



# Astrodienst Ephemeris Tables for the year 1978

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 1978

## geocentric

JANUARY 1978

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	6 41 10	10°31'24"	22°15'15"	21°D 9	5°38' 8	9°R 3	29°R52	0°R10	15°M19	16°A45	16°A36	10°R21	10°A33	28°II 7	1°R10	S 1
M 2	6 45 7	11°13'54"	5°A 7	21°A14	6°23	8°M47	29°II44	0°M 7	15°21	16°47	16°37	10°A20	10°30	28°14	1°B 9	M 2
T 3	6 49 3	12°15'03"	18°20	21°27	7°39	8°31	29°36	0° 5	15°24	16°49	16°37	10°20	10°27	28°21	1° 8	T 3
W 4	6 53 0	13°16'13"	1°M58	21°49	8°54	8°13	29°29	0° 3	15°26	16°51	16°38	10°19	10°24	28°27	1° 8	W 4
T 5	6 56 56	14°17'23"	16° 3	22°17	10°10	7°55	29°21	0° 0	15°28	16°53	16°38	10°17	10°21	28°34	1° 8	T 5
F 6	7 0 53	15°18'33"	0°A35	22°52	11°25	7°36	29°13	29°M57	15°31	16°55	16°39	10°11	10°17	28°41	1° 7	F 6
S 7	7 4 49	16°19'44"	15°30	23°32	12°41	7°17	29° 6	29°55	15°33	16°57	16°39	10° 3	10°14	28°48	1° 7	S 7
S 8	7 8 46	17°20'54"	0°B42	24°18	13°56	6°57	28°59	29°52	15°35	16°59	16°40	9°52	10°11	28°54	1° 7	S 8
M 9	7 12 43	18°22'05"	16° 0	25° 8	15°12	6°37	28°51	29°49	15°38	17° 1	16°40	9°41	10° 8	29° 1	1° 7	M 9
T 10	7 16 39	19°23'15"	1°A12	26° 2	16°27	6°16	28°44	29°46	15°40	17° 3	16°40	9°29	10° 5	29° 8	1° 7	T 10
W11	7 20 36	20°24'25"	16° 9	27° 0	17°43	5°54	28°37	29°43	15°42	17° 5	16°41	9°19	10° 2	29°15	1°D 6	W11
T 12	7 24 32	21°25'34"	0°H42	28° 1	18°58	5°32	28°30	29°40	15°44	17° 7	16°41	9°12	9°58	29°21	1° 6	T 12
F 13	7 28 29	22°26'43"	14°45	29° 4	20°14	5°10	28°23	29°36	15°46	17° 9	16°41	9° 7	9°55	29°28	1° 7	F 13
S 14	7 32 25	23°27'51"	28°18	0°B11	21°29	4°47	28°16	29°33	15°48	17°11	16°41	9° 5	9°52	29°35	1° 7	S 14
S 15	7 36 22	24°28'58"	11°V23	1°20	22°45	4°24	28°10	29°29	15°50	17°13	16°41	9°D 5	9°49	29°41	1° 7	S 15
M16	7 40 18	25°30'05"	24° 3	2°31	24° 0	4° 0	28° 3	29°26	15°52	17°15	16°42	9°R 5	9°46	29°48	1° 7	M16
T 17	7 44 15	26°31'11"	6°B23	3°43	25°16	3°37	27°57	29°22	15°54	17°16	16°42	9° 4	9°43	29°55	1° 7	T 17
W18	7 48 12	27°32'16"	18°30	4°58	26°31	3°13	27°51	29°19	15°55	17°18	16°42	9° 2	9°39	0°B 2	1° 8	W18
T 19	7 52 8	28°33'20"	0°II27	6°14	27°46	2°49	27°45	29°15	15°57	17°20	16°R42	8°58	9°36	0° 8	1° 8	T 19
F 20	7 56 5	29°34'24"	12°18	7°31	29° 2	2°25	27°39	29°11	15°59	17°22	16°42	8°50	9°33	0°15	1° 9	F 20
S 21	8 0 1	0°A35'26"	24° 9	8°50	0°A17	2° 1	27°33	29° 7	16° 0	17°24	16°42	8°40	9°30	0°22	1° 9	S 21
S 22	8 3 58	1°36'28"	6°B 1	10°10	1°33	1°37	27°27	29° 3	16° 2	17°25	16°42	8°28	9°27	0°28	1°10	S 22
M23	8 7 54	2°37'29"	17°57	11°32	2°48	1°13	27°22	28°59	16° 3	17°27	16°41	8°15	9°23	0°35	1°11	M23
T 24	8 11 51	3°38'30"	29°59	12°54	4° 4	0°49	27°17	28°55	16° 5	17°29	16°41	8° 2	9°20	0°42	1°11	T 24
W25	8 15 47	4°39'29"	12°L 7	14°17	5°19	0°26	27°12	28°51	16° 6	17°31	16°41	7°50	9°17	0°49	1°12	W25
T 26	8 19 44	5°40'28"	24°22	15°42	6°34	0° 2	27° 7	28°47	16° 8	17°32	16°41	7°41	9°14	0°55	1°13	T 26
F 27	8 23 41	6°41'26"	6°M46	17° 7	7°50	29°B39	27° 2	28°42	16° 9	17°34	16°41	7°34	9°11	1° 2	1°14	F 27
S 28	8 27 37	7°42'23"	19°20	18°33	9° 5	29°16	26°57	28°38	16°10	17°36	16°40	7°29	9° 8	1° 9	1°15	S 28
S 29	8 31 34	8°43'19"	2°A 4	20° 0	10°20	28°53	26°53	28°34	16°12	17°37	16°40	7°D28	9° 4	1°16	1°16	S 29
M30	8 35 30	9°44'15"	1°A 3	21°28	11°36	28°30	26°49	28°29	16°13	17°39	16°40	7°28	9° 1	1°22	1°17	M30
T 31	8 39 27	10°45'10"	28°A17	22°B57	12°A51	28°B 8	26°II45	28°M25	16°M14	17°A40	16°A39	7°A28	8°A58	1°B29	1°B18	T 31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
S 1	23 s 3	1n38	1s34	20s10	2n59	23s38	0s18	21n43	3n52	23n12	0s14	12n45	1n25	16s 3	0n23	21s22
M 2	22 58	2s27	0 28	20 16	2 54	23 37	0 20	21 50	3 54	23 12	0 14	12 46	1 25	16 4	0 23	21 22
T 3	22 52	6 32	0n42	20 23	2 48	23 36	0 22	21 56	3 57	23 13	0 14	12 47	1 26	16 5	0 23	21 22
W 4	22 47	10 25	1 52	20 31	2 41	23 33	0 25	22 3	3 59	23 13	0 14	12 48	1 26	16 5	0 23	21 23
T 5	22 40	13 49	2 57	20 40	2 33	23 30	0 27	22 10	4 1	23 13	0 13	12 49	1 26	16 6	0 23	21 23
F 6	22 34	16 29	3 52	20 50	2 25	23 26	0 29	22 17	4 3	23 13	0 13	12 50	1 26	16 7	0 23	21 23
S 7	22 26	18 7	4 34	21 1	2 17	23 21	0 32	22 24	4 5	23 13	0 13	12 51	1 26	16 7	0 23	21 23
S 8	22 19	18 30	4 57	21 11	2 8	23 16	0 34	22 31	4 7	23 13	0 13	12 52	1 27	16 8	0 23	21 23
M 9	22 11	17 32	4 59	21 22	1 59	23 10	0 36	22 38	4 9	23 13	0 13	12 54	1 27	16 9	0 23	21 23
T 10	22 2 15	21 4	4 39	21 33	1 50	23 3	0 38	22 45	4 11	23 13	0 13	12 55	1 27	16 9	0 23	21 24
W11	21 53	12 9	4 1	21 44	1 40	22 56	0 40	22 52	4 13	23 13	0 13	12 56	1 27	16 10	0 23	21 24
T 12	21 44	8 18	3 8	21 54	1 31	22 48	0 42	22 59	4 14	23 13	0 12	12 57	1 27	16 11	0 23	21 24
F 13	21 34	4 5	2 5	22 4	1 22	22 39	0 44	23 6	4 16	23 14	0 12	12 59	1 28	16 11	0 23	21 24
S 14	21 24	0n12	0 57	22 14	1 12	22 29	0 46	23 13	4 17	23 14	0 12	13 0	1 28	16 12	0 23	21 24
S 15	21 13	4 19	0s12	22 23	1 3	22 19	0 48	23 20	4 18	23 14	0 12	13 1	1 28	16 12	0 23	21 24
M16	21 2 8	7 1	1 19	22 31	0 54	22 8	0 50	23 27	4 20	23 14	0 12	13 3	1 28	16 13	0 23	21 25
T 17	20 51	11 27	2 20	22 38	0 45	21 56	0 52	23 34	4 21	23 14	0 12	13 4	1 28	16 13	0 23	21 25
W18	20 39	14 14	3 13	22 45	0 36	21 44	0 54	23 41	4 22	23 14	0 11	13 6	1 29	16 14	0 23	21 25
T 19	20 27	16 23	3 57	22 50	0 27	21 31	0 56	23 47	4 23	23 14	0 11	13 7	1 29	16 14	0 23	21 25
F 20	20 14	17 48	4 31	22 55	0 19	21 18	0 58	23 54	4 23	23 14	0 11	13 9	1 29	16 15	0 23	21 25
S 21	20 1	18 27	4 52	22 58	0 10	21 4	1 0	24 0	4 24	23 14	0 11	13 10	1 29	16 15	0 23	21 25
S 22	19 48	18 17	5 2	23 1	0 2	20 49	1 1	24 6	4 25	23 14	0 11	13 12	1 29	16 16	0 23	21 25
M23	19 34	17 19	4 58	23 2	0s 6	20 33	1 3	24 12	4 25	23 14	0 11	13 13	1 29	16 16	0 24	21 26
T 24	19 20	15 35	4 40	23 3	0 14	20 17	1 5	24 18	4 26	23 14	0 10	13 15	1 30	16 17	0 24	21 26
W25	19 6	13 9	4 10	23 2	0 22	20 1	1 6	24 23	4 26	23 14	0 10	13 17	1 30	16 17	0 24	21 26
T 26	18 51	10 7	3 28	23 0	0 29	19 43	1 8	24 28	4 26	23 14	0 10	13 18	1 30	16 17	0 24	21 26
F 27	18 36	6 37	2 36	22 57	0 36	19 25	1 9	24 33	4 26	23 14	0 10	13 20	1 30	16 18	0 24	21 26
S 28	18 21	2 46	1 35	22 52	0 43	19 7	1 11	24 38	4 26	23 14	0 10	13 22	1 30	16 18	0 24	21 26
S 29	18 5	1s16	0 29	22 47	0 50	18 48	1 12	24 43	4 26	23 15	0 10	13 23	1 30	16 18	0 24	21 26
M30	17 49	5 18	0n41	22 40	0 57	18 29	1 13	24 47	4 25	23 15	0 9	13 25	1 31	16 19	0 24	21 26
T 31	17s32	9s10	1n49	22s32	1s 3	18s 9	1s14	24n52	4n25	23n15	0s 9	13n27	1n31	16s19	0n24	21s27

Julian Day Number = 2443509.5, Delta T = 48.54 sec  
 Ecliptic obliquity = 23°26'22", Nutation = 0°00'04", out-of-bounds declination in red  
 Ayanamsha: Fagan/Bradley = 24°25'59", Lahiri = 23°32'59"



ASTRODIENST EPHEMERIS for the year 1978  
geocentric

MARCH 1978

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	10 33 47	10 <sup>h</sup> 23'	22 <sup>m</sup> 28	11 <sup>h</sup> 41'	19 <sup>h</sup> 10'	22°R17	26 <sup>h</sup> 11	26°R 7	16°R22	18 <sup>h</sup> 13	16°R14	6 <sup>h</sup> 6	7 <sup>h</sup> 26	4 <sup>h</sup> 44	2 <sup>h</sup> 13	W 1
T 2	10 37 43	11° 2'50	6 <sup>h</sup> 23	13°35	20°25	22°D17	26°14	26 <sup>h</sup> 2	16 <sup>h</sup> 22	18°13	16 <sup>h</sup> 13	6°R 7	7°23	4°51	2°15	T 2
F 3	10 41 40	12° 3'01	20°30	15°30	21°40	22 <sup>h</sup> 17	26°16	25°57	16°21	18°14	16°11	6° 7	7°20	4°57	2°18	F 3
S 4	10 45 37	13° 3'10	4 <sup>h</sup> 38	17°25	22°55	22°17	26°18	25°53	16°20	18°15	16°10	6° 6	7°16	5° 4	2°21	S 4
S 5	10 49 33	14° 3'18	19°14	19°21	24°10	22°19	26°21	25°48	16°20	18°15	16° 9	6° 3	7°13	5°11	2°23	S 5
M 6	10 53 30	15° 3'25	3 <sup>h</sup> 43	21°17	25°24	22°21	26°24	25°44	16°19	18°16	16° 7	6° 1	7°10	5°18	2°26	M 6
T 7	10 57 26	16° 3'30	18°11	23°13	26°39	22°24	26°26	25°39	16°18	18°16	16° 6	5°58	7° 7	5°24	2°29	T 7
W 8	11 1 23	17° 3'33	2 <sup>h</sup> 31	25°10	27°54	22°28	26°29	25°35	16°17	18°17	16° 5	5°55	7° 4	5°31	2°32	W 8
T 9	11 5 19	18° 3'34	16°39	27° 6	29° 9	22°32	26°33	25°31	16°16	18°17	16° 3	5°53	7° 0	5°38	2°35	T 9
F 10	11 9 16	19° 3'33	0 <sup>h</sup> 30	29° 2	0 <sup>h</sup> 23	22°37	26°36	25°27	16°15	18°17	16° 2	5°D53	6°57	5°44	2°37	F 10
S 11	11 13 12	20° 3'30	14° 0	0 <sup>h</sup> 57	1°38	22°43	26°39	25°22	16°14	18°18	16° 0	5°53	6°54	5°51	2°40	S 11
S 12	11 17 9	21° 3'26	27° 9	2°50	2°53	22°49	26°43	25°18	16°13	18°18	15°59	5°53	6°51	5°58	2°43	S 12
M13	11 21 5	22° 3'19	9 <sup>h</sup> 57	4°43	4° 7	22°56	26°47	25°14	16°12	18°18	15°57	5°55	6°48	6° 5	2°46	M13
T 14	11 25 2	23° 3'10	22°26	6°33	5°22	23° 4	26°51	25°10	16°11	18°18	15°56	5°56	6°45	6°11	2°49	T 14
W15	11 28 59	24° 2'59	4 <sup>h</sup> 39	8°21	6°37	23°12	26°56	25° 6	16°10	18°19	15°54	5°57	6°41	6°18	2°52	W15
T 16	11 32 55	25° 2'46	16°41	10° 6	7°51	23°21	27° 0	25° 2	16° 9	18°19	15°53	5°58	6°38	6°25	2°56	T 16
F 17	11 36 52	26° 2'30	28°36	11°48	9° 6	23°30	27° 5	24°58	16° 7	18°19	15°51	5°R58	6°35	6°32	2°59	F 17
S 18	11 40 48	27° 2'12	10 <sup>h</sup> 29	13°27	10°20	23°40	27° 9	24°55	16° 6	18°19	15°50	5°57	6°32	6°38	3° 2	S 18
S 19	11 44 45	28° 1'52	22°24	15° 0	11°35	23°51	27°14	24°51	16° 5	18°19	15°48	5°57	6°29	6°45	3° 5	S 19
M20	11 48 41	29° 1'30	4 <sup>h</sup> 25	16°30	12°49	24° 2	27°20	24°47	16° 3	18°19	15°47	5°56	6°25	6°52	3° 8	M20
T 21	11 52 38	0 <sup>h</sup> 1'06	16°37	17°54	14° 4	24°13	27°25	24°44	16° 2	18°R19	15°45	5°55	6°22	6°58	3°11	T 21
W22	11 56 34	1° 0'39	29° 3	19°12	15°18	24°26	27°30	24°40	16° 0	18°19	15°43	5°54	6°19	7° 5	3°15	W22
T 23	12 0 31	2° 0'10	11 <sup>h</sup> 44	20°25	16°32	24°38	27°36	24°37	15°59	18°19	15°42	5°54	6°16	7°12	3°18	T 23
F 24	12 4 28	2°59'39	24°41	21°31	17°47	24°52	27°42	24°34	15°57	18°19	15°40	5°53	6°13	7°19	3°21	F 24
S 25	12 8 24	3°59'06	7 <sup>h</sup> 56	22°31	19° 1	25° 5	27°48	24°31	15°56	18°19	15°39	5°D53	6°10	7°25	3°25	S 25
S 26	12 12 21	4°58'31	21°26	23°23	20°15	25°19	27°54	24°28	15°54	18°19	15°37	5°53	6° 6	7°32	3°28	S 26
M27	12 16 17	5°57'53	5 <sup>h</sup> 10	24° 9	21°30	25°34	28° 0	24°25	15°52	18°19	15°35	5°R53	6° 3	7°39	3°31	M27
T 28	12 20 14	6°57'15	19° 6	24°47	22°44	25°49	28° 6	24°22	15°50	18°18	15°34	5°53	6° 0	7°45	3°35	T 28
W29	12 24 10	7°56'34	3 <sup>h</sup> 10	25°18	23°58	26° 5	28°13	24°19	15°49	18°18	15°32	5°53	5°57	7°52	3°38	W29
T 30	12 28 7	8°55'51	17°20	25°42	25°12	26°21	28°20	24°16	15°47	18°18	15°30	5°53	5°54	7°59	3°42	T 30
F 31	12 32 3	9 <sup>h</sup> 55'07	1 <sup>h</sup> 33	25°57	26°26	26°37	28 <sup>h</sup> 27	24 <sup>h</sup> 13	15 <sup>h</sup> 45	18 <sup>h</sup> 18	15 <sup>h</sup> 29	5 <sup>h</sup> 53	5 <sup>h</sup> 51	8 <sup>h</sup> 6	3 <sup>h</sup> 45	F 31

