



Astrodienst Ephemeris Tables for the year 1645

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 1645
geocentric

JANUARY 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	6 43 44	11°34'34"	15°44'4"	6°30'10"	26°16'56"	21°R 9	21°R43	14°Y14	24°M14	5°X 6	4°R36	29°R23	1°M 5	8°M30	25°R17	S 1
M 2	6 47 41	12°5'46"	28°19'	7°46'	28°5'	20°II52	21°B40	14°16'	24°17'	5°8	4°II35	29°D22	1°2	8°37'	25°II13	M 2
T 3	6 51 37	13°6'56"	11°K46	9°22'	29°15'	20°35'	21°37'	14°18'	24°20'	5°10	4°34	29°Q23	0°58	8°44'	25°9	T 3
W 4	6 55 34	14°8'06"	25°25'	10°59'	0°X25	20°19'	21°35'	14°20'	24°22'	5°12	4°33	29°24	0°55	8°50'	25°5	W 4
T 5	6 59 30	15°9'16"	9°Y16	12°36'	1°35'	20°4'	21°33'	14°22'	24°25'	5°13	4°32	29°R25	0°52	8°57'	25°2	T 5
F 6	7 3 27	16°10'25"	23°19'	14°13'	2°45'	19°50'	21°31'	14°24'	24°28'	5°15	4°31	29°25	0°49	9°4'	24°58	F 6
S 7	7 7 23	17°11'33"	7°B34	15°51'	3°55'	19°36'	21°29'	14°26'	24°30'	5°17	4°31	29°23	0°46	9°10'	24°54	S 7
S 8	7 11 20	18°12'41"	21°58'	17°30'	5°5'	19°23'	21°27'	14°29'	24°33'	5°19	4°30	29°19	0°43	9°17'	24°51	S 8
M 9	7 15 16	19°13'48"	6°II28	19°9'	6°15'	19°11'	21°26'	14°31'	24°35'	5°21	4°29	29°14	0°39	9°24'	24°47	M 9
T 10	7 19 13	20°14'54"	20°58'	20°48'	7°26'	19°0'	21°25'	14°34'	24°38'	5°22	4°28	29°8	0°36	9°31'	24°44	T 10
W11	7 23 10	21°16'00"	5°Q22	22°28'	8°36'	18°49'	21°24'	14°37'	24°40'	5°24	4°27	29°1	0°33	9°37'	24°40	W11
T 12	7 27 6	22°17'05"	19°34'	24°9'	9°47'	18°40'	21°23'	14°40'	24°43'	5°26	4°27	28°56	0°30	9°44'	24°37	T 12
F 13	7 31 3	23°18'09"	3°Q29	25°50'	10°58'	18°31'	21°23'	14°43'	24°45'	5°27	4°26	28°52	0°27	9°51'	24°34	F 13
S 14	7 34 59	24°19'13"	17°2	27°31'	12°9'	18°23'	21°22'	14°46'	24°48'	5°29	4°25	28°49	0°24	9°58'	24°30	S 14
S 15	7 38 56	25°20'17"	0°M14	29°13'	13°20'	18°15'	21°D22	14°49'	24°50'	5°31	4°25	28°D49	0°20	10°4'	24°27	S 15
M16	7 42 52	26°21'19"	13°3	0°X56	14°31'	18°9'	21°22'	14°52'	24°52'	5°32	4°24	28°50	0°17	10°11'	24°24	M16
T 17	7 46 49	27°22'21"	25°33'	2°39'	15°42'	18°3'	21°22'	14°55'	24°54'	5°34	4°23	28°51	0°14	10°18'	24°21	T 17
W18	7 50 45	28°23'23"	7°Q46	4°22'	16°53'	17°58'	21°23'	14°59'	24°56'	5°35	4°23	28°53	0°11	10°24'	24°18	W18
T 19	7 54 42	29°24'24"	19°47'	6°6'	18°4'	17°54'	21°24'	15°2'	24°59'	5°37	4°22	28°55	0°8	10°31'	24°15	T 19
F 20	7 58 39	0°X25'25"	1°M41	7°50'	19°16'	17°51'	21°25'	15°6'	25°1'	5°38	4°22	28°R55	0°4	10°38'	24°12	F 20
S 21	8 2 35	1°26'25"	13°32'	9°34'	20°27'	17°49'	21°26'	15°10'	25°3'	5°40	4°21	28°54	0°1	10°45'	24°9	S 21
S 22	8 6 32	2°27'24"	25°26'	11°19'	21°39'	17°47'	21°27'	15°13'	25°5'	5°41	4°20	28°52	29°Q58	10°51'	24°6	S 22
M23	8 10 28	3°28'23"	7°X27	13°4'	22°50'	17°46'	21°28'	15°17'	25°7'	5°43	4°20	28°49	29°55	10°58'	24°3	M23
T 24	8 14 25	4°29'21"	19°39'	14°49'	24°2'	17°D46	21°30'	15°21'	25°8'	5°44	4°19	28°45	29°52	11°5'	24°1	T 24
W25	8 18 21	5°30'18"	2°B5	16°33'	25°14'	17°47'	21°32'	15°25'	25°10'	5°46	4°19	28°41	29°49	11°11'	23°58	W25
T 26	8 22 18	6°31'14"	14°47'	18°18'	26°26'	17°48'	21°34'	15°29'	25°12'	5°47	4°18	28°37	29°45	11°18'	23°55	T 26
F 27	8 26 15	7°32'10"	27°44'	20°1'	27°38'	17°50'	21°36'	15°34'	25°14'	5°48	4°18	28°34	29°42	11°25'	23°53	F 27
S 28	8 30 11	8°33'04"	10°X59	21°44'	28°49'	17°53'	21°39'	15°38'	25°15'	5°50	4°18	28°32	29°39	11°32'	23°50	S 28
S 29	8 34 8	9°33'57"	24°28'	23°26'	0°B1	17°57'	21°42'	15°43'	25°17'	5°51	4°17	28°D31	29°36	11°38'	23°48	S 29
M30	8 38 4	10°34'49"	8°X10	25°7'	1°14'	18°1'	21°44'	15°47'	25°19'	5°52	4°17	28°32	29°33	11°45'	23°46	M30
T 31	8 42 1	11°X35'40"	22°X3	26°X46	2°B26	18°II6	21°B48	15°Y52	25°M20	5°X53	4°II16	28°Q33	29°Q30	11°M52	23°II43	T 31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
S 1	23s 1	15s 8	1n16	24s50	1s30	16s56	2n39	26n34	3n23	17n21	0s55	3n17	2s32	18s37	0n15	19s38
M 2	22 56	11 59	0 6	24 50	1 35	17 13	2 37	26 33	3 23	17 20	0 55	3 18	2 32	18 38	0 15	19 39
T 3	22 50	8 11	1s 7	24 48	1 39	17 29	2 36	26 32	3 23	17 20	0 54	3 19	2 31	18 38	0 15	19 39
W 4	22 44	3 54	2 16	24 44	1 43	17 46	2 34	26 31	3 24	17 19	0 54	3 20	2 31	18 39	0 15	19 39
T 5	22 37	0n38	3 19	24 39	1 46	18 1	2 33	26 30	3 24	17 19	0 54	3 21	2 31	18 40	0 15	19 39
F 6	22 30	5 12	4 11	24 33	1 50	18 17	2 31	26 29	3 24	17 19	0 54	3 22	2 31	18 40	0 15	19 40
S 7	22 23	9 31	4 48	24 24	1 53	18 32	2 29	26 28	3 24	17 19	0 53	3 24	2 30	18 41	0 15	19 40
S 8	22 15	13 21	5 7	24 15	1 56	18 46	2 27	26 26	3 24	17 18	0 53	3 25	2 30	18 42	0 15	19 40
M 9	22 6	16 23	5 7	24 4	1 58	19 1	2 25	26 25	3 23	17 18	0 53	3 26	2 30	18 42	0 15	19 41
T 10	21 57	18 23	4 48	23 51	2 0	19 14	2 23	26 24	3 23	17 18	0 52	3 27	2 29	18 43	0 15	19 41
W11	21 48	19 13	4 10	23 37	2 2	19 28	2 21	26 23	3 23	17 18	0 52	3 29	2 29	18 43	0 15	19 41
T 12	21 38	18 48	3 17	23 21	2 3	19 40	2 19	26 22	3 23	17 18	0 52	3 30	2 29	18 44	0 15	19 41
F 13	21 28	17 15	2 14	23 3	2 4	19 53	2 16	26 21	3 22	17 18	0 52	3 31	2 29	18 45	0 15	19 42
S 14	21 17	14 45	1 4	22 44	2 5	20 5	2 14	26 20	3 22	17 19	0 51	3 33	2 28	18 45	0 15	19 42
S 15	21 7	11 32	0n 8	22 24	2 5	20 16	2 11	26 18	3 21	17 19	0 51	3 34	2 28	18 46	0 15	19 42
M16	20 55	7 51	1 17	22 1	2 5	20 27	2 9	26 17	3 21	17 19	0 51	3 36	2 28	18 46	0 15	19 42
T 17	20 43	3 56	2 21	21 37	2 4	20 37	2 6	26 16	3 20	17 20	0 51	3 37	2 28	18 47	0 15	19 43
W18	20 31	0s 4	3 17	21 12	2 3	20 47	2 4	26 15	3 20	17 20	0 50	3 39	2 27	18 47	0 15	19 43
T 19	20 19	3 59	4 4	20 44	2 1	20 56	2 1	26 14	3 19	17 20	0 50	3 40	2 27	18 48	0 15	19 43
F 20	20 6	7 43	4 39	20 16	1 59	21 5	1 58	26 13	3 18	17 21	0 50	3 42	2 27	18 48	0 15	19 43
S 21	19 53	11 7	5 3	19 45	1 56	21 13	1 55	26 12	3 18	17 21	0 49	3 44	2 27	18 49	0 15	19 44
S 22	19 39	14 5	5 13	19 13	1 53	21 21	1 52	26 11	3 17	17 22	0 49	3 45	2 26	18 49	0 15	19 44
M23	19 25	16 30	5 10	18 40	1 49	21 28	1 50	26 11	3 16	17 23	0 49	3 47	2 26	18 50	0 15	19 44
T 24	19 10	18 12	4 53	18 5	1 44	21 34	1 47	26 10	3 15	17 23	0 49	3 49	2 26	18 50	0 15	19 44
W25	18 56	19 6	4 22	17 29	1 39	21 40	1 44	26 9	3 15	17 24	0 48	3 51	2 26	18 51	0 15	19 44
T 26	18 41	19 3	3 38	16 51	1 33	21 46	1 41	26 8	3 14	17 25	0 48	3 52	2 25	18 51	0 15	19 45
F 27	18 25	18 1	2 42	16 12	1 27	21 50	1 37	26 8	3 13	17 26	0 48	3 54	2 25	18 51	0 15	19 45
S 28	18 9	15 59	1 35	15 32	1 19	21 54	1 34	26 7	3 12	17 27	0 48	3 56	2 25	18 52	0 15	19 45
S 29	17 53	13 2	0 22	14 51	1 11	21 58	1 31	26 6	3 11	17 28	0 47	3 58	2 25	18 52	0 15	19 45
M30	17 37	9 21	0s53	14 9	1 2	22 1	1 28	26 6	3 10	17 29	0 47	4 0	2 24	18 53	0 15	19 45
T 31	17s20	5s 6	2s 6	13s26	0s53	22s 3	1n25	26n 5	3n 9	17n30	0s47	4n 2	2s24	18s53	0n15	19s45

Julian Day Number = 2321884.5, Delta T = 46.81 sec
Ecliptic obliquity = 23°28'59", Nutation = - 0°00'08", out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 19°47'07", Lahiri = 18°54'08Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1645
geocentric

FEBRUARY 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	8 45 57	12°36'29	6°4' 4	28°22	3°38	18°11	21°51	15°56	25°22	5°54	4°16	28°34	29°26	11°58	23°41	W 1
T 2	8 49 54	13°37'16	20°10	29°56	4°50	18°18	21°54	16° 1	25°23	5°55	4°16	28°35	29°23	12° 5	23°39	T 2
F 3	8 53 50	14°38'02	4°20	1°27	6° 2	18°25	21°58	16° 6	25°24	5°57	4°15	28°36	29°20	12°12	23°37	F 3
S 4	8 57 47	15°38'46	18°32	2°54	7°15	18°32	22° 2	16°11	25°26	5°58	4°15	28°36	29°17	12°19	23°35	S 4
S 5	9 1 43	16°39'29	2°42	4°16	8°27	18°41	22° 6	16°16	25°27	5°59	4°15	28°36	29°14	12°25	23°33	S 5
M 6	9 5 40	17°40'10	16°50	5°33	9°39	18°50	22°10	16°21	25°28	6° 0	4°15	28°35	29°10	12°32	23°32	M 6
T 7	9 9 37	18°40'50	0°51	6°45	10°52	18°59	22°15	16°26	25°29	6° 1	4°14	28°33	29° 7	12°39	23°30	T 7
W 8	9 13 33	19°41'28	14°45	7°49	12° 4	19° 9	22°19	16°31	25°31	6° 2	4°14	28°32	29° 4	12°45	23°28	W 8
T 9	9 17 30	20°42'04	28°28	8°47	13°17	19°20	22°24	16°37	25°32	6° 3	4°14	28°31	29° 1	12°52	23°27	T 9
F 10	9 21 26	21°42'38	11°57	9°36	14°29	19°31	22°29	16°42	25°33	6° 3	4°14	28°31	28°58	12°59	23°26	F 10
S 11	9 25 23	22°43'11	25°11	10°17	15°42	19°43	22°34	16°47	25°34	6° 4	4°14	28°D30	28°55	13° 6	23°24	S 11
S 12	9 29 19	23°43'43	8°9 9	10°48	16°54	19°55	22°39	16°53	25°35	6° 5	4°14	28°30	28°51	13°12	23°23	S 12
M13	9 33 16	24°44'13	20°51	11°10	18° 7	20° 8	22°45	16°59	25°35	6° 6	4°14	28°31	28°48	13°19	23°22	M13
T 14	9 37 12	25°44'41	3°17	11°22	19°20	20°22	22°50	17° 4	25°36	6° 7	4°14	28°31	28°45	13°26	23°21	T 14
W15	9 41 9	26°45'08	15°30	11°R24	20°32	20°35	22°56	17°10	25°37	6° 7	4°14	28°31	28°42	13°32	23°20	W15
T 16	9 45 6	27°45'33	27°32	11°15	21°45	20°50	23° 2	17°16	25°38	6° 8	4°D13	28°31	28°39	13°39	23°19	T 16
F 17	9 49 2	28°45'58	9°28	10°57	22°58	21° 5	23° 8	17°22	25°38	6° 9	4°13	28°R31	28°35	13°46	23°18	F 17
S 18	9 52 59	29°46'20	21°20	10°29	24°11	21°20	23°15	17°28	25°39	6° 9	4°14	28°31	28°32	13°53	23°17	S 18
S 19	9 56 55	0°46'42	3°14	9°52	25°24	21°36	23°21	17°33	25°39	6°10	4°14	28°D31	28°29	13°59	23°16	S 19
M20	10 0 52	1°47'02	15°15	9° 8	26°37	21°52	23°28	17°40	25°40	6°10	4°14	28°31	28°26	14° 6	23°16	M20
T 21	10 4 48	2°47'20	27°27	8°17	27°50	22° 9	23°34	17°46	25°40	6°11	4°14	28°32	28°23	14°13	23°15	T 21
W22	10 8 45	3°47'37	9°54	7°21	29° 2	22°26	23°41	17°52	25°41	6°11	4°14	28°32	28°20	14°19	23°15	W22
T 23	10 12 41	4°47'53	22°39	6°21	0°15	22°43	23°48	17°58	25°41	6°12	4°14	28°33	28°16	14°26	23°14	T 23
F 24	10 16 38	5°48'06	5°46	5°18	1°28	23° 1	23°56	18° 4	25°41	6°12	4°14	28°33	28°13	14°33	23°14	F 24
S 25	10 20 35	6°48'19	19°14	4°15	2°41	23°20	24° 3	18°11	25°41	6°13	4°14	28°34	28°10	14°40	23°14	S 25
S 26	10 24 31	7°48'29	3°4 4	3°13	3°54	23°39	24°11	18°17	25°41	6°13	4°15	28°R34	28° 7	14°46	23°D14	S 26
M27	10 28 28	8°48'37	17°12	2°12	5° 8	23°58	24°18	18°23	25°42	6°13	4°15	28°34	28° 4	14°53	23°14	M27
T 28	10 32 24	9°48'44	1°34	1°16	6°21	24°17	24°26	18°30	25°R42	6°14	4°15	28°33	28° 1	15° 0	23°14	T 28

