



# Astrodienst Ephemeris Tables for the year 1989

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 1989

## geocentric

JANUARY 1989

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	6 42 30	10°32'59	19°11	27°21	17°48	20°12	26°44	5°36	1°45	9°55	14°33	6°37	7°47	25°43	3°52	S 1
M 2	6 46 26	11°34'08	1°14	28°49	19° 3	20°43	26°40	5°43	1°49	9°58	14°35	6°34	7°44	25°50	3°54	M 2
T 3	6 50 23	12°35'18	13°32	0°15	20°18	21°14	26°36	5°50	1°52	10° 0	14°36	6°30	7°41	25°57	3°44	T 3
W 4	6 54 19	13°36'29	26° 9	1°39	21°33	21°45	26°33	5°57	1°56	10° 2	14°38	6°23	7°38	26° 3	3°40	W 4
T 5	6 58 16	14°37'39	9° 8	3° 1	22°48	22°16	26°30	6° 4	2° 0	10° 4	14°39	6°15	7°35	26°10	3°36	T 5
F 6	7 2 13	15°38'50	22°29	4°19	24° 3	22°47	26°26	6°11	2° 3	10° 7	14°41	6° 6	7°31	26°17	3°32	F 6
S 7	7 6 9	16°40'01	6°12	5°33	25°18	23°19	26°24	6°18	2° 7	10° 9	14°42	5°57	7°28	26°23	3°28	S 7
S 8	7 10 6	17°41'11	20°13	6°44	26°33	23°50	26°21	6°25	2°10	10°11	14°44	5°49	7°25	26°30	3°25	S 8
M 9	7 14 2	18°42'22	4°28	7°49	27°48	24°22	26°19	6°32	2°14	10°13	14°45	5°43	7°22	26°37	3°21	M 9
T 10	7 17 59	19°43'32	18°52	8°48	29° 3	24°54	26°16	6°39	2°17	10°16	14°46	5°39	7°19	26°43	3°17	T 10
W 11	7 21 55	20°44'41	3°18	9°41	0°18	25°26	26°14	6°46	2°21	10°18	14°48	5°D38	7°16	26°50	3°13	W 11
T 12	7 25 52	21°45'50	17°43	10°26	1°33	25°59	26°13	6°53	2°24	10°20	14°49	5°39	7°12	26°57	3°10	T 12
F 13	7 29 48	22°46'59	2°Y 2	11° 2	2°49	26°31	26°11	7° 0	2°28	10°22	14°50	5°40	7° 9	27° 3	3° 6	F 13
S 14	7 33 45	23°48'06	16°13	11°30	4° 4	27° 4	26°10	7° 7	2°31	10°25	14°51	5°41	7° 6	27°10	3° 2	S 14
S 15	7 37 42	24°49'13	0°14	11°47	5°19	27°36	26° 8	7°14	2°35	10°27	14°53	5°R41	7° 3	27°17	2°59	S 15
M 16	7 41 38	25°50'20	14° 6	11°R54	6°34	28° 9	26° 7	7°21	2°38	10°29	14°54	5°40	7° 0	27°23	2°55	M 16
T 17	7 45 35	26°51'25	27°46	11°49	7°49	28°42	26° 7	7°27	2°41	10°31	14°55	5°36	6°56	27°30	2°52	T 17
W 18	7 49 31	27°52'30	11°16	11°32	9° 4	29°15	26° 6	7°34	2°45	10°33	14°56	5°31	6°53	27°37	2°48	W 18
T 19	7 53 28	28°53'34	24°33	11° 4	10°19	29°49	26° 6	7°41	2°48	10°36	14°57	5°25	6°50	27°43	2°45	T 19
F 20	7 57 24	29°54'37	7°38	10°24	11°34	0°22	26°D 5	7°48	2°51	10°38	14°58	5°19	6°47	27°50	2°42	F 20
S 21	8 1 21	0°55'40	20°29	9°34	12°49	0°55	26° 6	7°54	2°55	10°40	14°59	5°13	6°44	27°57	2°38	S 21
S 22	8 5 18	1°56'41	3°12	8°35	14° 5	1°29	26° 6	8° 1	2°58	10°42	15° 0	5° 8	6°41	28° 3	2°35	S 22
M 23	8 9 14	2°57'42	15°31	7°28	15°20	2° 3	26° 6	8° 8	3° 1	10°44	15° 1	5° 4	6°37	28°10	2°32	M 23
T 24	8 13 11	3°58'42	27°43	6°16	16°35	2°36	26° 7	8°15	3° 5	10°46	15° 1	5° 2	6°34	28°16	2°28	T 24
W 25	8 17 7	4°59'42	9°14	5° 1	17°50	3°10	26° 8	8°21	3° 8	10°49	15° 2	5°D 2	6°31	28°23	2°25	W 25
T 26	8 21 4	6° 0'41	21°37	3°44	19° 5	3°44	26° 9	8°28	3°11	10°51	15° 3	5° 3	6°28	28°30	2°22	T 26
F 27	8 25 0	7° 1'39	3°12	2°29	20°20	4°18	26°10	8°34	3°14	10°53	15° 4	5° 5	6°25	28°36	2°19	F 27
S 28	8 28 57	8° 2'36	15°14	1°17	21°35	4°53	26°12	8°41	3°17	10°55	15° 5	5° 7	6°22	28°43	2°16	S 28
S 29	8 32 53	9° 3'33	27° 6	0°11	22°50	5°27	26°13	8°47	3°20	10°57	15° 5	5° 8	6°18	28°50	2°13	S 29
M 30	8 36 50	10° 4'30	9°18	6° 8	29°11	24° 6	26°15	8°54	3°23	10°59	15° 6	5°R 9	6°15	28°56	2°11	M 30
T 31	8 40 47	11°5'25	21°14	28°18	25°21	6°36	26°17	9° 0	3°27	11° 1	15° 7	5°H 9	6°12	29° 3	2°08	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	23s 1	10s43	3s28	22s34	1s55	22s 4	0n49	8n24	0n33	18n33	0s54	22s36	0n43	23s39	0s13	22s10
M 2	22 56	15 49	4 11	22 11	1 50	22 13	0 47	8 37	0 34	18 32	0 54	22 36	0 43	23 39	0 13	22 10
T 3	22 51	20 23	4 43	21 47	1 44	22 21	0 44	8 50	0 35	18 32	0 53	22 36	0 43	23 39	0 13	22 10
W 4	22 45	24 11	5 2	21 22	1 37	22 29	0 42	9 2	0 36	18 31	0 53	22 36	0 43	23 39	0 13	22 10
T 5	22 38	26 52	5 6	20 56	1 29	22 36	0 39	9 15	0 38	18 31	0 53	22 35	0 43	23 39	0 13	22 10
F 6	22 32	28 8	4 54	20 29	1 21	22 42	0 37	9 28	0 39	18 30	0 53	22 35	0 43	23 39	0 13	22 9
S 7	22 24	27 43	4 25	20 2	1 11	22 47	0 34	9 41	0 40	18 30	0 52	22 35	0 43	23 39	0 13	22 9
S 8	22 16	25 33	3 40	19 34	1 1	22 52	0 32	9 53	0 41	18 30	0 52	22 35	0 43	23 39	0 13	22 9
M 9	22 8	21 44	2 40	19 6	0 49	22 56	0 29	10 6	0 42	18 29	0 52	22 34	0 43	23 39	0 13	22 9
T 10	22 0	16 35	1 30	18 39	0 36	23 0	0 26	10 19	0 43	18 29	0 52	22 34	0 43	23 39	0 13	22 9
W 11	21 50	10 30	0 13	18 12	0 23	23 3	0 24	10 32	0 44	18 29	0 51	22 34	0 42	23 39	0 13	22 9
T 12	21 41	3 52	1n 5	17 45	0 8	23 5	0 21	10 44	0 45	18 29	0 51	22 33	0 42	23 39	0 13	22 8
F 13	21 31	2n55	2 18	17 20	0n 8	23 6	0 19	10 57	0 46	18 29	0 51	22 33	0 42	23 38	0 13	22 8
S 14	21 21	9 29	3 22	16 57	0 24	23 7	0 16	11 10	0 47	18 29	0 51	22 33	0 42	23 38	0 13	22 8
S 15	21 10	15 30	4 13	16 35	0 41	23 7	0 13	11 23	0 48	18 29	0 50	22 33	0 42	23 38	0 13	22 8
M 16	20 57	20 40	4 49	16 16	0 59	23 6	0 11	11 35	0 49	18 29	0 50	22 32	0 42	23 38	0 13	22 8
T 17	20 47	24 39	5 8	16 0	1 18	23 5	0 8	11 48	0 50	18 29	0 50	22 32	0 42	23 38	0 13	22 8
W 18	20 35	27 14	5 9	15 47	1 36	23 2	0 6	12 1	0 51	18 29	0 50	22 32	0 42	23 38	0 13	22 7
T 19	20 23	28 13	4 54	15 37	1 55	23 0	0 3	12 13	0 52	18 29	0 49	22 31	0 42	23 38	0 13	22 7
F 20	20 10	27 36	4 23	15 30	2 13	22 56	0 0	12 26	0 53	18 29	0 49	22 31	0 42	23 38	0 13	22 7
S 21	19 57	25 30	3 39	15 27	2 30	22 52	0s 2	12 38	0 54	18 29	0 49	22 30	0 42	23 38	0 13	22 7
S 22	19 44	22 9	2 46	15 28	2 45	22 47	0 5	12 51	0 55	18 30	0 48	22 30	0 42	23 38	0 13	22 7
M 23	19 30	17 51	1 45	15 31	2 59	22 41	0 7	13 3	0 55	18 30	0 48	22 30	0 42	23 38	0 13	22 7
T 24	19 16	12 54	0 40	15 37	3 11	22 35	0 10	13 16	0 56	18 31	0 48	22 29	0 42	23 38	0 13	22 6
W 25	19 1	7 31	0s26	15 46	3 21	22 28	0 12	13 28	0 57	18 31	0 48	22 29	0 42	23 38	0 13	22 6
T 26	18 46	1 57	1 30	15 57	3 28	22 20	0 15	13 40	0 58	18 31	0 47	22 29	0 42	23 38	0 13	22 6
F 27	18 31	3s39	2 30	16 9	3 33	22 11	0 17	13 52	0 58	18 32	0 47	22 28	0 42	23 38	0 13	22 6
S 28	18 16	9 7	3 23	16 23	3 35	22 2	0 20	14 5	0 59	18 33	0 47	22 28	0 42	23 38	0 13	22 6
S 29	18 0	14 18	4 8	16 37	3 35	21 52	0 22	14 17	1 0	18 33	0 47	22 28	0 42	23 38	0 14	22 6
M 30	17 43	19 1	4 43	16 51	3 33	21 42	0 25	14 29	1 1	18 34	0 46	22 27	0 42	23 37	0 14	22 5
T 31	17s27	23s 2	5s 6	17s 6	3n28	21s31	0s27	14n41	1n 1	18n35	0s46	22s27	0n42	23s37	0s14	22s 5

Julian Day Number = 2447527.5, Delta T = 56.30 sec  
 Ecliptic obliquity = 23°26'35", Nutation = 0°00'07", out-of-bounds declination in red  
 Ayanamsha: Fagan/Bradley = 24°35'12", Lahiri = 23°42'12"

# ASTRODIENST EPHEMERIS for the year 1989

## geocentric

FEBRUARY 1989

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	8 44 43	12° 6'20"	3° 58'	27° R34	26° 36'	7° 10'	26° 20'	9° 36'	3° 30'	11° 3'	15° 7'	5° R 7'	6° 9'	29° 10'	2° R 5'	W 1
T 2	8 48 40	13° 7'14"	16° 55'	26° 58'	27° 51'	7° 45'	26° 22'	9° 13'	3° 33'	11° 5'	15° 8'	5° 5'	6° 6'	29° 16'	2° 2'	T 2
F 3	8 52 36	14° 8'07"	0° 31'	26° 31'	29° 6'	8° 19'	26° 25'	9° 19'	3° 36'	11° 7'	15° 8'	5° 2'	6° 2'	29° 23'	2° 0'	F 3
S 4	8 56 33	15° 9'00"	14° 5'	26° 12'	0° 21'	8° 54'	26° 28'	9° 25'	3° 38'	11° 9'	15° 9'	4° 58'	5° 59'	29° 30'	1° 57'	S 4
S 5	9 0 29	16° 9'51"	28° 17'	26° 2'	1° 36'	9° 29'	26° 31'	9° 31'	3° 41'	11° 11'	15° 9'	4° 56'	5° 56'	29° 36'	1° 55'	S 5
M 6	9 4 26	17° 10'41"	12° 50'	25° D59	2° 51'	10° 4'	26° 34'	9° 38'	3° 44'	11° 13'	15° 9'	4° 54'	5° 53'	29° 43'	1° 53'	M 6
T 7	9 8 22	18° 11'31"	27° 36'	26° 4'	4° 6'	10° 39'	26° 37'	9° 44'	3° 47'	11° 15'	15° 10'	4° D53	5° 50'	29° 50'	1° 50'	T 7
W 8	9 12 19	19° 12'18"	12° 29'	26° 16'	5° 22'	11° 14'	26° 41'	9° 50'	3° 50'	11° 17'	15° 10'	4° 53'	5° 47'	29° 56'	1° 48'	W 8
T 9	9 16 16	20° 13'04"	27° 21'	26° 34'	6° 37'	11° 49'	26° 45'	9° 56'	3° 53'	11° 19'	15° 10'	4° 54'	5° 43'	0° 3'	1° 46'	T 9
F 10	9 20 12	21° 13'49"	12° 5'	26° 58'	7° 52'	12° 24'	26° 49'	10° 2'	3° 55'	11° 20'	15° 11'	4° 55'	5° 40'	0° 10'	1° 44'	F 10
S 11	9 24 9	22° 14'32"	26° 34'	27° 27'	9° 7'	13° 0'	26° 53'	10° 8'	3° 58'	11° 22'	15° 11'	4° 56'	5° 37'	0° 16'	1° 42'	S 11
S 12	9 28 5	23° 15'14"	10° 47'	28° 2'	10° 22'	13° 35'	26° 57'	10° 13'	4° 1'	11° 24'	15° 11'	4° 57'	5° 34'	0° 23'	1° 40'	S 12
M13	9 32 2	24° 15'54"	24° 40'	28° 41'	11° 37'	14° 10'	27° 2'	10° 19'	4° 4'	11° 26'	15° 11'	4° R57	5° 31'	0° 30'	1° 38'	M13
T 14	9 35 58	25° 16'32"	8° 14'	29° 24'	12° 52'	14° 46'	27° 7'	10° 25'	4° 6'	11° 28'	15° 11'	4° 57'	5° 28'	0° 36'	1° 36'	T 14
W15	9 39 55	26° 17'09"	21° 30'	0° 12'	14° 7'	15° 21'	27° 12'	10° 31'	4° 9'	11° 29'	15° 11'	4° 56'	5° 24'	0° 43'	1° 35'	W15
T 16	9 43 51	27° 17'44"	4° 29'	1° 3'	15° 22'	15° 57'	27° 17'	10° 36'	4° 11'	11° 31'	15° R11	4° 55'	5° 21'	0° 50'	1° 33'	T 16
F 17	9 47 48	28° 18'17"	17° 13'	1° 57'	16° 37'	16° 32'	27° 22'	10° 42'	4° 14'	11° 33'	15° 11'	4° 54'	5° 18'	0° 56'	1° 31'	F 17
S 18	9 51 45	29° 18'48"	29° 43'	2° 54'	17° 52'	17° 8'	27° 28'	10° 47'	4° 16'	11° 35'	15° 11'	4° 53'	5° 15'	1° 3'	1° 30'	S 18
S 19	9 55 41	0° 19'18"	12° 2'	3° 54'	19° 7'	17° 44'	27° 33'	10° 53'	4° 19'	11° 36'	15° 11'	4° 53'	5° 12'	1° 10'	1° 29'	S 19
M20	9 59 38	1° 19'46"	24° 11'	4° 57'	20° 22'	18° 20'	27° 39'	10° 58'	4° 21'	11° 38'	15° 11'	4° 52'	5° 8'	1° 16'	1° 27'	M20
T 21	10 3 34	2° 20'12"	6° 13'	6° 2'	21° 37'	18° 55'	27° 45'	11° 3'	4° 23'	11° 40'	15° 11'	4° D52	5° 5'	1° 23'	1° 26'	T 21
W22	10 7 31	3° 20'37"	18° 7'	7° 9'	22° 52'	19° 31'	27° 51'	11° 9'	4° 26'	11° 41'	15° 11'	4° 52'	5° 2'	1° 30'	1° 25'	W22
T 23	10 11 27	4° 21'00"	29° 58'	8° 18'	24° 7'	20° 7'	27° 57'	11° 14'	4° 28'	11° 43'	15° 11'	4° R52	4° 59'	1° 36'	1° 24'	T 23
F 24	10 15 24	5° 21'22"	11° 46'	9° 30'	25° 22'	20° 43'	28° 4'	11° 19'	4° 30'	11° 44'	15° 10'	4° 52'	4° 56'	1° 43'	1° 23'	F 24
S 25	10 19 20	6° 21'42"	23° 36'	10° 43'	26° 37'	21° 19'	28° 10'	11° 24'	4° 32'	11° 46'	15° 10'	4° 52'	4° 53'	1° 50'	1° 22'	S 25
S 26	10 23 17	7° 22'01"	5° 29'	11° 58'	27° 52'	21° 55'	28° 17'	11° 29'	4° 34'	11° 47'	15° 10'	4° 52'	4° 49'	1° 56'	1° 21'	S 26
M27	10 27 14	8° 22'18"	17° 31'	13° 14'	29° 7'	22° 31'	28° 24'	11° 34'	4° 36'	11° 49'	15° 9'	4° 52'	4° 46'	2° 3'	1° 20'	M27
T 28	10 31 10	9° 22'34"	29° 14'	14° 32'	0° 22'	23° 8'	28° 31'	11° 39'	4° 38'	11° 50'	15° 9'	4° 51'	4° 43'	2° 10'	1° 20'	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
W 1	17s10	26s 6	5s15	17s21	3n22	21s19	0s29	14n53	1n 2	18n35	0s46	22s26	0n42	23s37	0s14	22s 5	0n54	1s12	15n50	9s38	9s15	1s31	16n40	6s46					
T 2	16 53	27 55	5 8	17 35	3 15	21 7	0 32	15 5	1 3	18 36	0 46	22 26	0 42	23 37	0 14	22 5	0 54	1 11	15 50	9 39	9 17	1 34	16 40	6 46					
F 3	16 35	28 12	4 45	17 48	3 6	20 54	0 34	15 17	1 3	18 37	0 45	22 26	0 42	23 37	0 14	22 5	0 54	1 11	15 51	9 40	9 18	1 38	16 40	6 45					
S 4	16 18	26 45	4 5	18 1	2 57	20 40	0 36	15 28	1 4	18 38	0 45	22 25	0 41	23 37	0 14	22 5	0 54	1 11	15 51	9 41	9 19	1 41	16 41	6 45					
S 5	16 0	23 35	3 9	18 14	2 46	20 26	0 38	15 40	1 4	18 39	0 45	22 25	0 41	23 37	0 14	22 4	0 54	1 10	15 52	9 42	9 20	1 45	16 41	6 45					
M 6	15 41	18 52	1 59	18 25	2 35	20 11	0 41	15 52	1 5	18 40	0 45	22 24	0 41	23 37	0 14	22 4	0 54	1 10	15 52	9 43	9 21	1 48	16 41	6 44					
T 7	15 23	12 56	0 40	18 35	2 24	19 55	0 43	16 3	1 6	18 41	0 44	22 24	0 41	23 37	0 14	22 4	0 54	1 10	15 53	9 43	9 23	1 51	16 42	6 44					
W 8	15 4	6 14	0n42	18 44	2 12	19 39	0 45	16 15	1 6	18 42	0 44	22 24	0 41	23 37	0 14	22 4	0 54	1 9	15 53	9 43	9 24	1 55	16 42	6 44					
T 9	14 45	0n48	2 1	18 52	2 0	19 23	0 47	16 26	1 7	18 43	0 44	22 23	0 41	23 37	0 14	22 4	0 54	1 9	15 54	9 43	9 25	1 58	16 43	6 43					
F 10	14 26	7 43	3 12	19 0	1 49	19 6	0 49	16 38	1 7	18 44	0 44	22 23	0 41	23 37	0 14	22 4	0 54	1 8	15 54	9 43	9 26	2 2	16 43	6 43					
S 11	14 6	14 7	4 9	19 5	1 37	18 48	0 51	16 49	1 8	18 46	0 43	22 22	0 41	23 37	0 14	22 3	0 54	1 8	15 55	9 42	9 27	2 5	16 43	6 43					
S 12	13 46	19 38	4 49	19 10	1 25	18 30	0 53	17 0	1 8	18 47	0 43	22 22	0 41	23 37	0 14	22 3	0 54	1 8	15 55	9 42	9 28	2 8	16 44	6 42					
M13	13 26	23 59	5 12	19 14	1 13	18 11	0 55	17 11	1 9	18 48	0 43	22 21	0 41	23 37	0 14	22 3	0 54	1 7	15 56	9 42	9 30	2 12	16 44	6 42					
T 14	13 6	26 53	5 17	19 16	1 2	17 51	0 57	17 22	1 9	18 50	0 43	22 21	0 41	23 37	0 14	22 3	0 54	1 7	15 56	9 42	9 31	2 15	16 45	6 41					
W15	12 45	28 14	5 4	19 17	0 51	17 32	0 58	17 33	1 10	18 51	0 42	22 21	0 41	23 36	0 14	22 3	0 54	1 6	15 57	9 42	9 32	2 18	16 45	6 41					
T 16	12 25	27 58	4 36	19 17	0 40	17 11	1 0	17 44	1 10	18 52	0 42	22 20	0 41	23 36	0 14	22 3	0 54	1 6	15 57	9 43	9 33	2 22	16 46	6 41					
F 17	12 4	26 13	3 55	19 16	0 29	16 50	1 2	17 55	1 11	18 54	0 42	22 20	0 41	23 36	0 14	22 2	0 54	1 5	15 58	9 43	9 34	2 25	16 46	6 40					
S 18	11 43	23 12	3 3	19 13	0 18	16 29	1 4	18 5	1 11	18 55	0 42	22 19	0 41	23 36	0 14	22 2	0 54	1 5	15 58	9 43	9 35	2 29	16 46	6 40					
S 19	11 22	19 10	2 4	19 9	0 8	16 7	1 5	18 16	1 11	18 57	0 41	22 19	0 41	23 36	0 14	22 2	0 54	1 4	15 59	9 43	9 36	2 32	16 47	6 39					
M20	11 0	14 23	0 59	19 4	0s 2	15 45	1 7	18 26	1 12	18 58	0 41	22 19	0 41	23 36	0 14	22 2	0 54	1 4	15 59	9 44	9 38	2 35	16 47	6 39					
T 21	10 39	9 7	0s 7	18 57	0 11	15 23	1 8	18 37	1 12	19 0	0 41	22 18	0 41	23 36	0 14	22 2	0 54	1 3	16 0	9 44	9 39	2 39	16 48	6 38					
W22	10 17	3 35	1 13	18 49	0 21	15 0	1 10	18 47	1 13	19 1	0 41	22 18	0 41	23 36	0 14	22 2	0 54	1 3	16 0	9 44	9 40	2 42	16 48	6 38					
T 23	9 55	2s 3	2 15	18 40	0 30	14 36	1 11	18 57	1 13	19 3	0 40	22 17	0 41	23 36	0 14	22 1	0 54	1 2	16 1	9 44	9 41	2 45	16 49	6 38					
F 24	9 33	7 35	3 11	18 30	0 38	14 12	1 12	19 7	1 13	19 5	0 40	22 17	0 41	23 36	0 14	22 1	0 54	1 2	16 1	9 44	9 42	2 49	16 49	6 37					
S 25	9 11	12 52	3 59	18 18	0 46	13 48	1 14	19 17	1 14	19 6	0 40	22 16	0 41	23 36	0 14	22 1	0 54	1 1	16 2	9 44	9 43	2 52	16 50	6 37					
S 26	8 48	17 42	4 37	18 5	0 54	13 23	1 15	19 26	1 14	19 8	0 40	22 16	0 41	23 36	0 14	22 1	0 54	1 1	16 2	9 44	9 45	2 56	16 50	6 36					
M27	8 26	21 54	5 3	17 50	1 2	12 58	1 16	19 36	1 14	19 10	0 40	22 16	0 41	23 36	0 14	22 1	0 54	1 0	16 3	9 44	9 46	2 59	16 51	6 36					
T 28	8s 3	25s15	5s16	17s35	1s 9	12s33	1s17	19n46	1n15	19n12	0s39	22s15	0n41	23s36	0s14	22s 1	0n54	1s 0	16n 3	9s44	9s47	3s 2	16n51	6s35					