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
W 1	7s48	14s43	3n48	8s45	1s41	5s35	1s25	25n17	3n44	23n18	0s 5	14n17	1n33	16s21	0n24	21s28	1n27	9n49	17n32	2s25	2s57	18n13	11n37	0s40					
T 2	7 25	16 53	4 33	7 56	1 36	5 5	1 24	25 15	3 42	23 18	0 5	14 18	1 33	16 21	0 24	21 28	1 27	9 50	17 33	2 26	2 56	18 13	11 38	0 40					
F 3	7 2	18 4	5 3	7 6	1 30	4 35	1 23	25 13	3 40	23 19	0 5	14 20	1 34	16 21	0 24	21 28	1 27	9 50	17 33	2 26	2 54	18 13	11 39	0 40					
S 4	6 39	18 7	5 14	6 15	1 24	4 5	1 23	25 11	3 38	23 19	0 5	14 22	1 34	16 20	0 24	21 28	1 27	9 51	17 33	2 25	2 53	18 12	11 40	0 40					
S 5	6 16	17 0	5 6	5 23	1 16	3 34	1 22	25 9	3 36	23 19	0 4	14 23	1 34	16 20	0 24	21 28	1 27	9 52	17 34	2 24	2 52	18 12	11 41	0 40					
M 6	5 53	14 48	4 39	4 31	1 9	3 4	1 21	25 6	3 34	23 19	0 4	14 25	1 34	16 20	0 24	21 28	1 27	9 53	17 34	2 23	2 51	18 12	11 42	0 40					
T 7	5 30	11 41	3 53	3 37	1 0	2 33	1 20	25 4	3 32	23 19	0 4	14 26	1 34	16 20	0 24	21 28	1 27	9 54	17 34	2 22	2 49	18 11	11 43	0 40					
W 8	5 7	7 52	2 54	2 43	0 52	2 3	1 19	25 2	3 30	23 20	0 4	14 28	1 34	16 20	0 24	21 28	1 27	9 54	17 35	2 21	2 48	18 11	11 44	0 40					
T 9	4 43	3 40	1 44	1 48	0 42	1 32	1 18	24 59	3 28	23 20	0 4	14 29	1 34	16 19	0 24	21 28	1 27	9 55	17 35	2 20	2 47	18 11	11 45	0 40					
F 10	4 20	0n39	0 30	0 53	0 32	1 1	1 17	24 56	3 26	23 20	0 4	14 31	1 34	16 19	0 24	21 28	1 27	9 56	17 35	2 20	2 46	18 11	11 45	0 40					
S 11	3 56	4 50	0s45	0n 3	0 21	0 30	1 16	24 53	3 24	23 20	0 4	14 32	1 34	16 19	0 24	21 28	1 27	9 57	17 36	2 20	2 44	18 10	11 46	0 40					
S 12	3 33	8 40	1 55	0 58	0 10	0n 0	1 14	24 50	3 23	23 20	0 3	14 33	1 34	16 18	0 24	21 28	1 27	9 58	17 36	2 20	2 43	18 10	11 47	0 40					
M13	3 9	11 59	2 57	1 53	0n 1	0 31	1 13	24 47	3 21	23 21	0 3	14 35	1 34	16 18	0 24	21 28	1 27	9 58	17 36	2 21	2 42	18 10	11 48	0 40					
T 14	2 45	14 40	3 50	2 48	0 13	1 2	1 12	24 44	3 19	23 21	0 3	14 36	1 34	16 18	0 24	21 28	1 28	9 59	17 36	2 21	2 41	18 9	11 49	0 40					
W15	2 22	16 38	4 31	3 42	0 25	1 33	1 10	24 41	3 17	23 21	0 3	14 38	1 34	16 17	0 24	21 28	1 28	10 0	17 37	2 22	2 39	18 9	11 50	0 40					
T 16	1 58	17 49	4 59	4 35	0 38	2 4	1 9	24 37	3 15	23 21	0 3	14 39	1 34	16 17	0 24	21 28	1 28	10 1	17 37	2 22	2 38	18 9	11 51	0 40					
F 17	1 34	18 12	5 14	5 26	0 50	2 34	1 8	24 34	3 13	23 22	0 3	14 40	1 34	16 17	0 24	21 28	1 28	10 2	17 37	2 22	2 37	18 8	11 52	0 40					
S 18	1 11	17 47	5 16	6 17	1 3	3 5	1 6	24 30	3 11	23 22	0 3	14 41	1 34	16 16	0 24	21 28	1 28	10 2	17 37	2 22	2 36	18 8	11 53	0 40					
S 19	0 47	16 35	5 4	7 5	1 16	3 36	1 4	24 26	3 9	23 22	0 3	14 43	1 34	16 16	0 24	21 28	1 28	10 3	17 38	2 22	2 34	18 8	11 54	0 40					
M20	0 23	14 39	4 39	7 51	1 29	4 6	1 3	24 23	3 7	23 22	0 2	14 44	1 34	16 15	0 24	21 28	1 28	10 4	17 38	2 21	2 33	18 7	11 55	0 40					
T 21	0n 0	12 2	4 0	8 35	1 41	4 37	1 1	24 19	3 6	23 23	0 2	14 45	1 34	16 15	0 24	21 28	1 28	10 5	17 38	2 21	2 32	18 7	11 57	0 41					
W22	0 24	8 50	3 10	9 16	1 53	5 7	0 59	24 15	3 4	23 23	0 2	14 46	1 34	16 15	0 24	21 28	1 28	10 5	17 38	2 21	2 31	18 7	11 58	0 41					
T 23	0 48	5 10	2 10	9 55	2 5	5 37	0 57	24 11	3 2	23 23	0 2	14 47	1 34	16 14	0 24	21 28	1 28	10 6	17 38	2 20	2 29	18 6	11 59	0 41					
F 24	1 11	1 10	1 2	10 30	2 17	6 7	0 55	24 6	3 0	23 23	0 2	14 48	1 34	16 14	0 24	21 28	1 28	10 7	17 38	2 20	2 28	18 6	12 0	0 41					
S 25	1 35	2s58	0n11	11 2	2 27	6 37	0 54	24 2	2 58	23 23	0 2	14 49	1 34	16 13	0 24	21 28	1 28	10 8	17 39	2 20	2 27	18 6	12 1	0 41					
S 26	1 59	7 2	1 25	11 31	2 37	7 7	0 52	23 58	2 56	23 24	0 2	14 50	1 33	16 13	0 24	21 28	1 28	10 8	17 39	2 20	2 26	18 5	12 2	0 41					
M27	2 22	10 48	2 35	11 57	2 46	7 37	0 50	23 53	2 55	23 24	0 2	14 51	1 33	16 12	0 24	21 28	1 28	10 9	17 39	2 20	2 24	18 5	12 3	0 41					
T 28	2 46	14 0	3 37	12 18	2 55	8 6	0 47	23 49	2 53	23 24	0 1	14 52	1 33	16 12	0 24	21 28	1 28	10 10	17 39	2 20	2 23	18 5	12 4	0 41					
W29	3 9	16 25	4 27	12 36	3 2	8 36	0 45	23 44	2 51	23 24	0 1	14 53	1 33	16 11	0 24	21 28	1 28	10 11	17 39	2 20	2 22	18 4	12 5	0 41					
T 30	3 32	17 51	5 1	12 50	3 8	9 5	0 43	23 39	2 50	23 24	0 1	14 54	1 33	16 11	0 24	21 28	1 28	10 11	17 39	2 20	2 20	18 4	12 6	0 41					
F 31	3n56	18s10	5n16	13n 1	3n12	9n34	0s41	23n35	2n48	23n25	0s 1	14n55	1n33	16s10	0n24	21s28	1n28	10n12	17n39	2s20	2s19	18n 4	12n 7	0s41					

ASTRODIENST EPHEMERIS for the year 1978  
geocentric

APRIL 1978

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	12 36 0	10°54'21	15°34'46	26°06'26	27°07'40	26°55'54	28°11'34	24°08'11	15°04'43	18°08'17	15°08'27	5°05'53	5°05'47	8°05'12	3°08'49	S 1
S 2	12 39 57	11°53'34	29°05'57	26°07'26	28°05'55	27°11'11	28°04'41	24°08'08	15°04'41	18°08'17	15°05'25	5°05'53	5°05'44	8°05'19	3°05'52	S 2
M 3	12 43 53	12°52'44	14°00'44	26°02'26	08°09'27	27°29'29	28°04'48	24°06'24	15°03'39	18°08'16	15°02'24	5°05'54	5°05'41	8°05'26	3°05'56	M 3
T 4	12 47 50	13°51'53	28°04'44	25°04'29	1°23'23	27°47'47	28°05'56	24°04'24	15°03'37	18°08'16	15°02'22	5°05'54	5°05'38	8°05'33	3°05'59	T 4
W 5	12 51 46	14°51'00	11°05'55	25°03'23	2°37'28	28°06'29	29°03'24	1°15'35	18°05'15	15°02'20	5°05'55	5°05'35	5°05'35	8°05'39	4°03'40	W 5
T 6	12 55 43	15°50'05	25°05'55	25°06'35	3°51'28	28°25'29	29°11'23	1°15'33	18°05'15	15°02'19	5°05'56	5°05'31	5°05'31	8°05'46	4°07'40	T 6
F 7	12 59 39	16°49'08	9°01'24	24°03'36	5°04'28	28°44'29	29°19'23	1°15'31	18°05'14	15°02'17	5°05'56	5°05'28	5°05'28	8°05'53	4°10'40	F 7
S 8	13 3 36	17°48'09	22°01'24	24°01'18	6°18'29	29°03'29	29°27'23	1°15'29	18°05'14	15°02'15	5°05'55	5°05'25	5°05'25	8°05'59	4°14'40	S 8
S 9	13 7 32	18°47'08	5°08'10	23°02'23	7°32'29	29°23'29	29°35'23	1°15'27	18°05'13	15°02'13	5°05'54	5°05'22	5°05'22	9°06'04	4°17'40	S 9
M10	13 11 29	19°46'05	17°01'17	22°04'21	8°46'29	29°44'29	29°43'23	1°15'24	18°05'13	15°02'12	5°05'52	5°05'19	5°05'19	9°06'13	4°21'40	M10
T 11	13 15 25	20°45'00	0°11'17	21°05'58	10°00'00	0°04'29	29°51'23	1°15'22	18°05'12	15°02'10	5°05'50	5°05'16	5°05'16	9°06'20	4°25'40	T 11
W12	13 19 22	21°43'53	12°03'30	21°13'11	11°14'00	0°26'29	29°59'23	1°15'20	18°05'11	15°02'08	5°05'48	5°05'12	5°05'12	9°06'26	4°28'40	W12
T 13	13 23 19	22°42'44	24°03'22	20°27'12	12°27'00	0°47'00	0°09'23	1°15'18	18°05'11	15°02'07	5°05'46	5°05'09	5°05'09	9°06'33	4°32'40	T 13
F 14	13 27 15	23°41'32	6°02'19	19°42'13	1°09'28	0°17'23	23°46'15	1°15'16	18°05'10	15°02'05	5°05'44	5°05'06	5°05'06	9°06'40	4°36'40	F 14
S 15	13 31 12	24°40'18	18°02'20	18°05'58	14°55'13	0°26'23	23°45'15	1°15'13	18°05'09	15°02'03	5°05'43	5°05'03	5°05'03	9°06'46	4°39'40	S 15
S 16	13 35 8	25°39'02	0°02'15	18°06'16	16°08'15	0°35'23	23°44'15	1°15'11	18°05'08	15°02'02	5°05'43	5°05'00	5°05'00	9°06'53	4°43'40	S 16
M17	13 39 5	26°37'44	12°01'16	17°03'37	17°22'21	0°44'23	23°43'15	1°15'09	18°05'07	15°02'00	5°05'44	4°57'10	4°57'10	10°00'00	4°47'40	M17
T 18	13 43 1	27°36'23	24°02'28	17°01'18	18°36'23	0°53'23	23°42'15	1°15'06	18°05'07	14°59'54	5°05'45	4°53'10	4°53'10	10°00'07	4°51'40	T 18
W19	13 46 58	28°35'00	6°00'55	16°29'19	19°49'30	1°03'23	23°41'15	1°15'04	18°05'06	14°57'54	5°05'47	4°50'10	4°50'10	10°00'13	4°54'40	W19
T 20	13 50 54	29°33'35	19°04'16	16°01'21	21°03'32	1°12'23	23°41'15	1°15'01	18°05'05	14°55'54	5°05'48	4°47'10	4°47'10	10°00'20	4°58'40	T 20
F 21	13 54 51	0°03'32	0°08'20	15°03'37	22°16'34	1°22'23	23°40'14	1°15'59	18°05'04	14°54'54	5°05'49	4°44'10	4°44'10	10°00'27	5°02'40	F 21
S 22	13 58 48	1°30'39	16°02'20	15°03'18	23°29'40	1°31'23	23°40'14	1°15'57	18°05'03	14°52'54	5°05'49	4°41'10	4°41'10	10°00'34	5°06'40	S 22
S 23	14 2 44	2°29'08	0°00'12	15°04'24	24°43'40	1°41'23	23°39'14	1°15'54	18°05'02	14°50'54	5°05'47	4°37'10	4°37'10	10°00'40	5°09'40	S 23
M24	14 6 41	3°27'35	14°02'23	14°05'55	25°56'05	1°51'23	23°39'14	1°15'52	18°05'01	14°49'54	5°05'44	4°34'10	4°34'10	10°00'47	5°13'40	M24
T 25	14 10 37	4°26'00	28°04'27	14°05'52	27°09'26	2°01'23	23°39'14	1°15'50	18°05'00	14°47'54	5°05'40	4°31'10	4°31'10	10°00'54	5°17'40	T 25
W26	14 14 34	5°24'24	13°00'20	14°05'53	28°23'51	2°11'23	23°39'14	1°15'47	17°59'54	14°46'54	5°05'36	4°28'11	4°28'11	10°01'00	5°21'40	W26
T 27	14 18 30	6°22'46	27°05'24	14°05'59	29°36'16	2°21'23	23°39'14	1°15'44	17°58'54	14°44'54	5°05'32	4°25'11	4°25'11	10°01'07	5°24'40	T 27
F 28	14 22 27	7°21'06	12°03'24	15°05'09	0°00'49	6°42'23	23°39'14	1°15'42	17°57'54	14°43'54	5°05'29	4°22'11	4°22'11	10°01'14	5°28'40	F 28
S 29	14 26 23	8°19'25	26°04'46	15°05'25	2°02'27	7°07'24	23°40'14	1°15'39	17°55'54	14°41'54	5°05'27	4°18'11	4°18'11	10°01'21	5°32'40	S 29
S 30	14 30 20	9°18'17	10°00'55	15°05'45	3°00'15	7°00'33	23°40'14	1°15'37	17°54'54	14°40'54	5°05'26	4°15'11	4°15'11	10°01'27	5°36'40	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	4n19	17s20	5n12	13n 7	3n16	10n 3	0s39	23n30	2n46	23n25	0s 1	14n56	1n33	16s10	0n24	21s27	1n28	10n13	17n39	2s20	2s18	18n 3	12n 9	0s41			
S 2	4 42	15 26	4 50	13 9	3 18	10 31	0 37	23 25	2 44	23 25	0 1	14 56	1 33	16 9	0 24	21 27	1 28	10 13	17 39	2 20	2 17	18 3	12 10	0 41			
M 3	5 5	12 37	4 9	13 7	3 18	10 59	0 34	23 19	2 43	23 25	0 1	14 57	1 33	16 8	0 24	21 27	1 28	10 14	17 39	2 20	2 15	18 3	12 11	0 41			
T 4	5 28	9 6	3 15	13 2	3 17	11 27	0 32	23 14	2 41	23 25	0 1	14 58	1 33	16 8	0 24	21 27	1 28	10 15	17 39	2 21	2 14	18 2	12 12	0 41			
W 5	5 51	5 6	2 9	12 52	3 14	11 55	0 30	23 9	2 39	23 26	0 1	14 59	1 33	16 7	0 24	21 27	1 28	10 15	17 40	2 21	2 13	18 2	12 13	0 41			
T 6	6 14	0 53	0 57	12 39	3 10	12 22	0 27	23 3	2 38	23 26	0 0	14 59	1 33	16 7	0 24	21 27	1 28	10 16	17 40	2 21	2 12	18 1	12 14	0 41			
F 7	6 37	3n19	0s17	12 23	3 4	12 49	0 25	22 58	2 36	23 26	0 0	15 0	1 33	16 6	0 24	21 27	1 29	10 17	17 40	2 21	2 10	18 1	12 15	0 41			
S 8	6 59	7 17	1 29	12 3	2 56	13 16	0 22	22 52	2 35	23 26	0 0	15 0	1 33	16 5	0 24	21 27	1 29	10 17	17 40	2 21	2 9	18 1	12 17	0 42			
S 9	7 22	10 49	2 35	11 40	2 47	13 43	0 20	22 46	2 33	23 26	0 0	15 1	1 33	16 5	0 24	21 27	1 29	10 18	17 40	2 21	2 8	18 0	12 18	0 42			
M10	7 44	13 46	3 32	11 15	2 37	14 9	0 17	22 41	2 32	23 26	0 0	15 1	1 33	16 4	0 24	21 27	1 29	10 19	17 40	2 20	2 7	18 0	12 19	0 42			
T 11	8 6	16 1	4 17	10 48	2 25	14 35	0 15	22 35	2 30	23 26	0n 0	15 2	1 33	16 3	0 24	21 27	1 29	10 19	17 39	2 19	2 5	17 59	12 20	0 42			
W12	8 28	17 30	4 50	10 18	2 12	15 0	0 12	22 29	2 28	23 27	0 0	15 2	1 33	16 3	0 24	21 27	1 29	10 20	17 39	2 18	2 4	17 59	12 21	0 42			
T 13	8 50	18 10	5 9	9 48	1 57	15 25	0 10	22 22	2 27	23 27	0 0	15 3	1 33	16 2	0 24	21 26	1 29	10 20	17 39	2 17	2 3	17 59	12 22	0 42			
F 14	9 12	18 2	5 15	9 17	1 42	15 50	0 7	22 16	2 25	23 27	0 0	15 3	1 32	16 1	0 24	21 26	1 29	10 21	17 39	2 17	2 2	17 58	12 24	0 42			
S 15	9 33	17 6	5 8	8 46	1 27	16 14	0 5	22 10	2 24	23 27	0 1	15 3	1 32	16 1	0 24	21 26	1 29	10 21	17 39	2 16	2 0	17 58	12 25	0 42			
S 16	9 55	15 25	4 47	8 15	1 10	16 38	0 2	22 3	2 22	23 27	0 1	15 4	1 32	16 0	0 24	21 26	1 29	10 22	17 39	2 16	1 59	17 57	12 26	0 42			
M17	10 16	13 4	4 14	7 44	0 54	17 2	0n 1	21 57	2 21	23 27	0 1	15 4	1 32	15 59	0 24	21 26	1 29	10 22	17 39	2 17	1 58	17 57	12 27	0 42			
T 18	10 37	10 5	3 28	7 15	0 37	17 25	0 3	21 50	2 20	23 27	0 1	15 4	1 32	15 59	0 24	21 26	1 29	10 23	17 39	2 17	1 57	17 57	12 28	0 42			
W19	10 58	6 37	2 32	6 47	0 20	17 47	0 6	21 43	2 18	23 27	0 1	15 4	1 32	15 58	0 24	21 26	1 29	10 23	17 39	2 18	1 55	17 56	12 30	0 42			
T 20	11 19	2 44	1 28	6 21	0 4	18 10	0 9	21 36	2 17	23 27	0 1	15 5	1 32	15 57	0 24	21 26	1 29	10 24	17 39	2 18	1 54	17 56	12 31	0 42			
F 21	11 40	1s23	0 16	5 57	0s13	18 31	0 11	21 29	2 15	23 27	0 1	15 5	1 32	15 57	0 24	21 26	1 29	10 24	17 39	2 19	1 53	17 55	12 32	0 42			
S 22	12 0	5 32	0n58	5 35	0 29	18 52	0 14	21 22	2 14	23 27	0 1	15 5	1 32	15 56	0 24	21 25	1 29	10 25	17 38	2 18	1 52	17 55	12 33	0 42			
S 23	12 20	9 31	2 10	5 16	0 44	19 13	0 17	21 15	2 12	23 27	0 1	15 5	1 32	15 55	0 24	21 25	1 29	10 25	17 38	2 18	1 50	17 55	12 34	0 43			
M24	12 40	13 2	3 16	4 59	0 59	19 33	0 19	21 8	2 11	23 27	0 1	15 5	1 32	15 55	0 24	21 25	1 29	10 26	17 38	2 17	1 49	17 54	12 35	0 43			
T 25	13 0	15 49	4 10	4 44	1 13	19 53	0 22	21 0	2 10	23 27	0 2	15 5	1 32	15 54	0 24	21 25	1 29	10 26	17 38	2 15	1 48	17 54	12 37	0 43			
W26	13 19	17 37	4 49	4 32	1 26	20 12	0 25	20 53	2 8	23 27	0 2	15 5	1 32	15 53	0 24	21 25	1 29	10 27	17 38	2 14	1 46	17 53	12 38	0 43			
T 27	13 39	18 16	5 10	4 23	1 39	20 31	0 27	20 45	2 7	23 27	0 2	15 4	1 31	15 52	0 24	21 25	1 29	10 27	17 38	2 12	1 45	17 53	12 39	0 43			
F 28	13 58	17 43	5 10	4 16	1 50	20 49	0 30	20 38	2 6	23 27	0 2	15 4	1 31	15 52	0 24	21 25	1 29	10 27	17 37	2 11	1 44	17 52	12 40	0 43			
S 29	14 17	16 2	4 51	4 12	2 1	21 6	0 33	20 30	2 4	23 27	0 2	15 4	1 31	15 51	0 24	21 25	1 29	10 28	17 37	2 10	1 43	17 52	12 41	0 43			
S 30	14n35	13s24	4n15	4n11	2s11	21n23	0n35	20n22	2n 3	23n27	0n 2	15n 4	1n31	15s50	0n24	21s24	1n29	10n28	17n37	2s10	1s41	17n52	12n43	0s43			