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	decl lat
W 1	17s 3	0s32	3s13	12s43	0s42	22s 5	1n21	26n 5	3n 8	17n31	0s47	4n 4	2s24	18s53	0n15	19s46	1n36	9n53	11s21
T 2	16 46	4n 4	4 8	12 0	0 31	22 6	1 18	26 5	3 7	17 32	0 46	4 6	2 24	18 54	0 15	19 46	1 36	9 53	11 20
F 3	16 28	8 27	4 49	11 17	0 19	22 6	1 15	26 4	3 6	17 33	0 46	4 8	2 24	18 54	0 15	19 46	1 36	9 53	11 20
S 4	16 11	12 23	5 12	10 34	0 7	22 6	1 12	26 4	3 5	17 34	0 46	4 10	2 23	18 54	0 15	19 46	1 36	9 53	11 20
S 5	15 52	15 35	5 16	9 51	0n 7	22 5	1 8	26 4	3 4	17 36	0 46	4 12	2 23	18 55	0 15	19 46	1 36	9 53	11 20
M 6	15 34	17 51	5 1	9 10	0 21	22 3	1 5	26 4	3 3	17 37	0 45	4 15	2 23	18 55	0 15	19 46	1 36	9 54	11 19
T 7	15 15	19 1	4 28	8 30	0 35	22 1	1 2	26 3	3 2	17 38	0 45	4 17	2 23	18 55	0 15	19 46	1 36	9 54	11 19
W 8	14 56	19 2	3 39	7 52	0 51	21 58	0 58	26 3	3 1	17 40	0 45	4 19	2 22	18 55	0 15	19 47	1 36	9 54	11 19
T 9	14 37	17 55	2 39	7 16	1 6	21 55	0 55	26 3	3 0	17 41	0 45	4 21	2 22	18 56	0 15	19 47	1 36	9 54	11 19
F 10	14 18	15 47	1 31	6 43	1 22	21 51	0 51	26 3	2 59	17 43	0 44	4 23	2 22	18 56	0 15	19 47	1 36	9 55	11 18
S 11	13 58	12 52	0 18	6 13	1 38	21 46	0 48	26 3	2 58	17 44	0 44	4 26	2 22	18 56	0 15	19 47	1 36	9 55	11 18
S 12	13 38	9 21	0n53	5 46	1 54	21 40	0 45	26 3	2 57	17 46	0 44	4 28	2 22	18 56	0 15	19 47	1 36	9 55	11 18
M13	13 18	5 29	2 1	5 24	2 9	21 34	0 41	26 3	2 56	17 47	0 44	4 30	2 21	18 57	0 15	19 47	1 36	9 55	11 17
T 14	12 58	1 28	3 1	5 5	2 25	21 28	0 38	26 3	2 55	17 49	0 43	4 33	2 21	18 57	0 16	19 47	1 36	9 56	11 17
W15	12 37	2s33	3 52	4 51	2 39	21 21	0 34	26 3	2 54	17 51	0 43	4 35	2 21	18 57	0 16	19 47	1 36	9 56	11 17
T 16	12 16	6 23	4 32	4 42	2 53	21 13	0 31	26 3	2 53	17 53	0 43	4 37	2 21	18 57	0 16	19 47	1 36	9 56	11 17
F 17	11 55	9 56	5 0	4 37	3 5	21 4	0 28	26 3	2 52	17 54	0 43	4 40	2 21	18 57	0 16	19 47	1 37	9 56	11 16
S 18	11 34	13 4	5 15	4 37	3 16	20 55	0 24	26 3	2 51	17 56	0 42	4 42	2 20	18 57	0 16	19 47	1 37	9 57	11 16
S 19	11 13	15 40	5 16	4 42	3 26	20 45	0 21	26 3	2 50	17 58	0 42	4 45	2 20	18 57	0 16	19 47	1 37	9 57	11 16
M20	10 52	17 38	5 4	4 52	3 34	20 35	0 18	26 3	2 49	18 0	0 42	4 47	2 20	18 58	0 16	19 47	1 37	9 57	11 15
T 21	10 30	18 50	4 38	5 5	3 39	20 24	0 14	26 3	2 48	18 2	0 42	4 50	2 20	18 58	0 16	19 48	1 37	9 58	11 15
W22	10 8	19 9	3 58	5 23	3 43	20 12	0 11	26 3	2 47	18 4	0 41	4 52	2 20	18 58	0 16	19 48	1 37	9 58	11 15
T 23	9 46	18 31	3 6	5 44	3 44	20 0	0 8	26 3	2 46	18 6	0 41	4 55	2 20	18 58	0 16	19 48	1 37	9 58	11 15
F 24	9 24	16 53	2 3	6 7	3 43	19 47	0 5	26 3	2 45	18 8	0 41	4 57	2 19	18 58	0 16	19 48	1 37	9 59	11 14
S 25	9 2	14 16	0 51	6 33	3 40	19 34	0 2	26 3	2 44	18 10	0 41	5 0	2 19	18 58	0 16	19 48	1 37	9 59	11 14
S 26	8 39	10 47	0s25	7 0	3 35	19 20	0s 2	26 3	2 43	18 12	0 41	5 2	2 19	18 58	0 16	19 48	1 37	9 59	11 14
M27	8 17	6 37	1 41	7 28	3 28	19 6	0s 5	26 3	2 42	18 14	0 40	5 5	2 19	18 58	0 16	19 48	1 37	9 59	11 14
T 28	7s54	2s 1	2s53	7s56	3n20	18s51	0s 8	26n 3	2n41	18n16	0s40	5n 7	2s19	18s58	0n16	19s48	1n37	10n 0	11s13

Julian Day Number = 2321915.5, Delta T = 46.75 sec
Ecliptic obliquity = 23°29'00, Nutation = - 0°00'08, out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 19°47'11, Lahiri = 18°54'12Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1645

geocentric

MARCH 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	10 36 21	10 ^h 48'49"	16 ^h 4' 4	0°R23	7 ^h 34	24 ^h 37	24 ^h 34	18 ^h 37	25°R42	6 ^h 14	4 ^h 15	28°R31	27 ^h 57	15 ^h 6	23 ^h 14	W 1
T 2	10 40 17	11°48'51"	0 ^h 37	29 ^h 35	8°47	24°57	24°42	18°43	25 ^h 41	6°14	4°16	28 ^h 30	27°54	15°13	23°15	T 2
F 3	10 44 14	12°48'52"	15° 7	28°54	10° 0	25°18	24°50	18°50	25°41	6°14	4°16	28°28	27°51	15°20	23°15	F 3
S 4	10 48 10	13°48'50"	29°29	28°18	11°13	25°39	24°59	18°56	25°41	6°14	4°16	28°27	27°48	15°27	23°15	S 4
S 5	10 52 7	14°48'46"	13 ^h 40	27°49	12°26	26° 0	25° 7	19° 3	25°41	6°15	4°17	28°D26	27°45	15°33	23°16	S 5
M 6	10 56 4	15°48'40"	27°38	27°27	13°39	26°22	25°16	19°10	25°41	6°15	4°17	28°D27	27°41	15°40	23°17	M 6
T 7	11 0 0	16°48'31"	11 ^h 23	27°11	14°53	26°44	25°25	19°17	25°40	6°15	4°17	28°D28	27°38	15°47	23°17	T 7
W 8	11 3 57	17°48'21"	24°53	27° 2	16° 6	27° 6	25°34	19°24	25°40	6°R15	4°18	28°D29	27°35	15°54	23°18	W 8
T 9	11 7 53	18°48'08"	8 ^h 9	26°D59	17°19	27°29	25°43	19°31	25°39	6°15	4°18	28°D31	27°32	16° 0	23°19	T 9
F 10	11 11 50	19°47'52"	21°13	27° 2	18°32	27°51	25°52	19°38	25°39	6°15	4°19	28°D31	27°29	16° 7	23°20	F 10
S 11	11 15 46	20°47'35"	4 ^h 4	27°11	19°45	28°15	26° 1	19°45	25°38	6°15	4°19	28°R32	27°26	16°14	23°21	S 11
S 12	11 19 43	21°47'16"	16°43	27°26	20°59	28°38	26°11	19°52	25°38	6°14	4°20	28°D30	27°22	16°20	23°22	S 12
M13	11 23 39	22°46'54"	29°10	27°45	22°12	29° 2	26°20	19°59	25°37	6°14	4°20	28°D28	27°19	16°27	23°24	M13
T 14	11 27 36	23°46'31"	11 ^h 27	28°10	23°25	29°26	26°30	20° 6	25°36	6°14	4°21	28°D25	27°16	16°34	23°25	T 14
W15	11 31 32	24°46'05"	23°35	28°40	24°38	29°50	26°40	20°13	25°36	6°14	4°21	28°D20	27°13	16°41	23°26	W15
T 16	11 35 29	25°45'38"	5 ^h 35	29°14	25°52	0 ^h 14	26°49	20°20	25°35	6°14	4°22	28°D15	27°10	16°47	23°28	T 16
F 17	11 39 26	26°45'09"	17°29	29°52	27° 5	0°39	26°59	20°27	25°34	6°13	4°22	28°D11	27° 6	16°54	23°29	F 17
S 18	11 43 22	27°44'38"	29°22	0 ^h 34	28°18	1° 4	27° 9	20°34	25°33	6°13	4°23	28° 7	27° 3	17° 1	23°31	S 18
S 19	11 47 19	28°44'05"	11 ^h 47	1°19	29°32	1°29	27°20	20°42	25°32	6°13	4°24	28° 4	27° 0	17° 7	23°33	S 19
M20	11 51 15	29°43'30"	23°14	2° 8	0 ^h 45	1°55	27°30	20°49	25°31	6°12	4°24	28° 2	26°57	17°14	23°35	M20
T 21	11 55 12	0 ^h 42'54"	5 ^h 23	3° 1	1°58	2°20	27°40	20°56	25°30	6°12	4°25	28°D 2	26°54	17°21	23°36	T 21
W22	11 59 8	1°42'16"	17°47	3°56	3°12	2°46	27°51	21° 4	25°29	6°11	4°26	28° 3	26°51	17°28	23°38	W22
T 23	12 3 5	2°41'36"	0 ^h 36	4°54	4°25	3°12	28° 1	21°11	25°28	6°11	4°26	28° 5	26°47	17°34	23°40	T 23
F 24	12 7 1	3°40'54"	13°36	5°56	5°38	3°38	28°12	21°18	25°27	6°10	4°27	28° 6	26°44	17°41	23°43	F 24
S 25	12 10 58	4°40'11"	27° 8	6°59	6°52	4° 5	28°23	21°26	25°25	6°10	4°28	28°R 7	26°41	17°48	23°45	S 25
S 26	12 14 55	5°39'25"	11 ^h 37	8° 5	8° 5	4°32	28°34	21°33	25°24	6° 9	4°29	28° 6	26°38	17°55	23°47	S 26
M27	12 18 51	6°38'38"	25°30	9°14	9°18	4°59	28°45	21°41	25°23	6° 9	4°29	28° 4	26°35	18° 1	23°50	M27
T 28	12 22 48	7°37'48"	10 ^h 13	10°25	10°32	5°26	28°56	21°48	25°21	6° 8	4°30	28° 0	26°32	18° 8	23°52	T 28
W29	12 26 44	8°36'57"	25°10	11°38	11°45	5°53	29° 7	21°56	25°20	6° 7	4°31	27°54	26°28	18°15	23°55	W29
T 30	12 30 41	9°36'03"	10 ^h 10	12°53	12°59	6°21	29°18	22° 3	25°19	6° 7	4°32	27°48	26°25	18°21	23°57	T 30
F 31	12 34 37	10°35'08"	25 ^h 8	14 ^h 10	14 ^h 12	6°48	29°30	22°11	25°17	6° 6	4°33	27°41	26°22	18°28	24° 0	F 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
W 1	7s32	2n44	3s54	8s24	3n10	18s35	0s11	26n 2	2n40	18n18	0s40	5n10	2s19	18s58	0n16	19s48
T 2	7 9	7 20	4 40	8 51	2 58	18 19	0 14	26 2	2 39	18 20	0 40	5 13	2 19	18 58	0 16	19 48
F 3	6 46	11 30	5 8	9 17	2 46	18 3	0 17	26 2	2 38	18 23	0 39	5 15	2 18	18 58	0 16	19 48
S 4	6 23	14 56	5 16	9 42	2 33	17 46	0 20	26 2	2 37	18 25	0 39	5 18	2 18	18 58	0 16	19 48
S 5	6 0	17 26	5 5	10 4	2 19	17 28	0 23	26 1	2 36	18 27	0 39	5 21	2 18	18 58	0 16	19 48
M 6	5 36	18 52	4 36	10 25	2 5	17 10	0 26	26 1	2 35	18 29	0 39	5 23	2 18	18 58	0 16	19 48
T 7	5 13	19 9	3 52	10 44	1 51	16 52	0 29	26 1	2 34	18 32	0 39	5 26	2 18	18 58	0 16	19 47
W 8	4 50	18 19	2 55	11 1	1 36	16 33	0 31	26 0	2 33	18 34	0 38	5 29	2 18	18 58	0 16	19 47
T 9	4 26	16 29	1 50	11 16	1 22	16 13	0 34	26 0	2 32	18 36	0 38	5 31	2 18	18 57	0 16	19 47
F 10	4 3	13 49	0 40	11 28	1 7	15 53	0 37	25 59	2 31	18 39	0 38	5 34	2 17	18 57	0 16	19 47
S 11	3 39	10 31	0n30	11 38	0 53	15 33	0 40	25 59	2 30	18 41	0 38	5 37	2 17	18 57	0 16	19 47
S 12	3 16	6 46	1 38	11 46	0 39	15 12	0 42	25 58	2 29	18 43	0 38	5 40	2 17	18 57	0 16	19 47
M13	2 52	2 47	2 41	11 52	0 26	14 51	0 45	25 57	2 28	18 46	0 37	5 42	2 17	18 57	0 16	19 47
T 14	2 29	1s15	3 34	11 56	0 13	14 29	0 47	25 56	2 28	18 48	0 37	5 45	2 17	18 57	0 16	19 47
W15	2 5	5 11	4 17	11 57	0 0	14 7	0 50	25 56	2 27	18 51	0 37	5 48	2 17	18 56	0 16	19 47
T 16	1 41	8 52	4 49	11 57	0s12	13 44	0 52	25 55	2 26	18 53	0 37	5 51	2 17	18 56	0 16	19 47
F 17	1 18	12 10	5 7	11 55	0 24	13 21	0 54	25 54	2 25	18 56	0 37	5 54	2 17	18 56	0 16	19 47
S 18	0 54	14 58	5 13	11 50	0 35	12 58	0 57	25 53	2 24	18 58	0 36	5 56	2 17	18 56	0 16	19 47
S 19	0 30	17 8	5 4	11 44	0 46	12 35	0 59	25 51	2 23	19 1	0 36	5 59	2 17	18 56	0 16	19 47
M20	0 7	18 36	4 43	11 36	0 56	12 11	1 1	25 50	2 22	19 3	0 36	6 2	2 16	18 55	0 16	19 46
T 21	0n17	19 14	4 9	11 26	1 5	11 46	1 3	25 49	2 21	19 6	0 36	6 5	2 16	18 55	0 16	19 46
W22	0 41	18 57	3 22	11 15	1 15	11 22	1 5	25 47	2 20	19 8	0 36	6 8	2 16	18 55	0 16	19 46
T 23	1 4	17 43	2 25	11 1	1 23	10 57	1 7	25 46	2 19	19 11	0 36	6 10	2 16	18 55	0 16	19 46
F 24	1 28	15 31	1 18	10 46	1 32	10 32	1 9	25 44	2 18	19 13	0 35	6 13	2 16	18 54	0 16	19 46
S 25	1 52	12 24	0 5	10 30	1 39	10 6	1 11	25 43	2 18	19 16	0 35	6 16	2 16	18 54	0 16	19 46
S 26	2 15	8 30	1s10	10 12	1 46	9 40	1 13	25 41	2 17	19 18	0 35	6 19	2 16	18 54	0 16	19 46
M27	2 39	3 59	2 23	9 52	1 53	9 14	1 14	25 39	2 16	19 21	0 35	6 22	2 16	18 53	0 16	19 46
T 28	3 2	0n52	3 29	9 31	1 59	8 48	1 16	25 37	2 15	19 24	0 35	6 25	2 16	18 53	0 16	19 45
W29	3 25	5 43	4 20	9 8	2 5	8 22	1 17	25 35	2 14	19 26	0 34	6 27	2 16	18 53	0 16	19 45
T 30	3 49	10 14	4 55	8 44	2 10	7 55	1 19	25 33	2 13	19 29	0 34	6 30	2 16	18 52	0 16	19 45
F 31	4n12	14n 4	5 s 9	8s19	2s14	7s28	1s20	25n31	2n12	19n31	0s34	6n33	2s16	18s52	0n16	19s45

Julian Day Number = 2321943.5, Delta T = 46.70 sec
 Ecliptic obliquity = 23°29'00", Nutation = - 0°00'08", out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°47'15", Lahiri = 18°54'16"Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1645

