



Astrodienst Ephemeris Tables for the year 1789

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 D5EPH

ASTRODIENST EPHEMERIS for the year 1789
geocentric

JANUARY 1789

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	6 44 14	11° 7' 13"	0° 32'	27° 48'	4° 47'	10° 9'	26° 33'	6° 42'	3° 44'	23° 9'	16° 16'	7° 17'	5° 58'	17° 53'	16° 46'	T 1
F 2	6 48 11	12° 8' 24"	12° 24'	29° 19'	6° 0'	10° 55'	26° 26'	6° 48'	3° 42'	23° 10'	16° 17'	7° 12'	5° 55'	17° 59'	16° 43'	F 2
S 3	6 52 7	13° 9' 34"	24° 21'	0° 51'	7° 14'	11° 41'	26° 18'	6° 53'	3° 40'	23° 11'	16° 19'	7° 9'	5° 52'	18° 6'	16° 40'	S 3
S 4	6 56 4	14° 10' 44"	6° 26'	2° 23'	8° 27'	12° 27'	26° 10'	6° 58'	3° 37'	23° 11'	16° 20'	7° 7'	5° 48'	18° 13'	16° 36'	S 4
M 5	7 0 1	15° 11' 54"	18° 45'	3° 55'	9° 41'	13° 13'	26° 3'	7° 4'	3° 35'	23° 12'	16° 22'	7° 0'	5° 45'	18° 19'	16° 33'	M 5
T 6	7 3 57	16° 13' 03"	18° 22'	5° 28'	10° 54'	13° 59'	25° 55'	7° 9'	3° 32'	23° 13'	16° 23'	7° 8'	5° 42'	18° 26'	16° 30'	T 6
W 7	7 7 54	17° 14' 11"	14° 21'	7° 1'	12° 7'	14° 46'	25° 47'	7° 15'	3° 30'	23° 13'	16° 25'	7° 9'	5° 39'	18° 33'	16° 27'	W 7
T 8	7 11 50	18° 15' 19"	27° 47'	8° 34'	13° 21'	15° 32'	25° 39'	7° 20'	3° 27'	23° 14'	16° 26'	7° 10'	5° 36'	18° 40'	16° 24'	T 8
F 9	7 15 47	19° 16' 27"	11° 41'	10° 8'	14° 35'	16° 18'	25° 31'	7° 26'	3° 25'	23° 14'	16° 28'	7° 11'	5° 33'	18° 46'	16° 21'	F 9
S 10	7 19 43	20° 17' 34"	26° 4'	11° 43'	15° 48'	17° 5'	25° 23'	7° 32'	3° 22'	23° 15'	16° 30'	7° 9'	5° 29'	18° 53'	16° 18'	S 10
S 11	7 23 40	21° 18' 40"	10° 50'	13° 18'	17° 2'	17° 51'	25° 15'	7° 37'	3° 20'	23° 15'	16° 31'	7° 6'	5° 26'	19° 0'	16° 15'	S 11
M 12	7 27 36	22° 19' 46"	25° 54'	14° 53'	18° 15'	18° 37'	25° 7'	7° 43'	3° 17'	23° 16'	16° 33'	7° 0'	5° 23'	19° 6'	16° 12'	M 12
T 13	7 31 33	23° 20' 52"	11° 6'	16° 29'	19° 29'	19° 24'	24° 59'	7° 49'	3° 15'	23° 16'	16° 35'	6° 53'	5° 20'	19° 13'	16° 10'	T 13
W 14	7 35 30	24° 21' 56"	26° 16'	18° 6'	20° 43'	20° 10'	24° 51'	7° 55'	3° 12'	23° 16'	16° 36'	6° 45'	5° 17'	19° 20'	16° 7'	W 14
T 15	7 39 26	25° 23' 01"	11° 14'	19° 42'	21° 57'	20° 57'	24° 43'	8° 1'	3° 9'	23° 17'	16° 38'	6° 38'	5° 14'	19° 27'	16° 4'	T 15
F 16	7 43 23	26° 24' 05"	25° 51'	21° 20'	23° 10'	21° 43'	24° 35'	8° 7'	3° 7'	23° 17'	16° 40'	6° 33'	5° 10'	19° 33'	16° 2'	F 16
S 17	7 47 19	27° 25' 09"	10° 4'	22° 58'	24° 24'	22° 30'	24° 27'	8° 13'	3° 4'	23° 17'	16° 41'	6° 29'	5° 7'	19° 40'	15° 59'	S 17
S 18	7 51 16	28° 26' 12"	23° 51'	24° 37'	25° 38'	23° 16'	24° 19'	8° 20'	3° 2'	23° 18'	16° 43'	6° 28'	5° 4'	19° 47'	15° 57'	S 18
M 19	7 55 12	29° 27' 15"	7° 12'	26° 16'	26° 52'	24° 3'	24° 11'	8° 26'	2° 59'	23° 18'	16° 45'	6° 28'	5° 1'	19° 53'	15° 54'	M 19
T 20	7 59 9	0° 28' 18"	20° 12'	27° 56'	28° 6'	24° 50'	24° 3'	8° 32'	2° 56'	23° 18'	16° 46'	6° 29'	4° 58'	20° 0'	15° 52'	T 20
W 21	8 3 5	1° 29' 20"	2° 53'	29° 36'	29° 20'	25° 36'	23° 55'	8° 38'	2° 54'	23° 18'	16° 48'	6° 30'	4° 54'	20° 7'	15° 50'	W 21
T 22	8 7 2	2° 30' 21"	15° 18'	1° 17'	0° 34'	26° 23'	23° 47'	8° 45'	2° 51'	23° 18'	16° 50'	6° 29'	4° 51'	20° 14'	15° 47'	T 22
F 23	8 10 59	3° 31' 22"	27° 33'	2° 59'	1° 48'	27° 10'	23° 39'	8° 51'	2° 49'	23° 18'	16° 52'	6° 27'	4° 48'	20° 20'	15° 45'	F 23
S 24	8 14 55	4° 32' 23"	9° 39'	4° 41'	3° 2'	27° 57'	23° 31'	8° 58'	2° 46'	23° 18'	16° 53'	6° 22'	4° 45'	20° 27'	15° 43'	S 24
S 25	8 18 52	5° 33' 22"	21° 39'	6° 24'	4° 16'	28° 43'	23° 23'	9° 4'	2° 43'	23° 18'	16° 55'	6° 14'	4° 42'	20° 34'	15° 41'	S 25
M 26	8 22 48	6° 34' 21"	3° 35'	8° 8'	5° 30'	29° 30'	23° 16'	9° 11'	2° 41'	23° 18'	16° 57'	6° 4'	4° 39'	20° 41'	15° 39'	M 26
T 27	8 26 45	7° 35' 18"	15° 29'	9° 52'	6° 44'	0° 17'	23° 8'	9° 17'	2° 38'	23° 18'	16° 59'	5° 52'	4° 35'	20° 47'	15° 37'	T 27
W 28	8 30 41	8° 36' 14"	27° 20'	11° 37'	7° 58'	1° 4'	23° 1'	9° 24'	2° 35'	23° 18'	17° 0'	5° 39'	4° 32'	20° 54'	15° 35'	W 28
T 29	8 34 38	9° 37' 10"	9° 12'	13° 22'	9° 12'	1° 51'	22° 53'	9° 31'	2° 33'	23° 18'	17° 2'	5° 26'	4° 29'	21° 1'	15° 34'	T 29
F 30	8 38 34	10° 38' 04"	21° 6'	15° 8'	10° 26'	2° 38'	22° 46'	9° 37'	2° 30'	23° 17'	17° 4'	5° 15'	4° 26'	21° 7'	15° 32'	F 30
S 31	8 42 31	11° 38' 56"	3° 4'	16° 55'	11° 40'	3° 25'	22° 38'	9° 44'	2° 28'	23° 17'	17° 6'	5° 13'	4° 23'	21° 14'	15° 31'	S 31

