10 ^h 52'52	T 4
F 5	10 52 14	14 ^h 50'14	5 ^h 57'53	21 ^h 12'12	24 ^h 8'8	4 ^h 25'25	7 ^h 7'7	9 ^h 42'42	13 ^h 24'24	14 ^h 55'55	8 ^h 9'9	9 ^h 59'59	10 ^h 23'23	28 ^h 29'29	10 ^h 49'49	F 5
S 6	10 56 10	15 ^h 50'08	19 ^h 41'41	23 ^h 10'10	25 ^h 19'19	4 ^h 2'2	7 ^h 0'0	9 ^h 45'45	13 ^h 25'25	14 ^h 55'55	8 ^h 10'10	9 ^h 59'59	10 ^h 19'19	28 ^h 36'36	10 ^h 45'45	S 6
S 7	11 0 7	16 ^h 50'00	3 ^h 31'12	25 ^h 8'8	26 ^h 30'30	3 ^h 40'40	6 ^h 53'53	9 ^h 48'48	13 ^h 25'25	14 ^h 56'56	8 ^h 10'10	9 ^h 59'59	10 ^h 16'16	28 ^h 42'42	10 ^h 42'42	S 7
M 8	11 4 4	17 ^h 49'51	16 ^h 27'27	27 ^h 5'5	27 ^h 40'40	3 ^h 18'18	6 ^h 46'46	9 ^h 51'51	13 ^h 26'26	14 ^h 56'56	8 ^h 10'10	9 ^h 56'56	10 ^h 13'13	28 ^h 49'49	10 ^h 39'39	M 8
T 9	11 8 0	18 ^h 49'40	29 ^h 27'27	29 ^h 2'2	28 ^h 50'50	2 ^h 57'57	6 ^h 39'39	9 ^h 54'54	13 ^h 26'26	14 ^h 56'56	8 ^h 11'11	9 ^h 51'51	10 ^h 10'10	28 ^h 56'56	10 ^h 36'36	T 9
W10	11 11 57	19 ^h 49'27	12 ^h 58'16	0 ^h 57'57	0 ^h 8'8	2 ^h 36'36	6 ^h 32'32	9 ^h 57'57	13 ^h 27'27	14 ^h 56'56	8 ^h 11'11	9 ^h 43'43	10 ^h 7'7	29 ^h 2'2	10 ^h 33'33	W10
T 11	11 15 53	20 ^h 49'12	24 ^h 54'54	2 ^h 52'52	1 ^h 10'10	2 ^h 15'15	6 ^h 25'25	10 ^h 0'0	13 ^h 27'27	14 ^h 57'57	8 ^h 11'11	9 ^h 32'32	10 ^h 3'3	29 ^h 9'9	10 ^h 30'30	T 11
F 12	11 19 50	21 ^h 48'56	7 ^h 21'21	4 ^h 44'44	2 ^h 20'20	1 ^h 55'55	6 ^h 18'18	10 ^h 3'3	13 ^h 28'28	14 ^h 57'57	8 ^h 12'12	9 ^h 19'19	10 ^h 0'0	29 ^h 16'16	10 ^h 27'27	F 12
S 13	11 23 46	22 ^h 48'37	19 ^h 39'39	6 ^h 35'35	3 ^h 30'30	1 ^h 36'36	6 ^h 10'10	10 ^h 7'7	13 ^h 28'28	14 ^h 57'57	8 ^h 12'12	9 ^h 5'5	9 ^h 57'57	29 ^h 22'22	10 ^h 24'24	S 13
S 14	11 27 43	23 ^h 48'16	1 ^h 54'48	8 ^h 23'23	4 ^h 40'40	1 ^h 17'17	6 ^h 3'3	10 ^h 10'10	13 ^h 28'28	14 ^h 57'57	8 ^h 13'13	8 ^h 51'51	9 ^h 54'54	29 ^h 29'29	10 ^h 21'21	S 14
M15	11 31 39	24 ^h 47'53	13 ^h 48'48	10 ^h 8'8	5 ^h 49'49	0 ^h 59'59	5 ^h 56'56	10 ^h 14'14	13 ^h 28'28	14 ^h 57'57	8 ^h 13'13	8 ^h 39'39	9 ^h 51'51	29 ^h 36'36	10 ^h 19'19	M15
T 16	11 35 36	25 ^h 47'28	25 ^h 41'41	11 ^h 49'49	6 ^h 58'58	0 ^h 41'41	5 ^h 48'48	10 ^h 18'18	13 ^h 28'28	14 ^h 57'57	8 ^h 14'14	8 ^h 29'29	9 ^h 48'48	29 ^h 42'42	10 ^h 16'16	T 16
W17	11 39 33	26 ^h 47'01	7 ^h 30'30	13 ^h 27'27	8 ^h 8'8	0 ^h 24'24	5 ^h 41'41	10 ^h 22'22	13 ^h 28'28	14 ^h 57'57	8 ^h 14'14	8 ^h 22'22	9 ^h 44'44	29 ^h 49'49	10 ^h 14'14	W17
T 18	11 43 29	27 ^h 46'32	19 ^h 18'18	15 ^h 0'0	9 ^h 17'17	0 ^h 8'8	5 ^h 33'33	10 ^h 26'26	13 ^h 28'28	14 ^h 57'57	8 ^h 15'15	8 ^h 18'18	9 ^h 41'41	29 ^h 56'56	10 ^h 11'11	T 18
F 19	11 47 26	28 ^h 46'01	1 ^h 11'11	16 ^h 28'28	10 ^h 26'26	29 ^h 52'52	5 ^h 25'25	10 ^h 30'30	13 ^h 28'28	14 ^h 57'57	8 ^h 15'15	8 ^h 16'16	9 ^h 38'38	0 ^h 8'8	10 ^h 9'9	F 19
S 20	11 51 22	29 ^h 45'27	13 ^h 3'3	17 ^h 51'51	11 ^h 34'34	29 ^h 37'37	5 ^h 18'18	10 ^h 34'34	13 ^h 28'28	14 ^h 57'57	8 ^h 16'16	8 ^h 16'16	9 ^h 35'35	0 ^h 9'9	10 ^h 7'7	S 20
S 21	11 55 19	0 ^h 54'45	25 ^h 11'11	19 ^h 9'9	12 ^h 43'43	29 ^h 23'23	5 ^h 10'10	10 ^h 38'38	13 ^h 28'28	14 ^h 57'57	8 ^h 16'16	8 ^h 17'17	9 ^h 32'32	0 ^h 16'16	10 ^h 5'5	S 21
M22	11 59 15	1 ^h 44'13	7 ^h 37'37	20 ^h 20'20	13 ^h 51'51	29 ^h 10'10	5 ^h 2'2	10 ^h 42'42	13 ^h 28'28	14 ^h 57'57	8 ^h 17'17	8 ^h 17'17	9 ^h 29'29	0 ^h 22'22	10 ^h 3'3	M22
T 23	12 3 12	2 ^h 43'32	20 ^h 24'24	21 ^h 26'26	15 ^h 0'0	28 ^h 57'57	4 ^h 55'55	10 ^h 47'47	13 ^h 28'28	14 ^h 57'57	8 ^h 18'18	8 ^h 15'15	9 ^h 25'25	0 ^h 29'29	10 ^h 1'1	T 23
W24	12 7 8	3 ^h 42'49	3 ^h 38'38	22 ^h 25'25	16 ^h 8'8	28 ^h 46'46	4 ^h 47'47	10 ^h 51'51	13 ^h 28'28	14 ^h 56'56	8 ^h 18'18	8 ^h 11'11	9 ^h 22'22	0 ^h 36'36	9 ^h 59'59	W24
T 25	12 11 5	4 ^h 42'04	17 ^h 22'22	23 ^h 17'17	17 ^h 16'16	28 ^h 35'35	4 ^h 39'39	10 ^h 56'56	13 ^h 27'27	14 ^h 56'56	8 ^h 19'19	8 ^h 5'5	9 ^h 19'19	0 ^h 42'42	9 ^h 58'58	T 25
F 26	12 15 2	5 ^h 41'16	1 ^h 35'35	24 ^h 2'2	18 ^h 23'23	28 ^h 24'24	4 ^h 31'31	11 ^h 0'0	13 ^h 27'27	14 ^h 56'56	8 ^h 20'20	7 ^h 57'57	9 ^h 16'16	0 ^h 49'49	9 ^h 56'56	F 26
S 27	12 18 58	6 ^h 40'26	16 ^h 15'15	24 ^h 41'41	19 ^h 31'31	28 ^h 15'15	4 ^h 24'24	11 ^h 5'5	13 ^h 26'26	14 ^h 55'55	8 ^h 21'21	7 ^h 48'48	9 ^h 13'13	0 ^h 56'56	9 ^h 55'55	S 27
S 28	12 22 55	7 ^h 39'34	1 ^h 14'14	25 ^h 12'12	20 ^h 38'38	28 ^h 6'6	4 ^h 16'16	11 ^h 10'10	13 ^h 26'26	14 ^h 55'55	8 ^h 21'21	7 ^h 39'39	9 ^h 9'9	1 ^h 2'2	9 ^h 53'53	S 28
M29	12 26 51	8 ^h 38'39	16 ^h 25'25	25 ^h 36'36	21 ^h 45'45	27 ^h 58'58	4 ^h 8'8	11 ^h 15'15	13 ^h 25'25	14 ^h 55'55	8 ^h 22'22	7 ^h 30'30	9 ^h 6'6	1 ^h 9'9	9 ^h 52'52	M29
T 30	12 30 48	9 ^h 37'43	1 ^h 13'36	25 ^h 53'53	22 ^h 52'52	27 ^h 51'51	4 ^h 1'1	11 ^h 20'20	13 ^h 25'25	14 ^h 54'54	8 ^h 23'23	7 ^h 24'24	9 ^h 3'3	1 ^h 16'16	9 ^h 51'51	T 30
W31	12 34 44	10 ^h 36'45	16 ^h 13'37	26 ^h 5'3	23 ^h 59'59	27 ^h 52'52	3 ^h 53'53	11 ^h 25'25	13 ^h 24'24	14 ^h 54'54	8 ^h 24'24	7 ^h 20'20	9 ^h 11'11	1 ^h 18'18	9 ^h 50'50	W31

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
M 1	7s31	0n58	4n27	7s55	1s30	7n47	0n12	13n17	4n15	1s33	1n35	20n30	1s26	22s25	0n 1	21s10	1n28	11n30	10s20	22n 2	22n 5	7n32	10n25	7s20					
T 2	7 8	5s24	3 42	7 4	1 24	8 18	0 15	13 25	4 14	1 30	1 35	20 31	1 26	22 25	0 1	21 10	1 28	11 30	10 20	22 1	22 4	7 35	10 27	7 20					
W 3	6 45	11 25	2 43	6 12	1 17	8 48	0 19	13 33	4 12	1 27	1 35	20 32	1 26	22 26	0 1	21 10	1 28	11 30	10 20	22 0	22 4	7 38	10 28	7 19					
T 4	6 22	16 43	1 35	5 19	1 9	9 18	0 23	13 40	4 11	1 25	1 35	20 32	1 25	22 26	0 1	21 10	1 28	11 31	10 19	22 0	22 3	7 41	10 30	7 19					
F 5	5 59	20 59	0 22	4 25	1 1	9 47	0 26	13 47	4 10	1 22	1 35	20 33	1 25	22 26	0 1	21 10	1 28	11 31	10 19	21 59	22 3	7 44	10 31	7 18					
S 6	5 36	23 56	0s51	3 31	0 52	10 17	0 30	13 54	4 9	1 19	1 36	20 33	1 25	22 26	0 1	21 10	1 29	11 31	10 19	21 59	22 2	7 47	10 33	7 18					
S 7	5 13	25 26	1 59	2 35	0 42	10 46	0 34	14 1	4 7	1 16	1 36	20 34	1 25	22 26	0 1	21 10	1 29	11 32	10 18	21 59	22 2	7 50	10 34	7 17					
M 8	4 49	25 27	3 0	1 40	0 33	11 15	0 38	14 8	4 6	1 14	1 36	20 35	1 24	22 26	0 1	21 10	1 29	11 32	10 18	21 59	22 1	7 53	10 36	7 16					
T 9	4 26	24 3	3 50	0 43	0 22	11 44	0 42	14 14	4 4	1 11	1 36	20 35	1 24	22 26	0 1	21 10	1 29	11 32	10 18	21 58	22 1	7 56	10 37	7 16					
W10	4 2	21 25	4 27	0n13	0 11	12 12	0 46	14 20	4 2	1 8	1 36	20 36	1 24	22 26	0 1	21 10	1 29	11 33	10 18	21 57	22 1	7 59	10 38	7 15					
T 11	3 39	17 48	4 51	1 9	0n 0	12 41	0 49	14 26	4 0	1 5	1 36	20 37	1 24	22 26	0 1	21 10	1 29	11 33	10 17	21 55	22 0	8 2	10 40	7 14					
F 12	3 15	13 28	5 0	2 4	0 12	13 9	0 53	14 31	3 59	1 2	1 36	20 38	1 23	22 26	0 1	21 10	1 29	11 33	10 17	21 53	22 0	8 5	10 41	7 14					
S 13	2 52	8 38	4 55	2 59	0 24	13 36	0 57	14 36	3 57	0 59	1 36	20 38	1 23	22 26	0 1	21 10	1 29	11 34	10 17	21 51	21 59	8 8	10 43	7 13					
S 14	2 28	3 31	4 37	3 53	0 36	14 4	1 1	14 41	3 55	0 56	1 37	20 39	1 23	22 26	0 1	21 10	1 29	11 34	10 17	21 49	21 59	8 11	10 44	7 13					
M15	2 4	1n40	4 7	4 46	0 49	14 31	1 5	14 46	3 53	0 53	1 37	20 40	1 23	22 26	0 1	21 10	1 29	11 34	10 16	21 47	21 58	8 14	10 45	7 12					
T 16	1 41	6 45	3 25	5 38	1 2	14 57	1 9	14 50	3 50	0 50	1 37	20 41	1 23	22 26	0 1	21 10	1 29	11 35	10 16	21 46	21 58	8 17	10 47	7 11					
W17	1 17	11 35	2 36	6 27	1 14	15 24	1 13	14 54	3 48	0 47	1 37	20 41	1 22	22 26	0 1	21 10	1 29	11 35	10 16	21 45	21 57	8 20	10 48	7 10					
T 18	0 53	16 0	1 39	7 15	1 27	15 50	1 17	14 58	3 46	0 44	1 37	20 42	1 22	22 26	0 1	21 10	1 29	11 35	10 16	21 44	21 57	8 23	10 49	7 10					
F 19	0 29	19 48	0 38	8 0	1 39	16 15	1 21	15 2	3 44	0 41	1 37	20 43	1 22	22 26	0 1	21 10	1 29	11 36	10 15	21 44	21 56	8 26	10 50	7 9					
S 20	0 6	22 50	0n25	8 44	1 51	16 40	1 25	15 5	3 41	0 38	1 37	20 44	1 22	22 26	0 1	21 9	1 29	11 36	10 15	21 44	21 56	8 29	10 52	7 8					
S 21	0n18	24 53	1 29	9 24	2 3	17 5	1 28	15 7	3 39	0 34	1 37	20 44	1 21	22 26	0 1	21 9	1 29	11 36	10 15	21 44	21 55	8 32	10 53	7 8					
M22	0 42	25 45	2 30	10 1	2 14	17 30	1 32	15 10	3 37	0 31	1 37	20 45	1 21	22 26	0 1	21 9	1 29	11 37	10 15	21 44	21 55	8 35	10 54	7 7					
T 23	1 5	25 18	3 25	10 36	2 24	17 54	1 36	15 12	3 34	0 28	1 37	20 46	1 21	22 26	0 1	21 9	1 29	11 37	10 14	21 44	21 54	8 38	10 55	7 6					
W24	1 29	23 26	4 11	11 7	2 34	18 18	1 40	15 14	3 32	0 25	1 37	20 47	1 21	22 26	0 1	21 9	1 29	11 37	10 14	21 43	21 54	8 41	10 56	7 5					
T 25	1 52	20 10	4 45	11 35	2 43	18 41	1 44	15 16	3 29	0 22	1 37	20 48	1 21	22 26	0 1	21 9	1 29	11 38	10 14	21 42	21 53	8 44	10 58	7 5					
F 26	2 16	15 38	5 2	11 59	2 51	19 4	1 48	15 17	3 27	0 19	1 37	20 49	1 20	22 26	0 1	21 9	1 29	11 38	10 14	21 41	21 53	8 47	10 59	7 4					
S 27	2 39	10 3	5 1	12 20	2 58	19 26	1 51	15 18	3 24	0 16	1 37	20 50	1 20	22 26	0 1	21 9	1 29	11 38	10 13	21 39	21 52	8 50	11 0	7 3					
S 28	3 3	3 46	4 39	12 37	3 4	19 48	1 55	15 19	3 22	0 13	1 37	20 50	1 20	22 26	0 1	21 9	1 29	11 39	10 13	21 38	21 52	8 52	11 1	7 2					
M29	3 26	2s49	3 57	12 51	3 9	20 9	1 59	15 19	3 19	0 10	1 37	20 51	1 20	22 26	0 1	21 9	1 30	11 39	10 13	21 36	21 52	8 55	11 2	7 2					
T 30	3 49	9 15	2 59	13 0	3 12	20 30	2 3	15 19	3 17	0 7	1 37	20 52	1 20	22 26	0 1	21 9	1 30	11 39	10 13	21 35	21 51	8 58	11 3	7 1					
W31	4n13	15s 6	1n48	13n 6	3n15	20n51	2n 6	15n19	3n14	0s 4	1n37	20n53	1s19	22s26	0n 1	21s 9	1n30	11n40	10s13	21n35	21n51	9n 1	11n 4	7s 0					