geocentric

APRIL 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	12 38 34	11°34'10	9°46	15°29	15°25	7°16	29°41	22°18	25°R16	6°R 5	4°II34	27°R36	26°Ω19	18°M35	24°II 3	S 1
S 2	12 42 30	12°33'09	24°10	16°50	16°39	7°44	29°53	22°26	25°M14	6°R 4	4°35	27°Ω33	26°16	18°42	24° 5	S 2
M 3	12 46 27	13°32'07	8°51	18°12	17°52	8°12	0°II 4	22°33	25°12	6° 4	4°35	27°D31	26°12	18°48	24° 8	M 3
T 4	12 50 24	14°31'02	21°51	19°37	19° 6	8°41	0°16	22°41	25°11	6° 3	4°36	27°32	26° 9	18°55	24°11	T 4
W 5	12 54 20	15°29'54	5°Ω 9	21° 3	20°19	9° 9	0°28	22°49	25° 9	6° 2	4°37	27°33	26° 6	19° 2	24°14	W 5
T 6	12 58 17	16°28'45	18°10	22°31	21°32	9°38	0°40	22°56	25° 7	6° 1	4°38	27°34	26° 3	19° 8	24°18	T 6
F 7	13 2 13	17°27'33	0°M55	24° 1	22°46	10° 7	0°51	23° 4	25° 6	6° 0	4°39	27°R34	26° 0	19°15	24°21	F 7
S 8	13 6 10	18°26'18	13°27	25°32	23°59	10°36	1° 3	23°11	25° 4	5°59	4°40	27°33	25°57	19°22	24°24	S 8
S 9	13 10 6	19°25'02	25°49	27° 5	25°13	11° 5	1°15	23°19	25° 2	5°58	4°41	27°29	25°53	19°29	24°27	S 9
M10	13 14 3	20°23'44	8°Ω 2	28°40	26°26	11°34	1°28	23°27	25° 0	5°57	4°42	27°23	25°50	19°35	24°31	M10
T 11	13 17 59	21°22'23	20° 8	0°Y16	27°39	12° 4	1°40	23°34	24°58	5°56	4°43	27°15	25°47	19°42	24°34	T 11
W12	13 21 56	22°21'01	2°M 8	1°54	28°53	12°33	1°52	23°42	24°56	5°55	4°44	27° 5	25°44	19°49	24°38	W12
T 13	13 25 52	23°19'36	14° 4	3°33	0°Y 6	13° 3	2° 4	23°50	24°54	5°54	4°45	26°54	25°41	19°56	24°42	T 13
F 14	13 29 49	24°18'10	25°58	5°15	1°20	13°33	2°17	23°57	24°52	5°53	4°46	26°43	25°38	20° 2	24°45	F 14
S 15	13 33 46	25°16'42	7°Ω50	6°57	2°33	14° 3	2°29	24° 5	24°50	5°52	4°48	26°34	25°34	20° 9	24°49	S 15
S 16	13 37 42	26°15'13	19°43	8°42	3°46	14°33	2°42	24°12	24°48	5°51	4°49	26°26	25°31	20°16	24°53	S 16
M17	13 41 39	27°13'41	1°Ω42	10°28	5° 0	15° 3	2°54	24°20	24°46	5°50	4°50	26°20	25°28	20°22	24°57	M17
T 18	13 45 35	28°12'08	13°49	12°16	6°13	15°34	3° 7	24°28	24°44	5°48	4°51	26°17	25°25	20°29	25° 1	T 18
W19	13 49 32	29°10'34	26°10	14° 5	7°27	16° 4	3°20	24°35	24°42	5°47	4°52	26°D16	25°22	20°36	25° 5	W19
T 20	13 53 28	0°8'57	8°Ω48	15°57	8°40	16°35	3°32	24°43	24°39	5°46	4°53	26°16	25°18	20°43	25° 9	T 20
F 21	13 57 25	1° 7'20	21°49	17°50	9°53	17° 6	3°45	24°51	24°37	5°45	4°54	26°R16	25°15	20°49	25°13	F 21
S 22	14 1 21	2° 5'40	5°Ω17	19°44	11° 7	17°36	3°58	24°58	24°35	5°44	4°55	26°16	25°12	20°56	25°17	S 22
S 23	14 5 18	3° 3'59	19°13	21°40	12°20	18° 7	4°11	25° 6	24°33	5°42	4°57	26°14	25° 9	21° 3	25°21	S 23
M24	14 9 15	4° 2'17	3°Y38	23°38	13°34	18°38	4°24	25°13	24°30	5°41	4°58	26°10	25° 6	21° 9	25°25	M24
T 25	14 13 11	5° 0'32	18°28	25°38	14°47	19°10	4°37	25°21	24°28	5°40	4°59	26° 3	25° 3	21°16	25°30	T 25
W26	14 17 8	5°58'47	3°Ω36	27°39	16° 1	19°41	4°50	25°29	24°26	5°38	5° 0	25°54	24°59	21°23	25°34	W26
T 27	14 21 4	6°56'59	18°53	29°42	17°14	20°12	5° 3	25°36	24°23	5°37	5° 2	25°44	24°56	21°30	25°39	T 27
F 28	14 25 1	7°55'10	4°II 6	1°Ω46	18°27	20°44	5°16	25°44	24°21	5°36	5° 3	25°34	24°53	21°36	25°43	F 28
S 29	14 28 57	8°53'19	19° 7	3°51	19°41	21°16	5°29	25°51	24°19	5°34	5° 4	25°25	24°50	21°43	25°48	S 29
S 30	14 32 54	9°51'26	3°Ω45	5°Ω58	20°Y54	21°Ω47	5°II42	25°Y59	24°M16	5°Ω33	5°II 5	25°Ω18	24°Ω47	21°M50	25°II52	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
S 1	4n35	16n59	5 s 2	7s52	2s18	7s 1	1s22	25n28	2n12	19n34	0s34	6n36	2s16	18s52	0n16	19s45	1n39	10n11	11 s 5	12n20	12n46	12s29	17n20	6 s 1			
S 2	4 58	18 45	4 37	7 23	2 22	6 33	1 23	25 26	2 11	19 37	0 34	6 39	2 16	18 51	0 16	19 45	1 39	10 11	11 5	12 21	12 47	12 31	17 20	6 1			
M 3	5 21	19 19	3 55	6 54	2 25	6 6	1 24	25 23	2 10	19 39	0 34	6 42	2 16	18 51	0 16	19 44	1 39	10 12	11 5	12 21	12 48	12 32	17 21	6 1			
T 4	5 44	18 44	3 1	6 23	2 28	5 38	1 25	25 21	2 9	19 42	0 33	6 45	2 16	18 50	0 16	19 44	1 39	10 12	11 4	12 21	12 49	12 34	17 21	6 0			
W 5	6 7	17 6	1 58	5 51	2 30	5 10	1 27	25 18	2 8	19 45	0 33	6 47	2 15	18 50	0 16	19 44	1 39	10 13	11 4	12 21	12 50	12 36	17 22	6 0			
T 6	6 29	14 37	0 51	5 17	2 31	4 42	1 28	25 15	2 7	19 47	0 33	6 50	2 15	18 50	0 16	19 44	1 39	10 13	11 4	12 20	12 52	12 37	17 22	5 59			
F 7	6 52	11 27	0n18	4 43	2 32	4 14	1 28	25 12	2 7	19 50	0 33	6 53	2 15	18 49	0 16	19 44	1 39	10 13	11 4	12 20	12 53	12 39	17 23	5 59			
S 8	7 14	7 49	1 24	4 7	2 33	3 46	1 29	25 9	2 6	19 52	0 33	6 56	2 15	18 49	0 16	19 43	1 39	10 14	11 4	12 21	12 54	12 41	17 23	5 59			
S 9	7 37	3 54	2 26	3 30	2 33	3 17	1 30	25 6	2 5	19 55	0 33	6 59	2 15	18 48	0 16	19 43	1 39	10 14	11 3	12 22	12 55	12 42	17 24	5 58			
M10	7 59	0s 8	3 20	2 51	2 32	2 49	1 31	25 2	2 4	19 58	0 33	7 2	2 15	18 48	0 16	19 43	1 39	10 14	11 3	12 24	12 56	12 44	17 25	5 58			
T 11	8 21	4 7	4 4	2 12	2 31	2 20	1 32	24 59	2 3	20 0	0 32	7 4	2 15	18 47	0 16	19 43	1 39	10 15	11 3	12 27	12 57	12 46	17 25	5 58			
W12	8 43	7 55	4 36	1 32	2 29	1 51	1 32	24 55	2 3	20 3	0 32	7 7	2 15	18 47	0 16	19 43	1 39	10 15	11 3	12 30	12 58	12 47	17 26	5 57			
T 13	9 5	11 22	4 57	0 50	2 27	1 23	1 33	24 52	2 2	20 5	0 32	7 10	2 15	18 46	0 16	19 42	1 39	10 15	11 3	12 34	12 59	12 49	17 26	5 57			
F 14	9 26	14 21	5 4	0 7	2 25	0 54	1 33	24 48	2 1	20 8	0 32	7 13	2 15	18 46	0 16	19 42	1 39	10 16	11 2	12 38	13 0	12 51	17 27	5 57			
S 15	9 48	16 45	4 58	0n36	2 21	0 25	1 33	24 44	2 0	20 11	0 32	7 16	2 15	18 45	0 16	19 42	1 39	10 16	11 2	12 41	13 1	12 52	17 27	5 56			
S 16	10 9	18 26	4 40	1 21	2 18	0n 4	1 34	24 40	1 59	20 13	0 32	7 18	2 15	18 45	0 16	19 42	1 39	10 17	11 2	12 44	13 2	12 54	17 27	5 56			
M17	10 30	19 20	4 9	2 6	2 14	0 33	1 34	24 36	1 59	20 16	0 32	7 21	2 15	18 44	0 16	19 41	1 39	10 17	11 2	12 46	13 3	12 56	17 28	5 55			
T 18	10 51	19 21	3 26	2 53	2 9	1 2	1 34	24 31	1 58	20 18	0 31	7 24	2 15	18 44	0 16	19 41	1 39	10 17	11 2	12 47	13 4	12 57	17 28	5 55			
W19	11 12	18 27	2 33	3 40	2 4	1 31	1 34	24 27	1 57	20 21	0 31	7 27	2 15	18 43	0 16	19 41	1 39	10 18	11 1	12 47	13 5	12 59	17 29	5 55			
T 20	11 33	16 37	1 32	4 28	1 58	2 0	1 34	24 23	1 56	20 23	0 31	7 30	2 15	18 43	0 16	19 41	1 39	10 18	11 1	12 47	13 7	13 1	17 29	5 54			
F 21	11 53	13 53	0 24	5 17	1 52	2 29	1 34	24 18	1 56	20 26	0 31	7 32	2 15	18 42	0 16	19 40	1 39	10 18	11 1	12 47	13 8	13 2	17 30	5 54			
S 22	12 13	10 20	0s48	6 7	1 45	2 58	1 34	24 13	1 55	20 29	0 31	7 35	2 15	18 42	0 16	19 40	1 39	10 19	11 1	12 47	13 9	13 4	17 30	5 54			
S 23	12 33	6 6	1 59	6 57	1 38	3 27	1 34	24 8	1 54	20 31	0 31	7 38	2 15	18 41	0 16	19 40	1 39	10 19	11 1	12 48	13 10	13 6	17 31	5 54			
M24	12 53	1 23	3 5	7 48	1 30	3 55	1 34	24 3	1 53	20 34	0 31	7 41	2 15	18 41	0 16	19 40	1 39	10 20	11 1	12 49	13 11	13 7	17 31	5 53			
T 25	13 13	3n33	4 0	8 39	1 22	4 24	1 33	23 58	1 52	20 36	0 30	7 43	2 15	18 40	0 16	19 39	1 39	10 20	11 0	12 52	13 12	13 9	17 32	5 53			
W26	13 32	8 21	4 40	9 31	1 14	4 53	1 33	23 53	1 52	20 39	0 30	7 46	2 15	18 40	0 16	19 39	1 39	10 20	11 0	12 55	13 13	13 11	17 32	5 53			
T 27	13 52	12 40	5 0	10 22	1 5	5 21	1 32	23 47	1 51	20 41	0 30	7 49	2 15	18 39	0 16	19 39	1 39	10 21	11 0	12 58	13 14	13 12	17 33	5 52			
F 28	14 10	16 7	4 59	11 14	0 55	5 50	1 32	23 42	1 50	20 44	0 30	7 51	2 15	18 38	0 16	19 39	1 39	10 21	11 0	13 1	13 15	13 14	17 33	5 52			
S 29	14 29	18 26	4 37	12 6	0 46	6 18	1 31	23 36	1 50	20 46	0 30	7 54	2 16	18 38	0 16	19 38	1 39	10 21	11 0	13 4	13 16	13 16	17 33	5 52			
S 30	14n48	19n29	3s57	12n58	0s36	6n46	1s31	23n30	1n49	20n49	0s30	7n57	2s16	18s37	0n16	19s38	1n40	10n22	11s 0	13n 7	13n17	13s17	17n34	5s51			

ASTRODIENST EPHEMERIS for the year 1645

geocentric

MAY 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	14 36 50	10♌49'31	17♍58	8♌ 6	22♌ 8	22♍19	5♊56	26♌ 6	24♌14	5♌31	5♊ 7	25♌14	24♌43	21♌57	25♊57	M 1
T 2	14 40 47	11°47'34	1♌42	10°15	23°21	22°51	6° 9	26°14	24♌12	5♌30	5° 8	25♌13	24°40	22° 3	26° 2	T 2
W 3	14 44 44	12°45'35	15° 1	12°25	24°35	23°23	6°22	26°21	24° 9	5°28	5° 9	25°D12	24°37	22°10	26° 7	W 3
T 4	14 48 40	13°43'34	27°57	14°35	25°48	23°55	6°36	26°28	24° 7	5°27	5°10	25°R13	24°34	22°17	26°11	T 4
F 5	14 52 37	14°41'31	10♎33	16°45	27° 1	24°27	6°49	26°36	24° 4	5°25	5°12	25°12	24°31	22°23	26°16	F 5
S 6	14 56 33	15°39'26	22°55	18°56	28°15	25° 0	7° 2	26°43	24° 2	5°24	5°13	25° 9	24°28	22°30	26°21	S 6
S 7	15 0 30	16°37'20	5♊ 6	21° 6	29°28	25°32	7°16	26°51	23°59	5°22	5°14	25° 4	24°24	22°37	26°26	S 7
M 8	15 4 26	17°35'12	17° 9	23°16	0♌42	26° 5	7°29	26°58	23°57	5°21	5°16	24°56	24°21	22°44	26°31	M 8
T 9	15 8 23	18°33'02	29° 7	25°26	1°55	26°37	7°43	27° 5	23°54	5°19	5°17	24°45	24°18	22°50	26°36	T 9
W10	15 12 19	19°30'51	11♌ 2	27°34	3° 8	27°10	7°56	27°13	23°52	5°18	5°18	24°32	24°15	22°57	26°41	W10
T 11	15 16 16	20°28'38	22°55	29°41	4°22	27°43	8°10	27°20	23°49	5°16	5°20	24°18	24°12	23° 4	26°46	T 11
F 12	15 20 13	21°26'24	4♌47	1♊46	5°35	28°15	8°24	27°27	23°47	5°15	5°21	24° 4	24° 9	23°10	26°52	F 12
S 13	15 24 9	22°24'09	16°41	3°49	6°49	28°48	8°37	27°34	23°44	5°13	5°22	23°52	24° 5	23°17	26°57	S 13
S 14	15 28 6	23°21'52	28°38	5°51	8° 2	29°21	8°51	27°41	23°42	5°12	5°24	23°41	24° 2	23°24	27° 2	S 14
M15	15 32 2	24°19'34	10♌40	7°50	9°16	29°54	9° 5	27°49	23°39	5°10	5°25	23°33	23°59	23°31	27° 7	M15
T 16	15 35 59	25°17'15	22°50	9°46	10°29	0♌27	9°18	27°56	23°37	5° 8	5°26	23°28	23°56	23°37	27°13	T 16
W17	15 39 55	26°14'55	5♌12	11°41	11°42	1° 1	9°32	28° 3	23°34	5° 7	5°28	23°25	23°53	23°44	27°18	W17
T 18	15 43 52	27°12'33	17°49	13°32	12°56	1°34	9°46	28°10	23°32	5° 5	5°29	23°25	23°49	23°51	27°23	T 18
F 19	15 47 48	28°10'11	0♌47	15°21	14° 9	2° 7	10° 0	28°17	23°29	5° 4	5°30	23°25	23°46	23°58	27°29	F 19
S 20	15 51 45	29° 7'48	14° 8	17° 7	15°23	2°41	10°13	28°24	23°27	5° 2	5°32	23°24	23°43	24° 4	27°34	S 20
S 21	15 55 42	0♊ 5'24	27°57	18°50	16°36	3°14	10°27	28°31	23°24	5° 0	5°33	23°22	23°40	24°11	27°40	S 21
M22	15 59 38	1° 2'59	12♌13	20°30	17°50	3°48	10°41	28°37	23°22	4°59	5°34	23°18	23°37	24°18	27°45	M22
T 23	16 3 35	2° 0'33	26°56	22° 8	19° 3	4°21	10°55	28°44	23°19	4°57	5°36	23°11	23°34	24°24	27°51	T 23
W24	16 7 31	2°58'06	12♌ 0	23°42	20°16	4°55	11° 9	28°51	23°17	4°56	5°37	23° 1	23°30	24°31	27°57	W24
T 25	16 11 28	3°55'38	27°17	25°13	21°30	5°29	11°22	28°58	23°14	4°54	5°39	22°51	23°27	24°38	28° 2	T 25
F 26	16 15 24	4°53'09	12♊34	26°41	22°43	6° 3	11°36	29° 5	23°12	4°52	5°40	22°41	23°24	24°45	28° 8	F 26
S 27	16 19 21	5°50'39	27°42	28° 6	23°57	6°37	11°50	29°11	23°10	4°51	5°41	22°31	23°21	24°51	28°14	S 27
S 28	16 23 17	6°48'08	12♌30	29°28	25°10	7°11	12° 4	29°18	23° 7	4°49	5°43	22°24	23°18	24°58	28°19	S 28
M29	16 27 14	7°45'36	26°52	0♌47	26°24	7°45	12°18	29°24	23° 5	4°47	5°44	22°20	23°15	25° 5	28°25	M29
T 30	16 31 11	8°43'03	10♌45	2° 2	27°37	8°19	12°32	29°31	23° 2	4°46	5°45	22°18	23°11	25°12	28°31	T 30
W31	16 35 7	9♊40'28	24♌ 9	3♌14	28♌51	8♌53	12♊46	29♌37	23♌ 0	4♌44	5♊47	22°D17	23♌ 8	25♌18	28♊37	W31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
M 1	15n 6	19n14	3s 4	13n50	0s26	7n14	1s30	23n24	1n48	20n51	0s30	7n59	2s16	18s37	0n16	19s38
T 2	15 24	17 51	2 1	14 40	0 15	7 42	1 29	23 18	1 47	20 53	0 30	8 2	2 16	18 36	0 16	19 38
W 3	15 42	15 30	0 54	15 31	0 5	8 10	1 28	23 12	1 47	20 56	0 29	8 5	2 16	18 36	0 16	19 37
T 4	15 59	12 26	0n15	16 20	0n 6	8 38	1 27	23 6	1 46	20 58	0 29	8 7	2 16	18 35	0 16	19 37
F 5	16 17	8 52	1 20	17 8	0 16	9 5	1 26	23 0	1 45	21 1	0 29	8 10	2 16	18 34	0 16	19 37
S 6	16 33	4 58	2 21	17 55	0 27	9 32	1 25	22 53	1 44	21 3	0 29	8 13	2 16	18 34	0 16	19 37
S 7	16 50	0 56	3 14	18 40	0 37	9 59	1 24	22 46	1 44	21 5	0 29	8 15	2 16	18 33	0 16	19 36
M 8	17 7	3s 5	3 58	19 23	0 47	10 26	1 23	22 40	1 43	21 8	0 29	8 18	2 16	18 33	0 16	19 36
T 9	17 23	6 58	4 31	20 5	0 57	10 53	1 22	22 33	1 42	21 10	0 29	8 20	2 16	18 32	0 16	19 36
W10	17 39	10 33	4 51	20 44	1 7	11 19	1 21	22 26	1 42	21 12	0 29	8 23	2 16	18 31	0 16	19 35
T 11	17 54	13 42	4 59	21 21	1 16	11 45	1 19	22 18	1 41	21 15	0 28	8 25	2 16	18 31	0 16	19 35
F 12	18 9	16 18	4 54	21 56	1 24	12 11	1 18	22 11	1 40	21 17	0 28	8 28	2 16	18 30	0 16	19 35
S 13	18 24	18 14	4 37	22 28	1 32	12 36	1 17	22 4	1 40	21 19	0 28	8 30	2 16	18 30	0 15	19 35
S 14	18 39	19 22	4 6	22 57	1 40	13 2	1 15	21 56	1 39	21 21	0 28	8 33	2 16	18 29	0 15	19 34
M15	18 53	19 39	3 25	23 24	1 47	13 27	1 14	21 48	1 38	21 23	0 28	8 35	2 17	18 28	0 15	19 34
T 16	19 7	19 1	2 34	23 49	1 53	13 51	1 12	21 41	1 37	21 26	0 28	8 38	2 17	18 28	0 15	19 34
W17	19 21	17 28	1 35	24 11	1 58	14 15	1 10	21 33	1 37	21 28	0 28	8 40	2 17	18 27	0 15	19 33
T 18	19 34	15 3	0 30	24 30	2 3	14 39	1 9	21 25	1 36	21 30	0 28	8 43	2 17	18 26	0 15	19 33
F 19	19 47	11 49	0s39	24 46	2 7	15 3	1 7	21 16	1 35	21 32	0 28	8 45	2 17	18 26	0 15	19 33
S 20	20 0	7 54	1 47	25 1	2 10	15 26	1 5	21 8	1 35	21 34	0 27	8 47	2 17	18 25	0 15	19 32
S 21	20 12	3 27	2 52	25 12	2 12	15 49	1 3	21 0	1 34	21 36	0 27	8 50	2 17	18 25	0 15	19 32
M22	20 24	1n21	3 48	25 22	2 14	16 11	1 2	20 51	1 33	21 38	0 27	8 52	2 17	18 24	0 15	19 32
T 23	20 36	6 12	4 30	25 29	2 14	16 33	1 0	20 42	1 33	21 40	0 27	8 54	2 17	18 23	0 15	19 32
W24	20 47	10 47	4 55	25 34	2 14	16 55	0 58	20 34	1 32	21 42	0 27	8 57	2 17	18 23	0 15	19 31
T 25	20 58	14 43	5 0	25 37	2 13	17 16	0 56	20 25	1 31	21 44	0 27	8 59	2 18	18 22	0 15	19 31
F 26	21 9	17 40	4 43	25 38	2 12	17 37	0 54	20 16	1 31	21 46	0 27	9 1	2 18	18 22	0 15	19 31
S 27	21 19	19 21	4 7	25 37	2 9	17 57	0 52	20 6	1 30	21 48	0 27	9 3	2 18	18 21	0 15	19 30
S 28	21 29	19 40	3 14	25 35	2 6	18 17	0 50	19 57	1 29	21 50	0 27	9 6	2 18	18 20	0 15	19 30
M29	21 39	18 41	2 10	25 31	2 2	18 37	0 48	19 48	1 29	21 52	0 27	9 8	2 18	18 20	0 15	19 30
T 30	21 48	16 36	1 1	25 25	1 57	18 56	0 46	19 38	1 28	21 54	0 26	9 10	2 18	18 19	0 15	19 30
W31	21n57	13n39	0n10	25n18	1n51	19n14	0s43	19n29	1n27	21n56	0s26	9n12	2s18	18s19	0n15	19s29