Delta T = 21.80 sec

Greg. Calendar

FEBRUARY 1789

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	8 46 28	12° 39' 48"	15° 9'	18° 42'	12° 54'	4° 12'	22° 31'	9° 51'	2° 25'	23° 17'	17° 8'	5° 0'	4° 20'	21° 21'	15° 29'	S 1
M 2	8 50 24	13° 40' 38"	27° 26'	20° 29'	14° 8'	4° 59'	22° 24'	9° 58'	2° 23'	23° 17'	17° 9'	4° 56'	4° 16'	21° 28'	15° 28'	M 2
T 3	8 54 21	14° 41' 26"	9° 57'	22° 17'	15° 23'	5° 46'	22° 17'	10° 5'	2° 20'	23° 16'	17° 11'	4° 55'	4° 13'	21° 34'	15° 26'	T 3
W 4	8 58 17	15° 42' 13"	22° 49'	24° 5'	16° 37'	6° 33'	22° 10'	10° 12'	2° 17'	23° 16'	17° 13'	4° 55'	4° 10'	21° 41'	15° 25'	W 4
T 5	9 2 14	16° 42' 59"	6° 11'	25° 53'	17° 51'	7° 20'	22° 4'	10° 19'	2° 15'	23° 16'	17° 15'	4° 55'	4° 7'	21° 48'	15° 24'	T 5
F 6	9 6 10	17° 43' 43"	19° 50'	27° 41'	19° 5'	8° 7'	21° 57'	10° 26'	2° 12'	23° 15'	17° 16'	4° 54'	4° 4'	21° 54'	15° 23'	F 6
S 7	9 10 7	18° 44' 25"	4° 3'	29° 29'	20° 19'	8° 54'	21° 50'	10° 33'	2° 10'	23° 15'	17° 18'	4° 51'	4° 0'	22° 1'	15° 22'	S 7
S 8	9 14 3	19° 45' 06"	18° 45'	1° 16'	21° 33'	9° 41'	21° 44'	10° 40'	2° 7'	23° 14'	17° 20'	4° 46'	3° 57'	22° 8'	15° 21'	S 8
M 9	9 18 0	20° 45' 45"	3° 49'	3° 3'	22° 48'	10° 28'	21° 38'	10° 47'	2° 5'	23° 14'	17° 22'	4° 37'	3° 54'	22° 15'	15° 20'	M 9
T 10	9 21 57	21° 46' 22"	19° 9'	4° 49'	24° 2'	11° 15'	21° 32'	10° 54'	2° 3'	23° 13'	17° 24'	4° 27'	3° 51'	22° 21'	15° 19'	T 10
W 11	9 25 53	22° 46' 58"	4° 11'	6° 33'	25° 16'	12° 2'	21° 26'	11° 1'	2° 0'	23° 12'	17° 25'	4° 16'	3° 48'	22° 28'	15° 18'	W 11
T 12	9 29 50	23° 47' 33"	19° 45'	8° 16'	26° 30'	12° 49'	21° 20'	11° 8'	1° 58'	23° 12'	17° 27'	4° 5'	3° 45'	22° 35'	15° 18'	T 12
F 13	9 33 46	24° 48' 06"	4° 40'	9° 56'	27° 44'	13° 36'	21° 14'	11° 15'	1° 55'	23° 11'	17° 29'	3° 56'	3° 41'	22° 41'	15° 17'	F 13
S 14	9 37 43	25° 48' 38"	19° 8'	11° 34'	28° 59'	14° 23'	21° 9'	11° 22'	1° 53'	23° 11'	17° 31'	3° 49'	3° 38'	22° 48'	15° 17'	S 14
S 15	9 41 39	26° 49' 09"	3° 11'	13° 9'	0° 13'	15° 11'	21° 3'	11° 30'	1° 51'	23° 10'	17° 32'	3° 45'	3° 35'	22° 55'	15° 16'	S 15
M 16	9 45 36	27° 49' 39"	16° 35'	14° 40'	1° 27'	15° 58'	20° 58'	11° 37'	1° 49'	23° 9'	17° 34'	3° 43'	3° 32'	23° 2'	15° 16'	M 16
T 17	9 49 32	28° 50' 07"	29° 37'	16° 6'	2° 41'	16° 45'	20° 53'	11° 44'	1° 46'	23° 8'	17° 36'	3° 43'	3° 29'	23° 8'	15° 16'	T 17
W 18	9 53 29	29° 50' 34"	12° 11'	17° 28'	3° 56'	17° 32'	20° 48'	11° 51'	1° 44'	23° 7'	17° 38'	3° 43'	3° 26'	23° 15'	15° 16'	W 18
T 19	9 57 26	0° 50' 59"	24° 37'	18° 44'	5° 10'	18° 19'	20° 44'	11° 59'	1° 42'	23° 7'	17° 39'	3° 42'	3° 22'	23° 22'	15° 15'	T 19
F 20	10 1 22	1° 51' 23"	6° 34'	19° 54'	6° 24'	19° 7'	20° 39'	12° 6'	1° 40'	23° 6'	17° 41'	3° 38'	3° 19'	23° 29'	15° 15'	F 20
S 21	10 5 19	2° 51' 46"	18° 44'	20° 56'	7° 38'	19° 54'	20° 35'	12° 13'	1° 38'	23° 5'	17° 43'	3° 32'	3° 16'	23° 35'	15° 16'	S 21
S 22	10 9 15	3° 52' 07"	0° 38'	21° 52'	8° 53'	20° 41'	20° 31'	12° 20'	1° 35'	23° 4'	17° 45'	3° 23'	3° 13'	23° 42'	15° 16'	S 22
M 23	10 13 12	4° 52' 27"	12° 29'	22° 39'	10° 7'	21° 28'	20° 27'	12° 28'	1° 33'	23° 3'	17° 46'	3° 11'	3° 10'	23° 49'	15° 16'	M 23
T 24	10 17 8	5° 52' 45"	24° 20'	23° 17'	11° 21'	22° 15'	20° 23'	12° 35'	1° 31'	23° 2'	17° 48'	2° 57'	3° 6'	23° 55'	15° 16'	T 24
W 25	10 21 5	6° 53' 01"	6° 13'	23° 47'	12° 36'	23° 3'	20° 19'	12° 42'	1° 29'	23° 1'	17° 50'	2° 42'	3° 3'	24° 2'	15° 17'	W 25
T 26	10 25 1	7° 53' 15"	18° 9'	24° 7'	13° 50'	23° 50'	20° 16'	12° 50'	1° 27'	23° 0'	17° 52'	2° 27'	3° 0'	24° 9'	15° 17'	T 26
F 27	10 28 58	8° 53' 27"	0° 8'	24° 18'	15° 4'	24° 37'	20° 12'	12° 57'	1° 25'	22° 59'	17° 53'	2° 14'	2° 57'	24° 16'	15° 18'	F 27
S 28	10 32 55	9° 53' 38"	12° 13'	24° 19'	16° 18'	25° 24'	20° 9'	13° 4'	1° 23'	22° 58'	17° 55'	2° 13'	2° 54'	24° 22'	15° 18'	S 28