ASTRODIENST EPHEMERIS for the year 1649
geocentric

APRIL 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	12 38 41	11°35'45	1♂22	26°R 6	25♂ 6	27°R39	3°R45	11♂30	13°R23	14°R53	8♂24	7°D18	8♂57	1♂29	9°R49	T 1
F 2	12 42 37	12°34'43	15°44	26°Y 2	26°12	27♂34	3♂38	11°35	13♂23	14♂53	8°25	7♂18	8°54	1°36	9♂48	F 2
S 3	12 46 34	13°33'40	29°42	25°52	27°18	27°30	3°30	11°40	13°22	14°52	8°26	7°19	8°50	1°42	9°48	S 3
S 4	12 50 31	14°32'35	13♂16	25°36	28°24	27°27	3°23	11°46	13°21	14°52	8°27	7°R20	8°47	1°49	9°47	S 4
M 5	12 54 27	15°31'28	26°28	25°14	29°30	27°25	3°15	11°51	13°20	14°51	8°28	7°19	8°44	1°56	9°46	M 5
T 6	12 58 24	16°30'19	9♂22	24°47	0♂35	27°23	3° 8	11°57	13°19	14°51	8°29	7°17	8°41	2° 2	9°46	T 6
W 7	13 2 20	17°29'09	21°59	24°15	1°41	27°22	3° 1	12° 2	13°18	14°50	8°30	7°12	8°38	2° 9	9°46	W 7
T 8	13 6 17	18°27'56	4♂24	23°40	2°46	27°D22	2°53	12° 8	13°17	14°49	8°31	7° 5	8°35	2°16	9°46	T 8
F 9	13 10 13	19°26'42	16°38	23° 1	3°50	27°22	2°46	12°14	13°16	14°48	8°32	6°57	8°31	2°22	9°D46	F 9
S 10	13 14 10	20°25'26	28°43	22°20	4°55	27°23	2°39	12°19	13°15	14°48	8°33	6°48	8°28	2°29	9°46	S 10
S 11	13 18 6	21°24'08	10°Y41	21°37	5°59	27°25	2°32	12°25	13°14	14°47	8°33	6°39	8°25	2°36	9°46	S 11
M12	13 22 3	22°22'48	22°34	20°54	7° 3	27°28	2°25	12°31	13°13	14°46	8°34	6°31	8°22	2°42	9°46	M12
T 13	13 25 59	23°21'26	4♂24	20°11	8° 7	27°31	2°18	12°37	13°11	14°45	8°35	6°25	8°19	2°49	9°46	T 13
W14	13 29 56	24°20'03	16°12	19°28	9°10	27°35	2°11	12°43	13°10	14°44	8°37	6°21	8°15	2°56	9°47	W14
T 15	13 33 53	25°18'37	28° 0	18°47	10°13	27°40	2° 5	12°49	13° 9	14°44	8°38	6°19	8°12	3° 2	9°47	T 15
F 16	13 37 49	26°17'09	9♂52	18° 9	11°16	27°46	1°58	12°55	13° 7	14°43	8°39	6°D19	8° 9	3° 9	9°48	F 16
S 17	13 41 46	27°15'39	21°51	17°33	12°19	27°52	1°52	13° 2	13° 6	14°42	8°40	6°20	8° 6	3°16	9°49	S 17
S 18	13 45 42	28°14'07	4♂ 1	17° 0	13°21	27°59	1°45	13° 8	13° 4	14°41	8°41	6°21	8° 3	3°23	9°50	S 18
M19	13 49 39	29°12'33	16°27	16°32	14°23	28° 6	1°39	13°14	13° 3	14°40	8°42	6°23	8° 0	3°29	9°51	M19
T 20	13 53 35	0♂10'57	29°12	16° 7	15°25	28°14	1°33	13°21	13° 1	14°39	8°43	6°R23	7°56	3°36	9°52	T 20
W21	13 57 32	1° 9'19	12♂21	15°48	16°26	28°23	1°27	13°27	13° 0	14°38	8°44	6°23	7°53	3°43	9°53	W21
T 22	14 1 29	2° 7'38	25°57	15°32	17°27	28°32	1°21	13°34	12°58	14°37	8°45	6°21	7°50	3°49	9°55	T 22
F 23	14 5 25	3° 5'56	10♂ 2	15°22	18°27	28°42	1°16	13°40	12°56	14°36	8°46	6°17	7°47	3°56	9°56	F 23
S 24	14 9 22	4° 4'11	24°33	15°16	19°27	28°52	1°10	13°47	12°55	14°34	8°48	6°13	7°44	4° 3	9°58	S 24
S 25	14 13 18	5° 2'24	9♂28	15°D16	20°27	29° 3	1° 5	13°53	12°53	14°33	8°49	6° 9	7°40	4° 9	9°59	S 25
M26	14 17 15	6° 0'35	24°37	15°20	21°26	29°15	0°59	14° 0	12°51	14°32	8°50	6° 4	7°37	4°16	10° 1	M26
T 27	14 21 11	6°58'45	9♂53	15°29	22°25	29°27	0°54	14° 7	12°49	14°31	8°51	6° 1	7°34	4°23	10° 3	T 27
W28	14 25 8	7°56'52	25° 4	15°42	23°24	29°40	0°49	14°14	12°48	14°30	8°52	6° 0	7°31	4°29	10° 5	W28
T 29	14 29 4	8°54'59	10♂ 1	16° 1	24°22	29°53	0°44	14°21	12°46	14°29	8°53	5°D59	7°28	4°36	10° 7	T 29
F 30	14 33 1	9♂53'04	24♂37	16°Y23	25♂19	0♂ 6	0♂40	14♂27	12♂44	14♂27	8♂55	6♂ 0	7♂25	4♂43	10♂ 9	F 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
T 1	4n36	19s57	0n32	13n 8	3n15	21n11	2n10	15n18	3n12	0s 1	1n37	20n54	1s19	22s26	0n 1	21s 9	1n30	11n40	10s12	21n34	21n50	9n 4	11n 5	6s59			
F 2	4 59	23 28	0s45	13 6	3 15	21 30	2 13	15 18	3 9	0n 2	1 37	20 55	1 19	22 26	0 1	21 9	1 30	11 40	10 12	21 34	21 50	9 7	11 6	6 58			
S 3	5 22	25 26	1 57	13 0	3 13	21 49	2 17	15 17	3 6	0 5	1 37	20 56	1 19	22 26	0 1	21 8	1 30	11 41	10 12	21 34	21 49	9 10	11 7	6 58			
S 4	5 45	25 49	3 1	12 51	3 9	22 7	2 20	15 15	3 4	0 8	1 37	20 57	1 19	22 26	0 1	21 8	1 30	11 41	10 12	21 35	21 49	9 13	11 8	6 57			
M 5	6 7	24 42	3 53	12 38	3 4	22 25	2 24	15 14	3 1	0 11	1 37	20 58	1 18	22 26	0 1	21 8	1 30	11 41	10 11	21 34	21 48	9 16	11 9	6 56			
T 6	6 30	22 18	4 32	12 21	2 57	22 43	2 27	15 12	2 59	0 14	1 37	20 58	1 18	22 25	0 1	21 8	1 30	11 42	10 11	21 34	21 48	9 19	11 10	6 55			
W 7	6 53	18 52	4 56	12 2	2 48	23 0	2 31	15 10	2 56	0 17	1 37	20 59	1 18	22 25	0 1	21 8	1 30	11 42	10 11	21 33	21 47	9 22	11 11	6 54			
T 8	7 15	14 40	5 7	11 40	2 39	23 16	2 34	15 8	2 54	0 20	1 37	21 0	1 18	22 25	0 1	21 8	1 30	11 42	10 11	21 32	21 47	9 25	11 11	6 54			
F 9	7 37	9 56	5 3	11 15	2 27	23 32	2 37	15 5	2 51	0 22	1 36	21 1	1 18	22 25	0 1	21 8	1 30	11 43	10 11	21 31	21 46	9 28	11 12	6 53			
S 10	8 0	4 52	4 45	10 48	2 15	23 47	2 40	15 2	2 49	0 25	1 36	21 2	1 17	22 25	0 1	21 8	1 30	11 43	10 10	21 29	21 46	9 31	11 13	6 52			
S 11	8 22	0n19	4 15	10 19	2 1	24 2	2 43	14 59	2 46	0 28	1 36	21 3	1 17	22 25	0 1	21 8	1 30	11 43	10 10	21 28	21 45	9 34	11 14	6 51			
M12	8 44	5 29	3 34	9 49	1 47	24 16	2 46	14 56	2 44	0 30	1 36	21 4	1 17	22 25	0 1	21 7	1 30	11 44	10 10	21 26	21 45	9 37	11 14	6 50			
T 13	9 5	10 26	2 44	9 19	1 31	24 29	2 49	14 53	2 41	0 33	1 36	21 5	1 17	22 24	0 1	21 7	1 30	11 44	10 10	21 25	21 44	9 40	11 15	6 50			
W14	9 27	15 0	1 47	8 48	1 15	24 42	2 52	14 49	2 39	0 36	1 36	21 6	1 17	22 24	0 1	21 7	1 30	11 44	10 10	21 25	21 44	9 43	11 16	6 49			
T 15	9 49	19 1	0 45	8 17	0 59	24 54	2 55	14 45	2 36	0 38	1 36	21 7	1 17	22 24	0 1	21 7	1 30	11 45	10 9	21 24	21 43	9 46	11 16	6 48			
F 16	10 10	22 18	0n19	7 47	0 42	25 6	2 57	14 41	2 34	0 41	1 36	21 8	1 16	22 24	0 1	21 7	1 30	11 45	10 9	21 24	21 43	9 48	11 17	6 47			
S 17	10 31	24 38	1 24	7 17	0 25	25 17	3 0	14 36	2 31	0 43	1 36	21 9	1 16	22 24	0 1	21 7	1 30	11 45	10 9	21 24	21 42	9 51	11 18	6 46			
S 18	10 52	25 51	2 25	6 49	0 8	25 28	3 2	14 32	2 29	0 45	1 35	21 10	1 16	22 24	0 1	21 7	1 30	11 46	10 9	21 25	21 42	9 54	11 18	6 45			
M19	11 13	25 48	3 21	6 23	0s 8	25 38	3 5	14 27	2 27	0 48	1 35	21 11	1 16	22 23	0 1	21 6	1 30	11 46	10 9	21 25	21 41	9 57	11 19	6 45			
T 20	11 33	24 25	4 9	5 59	0 25	25 47	3 7	14 22	2 24	0 50	1 35	21 12	1 16	22 23	0 1	21 6	1 30	11 46	10 9	21 25	21 41	10 0	11 19	6 44			
W21	11 54	21 41	4 45	5 36	0 40	25 56	3 9	14 17	2 22	0 52	1 35	21 13	1 15	22 23	0 1	21 6	1 30	11 47	10 8	21 25	21 40	10 3	11 20	6 43			
T 22	12 14	17 42	5 7	5 16	0 56	26 4	3 12	14 11	2 20	0 55	1 35	21 14	1 15	22 23	0 1	21 6	1 30	11 47	10 8	21 25	21 39	10 6	11 20	6 42			
F 23	12 34	12 38	5 12	4 59	1 10	26 12	3 14	14 6	2 17	0 57	1 35	21 14	1 15	22 23	0 1	21 6	1 30	11 47	10 8	21 24	21 39	10 9	11 21	6 41			
S 24	12 54	6 42	4 57	4 44	1 24	26 19	3 15	14 0	2 15	0 59	1 34	21 15	1 15	22 23	0 1	21 6	1 30	11 48	10 8	21 23	21 38	10 12	11 21	6 40			
S 25	13 14	0 15	4 21	4 32	1 37	26 25	3 17	13 54	2 13	1 1	1 34	21 16	1 15	22 22	0 1	21 6	1 30	11 48	10 8	21 23	21 38	10 15	11 21	6 40			
M26	13 33	6s20	3 27	4 22	1 50	26 31	3 19	13 48	2 11	1 3	1 34	21 17	1 15	22 22	0 1	21 5	1 30	11 48	10 8	21 22	21 37	10 18	11 22	6 39			
T 27	13 52	12 37	2 18	4 15	2 1	26 36	3 20	13 42	2 8	1 5	1 34	21 18	1 15	22 22	0 1	21 5	1 31	11 49	10 7	21 21	21 37	10 21	11 22	6 38			
W28	14 11	18 6	1 0	4 10	2 12	26 41	3 22	13 35	2 6	1 6	1 34	21 19	1 14	22 22	0 1	21 5	1 31	11 49	10 7	21 21	21 36	10 24	11 22	6 37			
T 29	14 30	22 22	0s22	4 8	2 22	26 45	3 23	13 28	2 4	1 8	1 34	21 20	1 14	22 21	0 1	21 5	1 31	11 49	10 7	21 21	21 36	10 27	11 22	6 36			
F 30	14n48	25s 3	1s41	4n 8	2s31	26n48	3n24	13n21	2n 2	1n10	1n33	21n21	1s14	22s21	0n 1	21s 5	1n31	11n50	10s 7	21n21	21n35	10n29	11n23	6s36			

ASTRODIENST EPHEMERIS for the year 1649
geocentric

MAY 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
S 1	14 36 57	10♌51'07	8♌48	16♊51	26♊16	0♍21	0°R35	14♊34	12°R42	14°R26	8♊56	6♊2	7♊21	4♌49	10♌12	S 1
S 2	14 40 54	11°49'09	22°32	17°22	27°13	0°35	0♌31	14°41	12°R40	14°R25	8°57	6°3	7°18	4°56	10°14	S 2
M 3	14 44 51	12°47'09	5♌51	17°57	28°9	0°50	0°27	14°48	12°38	14°23	8°58	6°4	7°15	5°3	10°17	M 3
T 4	14 48 47	13°45'08	18°46	18°36	29°4	1°6	0°23	14°55	12°36	14°22	9°0	6°R4	7°12	5°9	10°19	T 4
W 5	14 52 44	14°43'06	1♌22	19°19	29°59	1°22	0°19	15°3	12°34	14°21	9°1	6°3	7°9	5°16	10°22	W 5
T 6	14 56 40	15°41'03	13°41	20°6	0♌54	1°39	0°15	15°10	12°32	14°19	9°2	6°1	7°6	5°23	10°25	T 6
F 7	15 0 37	16°38'58	25°48	20°56	1°48	1°56	0°11	15°17	12°30	14°18	9°3	5°59	7°2	5°29	10°28	F 7
S 8	15 4 33	17°36'51	7♊45	21°49	2°41	2°13	0°8	15°24	12°27	14°17	9°5	5°56	6°59	5°36	10°31	S 8
S 9	15 8 30	18°34'44	19°37	22°46	3°34	2°31	0°5	15°31	12°25	14°15	9°6	5°53	6°56	5°43	10°34	S 9
M10	15 12 26	19°32'35	1♌26	23°45	4°26	2°49	0°2	15°39	12°23	14°14	9°7	5°51	6°53	5°49	10°37	M10
T 11	15 16 23	20°30'24	13°14	24°48	5°17	3°8	29♍59	15°46	12°21	14°12	9°9	5°49	6°50	5°56	10°40	T 11
W12	15 20 20	21°28'13	25°4	25°54	6°8	3°27	29°56	15°53	12°19	14°11	9°10	5°48	6°46	6°3	10°44	W12
T 13	15 24 16	22°26'00	6♊57	27°2	6°58	3°47	29°54	16°1	12°16	14°9	9°11	5°D47	6°43	6°9	10°47	T 13
F 14	15 28 13	23°23'45	18°57	28°13	7°47	4°7	29°51	16°8	12°14	14°8	9°13	5°48	6°40	6°16	10°51	F 14
S 15	15 32 9	24°21'29	1♌5	29°27	8°36	4°27	29°49	16°16	12°12	14°7	9°14	5°49	6°37	6°23	10°54	S 15
S 16	15 36 6	25°19'12	13°23	0♌44	9°24	4°48	29°47	16°23	12°9	14°5	9°15	5°50	6°34	6°29	10°58	S 16
M17	15 40 2	26°16'53	25°56	2°3	10°11	5°9	29°45	16°31	12°7	14°4	9°17	5°51	6°31	6°36	11°2	M17
T 18	15 43 59	27°14'32	8♌45	3°25	10°57	5°30	29°44	16°38	12°5	14°2	9°18	5°51	6°27	6°43	11°6	T 18
W19	15 47 56	28°12'10	21°54	4°49	11°42	5°52	29°42	16°46	12°2	14°0	9°19	5°52	6°24	6°49	11°10	W19
T 20	15 51 52	29°9'46	5♍25	6°16	12°26	6°14	29°41	16°53	12°0	13°59	9°21	5°R52	6°21	6°56	11°14	T 20
F 21	15 55 49	0♊721	19°19	7°45	13°9	6°37	29°40	17°1	11°58	13°57	9°22	5°51	6°18	7°3	11°18	F 21
S 22	15 59 45	1°4'54	3♌37	9°17	13°52	7°0	29°39	17°9	11°55	13°56	9°24	5°51	6°15	7°9	11°23	S 22
S 23	16 3 42	2°2'26	18°15	10°51	14°33	7°23	29°38	17°16	11°53	13°54	9°25	5°50	6°12	7°16	11°27	S 23
M24	16 7 38	2°59'56	3♌10	12°27	15°13	7°46	29°38	17°24	11°50	13°53	9°26	5°50	6°8	7°23	11°32	M24
T 25	16 11 35	3°57'26	18°13	14°6	15°52	8°10	29°37	17°32	11°48	13°51	9°28	5°50	6°5	7°29	11°36	T 25
W26	16 15 31	4°54'54	3♌17	15°48	16°30	8°34	29°37	17°39	11°46	13°49	9°29	5°D50	6°2	7°36	11°41	W26
T 27	16 19 28	5°52'21	18°13	17°32	17°7	8°58	29°D37	17°47	11°43	13°48	9°30	5°R50	5°59	7°43	11°46	T 27
F 28	16 23 25	6°49'47	2♌53	19°18	17°42	9°23	29°37	17°55	11°41	13°46	9°32	5°50	5°56	7°49	11°50	F 28
S 29	16 27 21	7°47'13	17°11	21°6	18°16	9°48	29°37	18°2	11°38	13°45	9°33	5°50	5°52	7°56	11°55	S 29
S 30	16 31 18	8°44'37	1♌3	22°57	18°49	10°13	29°38	18°10	11°36	13°43	9°35	5°49	5°49	8°2	12°0	S 30
M31	16 35 14	9♊42'01	14♌30	24♌50	19♌21	10♍39	29♍39	18♊18	11♌33	13♌41	9♊36	5♊49	5♊46	8♌9	12♌5	M31