Julian Day Number = 2447558.5, Delta T = 56.34 sec

Ecliptic obliquity = 23°26'35", Nutation = 0°00'08", out-of-bounds declination in red

Ayanam

## ASTRODIENST EPHEMERIS for the year 1989

geocentric

MARCH 1989

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	10 35 7	10 <sup>h</sup> 22'48"	12 <sup>h</sup> 15'	15 <sup>h</sup> 52'	1 <sup>h</sup> 37'	23 <sup>h</sup> 43'	28 <sup>h</sup> 38'	11 <sup>h</sup> 34'	4 <sup>h</sup> 40'	11 <sup>h</sup> 51'	15 <sup>h</sup> 09'	4 <sup>h</sup> 05'	4 <sup>h</sup> 40'	2 <sup>h</sup> 16'	1 <sup>h</sup> 09'	W 1
T 2	10 39 3	11 <sup>h</sup> 23'01"	25° 6'	17°13'	2°52'	24°19'	28°46'	11°48'	4°42'	11°53'	15 <sup>h</sup> 08'	4 <sup>h</sup> 51'	4°37'	2°23'	1 <sup>h</sup> 09'	T 2
F 3	10 43 0	12 <sup>h</sup> 23'12"	8 <sup>h</sup> 21'	18°36'	4° 7'	24°56'	28°53'	11°53'	4°44'	11°54'	15° 8'	4°52'	4°34'	2°29'	1°18'	F 3
S 4	10 46 56	13°23'22"	22° 2'	20° 0'	5°22'	25°32'	29° 1'	11°57'	4°46'	11°56'	15° 7'	4°53'	4°30'	2°36'	1°18'	S 4
S 5	10 50 53	14°23'30"	6 <sup>h</sup> 11'	21°25'	6°37'	26° 8'	29° 9'	12° 2'	4°48'	11°57'	15° 7'	4°54'	4°27'	2°43'	1°18'	S 5
M 6	10 54 49	15°23'37"	20°44'	22°52'	7°51'	26°45'	29°17'	12° 6'	4°50'	11°58'	15° 6'	4°54'	4°24'	2°49'	1°18'	M 6
T 7	10 58 46	16°23'42"	5 <sup>h</sup> 38'	24°19'	9° 6'	27°21'	29°25'	12°11'	4°51'	11°59'	15° 5'	4°54'	4°21'	2°56'	1°18'	T 7
W 8	11 2 43	17°23'45"	20°45'	25°48'	10°21'	27°57'	29°33'	12°15'	4°53'	12° 1'	15° 5'	4°54'	4°18'	3° 3'	1°18'	W 8
T 9	11 6 39	18°23'46"	5 <sup>h</sup> 57'	27°19'	11°36'	28°34'	29°42'	12°19'	4°55'	12° 2'	15° 4'	4°53'	4°14'	3° 9'	1°18'	T 9
F 10	11 10 36	19°23'45"	21° 2'	28°50'	12°51'	29°10'	29°50'	12°23'	4°56'	12° 3'	15° 3'	4°51'	4°11'	3°16'	1°18'	F 10
S 11	11 14 32	20°23'42"	5 <sup>h</sup> 54'	0 <sup>h</sup> 23'	14° 6'	29°47'	29°59'	12°27'	4°58'	12° 4'	15° 2'	4°49'	4° 8'	3°23'	1°19'	S 11
S 12	11 18 29	21°23'36"	20°24'	1°57'	15°20'	0 <sup>h</sup> 23'	0 <sup>h</sup> 8'	12°31'	4°59'	12° 5'	15° 2'	4°48'	4° 5'	3°29'	1°19'	S 12
M13	11 22 25	22°23'29"	4 <sup>h</sup> 11'	3°32'	16°35'	1° 0'	0°16'	12°35'	5° 1'	12° 6'	15° 1'	4°46'	4° 2'	3°36'	1°19'	M13
T 14	11 26 22	23°23'20"	18° 9'	5° 8'	17°50'	1°36'	0°26'	12°39'	5° 2'	12° 7'	15° 0'	4°45'	3°59'	3°43'	1°20'	T 14
W15	11 30 18	24°23'08"	1 <sup>h</sup> 23'	6°45'	19° 5'	2°13'	0°35'	12°42'	5° 3'	12° 8'	14°59'	4°45'	3°55'	3°49'	1°21'	W15
T 16	11 34 15	25°22'54"	14°15'	8°24'	20°20'	2°49'	0°44'	12°46'	5° 5'	12° 9'	14°58'	4°46'	3°52'	3°56'	1°21'	T 16
F 17	11 38 12	26°22'38"	26°48'	10° 4'	21°34'	3°26'	0°53'	12°50'	5° 6'	12°10'	14°57'	4°48'	3°49'	4° 3'	1°22'	F 17
S 18	11 42 8	27°22'19"	9 <sup>h</sup> 05'	11°45'	22°49'	4° 3'	1° 3'	12°53'	5° 7'	12°11'	14°56'	4°49'	3°46'	4° 9'	1°23'	S 18
S 19	11 46 5	28°21'58"	21°11'	13°27'	24° 4'	4°39'	1°13'	12°56'	5° 8'	12°12'	14°55'	4°51'	3°43'	4°16'	1°24'	S 19
M20	11 50 1	29°21'35"	3 <sup>h</sup> 19'	15°11'	25°18'	5°16'	1°22'	13° 0'	5° 9'	12°13'	14°54'	4°51'	3°39'	4°23'	1°25'	M20
T 21	11 53 58	0 <sup>h</sup> 21'10"	15° 1'	16°55'	26°33'	5°52'	1°32'	13° 3'	5°10'	12°14'	14°53'	4°51'	3°36'	4°29'	1°27'	T 21
W22	11 57 54	1°20'43"	26°51'	18°41'	27°48'	6°29'	1°42'	13° 6'	5°11'	12°14'	14°52'	4°49'	3°33'	4°36'	1°28'	W22
T 23	12 1 51	2°20'14"	8 <sup>h</sup> 40'	20°29'	29° 2'	7° 6'	1°52'	13° 9'	5°12'	12°15'	14°51'	4°46'	3°30'	4°43'	1°29'	T 23
F 24	12 5 47	3°19'42"	20°30'	22°17'	0 <sup>h</sup> 17'	7°43'	2° 2'	13°12'	5°13'	12°16'	14°50'	4°42'	3°27'	4°49'	1°31'	F 24
S 25	12 9 44	4°19'09"	2 <sup>h</sup> 12'	24° 7'	1°32'	8°19'	2°13'	13°15'	5°14'	12°16'	14°49'	4°36'	3°24'	4°56'	1°32'	S 25
S 26	12 13 40	5°18'34"	14°23'	25°58'	2°46'	8°56'	2°23'	13°17'	5°15'	12°17'	14°48'	4°31'	3°20'	5° 3'	1°34'	S 26
M27	12 17 37	6°17'57"	26°29'	27°51'	4° 1'	9°33'	2°34'	13°20'	5°15'	12°18'	14°46'	4°26'	3°17'	5° 9'	1°35'	M27
T 28	12 21 34	7°17'19"	8 <sup>h</sup> 46'	29°44'	5°15'	10°10'	2°44'	13°23'	5°16'	12°18'	14°45'	4°21'	3°14'	5°16'	1°37'	T 28
W29	12 25 30	8°16'38"	21°17'	1°40'	6°30'	10°47'	2°55'	13°25'	5°17'	12°19'	14°44'	4°19'	3°11'	5°23'	1°39'	W29
T 30	12 29 27	9°15'56"	4 <sup>h</sup> 34'	3°36'	7°44'	11°23'	3° 6'	13°28'	5°17'	12°19'	14°43'	4°17'	3° 8'	5°29'	1°41'	T 30
F 31	12 33 23	10°15'12"	17 <sup>h</sup> 31'	5°34'	8°59'	12°11'	3°17'	13°30'	5°18'	12°20'	14°41'	4°17'	3° 5'	5°36'	1°43'	F 31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
W 1	7s41	27s28	5s15	17s18	1s16	12s 7	1s18	19n55	1n15	19n13	0s39	22s15	0n41	23s36	0s14	22s 1
T 2	7 18	28 19	4 58	16 59	1 23	11 41	1 19	20 4	1 15	19 15	0 39	22 14	0 41	23 36	0 14	22 0
F 3	6 55	27 35	4 25	16 40	1 29	11 15	1 20	20 14	1 16	19 17	0 39	22 14	0 41	23 36	0 14	22 0
S 4	6 32	25 12	3 36	16 19	1 35	10 48	1 21	20 23	1 16	19 19	0 38	22 14	0 41	23 36	0 14	22 0
S 5	6 9	21 12	2 33	15 57	1 40	10 21	1 22	20 32	1 16	19 21	0 38	22 13	0 41	23 35	0 14	22 0
M 6	5 45	15 49	1 18	15 33	1 45	9 54	1 22	20 40	1 17	19 23	0 38	22 13	0 41	23 35	0 14	22 0
T 7	5 22	9 23	0n 4	15 9	1 50	9 26	1 23	20 49	1 17	19 25	0 38	22 13	0 41	23 35	0 14	22 0
W 8	4 59	2 20	1 27	14 43	1 54	8 59	1 24	20 58	1 17	19 27	0 38	22 12	0 41	23 35	0 14	22 0
T 9	4 35	4n52	2 44	14 16	1 58	8 31	1 24	21 6	1 17	19 29	0 37	22 12	0 41	23 35	0 14	22 0
F 10	4 12	11 44	3 49	13 47	2 2	8 3	1 25	21 14	1 18	19 31	0 37	22 11	0 41	23 35	0 14	21 59
S 11	3 48	17 50	4 37	13 17	2 5	7 34	1 25	21 22	1 18	19 33	0 37	22 11	0 41	23 35	0 14	21 59
S 12	3 25	22 46	5 6	12 46	2 8	7 6	1 26	21 30	1 18	19 35	0 37	22 11	0 41	23 35	0 14	21 59
M13	3 1	26 13	5 16	12 14	2 10	6 37	1 26	21 38	1 18	19 37	0 37	22 10	0 41	23 35	0 14	21 59
T 14	2 38	28 1	5 8	11 41	2 12	6 8	1 26	21 46	1 19	19 39	0 36	22 10	0 41	23 35	0 14	21 59
W15	2 14	28 9	4 43	11 6	2 13	5 39	1 26	21 54	1 19	19 41	0 36	22 10	0 41	23 35	0 14	21 59
T 16	1 50	26 44	4 4	10 30	2 15	5 9	1 26	22 1	1 19	19 43	0 36	22 9	0 41	23 35	0 14	21 59
F 17	1 26	23 59	3 15	9 53	2 15	4 40	1 26	22 8	1 19	19 45	0 36	22 9	0 41	23 35	0 14	21 59
S 18	1 3	20 12	2 17	9 15	2 15	4 10	1 26	22 15	1 19	19 47	0 36	22 9	0 41	23 35	0 14	21 59
S 19	0 39	15 37	1 15	8 35	2 15	3 41	1 26	22 22	1 19	19 50	0 35	22 8	0 41	23 35	0 14	21 58
M20	0 15	10 30	0 9	7 54	2 14	3 11	1 26	22 29	1 20	19 52	0 35	22 8	0 41	23 35	0 14	21 58
T 21	0n 8	5 3	0s56	7 12	2 13	2 41	1 26	22 36	1 20	19 54	0 35	22 8	0 41	23 35	0 14	21 58
W22	0 32	0s33	1 58	6 29	2 11	2 11	1 26	22 43	1 20	19 56	0 35	22 7	0 41	23 35	0 14	21 58
T 23	0 56	6 7	2 55	5 45	2 9	1 41	1 25	22 49	1 20	19 58	0 35	22 7	0 41	23 35	0 15	21 58
F 24	1 19	11 29	3 45	5 0	2 7	1 11	1 25	22 55	1 20	20 1	0 34	22 7	0 41	23 35	0 15	21 58
S 25	1 43	16 27	4 25	4 14	2 3	0 41	1 24	23 1	1 20	20 3	0 34	22 7	0 41	23 35	0 15	21 58
S 26	2 7	20 49	4 53	3 26	2 0	0 11	1 24	23 7	1 21	20 5	0 34	22 6	0 41	23 35	0 15	21 58
M27	2 30	24 23	5 9	2 37	1 56	0n19	1 23	23 13	1 21	20 7	0 34	22 6	0 41	23 35	0 15	21 58
T 28	2 54	26 53	5 11	1 48	1 51	0 49	1 23	23 19	1 21	20 9	0 34	22 6	0 41	23 35	0 15	21 58
W29	3 17	28 7	4 59	0 57	1 46	1 20	1 22	23 24	1 21	20 12	0 34	22 6	0 41	23 35	0 15	21 58
T 30	3 40	27 54	4 31	0 6	1 40	1 50	1 21	23 29	1 21	20 14	0 33	22 5	0 41	23 35	0 15	21 57
F 31	4n 4	26s 7	3s49	0n46	1s34	2n20	1s20	23n34	1n21	20n16	0s33	22s 5	0n41	23s35	0s15	21s57

Julian Day Number = 2447586.5, Delta T = 56.38 sec

Ecliptic obliquity = 23°26'35", Nutation = 0°00'08", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 24°35'20", Lahiri = 23°42'21"