ASTRODIENST EPHEMERIS for the year 1978  
geocentric

MAY 1978

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
M 1	14 34 17	10♈15'59	24♌50	16♊10	4♋28	7♌59	3♍3	23♎41	14♏R34	17♐R53	14♑R38	5♒27	4♓12	11♈34	5♉39	M 1
T 2	14 38 13	11°14'13	8♈32	16°39	5°42	8°26	3°14	23°41	14♎32	17♏52	14♐37	5°29	4°9	11°41	5°43	T 2
W 3	14 42 10	12°12'26	22°0	17°12	6°55	8°52	3°24	23°42	14°29	17°51	14°35	5°30	4°6	11°48	5°47	W 3
T 4	14 46 6	13°10'37	5♊15	17°49	8°7	9°19	3°35	23°43	14°27	17°49	14°34	5°R31	4°2	11°54	5°50	T 4
F 5	14 50 3	14°8'47	18°17	18°30	9°20	9°46	3°46	23°44	14°24	17°48	14°32	5°30	3°59	12°1	5°54	F 5
S 6	14 53 59	15°6'55	1♌8	19°14	10°33	10°13	3°57	23°45	14°21	17°47	14°31	5°27	3°56	12°8	5°58	S 6
S 7	14 57 56	16°5'02	13°47	20°2	11°46	10°40	4°8	23°46	14°19	17°46	14°30	5°23	3°53	12°14	6°2	S 7
M 8	15 1 52	17°3'07	26°15	20°54	12°59	11°8	4°19	23°47	14°16	17°44	14°28	5°16	3°50	12°21	6°5	M 8
T 9	15 5 49	18°1'11	8♋32	21°49	14°12	11°36	4°30	23°49	14°14	17°43	14°27	5°9	3°47	12°28	6°9	T 9
W10	15 9 46	18°59'12	20°39	22°46	15°25	12°4	4°42	23°50	14°11	17°41	14°26	5°1	3°43	12°35	6°13	W10
T 11	15 13 42	19°57'12	2♌39	23°47	16°37	12°32	4°53	23°52	14°9	17°40	14°24	4°53	3°40	12°41	6°16	T 11
F 12	15 17 39	20°55'11	14°33	24°51	17°50	13°0	5°5	23°54	14°6	17°39	14°23	4°46	3°37	12°48	6°20	F 12
S 13	15 21 35	21°53'07	26°24	25°58	19°2	13°29	5°16	23°55	14°4	17°37	14°22	4°41	3°34	12°55	6°24	S 13
S 14	15 25 32	22°51'02	8♌17	27°7	20°15	13°57	5°28	23°57	14°1	17°36	14°21	4°38	3°31	13°1	6°27	S 14
M15	15 29 28	23°48'55	20°16	28°19	21°28	14°26	5°39	23°59	13°59	17°34	14°19	4°D36	3°28	13°8	6°31	M15
T 16	15 33 25	24°46'46	2♎26	29°34	22°40	14°55	5°51	24°1	13°56	17°33	14°18	4°37	3°24	13°15	6°35	T 16
W17	15 37 21	25°44'36	14°51	0♌51	23°52	15°24	6°3	24°4	13°54	17°32	14°17	4°38	3°21	13°22	6°38	W17
T 18	15 41 18	26°42'24	27°37	2°10	25°5	15°54	6°15	24°6	13°51	17°30	14°16	4°39	3°18	13°28	6°42	T 18
F 19	15 45 15	27°40'10	10♌47	3°32	26°17	16°23	6°27	24°8	13°49	17°29	14°15	4°R39	3°15	13°35	6°45	F 19
S 20	15 49 11	28°37'54	24°24	4°57	27°29	16°53	6°39	24°11	13°46	17°27	14°14	4°37	3°12	13°42	6°49	S 20
S 21	15 53 8	29°35'37	8♎28	6°24	28°42	17°22	6°51	24°13	13°44	17°26	14°13	4°33	3°8	13°48	6°52	S 21
M22	15 57 4	0♋33'19	22°56	7°53	29°54	17°52	7°3	24°16	13°42	17°24	14°12	4°27	3°5	13°55	6°56	M22
T 23	16 1 1	1°30'59	7♏43	9°25	1♌6	18°22	7°15	24°19	13°39	17°22	14°11	4°19	3°2	14°2	7°0	T 23
W24	16 4 57	2°28'38	22°42	10°58	2°18	18°53	7°27	24°22	13°37	17°21	14°10	4°11	2°59	14°9	7°3	W24
T 25	16 8 54	3°26'16	7♌41	12°35	3°30	19°23	7°40	24°25	13°35	17°19	14°9	4°2	2°56	14°15	7°6	T 25
F 26	16 12 50	4°23'53	22°33	14°13	4°42	19°53	7°52	24°28	13°32	17°18	14°8	3°55	2°53	14°22	7°10	F 26
S 27	16 16 47	5°21'29	7♎11	15°54	5°54	20°24	8°4	24°31	13°30	17°16	14°7	3°50	2°49	14°29	7°13	S 27
S 28	16 20 44	6°19'04	21°28	17°37	7°6	20°55	8°17	24°34	13°28	17°15	14°6	3°47	2°46	14°36	7°17	S 28
M29	16 24 40	7°16'38	5♎25	19°23	8°18	21°26	8°29	24°37	13°25	17°13	14°5	3°D46	2°43	14°42	7°20	M29
T 30	16 28 37	8°14'11	19°0	21°10	9°29	21°57	8°42	24°41	13°23	17°11	14°4	3°46	2°40	14°49	7°23	T 30
W31	16 32 33	9♋11'44	2°16	23♌0	10♌41	22♌28	8♌54	24♌44	13♎21	17♏10	14♐4	3°R47	2♑37	14♒56	7♓27	W31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	♊	♋	♌
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	decl	lat
M 1	14n54	10s 2	3n24	4n12	2s21	21n40	0n38	20n14	2n 2	23n26	0n 2	15n 4	1n31	15s49	0n24	21s24	1n29	10n28	17n37	2s10	1s40	17n51	12n44	0s43		
T 2	15 12	6 11	2 22	4 15	2 29	21 55	0 41	20 6	2 1	23 26	0 2	15 3	1 31	15 49	0 24	21 24	1 29	10 29	17 36	2 11	1 39	17 51	12 45	0 43		
W 3	15 30	2 3	1 13	4 20	2 37	22 11	0 43	19 57	1 59	23 26	0 2	15 3	1 31	15 48	0 24	21 24	1 29	10 29	17 36	2 11	1 38	17 50	12 46	0 43		
T 4	15 48	2n 6	0 1	4 28	2 44	22 25	0 46	19 49	1 58	23 26	0 2	15 3	1 31	15 47	0 24	21 24	1 29	10 29	17 36	2 11	1 36	17 50	12 47	0 43		
F 5	16 5	6 6	1s 9	4 38	2 50	22 39	0 49	19 41	1 57	23 26	0 3	15 2	1 31	15 46	0 24	21 24	1 29	10 30	17 36	2 11	1 35	17 49	12 48	0 43		
S 6	16 22	9 46	2 15	4 50	2 55	22 52	0 51	19 32	1 55	23 25	0 3	15 2	1 31	15 46	0 24	21 24	1 29	10 30	17 35	2 10	1 34	17 49	12 50	0 44		
S 7	16 39	12 55	3 12	5 4	3 0	23 5	0 54	19 23	1 54	23 25	0 3	15 1	1 31	15 45	0 24	21 23	1 29	10 30	17 35	2 8	1 33	17 48	12 51	0 44		
M 8	16 56	15 25	4 0	5 19	3 3	23 17	0 56	19 15	1 53	23 25	0 3	15 1	1 31	15 44	0 24	21 23	1 29	10 30	17 35	2 6	1 31	17 48	12 52	0 44		
T 9	17 12	17 11	4 36	5 37	3 6	23 28	0 59	19 6	1 52	23 25	0 3	15 0	1 30	15 44	0 24	21 23	1 29	10 31	17 34	2 3	1 30	17 47	12 53	0 44		
W10	17 28	18 9	4 58	5 56	3 9	23 39	1 1	18 57	1 51	23 24	0 3	15 0	1 30	15 43	0 24	21 23	1 29	10 31	17 34	1 59	1 29	17 47	12 54	0 44		
T 11	17 44	18 17	5 8	6 17	3 10	23 49	1 4	18 48	1 49	23 24	0 3	14 59	1 30	15 42	0 24	21 23	1 30	10 31	17 34	1 56	1 28	17 46	12 55	0 44		
F 12	17 59	17 37	5 4	6 40	3 11	23 59	1 6	18 38	1 48	23 24	0 3	14 59	1 30	15 41	0 24	21 23	1 30	10 31	17 33	1 54	1 26	17 46	12 56	0 44		
S 13	18 14	16 11	4 46	7 4	3 11	24 7	1 8	18 29	1 47	23 23	0 3	14 58	1 30	15 41	0 24	21 23	1 30	10 31	17 33	1 52	1 25	17 45	12 57	0 44		
S 14	18 29	14 3	4 17	7 29	3 10	24 15	1 11	18 20	1 46	23 23	0 3	14 57	1 30	15 40	0 24	21 22	1 30	10 31	17 33	1 50	1 24	17 45	12 59	0 44		
M15	18 44	11 19	3 36	7 56	3 9	24 23	1 13	18 10	1 45	23 23	0 4	14 56	1 30	15 39	0 24	21 22	1 30	10 32	17 32	1 50	1 23	17 45	13 0	0 44		
T 16	18 58	8 3	2 45	8 23	3 8	24 29	1 15	18 1	1 44	23 22	0 4	14 56	1 30	15 38	0 24	21 22	1 30	10 32	17 32	1 50	1 21	17 44	13 1	0 44		
W17	19 12	4 22	1 45	8 53	3 5	24 35	1 17	17 51	1 42	23 22	0 4	14 55	1 30	15 38	0 24	21 22	1 30	10 32	17 32	1 50	1 20	17 44	13 2	0 44		
T 18	19 25	0 22	0 38	9 23	3 2	24 40	1 20	17 41	1 41	23 21	0 4	14 54	1 30	15 37	0 24	21 22	1 30	10 32	17 31	1 51	1 19	17 43	13 3	0 45		
F 19	19 38	3s46	0n33	9 54	2 58	24 45	1 22	17 31	1 40	23 21	0 4	14 53	1 30	15 36	0 24	21 22	1 30	10 32	17 31	1 51	1 17	17 43	13 4	0 45		
S 20	19 51	7 51	1 44	10 26	2 54	24 49	1 24	17 21	1 39	23 20	0 4	14 52	1 30	15 36	0 24	21 22	1 30	10 32	17 31	1 50	1 16	17 42	13 5	0 45		
S 21	20 4	11 38	2 51	10 59	2 49	24 52	1 26	17 11	1 38	23 20	0 4	14 51	1 29	15 35	0 24	21 21	1 30	10 32	17 30	1 49	1 15	17 42	13 6	0 45		
M22	20 16	14 49	3 49	11 33	2 44	24 54	1 28	17 1	1 37	23 19	0 4	14 50	1 29	15 34	0 24	21 21	1 30	10 32	17 30	1 46	1 14	17 41	13 7	0 45		
T 23	20 28	17 7	4 33	12 8	2 38	24 56	1 30	16 50	1 36	23 19	0 4	14 49	1 29	15 33	0 24	21 21	1 30	10 32	17 29	1 43	1 12	17 41	13 8	0 45		
W24	20 39	18 16	4 58	12 43	2 32	24 57	1 32	16 40	1 35	23 18	0 4	14 48	1 29	15 33	0 24	21 21	1 30	10 32	17 29	1 40	1 11	17 40	13 9	0 45		
T 25	20 51	18 10	5 4	13 19	2 25	24 57	1 33	16 29	1 34	23 17	0 4	14 47	1 29	15 32	0 24	21 21	1 30	10 32	17 28	1 36	1 10	17 40	13 10	0 45		
F 26	21 1	16 48	4 49	13 55	2 17	24 56	1 35	16 19	1 33	23 17	0 5	14 46	1 29	15 31	0 24	21 21	1 30	10 32	17 28	1 33	1 9	17 39	13 12	0 45		
S 27	21 12	14 22	4 15	14 32	2 9	24 55	1 37	16 8	1 32	23 16	0 5	14 45	1 29	15 31	0 24	21 21	1 30	10 32	17 28	1 31	1 7	17 38	13 13	0 45		
S 28	21 22	11 6	3 26	15 9	2 1	24 53	1 38	15 57	1 31	23 16	0 5	14 44	1 29	15 30	0 24	21 20	1 30	10 32	17 27	1 30	1 6	17 38	13 14	0 45		
M29	21 31	7 16	2 25	15 46	1 52	24 51	1 40	15 46	1 29	23 15	0 5	14 43	1 29	15 29	0 24	21 20	1 30	10 32	17 27	1 30	1 5	17 37	13 15	0 46		
T 30	21 41	3 9	1 18	16 23	1 43	24 47	1 42	15 35	1 28	23 14	0 5	14 41	1 29	15 29	0 24	21 20	1 30	10 32	17 26	1 30	1 4	17 37	13 16	0 46		
W31	21n50	1n 1	0n 8	17n 1	1s34	24n43	1n43	15n24	1n27	23n13	0n 5	14n40	1n29	15s28	0n24	21s20	1n30	10n31	17n26	1s30	1s 2	17n36	13n17	0s46		