Day	☉	☽		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	lat	decl	lat	decl	lat	decl	decl	decl	lat	decl	lat
S 1	15n 7	26s 2	2s51	4n11	2s39	26n51	3n25	13n14	2n 0	1n11	1n33	21n22	1s14	22s21	0n 1	21s 5	1n31	11n50	10s 7	21n21	21n35	10n32	11n23	6s35									
S 2	15 25	25 21	3 49	4 17	2 46	26 53	3 26	13 7	1 58	1 13	1 33	21 23	1 14	22 21	0 1	21 4	1 31	11 50	10 7	21 22	21 34	10 35	11 23	6 34									
M 3	15 42	23 15	4 32	4 24	2 52	26 55	3 27	13 0	1 56	1 14	1 33	21 24	1 14	22 20	0 1	21 4	1 31	11 51	10 7	21 22	21 34	10 38	11 23	6 33									
T 4	16 0	19 59	5 1	4 34	2 58	26 56	3 27	12 52	1 54	1 16	1 33	21 25	1 14	22 20	0 1	21 4	1 31	11 51	10 6	21 22	21 33	10 41	11 23	6 32									
W 5	16 17	15 54	5 14	4 46	3 3	26 57	3 28	12 45	1 52	1 17	1 32	21 26	1 13	22 20	0 1	21 4	1 31	11 51	10 6	21 22	21 33	10 44	11 23	6 32									
T 6	16 34	11 14	5 12	4 59	3 7	26 57	3 28	12 37	1 50	1 19	1 32	21 27	1 13	22 20	0 1	21 4	1 31	11 52	10 6	21 21	21 32	10 47	11 23	6 31									
F 7	16 51	6 12	4 57	5 15	3 10	26 57	3 28	12 29	1 48	1 20	1 32	21 28	1 13	22 19	0 1	21 4	1 31	11 52	10 6	21 21	21 32	10 50	11 23	6 30									
S 8	17 7	1 1	4 28	5 33	3 12	26 56	3 28	12 21	1 46	1 21	1 32	21 29	1 13	22 19	0 1	21 3	1 31	11 52	10 6	21 20	21 31	10 53	11 23	6 29									
S 9	17 23	4n10	3 48	5 52	3 14	26 54	3 28	12 13	1 44	1 22	1 31	21 29	1 13	22 19	0 1	21 3	1 31	11 52	10 6	21 20	21 31	10 56	11 23	6 28									
M10	17 39	9 12	2 59	6 13	3 15	26 52	3 28	12 4	1 42	1 23	1 31	21 30	1 13	22 19	0 1	21 3	1 31	11 53	10 6	21 19	21 30	10 59	11 23	6 28									
T 11	17 55	13 55	2 2	6 36	3 15	26 50	3 27	11 56	1 40	1 24	1 31	21 31	1 13	22 18	0 1	21 3	1 31	11 53	10 6	21 19	21 30	11 2	11 23	6 27									
W12	18 10	18 7	0 59	7 0	3 14	26 47	3 26	11 47	1 38	1 25	1 31	21 32	1 12	22 18	0 1	21 3	1 31	11 53	10 5	21 19	21 29	11 4	11 23	6 26									
T 13	18 25	21 37	0n 6	7 26	3 13	26 43	3 25	11 38	1 36	1 26	1 31	21 33	1 12	22 18	0 1	21 2	1 31	11 54	10 5	21 19	21 28	11 7	11 23	6 25									
F 14	18 40	24 14	1 12	7 53	3 11	26 39	3 24	11 29	1 34	1 26	1 30	21 34	1 12	22 17	0 1	21 2	1 31	11 54	10 5	21 19	21 28	11 10	11 22	6 24									
S 15	18 54	25 45	2 16	8 21	3 9	26 35	3 23	11 20	1 33	1 27	1 30	21 35	1 12	22 17	0 1	21 2	1 31	11 54	10 5	21 19	21 27	11 13	11 22	6 24									
S 16	19 8	26 1	3 14	8 51	3 6	26 30	3 21	11 11	1 31	1 28	1 30	21 36	1 12	22 17	0 1	21 2	1 31	11 54	10 5	21 19	21 27	11 16	11 22	6 23									
M17	19 22	24 59	4 4	9 22	3 2	26 25	3 20	11 1	1 29	1 28	1 30	21 37	1 12	22 17	0 1	21 2	1 31	11 55	10 5	21 19	21 26	11 19	11 22	6 22									
T 18	19 35	22 39	4 43	9 54	2 58	26 19	3 18	10 52	1 27	1 28	1 29	21 37	1 12	22 16	0 1	21 1	1 31	11 55	10 5	21 19	21 26	11 22	11 21	6 21									
W19	19 48	19 5	5 8	10 27	2 53	26 13	3 15	10 42	1 26	1 29	1 29	21 38	1 12	22 16	0 1	21 1	1 31	11 55	10 5	21 20	21 25	11 25	11 21	6 21									
T 20	20 1	14 27	5 17	11 0	2 47	26 6	3 13	10 32	1 24	1 29	1 29	21 39	1 11	22 16	0 1	21 1	1 31	11 56	10 5	21 20	21 25	11 28	11 21	6 20									
F 21	20 13	8 58	5 9	11 35	2 41	25 59	3 10	10 22	1 22	1 29	1 29	21 40	1 11	22 15	0 1	21 1	1 31	11 56	10 5	21 20	21 24	11 31	11 20	6 19									
S 22	20 25	2 51	4 41	12 10	2 35	25 52	3 7	10 12	1 20	1 29	1 28	21 41	1 11	22 15	0 1	21 1	1 31	11 56	10 5	21 19	21 24	11 33	11 20	6 19									
S 23	20 37	3s33	3 55	12 46	2 27	25 45	3 4	10 2	1 19	1 29	1 28	21 42	1 11	22 15	0 1	21 1	1 31	11 56	10 4	21 19	21 23	11 36	11 19	6 18									
M24	20 48	9 54	2 52	13 23	2 20	25 37	3 1	9 52	1 17	1 29	1 28	21 43	1 11	22 14	0 1	21 0	1 31	11 57	10 4	21 19	21 22	11 39	11 19	6 17									
T 25	20 59	15 45	1 36	14 0	2 12	25 28	2 57	9 41	1 15	1 29	1 28	21 43	1 11	22 14	0 1	21 0	1 31	11 57	10 4	21 19	21 22	11 42	11 18	6 16									
W26	21 9	20 37	0 14	14 38	2 3	25 20	2 53	9 31	1 14	1 29	1 27	21 44	1 11	22 14	0 1	21 0	1 31	11 57	10 4	21 19	21 21	11 45	11 18	6 16									
T 27	21 20	24 6	1s 8	15 16	1 54	25 11	2 49	9 20	1 12	1 29	1 27	21 45	1 11	22 13	0 1	21 0	1 31	11 57	10 4	21 19	21 21	11 48	11 17	6 15									
F 28	21 30	25 52	2 25	15 54	1 45	25 2	2 44	9 9	1 11	1 29	1 27	21 46	1 11	22 13	0 1	21 0	1 31	11 58	10 4	21 19	21 20	11 51	11 16	6 14									
S 29	21 39	25 51	3 30	16 32	1 36	24 43	2 40	8 59	1 9	1 28	1 27	21 47	1 11	22 13	0 1	20 59	1 31	11 58	10 4	21 19	21 20	11 54	11 16	6 14									
S 30	21 48	24 12	4 21	17 10	1 36	24 43	2 35	8 48	1 8	1 28	1 26	21 47	1 10	22 12	0 1	20 59	1 31	11 58	10 4	21 19	21 19	11 56	11 15	6 13									
M31	21n57	21s14	4s56	17n48	1s15	24n33	2n29	8n36	1n 6	1n27	1n26	21n48	1s10	22s12	0n 1	20s59	1n31	11n58	10s 4	21n19	21n19	11n59	11n14	6s12									

ASTRODIENST EPHEMERIS for the year 1649
geocentric

JUNE 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	16 39 11	10 ^{II} 39'24	27 [♊] 30	26 [♋] 46	19 [♌] 51	11 [♍] 4	29 [♎] 40	18 [♏] 26	11 [♐] R31	13 [♑] R40	9 [♒] 37	5 [♓] R49	5 [♓] 43	8 [♊] 16	12 [♋] 10	T 1
W 2	16 43 7	11 [°] 36'47	10 [♋] 9	28 [°] 43	20 [°] 19	11 [°] 30	29 [°] 41	18 [°] 34	11 [♐] 28	13 [♑] 38	9 [°] 39	5 [°] D49	5 [°] 40	8 [°] 22	12 [°] 16	W 2
T 3	16 47 4	12 [°] 34'09	22 [°] 28	0 ^{II} 43	20 [°] 46	11 [°] 57	29 [°] 42	18 [°] 41	11 [°] 26	13 [°] 37	9 [°] 40	5 ^{II} 49	5 [°] 37	8 [°] 29	12 [°] 21	T 3
F 4	16 51 0	13 [°] 31'30	4 ^Y 34	2 [°] 45	21 [°] 11	12 [°] 23	29 [°] 43	18 [°] 49	11 [°] 23	13 [°] 35	9 [°] 41	5 [°] 49	5 [°] 33	8 [°] 36	12 [°] 26	F 4
S 5	16 54 57	14 [°] 28'51	16 [°] 29	4 [°] 49	21 [°] 35	12 [°] 50	29 [°] 45	18 [°] 57	11 [°] 21	13 [°] 33	9 [°] 43	5 [°] 50	5 [°] 30	8 [°] 42	12 [°] 32	S 5
S 6	16 58 54	15 [°] 26'11	28 [°] 18	6 [°] 54	21 [°] 57	13 [°] 17	29 [°] 47	19 [°] 5	11 [°] 18	13 [°] 32	9 [°] 44	5 [°] 51	5 [°] 27	8 [°] 49	12 [°] 37	S 6
M 7	17 2 50	16 [°] 23'31	10 [♌] 6	9 [°] 2	22 [°] 17	13 [°] 44	29 [°] 49	19 [°] 13	11 [°] 16	13 [°] 30	9 [°] 46	5 [°] 52	5 [°] 24	8 [°] 56	12 [°] 43	M 7
T 8	17 6 47	17 [°] 20'50	21 [°] 56	11 [°] 10	22 [°] 35	14 [°] 12	29 [°] 51	19 [°] 20	11 [°] 14	13 [°] 28	9 [°] 47	5 [°] 53	5 [°] 21	9 [°] 2	12 [°] 48	T 8
W 9	17 10 43	18 [°] 18'09	3 ^{II} 50	13 [°] 20	22 [°] 52	14 [°] 40	29 [°] 53	19 [°] 28	11 [°] 11	13 [°] 27	9 [°] 48	5 [°] R53	5 [°] 18	9 [°] 9	12 [°] 54	W 9
T 10	17 14 40	19 [°] 15'27	15 [°] 52	15 [°] 31	23 [°] 6	15 [°] 8	29 [°] 56	19 [°] 36	11 [°] 9	13 [°] 25	9 [°] 50	5 [°] 53	5 [°] 14	9 [°] 16	13 [°] 0	T 10
F 11	17 18 36	20 [°] 12'45	28 [°] 3	17 [°] 42	23 [°] 19	15 [°] 36	29 [°] 58	19 [°] 44	11 [°] 6	13 [°] 24	9 [°] 51	5 [°] 52	5 [°] 11	9 [°] 22	13 [°] 6	F 11
S 12	17 22 33	21 [°] 10'02	10 [♍] 25	19 [°] 54	23 [°] 29	16 [°] 4	0 [♎] 1	19 [°] 52	11 [°] 4	13 [°] 22	9 [°] 52	5 [°] 50	5 [°] 8	9 [°] 29	13 [°] 12	S 12
S 13	17 26 29	22 [°] 7'18	23 [°] 0	22 [°] 5	23 [°] 37	16 [°] 33	0 [°] 4	20 [°] 0	11 [°] 1	13 [°] 20	9 [°] 54	5 [°] 48	5 [°] 5	9 [°] 36	13 [°] 18	S 13
M14	17 30 26	23 [°] 4'34	5 [♎] 47	24 [°] 17	23 [°] 44	17 [°] 2	0 [°] 7	20 [°] 7	10 [°] 59	13 [°] 19	9 [°] 55	5 [°] 46	5 [°] 2	9 [°] 42	13 [°] 24	M14
T 15	17 34 23	24 [°] 1'49	18 [°] 50	26 [°] 28	23 [°] 47	17 [°] 31	0 [°] 10	20 [°] 15	10 [°] 57	13 [°] 17	9 [°] 57	5 [°] 43	4 [°] 58	9 [°] 49	13 [°] 30	T 15
W16	17 38 19	24 [°] 59'04	2 [♏] 7	28 [°] 39	23 [°] R49	18 [°] 1	0 [°] 14	20 [°] 23	10 [°] 54	13 [°] 16	9 [°] 58	5 [°] 41	4 [°] 55	9 [°] 56	13 [°] 36	W16
T 17	17 42 16	25 [°] 56'17	15 [°] 41	0 [♐] 48	23 [°] 48	18 [°] 30	0 [°] 18	20 [°] 31	10 [°] 52	13 [°] 14	9 [°] 59	5 [°] 40	4 [°] 52	10 [°] 2	13 [°] 43	T 17
F 18	17 46 12	26 [°] 53'30	29 [°] 31	2 [°] 57	23 [°] 45	19 [°] 0	0 [°] 21	20 [°] 39	10 [°] 50	13 [°] 13	10 [°] 1	5 [°] D40	4 [°] 49	10 [°] 9	13 [°] 49	F 18
S 19	17 50 9	27 [°] 50'43	13 [♑] 37	5 [°] 4	23 [°] 39	19 [°] 30	0 [°] 25	20 [°] 47	10 [°] 47	13 [°] 11	10 [°] 2	5 [°] 41	4 [°] 46	10 [°] 16	13 [°] 55	S 19
S 20	17 54 5	28 [°] 47'54	27 [°] 58	7 [°] 10	23 [°] 32	20 [°] 0	0 [°] 29	20 [°] 54	10 [°] 45	13 [°] 9	10 [°] 3	5 [°] 42	4 [°] 43	10 [°] 22	14 [°] 2	S 20
M21	17 58 2	29 [°] 45'06	12 [♒] 31	9 [°] 14	23 [°] 21	20 [°] 30	0 [°] 34	21 [°] 2	10 [°] 43	13 [°] 8	10 [°] 4	5 [°] 43	4 [°] 39	10 [°] 29	14 [°] 8	M21
T 22	18 1 58	0 [♓] 42'17	27 [°] 12	11 [°] 16	23 [°] 8	21 [°] 1	0 [°] 38	21 [°] 10	10 [°] 40	13 [°] 6	10 [°] 6	5 [°] 44	4 [°] 36	10 [°] 36	14 [°] 15	T 22
W23	18 5 55	1 [°] 39'27	11 [♓] 36	13 [°] 16	22 [°] 53	21 [°] 32	0 [°] 43	21 [°] 18	10 [°] 38	13 [°] 5	10 [°] 7	5 [°] R44	4 [°] 33	10 [°] 42	14 [°] 21	W23
T 24	18 9 52	2 [°] 36'37	2 [♓] 36	15 [°] 15	22 [°] 36	22 [°] 2	0 [°] 48	21 [°] 25	10 [°] 36	13 [°] 3	10 [°] 8	5 [°] 43	4 [°] 30	10 [°] 49	14 [°] 28	T 24
F 25	18 13 48	3 [°] 33'47	11 [♊] 6	17 [°] 12	22 [°] 16	22 [°] 34	0 [°] 52	21 [°] 33	10 [°] 34	13 [°] 2	10 [°] 10	5 [°] 41	4 [°] 27	10 [°] 56	14 [°] 35	F 25
S 26	18 17 45	4 [°] 30'57	25 [°] 19	19 [°] 6	21 [°] 54	23 [°] 5	0 [°] 57	21 [°] 41	10 [°] 31	13 [°] 0	10 [°] 11	5 [°] 37	4 [°] 24	11 [°] 2	14 [°] 42	S 26
S 27	18 21 41	5 [°] 28'07	9 [♋] 11	20 [°] 59	21 [°] 30	23 [°] 36	1 [°] 3	21 [°] 49	10 [°] 29	12 [°] 59	10 [°] 12	5 [°] 33	4 [°] 20	11 [°] 9	14 [°] 48	S 27
M28	18 25 38	6 [°] 25'17	22 [°] 39	22 [°] 50	21 [°] 3	24 [°] 8	1 [°] 8	21 [°] 56	10 [°] 27	12 [°] 57	10 [°] 14	5 [°] 28	4 [°] 17	11 [°] 16	14 [°] 55	M28
T 29	18 29 34	7 [°] 22'27	5 [♌] 43	24 [°] 38	20 [°] 35	24 [°] 40	1 [°] 14	22 [°] 4	10 [°] 25	12 [°] 56	10 [°] 15	5 [°] 24	4 [°] 14	11 [°] 22	15 [°] 2	T 29
W30	18 33 31	8 [°] 21'38	18 [♍] 24	26 [°] 25	20 [°] 5	25 [°] 12	1 [°] 19	22 [°] 12	10 [°] 23	12 [°] 55	10 [°] 16	5 ^{II} 21	4 ^{II} 11	11 [♊] 29	15 [°] 9	W30