ASTRODIENST EPHEMERIS for the year 1989  
geocentric

APRIL 1989

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
S 1	12 37 20	11°14'26	0°43	7°32	10°13	12°37	3°28	13°32	5°18	12°20	14°R40	4°18	3°1	5°43	1°45	S 1
S 2	12 41 16	12°13'39	14°39	9°32	11°28	13°14	3°39	13°34	5°19	12°21	14°M39	4°20	2°58	5°49	1°47	S 2
M 3	12 45 13	13°12'49	29° 1	11°34	12°42	13°51	3°50	13°36	5°19	12°21	14°37	4°R21	2°55	5°56	1°49	M 3
T 4	12 49 9	14°11'58	13°46	13°36	13°57	14°28	4° 1	13°38	5°19	12°21	14°36	4°21	2°52	6° 3	1°52	T 4
W 5	12 53 6	15°11'05	28°50	15°39	15°11	15° 5	4°13	13°40	5°20	12°22	14°35	4°18	2°49	6° 9	1°54	W 5
T 6	12 57 3	16°10'10	14°4	17°43	16°26	15°41	4°24	13°42	5°20	12°22	14°33	4°15	2°45	6°16	1°56	T 6
F 7	13 0 59	17° 9'13	29°18	19°47	17°40	16°18	4°36	13°43	5°20	12°22	14°32	4° 9	2°42	6°23	1°59	F 7
S 8	13 4 56	18° 8'14	14°21	21°52	18°55	16°55	4°47	13°45	5°20	12°22	14°30	4° 2	2°39	6°29	2° 2	S 8
S 9	13 8 52	19° 7'13	29° 5	23°58	20° 9	17°32	4°59	13°46	5°R20	12°23	14°29	3°55	2°36	6°36	2° 4	S 9
M10	13 12 49	20° 6'10	13°23	26° 3	21°23	18° 9	5°11	13°47	5°20	12°23	14°27	3°49	2°33	6°43	2° 7	M10
T 11	13 16 45	21° 5'04	27°12	28° 8	22°38	18°46	5°22	13°49	5°20	12°23	14°26	3°45	2°30	6°49	2°10	T 11
W12	13 20 42	22° 3'56	10°32	0°12	23°52	19°23	5°34	13°50	5°20	12°23	14°24	3°42	2°26	6°56	2°13	W12
T 13	13 24 38	23° 2'46	23°26	2°16	25° 6	20° 0	5°46	13°51	5°20	12°23	14°23	3°D42	2°23	7° 3	2°16	T 13
F 14	13 28 35	24° 1'34	5°17	4°18	26°21	20°37	5°58	13°52	5°19	12°R23	14°21	3°42	2°20	7° 9	2°19	F 14
S 15	13 32 32	25° 0'19	18°10	6°19	27°35	21°14	6°11	13°53	5°19	12°23	14°20	3°44	2°17	7°16	2°22	S 15
S 16	13 36 28	25°59'02	0°10	8°18	28°49	21°51	6°23	13°53	5°19	12°23	14°18	3°R44	2°14	7°23	2°25	S 16
M17	13 40 25	26°57'43	12° 3	10°15	0° 3	22°28	6°35	13°54	5°19	12°23	14°17	3°44	2°11	7°29	2°29	M17
T 18	13 44 21	27°56'21	23°51	12° 9	1°18	23° 5	6°47	13°54	5°18	12°23	14°15	3°42	2° 7	7°36	2°32	T 18
W19	13 48 18	28°54'58	5°39	14° 0	2°32	23°42	7° 0	13°55	5°18	12°23	14°13	3°37	2° 4	7°43	2°35	W19
T 20	13 52 14	29°53'32	17°29	15°49	3°46	24°19	7°12	13°55	5°17	12°22	14°12	3°30	2° 1	7°49	2°39	T 20
F 21	13 56 11	0°52'05	29°24	17°33	5° 0	24°56	7°25	13°55	5°17	12°22	14°10	3°21	1°58	7°56	2°42	F 21
S 22	14 0 7	1°50'35	11°25	19°14	6°14	25°33	7°37	13°56	5°16	12°22	14° 9	3°10	1°55	8° 3	2°46	S 22
S 23	14 4 4	2°49'04	23°33	20°52	7°28	26°10	7°50	13°R56	5°15	12°22	14° 7	2°59	1°51	8° 9	2°50	S 23
M24	14 8 1	3°47'31	5°17	22°25	8°43	26°48	8° 3	13°56	5°15	12°21	14° 5	2°48	1°48	8°16	2°53	M24
T 25	14 11 57	4°45'57	18°17	23°54	9°57	27°25	8°15	13°55	5°14	12°21	14° 4	2°39	1°45	8°23	2°57	T 25
W26	14 15 54	5°44'21	0°56	25°18	11°11	28° 2	8°28	13°55	5°13	12°21	14° 2	2°32	1°42	8°30	3° 1	W26
T 27	14 19 50	6°42'43	13°48	26°38	12°25	28°39	8°41	13°55	5°12	12°20	14° 0	2°27	1°39	8°36	3° 5	T 27
F 28	14 23 47	7°41'04	26°55	27°54	13°39	29°16	8°54	13°54	5°11	12°20	13°59	2°25	1°36	8°43	3° 9	F 28
S 29	14 27 43	8°39'23	10°21	29° 5	14°53	29°53	9° 7	13°54	5°10	12°19	13°57	2°D24	1°32	8°50	3°13	S 29
S 30	14 31 40	9°37'40	24° 7	0°11	16° 7	0°30	9°12	13°53	5° 9	12°19	13°M55	2°K25	1°K29	8°56	3°517	S 30

Day	☉	☾			♀		♀		♂		♊		♋		♌		♍		♎		♏		♐		♑		♒		♓		♈	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	
S 1	4n27	22s49	2s53	1n40	1s27	2n50	1s19	23n39	1n21	20n19	0s33	22s 5	0n41	23s35	0s15	21s57	0n55	0s40	16n16	9s56	10s24	4s50	17n 6	6s20								
S 2	4 50	18 7	1 45	2 34	1 20	3 20	1 18	23 44	1 21	20 21	0 33	22 5	0 41	23 35	0 15	21 57	0 55	0 39	16 16	9 55	10 25	4 53	17 6	6 20								
M 3	5 13	12 16	0 29	3 28	1 12	3 50	1 17	23 49	1 21	20 23	0 33	22 5	0 41	23 35	0 15	21 57	0 55	0 39	16 16	9 55	10 26	4 56	17 7	6 19								
T 4	5 36	5 36	0n51	4 23	1 4	4 20	1 16	23 53	1 22	20 25	0 33	22 4	0 41	23 35	0 15	21 57	0 55	0 38	16 16	9 55	10 27	5 0	17 7	6 19								
W 5	5 59	1n31	2 9	5 19	0 55	4 50	1 15	23 58	1 22	20 28	0 32	22 4	0 41	23 35	0 15	21 57	0 55	0 38	16 17	9 56	10 28	5 3	17 8	6 18								
T 6	6 22	8 36	3 19	6 15	0 46	5 19	1 14	24 2	1 22	20 30	0 32	22 4	0 40	23 35	0 15	21 57	0 55	0 37	16 17	9 57	10 30	5 6	17 8	6 18								
F 7	6 44	15 11	4 14	7 11	0 36	5 49	1 13	24 6	1 22	20 32	0 32	22 4	0 40	23 35	0 15	21 57	0 55	0 36	16 17	9 59	10 31	5 9	17 8	6 17								
S 8	7 7	20 46	4 51	8 7	0 26	6 18	1 11	24 9	1 22	20 34	0 32	22 4	0 40	23 35	0 15	21 57	0 55	0 36	16 17	10 2	10 32	5 13	17 9	6 17								
S 9	7 29	24 57	5 8	9 3	0 16	6 48	1 10	24 13	1 22	20 37	0 32	22 4	0 40	23 35	0 15	21 57	0 55	0 35	16 17	10 4	10 33	5 16	17 9	6 16								
M10	7 52	27 27	5 5	9 59	0 5	7 17	1 9	24 17	1 22	20 39	0 32	22 3	0 40	23 35	0 15	21 57	0 55	0 34	16 18	10 6	10 34	5 19	17 10	6 16								
T 11	8 14	28 8	4 44	10 54	0n 6	7 46	1 7	24 20	1 22	20 41	0 31	22 3	0 40	23 35	0 15	21 57	0 55	0 34	16 18	10 8	10 35	5 23	17 10	6 16								
W12	8 36	27 8	4 8	11 48	0 17	8 15	1 6	24 23	1 22	20 43	0 31	22 3	0 40	23 35	0 15	21 57	0 55	0 33	16 18	10 9	10 36	5 26	17 10	6 15								
T 13	8 58	24 42	3 20	12 42	0 28	8 43	1 4	24 26	1 22	20 46	0 31	22 3	0 40	23 35	0 15	21 57	0 55	0 33	16 18	10 9	10 38	5 29	17 11	6 15								
F 14	9 19	21 7	2 24	13 34	0 39	9 12	1 3	24 29	1 22	20 48	0 31	22 3	0 40	23 35	0 15	21 57	0 55	0 32	16 18	10 9	10 39	5 33	17 11	6 14								
S 15	9 41	16 42	1 23	14 25	0 50	9 40	1 1	24 31	1 22	20 50	0 31	22 3	0 40	23 35	0 15	21 57	0 55	0 32	16 19	10 9	10 40	5 36	17 12	6 14								
S 16	10 2	11 43	0 19	15 14	1 1	10 8	0 59	24 34	1 22	20 52	0 31	22 3	0 40	23 35	0 15	21 57	0 55	0 31	16 19	10 8	10 41	5 39	17 12	6 13								
M17	10 24	6 22	0s45	16 2	1 12	10 36	0 58	24 36	1 22	20 55	0 31	22 3	0 40	23 35	0 15	21 57	0 55	0 30	16 19	10 8	10 42	5 43	17 12	6 13								
T 18	10 45	0 49	1 46	16 47	1 22	11 3	0 56	24 38	1 22	20 57	0 30	22 3	0 40	23 35	0 15	21 57	0 55	0 30	16 19	10 9	10 43	5 46	17 13	6 13								
W19	11 5	4s44	2 43	17 31	1 32	11 31	0 54	24 40	1 22	20 59	0 30	22 3	0 40	23 35	0 15	21 57	0 55	0 29	16 19	10 11	10 44	5 49	17 13	6 12								
T 20	11 26	10 8	3 32	18 12	1 42	11 58	0 52	24 41	1 22	21 1	0 30	22 3	0 40	23 35	0 15	21 57	0 56	0 29	16 19	10 13	10 46	5 52	17 13	6 12								
F 21	11 47	15 12	4 13	18 51	1 51	12 24	0 50	24 43	1 22	21 3	0 30	22 3	0 40	23 35	0 15	21 57	0 56	0 28	16 19	10 17	10 47	5 56	17 14	6 11								
S 22	12 7	19 44	4 42	19 27	2 0	12 51	0 48	24 44	1 22	21 6	0 30	22 3	0 40	23 35	0 15	21 57	0 56	0 28	16 19	10 21	10 48	5 59	17 14	6 11								
S 23	12 27	23 30	5 0	20 1	2 7	13 17	0 46	24 45	1 22	21 8	0 30	22 3	0 40	23 35	0 15	21 57	0 56	0 27	16 19	10 25	10 49	6 2	17 14	6 11								
M24	12 47	26 15	5 3	20 33	2 15	13 43	0 44	24 46	1 22	21 10	0 30	22 3	0 40	23 36	0 15	21 57	0 56	0 27	16 19	10 29	10 50	6 6	17 14	6 10								
T 25	13 7	27 47	4 53	21 2	2 21	14 8	0 42	24 47	1 22	21 12	0 29	22 3	0 40	23 36	0 15	21 57	0 56	0 26	16 20	10 32	10 51	6 9	17 15	6 10								
W26	13 26	27 54	4 28	21 28	2 27	14 33	0 40	24 48	1 22	21 14	0 29	22 3	0 40	23 36	0 15	21 57	0 56	0 26	16 20	10 34	10 52	6 12	17 15	6 10								
T 27	13 45	26 31	3 49	21 52	2 31	14 58	0 38	24 48	1 22	21 16	0 29	22 3	0 40	23 36	0 15	21 57	0 56	0 25	16 20	10 36	10 53	6 16	17 15	6 9								
F 28	14 5	23 40	2 57	22 13	2 35	15 22	0 36	24 49	1 22	21 19	0 29	22 3	0 40	23 36	0 15	21 57	0 56	0 25	16 20	10 37	10 55	6 19	17 16	6 9								
S 29	14 23	19 29	1 55	22 32	2 38	15 46	0 34	24 49	1 22	21 21	0 29	22 3	0 40	23 36	0 15	21 57	0 56	0 24	16 20	10 37	10 56	6 22	17 16	6 8								
S 30	14n42	14s10	0s44	22n48	2n40	16n10	0s31	24n49	1n22	21n23	0s29	22s 3	0n40	23s36	0s15	21s57	0n56	0s24	16n20	10s37	10s57	6s25	17n16	6s 8								

Julian Day Number = 2447617.5, Delta T = 56.43 sec  
Ecliptic obliquity = 23°26'35", Nutation = 0°00'07", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 24°35'24", Lahiri = 23°42'25"

## ASTRODIENST EPHEMERIS for the year 1989

geocentric

MAY 1989

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	14 35 36	10°35'56	8°15	1°12	17°21	1°57	9°13	13°R53	5°R 8	12°R18	13°R54	2°R25	1°26	9°23	3°21	M 1
T 2	14 39 33	11°34'11	22°44	2° 9	18°35	1°44	9°46	13°352	5° 7	12°318	13°352	2°23	1°23	9°10	3°25	T 2
W 3	14 43 30	12°32'24	7°31	3° 0	19°49	2°21	9°59	13°51	5° 6	12°17	13°50	2°19	1°20	9°16	3°30	W 3
T 4	14 47 26	13°30'35	22°31	3°46	21° 3	2°58	10°12	13°50	5° 5	12°17	13°48	2°13	1°16	9°23	3°34	T 4
F 5	14 51 23	14°28'45	7°35	4°27	22°17	3°35	10°26	13°49	5° 4	12°16	13°47	2° 4	1°13	9°30	3°38	F 5
S 6	14 55 19	15°26'53	22°34	5° 3	23°31	4°13	10°39	13°47	5° 2	12°15	13°45	1°54	1°10	9°36	3°43	S 6
S 7	14 59 16	16°25'00	7°18	5°34	24°45	4°50	10°52	13°46	5° 1	12°15	13°43	1°43	1° 7	9°43	3°47	S 7
M 8	15 3 12	17°23'05	21°39	6° 0	25°59	5°27	11° 6	13°45	5° 0	12°14	13°42	1°33	1° 4	9°50	3°52	M 8
T 9	15 7 9	18°21'08	5°33	6°20	27°12	6° 4	11°19	13°43	4°58	12°13	13°40	1°25	1° 1	9°56	3°56	T 9
W10	15 11 5	19°19'10	18°58	6°36	28°26	6°41	11°32	13°42	4°57	12°12	13°38	1°19	0°57	10° 3	4° 1	W10
T 11	15 15 2	20°17'09	1°56	6°46	29°40	7°18	11°46	13°40	4°56	12°12	13°37	1°16	0°54	10°10	4° 6	T 11
F 12	15 18 59	21°15'07	14°29	6°R51	0°154	7°55	11°59	13°38	4°54	12°11	13°35	1°15	0°51	10°16	4°11	F 12
S 13	15 22 55	22°13'02	26°44	6°51	2° 8	8°33	12°13	13°36	4°52	12°10	13°33	1°15	0°48	10°23	4°15	S 13
S 14	15 26 52	23°10'56	8°14	6°46	3°22	9°10	12°26	13°34	4°51	12° 9	13°32	1°15	0°45	10°30	4°20	S 14
M15	15 30 48	24° 8'48	20°36	6°36	4°35	9°47	12°40	13°32	4°49	12° 8	13°30	1°14	0°42	10°36	4°25	M15
T 16	15 34 45	25° 6'39	2°24	6°22	5°49	10°24	12°54	13°30	4°48	12° 7	13°28	1°11	0°38	10°43	4°30	T 16
W17	15 38 41	26° 4'27	14°13	6° 4	7° 3	11° 1	13° 7	13°28	4°46	12° 6	13°27	1° 5	0°35	10°50	4°35	W17
T 18	15 42 38	27° 2'14	26° 7	5°43	8°16	11°38	13°21	13°26	4°44	12° 5	13°25	0°56	0°32	10°56	4°40	T 18
F 19	15 46 34	28° 0'00	8°18	5°18	9°30	12°16	13°35	13°23	4°42	12° 4	13°23	0°45	0°29	11° 3	4°45	F 19
S 20	15 50 31	28°57'44	20°18	4°50	10°44	12°53	13°48	13°21	4°41	12° 3	13°22	0°32	0°26	11°10	4°50	S 20
S 21	15 54 28	29°55'27	2°40	4°19	11°57	13°30	14° 2	13°18	4°39	12° 2	13°20	0°19	0°22	11°16	4°55	S 21
M22	15 58 24	0°153'09	15°12	3°47	13°11	14° 7	14°16	13°16	4°37	12° 1	13°19	0° 6	0°19	11°23	5° 0	M22
T 23	16 2 21	1°50'49	27°55	3°13	14°25	14°44	14°30	13°13	4°35	12° 0	13°17	29°54	0°16	11°30	5° 6	T 23
W24	16 6 17	2°48'28	10°349	2°39	15°38	15°21	14°43	13°10	4°33	11°59	13°16	29°45	0°13	11°36	5°11	W24
T 25	16 10 14	3°46'06	23°55	2° 5	16°52	15°59	14°57	13° 8	4°31	11°57	13°14	29°39	0°10	11°43	5°16	T 25
F 26	16 14 10	4°43'43	7°13	1°31	18° 5	16°36	15°11	13° 5	4°29	11°56	13°12	29°36	0° 7	11°50	5°21	F 26
S 27	16 18 7	5°41'19	20°44	0°59	19°19	17°13	15°25	13° 2	4°27	11°55	13°11	29°34	0° 3	11°56	5°27	S 27
S 28	16 22 3	6°38'54	4°29	0°28	20°33	17°50	15°39	12°59	4°25	11°54	13° 9	29°34	0° 0	12° 3	5°32	S 28
M29	16 26 0	7°36'29	18°29	29°59	21°46	18°27	15°52	12°55	4°23	11°52	13° 8	29°34	29°54	12°10	5°38	M29
T 30	16 29 57	8°34'02	2°44	29°32	23° 0	19° 5	16° 6	12°52	4°21	11°51	13° 6	29°33	29°54	12°17	5°43	T 30
W31	16 33 53	9°131'35	17°12	29°8	24°13	19°42	16°10	12°349	4°19	11°50	13° 5	29°33	29°54	12°23	5°49	W31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
M 1	15n 0	8s 0	0n31	23n 2	2n41	16n33	0s29	24n48	1n22	21n25	0s29	22s 3	0n40	23s36	0s15	21s57
T 2	15 18	1 16	1 46	23 13	2 41	16 56	0 27	24 48	1 22	21 27	0 28	22 3	0 40	23 36	0 15	21 57
W 3	15 36	5n40	2 55	23 22	2 40	17 18	0 25	24 47	1 22	21 29	0 28	22 3	0 40	23 36	0 15	21 57
T 4	15 54	12 22	3 53	23 29	2 38	17 40	0 22	24 47	1 22	21 31	0 28	22 4	0 40	23 36	0 15	21 57
F 5	16 11	18 22	4 35	23 34	2 34	18 1	0 20	24 46	1 22	21 33	0 28	22 4	0 40	23 36	0 15	21 57
S 6	16 28	23 12	4 58	23 36	2 30	18 22	0 18	24 44	1 22	21 35	0 28	22 4	0 40	23 36	0 15	21 57
S 7	16 45	26 28	5 0	23 36	2 24	18 43	0 15	24 43	1 22	21 37	0 28	22 4	0 40	23 36	0 15	21 57
M 8	17 1	27 54	4 44	23 34	2 18	19 3	0 13	24 42	1 22	21 39	0 28	22 4	0 40	23 36	0 15	21 57
T 9	17 18	27 30	4 10	23 30	2 10	19 22	0 10	24 40	1 22	21 41	0 28	22 4	0 40	23 36	0 16	21 57
W10	17 34	25 28	3 24	23 24	2 1	19 41	0 8	24 38	1 22	21 43	0 28	22 4	0 40	23 37	0 16	21 57
T 11	17 49	22 9	2 29	23 16	1 51	20 0	0 6	24 36	1 22	21 45	0 27	22 5	0 40	23 37	0 16	21 57
F 12	18 5	17 53	1 28	23 6	1 40	20 17	0 3	24 34	1 21	21 47	0 27	22 5	0 40	23 37	0 16	21 57
S 13	18 20	12 59	0 24	22 54	1 28	20 35	0 1	24 31	1 21	21 49	0 27	22 5	0 40	23 37	0 16	21 57
S 14	18 34	7 41	0s40	22 40	1 14	20 51	0n 2	24 29	1 21	21 51	0 27	22 5	0 40	23 37	0 16	21 58
M15	18 49	2 11	1 41	22 24	1 0	21 8	0 4	24 26	1 21	21 52	0 27	22 6	0 40	23 37	0 16	21 58
T 16	19 3	3s21	2 37	22 7	0 45	21 23	0 7	24 23	1 21	21 54	0 27	22 6	0 40	23 37	0 16	21 58
W17	19 17	8 47	3 26	21 49	0 30	21 38	0 9	24 20	1 21	21 56	0 27	22 6	0 40	23 37	0 16	21 58
T 18	19 30	13 55	4 7	21 29	0 13	21 53	0 11	24 17	1 21	21 58	0 27	22 6	0 40	23 37	0 16	21 58
F 19	19 43	18 35	4 37	21 8	0s 4	22 7	0 14	24 13	1 21	22 0	0 26	22 7	0 40	23 37	0 16	21 58
S 20	19 56	22 34	4 55	20 46	0 21	22 20	0 16	24 10	1 21	22 1	0 26	22 7	0 40	23 37	0 16	21 58
S 21	20 8	25 35	4 59	20 23	0 38	22 32	0 19	24 6	1 21	22 3	0 26	22 7	0 40	23 37	0 16	21 58
M22	20 20	27 25	4 50	20 0	0 56	22 44	0 21	24 2	1 21	22 5	0 26	22 7	0 40	23 37	0 16	21 58
T 23	20 32	27 51	4 25	19 36	1 13	22 55	0 24	23 58	1 20	22 7	0 26	22 8	0 40	23 38	0 16	21 58
W24	20 43	26 46	3 47	19 13	1 31	23 6	0 26	23 53	1 20	22 8	0 26	22 8	0 40	23 38	0 16	21 58
T 25	20 54	24 13	2 56	18 49	1 48	23 16	0 28	23 49	1 20	22 10	0 26	22 8	0 40	23 38	0 16	21 58
F 26	21 5	20 20	1 55	18 27	2 4	23 25	0 31	23 44	1 20	22 12	0 26	22 9	0 40	23 38	0 16	21 59
S 27	21 15	15 19	0 47	18 5	2 20	23 34	0 33	23 39	1 20	22 13	0 26	22 9	0 39	23 38	0 16	21 59
S 28	21 25	9 28	0n26	17 44	2 34	23 42	0 36	23 34	1 20	22 15	0 26	22 9	0 39	23 38	0 16	21 59
M29	21 35	3 3	1 38	17 24	2 48	23 49	0 38	23 29	1 20	22 16	0 25	22 10	0 39	23 38	0 16	21 59
T 30	21 44	3n37	2 46	17 6	3 1	23 56	0 40	23 24	1 20	22 18	0 25	22 10	0 39	23 38	0 16	21 59
W31	21n53	10n12	3n44	16n50	3s13	24n 1	0n42	23n18	1n20	22n19	0s25	22s10	0n39	23s38	0s16	21s59