Julian Day Number = 2322004.5, Delta T = 46.58 sec
 Ecliptic obliquity = 23°29'00, Nutation = - 0°00'11, out-of-bounds declination in red
 Ayanamsha: Fagan/Bradley = 19°47'24, Lahiri = 18°54'24Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1645

geocentric

JUNE 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	16 39 4	10 ¹¹ 37'52	7 ¹⁹ 8	4 ⁵ 23	0 ¹¹ 4	9 ⁰ 27	13 ¹¹ 0	29 ¹ 44	22 ¹ 58	4 ¹ 43	5 ¹¹ 48	22 ¹ R17	23 ⁰ 5	25 ¹ 25	28 ¹ 42	T 1
F 2	16 43 0	11 ⁰ 35'15	19 ⁰ 44	5 ⁰ 28	1 ¹ 18	10 ⁰ 2	13 ⁰ 13	29 ⁰ 50	22 ⁰ 55	4 ¹ 41	5 ⁰ 49	22 ⁰ 17	23 ⁰ 2	25 ⁰ 32	28 ⁰ 48	F 2
S 3	16 46 57	12 ⁰ 32'37	2 ¹ 4	6 ⁰ 30	2 ⁰ 31	10 ⁰ 36	13 ⁰ 27	29 ⁰ 57	22 ⁰ 53	4 ⁰ 39	5 ⁰ 51	22 ⁰ 15	22 ⁰ 59	25 ⁰ 38	28 ⁰ 54	S 3
S 4	16 50 53	13 ⁰ 29'58	14 ⁰ 11	7 ⁰ 28	3 ⁰ 45	11 ⁰ 11	13 ⁰ 41	0 ⁰ 8 3	22 ⁰ 51	4 ⁰ 38	5 ⁰ 52	22 ⁰ 12	22 ⁰ 55	25 ⁰ 45	29 ⁰ 0	S 4
M 5	16 54 50	14 ⁰ 27'18	26 ⁰ 9	8 ⁰ 23	4 ⁰ 58	11 ⁰ 45	13 ⁰ 55	0 ⁰ 9	22 ⁰ 48	4 ⁰ 36	5 ⁰ 54	22 ⁰ 5	22 ⁰ 52	25 ⁰ 52	29 ⁰ 6	M 5
T 6	16 58 46	15 ⁰ 24'36	8 ⁰ 11	9 ⁰ 14	6 ⁰ 12	12 ⁰ 20	14 ⁰ 9	0 ⁰ 15	22 ⁰ 46	4 ⁰ 35	5 ⁰ 55	21 ⁰ 56	22 ⁰ 49	25 ⁰ 59	29 ⁰ 12	T 6
W 7	17 2 43	16 ⁰ 21'54	19 ⁰ 55	10 ⁰ 1	7 ⁰ 25	12 ⁰ 54	14 ⁰ 23	0 ⁰ 21	22 ⁰ 44	4 ⁰ 33	5 ⁰ 56	21 ⁰ 45	22 ⁰ 46	26 ⁰ 5	29 ⁰ 18	W 7
T 8	17 6 40	17 ⁰ 19'12	1 ¹ 48	10 ⁰ 45	8 ⁰ 39	13 ⁰ 29	14 ⁰ 37	0 ⁰ 27	22 ⁰ 42	4 ⁰ 31	5 ⁰ 58	21 ⁰ 34	22 ⁰ 43	26 ⁰ 12	29 ⁰ 23	T 8
F 9	17 10 36	18 ⁰ 16'28	13 ⁰ 43	11 ⁰ 24	9 ⁰ 52	14 ⁰ 4	14 ⁰ 51	0 ⁰ 33	22 ⁰ 40	4 ⁰ 30	5 ⁰ 59	21 ⁰ 22	22 ⁰ 40	26 ⁰ 19	29 ⁰ 29	F 9
S 10	17 14 33	19 ⁰ 13'44	25 ⁰ 42	11 ⁰ 59	11 ⁰ 6	14 ⁰ 39	15 ⁰ 4	0 ⁰ 39	22 ⁰ 37	4 ⁰ 28	6 ⁰ 0	21 ⁰ 11	22 ⁰ 36	26 ⁰ 25	29 ⁰ 35	S 10
S 11	17 18 29	20 ⁰ 10'59	7 ⁰ 34	12 ⁰ 30	12 ⁰ 19	15 ⁰ 13	15 ⁰ 18	0 ⁰ 45	22 ⁰ 35	4 ⁰ 27	6 ⁰ 2	21 ⁰ 2	22 ⁰ 33	26 ⁰ 32	29 ⁰ 41	S 11
M12	17 22 26	21 ⁰ 8'14	19 ⁰ 57	12 ⁰ 57	13 ⁰ 33	15 ⁰ 48	15 ⁰ 32	0 ⁰ 51	22 ⁰ 33	4 ⁰ 25	6 ⁰ 3	20 ⁰ 56	22 ⁰ 30	26 ⁰ 39	29 ⁰ 47	M12
T 13	17 26 22	22 ⁰ 5'29	2 ¹ 16	13 ⁰ 19	14 ⁰ 46	16 ⁰ 23	15 ⁰ 46	0 ⁰ 57	22 ⁰ 31	4 ⁰ 24	6 ⁰ 4	20 ⁰ 52	22 ⁰ 27	26 ⁰ 46	29 ⁰ 53	T 13
W14	17 30 19	23 ⁰ 2'43	14 ⁰ 46	13 ⁰ 37	16 ⁰ 0	16 ⁰ 58	16 ⁰ 0	1 ⁰ 3	22 ⁰ 29	4 ⁰ 22	6 ⁰ 6	20 ⁰ 50	22 ⁰ 24	26 ⁰ 52	29 ⁰ 59	W14
T 15	17 34 15	23 ⁰ 59'56	27 ⁰ 30	13 ⁰ 50	17 ⁰ 14	17 ⁰ 33	16 ⁰ 14	1 ⁰ 8	22 ⁰ 27	4 ⁰ 21	6 ⁰ 7	20 ⁰ D50	22 ⁰ 21	26 ⁰ 59	0 ⁰ 5	T 15
F 16	17 38 12	24 ⁰ 57'10	10 ¹ 31	13 ⁰ 59	18 ⁰ 27	18 ⁰ 9	16 ⁰ 27	1 ⁰ 14	22 ⁰ 25	4 ⁰ 19	6 ⁰ 8	20 ⁰ 51	22 ⁰ 17	27 ⁰ 6	0 ⁰ 11	F 16
S 17	17 42 9	25 ⁰ 54'23	23 ⁰ 51	14 ⁰ R 3	19 ⁰ 41	18 ⁰ 44	16 ⁰ 41	1 ⁰ 19	22 ⁰ 23	4 ⁰ 18	6 ⁰ 10	20 ⁰ R51	22 ⁰ 14	27 ⁰ 13	0 ⁰ 17	S 17
S 18	17 46 5	26 ⁰ 51'37	7 ¹ 34	14 ⁰ 3	20 ⁰ 54	19 ⁰ 19	16 ⁰ 55	1 ⁰ 25	22 ⁰ 21	4 ⁰ 16	6 ⁰ 11	20 ⁰ 51	22 ⁰ 11	27 ⁰ 19	0 ⁰ 23	S 18
M19	17 50 2	27 ⁰ 48'50	21 ⁰ 40	13 ⁰ 58	22 ⁰ 8	19 ⁰ 54	17 ⁰ 9	1 ⁰ 30	22 ⁰ 19	4 ⁰ 15	6 ⁰ 12	20 ⁰ 49	22 ⁰ 8	27 ⁰ 26	0 ⁰ 29	M19
T 20	17 53 58	28 ⁰ 46'03	6 ⁰ 8	13 ⁰ 49	23 ⁰ 22	20 ⁰ 30	17 ⁰ 22	1 ⁰ 35	22 ⁰ 17	4 ⁰ 13	6 ⁰ 14	20 ⁰ 44	22 ⁰ 5	27 ⁰ 33	0 ⁰ 36	T 20
W21	17 57 55	29 ⁰ 43'17	20 ⁰ 58	13 ⁰ 35	24 ⁰ 35	21 ⁰ 5	17 ⁰ 36	1 ⁰ 41	22 ⁰ 16	4 ⁰ 12	6 ⁰ 15	20 ⁰ 38	22 ⁰ 1	27 ⁰ 39	0 ⁰ 42	W21
T 22	18 1 51	0 ⁰ 40'30	5 ¹ 59	13 ⁰ 18	25 ⁰ 49	21 ⁰ 41	17 ⁰ 50	1 ⁰ 46	22 ⁰ 14	4 ⁰ 10	6 ⁰ 16	20 ⁰ 31	21 ⁰ 58	27 ⁰ 46	0 ⁰ 48	T 22
F 23	18 5 48	1 ⁰ 37'43	21 ⁰ 4	12 ⁰ 56	27 ⁰ 2	22 ⁰ 16	18 ⁰ 3	1 ⁰ 51	22 ⁰ 12	4 ⁰ 9	6 ⁰ 17	20 ⁰ 24	21 ⁰ 55	27 ⁰ 53	0 ⁰ 54	F 23
S 24	18 9 44	2 ⁰ 34'57	6 ⁰ 3	12 ⁰ 31	28 ⁰ 16	22 ⁰ 52	18 ⁰ 17	1 ⁰ 56	22 ⁰ 10	4 ⁰ 8	6 ⁰ 19	20 ⁰ 17	21 ⁰ 52	28 ⁰ 0	1 ⁰ 0	S 24
S 25	18 13 41	3 ⁰ 32'10	20 ⁰ 48	12 ⁰ 3	29 ⁰ 30	23 ⁰ 28	18 ⁰ 31	2 ⁰ 1	22 ⁰ 9	4 ⁰ 6	6 ⁰ 20	20 ⁰ 13	21 ⁰ 49	28 ⁰ 6	1 ⁰ 6	S 25
M26	18 17 38	4 ⁰ 29'23	5 ⁰ 10	11 ⁰ 31	0 ⁰ 544	24 ⁰ 3	18 ⁰ 44	2 ⁰ 6	22 ⁰ 7	4 ⁰ 5	6 ⁰ 21	20 ⁰ 10	21 ⁰ 46	28 ⁰ 13	1 ⁰ 12	M26
T 27	18 21 34	5 ⁰ 26'35	19 ⁰ 6	10 ⁰ 58	1 ⁰ 57	24 ⁰ 39	18 ⁰ 58	2 ⁰ 10	22 ⁰ 5	4 ⁰ 4	6 ⁰ 22	20 ⁰ D 9	21 ⁰ 42	28 ⁰ 20	1 ⁰ 18	T 27
W28	18 25 31	6 ⁰ 23'47	2 ¹ 36	10 ⁰ 23	3 ⁰ 11	25 ⁰ 15	19 ⁰ 11	2 ⁰ 15	22 ⁰ 4	4 ⁰ 2	6 ⁰ 24	20 ⁰ 9	21 ⁰ 39	28 ⁰ 27	1 ⁰ 24	W28
T 29	18 29 27	7 ⁰ 20'59	15 ⁰ 39	9 ⁰ 46	4 ⁰ 25	25 ⁰ 51	19 ⁰ 25	2 ⁰ 20	22 ⁰ 2	4 ⁰ 1	6 ⁰ 25	20 ⁰ 11	21 ⁰ 36	28 ⁰ 33	1 ⁰ 30	T 29
F 30	18 33 24	8 ⁰ 18'11	28 ⁰ 19	9 ⁰ 5	5 ⁰ 538	26 ⁰ 27	19 ⁰ 38	2 ⁰ 24	22 ⁰ 1	4 ⁰ 0	6 ⁰ 26	20 ⁰ 12	21 ⁰ 33	28 ⁰ 40	1 ⁰ 36	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	decl lat	decl lat
T 1	22n 5	10n 7	1n18	25n 9	1n45	19n32	0s41	19n19	1n27	21n58	0s26	9n14	2s18	18s18	0n15	19s29
F 2	22 13	6 13	2 20	25 0	1 37	19 49	0 39	19 9	1 26	22 0	0 26	9 16	2 19	18 17	0 15	19 29
S 3	22 21	2 9	3 15	24 49	1 29	20 6	0 37	18 59	1 25	22 2	0 26	9 18	2 19	18 17	0 15	19 28
S 4	22 28	1s56	3 59	24 37	1 21	20 22	0 34	18 49	1 25	22 3	0 26	9 20	2 19	18 16	0 15	19 28
M 5	22 35	5 53	4 32	24 24	1 11	20 38	0 32	18 38	1 24	22 5	0 26	9 23	2 19	18 16	0 15	19 28
T 6	22 41	9 35	4 54	24 11	1 1	20 53	0 30	18 28	1 24	22 7	0 26	9 25	2 19	18 15	0 15	19 28
W 7	22 47	12 54	5 2	23 56	0 50	21 8	0 28	18 18	1 23	22 9	0 26	9 27	2 19	18 15	0 15	19 27
T 8	22 53	15 42	4 58	23 41	0 39	21 22	0 25	18 7	1 22	22 10	0 26	9 28	2 20	18 14	0 15	19 27
F 9	22 58	17 51	4 40	23 26	0 26	21 36	0 23	17 56	1 22	22 12	0 25	9 30	2 20	18 14	0 15	19 27
S 10	23 3	19 15	4 10	23 10	0 13	21 48	0 21	17 46	1 21	22 14	0 25	9 32	2 20	18 13	0 15	19 27
S 11	23 7	19 47	3 29	22 54	0s 0	22 1	0 18	17 35	1 20	22 15	0 25	9 34	2 20	18 12	0 15	19 26
M12	23 11	19 24	2 37	22 37	0 14	22 12	0 16	17 24	1 20	22 17	0 25	9 36	2 20	18 12	0 15	19 26
T 13	23 15	18 6	1 38	22 20	0 9	22 23	0 13	17 13	1 19	22 18	0 25	9 38	2 20	18 11	0 15	19 26
W14	23 18	15 55	0 32	22 4	0 44	22 34	0 11	17 1	1 18	22 20	0 25	9 40	2 20	18 11	0 15	19 26
T 15	23 21	12 55	0s36	21 47	0 59	22 43	0 9	16 50	1 18	22 21	0 25	9 42	2 21	18 10	0 15	19 25
F 16	23 23	9 14	1 44	21 30	1 15	22 53	0 6	16 39	1 17	22 23	0 25	9 43	2 21	18 10	0 15	19 25
S 17	23 25	5 1	2 48	21 14	1 31	23 1	0 4	16 27	1 16	22 24	0 25	9 45	2 21	18 9	0 15	19 25
S 18	23 27	0 25	3 44	20 58	1 47	23 9	0 1	16 15	1 16	22 26	0 25	9 47	2 21	18 9	0 15	19 25
M19	23 28	4n19	4 28	20 42	2 4	23 16	0n 1	16 4	1 15	22 27	0 25	9 48	2 21	18 9	0 15	19 24
T 20	23 29	8 55	4 57	20 27	2 20	23 22	0 3	15 52	1 15	22 28	0 25	9 50	2 22	18 8	0 15	19 24
W21	23 29	13 6	5 7	20 12	2 36	23 28	0 6	15 40	1 14	22 30	0 24	9 52	2 22	18 8	0 15	19 24
T 22	23 29	16 29	4 56	19 58	2 52	23 33	0 8	15 28	1 13	22 31	0 24	9 53	2 22	18 7	0 15	19 24
F 23	23 28	18 47	4 24	19 45	3 7	23 37	0 10	15 16	1 13	22 32	0 24	9 55	2 22	18 7	0 15	19 23
S 24	23 27	19 46	3 35	19 32	3 22	23 41	0 13	15 3	1 12	22 34	0 24	9 56	2 22	18 6	0 15	19 23
S 25	23 26	19 22	2 32	19 21	3 36	23 44	0 15	14 51	1 11	22 35	0 24	9 58	2 23	18 6	0 15	19 23
M26	23 24	17 43	1 20	19 11	3 49	23 46	0 17	14 38	1 11	22 36	0 24	9 59	2 23	18 6	0 15	19 23