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
T 1	22n 5	17s16	5s14	18n25	1s 5	24n23	2n23	8n25	1n 4	1n27	1n26	21n49	1s10	22s12	0n 1	20s59	1n31	11n59	10s 4	21n19	21n18	12n 2	11n14	6s12			
W 2	22 13	12 39	5 17	19 2	0 54	24 13	2 17	8 14	1 3	1 26	1 26	21 50	1 10	22 12	0 1	20 59	1 31	11 59	10 4	21 19	21 17	12 5	11 13	6 11			
T 3	22 21	7 39	5 4	19 38	0 43	24 2	2 11	8 3	1 2	1 25	1 25	21 50	1 10	22 11	0 1	20 58	1 31	11 59	10 4	21 19	21 17	12 8	11 12	6 10			
F 4	22 28	2 27	4 39	20 13	0 32	23 52	2 4	7 51	1 0	1 25	1 25	21 51	1 10	22 11	0 1	20 58	1 31	11 59	10 4	21 19	21 16	12 11	11 11	6 10			
S 5	22 35	2n47	4 1	20 47	0 21	23 41	1 57	7 39	0 59	1 24	1 25	21 52	1 10	22 11	0 1	20 58	1 31	11 59	10 4	21 19	21 16	12 14	11 10	6 9			
S 6	22 41	7 52	3 14	21 20	0 10	23 30	1 50	7 28	0 57	1 23	1 24	21 53	1 10	22 10	0 1	20 58	1 31	12 0	10 4	21 19	21 15	12 17	11 9	6 8			
M 7	22 47	12 41	2 18	21 51	0n 1	23 19	1 42	7 16	0 56	1 22	1 24	21 53	1 10	22 10	0 1	20 58	1 31	12 0	10 4	21 20	21 15	12 19	11 8	6 8			
T 8	22 53	17 3	1 17	22 21	0 11	23 8	1 34	7 4	0 54	1 21	1 24	21 54	1 10	22 10	0 1	20 57	1 31	12 0	10 4	21 20	21 14	12 22	11 7	6 7			
W 9	22 58	20 46	0 11	22 48	0 22	22 57	1 26	6 52	0 53	1 20	1 24	21 55	1 10	22 9	0 1	20 57	1 31	12 0	10 4	21 20	21 14	12 25	11 6	6 7			
T 10	23 3	23 39	0n55	23 14	0 32	22 46	1 17	6 40	0 52	1 18	1 23	21 55	1 10	22 9	0 1	20 57	1 31	12 0	10 4	21 20	21 13	12 28	11 5	6 6			
F 11	23 7	25 28	2 0	23 37	0 42	22 35	1 8	6 28	0 50	1 17	1 23	21 56	1 9	22 9	0 1	20 57	1 31	12 1	10 4	21 20	21 12	12 31	11 4	6 5			
S 12	23 11	26 4	3 0	23 57	0 51	22 23	0 58	6 15	0 49	1 16	1 23	21 57	1 9	22 8	0 0	20 57	1 31	12 1	10 4	21 19	21 12	12 34	11 3	6 5			
S 13	23 15	25 20	3 52	24 15	1 0	22 12	0 48	6 3	0 47	1 14	1 23	21 57	1 9	22 8	0 0	20 57	1 31	12 1	10 4	21 19	21 11	12 37	11 2	6 4			
M14	23 18	23 16	4 33	24 30	1 8	22 1	0 38	5 50	0 46	1 13	1 22	21 58	1 9	22 8	0 0	20 56	1 31	12 1	10 4	21 19	21 11	12 39	11 1	6 4			
T 15	23 21	19 59	5 2	24 42	1 16	21 50	0 27	5 38	0 45	1 11	1 22	21 59	1 9	22 7	0 0	20 56	1 31	12 1	10 4	21 18	21 10	12 42	11 0	6 3			
W16	23 23	15 38	5 15	24 52	1 23	21 38	0 16	5 25	0 43	1 10	1 22	21 59	1 9	22 7	0 0	20 56	1 31	12 2	10 4	21 18	21 10	12 45	10 59	6 2			
T 17	23 25	10 25	5 11	24 59	1 30	21 27	0 4	5 12	0 42	1 8	1 22	22 0	1 9	22 7	0 0	20 56	1 31	12 2	10 4	21 18	21 9	12 48	10 58	6 2			
F 18	23 27	4 36	4 49	25 3	1 35	21 16	0s 8	4 59	0 41	1 6	1 21	22 1	1 9	22 6	0 0	20 56	1 31	12 2	10 4	21 18	21 8	12 51	10 56	6 1			
S 19	23 28	1s33	4 9	25 4	1 40	21 5	0 20	4 46	0 40	1 4	1 21	22 1	1 9	22 6	0 0	20 55	1 31	12 2	10 4	21 18	21 8	12 54	10 55	6 1			
S 20	23 29	7 46	3 13	25 2	1 45	20 54	0 32	4 33	0 38	1 3	1 21	22 2	1 9	22 6	0 0	20 55	1 31	12 2	10 4	21 18	21 7	12 56	10 54	6 0			
M21	23 29	13 39	2 4	24 58	1 48	20 43	0 45	4 20	0 37	1 1	1 21	22 2	1 9	22 5	0 0	20 55	1 31	12 2	10 4	21 18	21 7	12 59	10 52	6 0			
T 22	23 29	18 49	0 47	24 51	1 51	20 32	0 58	4 7	0 36	0 59	1 20	22 3	1 9	22 5	0 0	20 55	1 31	12 3	10 4	21 18	21 6	13 2	10 51	5 59			
W23	23 29	22 50	0s34	24 42	1 53	20 22	1 12	3 54	0 35	0 57	1 20	22 3	1 9	22 5	0 0	20 55	1 31	12 3	10 4	21 18	21 5	13 5	10 50	5 59			
T 24	23 28	25 19	1 52	24 30	1 54	20 11	1 25	3 40	0 33	0 54	1 20	22 4	1 9	22 4	0 0	20 55	1 31	12 3	10 4	21 18	21 5	13 8	10 48	5 58			
F 25	23 26	26 3	3 2	24 17	1 55	20 1	1 39	3 27	0 32	0 52	1 20	22 5	1 9	22 4	0 0	20 54	1 31	12 3	10 4	21 18	21 4	13 11	10 47	5 58			
S 26	23 25	25 2	3 59	24 1	1 55	19 50	1 53	3 14	0 31	0 50	1 20	22 5	1 8	22 4	0 0	20 54	1 31	12 3	10 4	21 17	21 4	13 13	10 45	5 57			
S 27	23 22	22 30	4 40	23 43	1 54	19 40	2 7	3 0	0 30	0 48	1 19	22 6	1 8	22 3	0 0	20 54	1 31	12 3	10 4	21 16	21 3	13 16	10 44	5 57			
M28	23 20	18 47	5 5	23 24	1 53	19 30	2 21	2 46	0 29	0 45	1 19	22 6	1 8	22 3	0 0	20 54	1 31	12 3	10 4	21 15	21 3	13 19	10 43	5 56			
T 29	23 17	14 16	5 13	23 3	1 50	19 20	2 36	2 33	0 27	0 43	1 19	22 7	1 8	22 3	0 0	20 54	1 30	12 3	10 4	21 15	21 2	13 22	10 41	5 56			
W30	23n13	9s16	5s 5	22n40	1n48	19n11	2s50	2n19	0n26	0n41	1n19	22n 7	1s 8	22s 3	0n 0	20s54	1n30	12n 4	10s 4	21n14	21n 1	13n25	10n39	5s55			