# ASTRODIENST EPHEMERIS for the year 1978

## geocentric

JUNE 1978

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	16 36 30	10 <sup>II</sup> 9'15	15 <sup>VI</sup> 14	24 <sup>♂</sup> 53	11 <sup>♂</sup> 53	22 <sup>♂</sup> 59	9 <sup>♂</sup> 7	24 <sup>♂</sup> 48	13 <sup>♂</sup> R19	17 <sup>♂</sup> R 8	14 <sup>♂</sup> R 3	3 <sup>♂</sup> R46	2 <sup>♂</sup> 34	15 <sup>♂</sup> 2	7 <sup>♂</sup> 30	T 1
F 2	16 40 26	11 <sup>♂</sup> 6'46	27 <sup>♂</sup> 59	26 <sup>♂</sup> 47	13 <sup>♂</sup> 5	23 <sup>♂</sup> 30	9 <sup>♂</sup> 20	24 <sup>♂</sup> 52	13 <sup>♂</sup> M.17	17 <sup>♂</sup> 7	14 <sup>♂</sup> 2	3 <sup>♂</sup> 44	2 <sup>♂</sup> 30	15 <sup>♂</sup> 9	7 <sup>♂</sup> 33	F 2
S 3	16 44 23	12 <sup>♂</sup> 4'16	10 <sup>♂</sup> 32	28 <sup>♂</sup> 44	14 <sup>♂</sup> 16	24 <sup>♂</sup> 2	9 <sup>♂</sup> 33	24 <sup>♂</sup> 55	13 <sup>♂</sup> 15	17 <sup>♂</sup> 5	14 <sup>♂</sup> 1	3 <sup>♂</sup> 39	2 <sup>♂</sup> 27	15 <sup>♂</sup> 16	7 <sup>♂</sup> 37	S 3
S 4	16 48 19	13 <sup>♂</sup> 1'45	22 <sup>♂</sup> 54	0 <sup>II</sup> 43	15 <sup>♂</sup> 28	24 <sup>♂</sup> 34	9 <sup>♂</sup> 45	24 <sup>♂</sup> 59	13 <sup>♂</sup> 12	17 <sup>♂</sup> 3	14 <sup>♂</sup> 1	3 <sup>♂</sup> 31	2 <sup>♂</sup> 24	15 <sup>♂</sup> 23	7 <sup>♂</sup> 40	S 4
M 5	16 52 16	13 <sup>♂</sup> 59'14	5 <sup>II</sup> 8	2 <sup>♂</sup> 43	16 <sup>♂</sup> 39	25 <sup>♂</sup> 5	9 <sup>♂</sup> 58	25 <sup>♂</sup> 3	13 <sup>♂</sup> 10	17 <sup>♂</sup> 2	14 <sup>♂</sup> 0	3 <sup>♂</sup> 21	2 <sup>♂</sup> 21	15 <sup>♂</sup> 29	7 <sup>♂</sup> 43	M 5
T 6	16 56 13	14 <sup>♂</sup> 56'41	17 <sup>♂</sup> 15	4 <sup>♂</sup> 46	17 <sup>♂</sup> 51	25 <sup>♂</sup> 37	10 <sup>♂</sup> 11	25 <sup>♂</sup> 7	13 <sup>♂</sup> 8	17 <sup>♂</sup> 0	13 <sup>♂</sup> 59	3 <sup>♂</sup> 8	2 <sup>♂</sup> 18	15 <sup>♂</sup> 36	7 <sup>♂</sup> 46	T 6
W 7	17 0 9	15 <sup>♂</sup> 54'08	29 <sup>♂</sup> 15	6 <sup>♂</sup> 51	19 <sup>♂</sup> 2	26 <sup>♂</sup> 9	10 <sup>♂</sup> 24	25 <sup>♂</sup> 12	13 <sup>♂</sup> 6	16 <sup>♂</sup> 59	13 <sup>♂</sup> 59	2 <sup>♂</sup> 55	2 <sup>♂</sup> 14	15 <sup>♂</sup> 43	7 <sup>♂</sup> 49	W 7
T 8	17 4 6	16 <sup>♂</sup> 51'33	11 <sup>♂</sup> 30	8 <sup>♂</sup> 57	20 <sup>♂</sup> 13	26 <sup>♂</sup> 41	10 <sup>♂</sup> 37	25 <sup>♂</sup> 16	13 <sup>♂</sup> 4	16 <sup>♂</sup> 57	13 <sup>♂</sup> 58	2 <sup>♂</sup> 43	2 <sup>♂</sup> 11	15 <sup>♂</sup> 49	7 <sup>♂</sup> 53	T 8
F 9	17 8 2	17 <sup>♂</sup> 48'58	23 <sup>♂</sup> 2	11 <sup>♂</sup> 5	21 <sup>♂</sup> 24	27 <sup>♂</sup> 14	10 <sup>♂</sup> 50	25 <sup>♂</sup> 20	13 <sup>♂</sup> 2	16 <sup>♂</sup> 55	13 <sup>♂</sup> 58	2 <sup>♂</sup> 31	2 <sup>♂</sup> 8	15 <sup>♂</sup> 56	7 <sup>♂</sup> 56	F 9
S 10	17 11 59	18 <sup>♂</sup> 46'22	4 <sup>♂</sup> 52	13 <sup>♂</sup> 14	22 <sup>♂</sup> 36	27 <sup>♂</sup> 46	11 <sup>♂</sup> 3	25 <sup>♂</sup> 24	13 <sup>♂</sup> 1	16 <sup>♂</sup> 54	13 <sup>♂</sup> 57	2 <sup>♂</sup> 22	2 <sup>♂</sup> 5	16 <sup>♂</sup> 3	7 <sup>♂</sup> 59	S 10
S 11	17 15 55	19 <sup>♂</sup> 43'44	16 <sup>♂</sup> 45	15 <sup>♂</sup> 24	23 <sup>♂</sup> 47	28 <sup>♂</sup> 18	11 <sup>♂</sup> 16	25 <sup>♂</sup> 29	12 <sup>♂</sup> 59	16 <sup>♂</sup> 52	13 <sup>♂</sup> 57	2 <sup>♂</sup> 15	2 <sup>♂</sup> 2	16 <sup>♂</sup> 10	8 <sup>♂</sup> 2	S 11
M12	17 19 52	20 <sup>♂</sup> 41'06	28 <sup>♂</sup> 42	17 <sup>♂</sup> 35	24 <sup>♂</sup> 58	28 <sup>♂</sup> 51	11 <sup>♂</sup> 29	25 <sup>♂</sup> 33	12 <sup>♂</sup> 57	16 <sup>♂</sup> 50	13 <sup>♂</sup> 56	2 <sup>♂</sup> 11	1 <sup>♂</sup> 59	16 <sup>♂</sup> 16	8 <sup>♂</sup> 5	M12
T 13	17 23 48	21 <sup>♂</sup> 38'27	10 <sup>♂</sup> 50	19 <sup>♂</sup> 47	26 <sup>♂</sup> 9	29 <sup>♂</sup> 24	11 <sup>♂</sup> 42	25 <sup>♂</sup> 38	12 <sup>♂</sup> 55	16 <sup>♂</sup> 49	13 <sup>♂</sup> 56	2 <sup>♂</sup> 9	1 <sup>♂</sup> 55	16 <sup>♂</sup> 23	8 <sup>♂</sup> 8	T 13
W14	17 27 45	22 <sup>♂</sup> 35'47	23 <sup>♂</sup> 12	21 <sup>♂</sup> 59	27 <sup>♂</sup> 20	29 <sup>♂</sup> 56	11 <sup>♂</sup> 55	25 <sup>♂</sup> 43	12 <sup>♂</sup> 53	16 <sup>♂</sup> 47	13 <sup>♂</sup> 56	2 <sup>♂</sup> D 9	1 <sup>♂</sup> 52	16 <sup>♂</sup> 30	8 <sup>♂</sup> 11	W14
T 15	17 31 42	23 <sup>♂</sup> 33'05	5 <sup>♂</sup> 55	24 <sup>♂</sup> 11	28 <sup>♂</sup> 31	0 <sup>♂</sup> 29	12 <sup>♂</sup> 8	25 <sup>♂</sup> 47	12 <sup>♂</sup> 52	16 <sup>♂</sup> 46	13 <sup>♂</sup> 55	2 <sup>♂</sup> R 9	1 <sup>♂</sup> 49	16 <sup>♂</sup> 37	8 <sup>♂</sup> 13	T 15
F 16	17 35 38	24 <sup>♂</sup> 30'23	19 <sup>♂</sup> 1	26 <sup>♂</sup> 23	29 <sup>♂</sup> 41	1 <sup>♂</sup> 2	12 <sup>♂</sup> 21	25 <sup>♂</sup> 52	12 <sup>♂</sup> 50	16 <sup>♂</sup> 44	13 <sup>♂</sup> 55	2 <sup>♂</sup> 8	1 <sup>♂</sup> 46	16 <sup>♂</sup> 43	8 <sup>♂</sup> 16	F 16
S 17	17 39 35	25 <sup>♂</sup> 27'40	2 <sup>♂</sup> 36	28 <sup>♂</sup> 34	0 <sup>♂</sup> 52	1 <sup>♂</sup> 35	12 <sup>♂</sup> 35	25 <sup>♂</sup> 57	12 <sup>♂</sup> 48	16 <sup>♂</sup> 42	13 <sup>♂</sup> 55	2 <sup>♂</sup> 6	1 <sup>♂</sup> 43	16 <sup>♂</sup> 50	8 <sup>♂</sup> 19	S 17
S 18	17 43 31	26 <sup>♂</sup> 24'57	16 <sup>♂</sup> 40	0 <sup>♂</sup> 44	2 <sup>♂</sup> 3	2 <sup>♂</sup> 9	12 <sup>♂</sup> 48	26 <sup>♂</sup> 2	12 <sup>♂</sup> 47	16 <sup>♂</sup> 41	13 <sup>♂</sup> 55	2 <sup>♂</sup> 1	1 <sup>♂</sup> 40	16 <sup>♂</sup> 57	8 <sup>♂</sup> 22	S 18
M19	17 47 28	27 <sup>♂</sup> 22'12	1 <sup>♂</sup> 13	2 <sup>♂</sup> 54	3 <sup>♂</sup> 13	2 <sup>♂</sup> 42	13 <sup>♂</sup> 1	26 <sup>♂</sup> 7	12 <sup>♂</sup> 45	16 <sup>♂</sup> 39	13 <sup>♂</sup> 54	1 <sup>♂</sup> 53	1 <sup>♂</sup> 36	17 <sup>♂</sup> 3	8 <sup>♂</sup> 25	M19
T 20	17 51 24	28 <sup>♂</sup> 19'27	16 <sup>♂</sup> 10	5 <sup>♂</sup> 2	4 <sup>♂</sup> 24	3 <sup>♂</sup> 15	13 <sup>♂</sup> 15	26 <sup>♂</sup> 12	12 <sup>♂</sup> 44	16 <sup>♂</sup> 38	13 <sup>♂</sup> 54	1 <sup>♂</sup> 44	1 <sup>♂</sup> 33	17 <sup>♂</sup> 10	8 <sup>♂</sup> 27	T 20
W21	17 55 21	29 <sup>♂</sup> 16'42	1 <sup>♂</sup> 22	7 <sup>♂</sup> 9	5 <sup>♂</sup> 34	3 <sup>♂</sup> 49	13 <sup>♂</sup> 28	26 <sup>♂</sup> 18	12 <sup>♂</sup> 42	16 <sup>♂</sup> 36	13 <sup>♂</sup> 54	1 <sup>♂</sup> 33	1 <sup>♂</sup> 30	17 <sup>♂</sup> 17	8 <sup>♂</sup> 30	W21
T 22	17 59 17	0 <sup>♂</sup> 13'56	16 <sup>♂</sup> 38	9 <sup>♂</sup> 15	6 <sup>♂</sup> 45	4 <sup>♂</sup> 22	13 <sup>♂</sup> 41	26 <sup>♂</sup> 23	12 <sup>♂</sup> 41	16 <sup>♂</sup> 34	13 <sup>♂</sup> 54	1 <sup>♂</sup> 23	1 <sup>♂</sup> 27	17 <sup>♂</sup> 24	8 <sup>♂</sup> 33	T 22
F 23	18 3 14	1 <sup>♂</sup> 11'09	1 <sup>♂</sup> 48	11 <sup>♂</sup> 18	7 <sup>♂</sup> 55	4 <sup>♂</sup> 56	13 <sup>♂</sup> 54	26 <sup>♂</sup> 28	12 <sup>♂</sup> 39	16 <sup>♂</sup> 33	13 <sup>♂</sup> 54	1 <sup>♂</sup> 13	1 <sup>♂</sup> 24	17 <sup>♂</sup> 30	8 <sup>♂</sup> 35	F 23
S 24	18 7 11	2 <sup>♂</sup> 8'23	16 <sup>♂</sup> 42	13 <sup>♂</sup> 20	9 <sup>♂</sup> 5	5 <sup>♂</sup> 30	14 <sup>♂</sup> 8	26 <sup>♂</sup> 34	12 <sup>♂</sup> 38	16 <sup>♂</sup> 31	13 <sup>♂</sup> D54	1 <sup>♂</sup> 6	1 <sup>♂</sup> 20	17 <sup>♂</sup> 37	8 <sup>♂</sup> 38	S 24
S 25	18 11 7	3 <sup>♂</sup> 5'36	1 <sup>♂</sup> 14	15 <sup>♂</sup> 20	10 <sup>♂</sup> 15	6 <sup>♂</sup> 3	14 <sup>♂</sup> 21	26 <sup>♂</sup> 39	12 <sup>♂</sup> 37	16 <sup>♂</sup> 30	13 <sup>♂</sup> 54	1 <sup>♂</sup> 2	1 <sup>♂</sup> 17	17 <sup>♂</sup> 44	8 <sup>♂</sup> 40	S 25
M26	18 15 4	4 <sup>♂</sup> 2'49	15 <sup>♂</sup> 19	17 <sup>♂</sup> 18	11 <sup>♂</sup> 25	6 <sup>♂</sup> 37	14 <sup>♂</sup> 35	26 <sup>♂</sup> 45	12 <sup>♂</sup> 35	16 <sup>♂</sup> 28	13 <sup>♂</sup> 54	1 <sup>♂</sup> 0	1 <sup>♂</sup> 14	17 <sup>♂</sup> 50	8 <sup>♂</sup> 43	M26
T 27	18 19 0	5 <sup>♂</sup> 0'02	28 <sup>♂</sup> 57	19 <sup>♂</sup> 14	12 <sup>♂</sup> 35	7 <sup>♂</sup> 11	14 <sup>♂</sup> 48	26 <sup>♂</sup> 50	12 <sup>♂</sup> 34	16 <sup>♂</sup> 27	13 <sup>♂</sup> 54	1 <sup>♂</sup> 0	1 <sup>♂</sup> 11	17 <sup>♂</sup> 57	8 <sup>♂</sup> 45	T 27
W28	18 22 57	5 <sup>♂</sup> 57'16	12 <sup>♂</sup> Y11	21 <sup>♂</sup> 8	13 <sup>♂</sup> 45	7 <sup>♂</sup> 46	15 <sup>♂</sup> 1	26 <sup>♂</sup> 56	12 <sup>♂</sup> 33	16 <sup>♂</sup> 25	13 <sup>♂</sup> 54	1 <sup>♂</sup> 0	1 <sup>♂</sup> 8	18 <sup>♂</sup> 4	8 <sup>♂</sup> 48	W28
T 29	18 26 53	6 <sup>♂</sup> 54'29	25 <sup>♂</sup> 4	23 <sup>♂</sup> 0	14 <sup>♂</sup> 55	8 <sup>♂</sup> 20	15 <sup>♂</sup> 15	27 <sup>♂</sup> 2	12 <sup>♂</sup> 32	16 <sup>♂</sup> 24	13 <sup>♂</sup> 54	0 <sup>♂</sup> 59	1 <sup>♂</sup> 5	18 <sup>♂</sup> 11	8 <sup>♂</sup> 50	T 29
F 30	18 30 50	7 <sup>♂</sup> 51'42	7 <sup>♂</sup> 39	24 <sup>♂</sup> 50	16 <sup>♂</sup> 4	8 <sup>♂</sup> 54	15 <sup>♂</sup> 28	27 <sup>♂</sup> 8	12 <sup>♂</sup> M.31	16 <sup>♂</sup> 22	13 <sup>♂</sup> 54	0 <sup>♂</sup> 56	1 <sup>♂</sup> 1	18 <sup>♂</sup> 17	8 <sup>♂</sup> 52	F 30

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
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# ASTRODIENST EPHEMERIS for the year 1978