Julian Day Number = 2447647.5, Delta T = 56.47 sec

Ecliptic obliquity = 23°26'35", Nutation = 0°00'07", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 24°35'28", Lahiri = 23°42'29"



# ASTRODIENST EPHEMERIS for the year 1989

## geocentric

JUNE 1989

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	16 37 50	10II29'06	1851	28°R49	25II27	20519	16II34	12°R46	4°R17	11°R49	13°R 3	29°R22	29°48	12°30	5554	T 1
F 2	16 41 46	11°26'37	16°33	288333	26°40	20°56	16°48	12°342	4°15	11°47	13°2	29°13	29°44	12°37	6° 0	F 2
S 3	16 45 43	12°24'08	1II12	28°21	27°54	21°33	17° 2	12°39	4°12	11°46	13° 1	29° 3	29°41	12°43	6° 5	S 3
S 4	16 49 39	13°21'37	15°40	28°13	29° 7	22°11	17°16	12°35	4°10	11°45	12°59	28°52	29°38	12°50	6°11	S 4
M 5	16 53 36	14°19'05	29°50	28°D10	0521	22°48	17°30	12°32	4° 8	11°43	12°58	28°41	29°35	12°57	6°16	M 5
T 6	16 57 32	15°16'33	13538	28°10	1°34	23°25	17°44	12°28	4° 6	11°42	12°56	28°33	29°32	13° 3	6°22	T 6
W 7	17 1 29	16°13'59	27° 1	28°16	2°47	24° 2	17°58	12°24	4° 3	11°40	12°55	28°27	29°28	13°10	6°28	W 7
T 8	17 5 26	17°11'24	958	28°25	4° 1	24°40	18°11	12°21	4° 1	11°39	12°54	28°23	29°25	13°17	6°33	T 8
F 9	17 9 22	18° 8'48	22°34	28°39	5°14	25°17	18°25	12°17	3°59	11°38	12°52	28°22	29°22	13°23	6°39	F 9
S 10	17 13 19	19° 6'11	450	28°58	6°27	25°54	18°39	12°13	3°56	11°36	12°51	28°D22	29°19	13°30	6°45	S 10
S 11	17 17 15	20° 3'33	16°52	29°21	7°41	26°32	18°53	12° 9	3°54	11°35	12°50	28°R22	29°16	13°37	6°51	S 11
M12	17 21 12	21° 0'54	28°45	29°49	8°54	27° 9	19° 7	12° 5	3°52	11°33	12°49	28°22	29°13	13°43	6°56	M12
T 13	17 25 8	21°58'14	10535	0II20	10° 7	27°46	19°21	12° 1	3°49	11°32	12°47	28°20	29° 9	13°50	7° 2	T 13
W14	17 29 5	22°55'33	22°27	0°57	11°21	28°23	19°35	11°57	3°47	11°30	12°46	28°16	29° 6	13°57	7° 8	W14
T 15	17 33 1	23°52'51	4525	1°37	12°34	29° 1	19°49	11°53	3°45	11°29	12°45	28°10	29° 3	14° 3	7°14	T 15
F 16	17 36 58	24°50'08	16°32	2°21	13°47	29°38	20° 3	11°49	3°42	11°27	12°44	28° 2	29° 0	14°10	7°20	F 16
S 17	17 40 55	25°47'25	28°51	3° 9	15° 0	0515	20°17	11°45	3°40	11°26	12°43	27°52	28°57	14°17	7°26	S 17
S 18	17 44 51	26°44'41	11525	4° 2	16°14	0°53	20°30	11°41	3°37	11°24	12°42	27°41	28°54	14°24	7°32	S 18
M19	17 48 48	27°41'56	24°13	4°58	17°27	1°30	20°44	11°36	3°35	11°22	12°41	27°31	28°50	14°30	7°37	M19
T 20	17 52 44	28°39'11	7316	5°58	18°40	2° 7	20°58	11°32	3°33	11°21	12°40	27°21	28°47	14°37	7°43	T 20
W21	17 56 41	29°36'26	20°31	7° 2	19°53	2°45	21°12	11°28	3°30	11°19	12°39	27°14	28°44	14°44	7°49	W21
T 22	18 0 37	0533'40	358	8° 9	21° 6	3°22	21°26	11°24	3°28	11°18	12°38	27°10	28°41	14°50	7°55	T 22
F 23	18 4 34	1°30'54	17°36	9°20	22°19	3°59	21°39	11°19	3°25	11°16	12°37	27° 8	28°38	14°57	8° 1	F 23
S 24	18 8 31	2°28'07	1523	10°35	23°32	4°37	21°53	11°15	3°23	11°15	12°36	27°D 7	28°34	15° 4	8° 7	S 24
S 25	18 12 27	3°25'21	15°18	11°53	24°46	5°14	22° 7	11°11	3°20	11°13	12°35	27° 8	28°31	15°10	8°13	S 25
M26	18 16 24	4°22'34	29°21	13°15	25°59	5°51	22°21	11° 6	3°18	11°11	12°34	27°R 9	28°28	15°17	8°19	M26
T 27	18 20 20	5°19'47	13531	14°40	27°12	6°29	22°34	11° 2	3°16	11°10	12°33	27° 9	28°25	15°24	8°25	T 27
W28	18 24 17	6°17'01	27°46	16° 9	28°25	7° 6	22°48	10°57	3°13	11° 8	12°32	27° 7	28°22	15°30	8°31	W28
T 29	18 28 13	7°14'14	128 4	17°41	29°38	7°43	23° 2	10°53	3°11	11° 7	12°32	27° 3	28°19	15°37	8°37	T 29
F 30	18 32 10	8511'28	26521	19II17	051	8521	23II15	10549	358	115	12531	26557	28515	15544	8543	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
T 1	22n 1	16n18	4n27	16n35	3s24	24n 7	0n45	23n13	1n19	22n21	0s25	22s11	0n39	23s38	0s16	21s59	0n56	0s14	16n15	11s42	11s33	8s 9	17n19	6s 0					
F 2	22 9	21 28	4 54	16 23	3 33	24 11	0 47	23 7	1 19	22 22	0 25	22 11	0 39	23 38	0 16	21 59	0 56	0 14	16 14	11 45	11 34	8 13	17 19	6 0					
S 3	22 17	25 18	5 1	16 12	3 41	24 15	0 49	23 1	1 19	22 24	0 25	22 11	0 39	23 38	0 16	21 59	0 56	0 14	16 14	11 48	11 35	8 16	17 19	6 0					
S 4	22 24	27 27	4 48	16 3	3 48	24 18	0 51	22 55	1 19	22 25	0 25	22 12	0 39	23 39	0 16	21 59	0 56	0 14	16 14	11 52	11 36	8 19	17 19	6 0					
M 5	22 31	27 45	4 18	15 57	3 54	24 20	0 53	22 49	1 19	22 27	0 25	22 12	0 39	23 39	0 16	22 0	0 56	0 14	16 13	11 56	11 37	8 22	17 18	6 0					
T 6	22 38	26 17	3 34	15 53	3 59	24 22	0 56	22 42	1 19	22 28	0 25	22 13	0 39	23 39	0 16	22 0	0 56	0 14	16 13	11 59	11 38	8 25	17 18	5 59					
W 7	22 44	23 21	2 38	15 50	4 2	24 22	0 58	22 36	1 19	22 29	0 25	22 13	0 39	23 39	0 16	22 0	0 56	0 14	16 13	12 1	11 39	8 29	17 18	5 59					
T 8	22 50	19 18	1 36	15 50	4 4	24 23	1 0	22 29	1 18	22 31	0 24	22 13	0 39	23 39	0 16	22 0	0 56	0 14	16 12	12 2	11 41	8 32	17 18	5 59					
F 9	22 55	14 29	0 31	15 52	4 5	24 22	1 2	22 22	1 18	22 32	0 24	22 14	0 39	23 39	0 16	22 0	0 56	0 14	16 12	12 3	11 42	8 35	17 18	5 59					
S 10	23 0	9 12	0s34	15 56	4 5	24 21	1 4	22 15	1 18	22 33	0 24	22 14	0 39	23 39	0 16	22 0	0 56	0 14	16 12	12 3	11 43	8 38	17 18	5 59					
S 11	23 4	3 42	1 37	16 2	4 4	24 19	1 6	22 8	1 18	22 35	0 24	22 15	0 39	23 39	0 16	22 0	0 56	0 14	16 11	12 3	11 44	8 41	17 17	5 59					
M12	23 8	1s52	2 34	16 10	4 2	24 16	1 8	22 0	1 18	22 36	0 24	22 15	0 39	23 39	0 16	22 0	0 56	0 14	16 11	12 3	11 45	8 45	17 17	5 59					
T 13	23 12	7 20	3 25	16 19	4 0	24 13	1 9	21 53	1 18	22 37	0 24	22 15	0 39	23 39	0 16	22 1	0 56	0 14	16 10	12 3	11 46	8 48	17 17	5 59					
W14	23 15	12 33	4 7	16 30	3 56	24 8	1 11	21 45	1 17	22 38	0 24	22 16	0 39	23 39	0 16	22 1	0 56	0 14	16 10	12 5	11 47	8 51	17 17	5 59					
T 15	23 18	17 21	4 38	16 43	3 51	24 4	1 13	21 37	1 17	22 39	0 24	22 16	0 39	23 39	0 16	22 1	0 56	0 14	16 10	12 7	11 48	8 54	17 17	5 59					
F 16	23 21	21 32	4 57	16 57	3 46	23 58	1 15	21 29	1 17	22 40	0 24	22 17	0 38	23 40	0 16	22 1	0 56	0 14	16 9	12 10	11 49	8 57	17 16	5 59					
S 17	23 23	24 50	5 3	17 12	3 40	23 52	1 16	21 21	1 17	22 42	0 24	22 17	0 38	23 40	0 16	22 1	0 56	0 14	16 9	12 13	11 51	9 0	17 16	5 59					
S 18	23 24	27 1	4 55	17 28	3 33	23 45	1 18	21 13	1 17	22 43	0 24	22 18	0 38	23 40	0 16	22 1	0 56	0 14	16 8	12 17	11 52	9 4	17 16	5 59					
M19	23 25	27 50	4 32	17 46	3 25	23 37	1 19	21 4	1 17	22 44	0 23	22 18	0 38	23 40	0 16	22 1	0 56	0 14	16 8	12 20	11 53	9 7	17 15	5 58					
T 20	23 26	27 8	3 54	18 4	3 17	23 29	1 21	20 56	1 16	22 45	0 23	22 18	0 38	23 40	0 16	22 1	0 56	0 14	16 8	12 23	11 54	9 10	17 15	5 58					
W21	23 27	24 53	3 3	18 24	3 8	23 20	1 22	20 47	1 16	22 46	0 23	22 19	0 38	23 40	0 16	22 2	0 56	0 14	16 7	12 26	11 55	9 13	17 15	5 58					
T 22	23 26	21 13	2 1	18 44	2 59	23 10	1 24	20 38	1 16	22 47	0 23	22 19	0 38	23 40	0 16	22 2	0 56	0 15	16 7	12 27	11 56	9 16	17 15	5 58					
F 23	23 26	16 22	0 51	19 4	2 49	23 0	1 25	20 29	1 16	22 48	0 23	22 20	0 38	23 40	0 16	22 2	0 56	0 15	16 6	12 28	11 57	9 19	17 14	5 58					
S 24	23 25	10 38	0n23	19 25	2 39	22 49	1 26	20 20	1 16	22 49	0 23	22 20	0 38	23 40	0 16	22 2	0 56	0 15	16 6	12 28	11 58	9 23	17 14	5 58					
S 25	23 24	4 19	1 36	19 46	2 28	22 37	1 28	20 11	1 15	22 50	0 23	22 21	0 38	23 40	0 16	22 2	0 56	0 15	16 5	12 28	11 59	9 26	17 14	5 58					
M26	23 22	2n15	2 44	20 7	2 17	22 24	1 29	20 2	1 15	22 50	0 23	22 21	0 38	23 40	0 16	22 2	0 56	0 15	16 5	12 28	12 0	9 29	17 13	5 58					
T 27	23 20	8 45	3 43	20 29	2 6	22 11	1 30	19 52	1 15	22 51	0 23	22 22	0 38	23 40	0 16	22 2	0 56	0 16	16 4	12 28	12 2	9 32	17 13	5 58					
W28	23 18	14 51	4 28	20 50	1 54	21 58	1 31	19 42	1 15	22 52	0 23	22 22	0 38	23 40	0 16	22 3	0 56	0 16	16 4	12 29	12 3	9 35	17 12	5 58					
T 29	23 15	20 10	4 57	21 10	1 42	21 44	1 32	19 33	1 15	22 53	0 23	22 22	0 38	23 41	0 16	22 3	0 56	0 16	16 3	12 30	12 4	9 38	17 12	5 58					
F 30	23n11	24n19	5n 7	21n31	1s30	21n29	1n33	19n23	1n14	22n54	0s23	22s23	0n37	23s41	0s16	22s 3	0n56	0s16	16n 3	12s32	12s 5	9s42	17n12	5s59					