ASTRODIENST EPHEMERIS for the year 1649
geocentric

JULY 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	18 37 27	9 ⁵⁶ 16'48	0 ⁴ 45	28 ⁵⁶ 9	19 ⁰ R33	25 ¹⁷ 44	1 ²⁵ 25	22 ¹¹ 19	10 ⁰ R21	12 ⁰ R53	10 ¹¹ 17	5 ⁰ R19	4 ¹¹ 8	11 ⁸ 36	15 ⁰ 16	T 1
F 2	18 41 24	10 ⁰ 13'59	12 ⁰ 51	29 ⁰ 52	19 ⁰ 50	26 ⁰ 16	1 ⁰ 31	22 ⁰ 27	10 ⁰ 19	12 ⁰ 52	10 ⁰ 18	5 ⁰ D19	4 ⁰ 4	11 ⁰ 42	15 ⁰ 23	F 2
S 3	18 45 21	11 ⁰ 11'11	24 ⁰ 47	1 ⁰ 32	18 ⁰ 26	26 ⁰ 48	1 ⁰ 37	22 ⁰ 34	10 ⁰ 17	12 ⁰ 50	10 ⁰ 20	5 ⁰ II20	4 ⁰ 1	11 ⁰ 49	15 ⁰ 30	S 3
S 4	18 49 17	12 ⁰ 8'22	6 ⁰ 36	3 ⁰ 10	17 ⁰ 51	27 ⁰ 21	1 ⁰ 43	22 ⁰ 42	10 ⁰ 15	12 ⁰ 49	10 ⁰ 21	5 ⁰ 21	3 ⁰ 58	11 ⁰ 56	15 ⁰ 37	S 4
M 5	18 53 14	13 ⁰ 5'35	18 ⁰ 25	4 ⁰ 46	17 ⁰ 14	27 ⁰ 54	1 ⁰ 50	22 ⁰ 49	10 ⁰ 13	12 ⁰ 48	10 ⁰ 22	5 ⁰ 23	3 ⁰ 55	12 ⁰ 2	15 ⁰ 45	M 5
T 6	18 57 10	14 ⁰ 2'47	0 ⁰ II17	6 ⁰ 21	16 ⁰ 38	28 ⁰ 27	1 ⁰ 56	22 ⁰ 57	10 ⁰ 11	12 ⁰ 46	10 ⁰ 23	5 ⁰ R24	3 ⁰ 52	12 ⁰ 9	15 ⁰ 52	T 6
W 7	19 1 7	15 ⁰ 0'01	12 ⁰ 17	7 ⁰ 53	16 ⁰ 0	29 ⁰ 0	2 ⁰ 3	23 ⁰ 4	10 ⁰ 9	12 ⁰ 45	10 ⁰ 24	5 ⁰ 24	3 ⁰ 49	12 ⁰ 16	15 ⁰ 59	W 7
T 8	19 5 3	15 ⁰ 57'14	24 ⁰ 29	9 ⁰ 23	15 ⁰ 23	29 ⁰ 33	2 ⁰ 9	23 ⁰ 12	10 ⁰ 7	12 ⁰ 44	10 ⁰ 26	5 ⁰ 22	3 ⁰ 45	12 ⁰ 22	16 ⁰ 7	T 8
F 9	19 9 0	16 ⁰ 54'28	6 ⁰ 53	10 ⁰ 51	14 ⁰ 46	0 ⁰ 6	2 ⁰ 16	23 ⁰ 19	10 ⁰ 5	12 ⁰ 42	10 ⁰ 27	5 ⁰ 19	3 ⁰ 42	12 ⁰ 29	16 ⁰ 14	F 9
S 10	19 12 57	17 ⁰ 51'43	19 ⁰ 33	12 ⁰ 16	14 ⁰ 9	0 ⁰ 40	2 ⁰ 23	23 ⁰ 27	10 ⁰ 4	12 ⁰ 41	10 ⁰ 28	5 ⁰ 13	3 ⁰ 39	12 ⁰ 36	16 ⁰ 21	S 10
S 11	19 16 53	18 ⁰ 48'58	2 ⁰ II28	13 ⁰ 40	13 ⁰ 32	1 ⁰ 14	2 ⁰ 31	23 ⁰ 34	10 ⁰ 2	12 ⁰ 40	10 ⁰ 29	5 ⁰ 6	3 ⁰ 36	12 ⁰ 42	16 ⁰ 29	S 11
M 12	19 20 50	19 ⁰ 46'13	15 ⁰ 37	15 ⁰ 2	12 ⁰ 56	1 ⁰ 48	2 ⁰ 38	23 ⁰ 41	10 ⁰ 0	12 ⁰ 39	10 ⁰ 30	4 ⁰ 59	3 ⁰ 33	12 ⁰ 49	16 ⁰ 36	M 12
T 13	19 24 46	20 ⁰ 43'28	29 ⁰ 1	16 ⁰ 21	12 ⁰ 22	2 ⁰ 22	2 ⁰ 45	23 ⁰ 49	9 ⁰ 59	12 ⁰ 37	10 ⁰ 31	4 ⁰ 52	3 ⁰ 30	12 ⁰ 55	16 ⁰ 44	T 13
W 14	19 28 43	21 ⁰ 40'44	12 ⁰ 36	17 ⁰ 38	11 ⁰ 48	2 ⁰ 56	2 ⁰ 53	23 ⁰ 56	9 ⁰ 57	12 ⁰ 36	10 ⁰ 32	4 ⁰ 45	3 ⁰ 26	13 ⁰ 2	16 ⁰ 51	W 14
T 15	19 32 39	22 ⁰ 38'00	26 ⁰ 22	18 ⁰ 52	11 ⁰ 16	3 ⁰ 30	3 ⁰ 0	24 ⁰ 3	9 ⁰ 55	12 ⁰ 35	10 ⁰ 33	4 ⁰ 41	3 ⁰ 23	13 ⁰ 9	16 ⁰ 59	T 15
F 16	19 36 36	23 ⁰ 35'16	10 ⁰ 17	20 ⁰ 4	10 ⁰ 45	4 ⁰ 4	3 ⁰ 8	24 ⁰ 10	9 ⁰ 54	12 ⁰ 34	10 ⁰ 35	4 ⁰ 38	3 ⁰ 20	13 ⁰ 15	17 ⁰ 7	F 16
S 17	19 40 32	24 ⁰ 32'32	24 ⁰ 20	21 ⁰ 14	10 ⁰ 17	4 ⁰ 39	3 ⁰ 16	24 ⁰ 18	9 ⁰ 52	12 ⁰ 33	10 ⁰ 36	4 ⁰ D37	3 ⁰ 17	13 ⁰ 22	17 ⁰ 14	S 17
S 18	19 44 29	25 ⁰ 29'49	8 ⁰ III30	22 ⁰ 21	9 ⁰ 49	5 ⁰ 14	3 ⁰ 24	24 ⁰ 25	9 ⁰ 51	12 ⁰ 32	10 ⁰ 37	4 ⁰ 38	3 ⁰ 14	13 ⁰ 29	17 ⁰ 22	S 18
M 19	19 48 26	26 ⁰ 27'06	22 ⁰ 45	23 ⁰ 26	9 ⁰ 24	5 ⁰ 48	3 ⁰ 32	24 ⁰ 32	9 ⁰ 49	12 ⁰ 31	10 ⁰ 38	4 ⁰ 39	3 ⁰ 10	13 ⁰ 35	17 ⁰ 30	M 19
T 20	19 52 22	27 ⁰ 24'23	7 ⁰ 14	24 ⁰ 28	9 ⁰ 1	6 ⁰ 23	3 ⁰ 41	24 ⁰ 39	9 ⁰ 48	12 ⁰ 30	10 ⁰ 39	4 ⁰ R39	3 ⁰ 7	13 ⁰ 42	17 ⁰ 37	T 20
W 21	19 56 19	28 ⁰ 21'41	21 ⁰ 23	25 ⁰ 27	8 ⁰ 41	6 ⁰ 58	3 ⁰ 49	24 ⁰ 46	9 ⁰ 47	12 ⁰ 29	10 ⁰ 40	4 ⁰ 38	3 ⁰ 4	13 ⁰ 49	17 ⁰ 45	W 21
T 22	20 0 15	29 ⁰ 19'00	5 ⁰ 38	26 ⁰ 23	8 ⁰ 22	7 ⁰ 34	3 ⁰ 57	24 ⁰ 53	9 ⁰ 45	12 ⁰ 28	10 ⁰ 41	4 ⁰ 35	3 ⁰ 1	13 ⁰ 55	17 ⁰ 53	T 22
F 23	20 4 12	0 ⁰ II16'19	19 ⁰ 47	27 ⁰ 16	8 ⁰ 6	8 ⁰ 9	4 ⁰ 6	25 ⁰ 0	9 ⁰ 44	12 ⁰ 27	10 ⁰ 42	4 ⁰ 29	2 ⁰ 58	14 ⁰ 2	18 ⁰ 1	F 23
S 24	20 8 8	1 ⁰ 13'39	3 ⁰ 43	28 ⁰ 6	7 ⁰ 52	8 ⁰ 45	4 ⁰ 15	25 ⁰ 6	9 ⁰ 43	12 ⁰ 26	10 ⁰ 43	4 ⁰ 21	2 ⁰ 55	14 ⁰ 9	18 ⁰ 9	S 24
S 25	20 12 5	2 ⁰ 11'00	17 ⁰ 23	28 ⁰ 52	7 ⁰ 41	9 ⁰ 20	4 ⁰ 24	25 ⁰ 13	9 ⁰ 42	12 ⁰ 25	10 ⁰ 43	4 ⁰ 12	2 ⁰ 51	14 ⁰ 15	18 ⁰ 17	S 25
M 26	20 16 1	3 ⁰ 8'21	0 ⁰ 144	29 ⁰ 35	7 ⁰ 32	9 ⁰ 56	4 ⁰ 33	25 ⁰ 20	9 ⁰ 40	12 ⁰ 24	10 ⁰ 44	4 ⁰ 2	2 ⁰ 48	14 ⁰ 22	18 ⁰ 25	M 26
T 27	20 19 58	4 ⁰ 5'44	13 ⁰ 44	0 ⁰ 14	7 ⁰ 25	10 ⁰ 32	4 ⁰ 42	25 ⁰ 27	9 ⁰ 39	12 ⁰ 23	10 ⁰ 45	3 ⁰ 53	2 ⁰ 45	14 ⁰ 29	18 ⁰ 32	T 27
W 28	20 23 55	5 ⁰ 3'07	26 ⁰ 23	0 ⁰ 50	7 ⁰ 21	11 ⁰ 8	4 ⁰ 51	25 ⁰ 33	9 ⁰ 38	12 ⁰ 22	10 ⁰ 46	3 ⁰ 45	2 ⁰ 42	14 ⁰ 35	18 ⁰ 40	W 28
T 29	20 27 51	6 ⁰ 0'32	8 ⁰ 144	1 ⁰ 21	7 ⁰ D19	11 ⁰ 44	5 ⁰ 0	25 ⁰ 40	9 ⁰ 37	12 ⁰ 22	10 ⁰ 47	3 ⁰ 40	2 ⁰ 39	14 ⁰ 42	18 ⁰ 48	T 29
F 30	20 31 48	6 ⁰ 57'58	20 ⁰ 50	1 ⁰ 48	7 ⁰ 19	12 ⁰ 20	5 ⁰ 9	25 ⁰ 47	9 ⁰ 36	12 ⁰ 21	10 ⁰ 48	3 ⁰ 36	2 ⁰ 36	14 ⁰ 49	18 ⁰ 56	F 30
S 31	20 35 44	7 ⁰ II55'25	2 ⁰ 145	2 ⁰ 11	7 ⁰ 522	12 ⁰ 156	5 ⁰ 19	25 ⁰ II53	9 ⁰ 135	12 ⁰ 120	10 ⁰ II49	3 ⁰ II35	2 ⁰ II32	14 ⁰ 155	19 ⁰ II 4	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
T 1	23n10	4s 1	4s43	22n17	1n44	19n 1	3s 4	2n 5	0n25	0n38	1n18	22n 8	1s 8	22s 2	0n 0	20s54	1n30	12n 4	10s 4	21n14	21n 1	13n28	10n38	5s55	
F 2	23 5	1n17	4 8	21 51	1 40	18 52	3 18	1 51	0 24	0 35	1 18	22 8	1 8	22 2	0 0	20 53	1 30	12 4	10 5	21 14	21 0	13 30	10 36	5 54	
S 3	23 1	6 27	3 24	21 25	1 36	18 43	3 32	1 37	0 23	0 33	1 18	22 9	1 8	22 2	0 0	20 53	1 30	12 4	10 5	21 14	21 0	13 33	10 35	5 54	
S 4	22 56	11 22	2 31	20 58	1 31	18 34	3 45	1 23	0 22	0 30	1 18	22 9	1 8	22 1	0 0	20 53	1 30	12 4	10 5	21 14	20 59	13 36	10 33	5 53	
M 5	22 50	15 53	1 31	20 29	1 25	18 25	3 59	1 9	0 21	0 27	1 17	22 9	1 8	22 1	0 0	20 53	1 30	12 4	10 5	21 14	20 58	13 39	10 31	5 53	
T 6	22 45	19 48	0 28	20 0	1 19	18 17	4 12	0 55	0 20	0 25	1 17	22 10	1 8	22 1	0 0	20 53	1 30	12 4	10 5	21 15	20 58	13 42	10 30	5 53	
W 7	22 38	22 56	0n37	19 30	1 13	18 9	4 24	0 41	0 19	0 22	1 17	22 10	1 8	22 1	0 0	20 53	1 30	12 4	10 5	21 15	20 57	13 44	10 28	5 52	
T 8	22 32	25 4	1 42	19 0	1 6	18 1	4 36	0 27	0 17	0 19	1 17	22 11	1 8	22 0	0 0	20 53	1 30	12 4	10 5	21 14	20 57	13 47	10 26	5 52	
F 9	22 25	26 1	2 42	18 29	0 58	17 54	4 48	0 12	0 16	0 16	1 17	22 11	1 8	22 0	0 0	20 52	1 30	12 4	10 5	21 14	20 56	13 50	10 24	5 51	
S 10	22 17	25 37	3 36	17 57	0 50	17 47	4 59	0s 2	0 15	0 13	1 16	22 12	1 8	22 0	0 0	20 52	1 30	12 4	10 5	21 13	20 55	13 53	10 23	5 51	
S 11	22 10	23 52	4 20	17 25	0 42	17 40	5 9	0 16	0 14	0 10	1 16	22 12	1 8	22 0	0 0	20 52	1 30	12 4	10 5	21 12	20 55	13 56	10 21	5 51	
M12	22 2	20 48	4 51	16 53	0 33	17 34	5 19	0 31	0 13	0 7	1 16	22 12	1 8	21 59	0 0	20 52	1 30	12 5	10 5	21 10	20 54	13 58	10 19	5 50	
T 13	21 53	16 37	5 6	16 21	0 24	17 28	5 28	0 45	0 12	0 4	1 16	22 13	1 8	21 59	0 0	20 52	1 30	12 5	10 5	21 9	20 54	14 1	10 17	5 50	
W14	21 44	11 32	5 5	15 49	0 15	17 23	5 36	1 0	0 11	0 0	1 16	22 13	1 8	21 59	0 0	20 52	1 30	12 5	10 6	21 8	20 53	14 4	10 15	5 50	
T 15	21 35	5 49	4 46	15 16	0 5	17 18	5 44	1 14	0 10	0s 3	1 15	22 13	1 8	21 59	0 0	20 52	1 30	12 5	10 6	21 7	20 52	14 7	10 13	5 49	
F 16	21 25	0s14	4 11	14 44	0s 5	17 13	5 51	1 29	0 9	0 6	1 15	22 14	1 8	21 58	0 0	20 52	1 30	12 5	10 6	21 6	20 52	14 10	10 11	5 49	
S 17	21 15	6 22	3 20	14 12	0 16	17 9	5 58	1 44	0 8	0 9	1 15	22 14	1 8	21 58	0 0	20 52	1 30	12 5	10 6	21 6	20 51	14 12	10 9	5 49	
S 18	21 5	12 13	2 16	13 40	0 27	17 5	6 3	1 58	0 7	0 13	1 15	22 14	1 8	21 58	0 0	20 51	1 30	12 5	10 6	21 6	20 51	14 15	10 7	5 48	
M19	20 54	17 28	1 4	13 8	0 38	17 2	6 8	2 13	0 6	0 16	1 15	22 15	1 8	21 58	0 0	20 51	1 30	12 5	10 6	21 6	20 50	14 18	10 5	5 48	
T 20	20 43	21 45	0s13	12 37	0 49	16 59	6 13	2 28	0 5	0 20	1 14	22 15	1 8	21 58	0 0	20 51	1 30	12 5	10 6	21 7	20 49	14 21	10 3	5 48	
W21	20 32	24 41	1 29	12 7	1 1	16 57	6 16	2 43	0 4	0 23	1 14	22 15	1 8	21 57	0 0	20 51	1 30	12 5	10 6	21 6	20 49	14 23	10 1	5 47	
T 22	20 20	26 0	2 38	11 37	1 12	16 55	6 19	2 57	0 3	0 27	1 14	22 16	1 8	21 57	0 0	20 51	1 30	12 5	10 6	21 6	20 48	14 26	9 59	5 47	
F 23	20 8	25 37	3 38	11 7	1 24	16 53	6 22	3 12	0 2	0 30	1 14	22 16	1 8	21 57	0 0	20 51	1 30	12 5	10 7	21 5	20 47	14 29	9 57	5 47	
S 24	19 55	23 37	4 23	10 39	1 36	16 52	6 23	3 27	0 1	0 34	1 14	22 16	1 8	21 57	0 0	20 51	1 30	12 5	10 7	21 3	20 47	14 32	9 55	5 46	
S 25	19 43	20 17	4 52	10 12	1 49	16 52	6 25	3 42	0 0	0 38	1 13	22 16	1 8	21 57	0 0	20 51	1 30	12 5	10 7	21 2	20 46	14 35	9 53	5 46	
M26	19 30	15 58	5 4	9 45	2 1	16 52	6 25	3 57	0s 1	0 41	1 13	22 17	1 8	21 57	0 0	20 51	1 29	12 5	10 7	21 0	20 46	14 37	9 51	5 46	
T 27	19 16	11 1	5 0	9 20	2 13	16 52	6 25	4 12	0 2	0 45	1 13	22 17	1 8	21 56	0 0	20 51	1 29	12 5	10 7	20 58	20 45	14 40	9 49	5 46	
W28	19 2	5 45	4 42	8 56	2 26	16 52	6 25	4 27	0 2	0 49	1 13	22 17	1 8	21 56	0 0	20 51	1 29	12 5	10 7	20 57	20 44	14 43	9 47	5 45	
T 29	18 48	0 21	4 10	8 33	2 38	16 53	6 24	4 42	0 3	0 53	1 13	22 17	1 8	21 56	0 0	20 51	1 29	12 5	10 7	20 55	20 44	14 46	9 45	5 45	
F 30	18 34	4n56	3 28	8 12	2 50	16 54	6 23	4 57	0 4	0 57	1 12	22 18	1 8	21 56	0 0	20 51	1 29	12 5	10 7	20 55	20 43	14 48	9 42	5 45	
S 31	18n19	10n 0	2s37	7n53	3s 3	16n56	6s21	5s12	0s 5	1s 0	1n12	22n18	1s 8	21s56	0s 0	20s51	1n29	12n 5	10s 8	20n55	20n43	14n51	9n40	5s45	

ASTRODIENST EPHEMERIS for the year 1649

geocentric

AUGUST 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	20 39 41	8♂52°53	14♂35	2♂29	7♂27	13♂33	5♂28	26♂0	9♂34	12♂19	10♂50	3♂35	2♂29	15♂2	19♂12	S 1
M 2	20 43 37	9°50'23	26°24	2°43	7°34	14°9	5°38	26°6	9♂34	12♂19	10°50	3♂35	2°26	15°9	19°20	M 2
T 3	20 47 34	10°47'54	8♂11	2°51	7°44	14°46	5°48	26°12	9°33	12°18	10°51	3°35	2°23	15°15	19°28	T 3
W 4	20 51 30	11°45'27	20°23	2°54	7°55	15°23	5°57	26°19	9°32	12°17	10°52	3°34	2°20	15°22	19°36	W 4
T 5	20 55 27	12°43'01	2♂41	2°52	8°9	16°0	6°7	26°25	9°31	12°17	10°53	3°30	2°16	15°29	19°45	T 5
F 6	20 59 24	13°40'36	15°18	2°45	8°25	16°37	6°17	26°31	9°31	12°16	10°53	3°24	2°13	15°35	19°53	F 6
S 7	21 3 20	14°38'12	28°13	2°32	8°42	17°14	6°27	26°37	9°30	12°16	10°54	3°16	2°10	15°42	20°1	S 7
S 8	21 7 17	15°35'50	11♂29	2°13	9°1	17°51	6°38	26°43	9°30	12°15	10°55	3°5	2°7	15°48	20°9	S 8
M 9	21 11 13	16°33'29	25°2	1°49	9°23	18°29	6°48	26°49	9°29	12°15	10°55	2°54	2°4	15°55	20°17	M 9
T 10	21 15 10	17°31'09	8♂51	1°20	9°45	19°6	6°58	26°55	9°29	12°14	10°56	2°43	2°1	16°2	20°25	T 10
W 11	21 19 6	18°28'51	22°51	0°46	10°10	19°44	7°9	27°1	9°28	12°14	10°57	2°33	1°57	16°8	20°33	W 11
T 12	21 23 3	19°26'33	6♂59	0°7	10°36	20°21	7°19	27°7	9°28	12°13	10°57	2°25	1°54	16°15	20°41	T 12
F 13	21 26 59	20°24'17	21°9	29♂24	11°4	20°59	7°30	27°13	9°28	12°13	10°58	2°20	1°51	16°22	20°49	F 13
S 14	21 30 56	21°22'02	5♂20	28°37	11°33	21°37	7°40	27°18	9°28	12°13	10°59	2°17	1°48	16°28	20°58	S 14
S 15	21 34 53	22°19'48	19°29	27°47	12°4	22°15	7°51	27°24	9°27	12°12	10°59	2°D17	1°45	16°35	21°6	S 15
M 16	21 38 49	23°17'35	3♂35	26°55	12°36	22°53	8°2	27°30	9°27	12°12	11°0	2°R17	1°42	16°42	21°14	M 16
T 17	21 42 46	24°15'23	17°37	26°2	13°10	23°32	8°13	27°35	9°27	12°12	11°0	2°16	1°38	16°48	21°22	T 17
W 18	21 46 42	25°13'12	1♂35	25°9	13°44	24°10	8°24	27°41	9°D27	12°12	11°1	2°14	1°35	16°55	21°30	W 18
T 19	21 50 39	26°11'03	15°26	24°17	14°20	24°48	8°35	27°46	9°27	12°11	11°1	2°9	1°32	17°2	21°38	T 19
F 20	21 54 35	27°8'55	29°9	23°26	14°58	25°27	8°46	27°51	9°27	12°11	11°2	2°1	1°29	17°8	21°46	F 20
S 21	21 58 32	28°6'48	12♂42	22°39	15°36	26°6	8°57	27°56	9°27	12°11	11°2	1°51	1°26	17°15	21°54	S 21
S 22	22 2 28	29°4'43	26°2	21°56	16°16	26°44	9°8	28°1	9°27	12°11	11°3	1°39	1°22	17°22	22°3	S 22
M 23	22 6 25	0♂239	9♂7	21°19	16°56	27°23	9°20	28°6	9°28	12°11	11°3	1°26	1°19	17°28	22°11	M 23
T 24	22 10 22	1°0'37	21°55	20°47	17°38	28°2	9°31	28°11	9°28	12°D11	11°3	1°13	1°16	17°35	22°19	T 24
W 25	22 14 18	1°58'37	4♂27	20°22	18°21	28°41	9°43	28°16	9°28	12°11	11°4	1°3	1°13	17°42	22°27	W 25
T 26	22 18 15	2°56'38	16°43	20°4	19°5	29°21	9°54	28°21	9°29	12°11	11°4	0°54	1°10	17°48	22°35	T 26
F 27	22 22 11	3°54'41	28°46	19°55	19°49	29°59	10°6	28°26	9°29	12°11	11°4	0°49	1°7	17°55	22°43	F 27
S 28	22 26 8	4°52'47	10♂40	19°D54	20°35	0♂39	10°17	28°30	9°30	12°11	11°5	0°46	1°3	18°1	22°51	S 28
S 29	22 30 4	5°50'54	22°28	20°1	21°22	1°19	10°29	28°35	9°30	12°11	11°5	0°44	1°0	18°8	22°59	S 29
M 30	22 34 1	6°49'03	4♂17	20°17	22°9	1°58	10°41	28°39	9°31	12°12	11°5	0°44	0°57	18°15	23°7	M 30
T 31	22 37 57	7♂47'14	16♂11	20♂41	22♂57	2♂38	10♂53	28♂44	9♂31	12♂12	11♂5	0♂44	0♂54	18♂21	23♂15	T 31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
S 1	18n 4	14n39	1s40	7n35	3s14	16n58	6s19	5s27	0s 6	1s 4	1n12	22n18	1s 8	21s56	0s 0	20s51
M 2	17 49	18 46	0 38	7 19	3 26	17 0	6 17	5 42	0 7	1 8	1 12	22 18	1 8	21 56	0 0	20 50
T 3	17 34	22 9	0n25	7 6	3 37	17 2	6 14	5 57	0 8	1 12	1 12	22 18	1 8	21 56	0 0	20 50
W 4	17 18	24 36	1 28	6 55	3 48	17 4	6 11	6 12	0 9	1 16	1 12	22 19	1 8	21 55	0 0	20 50
T 5	17 2	25 56	2 28	6 46	3 58	17 7	6 8	6 27	0 10	1 21	1 11	22 19	1 8	21 55	0 0	20 50
F 6	16 45	25 58	3 23	6 40	4 8	17 9	6 4	6 42	0 10	1 25	1 11	22 19	1 8	21 55	0 0	20 50
S 7	16 28	24 36	4 8	6 36	4 16	17 12	6 0	6 57	0 11	1 29	1 11	22 19	1 8	21 55	0 0	20 50
S 8	16 11	21 52	4 41	6 35	4 24	17 15	5 56	7 12	0 12	1 33	1 11	22 19	1 8	21 55	0 0	20 50
M 9	15 54	17 53	4 59	6 38	4 31	17 18	5 52	7 27	0 13	1 37	1 11	22 19	1 8	21 55	0 0	20 50
T 10	15 37	12 54	5 0	6 43	4 36	17 21	5 48	7 42	0 14	1 41	1 11	22 19	1 8	21 55	0 0	20 50
W 11	15 19	7 10	4 43	6 51	4 40	17 24	5 43	7 57	0 15	1 46	1 11	22 20	1 8	21 55	0 0	20 50
T 12	15 1	1 2	4 9	7 2	4 43	17 27	5 38	8 12	0 15	1 50	1 10	22 20	1 8	21 55	0 0	20 50
F 13	14 43	5s11	3 19	7 16	4 44	17 30	5 33	8 27	0 16	1 54	1 10	22 20	1 8	21 55	0 0	20 50
S 14	14 24	11 10	2 17	7 33	4 43	17 32	5 28	8 42	0 17	1 59	1 10	22 20	1 8	21 55	0 0	20 50
S 15	14 6	16 34	1 7	7 53	4 40	17 35	5 22	8 57	0 18	2 3	1 10	22 20	1 8	21 55	0 0	20 50
M 16	13 47	21 2	0 8	7 8	4 36	17 38	5 17	9 12	0 19	2 7	1 10	22 20	1 8	21 55	0 0	20 50
T 17	13 28	24 0s	1 20	8 38	4 29	17 40	5 11	9 27	0 20	2 12	1 10	22 20	1 8	21 55	0 0	20 50
W 18	13 8	25 57	2 28	9 4	4 21	17 42	5 6	9 42	0 20	2 16	1 10	22 20	1 8	21 55	0 0	20 50
T 19	12 49	26 1	3 27	9 31	4 11	17 44	5 0	9 57	0 21	2 21	1 9	22 20	1 8	21 55	0 0	20 50
F 20	12 29	24 29	4 13	9 58	3 59	17 46	4 54	10 12	0 22	2 25	1 9	22 20	1 8	21 55	0 0	20 50
S 21	12 9	21 34	4 44	10 26	3 45	17 48	4 48	10 27	0 23	2 30	1 9	22 20	1 8	21 55	0 0	20 50
S 22	11 49	17 33	4 59	10 54	3 30	17 49	4 42	10 42	0 23	2 34	1 9	22 21	1 8	21 55	0 0	20 51
M 23	11 29	12 46	4 58	11 22	3 14	17 51	4 36	10 56	0 24	2 39	1 9	22 21	1 8	21 55	0 0	20 51
T 24	11 8	7 31	4 41	11 48	2 57	17 52	4 30	11 11	0 25	2 43	1 9	22 21	1 8	21 55	0 0	20 51
W 25	10 47	2 5	4 11	12 13	2 39	17 52	4 24	11 26	0 26	2 48	1 9	22 21	1 8	21 55	0 0	20 51
T 26	10 27	3n21	3 30	12 36	2 21	17 52	4 18	11 40	0 26	2 53	1 9	22 21	1 8	21 55	0 0	20 51
F 27	10 6	8 33	2 41	12 56	2 2	17 52	4 11	11 55	0 27	2 57	1 8	22 21	1 8	21 55	0 0	20 51
S 28	9 44	13 24	1 44	13 15	1 43	17 52	4 5	12 9	0 28	3 2	1 8	22 21	1 8	21 55	0 0	20 51
S 29	9 23	17 43	0 44	13 30	1 24	17 51	3 59	12 24	0 29	3 7	1 8	22 21	1 8	21 55	0 0	20 51
M 30	9 2	21 21	0n19	13 43	1 6	17 50	3 52	12 38	0 29	3 11	1 8	22 21	1 8	21 56	0 0	20 51
T 31	8n40	24n 7	1n21	13n52	0s48	17n49	3s46	12s53	0s30	3s16	1n 8	22n21	1s 8	21s56	0s 0	20s51