## geocentric

JULY 1978

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Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	18 34 46	8°48'56	20°8'1	26°38	17°14	9°28	15°42	27°13	12°R30	16°R21	13°55	0°R51	0°58	18°24	8°55	S 1
S 2	18 38 43	9°46'09	2°113	28°23	18°24	10° 3	15°55	27°19	12°M29	16°19	13°55	0°43	0°55	18°31	8°57	S 2
M 3	18 42 40	10°43'23	14°17	0°17	19°33	10°37	16° 9	27°25	12°28	16°18	13°55	0°32	0°52	18°37	8°59	M 3
T 4	18 46 36	11°40'37	26°15	1°48	20°42	11°12	16°22	27°31	12°27	16°16	13°55	0°19	0°49	18°44	9° 1	T 4
W 5	18 50 33	12°37'50	8°5	3°27	21°52	11°47	16°36	27°37	12°26	16°15	13°56	0° 6	0°46	18°51	9° 3	W 5
T 6	18 54 29	13°35'04	20° 1	5° 4	23° 1	12°22	16°49	27°44	12°25	16°14	13°56	29°53	0°42	18°58	9° 5	T 6
F 7	18 58 26	14°32'18	1°52	6°39	24°10	12°57	17° 3	27°50	12°24	16°12	13°57	29°41	0°39	19° 4	9° 7	F 7
S 8	19 2 22	15°29'32	13°44	8°12	25°19	13°32	17°16	27°56	12°24	16°11	13°57	29°31	0°36	19°11	9° 9	S 8
S 9	19 6 19	16°26'46	25°39	9°42	26°28	14° 7	17°30	28° 2	12°23	16°10	13°58	29°24	0°33	19°18	9°11	S 9
M10	19 10 15	17°23'59	7°139	11°10	27°36	14°42	17°43	28° 9	12°22	16° 8	13°58	29°19	0°30	19°24	9°13	M10
T 11	19 14 12	18°21'13	19°48	12°37	28°45	15°17	17°57	28°15	12°22	16° 7	13°59	29°17	0°26	19°31	9°15	T 11
W12	19 18 9	19°18'26	2°11	14° 0	29°54	15°52	18°10	28°22	12°21	16° 6	13°59	29°D17	0°23	19°38	9°17	W12
T 13	19 22 5	20°15'40	14°52	15°22	1°17	16°28	18°24	28°28	12°21	16° 4	14° 0	29°R17	0°20	19°45	9°19	T 13
F 14	19 26 2	21°12'53	27°54	16°41	2°10	17° 3	18°37	28°35	12°20	16° 3	14° 0	29°17	0°17	19°51	9°20	F 14
S 15	19 29 58	22°10'07	11°123	17°58	3°19	17°39	18°51	28°41	12°20	16° 2	14° 1	29°16	0°14	19°58	9°22	S 15
S 16	19 33 55	23° 7'20	25°21	19°13	4°27	18°15	19° 4	28°48	12°20	16° 1	14° 2	29°12	0°11	20° 5	9°23	S 16
M17	19 37 51	24° 4'34	9°146	20°25	5°35	18°50	19°18	28°54	12°19	15°59	14° 3	29° 6	0° 7	20°11	9°25	M17
T 18	19 41 48	25° 1'48	24°38	21°34	6°42	19°26	19°31	29° 1	12°19	15°58	14° 3	28°59	0° 4	20°18	9°26	T 18
W19	19 45 44	25°59'02	9°147	22°41	7°50	20° 2	19°45	29° 8	12°19	15°57	14° 4	28°50	0° 1	20°25	9°28	W19
T 20	19 49 41	26°56'17	25° 6	23°45	8°58	20°38	19°58	29°15	12°19	15°56	14° 5	28°41	29°55	20°32	9°29	T 20
F 21	19 53 38	27°53'32	10°22	24°47	10° 5	21°14	20°12	29°22	12°D19	15°55	14° 6	28°33	29°58	20°38	9°31	F 21
S 22	19 57 34	28°50'47	25°25	25°45	11°12	21°50	20°25	29°29	12°19	15°54	14° 7	28°27	29°51	20°45	9°32	S 22
S 23	20 1 31	29°48'03	10°16	26°41	12°19	22°26	20°38	29°35	12°19	15°53	14° 8	28°24	29°48	20°52	9°33	S 23
M24	20 5 27	0°45'20	24°21	27°33	13°26	23° 2	20°52	29°42	12°19	15°52	14° 9	28°D22	29°45	20°58	9°34	M24
T 25	20 9 24	1°42'38	8°17	28°22	14°33	23°39	21° 5	29°49	12°19	15°51	14°10	28°22	29°42	21° 5	9°35	T 25
W26	20 13 20	2°39'57	21°26	29° 8	15°40	24°15	21°19	29°56	12°19	15°50	14°11	28°23	29°39	21°12	9°36	W26
T 27	20 17 17	3°37'16	4°21	29°50	16°46	24°52	21°32	0°17	12°20	15°49	14°12	28°R24	29°36	21°19	9°37	T 27
F 28	20 21 13	4°34'37	16°55	0°17	17°53	25°28	21°45	0°11	12°20	15°48	14°13	28°23	29°32	21°25	9°38	F 28
S 29	20 25 10	5°31'59	29°14	1° 3	18°59	26° 5	21°59	0°18	12°20	15°47	14°14	28°20	29°29	21°32	9°39	S 29
S 30	20 29 7	6°29'21	11°121	1°33	20° 5	26°41	22°12	0°25	12°21	15°46	14°15	28°15	29°26	21°39	9°40	S 30
M31	20 33 3	7°26'45	23°119	1°59	21°11	27°18	22°25	0°32	12°M21	15°45	14°16	28°17	29°23	21°45	9°41	M31

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S 1	23n 9	14n 5	3s48	22n39	1n51	17n24	1n49	8n55	0n58	22n39	0n 8	13n48	1n27	15s13	0n23	21s15
S 2	23 5	16 17	4 25	22 15	1 48	17 1	1 48	8 41	0 58	22 37	0 8	13 46	1 27	15 13	0 23	21 15
M 3	23 0	17 44	4 49	21 50	1 45	16 38	1 46	8 27	0 57	22 36	0 8	13 43	1 27	15 13	0 23	21 15
T 4	22 56	18 24	5 0	21 24	1 41	16 15	1 45	8 13	0 56	22 34	0 8	13 41	1 27	15 12	0 23	21 15
W 5	22 50	18 14	4 57	20 57	1 36	15 51	1 43	7 59	0 55	22 33	0 8	13 39	1 27	15 12	0 23	21 15
T 6	22 45	17 17	4 42	20 28	1 31	15 27	1 42	7 45	0 54	22 31	0 8	13 37	1 27	15 12	0 23	21 15
F 7	22 39	15 36	4 15	19 59	1 25	15 2	1 40	7 31	0 53	22 29	0 8	13 35	1 27	15 12	0 23	21 15
S 8	22 32	13 15	3 37	19 29	1 19	14 37	1 38	7 17	0 52	22 28	0 8	13 33	1 27	15 12	0 23	21 15
S 9	22 26	10 20	2 48	18 59	1 12	14 12	1 36	7 3	0 52	22 26	0 9	13 30	1 27	15 11	0 23	21 15
M10	22 18	6 58	1 52	18 28	1 5	13 47	1 34	6 48	0 51	22 25	0 9	13 28	1 26	15 11	0 23	21 14
T 11	22 11	3 16	0 50	17 56	0 57	13 21	1 32	6 34	0 50	22 23	0 9	13 26	1 26	15 11	0 23	21 14
W12	22 3	0s38	0n15	17 24	0 49	12 54	1 30	6 20	0 49	22 21	0 9	13 24	1 26	15 11	0 23	21 14
T 13	21 55	4 36	1 22	16 52	0 40	12 28	1 27	6 5	0 48	22 19	0 9	13 21	1 26	15 11	0 23	21 14
F 14	21 46	8 27	2 26	16 20	0 31	12 1	1 25	5 50	0 47	22 18	0 9	13 19	1 26	15 11	0 23	21 14
S 15	21 37	12 0	3 24	15 48	0 22	11 34	1 22	5 36	0 47	22 16	0 9	13 17	1 26	15 11	0 23	21 14
S 16	21 28	15 0	4 13	15 15	0 12	11 7	1 20	5 21	0 46	22 14	0 9	13 15	1 26	15 11	0 23	21 14
M17	21 18	17 11	4 47	14 43	0 2	10 39	1 17	5 6	0 45	22 12	0 9	13 12	1 26	15 11	0 23	21 14
T 18	21 8	18 17	5 3	14 11	0s 9	10 12	1 14	4 52	0 44	22 10	0 9	13 10	1 26	15 11	0 23	21 14
W19	20 57	18 7	4 58	13 39	0 19	9 44	1 11	4 37	0 43	22 9	0 9	13 7	1 26	15 10	0 23	21 14
T 20	20 46	16 39	4 32	13 7	0 31	9 16	1 8	4 22	0 43	22 7	0 10	13 5	1 26	15 10	0 23	21 14
F 21	20 35	14 0	3 47	12 36	0 42	8 47	1 5	4 7	0 42	22 5	0 10	13 3	1 26	15 11	0 23	21 13
S 22	20 23	10 26	2 47	12 5	0 54	8 19	1 2	3 52	0 41	22 3	0 10	13 0	1 26	15 11	0 23	21 13
S 23	20 12	6 18	1 36	11 35	1 6	7 50	0 58	3 37	0 40	22 1	0 10	12 58	1 26	15 11	0 22	21 13
M24	19 59	1 55	0 22	11 6	1 18	7 21	0 55	3 22	0 39	21 59	0 10	12 55	1 26	15 11	0 22	21 13
T 25	19 47	2n25	0s52	10 38	1 30	6 52	0 51	3 7	0 39	21 57	0 10	12 53	1 26	15 11	0 22	21 13
W26	19 34	6 30	2 0	10 10	1 43	6 23	0 48	2 52	0 38	21 55	0 10	12 50	1 26	15 11	0 22	21 13
T 27	19 21	10 8	3 1	9 44	1 56	5 54	0 44	2 37	0 37	21 53	0 10	12 48	1 26	15 11	0 22	21 13
F 28	19 7	13 12	3 50	9 18	2 8	5 24	0 40	2 21	0 36	21 51	0 10	12 45	1 26	15 11	0 22	21 13
S 29	18 53	15 37	4 28	8 54	2 21	4 55	0 36	2 6	0 36	21 49	0 10	12 43	1 26	15 11	0 22	21 13
S 30	18 39	17 18	4 53	8 31	2 34	4 25	0 32	1 51	0 35	21 47	0 11	12 40	1 26	15 11	0 22	21 13
M31	18n25	18n11	5s 5	8n10	2s47	3n55	0n28	1n36	0n34	21n45	0n11	12n38	1n26	15s12	0n22	21s13

Julian Day Number = 2443690.5, Delta T = 49.06 sec  
 Ecliptic obliquity = 23°26'22, Nutation = 0°00'01, out-of-bounds declination in red  
 Ayanamsha: Fagan/Bradley = 24°26'24, Lahiri = 23°33'24



ASTRODIENST EPHEMERIS for the year 1978  
geocentric

AUGUST 1978

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	20 37 0	8♌24°10	5♊13	2♊21	22♊17	27♊55	22♊38	0♊39	12♌22	15°R44	14♌17	28°R 0	29♊20	21♊52	9♊42	T 1
W 2	20 40 56	9°21'36	17° 4	2°38	23°22	28°32	22°51	0°47	12°22	15°R43	14°19	27°51	29°17	21°59	9°42	W 2
T 3	20 44 53	10°19'02	28°56	2°51	24°28	29° 9	23° 5	0°54	12°23	15°43	14°20	27°42	29°13	22° 6	9°43	T 3
F 4	20 48 49	11°16'30	10♌49	2°58	25°33	29°46	23°18	1° 1	12°24	15°42	14°21	27°34	29°10	22°12	9°44	F 4
S 5	20 52 46	12°13'58	22°45	3°R 1	26°38	0♌23	23°31	1° 9	12°24	15°41	14°23	27°27	29° 7	22°19	9°44	S 5
S 6	20 56 42	13°11'28	4♊47	2°58	27°43	1° 0	23°44	1°16	12°25	15°40	14°24	27°22	29° 4	22°26	9°45	S 6
M 7	21 0 39	14° 8'58	16°56	2°50	28°47	1°38	23°57	1°23	12°26	15°40	14°25	27°20	29° 1	22°32	9°45	M 7
T 8	21 4 36	15° 6'29	29°14	2°36	29°52	2°15	24°10	1°31	12°27	15°39	14°27	27°D19	28°57	22°39	9°45	T 8
W 9	21 8 32	16° 4'01	11♌44	2°17	0♌56	2°52	24°23	1°38	12°28	15°39	14°28	27°20	28°54	22°46	9°46	W 9
T 10	21 12 29	17° 1'34	24°30	1°53	2° 0	3°30	24°36	1°46	12°29	15°38	14°30	27°22	28°51	22°53	9°46	T 10
F 11	21 16 25	17°59'08	7♌34	1°24	3° 3	4° 7	24°49	1°53	12°30	15°37	14°31	27°23	28°48	22°59	9°46	F 11
S 12	21 20 22	18°56'42	21° 0	0°50	4° 7	4°45	25° 2	2° 0	12°31	15°37	14°33	27°R23	28°45	23° 6	9°46	S 12
S 13	21 24 18	19°54'18	4♌49	0°12	5°10	5°23	25°15	2° 8	12°32	15°36	14°34	27°22	28°42	23°13	9°46	S 13
M14	21 28 15	20°51'54	19° 3	29♌30	6°13	6° 0	25°27	2°15	12°33	15°36	14°36	27°20	28°38	23°19	9°46	M14
T 15	21 32 11	21°49'32	3♌39	28°44	7°16	6°38	25°40	2°23	12°35	15°35	14°37	27°16	28°35	23°26	9°46	T 15
W16	21 36 8	22°47'10	18°33	27°56	8°19	7°16	25°53	2°30	12°36	15°35	14°39	27°11	28°32	23°33	9°46	W16
T 17	21 40 5	23°44'49	3♌37	27° 5	9°21	7°54	26° 6	2°38	12°37	15°35	14°41	27° 7	28°29	23°40	9°46	T 17
F 18	21 44 1	24°42'30	18°43	26°14	10°23	8°32	26°18	2°46	12°39	15°34	14°42	27° 2	28°26	23°46	9°46	F 18
S 19	21 47 58	25°40'12	3♌40	25°23	11°24	9°10	26°31	2°53	12°40	15°34	14°44	26°59	28°23	23°53	9°46	S 19
S 20	21 51 54	26°37'55	18°21	24°33	12°26	9°48	26°43	3° 1	12°42	15°34	14°46	26°58	28°19	24° 0	9°45	S 20
M21	21 55 51	27°35'39	2♊39	23°44	13°27	10°27	26°56	3° 8	12°43	15°34	14°47	26°D58	28°16	24° 6	9°45	M21
T 22	21 59 47	28°33'25	16°32	22°59	14°28	11° 5	27° 8	3°16	12°45	15°33	14°49	26°59	28°13	24°13	9°44	T 22
W23	22 3 44	29°31'13	29°57	22°18	15°28	11°43	27°21	3°23	12°46	15°33	14°51	27° 0	28°10	24°20	9°44	W23
T 24	22 7 40	0♊29'03	12♌57	21°42	16°28	12°22	27°33	3°31	12°48	15°33	14°53	27° 2	28° 7	24°26	9°43	T 24
F 25	22 11 37	1°26'54	25°35	21°12	17°28	13° 0	27°45	3°39	12°50	15°33	14°55	27° 3	28° 3	24°33	9°43	F 25
S 26	22 15 34	2°24'47	7♌56	20°48	18°27	13°39	27°57	3°46	12°52	15°33	14°56	27°R 3	28° 0	24°40	9°42	S 26
S 27	22 19 30	3°22'42	20° 2	20°31	19°26	14°17	28° 9	3°54	12°53	15°33	14°58	27° 1	27°57	24°47	9°42	S 27
M28	22 23 27	4°20'39	2♌ 0	20°22	20°25	14°56	28°22	4° 2	12°55	15°D33	15° 0	26°59	27°54	24°53	9°41	M28
T 29	22 27 23	5°18'37	13°52	20°D21	21°23	15°35	28°34	4° 9	12°57	15°33	15° 2	26°57	27°51	25° 0	9°40	T 29
W30	22 31 20	6°16'37	25°43	20°28	22°21	16°14	28°46	4°17	12°59	15°33	15° 4	26°53	27°48	25° 7	9°39	W30
T 31	22 35 16	7♊14'39	7♌36	20♌43	23♌19	16♌53	28♌57	4♊24	13♌ 1	15♌R33	15♌ 6	26♊50	27♊44	25♌13	9♌38	T 31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
T 1	18n10	18n16	5s 4	7n51	2s59	3n26	0n24	1n20	0n33	21n43	0n11	12n35	1n26	15s12	0n22	21s13
W 2	17 55	17 34	4 50	7 33	3 12	2 56	0 19	1 5	0 33	21 41	0 11	12 33	1 26	15 12	0 22	21 13
T 3	17 39	16 5	4 23	7 17	3 24	2 26	0 15	0 49	0 32	21 39	0 11	12 30	1 26	15 12	0 22	21 13
F 4	17 24	13 55	3 44	7 4	3 36	1 56	0 10	0 34	0 31	21 37	0 11	12 27	1 26	15 12	0 22	21 13
S 5	17 8	11 10	2 56	6 52	3 47	1 26	0 6	0 19	0 30	21 35	0 11	12 25	1 26	15 13	0 22	21 13
S 6	16 52	7 55	1 59	6 43	3 58	0 56	0 1	0 3	0 30	21 32	0 11	12 22	1 26	15 13	0 22	21 13
M 7	16 35	4 18	0 56	6 36	4 8	0 26	0s 3	0s12	0 29	21 30	0 11	12 20	1 26	15 13	0 22	21 13
T 8	16 18	0 28	0n10	6 33	4 17	0s 4	0 8	0 28	0 28	21 28	0 12	12 17	1 26	15 13	0 22	21 13
W 9	16 1	3s27	1 18	6 31	4 26	0 34	0 13	0 43	0 27	21 26	0 12	12 14	1 27	15 14	0 22	21 13
T 10	15 44	7 17	2 22	6 33	4 33	1 4	0 18	0 59	0 27	21 24	0 12	12 12	1 27	15 14	0 22	21 13
F 11	15 26	10 52	3 21	6 37	4 39	1 34	0 23	1 15	0 26	21 22	0 12	12 9	1 27	15 14	0 22	21 13
S 12	15 9	13 58	4 11	6 45	4 44	2 4	0 28	1 30	0 25	21 19	0 12	12 6	1 27	15 15	0 22	21 13
S 13	14 51	16 23	4 48	6 55	4 47	2 34	0 34	1 46	0 24	21 17	0 12	12 4	1 27	15 15	0 22	21 13
M14	14 32	17 52	5 8	7 8	4 49	3 4	0 39	2 1	0 24	21 15	0 12	12 1	1 27	15 16	0 22	21 13
T 15	14 14	18 14	5 9	7 24	4 49	3 34	0 44	2 17	0 23	21 13	0 12	11 58	1 27	15 16	0 22	21 13
W16	13 55	17 22	4 50	7 42	4 43	4 4	0 50	2 33	0 22	21 10	0 12	11 56	1 27	15 16	0 22	21 13
T 17	13 36	15 17	4 11	8 3	4 43	4 33	0 55	2 48	0 21	21 8	0 12	11 53	1 27	15 17	0 22	21 13
F 18	13 17	12 8	3 14	8 25	4 37	5 3	1 1	3 4	0 21	21 6	0 13	11 50	1 27	15 17	0 22	21 13
S 19	12 58	8 14	2 4	8 49	4 30	5 32	1 7	3 20	0 20	21 4	0 13	11 48	1 27	15 18	0 22	21 13
S 20	12 38	3 53	0 47	9 15	4 20	6 1	1 12	3 35	0 19	21 1	0 13	11 45	1 27	15 18	0 22	21 13
M21	12 19	0n35	0s31	9 41	4 9	6 31	1 18	3 51	0 18	20 59	0 13	11 42	1 27	15 19	0 22	21 13
T 22	11 59	4 53	1 45	10 7	3 57	7 0	1 24	4 7	0 18	20 57	0 13	11 40	1 27	15 19	0 22	21 13
W23	11 38	8 47	2 51	10 34	3 43	7 28	1 30	4 22	0 17	20 54	0 13	11 37	1 27	15 20	0 22	21 13
T 24	11 18	12 8	3 46	11 0	3 27	7 57	1 36	4 38	0 16	20 52	0 13	11 34	1 27	15 20	0 22	21 13
F 25	10 58	14 49	4 28	11 25	3 11	8 26	1 42	4 54	0 16	20 50	0 13	11 32	1 27	15 21	0 22	21 13
S 26	10 37	16 44	4 57	11 49	2 53	8 54	1 48	5 9	0 15	20 47	0 13	11 29	1 27	15 21	0 22	21 13
S 27	10 16	17 53	5 12	12 11	2 36	9 22	1 54	5 25	0 14	20 45	0 14	11 26	1 27	15 22	0 21	21 13
M28	9 55	18 12	5 13	12 32	2 17	9 50	2 1	5 41	0 14	20 43	0 14	11 23	1 27	15 23	0 21	21 13
T 29	9 34	17 44	5 1	12 50	1 59	10 18	2 7	5 56	0 13	20 41	0 14	11 21	1 27	15 23	0 21	21 13
W30	9 13	16 29	4 36	13 5	1 40	10 46	2 13	6 12	0 12	20 38	0 14	11 18	1 28	15 24	0 21	21 13
T 31	8n51	14n31	3s59	13n18	1s22	11s13	2s20	6s27	0n11	20n36	0n14	11n15	1n28	15s24	0n21	21s13