Delta T = 21.79 sec

Greg. Calendar

ASTRODIENST EPHEMERIS for the year 1789

geocentric

MARCH 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	10 36 51	10 ^h 53'47"	24 ^h 25'	24 ^h R11	17 ^h 33'	26 ^h 12'	20 ^h R 6	13 ^h 12'	1 ^h R22	22 ^h R57	17 ^h 57'	1 ^h R55	2 ^h 51'	24 ^h 29'	15 ^h 19'	S 1
M 2	10 40 48	11 ^h 53'53"	6 ^h 47'	23 ^h 54'	18 ^h 47'	26 ^h 59'	20 ^h 4	13 ^h 19'	1 ^h 20	22 ^h 56'	17 ^h 58'	1 ^h 50	2 ^h 47'	24 ^h 36'	15 ^h 20'	M 2
T 3	10 44 44	12 ^h 53'58"	19 ^h 21'	23 ^h 29'	20 ^h 1	27 ^h 46'	20 ^h 1	13 ^h 27'	1 ^h 18	22 ^h 55'	18 ^h 0	1 ^h 48	2 ^h 44'	24 ^h 42'	15 ^h 21'	T 3
W 4	10 48 41	13 ^h 54'00"	2 ^h 12'	22 ^h 55'	21 ^h 16'	28 ^h 33'	19 ^h 59'	13 ^h 34'	1 ^h 16	22 ^h 53'	18 ^h 1	1 ^h D47	2 ^h 41'	24 ^h 49'	15 ^h 22'	W 4
T 5	10 52 37	14 ^h 54'00"	15 ^h 23'	22 ^h 15'	22 ^h 30'	29 ^h 21'	19 ^h 57'	13 ^h 41'	1 ^h 15	22 ^h 52'	18 ^h 3	1 ^h R47	2 ^h 38'	24 ^h 56'	15 ^h 23'	T 5
F 6	10 56 34	15 ^h 53'58"	28 ^h 57'	21 ^h 28'	23 ^h 44'	0 ^h 8'	19 ^h 55'	13 ^h 49'	1 ^h 13	22 ^h 51'	18 ^h 5	1 ^h 47	2 ^h 35'	25 ^h 3	15 ^h 24'	F 6
S 7	11 0 30	16 ^h 53'54"	12 ^h 58'	20 ^h 37'	24 ^h 58'	0 ^h 55'	19 ^h 53'	13 ^h 56'	1 ^h 11	22 ^h 50'	18 ^h 6	1 ^h 45	2 ^h 31'	25 ^h 9'	15 ^h 25'	S 7
S 8	11 4 27	17 ^h 53'48"	27 ^h 24'	19 ^h 42'	26 ^h 13'	1 ^h 42'	19 ^h 51'	14 ^h 3	1 ^h 10	22 ^h 48'	18 ^h 8	1 ^h 40	2 ^h 28'	25 ^h 16'	15 ^h 27'	S 8
M 9	11 8 24	18 ^h 53'39"	12 ^h 14'	18 ^h 44'	27 ^h 27'	2 ^h 29'	19 ^h 50'	14 ^h 11'	1 ^h 8	22 ^h 47'	18 ^h 10'	1 ^h 32	2 ^h 25'	25 ^h 23'	15 ^h 28'	M 9
T 10	11 12 20	19 ^h 53'28"	27 ^h 21'	17 ^h 46'	28 ^h 41'	3 ^h 17'	19 ^h 49'	14 ^h 18'	1 ^h 7	22 ^h 46'	18 ^h 11'	1 ^h 23	2 ^h 22'	25 ^h 30'	15 ^h 29'	T 10
W 11	11 16 17	20 ^h 53'15"	12 ^h 35'	16 ^h 48'	29 ^h 55'	4 ^h 4	19 ^h 48'	14 ^h 25'	1 ^h 5	22 ^h 45'	18 ^h 13'	1 ^h 12	2 ^h 19'	25 ^h 36'	15 ^h 31'	W 11
T 12	11 20 13	21 ^h 53'00"	27 ^h 47'	15 ^h 51'	1 ^h 10	4 ^h 51'	19 ^h 47'	14 ^h 33'	1 ^h 4	22 ^h 43'	18 ^h 14'	1 ^h 2	2 ^h 16'	25 ^h 43'	15 ^h 33'	T 12
F 13	11 24 10	22 ^h 52'43"	12 ^h 44'	14 ^h 58'	2 ^h 24'	5 ^h 38'	19 ^h 46'	14 ^h 40'	1 ^h 3	22 ^h 42'	18 ^h 16'	0 ^h 53	2 ^h 12'	25 ^h 50'	15 ^h 34'	F 13
S 14	11 28 6	23 ^h 52'24"	27 ^h 19'	14 ^h 7'	3 ^h 38'	6 ^h 25'	19 ^h 46'	14 ^h 47'	1 ^h 1	22 ^h 41'	18 ^h 17'	0 ^h 47	2 ^h 9'	25 ^h 56'	15 ^h 36'	S 14
S 15	11 32 3	24 ^h 52'03"	11 ^h 27'	13 ^h 22'	4 ^h 52'	7 ^h 12'	19 ^h 46'	14 ^h 55'	1 ^h 0	22 ^h 39'	18 ^h 19'	0 ^h 43	2 ^h 6'	26 ^h 3	15 ^h 38'	S 15
M 16	11 35 59	25 ^h 51'41"	25 ^h 4	12 ^h 41'	6 ^h 6'	8 ^h 0	19 ^h D46	15 ^h 2	0 ^h 59	22 ^h 38'	18 ^h 20'	0 ^h D41	2 ^h 3	26 ^h 10'	15 ^h 40'	M 16
T 17	11 39 56	26 ^h 51'17"	8 ^h 14'	12 ^h 6'	7 ^h 21'	8 ^h 47'	19 ^h 46'	15 ^h 9'	0 ^h 58	22 ^h 36'	18 ^h 22'	0 ^h 41	2 ^h 0	26 ^h 17'	15 ^h 42'	T 17
W 18	11 43 52	27 ^h 50'51"	20 ^h 58'	11 ^h 36'	8 ^h 35'	9 ^h 34'	19 ^h 46'	15 ^h 17'	0 ^h 57	22 ^h 35'	18 ^h 23'	0 ^h 42	1 ^h 57	26 ^h 23'	15 ^h 44'	W 18
T 19	11 47 49	28 ^h 50'23"	3 ^h 22'	11 ^h 13'	9 ^h 49'	10 ^h 21'	19 ^h 47'	15 ^h 24'	0 ^h 56	22 ^h 33'	18 ^h 25'	0 ^h R42	1 ^h 53	26 ^h 30'	15 ^h 46'	T 19
F 20	11 51 46	29 ^h 49'54"	15 ^h 31'	10 ^h 56'	11 ^h 3	11 ^h 8'	19 ^h 48'	15 ^h 31'	0 ^h 55	22 ^h 32'	18 ^h 26'	0 ^h 41	1 ^h 50	26 ^h 37'	15 ^h 48'	F 20
S 21	11 55 42	0 ^h 49'23"	27 ^h 29'	10 ^h 44'	12 ^h 18'	11 ^h 55'	19 ^h 49'	15 ^h 38'	0 ^h 54	22 ^h 30'	18 ^h 27'	0 ^h 37	1 ^h 47	26 ^h 43'	15 ^h 50'	S 21
S 22	11 59 39	1 ^h 48'50"	9 ^h 22'	10 ^h D39	13 ^h 32'	12 ^h 42'	19 ^h 50'	15 ^h 45'	0 ^h 53	22 ^h 29'	18 ^h 29'	0 ^h 31	1 ^h 44	26 ^h 50'	15 ^h 53'	S 22
M 23	12 3 35	2 ^h 48'15"	21 ^h 12'	10 ^h 40'	14 ^h 46'	13 ^h 29'	19 ^h 51'	15 ^h 53'	0 ^h 52	22 ^h 27'	18 ^h 30'	0 ^h 23	1 ^h 41	26 ^h 57'	15 ^h 55'	M 23
T 24	12 7 32	3 ^h 47'38"	3 ^h 4	10 ^h 46'	16 ^h 0	14 ^h 16'	19 ^h 53'	16 ^h 0	0 ^h 51	22 ^h 26'	18 ^h 31'	0 ^h 13	1 ^h 37	27 ^h 4	15 ^h 58'	T 24
W 25	12 11 28	4 ^h 46'59"	14 ^h 59'	10 ^h 58'	17 ^h 14'	15 ^h 3	19 ^h 54'	16 ^h 7'	0 ^h 50	22 ^h 24'	18 ^h 33'	0 ^h 2	1 ^h 34	27 ^h 10'	16 ^h 0	W 25
T 26	12 15 25	5 ^h 46'18"	27 ^h 1	11 ^h 14'	18 ^h 29'	15 ^h 50'	19 ^h 56'	16 ^h 14'	0 ^h 50	22 ^h 23'	18 ^h 34'	29 ^h 15'	1 ^h 31	27 ^h 17'	16 ^h 3	T 26
F 27	12 19 21	6 ^h 45'35"	9 ^h 9'	11 ^h 36'	19 ^h 43'	16 ^h 37'	19 ^h 58'	16 ^h 21'	0 ^h 49	22 ^h 21'	18 ^h 35'	29 ^h 41'	1 ^h 28	27 ^h 24'	16 ^h 6	F 27
S 28	12 23 18	7 ^h 44'50"	21 ^h 26'	12 ^h 3	20 ^h 57'	17 ^h 24'	20 ^h 1	16 ^h 28'	0 ^h 48	22 ^h 20'	18 ^h 37'	29 ^h 33'	1 ^h 25	27 ^h 31'	16 ^h 8	S 28
S 29	12 27 15	8 ^h 44'04"	3 ^h 51'	12 ^h 34'	22 ^h 11'	18 ^h 11'	20 ^h 3	16 ^h 35'	0 ^h 48	22 ^h 18'	18 ^h 38'	29 ^h 28'	1 ^h 22	27 ^h 37'	16 ^h 11'	S 29
M 30	12 31 11	9 ^h 43'14"	16 ^h 26'	13 ^h 9'	23 ^h 25'	18 ^h 58'	20 ^h 6	16 ^h 42'	0 ^h 47	22 ^h 16'	18 ^h 39'	29 ^h 25'	1 ^h 18	27 ^h 44'	16 ^h 14'	M 30
T 31	12 35 8	10 ^h 42'23"	29 ^h 14'	13 ^h 48'	24 ^h 39'	19 ^h 45'	20 ^h 8	16 ^h 49'	0 ^h 47	22 ^h 15'	18 ^h 40'	29 ^h D24	1 ^h 15	27 ^h 51'	16 ^h 17'	T 31