ASTRODIENST EPHEMERIS for the year 1645
geocentric

JULY 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	18 37 20	9 ⁵ 15'22	10 ² 41	8°R32	6 ⁵ 52	27 ⁰ 3	19 ¹¹ 52	2 ⁸ 29	21°R59	3°R58	6 ¹¹ 27	20°R12	21 ⁰ 30	28 ¹¹ 47	1 ⁵ 42	S 1
S 2	18 41 17	10°12'33	22°49	7 ⁵ 55	8° 6	27°39	20° 5	2°33	21 ¹¹ 58	3 ¹ 57	6°28	20 ⁰ 11	21°27	28°53	1°48	S 2
M 3	18 45 13	11° 9'45	4 ¹¹ 48	7°20	9°20	28°15	20°19	2°38	21°57	3°56	6°29	20° 9	21°23	29° 0	1°54	M 3
T 4	18 49 10	12° 6'56	16°41	6°47	10°33	28°51	20°32	2°42	21°55	3°55	6°31	20° 5	21°20	29° 7	2° 0	T 4
W 5	18 53 7	13° 4'07	28°33	6°16	11°47	29°27	20°45	2°46	21°54	3°54	6°32	19°59	21°17	29°14	2° 6	W 5
T 6	18 57 3	14° 1'18	10 ¹ 28	5°48	13° 1	0 ¹¹ 3	20°59	2°50	21°53	3°52	6°33	19°53	21°14	29°20	2°12	T 6
F 7	19 1 0	14°58'29	22°27	5°24	14°15	0°40	21°12	2°54	21°52	3°51	6°34	19°47	21°11	29°27	2°18	F 7
S 8	19 4 56	15°55'40	4 ⁵ 33	5° 4	15°28	1°16	21°25	2°58	21°51	3°50	6°35	19°41	21° 7	29°34	2°24	S 8
S 9	19 8 53	16°52'52	16°47	4°49	16°42	1°52	21°38	3° 2	21°49	3°49	6°36	19°36	21° 4	29°40	2°30	S 9
M10	19 12 49	17°50'04	29°11	4°38	17°56	2°29	21°51	3° 5	21°48	3°48	6°37	19°33	21° 1	29°47	2°36	M10
T 11	19 16 46	18°47'16	11 ¹¹ 46	4°32	19°10	3° 5	22° 4	3° 9	21°47	3°47	6°38	19°32	20°58	29°54	2°42	T 11
W12	19 20 43	19°44'29	24°32	4°D31	20°24	3°42	22°17	3°13	21°46	3°46	6°39	19°D31	20°55	0 ¹ 1	2°48	W12
T 13	19 24 39	20°41'42	7 ¹¹ 32	4°36	21°38	4°19	22°30	3°16	21°46	3°45	6°40	19°32	20°52	0° 7	2°54	T 13
F 14	19 28 36	21°38'56	20°45	4°46	22°51	4°55	22°43	3°20	21°45	3°44	6°42	19°34	20°48	0°14	3° 0	F 14
S 15	19 32 32	22°36'11	4°Y14	5° 2	24° 5	5°32	22°56	3°23	21°44	3°43	6°43	19°35	20°45	0°21	3° 6	S 15
S 16	19 36 29	23°33'27	17°58	5°24	25°19	6° 9	23° 9	3°26	21°43	3°42	6°44	19°R36	20°42	0°28	3°11	S 16
M17	19 40 25	24°30'43	2 ⁸ 0	5°52	26°33	6°45	23°22	3°29	21°42	3°41	6°45	19°36	20°39	0°34	3°17	M17
T 18	19 44 22	25°28'01	16°17	6°25	27°47	7°22	23°34	3°32	21°42	3°40	6°45	19°35	20°36	0°41	3°23	T 18
W19	19 48 18	26°25'19	0 ¹¹ 47	7° 4	29° 1	7°59	23°47	3°35	21°41	3°40	6°46	19°33	20°32	0°48	3°29	W19
T 20	19 52 15	27°22'38	15°25	7°48	0 ⁰ 15	8°36	24° 0	3°38	21°41	3°39	6°47	19°30	20°29	0°54	3°35	T 20
F 21	19 56 12	28°19'59	0 ⁵ 6	8°39	1°29	9°13	24°12	3°41	21°40	3°38	6°48	19°27	20°26	1° 1	3°40	F 21
S 22	20 0 8	29°17'20	14°44	9°35	2°43	9°50	24°25	3°43	21°40	3°37	6°49	19°25	20°23	1° 8	3°46	S 22
S 23	20 4 5	0 ⁰ 14'42	29°11	10°36	3°57	10°27	24°37	3°46	21°39	3°37	6°50	19°23	20°20	1°15	3°52	S 23
M24	20 8 1	1°12'04	13 ⁰ 21	11°43	5°11	11° 4	24°50	3°48	21°39	3°36	6°51	19°D22	20°17	1°21	3°57	M24
T 25	20 11 58	2° 9'28	27°11	12°55	6°25	11°42	25° 2	3°51	21°38	3°35	6°52	19°22	20°13	1°28	4° 3	T 25
W26	20 15 54	3° 6'52	10 ¹¹ 38	14°12	7°39	12°19	25°14	3°53	21°38	3°35	6°53	19°23	20°10	1°35	4° 9	W26
T 27	20 19 51	4° 4'17	23°43	15°34	8°53	12°56	25°26	3°55	21°38	3°34	6°54	19°24	20° 7	1°41	4°14	T 27
F 28	20 23 47	5° 1'42	6 ¹¹ 25	17° 1	10° 7	13°33	25°39	3°57	21°38	3°33	6°54	19°25	20° 4	1°48	4°20	F 28
S 29	20 27 44	5°59'08	18°50	18°32	11°21	14°11	25°51	3°59	21°38	3°33	6°55	19°26	20° 1	1°55	4°25	S 29
S 30	20 31 41	6°56'35	1 ¹¹ 0	20° 8	12°35	14°48	26° 3	4° 1	21°38	3°32	6°56	19°27	19°58	2° 2	4°31	S 30
M31	20 35 37	7 ⁰ 54'02	13 ¹¹ 0	21°48	13 ⁰ 49	15 ¹¹ 26	26 ¹¹ 15	4 ⁸ 2	21°D38	3 ¹ 32	6 ¹¹ 57	19°R27	19 ⁰ 54	2 ¹ 8	4°36	M31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl
S 1	23n10	0s34	4n 0	18n36	4s37	23n47	0n29	13n35	1n 8	22n42	0s24	10n 6	2s24	18s 4	0n15	19s22
S 2	23 5	4 37	4 36	18 32	4 43	23 45	0 31	13 22	1 7	22 43	0 24	10 8	2 24	18 3	0 15	19 22
M 3	23 1	8 26	4 59	18 31	4 47	23 43	0 33	13 9	1 6	22 44	0 24	10 9	2 24	18 3	0 15	19 21
T 4	22 56	11 54	5 10	18 30	4 49	23 39	0 35	12 55	1 6	22 45	0 23	10 10	2 24	18 3	0 15	19 21
W 5	22 50	14 53	5 7	18 31	4 49	23 35	0 38	12 42	1 5	22 46	0 23	10 11	2 25	18 2	0 15	19 21
T 6	22 45	17 16	4 51	18 33	4 48	23 30	0 40	12 29	1 5	22 47	0 23	10 12	2 25	18 2	0 15	19 21
F 7	22 38	18 55	4 22	18 37	4 46	23 25	0 42	12 15	1 4	22 48	0 23	10 14	2 25	18 2	0 15	19 21
S 8	22 32	19 44	3 41	18 42	4 41	23 19	0 44	12 2	1 3	22 49	0 23	10 15	2 25	18 1	0 15	19 20
S 9	22 25	19 38	2 49	18 48	4 36	23 12	0 46	11 48	1 3	22 50	0 23	10 16	2 26	18 1	0 15	19 20
M10	22 18	18 35	1 49	18 55	4 29	23 4	0 48	11 35	1 2	22 51	0 23	10 17	2 26	18 1	0 15	19 20
T 11	22 10	16 37	0 42	19 3	4 21	22 56	0 50	11 21	1 2	22 52	0 23	10 18	2 26	18 1	0 15	19 20
W12	22 2	13 48	0s27	19 13	4 12	22 47	0 52	11 7	1 1	22 53	0 23	10 19	2 26	18 1	0 15	19 20
T 13	21 53	10 16	1 37	19 23	4 2	22 37	0 54	10 53	1 0	22 53	0 23	10 20	2 27	18 0	0 15	19 20
F 14	21 44	6 10	2 43	19 33	3 51	22 27	0 55	10 39	1 0	22 54	0 23	10 21	2 27	18 0	0 14	19 20
S 15	21 35	1 42	3 41	19 45	3 39	22 16	0 57	10 25	0 59	22 55	0 23	10 22	2 27	18 0	0 14	19 19
S 16	21 25	2n56	4 28	19 57	3 26	22 5	0 59	10 11	0 59	22 56	0 23	10 22	2 27	18 0	0 14	19 19
M17	21 15	7 30	5 0	20 9	3 13	21 53	1 1	9 57	0 58	22 56	0 23	10 23	2 27	18 0	0 14	19 19
T 18	21 5	11 44	5 14	20 21	2 59	21 40	1 2	9 42	0 57	22 57	0 23	10 24	2 28	17 59	0 14	19 19
W19	20 54	15 19	5 8	20 33	2 45	21 26	1 4	9 28	0 57	22 58	0 22	10 25	2 28	17 59	0 14	19 19
T 20	20 43	18 0	4 43	20 45	2 30	21 12	1 5	9 14	0 56	22 58	0 22	10 26	2 28	17 59	0 14	19 19
F 21	20 32	19 30	3 59	20 57	2 16	20 57	1 7	8 59	0 55	22 59	0 22	10 26	2 28	17 59	0 14	19 19
S 22	20 20	19 42	2 59	21 8	2 1	20 42	1 8	8 45	0 55	23 0	0 22	10 27	2 29	17 59	0 14	19 19
S 23	20 8	18 35	1 49	21 18	1 46	20 26	1 10	8 30	0 54	23 0	0 22	10 27	2 29	17 59	0 14	19 19
M24	19 56	16 19	0 33	21 28	1 31	20 10	1 11	8 15	0 54	23 1	0 22	10 28	2 29	17 59	0 14	19 19
T 25	19 43	13 9	0n43	21 36	1 16	19 52	1 13	8 0	0 53	23 1	0 22	10 29	2 29	17 59	0 14	19 18
W26	19 30	9 22	1 55	21 43	1 1	19 35	1 14	7 46	0 52	23 2	0 22	10 29	2 30	17 59	0 14	19 18
T 27	19 16	5 14	2 59	21 48	0 47	19 17	1 15	7 31	0 52	23 3	0 22	10 30	2 30	17 59	0 14	19 18
F 28	19 3	0 59	3 52	21 52	0 33	18 58	1 16	7 16	0 51	23 3	0 22	10 30	2 30	17 59	0 14	19 18
S 29	18 49	3s11	4 32	21 53	0 19	18 39	1 17	7 1	0 51	23 3	0 22	10 30	2 30	17 59	0 14	19 18
S 30	18 34	7 9	5 0	21 53	0 6	18 19	1 18	6 46	0 50	23 4	0 22	10 31	2 31	17 59	0 14	19 18
M31	18n20	10s46	5n14	21n50	0n 7	17n58	1n19	6n31	0n49	23n 4	0s22	10n31	2s31	17s59	0n14	19s18

Julian Day Number = 2322065.5, Delta T = 46.46 sec
Ecliptic obliquity = 23°29'00, Nutation = - 0°00'10, out-of-bounds declination in red
Ayanamsha: Fagan/Bradley = 19°47'32, Lahiri = 18°54'33Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1645

geocentric

AUGUST 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	20 39 34	8♂51'31	24♂54	23♂32	15♂3	16♂3	26♂26	4♂4	21♂38	3°R31	6♂57	19°R26	19♂51	2♂15	4♂42	T 1
W 2	20 43 30	9°49'00	6♂47	25°19	16°17	16°41	26°38	4°6	21°38	3♂31	6°58	19♂26	19°48	2°22	4°47	W 2
T 3	20 47 27	10°46'30	18°44	27°9	17°31	17°19	26°50	4°7	21°38	3°31	6°59	19°24	19°45	2°29	4°52	T 3
F 4	20 51 23	11°44'01	0♂47	29°2	18°45	17°56	27°2	4°8	21°38	3°30	7°0	19°23	19°42	2°35	4°58	F 4
S 5	20 55 20	12°41'32	13°0	0♂58	19°59	18°34	27°13	4°10	21°38	3°30	7°0	19°22	19°38	2°42	5°3	S 5
S 6	20 59 16	13°39'05	25°25	2°55	21°13	19°12	27°25	4°11	21°39	3°29	7°1	19°22	19°35	2°49	5°8	S 6
M 7	21 3 13	14°36'39	8♂4	4°54	22°28	19°50	27°36	4°12	21°39	3°29	7°2	19°21	19°32	2°55	5°13	M 7
T 8	21 7 10	15°34'14	20°57	6°55	23°42	20°28	27°47	4°13	21°39	3°29	7°2	19°D21	19°29	3°2	5°18	T 8
W 9	21 11 6	16°31'51	4♂6	8°56	24°56	21°6	27°59	4°13	21°40	3°29	7°3	19°21	19°26	3°9	5°24	W 9
T 10	21 15 3	17°29'28	17°28	10°58	26°10	21°44	28°10	4°14	21°40	3°29	7°3	19°22	19°23	3°16	5°29	T 10
F 11	21 18 59	18°27'07	1♂4	13°0	27°24	22°22	28°21	4°15	21°41	3°28	7°4	19°22	19°19	3°22	5°34	F 11
S 12	21 22 56	19°24'48	14°51	15°2	28°38	23°0	28°32	4°15	21°42	3°28	7°4	19°R22	19°16	3°29	5°39	S 12
S 13	21 26 52	20°22'30	28°49	17°3	29°52	23°38	28°43	4°16	21°42	3°28	7°5	19°22	19°13	3°36	5°43	S 13
M14	21 30 49	21°20'14	12♂54	19°5	1♂6	24°16	28°53	4°16	21°43	3°28	7°5	19°22	19°10	3°42	5°48	M14
T 15	21 34 45	22°17'59	27°7	21°6	2°21	24°54	29°4	4°16	21°44	3°D28	7°6	19°D22	19°7	3°49	5°53	T 15
W16	21 38 42	23°15'47	11♂23	23°5	3°35	25°32	29°15	4°R16	21°45	3°28	7°6	19°22	19°4	3°56	5°58	W16
T 17	21 42 39	24°13'36	25°40	25°5	4°49	26°11	29°25	4°16	21°45	3°28	7°7	19°22	19°0	4°3	6°3	T 17
F 18	21 46 35	25°11'27	9♂55	27°3	6°3	26°49	29°36	4°16	21°46	3°28	7°7	19°23	18°57	4°9	6°7	F 18
S 19	21 50 32	26°9'19	24°5	28°59	7°17	27°28	29°46	4°16	21°47	3°28	7°8	19°23	18°54	4°16	6°12	S 19
S 20	21 54 28	27°7'13	8♂6	0♂55	8°31	28°6	29°56	4°15	21°48	3°29	7°8	19°24	18°51	4°23	6°17	S 20
M21	21 58 25	28°5'09	21°54	2°50	9°46	28°45	0♂6	4°15	21°49	3°29	7°8	19°R24	18°48	4°29	6°21	M21
T 22	22 2 21	29°3'06	5♂28	4°43	11°0	29°23	0°17	4°14	21°51	3°29	7°9	19°23	18°44	4°36	6°26	T 22
W23	22 6 18	0♂1'05	18°44	6°35	12°14	0♂2	0°26	4°14	21°52	3°29	7°9	19°23	18°41	4°43	6°30	W23
T 24	22 10 14	0°59'06	1♂42	8°26	13°28	0°41	0°36	4°13	21°53	3°29	7°9	19°21	18°38	4°50	6°34	T 24
F 25	22 14 11	1°57'07	14°22	10°15	14°43	1°20	0°46	4°12	21°54	3°30	7°10	19°19	18°35	4°56	6°39	F 25
S 26	22 18 7	2°55'11	26°46	12°4	15°57	1°58	0°56	4°11	21°56	3°30	7°10	19°18	18°32	5°3	6°43	S 26
S 27	22 22 4	3°53'15	8♂56	13°51	17°11	2°37	1°5	4°10	21°57	3°30	7°10	19°16	18°29	5°10	6°47	S 27
M28	22 26 1	4°51'21	20°56	15°36	18°25	3°16	1°14	4°9	21°58	3°31	7°10	19°15	18°25	5°16	6°51	M28
T 29	22 29 57	5°49'29	2♂51	17°21	19°39	3°55	1°24	4°7	22°0	3°31	7°10	19°D14	18°22	5°23	6°55	T 29
W30	22 33 54	6°47'38	14°43	19°4	20°54	4°34	1°33	4°6	22°0	3°32	7°11	19°14	18°19	5°30	6°59	W30
T 31	22 37 50	7♂45'49	26♂40	20♂46	22♂8	5♂13	1♂42	4♂4	22♂3	3♂32	7♂11	19♂15	18♂16	5♂37	7♂3	T 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
T 1	18n 5	13s56	5n15	21n45	0n19	17n38	1n20	6n16	0n49	23n 4	0s22	10n31	2s31	17s59	0n14	19s18
W 2	17 49	16 31	5 2	21 37	0 31	17 16	1 21	6 0	0 48	23 5	0 22	10 32	2 32	17 59	0 14	19 18
T 3	17 34	18 25	4 36	21 27	0 41	16 55	1 22	5 45	0 48	23 5	0 22	10 32	2 32	17 59	0 14	19 18
F 4	17 18	19 31	3 58	21 14	0 51	16 32	1 22	5 30	0 47	23 6	0 21	10 32	2 32	17 59	0 14	19 18
S 5	17 2	19 44	3 8	20 58	1 0	16 10	1 23	5 14	0 46	23 6	0 21	10 32	2 32	17 59	0 14	19 18
S 6	16 45	18 59	2 9	20 39	1 9	15 46	1 24	4 59	0 46	23 6	0 21	10 32	2 33	17 59	0 14	19 18
M 7	16 29	17 17	1 2	20 19	1 16	15 23	1 24	4 44	0 45	23 6	0 21	10 33	2 33	17 59	0 14	19 18
T 8	16 12	14 41	0s 9	19 55	1 23	14 59	1 25	4 28	0 45	23 7	0 21	10 33	2 33	17 59	0 14	19 18
W 9	15 55	11 17	1 21	19 29	1 29	14 34	1 25	4 13	0 44	23 7	0 21	10 33	2 33	17 59	0 14	19 18
T 10	15 37	7 15	2 30	19 1	1 34	14 10	1 26	3 57	0 43	23 7	0 21	10 33	2 34	18 0	0 14	19 18
F 11	15 19	2 48	3 31	18 30	1 38	13 44	1 26	3 41	0 43	23 7	0 21	10 33	2 34	18 0	0 14	19 18
S 12	15 2	1n51	4 21	17 58	1 41	13 19	1 26	3 26	0 42	23 8	0 21	10 33	2 34	18 0	0 14	19 18
S 13	14 43	6 27	4 57	17 23	1 43	12 53	1 26	3 10	0 42	23 8	0 21	10 32	2 34	18 0	0 14	19 18
M14	14 25	10 44	5 15	16 47	1 45	12 27	1 26	2 54	0 41	23 8	0 21	10 32	2 35	18 0	0 14	19 18
T 15	14 6	14 27	5 14	16 10	1 46	12 0	1 26	2 39	0 40	23 8	0 21	10 32	2 35	18 1	0 14	19 18
W16	13 47	17 20	4 54	15 31	1 46	11 33	1 26	2 23	0 40	23 8	0 21	10 32	2 35	18 1	0 14	19 18
T 17	13 28	19 9	4 16	14 51	1 46	11 6	1 26	2 7	0 39	23 8	0 21	10 32	2 35	18 1	0 14	19 18
F 18	13 9	19 46	3 22	14 9	1 44	10 38	1 26	1 51	0 39	23 8	0 21	10 31	2 36	18 1	0 14	19 19
S 19	12 49	19 6	2 16	13 27	1 43	10 11	1 26	1 35	0 38	23 8	0 21	10 31	2 36	18 2	0 14	19 19
S 20	12 30	17 16	1 2	12 44	1 41	9 42	1 25	1 20	0 37	23 8	0 21	10 31	2 36	18 2	0 14	19 19
M21	12 10	14 27	0n14	12 0	1 38	9 14	1 25	1 4	0 37	23 9	0 20	10 30	2 36	18 2	0 14	19 19
T 22	11 50	10 53	1 28	11 16	1 35	8 46	1 25	0 48	0 36	23 9	0 20	10 30	2 37	18 2	0 14	19 19
W23	11 29	6 51	2 35	10 31	1 31	8 17	1 24	0 32	0 36	23 9	0 20	10 29	2 37	18 3	0 14	19 19
T 24	11 9	2 35	3 33	9 46	1 27	7 48	1 24	0 16	0 35	23 9	0 20	10 29	2 37	18 3	0 14	19 19
F 25	10 48	1s41	4 19	9 0	1 22	7 18	1 23	0s 0	0 34	23 9	0 20	10 28	2 37	18 3	0 14	19 19
S 26	10 27	5 48	4 52	8 15	1 18	6 49	1 22	0 16	0 34	23 9	0 20	10 28	2 38	18 4	0 14	19 19
S 27	10 6	9 35	5 11	7 29	1 12	6 19	1 21	0 32	0 33	23 9	0 20	10 27	2 38	18 4	0 14	19 19
M28	9 45	12 57	5 16	6 43	1 7	5 49	1 21	0 48	0 32	23 9	0 20	10 27	2 38	18 5	0 14	19 20
T 29	9 24	15 45	5 7	5 57	1 1	5 19	1 20	1 4	0 32	23 9	0 20	10 26	2 38	18 5	0 13	19 20
W30	9 2	17 53	4 45	5 11	0 55	4 49	1 19	1 20	0 31	23 8	0 20	10 25	2 39	18 5	0 13	19 20
T 31	8n40	19s16	4n11	4n25	0n49	4n19	1n18	1s37	0n31	23n 8	0s20	10n24	2s39	18s 6	0n13	19s20