Julian Day Number = 2443721.5, Delta T = 49.15 sec  
Ecliptic obliquity = 23°26'22", Nutation = 0°00'01", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 24°26'28", Lahiri = 23°33'28"

# ASTRODIENST EPHEMERIS for the year 1978

## geocentric

SEPTEMBER 1978

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	22 39 13	8 <sup>h</sup> 12'43"	19 <sup>h</sup> 03'34"	21 <sup>h</sup> 07'	24 <sup>h</sup> 16'	17 <sup>h</sup> 32'	29 <sup>h</sup> 09'	4 <sup>h</sup> 32'	13 <sup>h</sup> 3'	15 <sup>h</sup> 33'	15 <sup>h</sup> 8'	26 <sup>h</sup> R47	27 <sup>h</sup> 41'	25 <sup>h</sup> 20'	9 <sup>h</sup> R37	F 1
S 2	22 43 9	9°10'48"	1 <sup>h</sup> 38'	21°39'	25°12'	18°11'	29°21'	4°40'	13°5'	15°33'	15°10'	26 <sup>h</sup> 45'	27°38'	25°27'	9 <sup>h</sup> 36'	S 2
S 3	22 47 6	10° 8'55"	13°51'	22°18'	26° 9'	18°50'	29°33'	4°47'	13° 7'	15°33'	15°12'	26°43'	27°35'	25°34'	9°35'	S 3
M 4	22 51 3	11° 7'04"	26°13'	23° 6'	27° 4'	19°29'	29°44'	4°55'	13°10'	15°34'	15°14'	26°D43	27°32'	25°40'	9°34'	M 4
T 5	22 54 59	12° 5'14"	8 <sup>h</sup> 47'	24° 2'	28° 0'	20° 8'	29°56'	5° 2'	13°12'	15°34'	15°16'	26°43'	27°28'	25°47'	9°33'	T 5
W 6	22 58 56	13° 3'26"	21°34'	25° 4'	28°54'	20°48'	0 <sup>h</sup> 07'	5°10'	13°14'	15°34'	15°18'	26°44'	27°25'	25°54'	9°32'	W 6
T 7	23 2 52	14° 1'39"	4 <sup>h</sup> 34'	26°13'	29°49'	21°27'	0°19'	5°17'	13°16'	15°34'	15°20'	26°45'	27°22'	26° 0'	9°30'	T 7
F 8	23 6 49	14°59'54"	17°49'	27°29'	0 <sup>h</sup> 42'	22° 6'	0°30'	5°25'	13°19'	15°35'	15°22'	26°46'	27°19'	26° 7'	9°29'	F 8
S 9	23 10 45	15°58'11"	1 <sup>h</sup> 20'	28°50'	1°35'	22°46'	0°41'	5°32'	13°21'	15°35'	15°24'	26°47'	27°16'	26°14'	9°28'	S 9
S 10	23 14 42	16°56'29"	15° 8'	0 <sup>h</sup> 17'	2°28'	23°26'	0°53'	5°40'	13°24'	15°35'	15°27'	26°R47	27°13'	26°20'	9°26'	S 10
M 11	23 18 38	17°54'48"	29°13'	1°48'	3°20'	24° 5'	1° 4'	5°48'	13°26'	15°36'	15°29'	26°47'	27° 9'	26°27'	9°25'	M 11
T 12	23 22 35	18°53'09"	13 <sup>h</sup> 33'	3°24'	4°11'	24°45'	1°15'	5°55'	13°29'	15°36'	15°31'	26°47'	27° 6'	26°34'	9°23'	T 12
W 13	23 26 31	19°51'32"	28° 5'	5° 3'	5° 2'	25°25'	1°26'	6° 2'	13°31'	15°37'	15°33'	26°46'	27° 3'	26°41'	9°21'	W 13
T 14	23 30 28	20°49'56"	12 <sup>h</sup> 45'	6°45'	5°51'	26° 5'	1°36'	6°10'	13°34'	15°37'	15°35'	26°45'	27° 0'	26°47'	9°20'	T 14
F 15	23 34 25	21°48'22"	27°28'	8°30'	6°41'	26°45'	1°47'	6°17'	13°36'	15°38'	15°37'	26°45'	26°57'	26°54'	9°18'	F 15
S 16	23 38 21	22°46'49"	12 <sup>h</sup> 5'	10°17'	7°29'	27°25'	1°58'	6°25'	13°39'	15°39'	15°40'	26°44'	26°54'	27° 1'	9°16'	S 16
S 17	23 42 18	23°45'18"	26°32'	12° 5'	8°17'	28° 5'	2° 9'	6°32'	13°42'	15°39'	15°42'	26°D44	26°50'	27° 7'	9°15'	S 17
M 18	23 46 14	24°43'50"	10 <sup>h</sup> 42'	13°55'	9° 4'	28°45'	2°19'	6°40'	13°44'	15°40'	15°44'	26°44'	26°47'	27°14'	9°13'	M 18
T 19	23 50 11	25°42'23"	24°31'	15°46'	9°50'	29°25'	2°29'	6°47'	13°47'	15°41'	15°46'	26°45'	26°44'	27°21'	9°11'	T 19
W 20	23 54 7	26°40'58"	7 <sup>h</sup> 57'	17°37'	10°35'	0 <sup>h</sup> 5'	2°40'	6°54'	13°50'	15°41'	15°49'	26°R45	26°41'	27°28'	9° 9'	W 20
T 21	23 58 4	27°39'35"	21° 0'	19°28'	11°19'	0°45'	2°50'	7° 2'	13°53'	15°42'	15°51'	26°45'	26°38'	27°34'	9° 7'	T 21
F 22	0 2 0	28°38'15"	3 <sup>h</sup> 42'	21°20'	12° 2'	1°26'	3° 0'	7° 9'	13°56'	15°43'	15°53'	26°44'	26°34'	27°41'	9° 5'	F 22
S 23	0 5 57	29°36'57"	16° 6'	23°11'	12°45'	2° 6'	3°10'	7°16'	13°59'	15°44'	15°55'	26°44'	26°31'	27°48'	9° 3'	S 23
S 24	0 9 54	0 <sup>h</sup> 35'41"	28°14'	25° 3'	13°26'	2°47'	3°20'	7°23'	14° 2'	15°45'	15°58'	26°D44	26°28'	27°54'	9° 1'	S 24
M 25	0 13 50	1°34'27"	10 <sup>h</sup> 12'	26°53'	14° 6'	3°27'	3°30'	7°30'	14° 5'	15°45'	16° 0'	26°44'	26°25'	28° 1'	8°59'	M 25
T 26	0 17 47	2°33'15"	22° 5'	28°44'	14°46'	4° 8'	3°40'	7°38'	14° 8'	15°46'	16° 2'	26°44'	26°22'	28° 8'	8°57'	T 26
W 27	0 21 43	3°32'06"	3 <sup>h</sup> 05'	0 <sup>h</sup> 33'	15°24'	4°49'	3°49'	7°45'	14°11'	15°47'	16° 5'	26°45'	26°19'	28°14'	8°55'	W 27
T 28	0 25 40	4°30'59"	15°51'	2°22'	16° 1'	5°29'	3°59'	7°52'	14°14'	15°48'	16° 7'	26°46'	26°15'	28°21'	8°52'	T 28
F 29	0 29 36	5°29'54"	27°53'	4°11'	16°36'	6°10'	4° 8'	7°59'	14°17'	15°49'	16° 9'	26°47'	26°12'	28°28'	8°50'	F 29
S 30	0 33 33	6 <sup>h</sup> 28'51"	10 <sup>h</sup> 5'	5 <sup>h</sup> 58'	17 <sup>h</sup> 11'	6 <sup>h</sup> 51'	4 <sup>h</sup> 07'	8 <sup>h</sup> 6'	14 <sup>h</sup> 20'	15 <sup>h</sup> 50'	16 <sup>h</sup> 12'	26 <sup>h</sup> 47'	26 <sup>h</sup> 9'	28 <sup>h</sup> 35'	8 <sup>h</sup> 48'	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
F 1	8n29	11n56	3s11	13n27	1s 4	11s40	2s26	6s43	0n11	20n34	0n14	11n13	1n28	15s25	0n21	21s13	1n27	9n26	16n40	1n17	0n55	16n35	13n48	0s57			
S 2	8 8	8 48	2 14	13 34	0 46	12 7	2 32	6 58	0 10	20 31	0 14	11 10	1 28	15 26	0 21	21 13	1 27	9 25	16 40	1 18	0 56	16 34	13 47	0 57			
S 3	7 46	5 16	1 11	13 37	0 29	12 34	2 39	7 14	0 9	20 29	0 14	11 7	1 28	15 26	0 21	21 13	1 26	9 23	16 40	1 18	0 58	16 34	13 47	0 57			
M 4	7 24	1 28	0 3	13 37	0 13	13 0	2 45	7 29	0 9	20 27	0 15	11 4	1 28	15 27	0 21	21 14	1 26	9 22	16 40	1 18	0 59	16 33	13 46	0 57			
T 5	7 2	2s28	1n 6	13 33	0n 2	13 26	2 52	7 45	0 8	20 24	0 15	11 2	1 28	15 28	0 21	21 14	1 26	9 21	16 39	1 18	1 0	16 32	13 46	0 57			
W 6	6 39	6 21	2 13	13 26	0 17	13 52	2 58	8 0	0 7	20 22	0 15	10 59	1 28	15 28	0 21	21 14	1 26	9 20	16 39	1 18	1 2	16 31	13 45	0 57			
T 7	6 17	9 59	3 15	13 15	0 30	14 17	3 5	8 16	0 7	20 20	0 15	10 56	1 28	15 29	0 21	21 14	1 26	9 19	16 39	1 17	1 3	16 30	13 45	0 58			
F 8	5 55	13 11	4 7	13 1	0 43	14 42	3 12	8 31	0 6	20 17	0 15	10 54	1 28	15 30	0 21	21 14	1 26	9 18	16 38	1 17	1 4	16 30	13 44	0 58			
S 9	5 32	15 45	4 46	12 43	0 54	15 7	3 18	8 46	0 5	20 15	0 15	10 51	1 28	15 31	0 21	21 14	1 26	9 17	16 38	1 17	1 5	16 29	13 44	0 58			
S 10	5 9	17 28	5 10	12 23	1 4	15 32	3 25	9 2	0 5	20 13	0 15	10 48	1 28	15 31	0 21	21 14	1 26	9 16	16 38	1 17	1 7	16 28	13 43	0 58			
M11	4 47	18 10	5 17	11 59	1 14	15 56	3 32	9 17	0 4	20 10	0 15	10 46	1 29	15 32	0 21	21 14	1 26	9 15	16 38	1 17	1 8	16 27	13 43	0 58			
T 12	4 24	17 43	5 4	11 32	1 22	16 20	3 38	9 32	0 3	20 8	0 16	10 43	1 29	15 33	0 21	21 14	1 26	9 14	16 37	1 17	1 9	16 26	13 42	0 58			
W13	4 1	16 7	4 31	11 2	1 29	16 44	3 45	9 47	0 3	20 6	0 16	10 40	1 29	15 34	0 21	21 14	1 26	9 13	16 37	1 17	1 10	16 25	13 41	0 58			
T 14	3 38	13 27	3 41	10 30	1 35	17 7	3 52	10 3	0 2	20 4	0 16	10 38	1 29	15 35	0 21	21 14	1 26	9 12	16 37	1 17	1 12	16 25	13 41	0 58			
F 15	3 15	9 55	2 35	9 55	1 40	17 29	3 58	10 18	0 1	20 1	0 16	10 35	1 29	15 35	0 21	21 15	1 26	9 11	16 37	1 18	1 13	16 24	13 40	0 59			
S 16	2 52	5 47	1 20	9 19	1 43	17 52	4 5	10 33	0 0	19 59	0 16	10 32	1 29	15 36	0 21	21 15	1 26	9 10	16 37	1 18	1 14	16 23	13 39	0 59			
S 17	2 29	1 22	0 1	8 40	1 46	18 14	4 11	10 48	0s 0	19 57	0 16	10 30	1 29	15 37	0 21	21 15	1 26	9 9	16 36	1 18	1 15	16 22	13 39	0 59			
M18	2 6	3n 3	1s17	8 0	1 48	18 35	4 18	11 2	0 1	19 55	0 16	10 27	1 29	15 38	0 21	21 15	1 26	9 8	16 36	1 18	1 17	16 21	13 38	0 59			
T 19	1 42	7 12	2 28	7 18	1 50	18 56	4 25	11 17	0 1	19 52	0 16	10 24	1 29	15 39	0 21	21 15	1 26	9 7	16 36	1 18	1 18	16 21	13 37	0 59			
W20	1 19	10 51	3 29	6 35	1 50	19 17	4 31	11 32	0 2	19 50	0 17	10 22	1 29	15 39	0 21	21 15	1 26	9 6	16 36	1 18	1 19	16 20	13 37	0 59			
T 21	0 56	13 52	4 18	5 51	1 50	19 37	4 38	11 47	0 3	19 48	0 17	10 19	1 30	15 40	0 21	21 15	1 25	9 5	16 36	1 18	1 20	16 19	13 36	0 59			
F 22	0 33	16 7	4 52	5 6	1 49	19 57	4 44	12 2	0 3	19 46	0 17	10 17	1 30	15 41	0 21	21 15	1 25	9 4	16 36	1 18	1 22	16 18	13 35	0 59			
S 23	0 9	17 33	5 12	4 21	1 47	20 16	4 51	12 16	0 4	19 44	0 17	10 14	1 30	15 42	0 21	21 16	1 25	9 3	16 35	1 18	1 23	16 17	13 34	1 0			
S 24	0s14	18 8	5 17	3 34	1 45	20 35	4 57	12 31	0 5	19 41	0 17	10 11	1 30	15 43	0 21	21 16	1 25	9 2	16 35	1 18	1 24	16 16	13 34	1 0			
M25	0 38	17 55	5 9	2 48	1 42	20 54	5 3	12 45	0 5	19 39	0 17	10 9	1 30	15 44	0 21	21 16	1 25	9 1	16 35	1 18	1 26	16 16	13 33	1 0			
T 26	1 1	16 54	4 47	2 1	1 39	21 11	5 10	13 0	0 6	19 37	0 17	10 6	1 30	15 45	0 21	21 16	1 25	9 0	16 35	1 18	1 27	16 15	13 32	1 0			
W27	1 24	15 10	4 13	1 14	1 35	21 29	5 16	13 14	0 7	19 35	0 18	10 4	1 30	15 46	0 21	21 16	1 25	8 59	16 35	1 18	1 28	16 14	13 31	1 0			
T 28	1 48	12 46	3 28	0 27	1 31	21 46	5 22	13 28	0 7	19 33	0 18	10 1	1 30	15 47	0 21	21 16	1 25	8 58	16 35	1 17	1 29	16 13	13 30	1 0			
F 29	2 11	9 48	2 34	0s20	1 27	22 2	5 28	13 42	0 8	19 31	0 18	9 59	1 31	15 48	0 21	21 17	1 25	8 58	16 35	1 17	1 31	16 12	13 30	1 0			
S 30	2s34	6n23	1s31	1s 7	1n22	22s17	5s34	13s56	0s 9	19n29	0n18	9n56	1n31	15s49	0n21	21s17	1n25	8n57	16n35	1n17	1n32	16n11	13n29	1s 0			