Delta T = 21.78 sec

Greg. Calendar

APRIL 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	12 39 4	11 ^h 41'30	12 ^h 11'15	14 ^h 31'31	25 ^h 54'54	20 ^h 32'32	20 ^h 11'11	16 ^h 56'56	0 ^h R47	22 ^h R13	18 ^h 42'42	29 ^h 15'25	1 ^h 12'12	27 ^h 55'57	16 ^h 11'20	W 1
T 2	12 43 1	12 ^h 40'34	25 ^h 31'15	15 ^h 18'18	27 ^h 8'8	21 ^h 19'19	20 ^h 15'15	17 ^h 3'3	0 ^h 46'46	22 ^h 12'12	18 ^h 43'43	29 ^h 26'26	1 ^h 9'9	28 ^h 4'4	16 ^h 23'23	T 2
F 3	12 46 57	13 ^h 39'36	9 ^h 55'5	16 ^h 8'8	28 ^h 22'22	22 ^h 6'6	20 ^h 18'18	17 ^h 10'10	0 ^h 46'46	22 ^h 10'10	18 ^h 44'44	29 ^h R27	1 ^h 6'6	28 ^h 11'11	16 ^h 26'26	F 3
S 4	12 50 54	14 ^h 38'35	22 ^h 59'12	17 ^h 1'1	29 ^h 36'36	22 ^h 52'52	20 ^h 22'22	17 ^h 17'17	0 ^h 46'46	22 ^h 8'8	18 ^h 45'45	29 ^h 27'27	1 ^h 2'2	28 ^h 18'18	16 ^h 30'30	S 4
S 5	12 54 50	15 ^h 37'33	7 ^h 12'12	17 ^h 57'57	0 ^h 50'50	23 ^h 39'39	20 ^h 25'25	17 ^h 23'23	0 ^h 46'46	22 ^h 7'7	18 ^h 46'46	29 ^h 25'25	0 ^h 59'59	28 ^h 24'24	16 ^h 33'33	S 5
M 6	12 58 47	16 ^h 36'27	21 ^h 42'42	18 ^h 56'56	2 ^h 4'4	24 ^h 26'26	20 ^h 29'29	17 ^h 30'30	0 ^h 46'46	22 ^h 5'5	18 ^h 47'47	29 ^h 21'21	0 ^h 56'56	28 ^h 31'31	16 ^h 36'36	M 6
T 7	13 2 44	17 ^h 35'20	6 ^h 12'26	19 ^h 58'58	3 ^h 18'18	25 ^h 13'13	20 ^h 33'33	17 ^h 37'37	0 ^h 45'45	22 ^h 4'4	18 ^h 48'48	29 ^h 16'16	0 ^h 53'53	28 ^h 38'38	16 ^h 40'40	T 7
W 8	13 6 40	18 ^h 34'10	21 ^h 18'18	21 ^h 2'2	4 ^h 32'32	25 ^h 59'59	20 ^h 37'37	17 ^h 44'44	0 ^h D45	22 ^h 2'2	18 ^h 49'49	29 ^h 10'10	0 ^h 50'50	28 ^h 44'44	16 ^h 43'43	W 8
T 9	13 10 37	19 ^h 32'58	6 ^h 9'9	22 ^h 9'9	5 ^h 46'46	26 ^h 46'46	20 ^h 42'42	17 ^h 50'50	0 ^h 46'46	22 ^h 0'0	18 ^h 50'50	29 ^h 3'3	0 ^h 47'47	28 ^h 51'51	16 ^h 47'47	T 9
F 10	13 14 33	20 ^h 31'44	20 ^h 52'52	23 ^h 19'19	7 ^h 0'0	27 ^h 33'33	20 ^h 46'46	17 ^h 57'57	0 ^h 46'46	21 ^h 59'59	18 ^h 51'51	28 ^h 58'58	0 ^h 43'43	28 ^h 58'58	16 ^h 50'50	F 10
S 11	13 18 30	21 ^h 30'28	5 ^h 11'18	24 ^h 30'30	8 ^h 14'14	28 ^h 19'19	20 ^h 51'51	18 ^h 4'4	0 ^h 46'46	21 ^h 57'57	18 ^h 52'52	28 ^h 55'55	0 ^h 40'40	29 ^h 5'5	16 ^h 54'54	S 11
S 12	13 22 26	22 ^h 29'10	19 ^h 21'21	25 ^h 44'44	9 ^h 28'28	29 ^h 6'6	20 ^h 56'56	18 ^h 10'10	0 ^h 46'46	21 ^h 55'55	18 ^h 53'53	28 ^h 53'53	0 ^h 37'37	29 ^h 11'11	16 ^h 58'58	S 12
M 13	13 26 23	23 ^h 27'51	3 ^h 7'0	27 ^h 0'0	10 ^h 42'42	29 ^h 52'52	21 ^h 1'1	18 ^h 17'17	0 ^h 46'46	21 ^h 54'54	18 ^h 54'54	28 ^h D52	0 ^h 34'34	29 ^h 18'18	17 ^h 1'1	M 13
T 14	13 30 19	24 ^h 26'29	16 ^h 14'14	28 ^h 19'19	11 ^h 56'56	0 ^h 39'39	21 ^h 6'6	18 ^h 23'23	0 ^h 47'47	21 ^h 52'52	18 ^h 55'55	28 ^h 53'53	0 ^h 31'31	29 ^h 25'25	17 ^h 5'5	T 14
W 15	13 34 16	25 ^h 25'06	29 ^h 3'3	29 ^h 39'39	13 ^h 10'10	1 ^h 25'25	21 ^h 12'12	18 ^h 29'29	0 ^h 47'47	21 ^h 50'50	18 ^h 56'56	28 ^h 55'55	0 ^h 28'28	29 ^h 32'32	17 ^h 9'9	W 15
T 16	13 38 13	26 ^h 23'41	11 ^h 33'32	1 ^h 1'1	14 ^h 24'24	2 ^h 12'12	21 ^h 17'17	18 ^h 36'36	0 ^h 47'47	21 ^h 49'49	18 ^h 57'57	28 ^h 56'56	0 ^h 24'24	29 ^h 38'38	17 ^h 13'13	T 16
F 17	13 42 9	27 ^h 22'15	23 ^h 45'45	2 ^h 25'25	15 ^h 38'38	2 ^h 58'58	21 ^h 23'23	18 ^h 42'42	0 ^h 48'48	21 ^h 47'47	18 ^h 58'58	28 ^h R57	0 ^h 21'21	29 ^h 45'45	17 ^h 17'17	F 17
S 18	13 46 6	28 ^h 20'47	5 ^h 44'46	3 ^h 52'52	16 ^h 52'52	3 ^h 44'44	21 ^h 29'29	18 ^h 48'48	0 ^h 48'48	21 ^h 45'45	18 ^h 59'59	28 ^h 57'57	0 ^h 18'18	29 ^h 52'52	17 ^h 21'21	S 18
S 19	13 50 2	29 ^h 19'17	17 ^h 40'40	5 ^h 20'20	18 ^h 6'6	4 ^h 31'31	21 ^h 35'35	18 ^h 55'55	0 ^h 49'49	21 ^h 44'44	18 ^h 59'59	28 ^h 56'56	0 ^h 15'15	29 ^h 58'58	17 ^h 25'25	S 19
M 20	13 53 59	0 ^h 17'45	29 ^h 32'32	6 ^h 50'50	19 ^h 20'20	5 ^h 17'17	21 ^h 41'41	19 ^h 1'1	0 ^h 50'50	21 ^h 42'42	19 ^h 0'0	28 ^h 53'53	0 ^h 12'12	0 ^h 11'5	17 ^h 29'29	M 20
T 21	13 57 55	1 ^h 16'12	11 ^h 31'26	8 ^h 21'21	20 ^h 34'34	6 ^h 3'3	21 ^h 47'47	19 ^h 7'7	0 ^h 50'50	21 ^h 41'41	19 ^h 1'1	28 ^h 49'49	0 ^h 8'8	0 ^h 12'12	17 ^h 33'33	T 21
W 22	14 1 52	2 ^h 14'37	23 ^h 25'25	9 ^h 55'55	21 ^h 48'48	6 ^h 50'50	21 ^h 53'53	19 ^h 13'13	0 ^h 51'51	21 ^h 39'39	19 ^h 2'2	28 ^h 45'45	0 ^h 5'5	0 ^h 19'19	17 ^h 38'38	W 22
T 23	14 5 48	3 ^h 13'01	5 ^h 33'23	11 ^h 30'30	23 ^h 2'2	7 ^h 36'36	22 ^h 0'0	19 ^h 19'19	0 ^h 52'52	21 ^h 37'37	19 ^h 2'2	28 ^h 40'40	0 ^h 2'2	0 ^h 25'25	17 ^h 42'42	T 23
F 24	14 9 45	4 ^h 11'22	17 ^h 50'50	13 ^h 7'7	24 ^h 16'16	8 ^h 22'22	22 ^h 7'7	19 ^h 25'25	0 ^h 53'53	21 ^h 36'36	19 ^h 3'3	28 ^h 36'36	29 ^h 15'59	0 ^h 32'32	17 ^h 46'46	F 24
S 25	14 13 41	5 ^h 9'42	0 ^h 8'20	14 ^h 46'46	25 ^h 30'30	9 ^h 8'8	22 ^h 14'14	19 ^h 31'31	0 ^h 54'54	21 ^h 34'34	19 ^h 4'4	28 ^h 33'33	29 ^h 56'56	0 ^h 39'39	17 ^h 51'51	S 25
S 26	14 17 38	6 ^h 8'01	13 ^h 2'2	16 ^h 27'27	26 ^h 44'44	9 ^h 54'54	22 ^h 20'20	19 ^h 37'37	0 ^h 55'55	21 ^h 33'33	19 ^h 4'4	28 ^h 31'31	29 ^h 53'53	0 ^h 46'46	17 ^h 55'55	S 26
M 27	14 21 35	7 ^h 6'17	25 ^h 57'57	18 ^h 9'9	27 ^h 58'58	10 ^h 40'40	22 ^h 28'28	19 ^h 43'43	0 ^h 56'56	21 ^h 31'31	19 ^h 5'5	28 ^h D30	29 ^h 49'49	0 ^h 52'52	17 ^h 59'59	M 27
T 28	14 25 31	8 ^h 4'32	9 ^h 11'6	19 ^h 54'54	29 ^h 12'12	11 ^h 26'26	22 ^h 35'35	19 ^h 48'48	0 ^h 57'57	21 ^h 29'29	19 ^h 6'6	28 ^h 31'31	29 ^h 46'46	0 ^h 59'59	18 ^h 4'4	T 28
W 29	14 29 28	9 ^h 2'45	22 ^h 27'27	21 ^h 40'40	0 ^h 26'26	12 ^h 12'12	22 ^h 42'42	19 ^h 54'54	0 ^h 58'58	21 ^h 28'28	19 ^h 6'6	28 ^h 32'32	29 ^h 43'43	1 ^h 6'6	18 ^h 9'9	W 29
T 30	14 33 24	10 ^h 8'55	6 ^h 51'6	23 ^h 27'28	1 ^h 8'40	12 ^h 58'58	22 ^h 50'50	20 ^h 11'0	0 ^h 59'59	21 ^h 26'26	19 ^h 7'7	28 ^h 13'33	29 ^h 14'40	1 ^h 11'12	18 ^h 11'33	T 30