Julian Day Number = 2323557.5, Delta T = 43.61 sec

Ecliptic obliquity = 23°29'10", Nutation = - 0°00'14", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 19°50'57", Lahiri = 18°57'58"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1649
geocentric

SEPTEMBER 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	22 41 54	8♍45'27	28♏16	21♏14	23♏46	3♍18	11♏4	28♏48	9♏32	12♏12	11♏6	0°R43	0♏51	18♏28	23♏23	W 1
T 2	22 45 51	9°43'43	10♏37	21°56	24°36	3°57	11°16	28°52	9°33	12°12	11°6	0♏40	0°47	18°35	23°31	T 2
F 3	22 49 47	10°42'00	23°19	22°45	25°26	4°37	11°28	28°56	9°34	12°13	11°6	0°34	0°44	18°41	23°39	F 3
S 4	22 53 44	11°40'19	6♏24	23°42	26°17	5°17	11°40	29°0	9°34	12°13	11°6	0°26	0°41	18°48	23°47	S 4
S 5	22 57 40	12°38'41	19°54	24°46	27°9	5°58	11°52	29°4	9°35	12°13	11°6	0°15	0°38	18°55	23°55	S 5
M 6	23 1 37	13°37'04	3♍46	25°57	28°2	6°38	12°5	29°8	9°36	12°14	11°6	0°4	0°35	19°1	24°3	M 6
T 7	23 5 33	14°35'29	17°58	27°14	28°55	7°18	12°17	29°12	9°37	12°14	11°6	29♏52	0°32	19°8	24°11	T 7
W 8	23 9 30	15°33'56	2♏24	28°37	29°49	7°59	12°29	29°16	9°38	12°15	11°6	29°42	0°28	19°15	24°19	W 8
T 9	23 13 26	16°32'25	16°57	0♍5	0♏43	8°39	12°41	29°19	9°39	12°15	11°6	29°34	0°25	19°21	24°26	T 9
F 10	23 17 23	17°30'55	1♍31	1°37	1°38	9°20	12°54	29°23	9°40	12°16	11°R 6	29°29	0°22	19°28	24°34	F 10
S 11	23 21 19	18°29'27	16°0	3°13	2°33	10°0	13°6	29°26	9°42	12°16	11°6	29°26	0°19	19°35	24°42	S 11
S 12	23 25 16	19°28'01	0♏20	4°53	3°29	10°41	13°18	29°29	9°43	12°17	11°6	29°D26	0°16	19°41	24°50	S 12
M13	23 29 13	20°26'37	14°29	6°35	4°26	11°22	13°31	29°33	9°44	12°18	11°6	29°R26	0°13	19°48	24°58	M13
T 14	23 33 9	21°25'14	28°26	8°19	5°23	12°3	13°43	29°36	9°46	12°18	11°6	29°26	0°9	19°54	25°5	T 14
W15	23 37 6	22°23'53	12♏11	10°6	6°20	12°44	13°56	29°39	9°47	12°19	11°6	29°24	0°6	20°1	25°13	W15
T 16	23 41 2	23°22'34	25°44	11°54	7°18	13°25	14°8	29°42	9°48	12°20	11°6	29°20	0°3	20°8	25°21	T 16
F 17	23 44 59	24°21'16	9♏5	13°42	8°17	14°7	14°21	29°44	9°50	12°20	11°6	29°14	29♏59	20°14	25°28	F 17
S 18	23 48 55	25°20'00	22°15	15°32	9°16	14°48	14°33	29°47	9°51	12°21	11°6	29°5	29°57	20°21	25°36	S 18
S 19	23 52 52	26°18'46	5♏13	17°22	10°15	15°29	14°46	29°50	9°53	12°22	11°6	28°54	29°53	20°28	25°43	S 19
M20	23 56 48	27°17'33	17°58	19°12	11°15	16°11	14°59	29°52	9°55	12°23	11°5	28°43	29°50	20°34	25°51	M20
T 21	0 0 45	28°16'23	0♏30	21°2	12°15	16°52	15°11	29°54	9°56	12°24	11°5	28°32	29°47	20°41	25°58	T 21
W22	0 4 42	29°15'15	12°49	22°52	13°16	17°34	15°24	29°57	9°58	12°25	11°5	28°23	29°44	20°48	26°5	W22
T 23	0 8 38	0♏14'08	24°57	24°42	14°17	18°16	15°37	29°59	10°0	12°26	11°5	28°16	29°41	20°54	26°13	T 23
F 24	0 12 35	1°13'04	6♏55	26°31	15°18	18°58	15°50	0♏1	10°2	12°27	11°4	28°11	29°38	21°1	26°20	F 24
S 25	0 16 31	2°12'03	18°46	28°20	16°20	19°39	16°3	0°3	10°3	12°28	11°4	28°8	29°34	21°8	26°27	S 25
S 26	0 20 28	3°11'03	0♏33	0♏8	17°22	20°21	16°15	0°5	10°5	12°29	11°4	28°D 8	29°31	21°14	26°35	S 26
M27	0 24 24	4°10'06	12°20	1°56	18°24	21°4	16°28	0°7	10°7	12°30	11°3	28°9	29°28	21°21	26°42	M27
T 28	0 28 21	5°9'11	24°13	3°43	19°27	21°46	16°41	0°8	10°9	12°31	11°3	28°10	29°25	21°27	26°49	T 28
W29	0 32 17	6°8'18	6♏16	5°29	20°30	22°28	16°54	0°10	10°11	12°32	11°3	28°R10	29°22	21°34	26°56	W29
T 30	0 36 14	7♏7'28	18♏36	7♏14	21♏34	23♏10	17♏7	0♏11	10♏13	12♏33	11♏2	28♏10	29♏19	21♏41	27♏3	T 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
W 1	8n18	25n49	2n20	13n58	0s31	17n47	3s40	13s 7	0s31	3s21	1n 8	22n21	1s 8	21s56	0s 0	20s51	1n28	12n 2	10s13	20n20	20n22	16n18	8n22	5s42	
T 2	7 56	26 18	3 15	14 0	0 14	17 45	3 33	13 21	0 31	3 26	1 8	22 21	1 8	21 56	0 0	20 51	1 27	12 2	10 13	20 20	20 21	16 20	8 19	5 42	
F 3	7 34	25 25	4 1	13 59	0n 1	17 42	3 27	13 35	0 32	3 30	1 8	22 21	1 8	21 56	0 0	20 51	1 27	12 1	10 13	20 19	20 21	16 23	8 17	5 42	
S 4	7 12	23 9	4 36	13 54	0 16	17 39	3 20	13 50	0 33	3 35	1 8	22 21	1 8	21 56	0 0	20 52	1 27	12 1	10 13	20 17	20 20	16 26	8 14	5 42	
S 5	6 50	19 34	4 57	13 46	0 30	17 36	3 14	14 4	0 33	3 40	1 7	22 21	1 8	21 56	0 0	20 52	1 27	12 1	10 14	20 15	20 19	16 28	8 11	5 42	
M 6	6 27	14 49	5 1	13 34	0 43	17 32	3 8	14 18	0 34	3 45	1 7	22 21	1 8	21 56	0 0	20 52	1 27	12 1	10 14	20 12	20 19	16 31	8 9	5 42	
T 7	6 5	9 10	4 47	13 18	0 54	17 28	3 1	14 31	0 35	3 50	1 7	22 21	1 8	21 57	0 0	20 52	1 27	12 1	10 14	20 10	20 18	16 34	8 6	5 42	
W 8	5 42	2 56	4 14	12 59	1 5	17 23	2 55	14 45	0 35	3 55	1 7	22 21	1 8	21 57	0 0	20 52	1 27	12 1	10 14	20 8	20 17	16 36	8 3	5 42	
T 9	5 19	3s31	3 25	12 37	1 14	17 18	2 48	14 59	0 36	3 59	1 7	22 21	1 8	21 57	0 0	20 52	1 27	12 0	10 14	20 6	20 17	16 39	8 1	5 42	
F 10	4 57	9 48	2 22	12 12	1 22	17 12	2 42	15 13	0 37	4 4	1 7	22 21	1 8	21 57	0 0	20 52	1 27	12 0	10 15	20 5	20 16	16 41	7 58	5 43	
S 11	4 34	15 32	1 11	11 44	1 29	17 6	2 36	15 26	0 37	4 9	1 7	22 21	1 8	21 57	0 0	20 52	1 27	12 0	10 15	20 4	20 15	16 44	7 56	5 43	
S 12	4 11	20 20	0s 5	11 13	1 35	16 59	2 30	15 40	0 38	4 14	1 7	22 21	1 8	21 57	0 0	20 52	1 27	12 0	10 15	20 4	20 15	16 47	7 53	5 43	
M13	3 48	23 54	1 19	10 40	1 40	16 52	2 23	15 53	0 39	4 19	1 7	22 21	1 8	21 58	0 0	20 53	1 27	12 0	10 15	20 4	20 14	16 49	7 50	5 43	
T 14	3 25	25 56	2 28	10 5	1 44	16 45	2 17	16 6	0 39	4 24	1 7	22 21	1 8	21 58	0 0	20 53	1 27	11 59	10 15	20 4	20 13	16 52	7 48	5 43	
W15	3 1	26 22	3 27	9 27	1 47	16 37	2 11	16 19	0 40	4 29	1 7	22 21	1 8	21 58	0 0	20 53	1 27	11 59	10 15	20 4	20 13	16 55	7 45	5 43	
T 16	2 38	25 11	4 13	8 48	1 49	16 28	2 5	16 33	0 40	4 34	1 7	22 21	1 9	21 58	0 0	20 53	1 27	11 59	10 16	20 3	20 12	16 57	7 42	5 43	
F 17	2 15	22 36	4 45	8 7	1 51	16 19	1 59	16 45	0 41	4 39	1 6	22 21	1 9	21 59	0 0	20 53	1 27	11 59	10 16	20 1	20 11	17 0	7 40	5 43	
S 18	1 51	18 52	5 1	7 25	1 51	16 10	1 52	16 58	0 42	4 44	1 6	22 21	1 9	21 59	0 0	20 53	1 27	11 59	10 16	20 0	20 11	17 2	7 37	5 44	
S 19	1 28	14 17	5 2	6 42	1 51	16 0	1 46	17 11	0 42	4 49	1 6	22 21	1 9	21 59	0 0	20 54	1 27	11 58	10 16	19 57	20 10	17 5	7 34	5 44	
M20	1 5	9 10	4 47	5 58	1 50	15 50	1 40	17 24	0 43	4 54	1 6	22 21	1 9	21 59	0 0	20 54	1 26	11 58	10 16	19 55	20 9	17 8	7 32	5 44	
T 21	0 41	3 45	4 18	5 13	1 48	15 39	1 34	17 36	0 43	4 59	1 6	22 20	1 9	22 0	0 0	20 54	1 26	11 58	10 17	19 52	20 9	17 10	7 29	5 44	
W22	0 18	1n44	3 38	4 27	1 46	15 27	1 29	17 49	0 44	5 4	1 6	22 20	1 9	22 0	0 0	20 54	1 26	11 58	10 17	19 50	20 8	17 13	7 26	5 44	
T 23	0s 6	7 4	2 48	3 41	1 43	15 16	1 23	18 1	0 45	5 9	1 6	22 20	1 9	22 0	0 0	1 20 54	1 26	11 58	10 17	19 49	20 7	17 15	7 24	5 45	
F 24	0 29	12 6	1 51	2 55	1 40	15 3	1 17	18 13	0 45	5 13	1 6	22 20	1 9	22 0	0 0	1 20 54	1 26	11 57	10 17	19 48	20 7	17 18	7 21	5 45	
S 25	0 53	16 38	0 50	2 8	1 36	14 51	1 11	18 25	0 46	5 18	1 6	22 20	1 9	22 1	0 0	1 20 55	1 26	11 57	10 17	19 47	20 6	17 21	7 19	5 45	
S 26	1 16	20 31	0n13	1 21	1 32	14 37	1 5	18 37	0 46	5 23	1 6	22 20	1 9	22 1	0 0	1 20 55	1 26	11 57	10 17	19 47	20 5	17 23	7 16	5 45	
M27	1 40	23 34	1 16	0 34	1 28	14 24	1 0	18 49	0 47	5 28	1 6	22 20	1 9	22 1	0 0	1 20 55	1 26	11 57	10 18	19 47	20 5	17 26	7 13	5 45	
T 28	2 3	25 37	2 16	0s12	1 23	14 9	0 54	19 0	0 47	5 33	1 6	22 20	1 9	22 1	0 0	1 20 55	1 26	11 57	10 18	19 47	20 4	17 28	7 11	5 46	
W29	2 27	26 31	3 11	0 59	1 18	13 55	0 49	19 12	0 48	5 38	1 6	22 20	1 9	22 2	0 0	1 20 55	1 26	11 56	10 18	19 48	20 3	17 31	7 8	5 46	
T 30	2s50	26n 7	3n58	1s46	1n13	13n40	0s43	19s23	0s48	5s43	1n 6	22n20	1s 9	22s 2	0s 1	20s56	1n26	11n56	10s18	19n47	20n 3	17n34	7n 5	5s46	