ASTRODIENST EPHEMERIS for the year 1978  
geocentric

OCTOBER 1978

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 37 29	7♂2751	22♂30	7♂45	17♂44	7♂32	4♂26	8♂13	14♂23	15♂51	16♂14	26♂R48	26♂ 6	28♂41	8♂R45	S 1
M 2	0 41 26	8°26'52	5♂ 9	9°31	18°16	8°13	4°36	8°20	14°26	15°53	16°16	26♂48	26° 3	28°48	8♂43	M 2
T 3	0 45 23	9°25'56	18° 4	11°16	18°46	8°54	4°44	8°27	14°29	15°54	16°19	26°47	26° 0	28°55	8°41	T 3
W 4	0 49 19	10°25'01	1♂13	13° 0	19°15	9°36	4°53	8°34	14°33	15°55	16°21	26°46	25°56	29° 1	8°38	W 4
T 5	0 53 16	11°24'09	14°37	14°43	19°42	10°17	5° 2	8°40	14°36	15°56	16°23	26°44	25°53	29° 8	8°36	T 5
F 6	0 57 12	12°23'18	28°13	16°26	20° 8	10°58	5°10	8°47	14°39	15°57	16°26	26°42	25°50	29°15	8°33	F 6
S 7	1 1 9	13°22'29	12♂ 1	18° 8	20°32	11°40	5°19	8°54	14°43	15°58	16°28	26°40	25°47	29°21	8°31	S 7
S 8	1 5 5	14°21'42	25°59	19°49	20°54	12°21	5°27	9° 1	14°46	16° 0	16°31	26°38	25°44	29°28	8°28	S 8
M 9	1 9 2	15°20'57	10♂ 4	21°29	21°15	13° 2	5°35	9° 7	14°49	16° 1	16°33	26°D37	25°40	29°35	8°25	M 9
T 10	1 12 58	16°20'13	24°15	23° 8	21°34	13°44	5°43	9°14	14°53	16° 2	16°35	26°37	25°37	29°42	8°23	T 10
W11	1 16 55	17°19'32	8♂29	24°47	21°50	14°26	5°51	9°21	14°56	16° 4	16°38	26°38	25°34	29°48	8°20	W11
T 12	1 20 51	18°18'52	22°45	26°25	22° 5	15° 7	5°59	9°27	14°59	16° 5	16°40	26°40	25°31	29°55	8°18	T 12
F 13	1 24 48	19°18'13	7♂ 0	28° 2	22°18	15°49	6° 7	9°34	15° 3	16° 7	16°42	26°41	25°28	0♂ 2	8°15	F 13
S 14	1 28 45	20°17'37	21° 9	29°38	22°28	16°31	6°14	9°40	15° 6	16° 8	16°45	26°R42	25°25	0° 8	8°12	S 14
S 15	1 32 41	21°17'02	5♂11	1♂14	22°37	17°13	6°22	9°46	15°10	16° 9	16°47	26°42	25°21	0°15	8° 9	S 15
M16	1 36 38	22°16'29	19° 1	2°49	22°43	17°55	6°29	9°53	15°13	16°11	16°50	26°40	25°18	0°22	8° 7	M16
T 17	1 40 34	23°15'58	2♂36	4°23	22°47	18°37	6°36	9°59	15°17	16°12	16°52	26°38	25°15	0°28	8° 4	T 17
W18	1 44 31	24°15'30	15°54	5°57	22°R48	19°19	6°43	10° 5	15°20	16°14	16°54	26°34	25°12	0°35	8° 1	W18
T 19	1 48 27	25°15'03	28°53	7°30	22°48	20° 1	6°50	10°11	15°24	16°16	16°57	26°29	25° 9	0°42	7°58	T 19
F 20	1 52 24	26°14'39	11♂34	9° 2	22°44	20°43	6°57	10°17	15°28	16°17	16°59	26°24	25° 5	0°49	7°55	F 20
S 21	1 56 20	27°14'17	23°58	10°34	22°39	21°25	7° 3	10°23	15°31	16°19	17° 1	26°20	25° 2	0°55	7°53	S 21
S 22	2 0 17	28°13'57	6♂ 7	12° 6	22°31	22° 8	7° 9	10°29	15°35	16°20	17° 4	26°16	24°59	1° 2	7°50	S 22
M23	2 4 14	29°13'39	18° 6	13°36	22°20	22°50	7°16	10°35	15°38	16°22	17° 6	26°14	24°56	1° 9	7°47	M23
T 24	2 8 10	0♂13'24	29°58	15° 6	22° 8	23°33	7°22	10°41	15°42	16°24	17° 8	26°D13	24°53	1°15	7°44	T 24
W25	2 12 7	1°13'11	11♂49	16°36	21°52	24°15	7°28	10°47	15°46	16°25	17°11	26°14	24°50	1°22	7°41	W25
T 26	2 16 3	2°13'00	23°44	18° 5	21°35	24°58	7°33	10°52	15°49	16°27	17°13	26°15	24°46	1°29	7°38	T 26
F 27	2 20 0	3°12'51	5♂47	19°33	21°15	25°40	7°39	10°58	15°53	16°29	17°15	26°17	24°43	1°35	7°35	F 27
S 28	2 23 56	4°12'44	18° 3	21° 1	20°53	26°23	7°44	11° 4	15°57	16°31	17°18	26°18	24°40	1°42	7°33	S 28
S 29	2 27 53	5°12'40	0♂37	22°28	20°29	27° 6	7°50	11° 9	16° 0	16°32	17°20	26°R19	24°37	1°49	7°30	S 29
M30	2 31 49	6°12'37	13°29	23°54	20° 3	27°49	7°55	11°15	16° 4	16°34	17°22	26°17	24°34	1°55	7°27	M30
T 31	2 35 46	7♂12'37	26♂43	25♂20	19♂35	28♂32	8♂ 0	11♂20	16♂ 8	16♂36	17♂24	26♂14	24♂31	2♂ 2	7♂24	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
S 1	2s58	2n37	0s24	1s54	1n17	22s33	5s39	14s10	0s 9	19n27	0n18	9n54	1n31	15s50	0n21	21s17
M 2	3 21	1s21	0n46	2 41	1 11	22 47	5 45	14 24	0 10	19 25	0 18	9 51	1 31	15 50	0 21	21 17
T 3	3 44	5 19	1 55	3 27	1 6	23 1	5 50	14 38	0 11	19 23	0 18	9 49	1 31	15 51	0 21	21 17
W 4	4 7	9 6	2 59	4 13	1 0	23 14	5 56	14 52	0 11	19 21	0 19	9 46	1 31	15 52	0 21	21 17
T 5	4 31	12 29	3 55	4 58	0 54	23 27	6 1	15 5	0 12	19 19	0 19	9 44	1 31	15 53	0 21	21 18
F 6	4 54	15 15	4 38	5 44	0 48	23 39	6 6	15 19	0 12	19 17	0 19	9 41	1 32	15 54	0 21	21 18
S 7	5 17	17 11	5 5	6 28	0 41	23 50	6 11	15 32	0 13	19 15	0 19	9 39	1 32	15 55	0 21	21 18
S 8	5 40	18 7	5 16	7 13	0 35	24 0	6 15	15 46	0 14	19 13	0 19	9 37	1 32	15 56	0 21	21 18
M 9	6 3	17 57	5 7	7 56	0 28	24 10	6 20	15 59	0 14	19 11	0 19	9 34	1 32	15 57	0 21	21 18
T 10	6 25	16 40	4 40	8 39	0 22	24 19	6 24	16 12	0 15	19 9	0 20	9 32	1 32	15 58	0 21	21 18
W11	6 48	14 21	3 55	9 22	0 15	24 27	6 27	16 25	0 16	19 8	0 20	9 30	1 32	15 59	0 21	21 19
T 12	7 11	11 9	2 56	10 4	0 8	24 35	6 31	16 38	0 16	19 6	0 20	9 27	1 33	16 0	0 20	21 19
F 13	7 33	7 18	1 46	10 45	0 1	24 41	6 34	16 51	0 17	19 4	0 20	9 25	1 33	16 1	0 20	21 19
S 14	7 56	3 2	0 30	11 26	0s 6	24 47	6 37	17 3	0 17	19 2	0 20	9 23	1 33	16 2	0 20	21 19
S 15	8 18	1n21	0s47	12 6	0 13	24 51	6 40	17 16	0 18	19 1	0 20	9 20	1 33	16 4	0 20	21 19
M16	8 40	5 36	2 0	12 45	0 20	24 55	6 42	17 28	0 19	18 59	0 21	9 18	1 33	16 5	0 20	21 20
T 17	9 2	9 29	3 4	13 24	0 27	24 58	6 43	17 40	0 19	18 57	0 21	9 16	1 33	16 6	0 20	21 20
W18	9 24	12 48	3 58	14 2	0 33	24 59	6 45	17 52	0 20	18 56	0 21	9 14	1 34	16 7	0 20	21 20
T 19	9 46	15 24	4 37	14 39	0 40	25 0	6 45	18 4	0 20	18 54	0 21	9 12	1 34	16 8	0 20	21 20
F 20	10 8	17 11	5 2	15 15	0 47	24 59	6 46	18 16	0 21	18 53	0 21	9 10	1 34	16 9	0 20	21 20
S 21	10 29	18 6	5 12	15 51	0 54	24 57	6 45	18 28	0 22	18 51	0 21	9 7	1 34	16 10	0 20	21 21
S 22	10 51	18 10	5 8	16 25	1 0	24 54	6 44	18 40	0 22	18 50	0 22	9 5	1 34	16 11	0 20	21 21
M23	11 12	17 25	4 50	16 59	1 7	24 50	6 43	18 51	0 23	18 48	0 22	9 3	1 34	16 12	0 20	21 21
T 24	11 33	15 55	4 20	17 32	1 13	24 45	6 41	19 2	0 23	18 47	0 22	9 1	1 35	16 13	0 20	21 21
W25	11 54	13 44	3 39	18 4	1 20	24 38	6 38	19 13	0 24	18 46	0 22	8 59	1 35	16 14	0 20	21 21
T 26	12 15	10 58	2 48	18 36	1 26	24 30	6 35	19 24	0 25	18 44	0 22	8 57	1 35	16 15	0 20	21 22
F 27	12 35	7 42	1 50	19 6	1 32	24 21	6 31	19 35	0 25	18 43	0 22	8 55	1 35	16 16	0 20	21 22
S 28	12 55	4 2	0 45	19 35	1 38	24 10	6 26	19 46	0 26	18 42	0 23	8 53	1 35	16 17	0 20	21 22
S 29	13 16	0 7	0n23	20 4	1 44	23 58	6 20	19 56	0 26	18 41	0 23	8 51	1 36	16 18	0 20	21 22
M30	13 35	3s55	1 32	20 31	1 50	23 45	6 14	20 7	0 27	18 40	0 23	8 49	1 36	16 19	0 20	21 22
T 31	13s55	7s51	2n37	20s58	1s55	23s30	6s 7	20s17	0s27	18n38	0n23	8n48	1n36	16s20	0n20	21s23

Julian Day Number = 2443782.5, Delta T = 49.33 sec  
Ecliptic obliquity = 23°26'23", Nutation = - 0°00'02", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 24°26'36", Lahiri = 23°33'37"

# ASTRODIENST EPHEMERIS for the year 1978

## geocentric

NOVEMBER 1978

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	2 39 43	8♈12°38'	10♈16°16'	26♈45°19'	19°R 5	29♈15°15'	8♈4°11'	11♈25°16'	16♈12°16'	16♈38°17'	17♈27°26'	26°R 8	24♈27°24'	2♈9°7'	7°R21	W 1
T 2	2 43 39	9°12'42"	24°7'	28°9'	18♈34°29'	58°8'	9°11'	30°16'	16°40'	17°29'	26♈2°24'	24°24'	2°16'	7♈18°	T 2	
F 3	2 47 36	10°12'47"	8♈12°27'	29°33'	18°1'	0♈41°12'	8°13'	11°36'	16°19'	16°42'	17°31'	25°54'	24°21'	2°22'	7°15'	F 3
S 4	2 51 32	11°12'54"	22°27'	0♈56°17'	27°12'	8°17'	11°41'	16°23'	16°44'	17°33'	25°47'	24°18'	2°29'	7°12'	S 4	
S 5	2 55 29	12°13'03"	6♈45°21'	2°17'	16°52'	2°7'	8°22'	11°46'	16°26'	16°46'	17°36'	25°41'	24°15'	2°36'	7°9'	S 5
M 6	2 59 25	13°13'13"	21°3'	3°38'	16°17'	2°50'	8°25'	11°51'	16°30'	16°48'	17°38'	25°37'	24°11'	2°42'	7°6'	M 6
T 7	3 3 22	14°13'25"	5♈18°4'	4°58'	15°40'	3°34'	8°29'	11°55'	16°34'	16°49'	17°40'	25°35'	24°8'	2°49'	7°3'	T 7
W 8	3 7 18	15°13'38"	19°26'	6°16'	15°4'	4°17'	8°33'	12°0'	16°38'	16°51'	17°42'	25°D34	24°5'	2°56'	7°1'	W 8
T 9	3 11 15	16°13'53"	3♈26°7'	7°34'	14°27'	5°1'	8°36'	12°5'	16°41'	16°53'	17°44'	25°35'	24°2'	3°2'	6°58'	T 9
F 10	3 15 12	17°14'09"	17°18'	8°49'	13°51'	5°44'	8°39'	12°9'	16°45'	16°55'	17°46'	25°36'	23°59'	3°9'	6°55'	F 10
S 11	3 19 8	18°14'26"	1°Y 2	10°4'	13°15'	6°28'	8°42'	12°14'	16°49'	16°58'	17°49'	25°R36	23°56'	3°16'	6°52'	S 11
S 12	3 23 5	19°14'45"	14°36'	11°16'	12°40'	7°11'	8°45'	12°18'	16°53'	17°0'	17°51'	25°35'	23°52'	3°22'	6°49'	S 12
M13	3 27 1	20°15'05"	28°1'	12°26'	12°6'	7°55'	8°47'	12°23'	16°56'	17°2'	17°53'	25°31'	23°49'	3°29'	6°46'	M13
T 14	3 30 58	21°15'27"	11♈14°15'	13°34'	11°33'	8°39'	8°50'	12°27'	17°0'	17°4'	17°55'	25°24'	23°46'	3°36'	6°44'	T 14
W15	3 34 54	22°15'51"	24°15'	14°40'	11°1'	9°22'	8°52'	12°31'	17°4'	17°6'	17°57'	25°15'	23°43'	3°43'	6°41'	W15
T 16	3 38 51	23°16'16"	7♈15°42'	10°31'	10°6'	8°54'	12°35'	17°8'	17°8'	17°59'	25°4'	23°40'	3°49'	6°38'	T 16	
F 17	3 42 47	24°16'43"	19°35'	16°41'	10°3'	10°50'	8°56'	12°39'	17°11'	17°10'	18°1'	24°53'	23°37'	3°56'	6°35'	F 17
S 18	3 46 44	25°17'12"	1♈54°17'	9°37'	11°34'	8°57'	12°43'	17°15'	17°12'	18°3'	24°42'	23°33'	4°3'	6°33'	S 18	
S 19	3 50 41	26°17'42"	14°1'	18°28'	9°12'	12°18'	8°59'	12°47'	17°19'	17°14'	18°5'	24°33'	23°30'	4°9'	6°30'	S 19
M20	3 54 37	27°18'14"	25°58'	19°15'	8°50'	13°2'	9°0'	12°50'	17°22'	17°16'	18°7'	24°25'	23°27'	4°16'	6°27'	M20
T 21	3 58 34	28°18'48"	7♈49°19'	56°8°31'	13°47'	9°1'	12°54'	17°26'	17°19'	18°9'	24°21'	23°24'	4°23'	6°25'	T 21	
W22	4 2 30	29°19'24"	19°38'	20°31'	8°13'	14°31'	9°2'	12°58'	17°30'	17°21'	18°11'	24°18'	23°21'	4°29'	6°22'	W22
T 23	4 6 27	0♈20°01'	1♈31°21'	0'	7°58'	15°15'	9°3'	13°1'	17°34'	17°23'	18°13'	24°D18	23°17'	4°36'	6°19'	T 23
F 24	4 10 23	1°20'40"	13°32'	21°21'	7°46'	15°59'	9°3'	13°4'	17°37'	17°25'	18°15'	24°18'	23°14'	4°43'	6°17'	F 24
S 25	4 14 20	2°21'20"	25°47'	21°34'	7°36'	16°44'	9°4'	13°8'	17°41'	17°27'	18°16'	24°R18	23°11'	4°49'	6°14'	S 25
S 26	4 18 16	3°22'03"	8♈22°21'	R38°7'	28°17'	28°9°R 4	13°11'	17°45'	17°29'	18°18'	24°18'	23°8'	4°56'	6°12'	S 26	
M27	4 22 13	4°22'46"	21°19'	21°32'	7°23'	18°13'	9°3'	13°14'	17°48'	17°32'	18°20'	24°14'	23°5'	5°3'	6°9'	M27
T 28	4 26 10	5°23'32"	4♈43°21'	16°7°21'	18°57'	9°3'	13°17'	17°52'	17°34'	18°22'	24°9'	23°2'	5°10'	6°7'	T 28	
W29	4 30 6	6°24'18"	18°32'	20°48'	7°D20	19°42'	9°3'	13°20'	17°55'	17°36'	18°24'	24°0'	22°58'	5°16'	6°4'	W29
T 30	4 34 3	7♈25°07'	2♈46°20'	♈10°7'	M23°20'	♈27°9'	♈2°13'	♈22°17'	M59°17'	♈38°17'	♈25°18'	♈50°23'	♈55°22'	♈23°56'	♈2°6'	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	
W 1	14s15	11s29	3n35	21s23	2s 0	23s14	5s59	20s27	0s28	18n37	0n23	8n46	1n36	16s22	0n20	21s23	1n24	8n31	16n37	1n32	2n12	15n42	12n58	1s 4
T 2	14 34	14 34	4 22	21 47	2 5	22 57	5 50	20 36	0 29	18 36	0 23	8 44	1 36	16 23	0 20	21 23	1 24	8 30	16 37	1 35	2 13	15 42	12 57	1 4
F 3	14 53	16 50	4 54	22 10	2 10	22 39	5 41	20 46	0 29	18 35	0 24	8 42	1 37	16 24	0 20	21 23	1 24	8 30	16 37	1 38	2 15	15 41	12 56	1 4
S 4	15 12	18 6	5 8	22 32	2 15	22 20	5 31	20 55	0 30	18 35	0 24	8 40	1 37	16 25	0 20	21 24	1 24	8 29	16 37	1 41	2 16	15 40	12 55	1 4
S 5	15 30	18 14	5 2	22 53	2 19	21 59	5 20	21 5	0 30	18 34	0 24	8 39	1 37	16 26	0 20	21 24	1 23	8 28	16 38	1 43	2 17	15 39	12 54	1 4
M 6	15 48	17 12	4 38	23 13	2 23	21 38	5 9	21 14	0 31	18 33	0 24	8 37	1 37	16 27	0 20	21 24	1 23	8 28	16 38	1 45	2 18	15 38	12 53	1 4
T 7	16 6	15 6	3 57	23 31	2 26	21 15	4 57	21 23	0 31	18 32	0 24	8 35	1 37	16 28	0 20	21 24	1 23	8 27	16 38	1 45	2 20	15 37	12 52	1 4
W 8	16 24	12 6	3 2	23 49	2 30	20 52	4 44	21 31	0 32	18 31	0 25	8 34	1 38	16 29	0 20	21 24	1 23	8 27	16 38	1 46	2 21	15 36	12 51	1 4
T 9	16 42	8 26	1 57	24 5	2 32	20 29	4 31	21 40	0 32	18 31	0 25	8 32	1 38	16 30	0 20	21 25	1 23	8 26	16 39	1 45	2 22	15 35	12 50	1 4
F 10	16 59	4 20	0 45	24 19	2 35	20 5	4 17	21 48	0 33	18 30	0 25	8 31	1 38	16 31	0 20	21 25	1 23	8 26	16 39	1 45	2 23	15 34	12 49	1 4
S 11	17 16	0 2	0s29	24 33	2 37	19 40	4 3	21 56	0 34	18 29	0 25	8 29	1 38	16 32	0 20	21 25	1 23	8 25	16 39	1 45	2 25	15 33	12 48	1 4
S 12	17 32	4n13	1 40	24 45	2 38	19 16	3 48	22 4	0 34	18 29	0 25	8 28	1 38	16 33	0 20	21 25	1 23	8 25	16 39	1 45	2 26	15 32	12 47	1 4
M13	17 49	8 12	2 45	24 55	2 39	18 51	3 33	22 12	0 35	18 28	0 25	8 26	1 39	16 34	0 20	21 26	1 23	8 24	16 40	1 47	2 27	15 31	12 46	1 4
T 14	18 4	11 43	3 39	25 4	2 40	18 26	3 18	22 19	0 35	18 28	0 26	8 25	1 39	16 36	0 20	21 26	1 23	8 24	16 40	1 50	2 29	15 30	12 45	1 5
W15	18 20	14 37	4 21	25 12	2 40	18 2	3 3	22 27	0 36	18 28	0 26	8 23	1 39	16 37	0 20	21 26	1 23	8 23	16 40	1 53	2 30	15 29	12 44	1 5
T 16	18 35	16 44	4 49	25 18	2 39	17 38	2 47	22 34	0 36	18 27	0 26	8 22	1 39	16 38	0 20	21 26	1 23	8 23	16 41	1 58	2 31	15 28	12 43	1 5
F 17	18 50	18 0	5 3	25 23	2 37	17 14	2 32	22 41	0 37	18 27	0 26	8 21	1 40	16 39	0 20	21 26	1 23	8 22	16 41	2 2	2 32	15 27	12 42	1 5
S 18	19 5	18 24	5 2	25 26	2 35	16 51	2 17	22 47	0 37	18 27	0 26	8 19	1 40	16 40	0 20	21 27	1 23	8 22	16 41	2 6	2 34	15 26	12 41	1 5
S 19	19 19	17 57	4 47	25 27	2 31	16 29	2 1	22 54	0 38	18 26	0 27	8 18	1 40	16 41	0 20	21 27	1 23	8 21	16 42	2 10	2 35	15 25	12 40	1 5
M20	19 33	16 42	4 20	25 27	2 27	16 7	1 46	23 0	0 38	18 26	0 27	8 17	1 40	16 42	0 20	21 27	1 23	8 21	16 42	2 13	2 36	15 24	12 39	1 5
T 21	19 47	14 45	3 41	25 25	2 22	15 46	1 31	23 6	0 39	18 26	0 27	8 16	1 41	16 43	0 20	21 27	1 23	8 21	16 42	2 15	2 37	15 23	12 38	1 5
W22	20 0	12 11	2 54	25 21	2 15	15 26	1 16	23 11	0 39	18 26	0 27	8 15	1 41	16 44	0 20	21 28	1 23	8 20	16 43	2 16	2 39	15 22	12 37	1 5
T 23	20 13	9 5	1 58	25 15	2 7	15 8	1 1	23 17	0 40	18 26	0 27	8 14	1 41	16 45	0 20	21 28	1 23	8 20	16 43	2 16	2 40	15 21	12 36	1 5
F 24	20 26	5 36	0 57	25 8	1 58	14 50	0 47	23 22	0 40	18 26	0 28	8 13	1 41	16 46	0 20	21 28	1 23	8 20	16 44	2 16	2 41	15 20	12 35	1 5
S 25	20 38	1 48	0n 8	24 58	1 48	14 33	0 33	23 27	0 41	18 26	0 28	8 12	1 42	16 47	0 20	21 28	1 23	8 19	16 44	2 16	2 42	15 19	12 34	1 5
S 26	20 50	2s11	1 14	24 47	1 36	14 18	0 19	23 32	0 41	18 27	0 28	8 11	1 42	16 48	0 20	21 28	1 23	8 19	16 44	2 16	2 44	15 18	12 34	1 5
M27	21 1	6 11	2 18	24 33	1 23	14 4	0 5	23 37	0 42	18 27	0 28	8 10	1 42	16 49	0 20	21 29	1 23	8 19	16 45	2 17	2 45	15 17	12 33	1 5
T 28	21 12	10 0	3 17	24 17	1 8	13 50	0n 8	23 41	0 42	18 27	0 28	8 9	1 42	16 50	0 20	21 29	1 23	8 18	16 45	2 20	2 46	15 16	12 32	1 5
W29	21 23	13 24	4 6	23 59	0 52	13 39	0 20	23 45	0 43	18 27	0 29	8 8	1 42	16 51	0 20	21 29	1 23	8 18	16 46	2 23	2 47	15 15	12 31	1 5
T 30	21s33	16s 7	4n41	23s39	0s35	13s28	0n32	23s49	0s43	18n28	0n29	8n 7	1n43	16s52	0n20	21s29	1n23	8n18	16n46	2n27	2n49	15n14	12n30	1s 4