## ASTRODIENST EPHEMERIS for the year 1989

geocentric

JULY 1989

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	18 36 6	9 <sup>55</sup> 8'42	10 <sup>11</sup> 34	20 <sup>11</sup> 55	2 <sup>0</sup> 4	8 <sup>0</sup> 58	23 <sup>11</sup> 29	10°R44	3°R 6	11°R 3	12°R30	26°R50	28 <sup>55</sup> 12	15 <sup>55</sup> 50	8 <sup>55</sup> 49	S 1
S 2	18 40 3	10° 5'56	24°37	22°37	3°17	9°36	23°43	10 <sup>3</sup> 40	3 <sup>3</sup> 3	11 <sup>3</sup> 2	12 <sup>3</sup> 29	26 <sup>3</sup> 42	28° 9	15°57	8°55	S 2
M 3	18 44 0	11° 3'10	8 <sup>55</sup> 25	24°22	4°30	10°13	23°56	10°35	3° 1	11° 0	12°29	26°35	28° 6	16° 4	9° 1	M 3
T 4	18 47 56	12° 0'24	21°56	26°11	5°42	10°50	24°10	10°31	2°59	10°58	12°28	26°30	28° 3	16°11	9° 7	T 4
W 5	18 51 53	12°57'38	5 <sup>0</sup> 7	28° 2	6°55	11°28	24°23	10°26	2°56	10°57	12°27	26°26	28° 0	16°17	9°13	W 5
T 6	18 55 49	13°54'51	17°57	29°56	8° 8	12° 5	24°37	10°22	2°54	10°55	12°27	26°24	27°56	16°24	9°19	T 6
F 7	18 59 46	14°52'05	0 <sup>0</sup> 29	1 <sup>55</sup> 52	9°21	12°43	24°50	10°18	2°51	10°54	12°26	26°D23	27°53	16°31	9°25	F 7
S 8	19 3 42	15°49'18	12°44	3°51	10°34	13°20	25° 4	10°13	2°49	10°52	12°26	26°24	27°50	16°37	9°31	S 8
S 9	19 7 39	16°46'31	24°47	5°52	11°47	13°58	25°17	10° 9	2°47	10°50	12°25	26°26	27°47	16°44	9°37	S 9
M10	19 11 35	17°43'44	6 <sup>55</sup> 41	7°55	12°59	14°35	25°30	10° 4	2°44	10°49	12°25	26°27	27°44	16°51	9°43	M10
T 11	19 15 32	18°40'57	18°32	10° 0	14°12	15°13	25°44	10° 0	2°42	10°47	12°24	26°R28	27°40	16°57	9°49	T 11
W12	19 19 29	19°38'10	0 <sup>0</sup> 25	12° 6	15°25	15°50	25°57	9°56	2°40	10°45	12°24	26°27	27°37	17° 4	9°55	W12
T 13	19 23 25	20°35'22	12°25	14°14	16°38	16°28	26°10	9°51	2°37	10°44	12°24	26°25	27°34	17°11	10° 1	T 13
F 14	19 27 22	21°32'35	24°35	16°22	17°50	17° 5	26°23	9°47	2°35	10°42	12°23	26°21	27°31	17°17	10° 7	F 14
S 15	19 31 18	22°29'48	7 <sup>55</sup> 1	18°31	19° 3	17°43	26°36	9°43	2°33	10°41	12°23	26°17	27°28	17°24	10°13	S 15
S 16	19 35 15	23°27'02	19°43	20°40	20°16	18°20	26°50	9°38	2°31	10°39	12°23	26°12	27°25	17°31	10°19	S 16
M17	19 39 11	24°24'15	2 <sup>3</sup> 44	22°49	21°28	18°58	27° 3	9°34	2°28	10°38	12°23	26° 6	27°21	17°38	10°24	M17
T 18	19 43 8	25°21'29	16° 3	24°57	22°41	19°36	27°16	9°30	2°26	10°36	12°22	26° 2	27°18	17°44	10°30	T 18
W19	19 47 5	26°18'43	29°40	27° 5	23°53	20°13	27°29	9°26	2°24	10°34	12°22	25°59	27°15	17°51	10°36	W19
T 20	19 51 1	27°15'57	13 <sup>55</sup> 31	29°12	25° 6	20°51	27°42	9°22	2°22	10°33	12°22	25°57	27°12	17°58	10°42	T 20
F 21	19 54 58	28°13'12	27°35	1 <sup>0</sup> 18	26°18	21°28	27°54	9°18	2°20	10°31	12°22	25°D56	27° 9	18° 4	10°48	F 21
S 22	19 58 54	29°10'28	11 <sup>55</sup> 46	3°23	27°31	22° 6	28° 7	9°14	2°18	10°30	12°22	25°57	27° 6	18°11	10°54	S 22
S 23	20 2 51	0 <sup>0</sup> 7'44	26° 2	5°27	28°43	22°44	28°20	9°10	2°16	10°28	12°D22	25°58	27° 2	18°18	11° 0	S 23
M24	20 6 47	1° 5'01	10 <sup>0</sup> Y19	7°30	29°55	23°21	28°33	9° 6	2°14	10°27	12°22	25°59	26°59	18°24	11° 5	M24
T25	20 10 44	2° 2'20	24°34	9°31	1 <sup>0</sup> 8	23°59	28°45	9° 2	2°12	10°25	12°22	26° 0	26°56	18°31	11°11	T25
W26	20 14 40	2°59'39	8 <sup>55</sup> 46	11°30	2°20	24°37	28°58	8°58	2°10	10°24	12°22	26°R 0	26°53	18°38	11°17	W26
T 27	20 18 37	3°56'59	22°52	13°28	3°32	25°14	29°10	8°54	2° 8	10°22	12°22	25°59	26°50	18°44	11°23	T 27
F 28	20 22 34	4°54'20	6 <sup>55</sup> 49	15°25	4°45	25°52	29°23	8°50	2° 6	10°21	12°22	25°58	26°46	18°51	11°28	F 28
S 29	20 26 30	5°51'42	20°37	17°19	5°57	26°30	29°35	8°47	2° 4	10°20	12°23	25°55	26°43	18°58	11°34	S 29
S 30	20 30 27	6°49'05	4 <sup>55</sup> 13	19°12	7° 9	27° 7	29°48	8°43	2° 2	10°18	12°23	25°52	26°40	19° 5	11°40	S 30
M31	20 34 23	7 <sup>0</sup> 46'30	17 <sup>55</sup> 35	21 <sup>0</sup> 4	8 <sup>55</sup> 21	27 <sup>0</sup> 45	0 <sup>55</sup> 0	8 <sup>55</sup> 39	2 <sup>3</sup> 0	10 <sup>3</sup> 17	12 <sup>3</sup> 23	25 <sup>55</sup> 50	26 <sup>55</sup> 37	19 <sup>55</sup> 11	11 <sup>55</sup> 45	M31

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	23n 8	26n57	4n58	21n50	1s18	21n13	1n34	19n13	1n14	22n54	0s22	22s23	0n37	23s41	0s16	22s 3	0n56	0s17	16n 2	12s34	12s 6	9s45	17n11	5s59	
S 2	23 4	27 52	4 32	22 9	1 6	20 57	1 34	19 2	1 14	22 55	0 22	22 24	0 37	23 41	0 16	22 3	0 56	0 17	16 2	12 37	12 7	9 48	17 11	5 59	
M 3	22 59	27 0	3 50	22 26	0 54	20 41	1 35	18 52	1 14	22 56	0 22	22 24	0 37	23 41	0 16	22 3	0 56	0 17	16 1	12 39	12 8	9 51	17 10	5 59	
T 4	22 54	24 32	2 55	22 42	0 41	20 24	1 36	18 42	1 14	22 57	0 22	22 25	0 37	23 41	0 16	22 3	0 56	0 18	16 1	12 41	12 9	9 54	17 10	5 59	
W 5	22 49	20 49	1 53	22 57	0 29	20 6	1 36	18 31	1 13	22 57	0 22	22 25	0 37	23 41	0 16	22 4	0 56	0 18	16 0	12 43	12 10	9 57	17 9	5 59	
T 6	22 43	16 11	0 46	23 9	0 17	19 47	1 37	18 21	1 13	22 58	0 22	22 25	0 37	23 41	0 16	22 4	0 56	0 18	16 0	12 43	12 11	10 0	17 9	5 59	
F 7	22 37	10 58	0s22	23 20	0 5	19 29	1 37	18 10	1 13	22 59	0 22	22 26	0 37	23 41	0 16	22 4	0 56	0 19	15 59	12 43	12 13	10 3	17 8	5 59	
S 8	22 30	5 26	1 28	23 29	0n 6	19 9	1 37	17 59	1 13	22 59	0 22	22 26	0 37	23 41	0 16	22 4	0 56	0 19	15 59	12 43	12 14	10 7	17 8	5 59	
S 9	22 23	0s11	2 28	23 36	0 17	18 49	1 38	17 48	1 13	23 0	0 22	22 27	0 37	23 41	0 16	22 4	0 56	0 19	15 58	12 42	12 15	10 10	17 7	5 59	
M10	22 16	5 44	3 21	23 40	0 28	18 29	1 38	17 37	1 12	23 0	0 22	22 27	0 37	23 41	0 16	22 4	0 56	0 20	15 58	12 42	12 16	10 13	17 7	5 59	
T 11	22 8	11 3	4 6	23 42	0 38	18 8	1 38	17 25	1 12	23 1	0 22	22 28	0 36	23 41	0 16	22 4	0 56	0 20	15 57	12 42	12 17	10 16	17 6	6 0	
W12	22 0	15 59	4 40	23 41	0 48	17 47	1 38	17 14	1 12	23 1	0 22	22 28	0 36	23 41	0 16	22 5	0 56	0 21	15 56	12 42	12 18	10 19	17 6	6 0	
T 13	21 52	20 21	5 2	23 37	0 57	17 25	1 38	17 3	1 12	23 2	0 22	22 28	0 36	23 41	0 16	22 5	0 56	0 21	15 56	12 43	12 19	10 22	17 5	6 0	
F 14	21 43	23 57	5 11	23 31	1 5	17 3	1 38	16 51	1 11	23 2	0 22	22 29	0 36	23 41	0 16	22 5	0 56	0 21	15 55	12 44	12 20	10 25	17 5	6 0	
S 15	21 34	26 31	5 6	23 22	1 13	16 40	1 38	16 39	1 11	23 3	0 21	22 29	0 36	23 41	0 16	22 5	0 56	0 22	15 55	12 46	12 21	10 28	17 4	6 0	
S 16	21 24	27 48	4 46	23 10	1 20	16 17	1 38	16 27	1 11	23 3	0 21	22 30	0 36	23 41	0 16	22 5	0 56	0 22	15 54	12 47	12 22	10 32	17 3	6 0	
M17	21 14	27 35	4 11	22 55	1 26	15 53	1 37	16 16	1 11	23 3	0 21	22 30	0 36	23 42	0 16	22 5	0 56	0 23	15 54	12 49	12 23	10 35	17 3	6 0	
T 18	21 4	25 48	3 21	22 38	1 31	15 29	1 37	16 4	1 10	23 4	0 21	22 30	0 36	23 42	0 16	22 5	0 56	0 23	15 53	12 51	12 25	10 38	17 2	6 1	
W19	20 54	22 29	2 19	22 19	1 36	15 5	1 36	15 51	1 10	23 4	0 21	22 31	0 36	23 42	0 16	22 6	0 56	0 24	15 53	12 52	12 26	10 41	17 2	6 1	
T 20	20 43	17 51	1 8	21 57	1 40	14 40	1 36	15 39	1 10	23 4	0 21	22 31	0 36	23 42	0 16	22 6	0 56	0 24	15 52	12 52	12 27	10 44	17 1	6 1	
F 21	20 31	12 10	0n 9	21 32	1 43	14 15	1 35	15 27	1 10	23 5	0 21	22 32	0 35	23 42	0 16	22 6	0 56	0 25	15 51	12 53	12 28	10 47	17 0	6 1	
S 22	20 20	5 50	1 26	21 6	1 45	13 49	1 35	15 14	1 9	23 5	0 21	22 32	0 35	23 42	0 16	22 6	0 56	0 25	15 51	12 52	12 29	10 50	17 0	6 1	
S 23	20 8	0n50	2 38	20 38	1 47	13 23	1 34	15 2	1 9	23 5	0 21	22 32	0 35	23 42	0 16	22 6	0 56	0 26	15 50	12 52	12 30	10 53	16 59	6 2	
M24	19 55	7 27	3 40	20 8	1 47	12 57	1 33	14 49	1 9	23 5	0 21	22 33	0 35	23 42	0 16	22 6	0 56	0 26	15 50	12 51	12 31	10 56	16 58	6 2	
T25	19 43	13 41	4 29	19 36	1 48	12 30	1 32	14 37	1 9	23 5	0 21	22 33	0 35	23 42	0 16	22 6	0 56	0 27	15 49	12 51	12 32	10 59	16 58	6 2	
W26	19 30	19 10	5 0	19 3	1 47	12 4	1 31	14 24	1 8	23 6	0 21	22 34	0 35	23 42	0 16	22 7	0 56	0 28	15 49	12 51	12 33	11 2	16 57	6 2	
T 27	19 16	23 33	5 14	18 28	1 46	11 36	1 30	14 11	1 8	23 6	0 21	22 34	0 35	23 42	0 16	22 7	0 56	0 28	15 48	12 51	12 34	11 5	16 56	6 2	
F 28	19 3	26 31	5 9	17 53	1 44	11 9	1 29	13 58	1 8	23 6	0 21	22 34	0 35	23 42	0 16	22 7	0 56	0 29	15 47	12 52	12 35	11 8	16 55	6 3	
S 29	18 49	27 52	4 46	17 16	1 42	10 41	1 27	13 45	1 8	23 6	0 20	22 35	0 35	23 42	0 16	22 7	0 56	0 29	15 47	12 53	12 37	11 12	16 55	6 3	
S 30	18 34	27 30	4 7	16 38	1 39	10 13	1 26	13 32	1 7	23 6	0 20	22 35	0 34	23 42	0 16	22 7	0 56	0 30	15 46	12 54	12 38	11 15	16 54	6 3	
M31	18n20	25n31	3n15	15n59	1n36	9n45	1n25	13n18	1n 7	23n 6	0s20	22s35	0n34	23s42	0s16	22s 7	0n56	0s31	15n46	12s55	12s39	11s18	16m53	6s 3	



ASTRODIENST EPHEMERIS for the year 1989  
geocentric

AUGUST 1989

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	20 38 20	8♂43'55	0♂43	22♂54	9♂33	28♂23	0♂12	8°R36	1°R58	10°R15	12♂23	25°R48	26♂34	19♂18	11♂51	T 1
W 2	20 42 16	9°41'20	13°35	24°42	10°46	29° 1	0°25	8♂32	1♂57	10♂14	12°24	25♂47	26°31	19°25	11°56	W 2
T 3	20 46 13	10°38'47	26°12	26°28	11°58	29°39	0°37	8°29	1°55	10°13	12°24	25°D46	26°27	19°31	12° 2	T 3
F 4	20 50 9	11°36'15	8♂35	28°13	13°10	0♂16	0°49	8°26	1°53	10°11	12°24	25°47	26°24	19°38	12° 8	F 4
S 5	20 54 6	12°33'43	20°45	29°56	14°22	0°54	1° 1	8°22	1°51	10°10	12°25	25°48	26°21	19°45	12°13	S 5
S 6	20 58 3	13°31'12	2♂45	1♂38	15°34	1°32	1°13	8°19	1°50	10° 9	12°25	25°49	26°18	19°51	12°18	S 6
M 7	21 1 59	14°28'42	14°39	3°18	16°46	2°10	1°24	8°16	1°48	10° 7	12°26	25°50	26°15	19°58	12°24	M 7
T 8	21 5 56	15°26'12	26°30	4°56	17°58	2°48	1°36	8°13	1°47	10° 6	12°26	25°51	26°12	20° 5	12°29	T 8
W 9	21 9 52	16°23'44	8♂23	6°33	19° 9	3°26	1°48	8°10	1°45	10° 5	12°27	25°51	26° 8	20°11	12°35	W 9
T 10	21 13 49	17°21'16	20°22	8° 8	20°21	4° 4	1°59	8° 7	1°44	10° 4	12°27	25°R51	26° 5	20°18	12°40	T 10
F 11	21 17 45	18°18'49	2♂32	9°42	21°33	4°42	2°11	8° 4	1°42	10° 3	12°28	25°51	26° 2	20°25	12°45	F 11
S 12	21 21 42	19°16'24	14°57	11°14	22°45	5°20	2°22	8° 1	1°41	10° 1	12°29	25°51	25°59	20°32	12°51	S 12
S 13	21 25 38	20°13'59	27°42	12°44	23°56	5°57	2°34	7°59	1°40	10° 0	12°29	25°50	25°56	20°38	12°56	S 13
M14	21 29 35	21°11'35	10♂48	14°13	25° 8	6°35	2°45	7°56	1°38	9°59	12°30	25°49	25°52	20°45	13° 1	M14
T 15	21 33 32	22° 9'12	24°17	15°40	26°20	7°13	2°56	7°53	1°37	9°58	12°31	25°49	25°49	20°52	13° 6	T 15
W16	21 37 28	23° 6'50	8♂ 8	17° 6	27°31	7°51	3° 7	7°51	1°36	9°57	12°32	25°49	25°46	20°58	13°11	W16
T 17	21 41 25	24° 4'29	2♂20	18°30	28°43	8°29	3°18	7°49	1°35	9°56	12°33	25°D49	25°43	21° 5	13°16	T 17
F 18	21 45 21	25° 2'10	6♂48	19°52	29°54	9° 8	3°29	7°46	1°33	9°55	12°33	25°49	25°40	21°12	13°21	F 18
S 19	21 49 18	25°59'52	21°26	21°12	1♂ 6	9°46	3°40	7°44	1°32	9°54	12°34	25°R49	25°37	21°18	13°26	S 19
S 20	21 53 14	26°57'35	6°Y 8	22°31	2°17	10°24	3°51	7°42	1°31	9°53	12°35	25°48	25°33	21°25	13°31	S 20
M21	21 57 11	27°55'20	20°48	23°48	3°28	11° 2	4° 1	7°40	1°30	9°52	12°36	25°48	25°30	21°32	13°36	M21
T 22	22 1 7	28°53'07	5♂19	25° 3	4°39	11°40	4°12	7°38	1°29	9°51	12°37	25°48	25°27	21°39	13°41	T 22
W23	22 5 4	29°50'55	19°38	26°16	5°51	12°18	4°22	7°36	1°28	9°50	12°38	25°48	25°24	21°45	13°46	W23
T 24	22 9 1	0♂48'45	3♂42	27°27	7° 2	12°56	4°33	7°34	1°28	9°49	12°39	25°D48	25°21	21°52	13°50	T 24
F 25	22 12 57	1°46'37	17°29	28°36	8°13	13°34	4°43	7°33	1°27	9°48	12°40	25°48	25°18	21°59	13°55	F 25
S 26	22 16 54	2°44'31	1♂ 0	29°43	9°24	14°13	4°53	7°31	1°26	9°48	12°41	25°48	25°14	22° 5	14° 0	S 26
S 27	22 20 50	3°42'27	14°14	0♂48	10°35	14°51	5° 3	7°29	1°25	9°47	12°43	25°49	25°11	22°12	14° 4	S 27
M28	22 24 47	4°40'24	27°13	1°50	11°46	15°29	5°13	7°28	1°25	9°46	12°44	25°50	25° 8	22°19	14° 9	M28
T 29	22 28 43	5°38'23	9♂59	2°50	12°57	16° 7	5°23	7°27	1°24	9°45	12°45	25°51	25° 5	22°25	14°13	T 29
W30	22 32 40	6°36'23	22°31	3°47	14° 8	16°46	5°33	7°25	1°23	9°44	12°46	25°R51	25° 2	22°32	14°18	W30
T 31	22 36 36	7♂34'26	4♂53	4♂41	15♂19	17♂24	5♂43	7♂24	1♂23	9♂44	12♂48	25♂51	24♂58	22♂39	14♂22	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	22n11	2n14	15n20	1n32	9n16	1n23	13n 5	1n 7	23n 6	0s20	22s36	0n34	23s42	0s16	22s 7
W 2	17 50	17 49	1 7	14 40	1 27	8 48	1 22	12 52	1 7	23 6	0 20	22 36	0 34	23 42	0 16	22 7
T 3	17 34	12 45	0s 2	13 59	1 23	8 19	1 20	12 38	1 6	23 6	0 20	22 36	0 34	23 42	0 16	22 8
F 4	17 18	7 16	1 10	13 18	1 17	7 49	1 18	12 24	1 6	23 6	0 20	22 37	0 34	23 42	0 16	22 8
S 5	17 2	1 37	2 14	12 37	1 12	7 20	1 16	12 11	1 6	23 6	0 20	22 37	0 34	23 42	0 16	22 8
S 6	16 46	4s 1	3 11	11 55	1 6	6 50	1 15	11 57	1 5	23 6	0 20	22 37	0 34	23 42	0 16	22 8
M 7	16 29	9 26	3 59	11 13	0 59	6 21	1 13	11 43	1 5	23 6	0 20	22 38	0 34	23 42	0 16	22 8
T 8	16 13	14 31	4 36	10 31	0 53	5 51	1 11	11 29	1 5	23 6	0 20	22 38	0 33	23 42	0 16	22 8
W 9	15 55	19 4	5 2	9 49	0 46	5 21	1 9	11 15	1 5	23 6	0 20	22 38	0 33	23 42	0 16	22 8
T 10	15 38	22 54	5 15	9 7	0 38	4 50	1 6	11 1	1 4	23 6	0 20	22 39	0 33	23 42	0 16	22 8
F 11	15 21	25 49	5 15	8 25	0 31	4 20	1 4	10 47	1 4	23 6	0 20	22 39	0 33	23 42	0 16	22 9
S 12	15 3	27 33	4 59	7 42	0 23	3 50	1 2	10 33	1 4	23 6	0 20	22 39	0 33	23 42	0 16	22 9
S 13	14 45	27 55	4 29	7 1	0 15	3 19	1 0	10 19	1 3	23 6	0 20	22 39	0 33	23 42	0 16	22 9
M14	14 26	26 44	3 44	6 19	0 6	2 48	0 57	10 4	1 3	23 5	0 19	22 40	0 33	23 42	0 16	22 9
T 15	14 8	23 59	2 46	5 37	0s 2	2 18	0 55	9 50	1 3	23 5	0 19	22 40	0 33	23 42	0 16	22 9
W16	13 49	19 47	1 36	4 56	0 11	1 47	0 52	9 35	1 3	23 5	0 19	22 40	0 32	23 42	0 16	22 9
T 17	13 30	14 22	0 19	4 15	0 20	1 16	0 49	9 21	1 2	23 5	0 19	22 40	0 32	23 42	0 16	22 9
F 18	13 11	8 5	1n 1	3 35	0 29	0 45	0 47	9 6	1 2	23 5	0 19	22 41	0 32	23 42	0 16	22 9
S 19	12 51	1 17	2 17	2 55	0 38	0 14	0 44	8 52	1 2	23 4	0 19	22 41	0 32	23 42	0 16	22 9
S 20	12 32	5n35	3 26	2 15	0 47	0s17	0 41	8 37	1 1	23 4	0 19	22 41	0 32	23 42	0 16	22 10
M21	12 12	12 8	4 20	1 36	0 56	0 48	0 38	8 22	1 1	23 4	0 19	22 41	0 32	23 42	0 16	22 10
T 22	11 52	17 58	4 57	0 58	1 6	1 19	0 35	8 7	1 1	23 4	0 19	22 42	0 32	23 42	0 16	22 10
W23	11 32	22 42	5 15	0 20	1 15	1 50	0 32	7 53	1 0	23 3	0 19	22 42	0 32	23 42	0 16	22 10
T 24	11 11	26 2	5 14	0s17	1 25	2 21	0 29	7 38	1 0	23 3	0 19	22 42	0 31	23 42	0 16	22 10
F 25	10 51	27 45	4 55	0 53	1 35	2 51	0 26	7 23	1 0	23 3	0 19	22 42	0 31	23 42	0 16	22 10
S 26	10 30	27 46	4 19	1 29	1 44	3 22	0 23	7 8	0 59	23 2	0 19	22 43	0 31	23 42	0 16	22 10
S 27	10 9	26 10	3 31	2 3	1 54	3 53	0 20	6 53	0 59	23 2	0 19	22 43	0 31	23 42	0 16	22 10
M28	9 48	23 12	2 32	2 37	2 3	4 24	0 17	6 38	0 59	23 2	0 19	22 43	0 31	23 42	0 16	22 10
T 29	9 27	19 9	1 27	3 10	2 13	4 55	0 13	6 22	0 58	23 1	0 19	22 43	0 31	23 42	0 16	22 10
W30	9 5	14 18	0 18	3 41	2 23	5 25	0 10	6 7	0 58	23 1	0 19	22 43	0 31	23 42	0 16	22 11
T 31	8n44	8n57	0s50	4s11	2s32	5s56	0n 6	5n52	0n58	23n 1	0s18	22s44	0n31	23s42	0s16	22s11