ASTRODIENST EPHEMERIS for the year 1649
geocentric

OCTOBER 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	0 40 11	8♌ 6'40	1♏17	8♌59	22♏37	23♌53	17♌20	0♌12	10♌16	12♌34	11♌R 2	28♌R 7	29♌15	21♌47	27♌10	F 1
S 2	0 44 7	9° 5'55	14°22	10°42	23°41	24°35	17°33	0°14	10°18	12°36	11♌I 1	28♌R 2	29°12	21°54	27°17	S 2
S 3	0 48 4	10° 5'11	27°55	12°25	24°46	25°18	17°46	0°15	10°20	12°37	11° 1	27°56	29° 9	22° 1	27°24	S 3
M 4	0 52 0	11° 4'30	11♏19	14° 7	25°50	26° 0	17°59	0°16	10°22	12°38	11° 0	27°48	29° 6	22° 7	27°31	M 4
T 5	0 55 57	12° 3'51	26°19	15°49	26°55	26°43	18°12	0°17	10°24	12°39	11° 0	27°41	29° 3	22°14	27°38	T 5
W 6	0 59 53	13° 3'14	11♌2	17°30	28° 1	27°26	18°25	0°17	10°27	12°41	10°59	27°34	28°59	22°21	27°44	W 6
T 7	1 3 50	14° 2'40	25°57	19°10	29° 6	28° 9	18°38	0°18	10°29	12°42	10°59	27°29	28°56	22°27	27°51	T 7
F 8	1 7 46	15° 2'07	10♌55	20°49	0♏12	28°52	18°51	0°19	10°32	12°44	10°58	27°26	28°53	22°34	27°57	F 8
S 9	1 11 43	16° 1'36	25°47	22°27	1°18	29°35	19° 4	0°19	10°34	12°45	10°58	27°D25	28°50	22°41	28° 4	S 9
S 10	1 15 40	17° 1'07	10♌27	24° 5	2°24	0♌18	19°17	0°19	10°37	12°46	10°57	27°25	28°47	22°47	28°10	S 10
M 11	1 19 36	18° 0'40	24°51	25°42	3°30	1° 1	19°30	0°19	10°39	12°48	10°57	27°27	28°44	22°54	28°17	M 11
T 12	1 23 33	19° 0'15	8♌55	27°19	4°37	1°45	19°43	0°R20	10°42	12°49	10°56	27°28	28°40	23° 1	28°23	T 12
W 13	1 27 29	19°59'52	22°39	28°55	5°44	2°28	19°56	0°20	10°44	12°51	10°55	27°R28	28°37	23° 7	28°30	W 13
T 14	1 31 26	20°59'30	6♌5	0♏30	6°51	3°11	20° 9	0°19	10°47	12°52	10°55	27°27	28°34	23°14	28°36	T 14
F 15	1 35 22	21°59'10	19°13	2° 4	7°58	3°55	20°22	0°19	10°50	12°54	10°54	27°24	28°31	23°20	28°42	F 15
S 16	1 39 19	22°58'51	2♌6	3°38	9° 6	4°38	20°35	0°19	10°52	12°56	10°53	27°20	28°28	23°27	28°48	S 16
S 17	1 43 15	23°58'35	14°45	5°12	10°14	5°22	20°48	0°18	10°55	12°57	10°52	27°15	28°24	23°34	28°54	S 17
M 18	1 47 12	24°58'20	27°12	6°45	11°21	6° 6	21° 1	0°18	10°58	12°59	10°52	27° 9	28°21	23°40	29° 0	M 18
T 19	1 51 9	25°58'07	9♏27	8°17	12°30	6°50	21°14	0°17	11° 1	13° 0	10°51	27° 3	28°18	23°47	29° 6	T 19
W 20	1 55 5	26°57'56	21°34	9°49	13°38	7°33	21°27	0°16	11° 4	13° 2	10°50	26°58	28°15	23°54	29°12	W 20
T 21	1 59 2	27°57'47	3♌32	11°20	14°46	8°17	21°40	0°15	11° 6	13° 4	10°49	26°55	28°12	24° 0	29°17	T 21
F 22	2 2 58	28°57'39	15°24	12°51	15°55	9° 1	21°53	0°14	11° 9	13° 6	10°49	26°53	28° 9	24° 7	29°23	F 22
S 23	2 6 55	29°57'34	27°13	14°21	17° 4	9°45	22° 6	0°13	11°12	13° 7	10°48	26°D52	28° 5	24°14	29°29	S 23
S 24	2 10 51	0♏57'31	8♌59	15°50	18°13	10°30	22°19	0°12	11°15	13° 9	10°47	26°53	28° 2	24°20	29°34	S 24
M 25	2 14 48	1°57'31	20°47	17°19	19°22	11°14	22°32	0°11	11°18	13°11	10°46	26°54	27°59	24°27	29°39	M 25
T 26	2 18 44	2°57'32	2♌41	18°48	20°32	11°58	22°45	0° 9	11°21	13°13	10°45	26°56	27°56	24°34	29°45	T 26
W 27	2 22 41	3°57'35	14°44	20°16	21°41	12°42	22°58	0° 7	11°24	13°15	10°44	26°58	27°53	24°40	29°50	W 27
T 28	2 26 38	4°57'41	27° 2	21°43	22°51	13°27	23°11	0° 6	11°27	13°16	10°43	26°59	27°50	24°47	29°55	T 28
F 29	2 30 34	5°57'48	9♏38	23°10	24° 1	14°11	23°24	0° 4	11°31	13°18	10°43	26°R59	27°46	24°53	0♏0	F 29
S 30	2 34 31	6°57'58	22°38	24°36	25°11	14°56	23°37	0° 2	11°34	13°20	10°42	26°58	27°43	25° 0	0° 5	S 30
S 31	2 38 27	7♌58'10	6♏3	26♌2	26♏21	15♌40	23♌50	0♌0	11♌37	13♌22	10♌I41	26♌56	27♌40	25♌7	0♏10	S 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	3s13	24n23	4n35	2s32	1n 7	13n24	0s38	19s34	0s49	5s48	1n 6	22n20	1s 9	22s 2	0s 1	F 1
S 2	3 37	21 19	5 0	3 18	1 1	13 8	0 33	19 45	0 50	5 53	1 6	22 20	1 9	22 3	0 1	S 2
S 3	4 0	17 2	5 8	4 4	0 55	12 52	0 27	19 56	0 50	5 58	1 6	22 20	1 9	22 3	0 1	S 3
M 4	4 23	11 43	4 59	4 50	0 49	12 35	0 22	20 7	0 51	6 3	1 6	22 20	1 9	22 3	0 1	M 4
T 5	4 47	5 37	4 31	5 35	0 43	12 18	0 17	20 17	0 51	6 8	1 6	22 20	1 9	22 4	0 1	T 5
W 6	5 10	0s56	3 45	6 19	0 36	12 0	0 12	20 28	0 52	6 13	1 6	22 20	1 9	22 4	0 1	W 6
T 7	5 33	7 32	2 42	7 3	0 30	11 42	0 7	20 38	0 52	6 18	1 5	22 20	1 9	22 4	0 1	T 7
F 8	5 56	13 44	1 28	7 47	0 23	11 23	0 2	20 48	0 52	6 23	1 5	22 20	1 9	22 5	0 1	F 8
S 9	6 19	19 6	0 9	8 30	0 17	11 4	0n 2	20 58	0 53	6 28	1 5	22 20	1 9	22 5	0 1	S 9
S 10	6 42	23 13	1s10	9 12	0 10	10 45	0 7	21 7	0 53	6 33	1 5	22 20	1 9	22 6	0 1	S 10
M 11	7 5	25 47	2 24	9 54	0 3	10 25	0 12	21 17	0 54	6 38	1 5	22 20	1 9	22 6	0 1	M 11
T 12	7 27	26 37	3 27	10 36	0s 4	10 5	0 16	21 26	0 54	6 43	1 5	22 20	1 9	22 6	0 1	T 12
W 13	7 50	25 47	4 16	11 16	0 11	9 45	0 21	21 35	0 55	6 48	1 5	22 20	1 10	22 7	0 1	W 13
T 14	8 12	23 28	4 50	11 57	0 17	9 24	0 25	21 44	0 55	6 53	1 5	22 20	1 10	22 7	0 1	T 14
F 15	8 35	19 58	5 9	12 36	0 24	9 3	0 29	21 53	0 56	6 58	1 5	22 20	1 10	22 7	0 1	F 15
S 16	8 57	15 34	5 11	13 15	0 31	8 41	0 33	22 2	0 56	7 3	1 5	22 20	1 10	22 8	0 1	S 16
S 17	9 19	10 35	4 57	13 53	0 38	8 20	0 37	22 10	0 57	7 8	1 5	22 20	1 10	22 8	0 1	S 17
M 18	9 41	5 15	4 30	14 30	0 45	7 57	0 41	22 18	0 57	7 13	1 5	22 19	1 10	22 9	0 1	M 18
T 19	10 3	0n13	3 51	15 6	0 51	7 35	0 45	22 26	0 57	7 18	1 5	22 19	1 10	22 9	0 1	T 19
W 20	10 25	5 37	3 2	15 42	0 58	7 12	0 49	22 34	0 58	7 22	1 5	22 19	1 10	22 9	0 1	W 20
T 21	10 46	10 46	2 5	16 17	1 4	6 49	0 53	22 41	0 58	7 27	1 5	22 19	1 10	22 10	0 1	T 21
F 22	11 8	15 29	1 3	16 51	1 11	6 26	0 56	22 49	0 59	7 32	1 5	22 19	1 10	22 10	0 1	F 22
S 23	11 29	19 36	0n 2	17 24	1 17	6 2	1 0	22 56	0 59	7 37	1 5	22 19	1 10	22 11	0 1	S 23
S 24	11 50	22 56	1 6	17 56	1 23	5 38	1 3	23 3	0 59	7 42	1 5	22 19	1 10	22 11	0 1	S 24
M 25	12 11	25 18	2 8	18 28	1 29	5 14	1 7	23 9	1 0	7 47	1 5	22 19	1 10	22 12	0 1	M 25
T 26	12 31	26 32	3 5	18 58	1 35	4 50	1 10	23 16	1 0	7 51	1 5	22 19	1 10	22 12	0 1	T 26
W 27	12 52	26 33	3 54	19 28	1 41	4 25	1 13	23 22	1 0	7 56	1 5	22 19	1 10	22 12	0 1	W 27
T 28	13 12	25 16	4 34	19 57	1 47	4 0	1 16	23 28	1 1	8 1	1 5	22 19	1 10	22 13	0 1	T 28
F 29	13 32	22 43	5 2	20 24	1 52	3 35	1 19	23 34	1 1	8 6	1 5	22 19	1 10	22 13	0 1	F 29
S 30	13 52	18 57	5 15	20 51	1 57	3 10	1 22	23 39	1 1	8 11	1 5	22 19	1 10	22 14	0 1	S 30
S 31	14s12	14n 8	5n12	21s17	2s 2	2n45	1n24	23s44	1s 2	8s15	1n 5	22n19	1s10	22s14	0s 1	S 31

Julian Day Number = 2323618.5, Delta T = 43.49 sec
Ecliptic obliquity = 23°29'11, Nutation = - 0°00'15, out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 19°51'06, Lahiri = 18°58'06Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1649

geocentric

NOVEMBER 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	2 42 24	8♈58'24	19♏57	27♈27	27♏32	16♈25	24♈3	29♈R58	11♈40	13♈24	10♈R40	26♈R54	27♈37	25♈13	0♏15	M 1
T 2	2 46 20	9♈58'39	4♏19	28♈51	28♈42	17♈10	24♈16	29♈II56	11♈43	13♈26	10♈II39	26♈52	27♈34	25♈20	0♏20	T 2
W 3	2 50 17	10♈58'57	19♈4	0♏14	29♈53	17♈55	24♈29	29♈54	11♈47	13♈28	10♈38	26♈50	27♈30	25♈27	0♏25	W 3
T 4	2 54 13	11♈59'17	4♏6	1♈36	1♈3	18♈40	24♈41	29♈51	11♈50	13♈30	10♈37	26♈48	27♈27	25♈33	0♏29	T 4
F 5	2 58 10	12♈59'38	19♈17	2♈58	2♈14	19♈24	24♈54	29♈49	11♈53	13♈32	10♈36	26♈D47	27♈24	25♈40	0♏34	F 5
S 6	3 2 7	14♈0'02	4♏28	4♈18	3♈25	20♈9	25♈7	29♈46	11♈57	13♈34	10♈35	26♈47	27♈21	25♈47	0♏38	S 6
S 7	3 6 3	15♈0'27	19♈28	5♈38	4♈36	20♈55	25♈20	29♈43	12♈0	13♈36	10♈34	26♈48	27♈18	25♈53	0♏42	S 7
M 8	3 10 0	16♈0'53	4♏30	6♈56	5♈48	21♈40	25♈32	29♈40	12♈3	13♈38	10♈33	26♈49	27♈15	26♈0	0♏46	M 8
T 9	3 13 56	17♈1'21	18♈30	8♈12	6♈59	22♈25	25♈45	29♈38	12♈7	13♈40	10♈32	26♈50	27♈11	26♈7	0♏51	T 9
W10	3 17 53	18♈1'50	2♏25	9♈27	8♈11	23♈10	25♈57	29♈35	12♈10	13♈42	10♈31	26♈50	27♈8	26♈13	0♏55	W10
T 11	3 21 49	19♈2'21	15♈55	10♈40	9♈22	23♈55	26♈10	29♈31	12♈13	13♈44	10♈30	26♈R51	27♈5	26♈20	0♏58	T 11
F 12	3 25 46	20♈2'52	29♈1	11♈51	10♈34	24♈41	26♈23	29♈28	12♈17	13♈46	10♈29	26♈51	27♈2	26♈27	1♈2	F 12
S 13	3 29 42	21♈3'25	11♏46	13♈0	11♈46	25♈26	26♈35	29♈25	12♈20	13♈49	10♈27	26♈50	26♈59	26♈33	1♈6	S 13
S 14	3 33 39	22♈3'59	24♈15	14♈6	12♈57	26♈12	26♈47	29♈22	12♈24	13♈51	10♈26	26♈50	26♈56	26♈40	1♈10	S 14
M15	3 37 36	23♈4'34	6♏29	15♈9	14♈9	26♈57	27♈0	29♈18	12♈27	13♈53	10♈25	26♈49	26♈52	26♈46	1♈13	M15
T 16	3 41 32	24♈5'11	18♈33	16♈9	15♈22	27♈43	27♈12	29♈15	12♈31	13♈55	10♈24	26♈49	26♈49	26♈53	1♈16	T 16
W17	3 45 29	25♈5'49	0♏29	17♈4	16♈34	28♈28	27♈25	29♈11	12♈34	13♈57	10♈23	26♈48	26♈46	27♈0	1♈20	W17
T 18	3 49 25	26♈6'28	12♈20	17♈56	17♈46	29♈14	27♈37	29♈7	12♈38	13♈59	10♈22	26♈48	26♈43	27♈6	1♈23	T 18
F 19	3 53 22	27♈7'09	24♈8	18♈42	18♈58	29♈59	27♈49	29♈4	12♈41	14♈1	10♈21	26♈48	26♈40	27♈13	1♈26	F 19
S 20	3 57 18	28♈7'51	5♏II56	19♈23	20♈11	0♏346	28♈1	29♈0	12♈45	14♈4	10♈20	26♈48	26♈36	27♈20	1♈29	S 20
S 21	4 1 15	29♈8'34	17♈45	19♈57	21♈23	1♈31	28♈13	28♈56	12♈49	14♈6	10♈19	26♈48	26♈33	27♈26	1♈32	S 21
M22	4 5 11	0♏9'19	29♈38	20♈25	22♈36	2♈17	28♈25	28♈52	12♈52	14♈8	10♈18	26♈48	26♈30	27♈33	1♈35	M22
T 23	4 9 8	1♈10'06	11♏38	20♈44	23♈49	3♈3	28♈37	28♈48	12♈56	14♈10	10♈16	26♈47	26♈27	27♈40	1♈37	T 23
W24	4 13 5	2♈10'53	23♈46	20♈55	25♈1	3♈49	28♈49	28♈44	12♈59	14♈13	10♈15	26♈47	26♈24	27♈46	1♈40	W24
T 25	4 17 1	3♈11'42	6♏7	20♈R56	26♈14	4♈35	29♈1	28♈40	13♈3	14♈15	10♈14	26♈46	26♈21	27♈53	1♈42	T 25
F 26	4 20 58	4♈12'33	18♈43	20♈48	27♈27	5♈21	29♈13	28♈35	13♈7	14♈17	10♈13	26♈45	26♈17	28♈0	1♈45	F 26
S 27	4 24 54	5♈13'25	1♏38	20♈28	28♈40	6♈7	29♈25	28♈31	13♈10	14♈19	10♈12	26♈D45	26♈14	28♈6	1♈47	S 27
S 28	4 28 51	6♈14'18	14♈55	19♈57	29♈53	6♈54	29♈37	28♈27	13♈14	14♈21	10♈11	26♈45	26♈11	28♈13	1♈49	S 28
M29	4 32 47	7♈15'13	28♈36	19♈15	1♏7	7♈40	29♈48	28♈22	13♈18	14♈24	10♈9	26♈46	26♈8	28♈19	1♈51	M29
T 30	4 36 44	8♈16'09	12♏43	18♈23	2♏20	8♏26	29♈59	28♈II18	13♈21	14♈26	10♈II8	26♈47	26♈5	28♈26	1♏53	T 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
M 1	14s31	8n27	4n51	21s41	2s 7	2n19	1n27	23s49	1s 2	8s20	1n 5	22n19	1s10	22s15	0s 1	21s 3	1n25	11n49	10s22	19n30	19n40	18n54	5n49	5s58			
T 2	14 50	2 8	4 11	22 5	2 11	1 53	1 30	23 54	1 2	8 25	1 5	22 19	1 10	22 15	0 1	21 3	1 25	11 49	10 22	19 30	19 39	18 56	5 47	5 58			
W 3	15 9	4s29	3 14	22 27	2 16	1 27	1 32	23 59	1 3	8 29	1 5	22 19	1 10	22 15	0 1	21 4	1 25	11 49	10 22	19 29	19 39	18 59	5 45	5 59			
T 4	15 28	10 59	2 3	22 48	2 19	1 1	1 34	24 3	1 3	8 34	1 5	22 19	1 10	22 16	0 1	21 4	1 25	11 49	10 22	19 29	19 38	19 1	5 43	5 59			
F 5	15 46	16 55	0 42	23 8	2 23	0 35	1 36	24 7	1 3	8 39	1 5	22 19	1 10	22 16	0 1	21 4	1 24	11 48	10 22	19 29	19 37	19 4	5 41	6 0			
S 6	16 4	21 46	0s42	23 26	2 26	0 9	1 39	24 11	1 4	8 43	1 6	22 19	1 10	22 17	0 1	21 5	1 24	11 48	10 22	19 29	19 36	19 6	5 39	6 0			
S 7	16 22	25 6	2 3	23 44	2 29	0s18	1 41	24 14	1 4	8 48	1 6	22 19	1 10	22 17	0 1	21 5	1 24	11 48	10 22	19 29	19 36	19 9	5 37	6 1			
M 8	16 40	26 38	3 13	24 0	2 32	0 44	1 42	24 17	1 4	8 52	1 6	22 19	1 10	22 18	0 1	21 5	1 24	11 48	10 23	19 29	19 35	19 11	5 35	6 1			
T 9	16 57	26 19	4 9	24 15	2 34	1 11	1 44	24 20	1 4	8 57	1 6	22 19	1 10	22 18	0 1	21 5	1 24	11 48	10 23	19 29	19 34	19 13	5 33	6 2			
W10	17 14	24 21	4 49	24 28	2 35	1 38	1 46	24 23	1 5	9 2	1 6	22 19	1 10	22 19	0 1	21 6	1 24	11 47	10 23	19 29	19 33	19 16	5 31	6 2			
T 11	17 31	21 3	5 12	24 40	2 36	2 4	1 48	24 26	1 5	9 6	1 6	22 19	1 10	22 19	0 1	21 6	1 24	11 47	10 23	19 29	19 33	19 18	5 29	6 3			
F 12	17 47	16 47	5 17	24 50	2 36	2 31	1 49	24 28	1 5	9 11	1 6	22 19	1 10	22 20	0 1	21 6	1 24	11 47	10 23	19 29	19 32	19 21	5 28	6 3			
S 13	18 3	11 53	5 7	24 59	2 36	2 58	1 50	24 30	1 6	9 15	1 6	22 19	1 10	22 20	0 1	21 6	1 24	11 47	10 23	19 29	19 31	19 23	5 26	6 4			
S 14	18 19	6 36	4 42	25 7	2 35	3 25	1 52	24 32	1 6	9 20	1 6	22 19	1 10	22 20	0 1	21 7	1 24	11 47	10 23	19 29	19 31	19 26	5 24	6 4			
M15	18 35	1 10	4 5	25 12	2 34	3 52	1 53	24 33	1 6	9 24	1 6	22 19	1 10	22 21	0 1	21 7	1 24	11 47	10 23	19 29	19 30	19 28	5 22	6 5			
T 16	18 50	4n15	3 17	25 16	2 32	4 18	1 54	24 34	1 6	9 28	1 6	22 19	1 10	22 21	0 1	21 7	1 24	11 46	10 23	19 29	19 29	19 30	5 21	6 6			
W17	19 5	9 27	2 21	25 19	2 28	4 45	1 55	24 35	1 6	9 33	1 6	22 19	1 10	22 22	0 1	21 8	1 24	11 46	10 23	19 29	19 28	19 33	5 19	6 6			
T 18	19 19	14 18	1 20	25 20	2 24	5 12	1 56	24 36	1 7	9 37	1 6	22 19	1 10	22 22	0 1	21 8	1 24	11 46	10 23	19 29	19 28	19 35	5 17	6 7			
F 19	19 33	18 36	0 15	25 19	2 19	5 39	1 57	24 36	1 7	9 41	1 6	22 19	1 10	22 23	0 1	21 8	1 24	11 46	10 23	19 29	19 27	19 37	5 16	6 7			
S 20	19 47	22 10	0n51	25 16	2 13	6 5	1 57	24 36	1 7	9 46	1 6	22 19	1 10	22 23	0 1	21 8	1 24	11 46	10 23	19 29	19 26	19 40	5 14	6 8			
S 21	20 0	24 49	1 54	25 11	2 5	6 32	1 58	24 36	1 7	9 50	1 6	22 19	1 10	22 24	0s 1	21 9	1 24	11 46	10 23	19 29	19 25	19 42	5 13	6 8			
M22	20 13	26 22	2 53	25 5	1 57	6 59	1 59	24 35	1 7	9 54	1 6	22 19	1 10	22 24	0 1	21 9	1 24	11 45	10 23	19 29	19 25	19 45	5 11	6 9			
T 23	20 26	26 42	3 44	24 56	1 47	7 25	1 59	24 35	1 8	9 58	1 6	22 19	1 10	22 25	0 1	21 9	1 24	11 45	10 23	19 29	19 24	19 47	5 10	6 9			
W24	20 38	25 46	4 27	24 46	1 35	7 51	1 59	24 34	1 8	10 3	1 6	22 19	1 10	22 25	0 1	21 10	1 24	11 45	10 23	19 28	19 23	19 49	5 8	6 10			
T 25	20 50	23 34	4 57	24 33	1 23	8 18	1 59	24 32	1 8	10 7	1 7	22 19	1 10	22 26	0 1	21 10	1 24	11 45	10 23	19 28	19 22	19 52	5 7	6 10			
F 26	21 2	20 13	5 14	24 18	1 8	8 44	2 0	24 31	1 8	10 11	1 7	22 19	1 10	22 26	0 1	21 10	1 24	11 45	10 23	19 28	19 22	19 54	5 6	6 11			
S 27	21 13	15 50	5 16	24 1	0 53	9 10	2 0	24 29	1 8	10 15	1 7	22 19	1 10	22 27	0 1	21 10	1 24	11 45	10 23	19 28	19 21	19 56	5 4	6 12			
S 28	21 24	10 35	5 2	23 42	0 35	9 35	1 59	24 27	1 8	10 19	1 7	22 19	1 10	22 27	0 1	21 11	1 24	11 45	10 23	19 28	19 20	19 59	5 3	6 12			
M29	21 34	4 41	4 30	23 20	0 17	10 1	1 59	24 28	1 8	10 23	1 7	22 19	1 10	22 27	0 1	21 11	1 24	11 44	10 23	19 28	19 19	20 1	5 2	6 13			
T 30	21s44	1s38	3n41	22s56	0n 2	10s26	1n59	24s21	1s 9	10s27	1n 7	22n19	1s 9	22s28	0s 1	21s11	1n24	11n44	10s23	19n28	19n19	20n 3	5n 1	6s13			