ASTRODIENST EPHEMERIS for the year 1978  
geocentric

DECEMBER 1978

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	4 37 59	8♂25'56	17♂17	19♂R21	7♂27	21♂11	9♂R 1	13♂25	18♂ 3	17♂41	18♂27	23♂R38	22♂52	5♂230	6♂R 0	F 1
S 2	4 41 56	9♂26'47	2♂ 1	18♂22	7♂34	21♂56	9♂ 0	13♂28	18♂ 6	17♂43	18♂29	23♂27	22♂49	5♂36	5♂57	S 2
S 3	4 45 52	10♂27'39	16♂47	17♂14	7♂44	22♂41	8♂58	13♂30	18♂10	17♂45	18♂30	23♂16	22♂46	5♂43	5♂55	S 3
M 4	4 49 49	11♂28'31	1♂28	15♂59	7♂55	23♂26	8♂57	13♂32	18♂13	17♂47	18♂32	23♂ 9	22♂43	5♂50	5♂53	M 4
T 5	4 53 45	12♂29'25	15♂59	14♂38	8♂ 9	24♂11	8♂55	13♂35	18♂17	17♂50	18♂34	23♂ 4	22♂39	5♂56	5♂50	T 5
W 6	4 57 42	13♂30'19	0♂14	13♂16	8♂25	24♂56	8♂53	13♂37	18♂20	17♂52	18♂35	23♂ 2	22♂36	6♂ 3	5♂48	W 6
T 7	5 1 39	14♂31'14	14♂13	11♂53	8♂42	25♂41	8♂51	13♂39	18♂24	17♂54	18♂37	23♂ 2	22♂33	6♂10	5♂46	T 7
F 8	5 5 35	15♂32'09	27♂56	10♂34	9♂ 2	26♂26	8♂49	13♂41	18♂27	17♂56	18♂38	23♂ 1	22♂30	6♂16	5♂44	F 8
S 9	5 9 32	16♂33'06	11♂24	9♂21	9♂24	27♂11	8♂46	13♂42	18♂31	17♂59	18♂40	23♂ 1	22♂27	6♂23	5♂42	S 9
S 10	5 13 28	17♂34'02	24♂38	8♂15	9♂47	27♂56	8♂44	13♂44	18♂34	18♂ 1	18♂41	22♂58	22♂23	6♂30	5♂40	S 10
M11	5 17 25	18♂35'00	7♂40	7♂19	10♂13	28♂41	8♂41	13♂46	18♂37	18♂ 3	18♂43	22♂52	22♂20	6♂36	5♂38	M11
T 12	5 21 21	19♂35'58	20♂31	6♂33	10♂40	29♂27	8♂38	13♂47	18♂41	18♂ 5	18♂44	22♂43	22♂17	6♂43	5♂36	T 12
W13	5 25 18	20♂36'57	3♂12	5♂59	11♂ 9	0♂12	8♂35	13♂48	18♂44	18♂ 8	18♂45	22♂31	22♂14	6♂50	5♂34	W13
T 14	5 29 14	21♂37'57	15♂43	5♂36	11♂39	0♂57	8♂31	13♂50	18♂47	18♂10	18♂47	22♂17	22♂11	6♂57	5♂33	T 14
F 15	5 33 11	22♂38'58	28♂ 3	5♂24	12♂11	1♂43	8♂27	13♂51	18♂51	18♂12	18♂48	22♂ 2	22♂ 8	7♂ 3	5♂31	F 15
S 16	5 37 8	23♂39'59	10♂13	5♂D22	12♂45	2♂28	8♂24	13♂52	18♂54	18♂14	18♂49	21♂48	22♂ 4	7♂10	5♂29	S 16
S 17	5 41 4	24♂41'01	22♂15	5♂30	13♂19	3♂14	8♂20	13♂53	18♂57	18♂17	18♂51	21♂35	22♂ 1	7♂17	5♂27	S 17
M18	5 45 1	25♂42'04	4♂ 9	5♂47	13♂56	3♂59	8♂15	13♂54	19♂ 0	18♂19	18♂52	21♂25	21♂58	7♂23	5♂26	M18
T 19	5 48 57	26♂43'07	15♂58	6♂12	14♂34	4♂45	8♂11	13♂54	19♂ 4	18♂21	18♂53	21♂17	21♂55	7♂30	5♂24	T 19
W20	5 52 54	27♂44'12	27♂45	6♂45	15♂12	5♂31	8♂ 7	13♂55	19♂ 7	18♂24	18♂54	21♂13	21♂52	7♂37	5♂23	W20
T 21	5 56 50	28♂45'17	9♂36	7♂24	15♂53	6♂16	8♂ 2	13♂55	19♂10	18♂26	18♂55	21♂11	21♂48	7♂43	5♂21	T 21
F 22	6 0 47	29♂46'23	21♂34	8♂10	16♂34	7♂ 2	7♂57	13♂56	19♂13	18♂28	18♂57	21♂D11	21♂45	7♂50	5♂20	F 22
S 23	6 4 43	0♂47'29	3♂45	9♂ 0	17♂17	7♂48	7♂52	13♂56	19♂16	18♂30	18♂58	21♂R11	21♂42	7♂57	5♂18	S 23
S 24	6 8 40	1♂48'37	16♂16	9♂55	18♂ 0	8♂34	7♂47	13♂56	19♂19	18♂32	18♂59	21♂10	21♂39	8♂ 3	5♂17	S 24
M25	6 12 37	2♂49'45	29♂10	10♂54	18♂45	9♂20	7♂41	13♂R56	19♂22	18♂35	19♂ 0	21♂ 7	21♂36	8♂10	5♂16	M25
T 26	6 16 33	3♂50'54	12♂31	11♂57	19♂31	10♂ 6	7♂36	13♂56	19♂25	18♂37	19♂ 1	21♂ 2	21♂33	8♂17	5♂15	T 26
W27	6 20 30	4♂52'03	26♂23	13♂ 2	20♂17	10♂52	7♂30	13♂56	19♂28	18♂39	19♂ 2	20♂55	21♂29	8♂23	5♂13	W27
T 28	6 24 26	5♂53'13	10♂44	14♂11	21♂ 5	11♂38	7♂24	13♂56	19♂31	18♂41	19♂ 2	20♂45	21♂26	8♂30	5♂12	T 28
F 29	6 28 23	6♂54'23	25♂29	15♂22	21♂54	12♂24	7♂18	13♂55	19♂34	18♂43	19♂ 3	20♂33	21♂23	8♂37	5♂11	F 29
S 30	6 32 19	7♂55'34	10♂31	16♂35	22♂43	13♂10	7♂12	13♂55	19♂36	18♂46	19♂ 4	20♂22	21♂20	8♂43	5♂10	S 30
S 31	6 36 16	8♂56'44	25♂40	17♂50	23♂33	13♂56	7♂ 6	13♂54	19♂39	18♂48	19♂ 5	20♂12	21♂17	8♂50	5♂ 9	S 31

Day	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
F 1	21s43	17s52	4n59	23s17	0s16	13s18	0n44	23s52	0s44	18n28	0n29	8n 6	1n43	16s53	0n20	21s30	1n23
S 2	21 52	18 28	4 58	22 52	0n 4	13 10	0 56	23 56	0 44	18 29	0 29	8 5	1 43	16 54	0 20	21 30	1 23
S 3	22 1	17 49	4 36	22 26	0 24	13 2	1 7	23 59	0 45	18 29	0 29	8 5	1 44	16 55	0 20	21 30	1 23
M 4	22 9	15 59	3 57	21 58	0 44	12 56	1 17	24 2	0 45	18 30	0 30	8 4	1 44	16 56	0 20	21 30	1 23
T 5	22 18	13 8	3 3	21 29	1 4	12 51	1 27	24 4	0 45	18 30	0 30	8 4	1 44	16 57	0 20	21 30	1 23
W 6	22 25	9 33	1 57	21 0	1 24	12 47	1 37	24 6	0 46	18 31	0 30	8 3	1 44	16 58	0 20	21 31	1 23
T 7	22 32	5 30	0 46	20 32	1 42	12 44	1 46	24 8	0 46	18 32	0 30	8 2	1 45	16 59	0 20	21 31	1 23
F 8	22 39	1 13	0s26	20 5	1 58	12 41	1 55	24 10	0 47	18 33	0 30	8 2	1 45	17 0	0 20	21 31	1 23
S 9	22 46	3n 3	1 36	19 40	2 12	12 40	2 4	24 12	0 47	18 34	0 31	8 1	1 45	17 1	0 20	21 31	1 23
S 10	22 51	7 5	2 39	19 18	2 24	12 40	2 12	24 13	0 48	18 35	0 31	8 1	1 45	17 2	0 20	21 31	1 23
M 11	22 57	10 43	3 32	19 0	2 34	12 41	2 19	24 14	0 48	18 35	0 31	8 1	1 46	17 3	0 20	21 32	1 23
T 12	23 2	13 47	4 14	18 45	2 42	12 42	2 27	24 15	0 49	18 36	0 31	8 0	1 46	17 4	0 20	21 32	1 23
W 13	23 6	16 10	4 43	18 34	2 47	12 44	2 33	24 15	0 49	18 38	0 32	8 0	1 46	17 5	0 20	21 32	1 23
T 14	23 11	17 44	4 58	18 27	2 50	12 47	2 40	24 16	0 49	18 39	0 32	8 0	1 46	17 5	0 20	21 32	1 23
F 15	23 14	18 28	4 58	18 24	2 51	12 51	2 46	24 15	0 50	18 40	0 32	8 0	1 47	17 6	0 20	21 32	1 23
S 16	23 17	18 19	4 45	18 24	2 51	12 56	2 52	24 15	0 50	18 41	0 32	7 59	1 47	17 7	0 20	21 33	1 23
S 17	23 20	17 21	4 19	18 27	2 49	13 1	2 57	24 15	0 51	18 42	0 32	7 59	1 47	17 8	0 20	21 33	1 23
M 18	23 22	15 38	3 41	18 33	2 46	13 7	3 3	24 14	0 51	18 43	0 33	7 59	1 47	17 9	0 20	21 33	1 23
T 19	23 24	13 16	2 55	18 41	2 42	13 13	3 7	24 13	0 51	18 45	0 33	7 59	1 48	17 10	0 20	21 33	1 23
W 20	23 25	10 22	2 1	18 51	2 37	13 20	3 12	24 11	0 52	18 46	0 33	7 59	1 48	17 11	0 20	21 33	1 23
T 21	23 26	7 2	1 1	19 3	2 32	13 28	3 16	24 10	0 52	18 48	0 33	7 59	1 48	17 12	0 20	21 34	1 23
F 22	23 26	3 23	0n 2	19 17	2 25	13 36	3 20	24 8	0 53	18 49	0 33	7 59	1 48	17 12	0 20	21 34	1 23
S 23	23 26	0s29	1 6	19 31	2 18	13 44	3 24	24 5	0 53	18 50	0 34	8 0	1 49	17 13	0 20	21 34	1 23
S 24	23 26	4 25	2 9	19 47	2 11	13 53	3 27	24 3	0 53	18 52	0 34	8 0	1 49	17 14	0 20	21 34	1 23
M 25	23 25	8 16	3 7	20 2	2 4	14 2	3 30	24 0	0 54	18 54	0 34	8 0	1 49	17 15	0 20	21 34	1 23
T 26	23 23	11 50	3 57	20 19	1 56	14 12	3 33	23 57	0 54	18 55	0 34	8 0	1 50	17 16	0 20	21 35	1 23
W 27	23 21	14 53	4 35	20 35	1 48	14 21	3 35	23 54	0 54	18 57	0 34	8 0	1 50	17 16	0 20	21 35	1 23
T 28	23 18	17 9	4 57	20 51	1 39	14 32	3 38	23 50	0 55	18 58	0 34	8 1	1 50	17 17	0 20	21 35	1 23
F 29	23 16	18 21	5 0	21 8	1 31	14 42	3 40	23 47	0 55	19 0	0 35	8 1	1 50	17 18	0 20	21 35	1 23
S 30	23 12	18 19	4 43	21 23	1 23	14 53	3 41	23 42	0 55	19 2	0 35	8 2	1 51	17 19	0 20	21 35	1 23
S 31	23s 8	16s58	4n 6	21s39	1n14	15s 4	3n43	23s38	0s56	19n 4	0n35	8n 2	1n51	17s20	0n20	21s35	1n23

Julian Day Number = 2443843.5, Delta T = 49.50 sec  
Ecliptic obliquity = 23°26'22, Nutation = - 0°00'03, out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 24°26'45, Lahiri = 23°33'45