Julian Day Number = 2447739.5, Delta T = 56.61 sec  
Ecliptic obliquity = 23°26'34", Nutation = 0°00'11", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 24°35'41", Lahiri = 23°42'42"

## ASTRODIENST EPHEMERIS for the year 1989

geocentric

SEPTEMBER 1989

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	22 40 33	8 <sup>h</sup> 32'29"	17 <sup>h</sup> 4	5 <sup>h</sup> 32'	16 <sup>h</sup> 30'	18 <sup>h</sup> 2	5 <sup>h</sup> 52'	7 <sup>h</sup> R23	1 <sup>h</sup> R22	9 <sup>h</sup> R43	12 <sup>h</sup> M49	25 <sup>h</sup> R50	24 <sup>h</sup> 55'	22 <sup>h</sup> 46'	14 <sup>h</sup> 26'	F 1
S 2	22 44 30	9°30'35"	29° 6'	6°20'	17°40'	18°41'	6° 2'	7 <sup>h</sup> 32'	1 <sup>h</sup> 32'	9 <sup>h</sup> 343	12°50'	25 <sup>h</sup> 49'	24°52'	22°52'	14°31'	S 2
S 3	22 48 26	10°28'42"	11 <sup>h</sup> 3	7° 5'	18°51'	19°19'	6°11'	7°21'	1°22'	9°42'	12°52'	25°47'	24°49'	22°59'	14°35'	S 3
M 4	22 52 23	11°26'50"	22°54'	7°46'	20° 1'	19°57'	6°20'	7°21'	1°21'	9°41'	12°53'	25°44'	24°46'	23° 6'	14°39'	M 4
T 5	22 56 19	12°25'00"	4 <sup>h</sup> M45	8°24'	21°12'	20°36'	6°29'	7°20'	1°21'	9°41'	12°54'	25°42'	24°43'	23°12'	14°43'	T 5
W 6	23 0 16	13°23'12"	16°37'	8°57'	22°22'	21°14'	6°38'	7°19'	1°21'	9°40'	12°56'	25°40'	24°39'	23°19'	14°47'	W 6
T 7	23 4 12	14°21'25"	28°34'	9°26'	23°33'	21°53'	6°47'	7°19'	1°20'	9°40'	12°57'	25°38'	24°36'	23°26'	14°51'	T 7
F 8	23 8 9	15°19'40"	10 <sup>h</sup> 42'	9°50'	24°43'	22°31'	6°55'	7°19'	1°20'	9°39'	12°59'	25°D37	24°33'	23°32'	14°55'	F 8
S 9	23 12 5	16°17'56"	23° 4'	10° 9'	25°54'	23°10'	7° 4'	7°18'	1°20'	9°39'	13° 0'	25°37'	24°30'	23°39'	14°59'	S 9
S 10	23 16 2	17°16'14"	5 <sup>h</sup> 34'	10°23'	27° 4'	23°48'	7°12'	7°18'	1°D20	9°39'	13° 2'	25°38'	24°27'	23°46'	15° 3'	S 10
M 11	23 19 58	18°14'33"	18°44'	10°31'	28°14'	24°27'	7°21'	7°D18	1°20'	9°38'	13° 3'	25°40'	24°24'	23°53'	15° 6'	M 11
T 12	23 23 55	19°12'54"	2 <sup>h</sup> 16'	10°R34	29°24'	25° 6'	7°29'	7°18'	1°20'	9°38'	13° 5'	25°41'	24°20'	23°59'	15°10'	T 12
W 13	23 27 52	20°11'16"	16°11'	10°30'	0 <sup>h</sup> M34	25°44'	7°37'	7°18'	1°20'	9°38'	13° 7'	25°42'	24°17'	24° 6'	15°14'	W 13
T 14	23 31 48	21° 9'40"	0 <sup>h</sup> 32'	10°19'	1°44'	26°23'	7°45'	7°18'	1°21'	9°37'	13° 8'	25°R42	24°14'	24°13'	15°17'	T 14
F 15	23 35 45	22° 8'06"	15°15'	10° 2'	2°54'	27° 1'	7°53'	7°19'	1°21'	9°37'	13°10'	25°41'	24°11'	24°19'	15°21'	F 15
S 16	23 39 41	23° 6'34"	0 <sup>h</sup> Y14	9°38'	4° 3'	27°40'	8° 0'	7°19'	1°21'	9°37'	13°12'	25°39'	24° 8'	24°26'	15°24'	S 16
S 17	23 43 38	24° 5'03"	15°20'	9° 7'	5°13'	28°19'	8° 8'	7°20'	1°21'	9°37'	13°13'	25°35'	24° 4'	24°33'	15°27'	S 17
M 18	23 47 34	25° 3'34"	0 <sup>h</sup> 32'	8°29'	6°23'	28°58'	8°15'	7°20'	1°22'	9°37'	13°15'	25°31'	24° 1'	24°40'	15°31'	M 18
T 19	23 51 31	26° 2'08"	15°16'	7°45'	7°32'	29°36'	8°22'	7°21'	1°22'	9°37'	13°17'	25°27'	23°58'	24°46'	15°34'	T 19
W 20	23 55 27	27° 0'44"	29°51'	6°55'	8°42'	0 <sup>h</sup> 15'	8°29'	7°22'	1°23'	9°37'	13°19'	25°24'	23°55'	24°53'	15°37'	W 20
T 21	23 59 24	27°59'22"	14 <sup>h</sup> 2	5°59'	9°51'	0°54'	8°36'	7°23'	1°23'	9°D37	13°21'	25°22'	23°52'	25° 0'	15°40'	T 21
F 22	0 3 21	28°58'03"	27°50'	4°59'	11° 0'	1°33'	8°43'	7°24'	1°24'	9°37'	13°23'	25°D21	23°49'	25° 6'	15°43'	F 22
S 23	0 7 17	29°56'45"	11 <sup>h</sup> 34'	3°56'	12° 9'	2°12'	8°50'	7°25'	1°25'	9°37'	13°24'	25°21'	23°45'	25°13'	15°46'	S 23
S 24	0 11 14	0 <sup>h</sup> 55'30"	24°16'	2°51'	13°18'	2°51'	8°56'	7°26'	1°25'	9°37'	13°26'	25°23'	23°42'	25°20'	15°49'	S 24
M 25	0 15 10	1°54'17"	7 <sup>h</sup> 0	1°45'	14°27'	3°30'	9° 2'	7°27'	1°26'	9°37'	13°28'	25°24'	23°39'	25°26'	15°51'	M 25
T 26	0 19 7	2°53'06"	19°29'	0°40'	15°36'	4° 8'	9° 9'	7°29'	1°27'	9°37'	13°30'	25°R26	23°36'	25°33'	15°54'	T 26
W 27	0 23 3	3°51'58"	1 <sup>h</sup> 46'	29 <sup>h</sup> 38'	16°45'	4°47'	9°15'	7°30'	1°28'	9°37'	13°32'	25°25'	23°33'	25°40'	15°57'	W 27
T 28	0 27 0	4°50'51"	13°53'	28°41'	17°54'	5°26'	9°20'	7°32'	1°28'	9°37'	13°34'	25°24'	23°29'	25°47'	15°59'	T 28
F 29	0 30 56	5°49'47"	25°54'	27°50'	19° 2'	6° 6'	9°26'	7°33'	1°29'	9°37'	13°36'	25°20'	23°26'	25°53'	16° 2'	F 29
S 30	0 34 53	6 <sup>h</sup> 48'45"	7 <sup>h</sup> 49'	27 <sup>h</sup> 6'	20 <sup>h</sup> 11'	6 <sup>h</sup> 45'	9 <sup>h</sup> 32'	7 <sup>h</sup> 35'	1 <sup>h</sup> 30'	9 <sup>h</sup> 38'	13 <sup>h</sup> M38	25 <sup>h</sup> 14'	23 <sup>h</sup> 23'	26 <sup>h</sup> 0	16 <sup>h</sup> 24'	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	8n22	3n21	1s55	4s40	2s41	6s26	0n 3	5n37	0n57	23n 0	0s18	22s44	0n30	23s42	0s16	22s11	0n55	0s55	15n28	12s55	13s13	12s54	16n26	6s15	
S 2	8 0	2s18	2 54	5 7	2 50	6 57	0s 1	5 21	0 57	23 0	0 18	22 44	0 30	23 42	0 16	22 11	0 55	0 56	15 27	12 55	13 14	12 57	16 25	6 16	
S 3	7 38	7 49	3 44	5 33	2 59	7 27	0 4	5 6	0 57	23 0	0 18	22 44	0 30	23 42	0 16	22 11	0 55	0 57	15 27	12 56	13 15	13 0	16 25	6 16	
M 4	7 16	13 0	4 25	5 57	3 8	7 57	0 8	4 51	0 56	22 59	0 18	22 44	0 30	23 42	0 16	22 11	0 55	0 58	15 26	12 57	13 16	13 3	16 24	6 17	
T 5	6 54	17 43	4 54	6 20	3 16	8 27	0 11	4 35	0 56	22 59	0 18	22 45	0 30	23 42	0 16	22 11	0 54	0 58	15 26	12 57	13 17	13 6	16 23	6 17	
W 6	6 32	21 46	5 11	6 40	3 24	8 56	0 15	4 20	0 56	22 59	0 18	22 45	0 30	23 42	0 16	22 11	0 54	0 59	15 25	12 58	13 18	13 9	16 22	6 18	
T 7	6 9	24 57	5 15	6 59	3 31	9 26	0 19	4 4	0 55	22 58	0 18	22 45	0 30	23 42	0 16	22 11	0 54	1 0	15 25	12 59	13 19	13 11	16 21	6 18	
F 8	5 47	27 4	5 4	7 15	3 38	9 55	0 22	3 49	0 55	22 58	0 18	22 45	0 30	23 42	0 16	22 11	0 54	1 1	15 24	12 59	13 20	13 14	16 20	6 19	
S 9	5 24	27 55	4 40	7 28	3 45	10 25	0 26	3 33	0 55	22 57	0 18	22 45	0 29	23 42	0 16	22 11	0 54	1 2	15 24	12 59	13 21	13 17	16 19	6 19	
S 10	5 2	27 20	4 1	7 39	3 51	10 54	0 30	3 17	0 54	22 57	0 18	22 45	0 29	23 42	0 16	22 11	0 54	1 3	15 23	12 59	13 23	13 20	16 18	6 20	
M11	4 39	25 15	3 9	7 47	3 56	11 22	0 34	3 2	0 54	22 57	0 18	22 45	0 29	23 42	0 16	22 11	0 54	1 4	15 23	12 58	13 24	13 23	16 17	6 20	
T 12	4 16	21 42	2 5	7 52	4 0	11 51	0 37	2 46	0 54	22 56	0 18	22 46	0 29	23 42	0 16	22 12	0 54	1 5	15 22	12 58	13 25	13 26	16 16	6 21	
W13	3 53	16 49	0 52	7 53	4 3	12 19	0 41	2 31	0 53	22 56	0 18	22 46	0 29	23 42	0 16	22 12	0 54	1 5	15 22	12 57	13 26	13 29	16 15	6 21	
T 14	3 30	10 52	0n26	7 51	4 5	12 47	0 45	2 15	0 53	22 55	0 18	22 46	0 29	23 42	0 16	22 12	0 54	1 6	15 22	12 57	13 27	13 32	16 14	6 22	
F 15	3 7	4 12	1 45	7 45	4 6	13 15	0 49	1 59	0 53	22 55	0 18	22 46	0 29	23 42	0 16	22 12	0 54	1 7	15 21	12 58	13 28	13 35	16 14	6 22	
S 16	2 44	2n49	2 58	7 35	4 6	13 42	0 53	1 44	0 52	22 55	0 17	22 46	0 28	23 42	0 16	22 12	0 54	1 8	15 21	12 58	13 29	13 38	16 13	6 23	
S 17	2 21	9 43	3 59	7 21	4 4	14 9	0 57	1 28	0 52	22 54	0 17	22 46	0 28	23 42	0 16	22 12	0 54	1 9	15 20	13 0	13 30	13 41	16 12	6 24	
M18	1 58	16 2	4 43	7 3	4 0	14 36	1 1	1 12	0 51	22 54	0 17	22 46	0 28	23 42	0 16	22 12	0 54	1 10	15 20	13 1	13 31	13 43	16 11	6 24	
T 19	1 35	21 19	5 8	6 40	3 55	15 3	1 5	0 56	0 51	22 53	0 17	22 46	0 28	23 42	0 16	22 12	0 54	1 11	15 19	13 2	13 32	13 46	16 10	6 25	
W20	1 11	25 11	5 11	6 14	3 48	15 29	1 9	0 40	0 51	22 53	0 17	22 46	0 28	23 42	0 16	22 12	0 54	1 12	15 19	13 3	13 33	13 49	16 9	6 25	
T 21	0 48	27 23	4 56	5 43	3 39	15 55	1 13	0 25	0 50	22 53	0 17	22 46	0 28	23 42	0 16	22 12	0 54	1 13	15 19	13 4	13 34	13 52	16 8	6 26	
F 22	0 25	27 49	4 24	5 9	3 28	16 21	1 17	0 9	0 50	22 52	0 17	22 46	0 28	23 42	0 16	22 12	0 54	1 14	15 18	13 4	13 35	13 55	16 7	6 26	
S 23	0 1	26 35	3 38	4 32	3 15	16 46	1 20	0s 7	0 50	22 52	0 17	22 47	0 28	23 42	0 16	22 12	0 54	1 14	15 18	13 4	13 36	13 58	16 6	6 27	
S 24	0s22	23 55	2 42	3 53	3 0	17 11	1 24	0 23	0 49	22 52	0 17	22 47	0 27	23 42	0 16	22 12	0 54	1 15	15 17	13 4	13 37	14 1	16 5	6 28	
M25	0 45	20 7	1 39	3 12	2 43	17 35	1 28	0 39	0 49	22 51	0 17	22 47	0 27	23 42	0 16	22 12	0 54	1 16	15 17	13 3	13 38	14 4	16 4	6 28	
T 26	1 9	15 29	0 32	2 30	2 26	17 59	1 32	0 54	0 48	22 51	0 17	22 47	0 27	23 42	0 16	22 12	0 54	1 17	15 17	13 3	13 39	14 6	16 4	6 29	
W27	1 32	10 19	0s34	1 48	2 7	18 23	1 36	1 10	0 48	22 50	0 17	22 47	0 27	23 42	0 16	22 12	0 54	1 18	15 16	13 3	13 40	14 9	16 3	6 29	
T 28	1 56	4 49	1 39	1 7	1 47	18 46	1 40	1 26	0 48	22 50	0 17	22 47	0 27	23 42	0 16	22 12	0 54	1 19	15 16	13 3	13 41	14 12	16 2	6 30	
F 29	2 19	0s47	2 38	0 28	1 27	19 9	1 44	1 42	0 47	22 50	0 17	22 47	0 27	23 42	0 16	22 12	0 54	1 20	15 16	13 3	13 43	14 15	16 1	6 31	
S 30	2s42	6s18	3s29	0n 8	1s 7	19s31	1s48	1s58	0n47	22n49	0s17	22s47	0n27	23s42	0s16	22s12	0n54	1s21	15n15	13s 7	13s44	14s18	16n 0	6s31	