ASTRODIENST EPHEMERIS for the year 1789

geocentric

MAY 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	14 37 21	10 ⁸ 59'04	19 ⁵ 47	25 ¹ 17	2 ⁸ 54	13 ¹ 44	22 ⁵ 57	20 ¹ 5	1 ⁰ 0	21 ² R25	19 ¹ 7	28 ¹ 34	29 ¹ 37	1 ¹ 19	18 ¹ 18	F 1
S 2	14 41 17	11 ⁵ 57'11	3 ⁰ 45	27 ⁰ 9	4 ⁰ 8	14 ³ 30	23 ⁰ 5	20 ¹ 11	1 ⁰ 1	21 ¹ 23	19 ⁰ 8	28 ⁰ 35	29 ⁰ 34	1 ² 26	18 ⁰ 22	S 2
S 3	14 45 14	12 ⁵ 55'16	17 ⁰ 53	29 ⁰ 2	5 ⁰ 21	15 ¹ 16	23 ⁰ 13	20 ⁰ 16	1 ⁰ 3	21 ² 22	19 ⁰ 8	28 ⁰ R35	29 ⁰ 30	1 ³ 33	18 ⁰ 27	S 3
M 4	14 49 10	13 ⁵ 53'19	2 ¹ 11	0 ⁸ 57	6 ⁰ 35	16 ⁰ 1	23 ⁰ 21	20 ⁰ 21	1 ⁰ 4	21 ² 20	19 ⁰ 8	28 ⁰ 34	29 ⁰ 27	1 ³ 39	18 ⁰ 32	M 4
T 5	14 53 7	14 ⁵ 51'20	16 ⁰ 34	2 ⁵ 4	7 ⁰ 49	16 ⁰ 47	23 ⁰ 29	20 ⁰ 27	1 ⁰ 6	21 ¹ 19	19 ⁰ 9	28 ⁰ 33	29 ⁰ 24	1 ⁴ 46	18 ⁰ 37	T 5
W 6	14 57 4	15 ⁵ 49'19	1 ¹ 0	4 ⁵ 53	9 ⁰ 3	17 ⁰ 33	23 ⁰ 38	20 ⁰ 32	1 ⁰ 7	21 ¹ 17	19 ⁰ 9	28 ⁰ 32	29 ⁰ 21	1 ⁵ 53	18 ⁰ 41	W 6
T 7	15 1 0	16 ⁵ 47'16	15 ⁰ 23	6 ⁵ 53	10 ⁰ 17	18 ⁰ 18	23 ⁰ 46	20 ⁰ 37	1 ⁰ 9	21 ¹ 16	19 ⁰ 10	28 ⁰ 30	29 ⁰ 18	1 ⁵ 59	18 ⁰ 46	T 7
F 8	15 4 57	17 ⁵ 45'11	29 ⁰ 39	8 ⁵ 56	11 ⁰ 31	19 ⁰ 4	23 ⁰ 55	20 ⁰ 42	1 ¹ 0	21 ¹ 14	19 ⁰ 10	28 ⁰ 29	29 ⁰ 14	2 ⁰ 6	18 ⁰ 51	F 8
S 9	15 8 53	18 ⁵ 43'05	13 ¹ 42	10 ⁵ 59	12 ⁰ 44	19 ⁰ 49	24 ⁰ 3	20 ⁰ 47	1 ¹ 2	21 ¹ 13	19 ⁰ 10	28 ⁰ 28	29 ⁰ 11	2 ¹ 3	18 ⁰ 56	S 9
S 10	15 12 50	19 ⁵ 40'57	27 ⁰ 30	13 ⁰ 5	13 ⁰ 58	20 ⁰ 35	24 ⁰ 12	20 ⁰ 52	1 ¹ 3	21 ¹ 12	19 ⁰ 10	28 ⁰ D28	29 ⁰ 8	2 ² 0	19 ⁰ 1	S 10
M 11	15 16 46	20 ⁵ 38'48	10 ¹ 58	15 ⁰ 11	15 ⁰ 12	21 ⁰ 20	24 ⁰ 21	20 ⁰ 57	1 ¹ 5	21 ¹ 10	19 ⁰ 11	28 ⁰ 28	29 ⁰ 5	2 ² 6	19 ⁰ 6	M 11
T 12	15 20 43	21 ⁵ 36'37	24 ⁰ 6	17 ⁰ 19	16 ⁰ 26	22 ⁰ 6	24 ⁰ 30	21 ⁰ 2	1 ¹ 7	21 ⁰ 9	19 ⁰ 11	28 ⁰ 29	29 ⁰ 2	2 ³ 33	19 ⁰ 11	T 12
W 13	15 24 39	22 ⁵ 34'26	6 ² 55	19 ⁰ 28	17 ⁰ 40	22 ⁰ 51	24 ⁰ 39	21 ⁰ 7	1 ¹ 9	21 ⁰ 8	19 ⁰ 11	28 ⁰ 29	28 ⁰ 59	2 ⁴ 0	19 ⁰ 16	W 13
T 14	15 28 36	23 ⁵ 32'13	19 ⁰ 25	21 ⁰ 38	18 ⁰ 53	23 ⁰ 36	24 ⁰ 48	21 ⁰ 11	1 ² 1	21 ⁰ 6	19 ⁰ 11	28 ⁰ 30	28 ⁰ 55	2 ⁴ 7	19 ⁰ 21	T 14
F 15	15 32 33	24 ⁵ 29'58	1 ¹ 40	23 ⁰ 49	20 ⁰ 7	24 ⁰ 22	24 ⁰ 57	21 ⁰ 16	1 ² 2	21 ⁰ 5	19 ⁰ 11	28 ⁰ 30	28 ⁰ 52	2 ⁵ 3	19 ⁰ 26	F 15