Julian Day Number = 2322096.5, Delta T = 46.40 sec

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

Ayanamsha: Fagan/Bradley = 19°47'36, Lahiri = 18°54'37Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1645
geocentric

SEPTEMBER 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	22 41 47	8♐44'01	8♌44	22♐27	23♐22	5♌52	1♌51	4°R 3	22♐5	3♌33	7♐11	19♌17	18♌13	5♌43	7♌7	F 1
S 2	22 45 43	9°42'15	21° 0	24° 7	24°36	6°31	1°59	4♌1	22° 6	3°33	7°11	19°18	18°10	5°50	7°11	S 2
S 3	22 49 40	10°40'30	3♌33	25°45	25°50	7°11	2° 8	3°59	22° 8	3°34	7°11	19°20	18° 6	5°57	7°15	S 3
M 4	22 53 36	11°38'47	16°23	27°23	27° 5	7°50	2°17	3°57	22°10	3°35	7°11	19°R20	18° 3	6° 4	7°18	M 4
T 5	22 57 33	12°37'05	29°34	28°59	28°19	8°29	2°25	3°55	22°11	3°35	7°11	19°20	18° 0	6°10	7°22	T 5
W 6	23 1 30	13°35'25	13♌4	0♌34	29°33	9° 9	2°33	3°53	22°13	3°36	7°R11	19°18	17°57	6°17	7°25	W 6
T 7	23 5 26	14°33'47	26°53	2° 8	0♌47	9°48	2°41	3°51	22°15	3°37	7°11	19°16	17°54	6°24	7°29	T 7
F 8	23 9 23	15°32'11	10♐57	3°41	2° 1	10°28	2°49	3°49	22°17	3°37	7°11	19°12	17°50	6°30	7°32	F 8
S 9	23 13 19	16°30'37	25°11	5°13	3°16	11° 7	2°57	3°46	22°19	3°38	7°11	19° 8	17°47	6°37	7°36	S 9
S 10	23 17 16	17°29'05	9♌31	6°43	4°30	11°47	3° 5	3°44	22°21	3°39	7°11	19° 5	17°44	6°44	7°39	S 10
M11	23 21 12	18°27'36	23°52	8°13	5°44	12°26	3°12	3°41	22°23	3°40	7°11	19° 2	17°41	6°51	7°42	M11
T 12	23 25 9	19°26'08	8♐11	9°41	6°58	13° 6	3°20	3°39	22°25	3°41	7°11	19° 0	17°38	6°57	7°45	T 12
W13	23 29 5	20°24'43	22°23	11° 9	8°12	13°46	3°27	3°36	22°27	3°42	7°11	18°D59	17°35	7° 4	7°48	W13
T 14	23 33 2	21°23'20	6♌28	12°35	9°27	14°25	3°34	3°33	22°30	3°43	7°10	19° 0	17°31	7°11	7°51	T 14
F 15	23 36 59	22°22'00	20°23	14° 0	10°41	15° 5	3°41	3°30	22°32	3°44	7°10	19° 2	17°28	7°17	7°54	F 15
S 16	23 40 55	23°20'41	4♌7	15°24	11°55	15°45	3°48	3°27	22°34	3°45	7°10	19° 3	17°25	7°24	7°57	S 16
S 17	23 44 52	24°19'25	17°42	16°47	13° 9	16°25	3°55	3°24	22°37	3°46	7°10	19°R 4	17°22	7°31	8° 0	S 17
M18	23 48 48	25°18'11	1♐5	18° 8	14°23	17° 5	4° 2	3°21	22°39	3°47	7°10	19° 3	17°19	7°38	8° 2	M18
T 19	23 52 45	26°16'59	14°15	19°29	15°38	17°45	4° 8	3°18	22°41	3°48	7° 9	19° 1	17°15	7°44	8° 5	T 19
W20	23 56 41	27°15'49	27°13	20°48	16°52	18°25	4°14	3°14	22°44	3°49	7° 9	18°56	17°12	7°51	8° 8	W20
T 21	0 0 38	28°14'41	9♌58	22° 5	18° 6	19° 6	4°20	3°11	22°46	3°50	7° 9	18°50	17° 9	7°58	8°10	T 21
F 22	0 4 34	29°13'35	22°30	23°22	19°20	19°46	4°26	3° 7	22°49	3°51	7° 8	18°43	17° 6	8° 4	8°12	F 22
S 23	0 8 31	0♌12'31	4♐48	24°36	20°34	20°26	4°32	3° 4	22°51	3°53	7° 8	18°36	17° 3	8°11	8°15	S 23
S 24	0 12 27	1°11'29	16°56	25°49	21°49	21° 6	4°38	3° 0	22°54	3°54	7° 8	18°28	17° 0	8°18	8°17	S 24
M25	0 16 24	2°10'28	28°54	27° 1	23° 3	21°47	4°43	2°56	22°57	3°55	7° 7	18°22	16°56	8°24	8°19	M25
T 26	0 20 21	3° 9'30	10♌47	28°11	24°17	22°27	4°48	2°53	22°59	3°56	7° 7	18°17	16°53	8°31	8°21	T 26
W27	0 24 17	4° 8'33	22°38	29°19	25°31	23° 8	4°53	2°49	23° 2	3°58	7° 7	18°15	16°50	8°38	8°23	W27
T 28	0 28 14	5° 7'39	4♌32	0♐24	26°45	23°48	4°58	2°45	23° 5	3°59	7° 6	18°D14	16°47	8°45	8°25	T 28
F 29	0 32 10	6° 6'46	16°34	1°28	27°59	24°29	5° 3	2°41	23° 8	4° 0	7° 6	18°14	16°44	8°51	8°27	F 29
S 30	0 36 7	7♌5'54	28♌49	2♐29	29♌13	25♌10	5♌8	2♌37	23♐10	4♌2	7♐5	18♌16	16♌41	8♌58	8♌28	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
F 1	8n19	19s47	3n25	3n39	0n42	3n49	1n17	1s53	0n30	23n 8	0s20	10n24	2s39	18s 6	0n13	19s20	1n36	10n33	11s 8	15n 4	15n24	16s28	17n11	6s 7	
S 2	7 57	19 22	2 30	2 53	0 36	3 18	1 15	2 9	0 29	23 8	0 20	10 23	2 39	18 7	0 13	19 20	1 36	10 33	11 8	15 4	15 25	16 29	17 10	6 8	
S 3	7 35	18 0	1 26	2 8	0 29	2 47	1 14	2 25	0 29	23 8	0 20	10 22	2 40	18 7	0 13	19 21	1 36	10 33	11 9	15 3	15 26	16 31	17 9	6 8	
M 4	7 12	15 42	0 16	1 23	0 22	2 17	1 13	2 41	0 28	23 8	0 20	10 21	2 40	18 8	0 13	19 21	1 35	10 33	11 9	15 3	15 27	16 32	17 8	6 9	
T 5	6 50	12 31	0s56	0 38	0 15	1 46	1 12	2 57	0 28	23 8	0 20	10 20	2 40	18 8	0 13	19 21	1 35	10 33	11 9	15 3	15 28	16 34	17 8	6 10	
W 6	6 28	8 37	2 7	0s 7	0 7	1 15	1 10	3 13	0 27	23 8	0 20	10 19	2 40	18 9	0 13	19 21	1 35	10 33	11 9	15 4	15 29	16 35	17 7	6 10	
T 7	6 5	4 10	3 12	0 51	0s 0	0 44	1 9	3 29	0 26	23 8	0 20	10 19	2 40	18 9	0 13	19 21	1 35	10 32	11 9	15 4	15 30	16 36	17 6	6 11	
F 8	5 43	0n34	4 6	1 35	0 8	0 13	1 7	3 45	0 26	23 8	0 19	10 18	2 41	18 10	0 13	19 21	1 35	10 32	11 10	15 5	15 31	16 38	17 5	6 11	
S 9	5 20	5 19	4 46	2 19	0 15	0s18	1 6	4 1	0 25	23 8	0 19	10 17	2 41	18 10	0 13	19 22	1 35	10 32	11 10	15 7	15 32	16 39	17 5	6 12	
S 10	4 57	9 49	5 8	3 2	0 23	0 49	1 4	4 17	0 25	23 7	0 19	10 15	2 41	18 11	0 13	19 22	1 35	10 32	11 10	15 8	15 33	16 40	17 4	6 12	
M11	4 34	13 44	5 12	3 44	0 31	1 20	1 2	4 33	0 24	23 7	0 19	10 14	2 41	18 11	0 13	19 22	1 35	10 31	11 10	15 9	15 34	16 42	17 3	6 13	
T 12	4 11	16 51	4 56	4 26	0 39	1 51	1 1	4 49	0 23	23 7	0 19	10 13	2 41	18 12	0 13	19 22	1 35	10 31	11 10	15 9	15 35	16 43	17 2	6 13	
W13	3 48	18 55	4 21	5 8	0 46	2 22	0 59	5 5	0 23	23 7	0 19	10 12	2 42	18 12	0 13	19 23	1 35	10 31	11 11	15 9	15 36	16 45	17 2	6 14	
T 14	3 25	19 48	3 32	5 49	0 54	2 52	0 57	5 21	0 22	23 7	0 19	10 11	2 42	18 13	0 13	19 23	1 35	10 31	11 11	15 9	15 37	16 46	17 1	6 15	
F 15	3 2	19 28	2 30	6 29	1 2	3 23	0 55	5 37	0 22	23 7	0 19	10 10	2 42	18 14	0 13	19 23	1 35	10 31	11 11	15 9	15 38	16 47	17 0	6 15	
S 16	2 39	17 57	1 21	7 9	1 10	3 54	0 53	5 53	0 21	23 7	0 19	10 9	2 42	18 14	0 13	19 23	1 35	10 30	11 11	15 8	15 39	16 49	16 59	6 16	
S 17	2 16	15 26	0 7	7 48	1 17	4 25	0 51	6 9	0 20	23 7	0 19	10 8	2 42	18 15	0 13	19 23	1 35	10 30	11 11	15 8	15 40	16 50	16 59	6 16	
M18	1 52	12 7	1n 5	8 26	1 25	4 56	0 49	6 25	0 20	23 6	0 19	10 6	2 43	18 15	0 13	19 24	1 35	10 30	11 12	15 8	15 41	16 51	16 58	6 17	
T 19	1 29	8 15	2 13	9 4	1 33	5 26	0 47	6 41	0 19	23 6	0 19	10 5	2 43	18 16	0 13	19 24	1 35	10 30	11 12	15 9	15 41	16 53	16 57	6 18	
W20	1 5	4 3	3 12	9 41	1 40	5 57	0 45	6 57	0 19	23 6	0 19	10 4	2 43	18 17	0 13	19 24	1 35	10 29	11 12	15 10	15 42	16 54	16 56	6 18	
T 21	0 42	0s16	4 1	10 17	1 48	6 27	0 43	7 13	0 18	23 6	0 19	10 2	2 43	18 17	0 13	19 25	1 35	10 29	11 12	15 12	15 43	16 56	16 56	6 19	
F 22	0 19	4 29	4 37	10 52	1 55	6 57	0 41	7 29	0 17	23 6	0 19	10 1	2 43	18 18	0 13	19 25	1 34	10 29	11 12	15 15	15 44	16 57	16 55	6 20	
S 23	0s 5	8 26	5 0	11 27	2 2	7 27	0 38	7 44	0 17	23 6	0 19	10 0	2 43	18 19	0 13	19 25	1 34	10 29	11 13	15 17	15 45	16 58	16 54	6 20	
S 24	0 28	11 59	5 9	12 0	2 10	7 57	0 36	8 0	0 16	23 6	0 19	9 58	2 44	18 19	0 13	19 25	1 34	10 29	11 13	15 19	15 46	17 0	16 53	6 21	
M25	0 52	15 1	5 3	12 33	2 16	8 27	0 34	8 16	0 16	23 5	0 19	9 57	2 44	18 20	0 13	19 26	1 34	10 28	11 13	15 21	15 47	17 1	16 53	6 21	
T 26	1 15	17 24	4 45	13 4	2 23	8 57	0 31	8 31	0 15	23 5	0 18	9 55	2 44	18 21	0 13	19 26	1 34	10 28	11 13	15 22	15 48	17 2	16 52	6 22	
W27	1 39	19 2	4 15	13 35	2 30	9 26	0 29	8 47	0 14	23 5	0 18	9 54	2 44	18 21	0 13	19 26	1 34	10 28	11 13	15 23	15 49	17 4	16 51	6 23	
T 28	2 2	19 51	3 34	14 4	2 36	9 55	0 26	9 3	0 14	23 5	0 18	9 53	2 44	18 22	0 13	19 27	1 34	10 28	11 13	15 24	15 50	17 5	16 50	6 23	
F 29	2 26	19 46	2 43	14 32	2 42	10 24	0 24	9 18	0 13	23 5	0 18	9 51	2 44	18 23	0 13	19 27	1 34	10 27	11 14	15 23	15 51	17 6	16 50	6 24	
S 30	2s49	18s45	1n43	14s59	2s48	10s53	0n21	9s34	0n12	23n 5	0s18	9n50	2s44	18s24	0n13	19s27	1n34	10n27	11s14	15n23	15n52	17s 8	16n49	6s25	