# ASTRODIENST EPHEMERIS for the year 1989

## geocentric

OCTOBER 1989

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 38 50	7 <sup>h</sup> 47'44"	19 <sup>h</sup> 42'	26°R31	21 <sup>h</sup> 19'	7 <sup>h</sup> 42'	9 <sup>h</sup> 37'	7 <sup>h</sup> 37'	1 <sup>h</sup> 31'	9 <sup>h</sup> 38'	13 <sup>h</sup> 40'	25°R 7	23 <sup>h</sup> 20'	26 <sup>h</sup> 7'	16 <sup>h</sup> 6'	S 1
M 2	0 42 46	8°46'46"	1 <sup>h</sup> 32'	26 <sup>h</sup> 5	22°28'	8° 3	9°42'	7°39'	1°32'	9°38'	13°42'	24 <sup>h</sup> 59'	23°17'	26°13'	16° 8	M 2
T 3	0 46 43	9°45'50"	13°23'	25°50'	23°36'	8°42'	9°47'	7°41'	1°34'	9°39'	13°44'	24°50'	23°14'	26°20'	16°11'	T 3
W 4	0 50 39	10°44'55"	25°17'	25°D44	24°44'	9°21'	9°52'	7°43'	1°35'	9°39'	13°46'	24°42'	23°10'	26°27'	16°13'	W 4
T 5	0 54 36	11°44'03"	7 <sup>h</sup> 15'	25°50'	25°52'	10° 0	9°56'	7°45'	1°36'	9°40'	13°49'	24°35'	23° 7	26°34'	16°15'	T 5
F 6	0 58 32	12°43'12"	19°22'	26° 6	27° 0	10°40'	10° 1	7°48'	1°37'	9°40'	13°51'	24°30'	23° 4	26°40'	16°16'	F 6
S 7	1 2 29	13°42'23"	1 <sup>h</sup> 34'	26°31'	28° 7	11°19'	10° 5	7°50'	1°39'	9°41'	13°53'	24°27'	23° 1	26°47'	16°18'	S 7
S 8	1 6 25	14°41'36"	14°16'	27° 7	29°15'	11°58'	10° 9	7°53'	1°40'	9°41'	13°55'	24°D26	22°58'	26°54'	16°20'	S 8
M 9	1 10 22	15°40'51"	27°12'	27°51'	0 <sup>h</sup> 22'	12°38'	10°13'	7°55'	1°42'	9°42'	13°57'	24°27'	22°55'	27° 0	16°22'	M 9
T 10	1 14 19	16°40'07"	10 <sup>h</sup> 32'	28°43'	1°30'	13°17'	10°17'	7°58'	1°43'	9°42'	13°59'	24°28'	22°51'	27° 7	16°23'	T 10
W 11	1 18 15	17°39'25"	24°20'	29°43'	2°37'	13°56'	10°21'	8° 1	1°45'	9°43'	14° 2	24°R29	22°48'	27°14'	16°25'	W 11
T 12	1 22 12	18°38'45"	8 <sup>h</sup> 36'	0 <sup>h</sup> 50'	3°44'	14°36'	10°24'	8° 4	1°46'	9°44'	14° 4	24°28'	22°45'	27°20'	16°26'	T 12
F 13	1 26 8	19°38'06"	23°19'	2° 3	4°51'	15°15'	10°27'	8° 7	1°48'	9°44'	14° 6	24°25'	22°42'	27°27'	16°27'	F 13
S 14	1 30 5	20°37'30"	8 <sup>h</sup> 24'	3°21'	5°57'	15°55'	10°30'	8°10'	1°49'	9°45'	14° 8	24°19'	22°39'	27°34'	16°28'	S 14
S 15	1 34 1	21°36'55"	23°41'	4°43'	7° 4	16°34'	10°33'	8°13'	1°51'	9°46'	14°11'	24°12'	22°35'	27°41'	16°29'	S 15
M 16	1 37 58	22°36'23"	9 <sup>h</sup> 1	6° 9	8°10'	17°14'	10°36'	8°16'	1°53'	9°47'	14°13'	24° 3	22°32'	27°47'	16°30'	M 16
T 17	1 41 54	23°35'53"	24°11'	7°39'	9°17'	17°53'	10°38'	8°20'	1°55'	9°47'	14°15'	23°54'	22°29'	27°54'	16°31'	T 17
W 18	1 45 51	24°35'25"	9 <sup>h</sup> 11'	9°11'	10°23'	18°33'	10°41'	8°23'	1°57'	9°48'	14°18'	23°46'	22°26'	28° 1	16°32'	W 18
T 19	1 49 48	25°34'59"	23°28'	10°45'	11°28'	19°12'	10°43'	8°27'	1°58'	9°49'	14°20'	23°40'	22°23'	28° 7	16°33'	T 19
F 20	1 53 44	26°34'36"	7 <sup>h</sup> 24'	12°22'	12°34'	19°52'	10°45'	8°30'	2° 0	9°50'	14°22'	23°36'	22°20'	28°14'	16°34'	F 20
S 21	1 57 41	27°34'14"	20°51'	13°59'	13°39'	20°32'	10°46'	8°34'	2° 2	9°51'	14°25'	23°34'	22°16'	28°21'	16°34'	S 21
S 22	2 1 37	28°33'56"	3 <sup>h</sup> 25'	15°38'	14°45'	21°11'	10°48'	8°38'	2° 4	9°52'	14°27'	23°D34	22°13'	28°28'	16°35'	S 22
M 23	2 5 34	29°33'39"	16°31'	17°18'	15°50'	21°51'	10°49'	8°41'	2° 6	9°53'	14°29'	23°35'	22°10'	28°34'	16°35'	M 23
T 24	2 9 30	0 <sup>h</sup> 33'24"	28°51'	18°58'	16°55'	22°31'	10°50'	8°45'	2° 9	9°54'	14°32'	23°R35	22° 7	28°41'	16°36'	T 24
W 25	2 13 27	1°33'12"	10 <sup>h</sup> 59'	20°38'	17°59'	23°11'	10°51'	8°49'	2°11'	9°55'	14°34'	23°33'	22° 4	28°48'	16°36'	W 25
T 26	2 17 23	2°33'02"	22°58'	22°19'	19° 4	23°51'	10°52'	8°53'	2°13'	9°56'	14°36'	23°29'	22° 1	28°54'	16°36'	T 26
F 27	2 21 20	3°32'54"	4 <sup>h</sup> 51'	24° 0	20° 8	24°31'	10°52'	8°57'	2°15'	9°57'	14°39'	23°23'	21°57'	29° 1	16°R36	F 27
S 28	2 25 17	4°32'48"	16°42'	25°41'	21°12'	25°10'	10°53'	9° 2	2°18'	9°59'	14°41'	23°13'	21°54'	29° 8	16°36'	S 28
S 29	2 29 13	5°32'44"	28°33'	27°21'	22°16'	25°50'	10°R53	9° 6	2°20'	10° 0	14°44'	23° 1	21°51'	29°15'	16°36'	S 29
M 30	2 33 10	6°32'42"	10 <sup>h</sup> 25'	29° 2	23°19'	26°30'	10°53'	9°10'	2°22'	10° 1	14°46'	22°47'	21°48'	29°21'	16°36'	M 30
T 31	2 37 6	7 <sup>h</sup> 32'42"	22 <sup>h</sup> 20'	0 <sup>h</sup> 42'	24 <sup>h</sup> 22'	27 <sup>h</sup> 10'	10°52'	9°15'	2°25'	10° 2	14°48'	22 <sup>h</sup> 33'	21°45'	29°28'	16°35'	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
S 1	3s 6	11s35	4s11	0n41	0s46	19s53	1s52	2s13	0n46	22n49	0s17	22s47	0n27	23s42	0s16	22s12	0n53	1s22	15n15	13s 9	13s45	14s21	15n59	6s32			
M 2	3 29	16 25	4 42	1 9	0 27	20 15	1 55	2 29	0 46	22 49	0 16	22 47	0 27	23 42	0 16	22 12	0 53	1 23	15 14	13 12	13 46	14 24	15 58	6 32			
T 3	3 52	20 39	5 1	1 32	0 8	20 36	1 59	2 45	0 46	22 49	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 23	15 14	13 15	13 47	14 26	15 57	6 33			
W 4	4 15	24 3	5 7	1 51	0n10	20 57	2 3	3 1	0 45	22 48	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 24	15 14	13 18	13 48	14 29	15 57	6 34			
T 5	4 38	26 27	5 0	2 4	0 27	21 17	2 7	3 17	0 45	22 48	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 25	15 14	13 20	13 49	14 32	15 56	6 34			
F 6	5 2	27 39	4 39	2 12	0 42	21 36	2 10	3 32	0 44	22 48	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 26	15 13	13 21	13 50	14 35	15 55	6 35			
S 7	5 25	27 31	4 5	2 15	0 56	21 55	2 14	3 48	0 44	22 47	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 27	15 13	13 22	13 51	14 38	15 54	6 36			
S 8	5 48	25 58	3 19	2 12	1 9	22 14	2 18	4 4	0 44	22 47	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 28	15 13	13 23	13 52	14 41	15 53	6 36			
M 9	6 10	23 2	2 21	2 5	1 20	22 32	2 21	4 20	0 43	22 47	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 29	15 12	13 22	13 53	14 43	15 52	6 37			
T 10	6 33	18 47	1 14	1 53	1 30	22 49	2 25	4 35	0 43	22 47	0 16	22 47	0 26	23 42	0 16	22 12	0 53	1 30	15 12	13 22	13 54	14 46	15 52	6 38			
W 11	6 56	13 26	0 1	1 36	1 38	23 6	2 28	4 51	0 42	22 47	0 16	22 47	0 25	23 42	0 16	22 12	0 53	1 31	15 12	13 22	13 55	14 49	15 51	6 38			
T 12	7 18	7 11	1n15	1 16	1 45	23 23	2 31	5 7	0 42	22 46	0 16	22 47	0 25	23 42	0 16	22 12	0 53	1 31	15 12	13 22	13 56	14 52	15 50	6 39			
F 13	7 41	0 23	2 28	0 52	1 50	23 39	2 35	5 22	0 41	22 46	0 16	22 47	0 25	23 42	0 16	22 12	0 53	1 32	15 11	13 23	13 57	14 55	15 49	6 39			
S 14	8 3	6n35	3 33	0 25	1 54	23 54	2 38	5 38	0 41	22 46	0 16	22 46	0 25	23 42	0 16	22 12	0 53	1 33	15 11	13 25	13 58	14 57	15 48	6 40			
S 15	8 26	13 16	4 23	0s 5	1 58	24 9	2 41	5 53	0 41	22 46	0 16	22 46	0 25	23 42	0 16	22 12	0 53	1 34	15 11	13 27	13 59	15 0	15 48	6 41			
M 16	8 48	19 8	4 54	0 37	2 0	24 23	2 44	6 9	0 40	22 46	0 16	22 46	0 25	23 42	0 16	22 12	0 53	1 35	15 11	13 30	14 0	15 3	15 47	6 41			
T 17	9 10	23 44	5 4	1 11	2 1	24 36	2 48	6 24	0 40	22 46	0 15	22 46	0 25	23 42	0 16	22 12	0 53	1 36	15 10	13 33	14 1	15 6	15 46	6 42			
W 18	9 32	26 39	4 54	1 47	2 1	24 49	2 51	6 40	0 39	22 45	0 15	22 46	0 25	23 42	0 16	22 12	0 53	1 37	15 10	13 36	14 2	15 8	15 45	6 43			
T 19	9 54	27 41	4 24	2 25	2 0	25 2	2 54	6 55	0 39	22 45	0 15	22 46	0 25	23 42	0 16	22 12	0 53	1 37	15 10	13 38	14 3	15 11	15 45	6 43			
F 20	10 15	26 54	3 40	3 4	1 59	25 13	2 56	7 11	0 38	22 45	0 15	22 46	0 24	23 42	0 16	22 12	0 53	1 38	15 10	13 39	14 4	15 14	15 44	6 44			
S 21	10 37	24 33	2 45	3 44	1 57	25 24	2 59	7 26	0 38	22 45	0 15	22 46	0 24	23 42	0 16	22 12	0 53	1 39	15 9	13 40	14 5	15 17	15 43	6 45			
S 22	10 58	20 57	1 43	4 24	1 54	25 35	3 2	7 41	0 37	22 45	0 15	22 46	0 24	23 42	0 16	22 12	0 53	1 40	15 9	13 40	14 6	15 20	15 42	6 45			
M 23	11 19	16 29	0 38	5 5	1 51	25 45	3 4	7 57	0 37	22 45	0 15	22 45	0 24	23 42	0 16	22 12	0 53	1 41	15 9	13 40	14 7	15 22	15 42	6 46			
T 24	11 40	11 26	0s28	5 47	1 47	25 54	3 7	8 12	0 37	22 45	0 15	22 45	0 24	23 42	0 16	22 12	0 53	1 42	15 9	13 40	14 8	15 25	15 41	6 47			
W 25	12 1	6 2	1 31	6 28	1 43	26 3	3 9	8 27	0 36	22 45	0 15	22 45	0 24	23 42	0 16	22 12	0 53	1 42	15 9	13 40	14 9	15 28	15 40	6 47			
T 26	12 22	0 30	2 29	7 10	1 38	26 11	3 12	8 42	0 36	22 45	0 15	22 45	0 24	23 41	0 16	22 12	0 53	1 43	15 9	13 42	14 10	15 31	15 40	6 48			
F 27	12 42	5s 0	3 20	7 52	1 33	26 18	3 14	8 57	0 35	22 45	0 15	22 45	0 24	23 41	0 16	22 12	0 52	1 44	15 9	13 44	14 12	15 33	15 39	6 49			
S 28	13 2	10 18	4 2	8 34	1 28	26 25	3 16	9 12	0 35	22 45	0 15	22 45	0 24	23 41	0 16	22 12	0 52	1 45	15 8	13 47	14 13	15 36	15 38	6 49			
S 29	13 22	15 13	4 34	9 15	1 22	26 31	3 18	9 27	0 34	22 45	0 15	22 44	0 23	23 41	0 16	22 12	0 52	1 45	15 8	13 51	14 14	15 39	15 38	6 50			
M 30	13 42	19 35	4 53	9 56	1 17	26 36	3 20	9 42	0 34	22 45	0 14	22 44	0 23	23 41	0 16	22 12	0 52	1 46	15 8	13 55	14 15	15 41	15 37	6 50			
T 31	14s 2	23s11	5s 0	10s37	1n11	26s41	3s22	9s57	0n33	22n46	0s14	22s44	0n23	23s41	0s16	22s12	0n52	1s47	15n 8	14s 0	14s16	15s44	15n37	6s51			

ASTRODIENST EPHEMERIS for the year 1989  
geocentric

NOVEMBER 1989

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	2 41 3	8♉32°44	4♈19	2♉22	25♈25	27♈50	10°R52	9♈19	2♈27	10♈4	14♉51	22°R19	21♉41	29♉35	16°R35	W 1
T 2	2 44 59	9°32'48	16°23	4° 2	26°28	28°31	10°51	9°24	2°30	10° 5	14°53	22° 8	21°38	29°41	16°34	T 2
F 3	2 48 56	10°32'53	28°35	5°41	27°30	29°11	10°50	9°29	2°32	10° 6	14°56	21°59	21°35	29°48	16°34	F 3
S 4	2 52 52	11°33'00	10♈57	7°20	28°32	29°51	10°49	9°33	2°35	10° 8	14°58	21°52	21°32	29°55	16°33	S 4
S 5	2 56 49	12°33'09	23°32	8°59	29°34	0♉31	10°48	9°38	2°37	10° 9	15° 1	21°49	21°29	0♉ 2	16°32	S 5
M 6	3 0 46	13°33'19	6♈23	10°37	0♉35	1°11	10°46	9°43	2°40	10°10	15° 3	21°48	21°26	0° 8	16°31	M 6
T 7	3 4 42	14°33'31	19°36	12°15	1°36	1°51	10°44	9°48	2°43	10°12	15° 5	21°48	21°22	0°15	16°31	T 7
W 8	3 8 39	15°33'44	3♈13	13°52	2°37	2°32	10°43	9°53	2°45	10°13	15° 8	21°47	21°19	0°22	16°30	W 8
T 9	3 12 35	16°33'58	17°16	15°29	3°37	3°12	10°40	9°58	2°48	10°15	15°10	21°46	21°16	0°28	16°28	T 9
F 10	3 16 32	17°34'14	1♉45	17° 6	4°37	3°52	10°38	10° 3	2°51	10°16	15°13	21°42	21°13	0°35	16°27	F 10
S 11	3 20 28	18°34'31	16°38	18°42	5°37	4°33	10°36	10° 9	2°54	10°18	15°15	21°35	21°10	0°42	16°26	S 11
S 12	3 24 25	19°34'50	1♉49	20°18	6°36	5°13	10°33	10°14	2°56	10°19	15°18	21°25	21° 7	0°49	16°25	S 12
M13	3 28 21	20°35'11	17° 6	21°54	7°34	5°54	10°30	10°19	2°59	10°21	15°20	21°14	21° 3	0°55	16°23	M13
T 14	3 32 18	21°35'33	2♉10	23°29	8°32	6°34	10°27	10°25	3° 2	10°23	15°22	21° 2	21° 0	1° 2	16°22	T 14
W15	3 36 15	22°35'58	17°18	25° 4	9°30	7°15	10°24	10°30	3° 5	10°24	15°25	20°52	20°57	1° 9	16°20	W15
T 16	3 40 11	23°36'23	1♉53	26°39	10°27	7°55	10°20	10°36	3° 8	10°26	15°27	20°43	20°54	1°15	16°18	T 16
F 17	3 44 8	24°36'51	15°59	28°13	11°24	8°36	10°17	10°41	3°11	10°28	15°30	20°37	20°51	1°22	16°17	F 17
S 18	3 48 4	25°37'21	29°35	29°48	12°20	9°16	10°13	10°47	3°14	10°29	15°32	20°34	20°47	1°29	16°15	S 18
S 19	3 52 1	26°37'52	12♉41	1♉22	13°16	9°57	10° 9	10°53	3°17	10°31	15°34	20°32	20°44	1°36	16°13	S 19
M20	3 55 57	27°38'25	25°23	2°55	14°11	10°38	10° 5	10°58	3°20	10°33	15°37	20°32	20°41	1°42	16°11	M20
T 21	3 59 54	28°38'59	7♉44	4°29	15° 6	11°18	10° 0	11° 4	3°23	10°35	15°39	20°32	20°38	1°49	16° 9	T 21
W22	4 3 50	29°39'36	19°50	6° 2	16° 0	11°59	9°56	11°10	3°26	10°37	15°42	20°31	20°35	1°56	16° 6	W22
T 23	4 7 47	0♉40'14	1♉46	7°36	16°53	12°40	9°51	11°16	3°30	10°38	15°44	20°27	20°32	2° 2	16° 4	T 23
F 24	4 11 44	1°40'54	13°37	9° 9	17°46	13°21	9°46	11°22	3°33	10°40	15°46	20°20	20°28	2° 9	16° 2	F 24
S 25	4 15 40	2°41'35	25°27	10°42	18°37	14° 2	9°41	11°28	3°36	10°42	15°49	20°11	20°25	2°16	15°59	S 25
S 26	4 19 37	3°42'18	7♉19	12°14	19°29	14°43	9°36	11°34	3°39	10°44	15°51	19°59	20°22	2°23	15°57	S 26
M27	4 23 33	4°43'02	19°14	13°47	20°19	15°24	9°30	11°40	3°42	10°46	15°53	19°45	20°19	2°29	15°54	M27
T 28	4 27 30	5°43'48	1♉16	15°20	21° 9	16° 5	9°25	11°46	3°46	10°48	15°56	19°31	20°16	2°36	15°52	T 28
W29	4 31 26	6°44'35	13°24	16°52	21°58	16°46	9°19	11°53	3°49	10°50	15°58	19°17	20°12	2°43	15°49	W29
T 30	4 35 23	7♉45'24	25♈39	18♈24	22♈46	17♉27	9°513	11♈59	3♈52	10♈52	16♉ 0	19° 5	20° 9	2♉49	15°46	T 30