S 16	15 36 29	25 ⁵ 27'43	13 ⁰ 43	26 ⁰ 0	21 ⁰ 21	25 ⁰ 7	25 ⁰ 7	21 ⁰ 21	1 ² 4	21 ⁰ 4	19 ⁰ 11	28 ⁰ 30	28 ⁰ 49	3 ⁰ 0	19 ⁰ 31	S 16
S 17	15 40 26	26 ⁵ 25'26	25 ⁰ 39	28 ⁰ 12	22 ⁰ 35	25 ⁰ 52	25 ⁰ 16	21 ⁰ 25	1 ² 6	21 ⁰ 2	19 ⁰ 12	28 ⁰ R31	28 ⁰ 46	3 ⁰ 7	19 ⁰ 37	S 17
M 18	15 44 22	27 ⁵ 23'08	7 ¹ 33	0 ¹ 23	23 ⁰ 49	26 ⁰ 37	25 ⁰ 26	21 ⁰ 29	1 ² 8	21 ⁰ 1	19 ⁰ 12	28 ⁰ 31	28 ⁰ 43	3 ¹ 3	19 ⁰ 42	M 18
T 19	15 48 19	28 ⁵ 20'50	19 ⁰ 28	2 ³ 34	25 ⁰ 2	27 ⁰ 22	25 ⁰ 36	21 ⁰ 34	1 ³ 0	21 ⁰ 0	19 ⁰ 12	28 ⁰ D30	28 ⁰ 40	3 ² 0	19 ⁰ 47	T 19
W 20	15 52 15	29 ⁵ 18'30	1 ¹ 29	4 ⁴ 5	26 ⁰ 16	28 ⁰ 7	25 ⁰ 45	21 ⁰ 38	1 ³ 3	20 ⁵ 59	19 ⁰ R12	28 ⁰ 31	28 ⁰ 36	3 ² 7	19 ⁰ 52	W 20
T 21	15 56 12	0 ¹ 16'09	13 ⁰ 40	6 ⁵ 55	27 ⁰ 30	28 ⁰ 52	25 ⁰ 55	21 ⁰ 42	1 ³ 5	20 ⁵ 7	19 ⁰ 12	28 ⁰ 31	28 ⁰ 33	3 ³ 4	19 ⁰ 57	T 21
F 22	16 0 8	1 ¹ 13'47	26 ⁰ 5	9 ⁰ 3	28 ⁰ 44	29 ⁰ 37	26 ⁰ 5	21 ⁰ 46	1 ³ 7	20 ⁵ 6	19 ⁰ 12	28 ⁰ 31	28 ⁰ 30	3 ⁴ 0	20 ⁰ 3	F 22
S 23	16 4 5	2 ¹ 11'24	8 ¹ 46	11 ⁰ 10	29 ⁰ 57	0 ² 22	26 ⁰ 15	21 ⁰ 50	1 ³ 9	20 ⁵ 5	19 ⁰ 12	28 ⁰ 31	28 ⁰ 27	3 ⁴ 7	20 ⁰ 8	S 23
S 24	16 8 2	3 ⁰ 9'00	21 ⁰ 44	13 ⁰ 16	1 ¹ 11	1 ⁰ 6	26 ⁰ 26	21 ⁰ 54	1 ⁴ 1	20 ⁵ 4	19 ⁰ 11	28 ⁰ 31	28 ⁰ 24	3 ⁵ 4	20 ⁰ 13	S 24
M 25	16 11 58	4 ⁰ 6'35	5 ¹ 11	15 ⁰ 20	2 ² 5	1 ⁵ 1	26 ⁰ 36	21 ⁰ 58	1 ⁴ 4	20 ⁵ 3	19 ⁰ 11	28 ⁰ R31	28 ⁰ 20	4 ⁰ 0	20 ⁰ 19	M 25
T 26	16 15 55	5 ⁰ 4'09	18 ⁰ 32	17 ⁰ 22	3 ³ 39	2 ³ 36	26 ⁰ 46	22 ⁰ 2	1 ⁴ 6	20 ⁵ 2	19 ⁰ 11	28 ⁰ 31	28 ⁰ 17	4 ⁰ 7	20 ⁰ 24	T 26
W 27	16 19 51	6 ⁰ 1'41	2 ² 20	19 ⁰ 21	4 ⁵ 52	3 ² 20	26 ⁰ 57	22 ⁰ 5	1 ⁴ 9	20 ⁵ 1	19 ⁰ 11	28 ⁰ 30	28 ⁰ 14	4 ¹ 4	20 ⁰ 29	W 27
T 28	16 23 48	6 ⁵ 59'13	16 ⁰ 19	21 ⁰ 19	6 ⁰ 6	4 ⁰ 5	27 ⁰ 7	22 ⁰ 9	1 ⁵ 1	20 ⁵ 0	19 ⁰ 11	28 ⁰ 30	28 ⁰ 11	4 ² 1	20 ⁰ 35	T 28
F 29	16 27 44	7 ⁵ 56'43	0 ⁰ 28	23 ⁰ 14	7 ⁰ 20	4 ⁰ 50	27 ⁰ 18	22 ⁰ 12	1 ⁵ 4	20 ⁴ 9	19 ⁰ 11	28 ⁰ 29	28 ⁰ 8	4 ² 7	20 ⁰ 40	F 29
S 30	16 31 41	8 ⁵ 54'12	14 ⁰ 42	25 ⁰ 6	8 ⁰ 34	5 ⁰ 34	27 ⁰ 29	22 ⁰ 16	1 ⁵ 6	20 ⁴ 8	19 ⁰ 10	28 ⁰ 28	28 ⁰ 5	4 ³ 4	20 ⁰ 46	S 30
S 31	16 35 37	9 ¹ 51'40	28 ⁰ 57	26 ⁰ 56	9 ¹ 47	6 ⁰ 18	27 ⁰ 39	22 ⁰ 19	1 ⁶ 0	20 ⁴ 7	19 ⁰ 10	28 ⁰ 27	28 ⁰ 1	4 ⁴ 1	20 ⁰ 51	S 31