ASTRODIENST EPHEMERIS for the year 1645
geocentric

OCTOBER 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 40 3	8♂ 5'05	11♂21	3♂28	0♂28	25♂50	5♂12	2°R33	23♂13	4♂ 3	7°R 5	18♂17	16♂37	9♂ 5	8♂30	S 1
M 2	0 44 0	9° 4'17	24°16	4°24	1°42	26°31	5°16	2♂28	23°16	4° 5	7♂ 4	18°R17	16°34	9°11	8°32	M 2
T 3	0 47 56	10° 3'31	7♂36	5°17	2°56	27°12	5°20	2°24	23°19	4° 6	7° 4	18°15	16°31	9°18	8°33	T 3
W 4	0 51 53	11° 2'48	21°22	6° 6	4°10	27°53	5°24	2°20	23°22	4° 8	7° 3	18°11	16°28	9°25	8°34	W 4
T 5	0 55 50	12° 2'05	5♂31	6°52	5°24	28°34	5°28	2°16	23°25	4° 9	7° 3	18° 5	16°25	9°32	8°36	T 5
F 6	0 59 46	13° 1'25	20° 1	7°34	6°38	29°15	5°32	2°11	23°28	4°11	7° 2	17°57	16°21	9°38	8°37	F 6
S 7	1 3 43	14° 0'48	4♂43	8°11	7°52	29°56	5°35	2° 7	23°31	4°12	7° 1	17°48	16°18	9°45	8°38	S 7
S 8	1 7 39	15° 0'12	19°31	8°44	9° 6	0♂37	5°38	2° 2	23°34	4°14	7° 1	17°39	16°15	9°52	8°39	S 8
M 9	1 11 36	15°59'39	4♂16	9°11	10°20	1°18	5°41	1°58	23°37	4°16	7° 0	17°32	16°12	9°58	8°40	M 9
T 10	1 15 32	16°59'08	18°52	9°33	11°34	1°59	5°44	1°53	23°40	4°17	6°59	17°26	16° 9	10° 5	8°41	T 10
W11	1 19 29	17°58'39	3♂13	9°49	12°48	2°40	5°46	1°49	23°43	4°19	6°59	17°23	16° 6	10°12	8°41	W11
T 12	1 23 25	18°58'13	17°16	9°57	14° 2	3°22	5°49	1°44	23°47	4°21	6°58	17°D22	16° 2	10°19	8°42	T 12
F 13	1 27 22	19°57'49	1♂ 2	9°R59	15°16	4° 3	5°51	1°39	23°50	4°22	6°57	17°23	15°59	10°25	8°43	F 13
S 14	1 31 19	20°57'27	14°32	9°52	16°30	4°44	5°53	1°35	23°53	4°24	6°57	17°R23	15°56	10°32	8°43	S 14
S 15	1 35 15	21°57'08	27°46	9°38	17°44	5°26	5°55	1°30	23°56	4°26	6°56	17°23	15°53	10°39	8°44	S 15
M16	1 39 12	22°56'50	10♂47	9°14	18°58	6° 7	5°57	1°25	24° 0	4°28	6°55	17°20	15°50	10°45	8°44	M16
T 17	1 43 8	23°56'35	23°37	8°42	20°12	6°49	5°58	1°21	24° 3	4°29	6°54	17°15	15°46	10°52	8°44	T 17
W18	1 47 5	24°56'22	6♂15	8° 1	21°26	7°31	5°59	1°16	24° 6	4°31	6°53	17° 7	15°43	10°59	8°44	W18
T 19	1 51 1	25°56'11	18°44	7°11	22°40	8°12	6° 0	1°11	24°10	4°33	6°53	16°57	15°40	11° 6	8°R44	T 19
F 20	1 54 58	26°56'03	1♂ 3	6°13	23°54	8°54	6° 1	1° 6	24°13	4°35	6°52	16°44	15°37	11°12	8°44	F 20
S 21	1 58 54	27°55'56	13°13	5° 8	25° 8	9°36	6° 2	1° 1	24°16	4°37	6°51	16°31	15°34	11°19	8°44	S 21
S 22	2 2 51	28°55'51	25°15	3°57	26°22	10°18	6° 2	0°56	24°20	4°39	6°50	16°17	15°31	11°26	8°44	S 22
M23	2 6 48	29°55'48	7♂10	2°42	27°36	11° 0	6° 2	0°52	24°23	4°41	6°49	16° 6	15°27	11°32	8°43	M23
T 24	2 10 44	0♂55'47	19° 0	1°25	28°50	11°42	6°R 2	0°47	24°27	4°43	6°48	15°56	15°24	11°39	8°43	T 24
W25	2 14 41	1°55'47	0♂49	0° 9	0♂ 4	12°24	6° 2	0°42	24°30	4°45	6°47	15°49	15°21	11°46	8°42	W25
T 26	2 18 37	2°55'49	12°40	28♂55	1°18	13° 6	6° 2	0°37	24°34	4°47	6°46	15°45	15°18	11°53	8°42	T 26
F 27	2 22 34	3°55'53	24°39	27°45	2°32	13°48	6° 1	0°32	24°37	4°49	6°46	15°44	15°15	11°59	8°41	F 27
S 28	2 26 30	4°55'59	6♂50	26°44	3°46	14°30	6° 1	0°28	24°41	4°51	6°45	15°D43	15°12	12° 6	8°40	S 28
S 29	2 30 27	5°56'06	19°18	25°51	5° 0	15°12	6° 0	0°23	24°44	4°53	6°44	15°R43	15° 8	12°13	8°39	S 29
M30	2 34 23	6°56'14	2♂ 9	25° 8	6°14	15°55	5°59	0°18	24°48	4°55	6°43	15°42	15° 5	12°19	8°39	M30
T 31	2 38 20	7♂56'24	15♂27	24♂36	7♂27	16♂37	5♂57	0♂13	24♂52	4♂57	6♂42	15♂40	15♂ 2	12♂26	8♂37	T 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
S 1	3s13	16s48	0n37	15s24	2s53	11s22	0n19	9s49	0n12	23n 5	0s18	9n48	2s45	18s24	0n13	19s27	1n34	10n27	11s14	15n23	15n53	17s 9	16n48	6s25					
M 2	3 36	13 58	0s32	15 48	2 58	11 50	0 16	10 4	0 11	23 5	0 18	9 47	2 45	18 25	0 13	19 28	1 34	10 27	11 14	15 23	15 54	17 10	16 47	6 26					
T 3	3 59	10 19	1 42	16 10	3 3	12 18	0 14	10 20	0 11	23 5	0 18	9 45	2 45	18 26	0 13	19 28	1 34	10 26	11 14	15 23	15 55	17 12	16 47	6 27					
W 4	4 23	6 0	2 48	16 31	3 7	12 45	0 11	10 35	0 10	23 4	0 18	9 43	2 45	18 27	0 13	19 28	1 34	10 26	11 14	15 24	15 56	17 13	16 46	6 27					
T 5	4 46	1 15	3 45	16 50	3 11	13 13	0 9	10 50	0 9	23 4	0 18	9 42	2 45	18 27	0 13	19 29	1 34	10 26	11 15	15 26	15 57	17 14	16 45	6 28					
F 6	5 9	3n40	4 30	17 6	3 14	13 40	0 6	11 5	0 9	23 4	0 18	9 40	2 45	18 28	0 13	19 29	1 34	10 26	11 15	15 29	15 58	17 16	16 45	6 28					
S 7	5 32	8 27	4 57	17 21	3 16	14 7	0 3	11 20	0 8	23 4	0 18	9 39	2 45	18 29	0 13	19 29	1 34	10 25	11 15	15 32	15 59	17 17	16 44	6 29					
S 8	5 55	12 45	5 5	17 33	3 18	14 33	0 0	11 35	0 8	23 4	0 18	9 37	2 45	18 30	0 13	19 30	1 34	10 25	11 15	15 34	16 0	17 18	16 43	6 30					
M 9	6 18	16 15	4 52	17 43	3 18	14 59	0s 2	11 50	0 7	23 4	0 18	9 36	2 45	18 30	0 13	19 30	1 34	10 25	11 15	15 36	16 1	17 20	16 42	6 30					
T 10	6 41	18 41	4 20	17 50	3 18	15 25	0 5	12 5	0 6	23 4	0 18	9 34	2 45	18 31	0 13	19 30	1 34	10 25	11 15	15 38	16 2	17 21	16 42	6 31					
W11	7 4	19 54	3 33	17 54	3 17	15 50	0 8	12 20	0 6	23 4	0 18	9 32	2 45	18 32	0 13	19 31	1 34	10 24	11 16	15 39	16 3	17 22	16 41	6 32					
T 12	7 27	19 50	2 33	17 55	3 15	16 15	0 10	12 35	0 5	23 4	0 17	9 31	2 45	18 33	0 13	19 31	1 34	10 24	11 16	15 39	16 3	17 23	16 40	6 32					
F 13	7 49	18 34	1 26	17 52	3 12	16 39	0 13	12 49	0 5	23 4	0 17	9 29	2 45	18 34	0 13	19 31	1 34	10 24	11 16	15 39	16 4	17 25	16 40	6 33					
S 14	8 12	16 16	0 15	17 45	3 7	17 4	0 16	13 4	0 4	23 4	0 17	9 27	2 46	18 34	0 13	19 32	1 33	10 24	11 16	15 39	16 5	17 26	16 39	6 34					
S 15	8 34	13 8	0n55	17 34	3 0	17 27	0 19	13 18	0 3	23 4	0 17	9 26	2 46	18 35	0 13	19 32	1 33	10 23	11 16	15 39	16 6	17 27	16 38	6 34					
M16	8 56	9 24	2 1	17 19	2 53	17 50	0 22	13 33	0 3	23 4	0 17	9 24	2 46	18 36	0 13	19 33	1 33	10 23	11 16	15 40	16 7	17 29	16 38	6 35					
T 17	9 18	5 18	3 0	17 0	2 43	18 13	0 24	13 47	0 2	23 4	0 17	9 22	2 46	18 37	0 13	19 33	1 33	10 23	11 16	15 42	16 8	17 30	16 37	6 36					
W18	9 40	1 1	3 49	16 36	2 32	18 36	0 27	14 1	0 2	23 4	0 17	9 21	2 46	18 38	0 13	19 33	1 33	10 23	11 17	15 44	16 9	17 31	16 36	6 36					
T 19	10 2	3s15	4 26	16 7	2 19	18 57	0 30	14 15	0 1	23 4	0 17	9 19	2 46	18 39	0 13	19 34	1 33	10 22	11 17	15 47	16 10	17 33	16 36	6 37					
F 20	10 24	7 20	4 50	15 34	2 4	19 19	0 33	14 29	0 0	23 4	0 17	9 17	2 46	18 39	0 13	19 34	1 33	10 22	11 17	15 51	16 11	17 34	16 35	6 38					
S 21	10 45	11 3	5 0	14 56	1 47	19 40	0 35	14 43	0s 0	23 4	0 17	9 16	2 46	18 40	0 13	19 34	1 33	10 22	11 17	15 55	16 12	17 35	16 34	6 38					
S 22	11 7	14 18	4 57	14 15	1 29	20 0	0 38	14 57	0 1	23 4	0 17	9 14	2 46	18 41	0 13	19 35	1 33	10 22	11 17	15 59	16 13	17 36	16 34	6 39					
M23	11 28	16 55	4 41	13 32	1 10	20 20	0 41	15 11	0 2	23 4	0 17	9 12	2 46	18 42	0 13	19 35	1 33	10 21	11 17	16 3	16 14	17 38	16 33	6 40					
T 24	11 49	18 49	4 13	12 46	0 50	20 39	0 44	15 24	0 2	23 4	0 17	9 11	2 46	18 43	0 13	19 36	1 33	10 21	11 17	16 5	16 15	17 39	16 32	6 40					
W25	12 10	19 55	3 34	12 0	0 29	20 57	0 46	15 38	0 3	23 4	0 17	9 9	2 46	18 44	0 13	19 36	1 33	10 21	11 17	16 7	16 16	17 40	16 32	6 41					
T 26	12 31	20 8	2 45	11 14	0 8	21 16	0 49	15 51	0 3	23 4	0 16	9 7	2 46	18 45	0 12	19 36	1 33	10 21	11 17	16 9	16 17	17 41	16 31	6 42					
F 27	12 51	19 27	1 49	10 31	0n12	21 33	0 52	16 4	0 4	23 4	0 16	9 6	2 45	18 45	0 12	19 37	1 33	10 20	11 18	16 9	16 18	17 43	16 31	6 42					
S 28	13 11	17 51	0 47	9 50	0 31	21 50	0 54	16 18	0 5	23 5	0 16	9 4	2 45	18 46	0 12	19 37	1 33	10 20	11 18	16 9	16 19	17 44	16 30	6 43					
S 29	13 31	15 22	0s19	9 14	0 50	22 6	0 57	16 31	0 5	23 5	0 16	9 3	2 45	18 47	0 12	19 38	1 33	10 20	11 18	16 9	16 20	17 45	16 29	6 43					
M30	13 51	12 4	1 26	8 43	1 7	22 22	1 0	16 43	0 6	23 5	0 16	9 1	2 45	18 48	0 12	19 38	1 33	10 20	11 18	16 9	16 20	17 46	16 29	6 44					
T 31	14s11	8s 3	2s30	8s17	1n22	22s37	1s 2	16s56	0s 6	23n 5	0s16	8n59	2s45	18s49	0n12	19s38	1n33	10n19	11s18	16n10	16n21	17s48	16n28	6s45					

ASTRODIENST EPHEMERIS for the year 1645

geocentric

NOVEMBER 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	2 42 16	8♌56°36	29♋15	24°R16	8♌741	17♌19	5°R56	0°R 8	24♌55	4♌59	6°R41	15°R34	14♌59	12♌33	8°R36	W 1
T 2	2 46 13	9°56'49	13♋32	24°D 8	9°55	18° 2	5♌54	0♌ 4	24°59	5° 1	6♌40	15♌26	14°56	12°39	8♌35	T 2
F 3	2 50 10	10°57'04	28°15	24♌11	11° 9	18°44	5°52	29♋59	25° 2	5° 3	6°39	15°16	14°52	12°46	8°34	F 3
S 4	2 54 6	11°57'20	13♌17	24°25	12°23	19°27	5°50	29°54	25° 6	5° 5	6°38	15° 4	14°49	12°53	8°32	S 4
S 5	2 58 3	12°57'39	28°28	24°49	13°36	20° 9	5°47	29°50	25°10	5° 7	6°37	14°53	14°46	13° 0	8°31	S 5
M 6	3 1 59	13°57'59	13♌37	25°22	14°50	20°52	5°45	29°45	25°13	5° 9	6°36	14°43	14°43	13° 6	8°29	M 6
T 7	3 5 56	14°58'21	28°35	26° 3	16° 4	21°35	5°42	29°41	25°17	5°11	6°35	14°35	14°40	13°13	8°28	T 7
W 8	3 9 52	15°58'45	13♌33	26°52	17°18	22°18	5°39	29°36	25°21	5°14	6°34	14°30	14°37	13°20	8°26	W 8
T 9	3 13 49	16°59'11	27°28	27°48	18°31	23° 0	5°36	29°32	25°24	5°16	6°32	14°28	14°33	13°26	8°24	T 9
F 10	3 17 46	17°59'39	11♌18	28°49	19°45	23°43	5°33	29°27	25°28	5°18	6°31	14°27	14°30	13°33	8°22	F 10
S 11	3 21 42	19° 0'09	24°45	29°55	20°59	24°26	5°29	29°23	25°32	5°20	6°30	14°27	14°27	13°40	8°20	S 11
S 12	3 25 39	20° 0'40	7♎51	1♌ 6	22°12	25° 9	5°25	29°18	25°35	5°22	6°29	14°26	14°24	13°47	8°18	S 12
M13	3 29 35	21° 1'14	20°40	2°20	23°26	25°52	5°22	29°14	25°39	5°24	6°28	14°23	14°21	13°53	8°16	M13
T 14	3 33 32	22° 1'49	3♌15	3°38	24°39	26°35	5°18	29°10	25°43	5°27	6°27	14°18	14°18	14° 0	8°14	T 14
W15	3 37 28	23° 2'26	15°38	4°58	25°53	27°19	5°13	29° 6	25°46	5°29	6°26	14° 9	14°14	14° 7	8°12	W15
T 16	3 41 25	24° 3'04	27°53	6°20	27° 7	28° 2	5° 9	29° 1	25°50	5°31	6°25	13°58	14°11	14°13	8° 9	T 16
F 17	3 45 21	25° 3'44	9♌59	7°45	28°20	28°45	5° 4	28°57	25°54	5°33	6°24	13°44	14° 8	14°20	8° 7	F 17
S 18	3 49 18	26° 4'26	22° 0	9°11	29°34	29°28	4°59	28°53	25°58	5°36	6°23	13°29	14° 5	14°27	8° 4	S 18
S 19	3 53 14	27° 5'09	3♌56	10°38	0♌47	0♌12	4°54	28°49	26° 1	5°38	6°21	13°15	14° 2	14°33	8° 2	S 19
M20	3 57 11	28° 5'53	15°48	12° 6	2° 1	0°55	4°49	28°45	26° 5	5°40	6°20	13° 2	13°58	14°40	7°59	M20
T 21	4 1 8	29° 6'39	27°37	13°36	3°14	1°39	4°44	28°42	26° 9	5°42	6°19	12°51	13°55	14°47	7°56	T 21
W22	4 5 4	0♌726	9♌26	15° 6	4°28	2°22	4°39	28°38	26°12	5°45	6°18	12°44	13°52	14°54	7°53	W22
T 23	4 9 1	1° 8'14	21°18	16°36	5°41	3° 6	4°33	28°34	26°16	5°47	6°17	12°39	13°49	15° 0	7°50	T 23
F 24	4 12 57	2° 9'03	3♌16	18° 8	6°54	3°50	4°27	28°31	26°20	5°49	6°16	12°37	13°46	15° 7	7°48	F 24
S 25	4 16 54	3° 9'53	15°25	19°39	8° 8	4°33	4°21	28°27	26°24	5°51	6°15	12°D36	13°43	15°14	7°45	S 25
S 26	4 20 50	4°10'44	27°50	21°11	9°21	5°17	4°15	28°24	26°27	5°54	6°14	12°R37	13°39	15°20	7°41	S 26
M27	4 24 47	5°11'36	10♌35	22°44	10°34	6° 1	4° 9	28°20	26°31	5°56	6°12	12°37	13°36	15°27	7°38	M27
T 28	4 28 43	6°12'28	23°45	24°16	11°47	6°45	4° 3	28°17	26°35	5°58	6°11	12°35	13°33	15°34	7°35	T 28
W29	4 32 40	7°13'22	7♋25	25°49	13° 1	7°29	3°56	28°14	26°38	6° 0	6°10	12°31	13°30	15°40	7°32	W29
T 30	4 36 37	8♌14'16	21°Y34	27♌22	14♌14	8♌12	3♌49	28°Y11	26♌42	6♌ 3	6♌ 9	12♌25	13♌27	15♌47	7♌29	T 30