ASTRODIENST EPHEMERIS for the year 1649

geocentric

DECEMBER 1649 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	4 40 40	9♌17'06	27♏14	17°R20	3♍33	9♌12	0♍11	28°R13	13♌25	14♌28	10°R 7	26♌48	26♌ 2	28♌33	1♍55	W 1
T 2	4 44 37	10°18'05	12♍ 6	16♌ 9	4°46	9°59	0°23	28♏ 9	13°29	14°30	10°II 6	26°48	25°58	28°39	1°56	T 2
F 3	4 48 34	11°19'04	27°12	14°52	6° 0	10°45	0°34	28° 4	13°32	14°33	10° 5	26°R49	25°55	28°46	1°58	F 3
S 4	4 52 30	12°20'05	12♌24	13°30	7°13	11°32	0°46	27°59	13°36	14°35	10° 4	26°48	25°52	28°53	1°59	S 4
S 5	4 56 27	13°21'07	27°32	12° 7	8°27	12°18	0°57	27°55	13°40	14°37	10° 3	26°47	25°49	28°59	2° 1	S 5
M 6	5 0 23	14°22'10	12♌28	10°45	9°40	13° 5	1° 8	27°50	13°43	14°40	10° 1	26°45	25°46	29° 6	2° 2	M 6
T 7	5 4 20	15°23'13	27° 2	9°28	10°54	13°51	1°19	27°45	13°47	14°42	10° 0	26°42	25°42	29°13	2° 3	T 7
W 8	5 8 16	16°24'16	11♌11	8°17	12° 8	14°38	1°30	27°40	13°51	14°44	9°59	26°40	25°39	29°19	2° 4	W 8
T 9	5 12 13	17°25'21	24°51	7°15	13°21	15°24	1°41	27°36	13°54	14°46	9°58	26°38	25°36	29°26	2° 5	T 9
F 10	5 16 9	18°26'25	8♌ 4	6°22	14°35	16°11	1°52	27°31	13°58	14°49	9°57	26°36	25°33	29°33	2° 5	F 10
S 11	5 20 6	19°27'30	20°51	5°40	15°49	16°58	2° 3	27°26	14° 1	14°51	9°56	26°D36	25°30	29°39	2° 6	S 11
S 12	5 24 3	20°28'35	3♌18	5°10	17° 3	17°45	2°13	27°21	14° 5	14°53	9°55	26°36	25°27	29°46	2° 7	S 12
M13	5 27 59	21°29'41	15°27	4°50	18°17	18°31	2°24	27°16	14° 9	14°55	9°53	26°38	25°23	29°53	2° 7	M13
T 14	5 31 56	22°30'47	27°25	4°D41	19°31	19°18	2°35	27°11	14°12	14°58	9°52	26°40	25°20	29°59	2° 7	T 14
W15	5 35 52	23°31'53	9♌15	4°42	20°45	20° 5	2°45	27° 6	14°16	15° 0	9°51	26°41	25°17	0♏ 6	2° 7	W15
T 16	5 39 49	24°32'59	21° 2	4°52	21°59	20°52	2°55	27° 1	14°20	15° 2	9°50	26°R43	25°14	0°12	2°R 7	T 16
F 17	5 43 45	25°34'06	2♏49	5°11	23°13	21°39	3° 6	26°56	14°23	15° 4	9°49	26°42	25°11	0°19	2° 7	F 17
S 18	5 47 42	26°35'14	14°40	5°38	24°27	22°26	3°16	26°51	14°27	15° 7	9°48	26°41	25° 8	0°26	2° 7	S 18
S 19	5 51 38	27°36'21	26°35	6°12	25°41	23°13	3°26	26°46	14°30	15° 9	9°47	26°38	25° 4	0°32	2° 7	S 19
M20	5 55 35	28°37'29	8♌38	6°52	26°55	24° 0	3°36	26°41	14°34	15°11	9°46	26°33	25° 1	0°39	2° 6	M20
T 21	5 59 32	29°38'38	20°49	7°37	28° 9	24°47	3°46	26°36	14°38	15°13	9°45	26°27	24°58	0°46	2° 6	T 21
W22	6 3 28	0♌39'46	3♌11	8°28	29°23	25°34	3°55	26°31	14°41	15°16	9°44	26°21	24°55	0°52	2° 5	W22
T 23	6 7 25	1°40'55	15°43	9°23	0♌38	26°21	4° 5	26°26	14°45	15°18	9°42	26°15	24°52	0°59	2° 5	T 23
F 24	6 11 21	2°42'05	28°29	10°22	1°52	27° 8	4°15	26°22	14°48	15°20	9°41	26° 9	24°48	1° 6	2° 4	F 24
S 25	6 15 18	3°43'15	11♏28	11°24	3° 6	27°55	4°24	26°17	14°52	15°22	9°40	26° 5	24°45	1°12	2° 3	S 25
S 26	6 19 14	4°44'25	24°43	12°29	4°21	28°42	4°33	26°12	14°55	15°24	9°39	26° 3	24°42	1°19	2° 2	S 26
M27	6 23 11	5°45'35	8♌17	13°37	5°35	29°29	4°43	26° 7	14°59	15°26	9°38	26°D 3	24°39	1°26	2° 0	M27
T 28	6 27 8	6°46'46	22° 9	14°48	6°49	0♌16	4°52	26° 2	15° 2	15°29	9°37	26° 4	24°36	1°32	1°59	T 28
W29	6 31 4	7°47'57	6♏20	16° 0	8° 4	1° 4	5° 1	25°57	15° 6	15°31	9°36	26° 5	24°33	1°39	1°58	W29
T 30	6 35 1	8°49'08	20°50	17°15	9°18	1°51	5°10	25°52	15° 9	15°33	9°35	26°R 6	24°29	1°46	1°56	T 30
F 31	6 38 57	9♌50'20	5♌36	18♌31	10♌33	2♌38	5♏18	25♏48	15♌13	15♌35	9♏34	26♌ 6	24♌26	1♏52	1♏54	F 31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
W 1	21s53	8s 4	2n37	22s31	0n22	10s52	1n59	24s18	1s 9	10s31	1n 7	22n19	1s 9	22s28	0s 1	21s11
T 2	22 2	14 13	1 21	22 3	0 43	11 17	1 58	24 15	1 9	10 35	1 7	22 19	1 9	22 29	0 1	21 12
F 3	22 11	19 36	0s 2	21 35	1 3	11 42	1 58	24 12	1 9	10 39	1 7	22 19	1 9	22 29	0 1	21 12
S 4	22 19	23 44	1 25	21 6	1 23	12 6	1 57	24 8	1 9	10 43	1 7	22 19	1 9	22 30	0 1	21 12
S 5	22 27	26 10	2 42	20 37	1 41	12 30	1 57	24 4	1 9	10 46	1 7	22 19	1 9	22 30	0 1	21 12
M 6	22 34	26 40	3 47	20 9	1 58	12 55	1 56	23 59	1 9	10 50	1 7	22 19	1 9	22 31	0 1	21 13
T 7	22 41	25 17	4 35	19 44	2 13	13 18	1 55	23 55	1 9	10 54	1 8	22 19	1 9	22 31	0 1	21 13
W 8	22 47	22 20	5 4	19 20	2 25	13 42	1 54	23 50	1 9	10 58	1 8	22 19	1 9	22 32	0 1	21 13
T 9	22 53	18 13	5 16	19 0	2 36	14 5	1 53	23 45	1 9	11 1	1 8	22 19	1 9	22 32	0 1	21 14
F 10	22 59	13 21	5 10	18 43	2 44	14 28	1 52	23 39	1 9	11 5	1 8	22 19	1 9	22 32	0 1	21 14
S 11	23 4	8 2	4 48	18 31	2 50	14 50	1 51	23 33	1 9	11 9	1 8	22 19	1 9	22 33	0 1	21 14
S 12	23 9	2 34	4 13	18 22	2 53	15 12	1 50	23 27	1 9	11 12	1 8	22 19	1 9	22 33	0 1	21 14
M13	23 13	2n54	3 28	18 16	2 55	15 34	1 48	23 21	1 9	11 16	1 8	22 19	1 9	22 34	0 1	21 15
T 14	23 16	8 10	2 34	18 15	2 55	15 56	1 47	23 14	1 10	11 19	1 8	22 19	1 9	22 34	0 1	21 15
W15	23 20	13 7	1 35	18 17	2 53	16 17	1 45	23 8	1 10	11 23	1 8	22 19	1 9	22 35	0 1	21 15
T 16	23 22	17 33	0 31	18 21	2 51	16 37	1 44	23 1	1 10	11 26	1 8	22 19	1 9	22 35	0 1	21 15
F 17	23 25	21 19	0n34	18 28	2 47	16 58	1 42	22 53	1 10	11 30	1 9	22 19	1 9	22 35	0 1	21 16
S 18	23 27	24 12	1 37	18 38	2 42	17 17	1 41	22 46	1 10	11 33	1 9	22 19	1 9	22 36	0 1	21 16
S 19	23 28	26 3	2 36	18 49	2 36	17 37	1 39	22 38	1 9	11 36	1 9	22 19	1 9	22 36	0 1	21 16
M20	23 29	26 41	3 29	19 2	2 30	17 56	1 37	22 29	1 9	11 40	1 9	22 19	1 9	22 37	0 1	21 16
T 21	23 29	26 3	4 14	19 17	2 23	18 14	1 35	22 21	1 9	11 43	1 9	22 19	1 9	22 37	0 1	21 17
W22	23 29	24 7	4 46	19 32	2 15	18 32	1 33	22 12	1 9	11 46	1 9	22 19	1 9	22 38	0 1	21 17
T 23	23 29	21 1	5 6	19 48	2 8	18 50	1 32	22 4	1 9	11 49	1 9	22 19	1 9	22 38	0 1	21 17
F 24	23 27	16 53	5 11	20 4	2 0	19 7	1 30	21 54	1 9	11 52	1 9	22 19	1 9	22 38	0 1	21 17
S 25	23 26	11 54	5 0	20 21	1 52	19 23	1 27	21 45	1 9	11 55	1 10	22 19	1 9	22 39	0 1	21 17
S 26	23 24	6 17	4 33	20 38	1 43	19 39	1 25	21 35	1 9	11 58	1 10	22 19	1 9	22 39	0 1	21 18
M27	23 22	0 15	3 51	20 55	1 35	19 55	1 23	21 25	1 9	12 1	1 10	22 19	1 9	22 40	0 1	21 18
T 28	23 19	5s57	2 54	21 11	1 26	20 10	1 21	21 15	1 9	12 4	1 10	22 19	1 9	22 40	0 1	21 18
W29	23 15	12 0	1 45	21 28	1 18	20 24	1 19	21 5	1 9	12 7	1 10	22 19	1 9	22 40	0 1	21 18
T 30	23 12	17 32	0 29	21 44	1 9	20 38	1 17	20 54	1 9	12 10	1 10	22 19	1 9	22 41	0 1	21 19
F 31	23s 7	22s 7	0s51	21s59	1n 1	20s51	1n14	20s43	1s 9	12s13	1n10	22n19	1s 7	22s41	0s 1	21s19

Julian Day Number = 2323679.5, Delta T = 43.37 sec

Ecliptic obliquity = 23°29'10, Nutation = - 0°00'15, out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 19°51'14, Lahiri = 18°58'14Greg. Calendar