Delta T = 21.75 sec

Greg. Calendar

JUNE 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	16 39 34	10 ¹¹ 49'06	13 ¹¹ 12	28 ¹¹ 44	11 ¹¹ 1	7 ⁸ 3	27 ⁵⁰ 50	22 ²² 22	2 ⁰ 1	20 ^R 46	19 ^R 10	28 ^D 27	27 ⁵⁸ 58	4 ⁴⁸ 48	20 ⁵⁶ 56	M 1
T 2	16 43 31	11 ⁴⁶ 31	27 ²³ 23	0 ²⁹ 29	12 ¹⁵ 15	7 ⁴⁷ 47	28 ⁰ 1	22 ²⁵ 25	2 ⁰ 4	20 ⁴⁵ 45	19 ⁹ 9	28 ²⁷ 27	27 ⁵⁵ 55	4 ⁵⁴ 54	21 ⁰ 2	T 2
W 3	16 47 27	12 ⁴³ 55	11 ²⁹ 29	2 ¹¹ 11	13 ²⁹ 29	8 ³¹ 31	28 ¹² 12	22 ²⁸ 28	2 ⁰ 7	20 ⁴⁴ 44	19 ⁹ 9	28 ²⁸ 28	27 ⁵² 52	5 ⁰ 1	21 ⁰ 7	W 3
T 4	16 51 24	13 ⁴¹ 17	25 ²⁶ 26	3 ⁵⁰ 50	14 ⁴² 42	9 ¹⁵ 15	28 ²³ 23	22 ³¹ 31	2 ⁰ 9	20 ⁴³ 43	19 ⁹ 9	28 ²⁹ 29	27 ⁴⁹ 49	5 ⁰ 8	21 ¹³ 13	T 4
F 5	16 55 20	14 ³⁸ 39	9 ¹⁴ 14	5 ²⁷ 27	15 ⁵⁶ 56	9 ⁵⁹ 59	28 ³⁴ 34	22 ³⁴ 34	2 ¹² 12	20 ⁴² 42	19 ⁸ 8	28 ³⁰ 30	27 ⁴⁵ 45	5 ¹⁴ 14	21 ¹⁸ 18	F 5
S 6	16 59 17	15 ³⁶ 00	22 ⁵¹ 51	7 ⁰ 1	17 ¹⁰ 10	10 ⁴³ 43	28 ⁴⁶ 46	22 ³⁷ 37	2 ¹⁵ 15	20 ⁴² 42	19 ⁸ 8	28 ^R 31	27 ⁴² 42	5 ²¹ 21	21 ²⁴ 24	S 6
S 7	17 3 13	16 ³³ 20	6 ¹⁴ 14	8 ³² 32	18 ²³ 23	11 ²⁷ 27	28 ⁵⁷ 57	22 ⁴⁰ 40	2 ¹⁸ 18	20 ⁴¹ 41	19 ⁷ 7	28 ³¹ 31	27 ³⁹ 39	5 ²⁸ 28	21 ²⁹ 29	S 7
M 8	17 7 10	17 ³⁰ 39	19 ²⁴ 24	10 ⁰ 0	19 ³⁷ 37	12 ¹¹ 11	29 ⁰ 8	22 ⁴² 42	2 ²⁰ 20	20 ⁴⁰ 40	19 ⁷ 7	28 ³⁰ 30	27 ³⁶ 36	5 ³⁵ 35	21 ³⁵ 35	M 8
T 9	17 11 7	18 ²⁷ 57	2 ¹⁹ 19	11 ²⁶ 26	20 ⁵¹ 51	12 ⁵⁵ 55	29 ²⁰ 20	22 ⁴⁵ 45	2 ²³ 23	20 ³⁹ 39	19 ⁶ 6	28 ²⁸ 28	27 ³³ 33	5 ⁴¹ 41	21 ⁴⁰ 40	T 9
W 10	17 15 3	19 ²⁵ 15	14 ⁵⁸ 58	12 ⁴⁹ 49	22 ⁰ 5	13 ³⁹ 39	29 ³¹ 31	22 ⁴⁷ 47	2 ²⁶ 26	20 ³⁹ 39	19 ⁶ 6	28 ²⁵ 25	27 ³⁰ 30	5 ⁴⁸ 48	21 ⁴⁶ 46	W 10
T 11	17 19 0	20 ²² 32	27 ²⁴ 24	14 ⁰ 9	23 ¹⁸ 18	14 ²³ 23	29 ⁴³ 43	22 ⁵⁰ 50	2 ²⁹ 29	20 ³⁸ 38	19 ⁵ 5	28 ²² 22	27 ²⁶ 26	5 ⁵⁵ 55	21 ⁵¹ 51	T 11
F 12	17 22 56	21 ¹⁹ 49	9 ³⁷ 37	15 ²⁵ 25	24 ³² 32	15 ⁰ 6	29 ⁵⁴ 54	22 ⁵² 52	2 ³² 32	20 ³⁷ 37	19 ⁵ 5	28 ¹⁸ 18	27 ²³ 23	6 ⁰ 2	21 ⁵⁷ 57	F 12
S 13	17 26 53	22 ¹⁷ 05	21 ³⁹ 39	16 ³⁹ 39	25 ⁴⁶ 46	15 ⁵⁰ 50	0 ⁰ 6	22 ⁵⁴ 54	2 ³⁵ 35	20 ³⁷ 37	19 ⁴ 4	28 ¹⁵ 15	27 ²⁰ 20	6 ⁰ 8	22 ⁰ 2	S 13
S 14	17 30 49	23 ¹⁴ 21	3 ³⁵ 35	17 ⁵⁰ 50	26 ⁵⁹ 59	16 ³⁴ 34	0 ¹⁸ 18	22 ⁵⁶ 56	2 ³⁸ 38	20 ³⁶ 36	19 ⁴ 4	28 ¹³ 13	27 ¹⁷ 17	6 ¹⁵ 15	22 ⁰ 8	S 14
M 15	17 34 46	24 ¹¹ 36	15 ²⁹ 29	18 ⁵⁸ 58	28 ¹³ 13	17 ¹⁷ 17	0 ³⁰ 30	22 ⁵⁸ 58	2 ⁴¹ 41	20 ³⁶ 36	19 ³ 3	28 ¹¹ 11	27 ¹⁴ 14	6 ²² 22	22 ¹⁴ 14	M 15