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
W 1	14s30	3s29	3s28	7s57	1n35	22s52	1s 5	17s 9	0s 7	23n 5	0s16	8n58	2s45	18s50	0n12	19s39
T 2	14 49	1n26	4 15	7 44	1 46	23 5	1 7	17 21	0 8	23 5	0 16	8 56	2 45	18 51	0 12	19 39
F 3	15 8	6 24	4 47	7 36	1 56	23 19	1 10	17 34	0 8	23 5	0 16	8 55	2 45	18 52	0 12	19 39
S 4	15 27	11 5	5 0	7 34	2 4	23 31	1 12	17 46	0 9	23 6	0 16	8 53	2 45	18 53	0 12	19 40
S 5	15 45	15 6	4 52	7 37	2 10	23 43	1 15	17 58	0 9	23 6	0 16	8 52	2 45	18 53	0 12	19 40
M 6	16 4	18 7	4 23	7 45	2 14	23 54	1 17	18 10	0 10	23 6	0 16	8 50	2 45	18 54	0 12	19 41
T 7	16 21	19 52	3 37	7 57	2 17	24 4	1 20	18 22	0 11	23 6	0 15	8 49	2 45	18 55	0 12	19 41
W 8	16 39	20 13	2 37	8 13	2 19	24 14	1 22	18 33	0 11	23 6	0 15	8 47	2 45	18 56	0 12	19 41
T 9	16 56	19 16	1 29	8 32	2 20	24 23	1 24	18 45	0 12	23 7	0 15	8 46	2 44	18 57	0 12	19 42
F 10	17 13	17 9	0 17	8 54	2 19	24 31	1 26	18 56	0 12	23 7	0 15	8 44	2 44	18 58	0 12	19 42
S 11	17 30	14 9	0n54	9 19	2 18	24 39	1 29	19 8	0 13	23 7	0 15	8 43	2 44	18 59	0 12	19 43
S 12	17 47	10 30	2 0	9 46	2 15	24 46	1 31	19 19	0 14	23 7	0 15	8 41	2 44	19 0	0 12	19 43
M13	18 3	6 26	2 59	10 14	2 12	24 52	1 33	19 29	0 14	23 8	0 15	8 40	2 44	19 1	0 12	19 44
T 14	18 19	2 11	3 47	10 44	2 9	24 57	1 35	19 40	0 15	23 8	0 15	8 39	2 44	19 1	0 12	19 44
W15	18 34	2s 6	4 24	11 15	2 4	25 2	1 37	19 51	0 15	23 8	0 15	8 37	2 44	19 2	0 12	19 44
T 16	18 49	6 15	4 48	11 47	1 59	25 6	1 39	20 1	0 16	23 8	0 15	8 36	2 43	19 3	0 12	19 45
F 17	19 4	10 6	4 59	12 19	1 54	25 9	1 41	20 11	0 14	23 9	0 14	8 35	2 43	19 4	0 12	19 45
S 18	19 18	13 31	4 57	12 52	1 49	25 11	1 42	20 21	0 17	23 9	0 14	8 33	2 43	19 5	0 12	19 46
S 19	19 33	16 22	4 41	13 25	1 43	25 13	1 44	20 31	0 18	23 9	0 14	8 32	2 43	19 6	0 12	19 46
M20	19 46	18 32	4 13	13 58	1 37	25 14	1 46	20 41	0 18	23 10	0 14	8 31	2 43	19 7	0 12	19 46
T 21	20 0	19 53	3 34	14 31	1 30	25 14	1 48	20 50	0 19	23 10	0 14	8 30	2 43	19 8	0 12	19 47
W22	20 13	20 23	2 46	15 4	1 24	25 14	1 49	21 0	0 20	23 10	0 14	8 29	2 42	19 8	0 12	19 47
T 23	20 26	19 58	1 51	15 36	1 17	25 12	1 51	21 9	0 20	23 11	0 14	8 28	2 42	19 9	0 12	19 48
F 24	20 38	18 40	0 49	16 8	1 10	25 10	1 52	21 18	0 21	23 11	0 14	8 26	2 42	19 10	0 12	19 48
S 25	20 50	16 29	0s15	16 40	1 3	25 7	1 53	21 26	0 21	23 11	0 14	8 25	2 42	19 11	0 12	19 48
S 26	21 1	13 30	1 20	17 11	0 56	25 4	1 55	21 35	0 22	23 11	0 13	8 24	2 42	19 12	0 12	19 49
M27	21 12	9 49	2 23	17 42	0 49	24 59	1 56	21 43	0 23	23 12	0 13	8 23	2 41	19 13	0 12	19 49
T 28	21 23	5 33	3 21	18 12	0 42	24 54	1 57	21 51	0 23	23 12	0 13	8 22	2 41	19 14	0 12	19 50
W29	21 33	0 52	4 9	18 41	0 35	24 48	1 58	21 59	0 24	23 12	0 13	8 22	2 41	19 15	0 12	19 50
T 30	21s43	4n 2	4s44	19s 9	0n28	24s42	1s59	22s 7	0s24	23n13	0s13	8n21	2s41	19s15	0n12	19s50

Julian Day Number = 2322188.5, Delta T = 46.23 sec

Ecliptic obliquity = 23°29'01, Nutation = - 0°00'14, out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 19°47'49, Lahiri = 18°54'49Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1645
geocentric

DECEMBER 1645 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	4 40 33	9♂15'11	6♂13	28♂54	15♂27	8♂56	3°R43	28°R 8	26♂46	6♂ 5	6°R 8	12°R17	13♂24	15♂54	7°R25	F 1
S 2	4 44 30	10°16'07	21°16	0♂28	16°40	9°40	3♂36	28°Y 5	26°49	6° 7	6°II 7	12♂ 7	13°20	16° 1	7♂22	S 2
S 3	4 48 26	11°17'04	6♂33	2° 1	17°53	10°25	3°29	28° 2	26°53	6° 9	6° 5	11°58	13°17	16° 7	7°18	S 3
M 4	4 52 23	12°18'01	21°54	3°34	19° 6	11° 9	3°22	27°59	26°56	6°12	6° 4	11°49	13°14	16°14	7°15	M 4
T 5	4 56 19	13°19'00	7♂ 7	5° 7	20°19	11°53	3°15	27°56	27° 0	6°14	6° 3	11°43	13°11	16°21	7°11	T 5
W 6	5 0 16	14°20'00	22° 3	6°41	21°32	12°37	3° 7	27°54	27° 4	6°16	6° 2	11°38	13° 8	16°27	7° 7	W 6
T 7	5 4 13	15°21'01	6♂34	8°14	22°45	13°21	3° 0	27°51	27° 7	6°18	6° 1	11°D37	13° 4	16°34	7° 4	T 7
F 8	5 8 9	16°22'02	20°38	9°47	23°57	14° 6	2°52	27°49	27°11	6°21	6° 0	11°37	13° 1	16°41	7° 0	F 8
S 9	5 12 6	17°23'05	4♂13	11°21	25°10	14°50	2°45	27°47	27°14	6°23	5°59	11°38	12°58	16°47	6°56	S 9
S 10	5 16 2	18°24'09	17°23	12°55	26°23	15°35	2°37	27°44	27°18	6°25	5°58	11°R39	12°55	16°54	6°53	S 10
M 11	5 19 59	19°25'13	0♂12	14°29	27°36	16°19	2°30	27°42	27°21	6°27	5°56	11°38	12°52	17° 1	6°49	M 11
T 12	5 23 55	20°26'19	12°41	16° 3	28°48	17° 4	2°22	27°40	27°25	6°30	5°55	11°35	12°49	17° 8	6°45	T 12
W 13	5 27 52	21°27'25	24°57	17°37	0♂ 1	17°48	2°14	27°39	27°28	6°32	5°54	11°30	12°45	17°14	6°41	W 13
T 14	5 31 48	22°28'33	7♂ 3	19°11	1°13	18°33	2° 6	27°37	27°32	6°34	5°53	11°23	12°42	17°21	6°37	T 14
F 15	5 35 45	23°29'41	19° 1	20°45	2°26	19°18	1°58	27°35	27°35	6°36	5°52	11°14	12°39	17°28	6°33	F 15
S 16	5 39 42	24°30'49	0♂55	22°20	3°38	20° 2	1°50	27°34	27°39	6°38	5°51	11° 5	12°36	17°34	6°29	S 16
S 17	5 43 38	25°31'59	12°47	23°55	4°50	20°47	1°42	27°32	27°42	6°41	5°50	10°55	12°33	17°41	6°25	S 17
M 18	5 47 35	26°33'08	24°37	25°30	6° 3	21°32	1°34	27°31	27°45	6°43	5°49	10°47	12°30	17°48	6°21	M 18
T 19	5 51 31	27°34'19	6♂38	27° 5	7°15	22°17	1°26	27°30	27°49	6°45	5°48	10°40	12°26	17°54	6°17	T 19
W 20	5 55 28	28°35'29	18°22	28°40	8°27	23° 2	1°18	27°28	27°52	6°47	5°47	10°35	12°23	18° 1	6°13	W 20
T 21	5 59 24	29°36'40	0♂20	0♂16	9°39	23°47	1° 9	27°27	27°55	6°49	5°46	10°32	12°20	18° 8	6° 9	T 21
F 22	6 3 21	0♂37'51	12°25	1°52	10°51	24°32	1° 1	27°27	27°59	6°51	5°45	10°D32	12°17	18°15	6° 5	F 22
S 23	6 7 17	1°39'02	24°39	3°28	12° 3	25°17	0°53	27°26	28° 2	6°53	5°44	10°33	12°14	18°21	6° 0	S 23
S 24	6 11 14	2°40'12	7♂ 7	5° 5	13°15	26° 2	0°45	27°25	28° 5	6°55	5°43	10°34	12°10	18°28	5°56	S 24
M 25	6 15 11	3°41'23	19°52	6°41	14°26	26°47	0°37	27°24	28° 8	6°58	5°42	10°36	12° 7	18°35	5°52	M 25
T 26	6 19 7	4°42'34	2°Y58	8°19	15°38	27°32	0°29	27°24	28°12	7° 0	5°41	10°R37	12° 4	18°41	5°48	T 26
W 27	6 23 4	5°43'44	16°28	9°56	16°49	28°17	0°21	27°24	28°15	7° 2	5°40	10°36	12° 1	18°48	5°44	W 27
T 28	6 27 0	6°44'54	0♂24	11°34	18° 1	29° 3	0°13	27°23	28°18	7° 4	5°39	10°34	11°58	18°55	5°40	T 28
F 29	6 30 57	7°46'04	14°46	13°12	19°12	29°48	0° 5	27°23	28°21	7° 6	5°38	10°30	11°55	19° 1	5°35	F 29
S 30	6 34 53	8°47'13	29°32	14°50	20°24	0♂33	29°II57	27°D23	28°24	7° 8	5°37	10°26	11°51	19° 8	5°31	S 30
S 31	6 38 50	9♂48'23	14°II35	16♂29	21♂35	1♂19	29°II49	27°Y23	28♂27	7♂10	5°II36	10♂21	11♂48	19♂15	5♂27	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
F 1	21s53	8n52	5s 2	19s37	0n21	24s34	2s 0	22s15	0s25	23n13	0s13	8n20	2s40	19s16	0n12	19s51	1n32	10n13	11s18	17n 9	16n50	18s25	16n16	7s 1	
S 2	22 2	13 17	5 0	20 4	0 14	24 26	2 1	22 22	0 26	23 13	0 13	8 19	2 40	19 17	0 12	19 51	1 32	10 13	11 18	17 11	16 51	18 26	16 16	7 2	
S 3	22 10	16 54	4 37	20 30	0 7	24 17	2 1	22 29	0 26	23 14	0 13	8 18	2 40	19 18	0 12	19 51	1 32	10 13	11 18	17 14	16 52	18 27	16 15	7 2	
M 4	22 19	19 21	3 53	20 55	0s 0	24 8	2 2	22 36	0 27	23 14	0 12	8 17	2 40	19 19	0 12	19 52	1 32	10 13	11 18	17 17	16 53	18 28	16 15	7 2	
T 5	22 26	20 24	2 54	21 19	0 7	23 58	2 3	22 42	0 27	23 14	0 12	8 17	2 39	19 20	0 12	19 52	1 32	10 13	11 18	17 18	16 54	18 30	16 15	7 3	
W 6	22 34	19 59	1 43	21 42	0 14	23 47	2 3	22 49	0 28	23 15	0 12	8 16	2 39	19 20	0 12	19 53	1 32	10 13	11 18	17 20	16 54	18 31	16 15	7 3	
T 7	22 41	18 14	0 27	22 4	0 21	23 35	2 3	22 55	0 28	23 15	0 12	8 15	2 39	19 21	0 12	19 53	1 32	10 13	11 18	17 20	16 55	18 32	16 15	7 4	
F 8	22 47	15 24	0n48	22 25	0 27	23 23	2 4	23 1	0 29	23 15	0 12	8 15	2 39	19 22	0 12	19 53	1 32	10 13	11 18	17 20	16 56	18 33	16 15	7 4	
S 9	22 53	11 49	1 58	22 44	0 34	23 10	2 4	23 7	0 30	23 15	0 12	8 14	2 38	19 23	0 12	19 54	1 32	10 13	11 18	17 20	16 57	18 34	16 14	7 4	
S 10	22 59	7 45	3 0	23 3	0 40	22 57	2 4	23 12	0 30	23 16	0 12	8 14	2 38	19 24	0 12	19 54	1 32	10 12	11 18	17 19	16 58	18 35	16 14	7 4	
M 11	23 4	3 27	3 51	23 21	0 46	22 42	2 4	23 17	0 31	23 16	0 12	8 13	2 38	19 25	0 12	19 55	1 32	10 12	11 18	17 20	16 59	18 36	16 14	7 5	
T 12	23 8	0s53	4 29	23 37	0 52	22 28	2 4	23 22	0 31	23 16	0 11	8 13	2 38	19 25	0 12	19 55	1 32	10 12	11 18	17 20	17 0	18 38	16 14	7 5	
W 13	23 12	5 7	4 54	23 52	0 58	22 12	2 4	23 27	0 32	23 17	0 11	8 12	2 37	19 26	0 12	19 55	1 32	10 12	11 17	17 22	17 1	18 39	16 14	7 5	
T 14	23 16	9 4	5 6	24 6	1 4	21 56	2 3	23 32	0 32	23 17	0 11	8 12	2 37	19 27	0 12	19 56	1 32	10 12	11 17	17 24	17 2	18 40	16 14	7 6	
F 15	23 19	12 38	5 4	24 19	1 10	21 39	2 3	23 36	0 33	23 17	0 11	8 12	2 37	19 28	0 12	19 56	1 32	10 12	11 17	17 26	17 3	18 41	16 14	7 6	
S 16	23 22	15 40	4 49	24 31	1 15	21 22	2 3	23 40	0 34	23 17	0 11	8 11	2 37	19 28	0 12	19 56	1 32	10 12	11 17	17 29	17 3	18 42	16 14	7 6	
S 17	23 24	18 3	4 21	24 41	1 20	21 4	2 2	23 44	0 34	23 18	0 11	8 11	2 36	19 29	0 12	19 57	1 32	10 12	11 17	17 31	17 4	18 43	16 14	7 6	
M 18	23 26	19 40	3 43	24 50	1 25	20 45	2 1	23 47	0 35	23 18	0 11	8 11	2 36	19 30	0 12	19 57	1 32	10 12	11 17	17 34	17 5	18 44	16 14	7 6	
T 19	23 28	20 26	2 54	24 57	1 30	20 26	2 1	23 51	0 35	23 18	0 10	8 11	2 36	19 31	0 12	19 57	1 33	10 12	11 17	17 36	17 6	18 45	16 14	7 7	
W 20	23 29	20 17	1 57	25 3	1 35	20 7	2 0	23 54	0 36	23 18	0 10	8 10	2 35	19 32	0 12	19 58	1 33	10 12	11 17	17 37	17 7	18 46	16 14	7 7	
T 21	23 29	19 13	0 55	25 8	1 39	19 47	1 59	23 57	0 36	23 19	0 10	8 10	2 35	19 32	0 12	19 58	1 33	10 12	11 16	17 38	17 8	18 47	16 14	7 7	
F 22	23 29	17 16	0s10	25 11	1 43	19 26	1 58	23 59	0 37	23 19	0 10	8 10	2 35	19 33	0 12	19 58	1 33	10 12	11 16	17 38	17 9	18 49	16 14	7 7	
S 23	23 28	14 32	1 16	25 13	1 47	19 5	1 57	24 1	0 37	23 19	0 10	8 10	2 35	19 34	0 12	19 59	1 33	10 12	11 16	17 38	17 10	18 50	16 14	7 7	
S 24	23 27	11 5	2 20	25 13	1 50	18 43	1 55	24 3	0 38	23 19	0 10	8 10	2 34	19 34	0 12	19 59	1 33	10 12	11 16	17 37	17 11	18 51	16 14	7 7	
M 25	23 26	7 3	3 18	25 12	1 54	18 21	1 54	24 5	0 39	23 19	0 10	8 10	2 34	19 35	0 12	19 59	1 33	10 12	11 16	17 37	17 11	18 52	16 14	7 8	
T 26	23 24	2 36	4 8	25 10	1 57	17 58	1 53	24 7	0 39	23 19	0 9	8 11	2 34	19 36	0 12	20 0	1 33	10 12	11 16	17 37	17 12	18 53	16 14	7 8	
W 27	23 22	2n 5	4 45	25 5	1 59	17 35	1 51	24 8	0 40	23 20	0 9	8 11	2 33	19 37	0 12	20 0	1 33	10 12	11 16	17 37	17 13	18 54	16 14	7 8	
T 28	23 19	6 50	5 8	25 0	2 1	17 12	1 49	24 9	0 40	23 20	0 9	8 11	2 33	19 37	0 12	20 0	1 33	10 12	11 15	17 37	17 14	18 55	16 14	7 8	
F 29	23 15	11 20	5 12	24 53	2 3	16 48	1 48	24 10	0 41	23 20	0 9	8 11	2 33	19 38	0 12	20 1	1 33	10 12	11 15	17 38	17 15	18 56	16 14	7 8	
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S 31	23s 7	18n18	4s19	24s33	2s 6	15s58	1s44	24s10	0s42	23n20	0s 9	8n12	2s32	19s39	0n12	20s 1	1n33	10n12	11s15	17n41	17n17	18s58	16n15	7s 8	