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
W 1	14s21	25s49	4s54	11s17	1n 4	26s45	3s23	10s12	0n33	22n46	0s14	22s44	0n23	23s41	0s16	22s12	0n52	1s48	15n 8	14s 4	14s17	15s47	15n36	6s52	7s 0
T 2	14 40	27 17	4 34	11 57	0 58	26 49	3 25	10 27	0 32	22 46	0 14	22 44	0 23	23 41	0 16	22 11	0 52	1 48	15 8	14 8	14 18	15 50	15 35	6 52	7 0
F 3	14 59	27 28	4 2	12 36	0 52	26 51	3 26	10 41	0 32	22 46	0 14	22 43	0 23	23 41	0 16	22 11	0 52	1 49	15 8	14 11	14 19	15 52	15 35	6 53	7 0
S 4	15 18	26 17	3 18	13 15	0 45	26 54	3 28	10 56	0 31	22 46	0 14	22 43	0 23	23 41	0 16	22 11	0 52	1 50	15 8	14 13	14 20	15 55	15 34	6 54	7 0
S 5	15 36	23 45	2 23	13 53	0 39	26 55	3 29	11 10	0 31	22 46	0 14	22 43	0 23	23 41	0 16	22 11	0 52	1 51	15 8	14 14	14 21	15 58	15 34	6 54	7 0
M 6	15 55	19 59	1 20	14 30	0 32	26 56	3 30	11 25	0 30	22 47	0 14	22 43	0 23	23 41	0 16	22 11	0 52	1 51	15 8	14 15	14 22	16 0	15 33	6 55	7 0
T 7	16 13	15 8	0 12	15 7	0 25	26 57	3 31	11 39	0 30	22 47	0 14	22 42	0 22	23 41	0 16	22 11	0 52	1 52	15 7	14 15	14 23	16 3	15 33	6 56	7 0
W 8	16 30	9 24	1n 0	15 43	0 18	26 56	3 31	11 54	0 29	22 47	0 14	22 42	0 22	23 41	0 16	22 11	0 52	1 53	15 7	14 15	14 24	16 6	15 32	6 56	7 0
T 9	16 47	3 2	2 10	16 18	0 12	26 55	3 32	12 8	0 29	22 47	0 14	22 42	0 22	23 41	0 16	22 11	0 52	1 54	15 7	14 15	14 25	16 8	15 32	6 57	7 0
F 10	17 5	3n40	3 14	16 52	0 5	26 54	3 32	12 22	0 28	22 48	0 13	22 42	0 22	23 41	0 16	22 11	0 52	1 54	15 7	14 17	14 26	16 11	15 31	6 57	7 0
S 11	17 21	10 20	4 7	17 25	0s 2	26 52	3 33	12 36	0 28	22 48	0 13	22 41	0 22	23 41	0 16	22 11	0 52	1 55	15 7	14 19	14 27	16 14	15 31	6 58	7 0
S 12	17 38	16 31	4 43	17 58	0 8	26 49	3 33	12 50	0 27	22 48	0 13	22 41	0 22	23 41	0 16	22 11	0 52	1 56	15 7	14 22	14 28	16 16	15 30	6 59	7 0
M13	17 54	21 43	4 59	18 29	0 15	26 46	3 33	13 4	0 27	22 48	0 13	22 41	0 22	23 41	0 16	22 11	0 52	1 56	15 7	14 25	14 29	16 19	15 30	6 59	7 0
T 14	18 10	25 26	4 54	19 0	0 22	26 42	3 32	13 18	0 26	22 49	0 13	22 40	0 22	23 40	0 16	22 10	0 52	1 57	15 7	14 29	14 30	16 22	15 30	7 0	7 0
W15	18 25	27 18	4 29	19 30	0 28	26 37	3 32	13 31	0 26	22 49	0 13	22 40	0 22	23 40	0 16	22 10	0 52	1 57	15 7	14 33	14 31	16 24	15 29	7 0	7 0
T 16	18 41	27 12	3 47	19 58	0 35	26 32	3 31	13 45	0 25	22 50	0 13	22 40	0 22	23 40	0 16	22 10	0 52	1 58	15 7	14 35	14 32	16 27	15 29	7 1	7 0
F 17	18 56	25 19	2 52	20 26	0 41	26 27	3 31	13 59	0 25	22 50	0 13	22 39	0 21	23 40	0 16	22 10	0 52	1 59	15 7	14 37	14 33	16 30	15 28	7 2	7 0
S 18	19 10	22 0	1 48	20 53	0 48	26 21	3 30	14 12	0 24	22 50	0 13	22 39	0 21	23 40	0 16	22 10	0 52	1 59	15 7	14 38	14 34	16 32	15 28	7 2	7 0
S 19	19 24	17 40	0 41	21 19	0 54	26 14	3 28	14 25	0 24	22 51	0 13	22 39	0 21	23 40	0 16	22 10	0 52	2 0	15 7	14 39	14 35	16 35	15 28	7 3	7 0
M20	19 38	12 40	0s26	21 43	1 0	26 7	3 27	14 39	0 23	22 51	0 12	22 38	0 21	23 40	0 16	22 10	0 52	2 1	15 8	14 39	14 36	16 38	15 27	7 3	7 0
T 21	19 52	7 17	1 30	22 7	1 6	25 59	3 25	14 52	0 23	22 52	0 12	22 38	0 21	23 40	0 16	22 10	0 52	2 1	15 8	14 39	14 37	16 40	15 27	7 4	7 0
W22	20 5	1 45	2 28	22 30	1 12	25 51	3 24	15 5	0 22	22 52	0 12	22 37	0 21	23 40	0 16	22 10	0 52	2 2	15 8	14 39	14 38	16 43	15 27	7 4	7 0
T 23	20 18	3s45	3 19	22 51	1 17	25 43	3 22	15 18	0 22	22 53	0 12	22 37	0 21	23 40	0 16	22 10	0 52	2 2	15 8	14 40	14 39	16 46	15 27	7 5	7 0
F 24	20 30	9 5	4 2	23 11	1 23	25 34	3 19	15 31	0 21	22 53	0 12	22 37	0 21	23 40	0 16	22 9	0 52	2 3	15 8	14 43	14 40	16 48	15 26	7 5	7 0
S 25	20 42	14 5	4 33	23 30	1 28	25 24	3 17	15 43	0 21	22 53	0 12	22 36	0 21	23 40	0 16	22 9	0 52	2 3	15 8	14 46	14 41	16 51	15 26	7 6	7 0
S 26	20 54	18 34	4 53	23 48	1 33	25 14	3 14	15 56	0 20	22 54	0 12	22 36	0 21	23 40	0 16	22 9	0 52	2 4	15 8	14 49	14 42	16 53	15 26	7 6	7 0
M27	21 5	22 21	5 0	24 5	1 38	25 4	3 11	16 9	0 19	22 54	0 12	22 35	0 21	23 39	0 16	22 9	0 51	2 4	15 8	14 54	14 43	16 56	15 26	7 7	7 0
T 28	21 16	25 12	4 54	24 20	1 43	24 53	3 8	16 21	0 19	22 55	0 12	22 35	0 20	23 39	0 16	22 9	0 51	2 5	15 8	14 58	14 44	16 59	15 25	7 7	7 0
W29	21 26	26 57	4 35	24 35	1 47	24 41	3 5	16 33	0 18	22 55	0 11	22 34	0 20	23 39	0 16	22 9	0 51	2 5	15 8	15 2	14 45	17 1	15 25	7 8	7 0
T 30	21s36	27s24	4s 2	24s47	1s52	24s30	3s 1	16s45	0n18	22n56	0s11	22s34	0n20	23s39	0s16	22s 9	0n51	2s 6	15n 9	15s 6	14s46	17s 4	15n25	7s 0	7 0

ASTRODIENST EPHEMERIS for the year 1989  
geocentric

DECEMBER 1989

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	4 39 19	8°46'14	8°34' 4	19°56' 23	33°18	18°8	9°R 7	12°35	3°56	10°54	16°M 3	18°R56	20°36	2°M56	15°R44	F 1
S 2	4 43 16	9°47'04	20°37	21°28	24°20	18°49	9°1	12°11	3°59	10°56	16°5	18°49	20°3	3°3	15°41	S 2
S 3	4 47 13	10°47'56	3°22	23°0	25°5	19°30	8°54	12°18	4°2	10°58	16°7	18°46	20°0	3°10	15°38	S 3
M 4	4 51 9	11°48'48	16°20	24°32	25°49	20°11	8°48	12°24	4°6	11°0	16°9	18°D45	19°57	3°16	15°35	M 4
T 5	4 55 6	12°49'41	29°33	26°3	26°33	20°52	8°41	12°31	4°9	11°2	16°12	18°45	19°53	3°23	15°32	T 5
W 6	4 59 2	13°50'35	13°38	5 27°34	27°15	21°34	8°35	12°37	4°13	11°4	16°14	18°R45	19°50	3°30	15°28	W 6
T 7	5 2 59	14°51'30	26°57	29°5	27°56	22°15	8°28	12°44	4°16	11°6	16°16	18°45	19°47	3°36	15°25	T 7
F 8	5 6 55	15°52'25	11°10	0°36	28°36	22°56	8°21	12°50	4°20	11°8	16°18	18°42	19°44	3°43	15°22	F 8
S 9	5 10 52	16°53'21	25°43	2°6	29°15	23°38	8°14	12°57	4°23	11°10	16°20	18°37	19°41	3°50	15°19	S 9
S 10	5 14 48	17°54'18	10°31	3°36	29°53	24°19	8°7	13°4	4°27	11°12	16°23	18°30	19°38	3°57	15°15	S 10
M11	5 18 45	18°55'16	25°29	5°5	0°29	25°0	7°59	13°10	4°30	11°14	16°25	18°21	19°34	4°3	15°12	M11
T 12	5 22 42	19°56'14	10°26	6°33	1°3	25°42	7°52	13°17	4°34	11°17	16°27	18°11	19°31	4°10	15°8	T 12
W13	5 26 38	20°57'13	25°14	8°1	1°37	26°23	7°45	13°24	4°37	11°19	16°29	18°2	19°28	4°17	15°5	W13
T 14	5 30 35	21°58'13	9°45	9°28	2°9	27°5	7°37	13°30	4°41	11°21	16°31	17°55	19°25	4°24	15°1	T 14
F 15	5 34 31	22°59'14	23°52	10°53	2°39	27°46	7°29	13°37	4°44	11°23	16°33	17°50	19°22	4°30	14°58	F 15
S 16	5 38 28	24°0'15	7°31	12°18	3°7	28°28	7°22	13°44	4°48	11°25	16°35	17°47	19°19	4°37	14°54	S 16
S 17	5 42 24	25°1'18	20°44	13°40	3°34	29°10	7°14	13°51	4°51	11°27	16°37	17°D47	19°15	4°44	14°50	S 17
M18	5 46 21	26°2'21	3°31	15°1	4°0	29°51	7°6	13°58	4°55	11°30	16°39	17°48	19°12	4°50	14°46	M18
T 19	5 50 18	27°3'25	15°57	16°20	4°23	0°33	6°58	14°5	4°58	11°32	16°41	17°49	19°9	4°57	14°43	T 19
W20	5 54 14	28°4'30	28°7	17°36	4°45	1°15	6°50	14°12	5°2	11°34	16°43	17°R49	19°6	5°4	14°39	W20
T 21	5 58 11	29°5'36	10°45	18°49	5°4	1°57	6°42	14°19	5°6	11°36	16°45	17°48	19°3	5°11	14°35	T 21
F 22	6 2 7	0°36'42	21°57	19°59	5°22	2°39	6°34	14°25	5°9	11°39	16°47	17°46	18°59	5°17	14°31	F 22
S 23	6 6 4	1°7'50	3°48	21°5	5°38	3°20	6°26	14°32	5°13	11°41	16°49	17°41	18°56	5°24	14°27	S 23
S 24	6 10 0	2°8'58	15°41	22°5	5°51	4°2	6°18	14°39	5°16	11°43	16°51	17°34	18°53	5°31	14°23	S 24
M25	6 13 57	3°10'06	27°41	23°1	6°3	4°44	6°10	14°46	5°20	11°45	16°53	17°26	18°50	5°37	14°19	M25
T 26	6 17 53	4°11'15	9°49	23°50	6°12	5°26	6°2	14°53	5°24	11°48	16°54	17°17	18°47	5°44	14°15	T 26
W27	6 21 50	5°12'25	22°7	24°33	6°19	6°8	5°54	15°1	5°27	11°50	16°56	17°9	18°44	5°51	14°11	W27
T 28	6 25 47	6°13'35	4°37	25°7	6°23	6°50	5°45	15°8	5°31	11°52	16°58	17°2	18°40	5°58	14°7	T 28
F 29	6 29 43	7°14'45	17°19	25°33	6°R25	7°32	5°37	15°15	5°34	11°54	17°0	16°56	18°37	6°4	14°3	F 29
S 30	6 33 40	8°15'56	0°12	25°48	6°25	8°15	5°29	15°22	5°38	11°57	17°1	16°53	18°34	6°11	13°59	S 30
S 31	6 37 36	9°17'06	13°17	25°R54	6°22	8°15	5°21	15°29	5°42	11°59	17°M 3	16°D51	18°31	6°M18	13°55	S 31

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
F 1	21s46	26s29	3s18	24s59	1s56	24s18	2s57	16s57	0n17	22n57	0s11	22s34	0n20	23s39	0s16	22s9	0n51	2s6	15n9	15s9	14s47	17s6	15n25	7s9			
S 2	21s55	24s13	2s23	25s9	2s0	24s6	2s53	17s9	0s17	22s57	0s11	22s33	0s20	23s39	0s16	22s8	0s51	2s7	15s9	15s11	14s48	17s9	15s25	7s9			
S 3	22s4	20s43	1s21	25s18	2s3	23s53	2s49	17s21	0s16	22s58	0s11	22s33	0s20	23s39	0s16	22s8	0s51	2s7	15s9	15s12	14s49	17s12	15s25	7s10			
M 4	22s12	16s9	0s13	25s26	2s6	23s40	2s44	17s33	0s16	22s58	0s11	22s32	0s20	23s39	0s16	22s8	0s51	2s8	15s9	15s12	14s50	17s14	15s24	7s10			
T 5	22s20	10s44	0n57	25s32	2s9	23s27	2s39	17s44	0s15	22s59	0s11	22s32	0s20	23s39	0s16	22s8	0s51	2s8	15s9	15s12	14s51	17s17	15s24	7s11			
W 6	22s28	4s43	2s6	25s37	2s12	23s13	2s34	17s55	0s14	22s59	0s11	22s31	0s20	23s39	0s16	22s8	0s51	2s8	15s10	15s12	14s52	17s19	15s24	7s11			
T 7	22s35	1n40	3s9	25s40	2s14	23s0	2s28	18s7	0s14	23s0	0s11	22s30	0s20	23s38	0s16	22s8	0s51	2s9	15s10	15s12	14s53	17s22	15s24	7s12			
F 8	22s42	8s7	4s2	25s42	2s16	22s46	2s22	18s18	0s13	23s0	0s10	22s30	0s20	23s38	0s16	22s7	0s51	2s9	15s10	15s13	14s54	17s24	15s24	7s12			
S 9	22s48	14s17	4s40	25s43	2s17	22s31	2s16	18s29	0s13	23s1	0s10	22s29	0s19	23s38	0s16	22s7	0s51	2s10	15s10	15s15	14s55	17s27	15s24	7s12			
S 10	22s54	19s44	5s1	25s42	2s18	22s17	2s9	18s39	0s12	23s2	0s10	22s29	0s19	23s38	0s16	22s7	0s51	2s10	15s10	15s17	14s56	17s29	15s24	7s13			
M 11	22s59	24s1	5s2	25s39	2s18	22s2	2s2	18s50	0s11	23s2	0s10	22s28	0s19	23s38	0s16	22s7	0s51	2s10	15s11	15s20	14s57	17s32	15s24	7s13			
T 12	23s4	26s39	4s42	25s35	2s18	21s48	1s55	19s1	0s11	23s3	0s10	22s28	0s19	23s38	0s16	22s7	0s51	2s11	15s11	15s23	14s58	17s35	15s24	7s14			
W 13	23s8	27s24	4s3	25s30	2s18	21s33	1s47	19s11	0s10	23s3	0s10	22s27	0s19	23s38	0s16	22s7	0s51	2s11	15s11	15s26	14s59	17s37	15s24	7s14			
T 14	23s12	26s13	3s9	25s23	2s17	21s18	1s40	19s21	0s10	23s4	0s10	22s26	0s19	23s38	0s16	22s7	0s51	2s11	15s11	15s28	15s0	17s40	15s24	7s14			
F 15	23s15	23s23	2s5	25s15	2s15	21s3	1s31	19s31	0s9	23s4	0s9	22s26	0s19	23s38	0s16	22s6	0s51	2s12	15s12	15s29	15s1	17s42	15s24	7s15			
S 16	23s18	19s17	0s55	25s5	2s13	20s48	1s23	19s41	0s8	23s5	0s9	22s25	0s19	23s37	0s16	22s6	0s51	2s12	15s12	15s30	15s2	17s45	15s24	7s15			
S 17	23s21	14s20	0s16	24s54	2s10	20s33	1s14	19s51	0s8	23s6	0s9	22s25	0s19	23s37	0s16	22s6	0s51	2s12	15s12	15s30	15s3	17s47	15s24	7s15			
M 18	23s23	8s55	1s24	24s41	2s6	20s18	1s4	20s0	0s7	23s6	0s9	22s24	0s19	23s37	0s16	22s6	0s51	2s12	15s12	15s30	15s4	17s50	15s24	7s15			
T 19	23s25	3s18	2s26	24s27	2s2	20s3	0s54	20s10	0s7	23s7	0s9	22s23	0s19	23s37	0s16	22s6	0s51	2s13	15s13	15s30	15s5	17s52	15s25	7s16			
W 20	23s26	2s18	3s20	24s12	1s56	19s48	0s44	20s19	0s6	23s7	0s9	22s23	0s19	23s37	0s16	22s6	0s51	2s13	15s13	15s30	15s6	17s55	15s25	7s16			
T 21	23s26	7s44	4s4	23s56	1s50	19s33	0s34	20s28	0s5	23s8	0s9	22s22	0s18	23s37	0s16	22s5	0s51	2s13	15s13	15s30	15s7	17s57	15s25	7s16			
F 22	23s27	12s50	4s37	23s39	1s43	19s18	0s23	20s37	0s5	23s8	0s9	22s21	0s18	23s37	0s16	22s5	0s51	2s13	15s14	15s31	15s8	18s0	15s25	7s17			
S 23	23s26	17s28	4s59	23s21	1s35	19s3	0s12	20s45	0s4	23s9	0s8	22s21	0s18	23s36	0s16	22s5	0s51	2s14	15s14	15s32	15s9	18s2	15s25	7s17			
S 24	23s26	21s26	5s7	23s3	1s26	18s49	0n0	20s54	0s4	23s9	0s8	22s20	0s18	23s36	0s16	22s5	0s51	2s14	15s14	15s34	15s10	18s5	15s25	7s17			
M 25	23s24	24s33	5s3	22s43	1s16	18s34	0s12	21s2	0s3	23s10	0s8	22s19	0s18	23s36	0s16	22s5	0s51	2s14	15s14	15s37	15s11	18s7	15s26	7s17			
T 26	23s23	26s37	4s45	22s23	1s4	18s20	0s25	21s11	0s2	23s10	0s8	22s19	0s18	23s36	0s16	22s4	0s51	2s14	15s15	15s39	15s12	18s9	15s26	7s17			
W 27	23s20	27s25	4s13	22s4	0s52	18s6	0s37	21s19	0s2	23s11	0s8	22s18	0s18	23s36	0s16	22s4	0s51	2s14	15s15	15s42	15s13	18s12	15s26	7s18			
T 28	23s18	26s50	3s29	21s44	0s38	17s52	0s51	21s26	0s1	23s11	0s8	22s17	0s18	23s36	0s16	22s4	0s51	2s14	15s15	15s44	15s14	18s14	15s26	7s18			
F 29	23s15	24s51	2s33	21s25	0s23	17s38	1s4	21s34	0s0	23s12	0s8	22s17	0s18	23s36	0s16	22s4	0s51	2s15	15s16	15s46	15s15	18s17	15s26	7s18			
S 30	23s11	21s34	1s29	21s6	0s7	17s25	1s18	21s41	0s0	23s12	0s7	22s16	0s18	23s36	0s16	22s4	0s51	2s15	15s16	15s47	15s16	18s19	15s27	7s18			
S 31	23s7	17s9	0s19	20s48	0n10	17s12	1n32	21s49	0s1	23n13	0s7	22s15	0n18	23s35	0s16	22s3	0n51	2s15	15n17	15s47	15s17	18s22	15n27	7s18			