T 16	17 38 42	25 ⁰ 8'51	27 ²³ 23	20 ⁰ 3	29 ²⁷ 27	18 ⁰ 1	0 ⁴² 42	23 ⁰ 0	2 ⁴⁴ 44	20 ³⁵ 35	19 ² 2	28 ^D 11	27 ¹¹ 11	6 ²⁸ 28	22 ¹⁹ 19	T 16
W 17	17 42 39	26 ⁰ 6'07	9 ²⁴ 24	21 ⁰ 4	0 ⁴⁰ 40	18 ⁴⁴ 44	0 ⁵³ 53	23 ⁰ 1	2 ⁴⁷ 47	20 ³⁵ 35	19 ² 2	28 ¹² 12	27 ⁰ 7	6 ³⁵ 35	22 ²⁵ 25	W 17
T 18	17 46 35	27 ⁰ 3'21	21 ³⁶ 36	22 ⁰ 3	1 ⁵⁴ 54	19 ²⁷ 27	1 ⁰ 5	23 ⁰ 3	2 ⁵¹ 51	20 ³⁴ 34	19 ¹ 1	28 ¹³ 13	27 ⁰ 4	6 ⁴² 42	22 ³⁰ 30	T 18
F 19	17 50 32	28 ⁰ 0'36	4 ³ 3	22 ⁵⁷ 57	3 ⁰ 8	20 ¹¹ 11	1 ¹⁸ 18	23 ⁰ 5	2 ⁵⁴ 54	20 ³⁴ 34	19 ⁰ 0	28 ¹⁵ 15	27 ⁰ 1	6 ⁴⁹ 49	22 ³⁶ 36	F 19
S 20	17 54 29	28 ⁵⁷ 51	16 ⁴⁹ 49	23 ⁴⁹ 49	4 ²² 22	20 ⁵⁴ 54	1 ³⁰ 30	23 ⁰ 6	2 ⁵⁷ 57	20 ³³ 33	18 ⁵⁹ 59	28 ¹⁶ 16	26 ⁵⁸ 58	6 ⁵⁵ 55	22 ⁴¹ 41	S 20
S 21	17 58 25	29 ⁵⁵ 05	29 ⁵⁸ 58	24 ³⁶ 36	5 ³⁵ 35	21 ³⁷ 37	1 ⁴² 42	23 ⁰ 7	3 ⁰ 0	20 ³³ 33	18 ⁵⁹ 59	28 ^R 16	26 ⁵⁵ 55	7 ⁰ 2	22 ⁴⁷ 47	S 21
M 22	18 2 22	0 ⁵² 52'20	13 ¹¹ 29	25 ²⁰ 20	6 ⁴⁹ 49	22 ²⁰ 20	1 ⁵⁴ 54	23 ⁰ 9	3 ⁰ 3	20 ³³ 33	18 ⁵⁸ 58	28 ¹⁵ 15	26 ⁵¹ 51	7 ⁰ 9	22 ⁵² 52	M 22
T 23	18 6 18	1 ⁴⁹ 34	27 ²² 22	26 ⁰ 0	8 ⁰ 3	23 ⁰ 3	2 ⁰ 6	23 ¹⁰ 10	3 ⁰ 7	20 ³³ 33	18 ⁵⁷ 57	28 ¹³ 13	26 ⁴⁸ 48	7 ¹⁵ 15	22 ⁵⁸ 58	T 23
W 24	18 10 15	2 ⁴⁶ 48	11 ⁵³ 53	26 ³⁶ 36	9 ¹⁷ 17	23 ⁴⁶ 46	2 ¹⁸ 18	23 ¹¹ 11	3 ¹⁰ 10	20 ³² 32	18 ⁵⁶ 56	28 ⁰ 9	26 ⁴⁵ 45	7 ²² 22	23 ⁰ 3	W 24
T 25	18 14 11	3 ⁴⁴ 02	26 ⁰ 2	27 ⁰ 8	10 ³⁰ 30	24 ²⁹ 29	2 ³¹ 31	23 ¹² 12	3 ¹³ 13	20 ³² 32	18 ⁵⁵ 55	28 ⁰ 4	26 ⁴² 42	7 ²⁹ 29	23 ⁰ 9	T 25
F 26	18 18 8	4 ⁴¹ 15	10 ¹⁰ 38	27 ³⁶ 36	11 ⁴⁴ 44	25 ¹² 12	2 ⁴³ 43	23 ¹³ 13	3 ¹⁷ 17	20 ³² 32	18 ⁵⁵ 55	27 ⁵⁹ 59	26 ³⁹ 39	7 ³⁶ 36	23 ¹⁴ 14	F 26
S 27	18 22 5	5 ³⁸ 28	25 ¹⁵ 15	28 ⁰ 0	12 ⁵⁸ 58	25 ⁵⁴ 54	2 ⁵⁶ 56	23 ¹³ 13	3 ²⁰ 20	20 ³² 32	18 ⁵⁴ 54	27 ⁵⁴ 54	26 ³⁶ 36	7 ⁴² 42	23 ²⁰ 20	S 27
S 28	18 26 1	6 ³⁵ 41	9 ¹¹ 47	28 ¹⁹ 19	14 ¹¹ 11	26 ³⁷ 37	3 ⁰ 8	23 ¹⁴ 14	3 ²³ 23	20 ³² 32	18 ⁵³ 53	27 ⁵⁰ 50	26 ³² 32	7 ⁴⁹ 49	23 ²⁵ 25	S 28
M 29	18 29 58	7 ³² 53	24 ¹⁰ 10	28 ³⁴ 34	15 ²⁵ 25	27 ²⁰ 20	3 ²¹ 21	23 ¹⁵ 15	3 ²⁷ 27	20 ³¹ 31	18 ⁵² 52	27 ⁴⁸ 48	26 ²⁹ 29	7 ⁵⁶ 56	23 ³⁰ 30	M 29
T 30	18 33 54	8 ³⁰ 05	8 ²⁰ 20	28 ⁵⁴ 54	16 ³⁹ 39	28 ⁰ 2	3 ⁰ 33	23 ¹⁵ 15	3 ⁰ 30	20 ³¹ 31	18 ⁵¹ 51	27 ^D 47	26 ²⁶ 26	8 ³ 3	23 ³⁶ 36	T 30

ASTRODIENST EPHEMERIS for the year 1789
geocentric

JULY 1789

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	18 37 51	9 ⁵² 716	22 ¹⁵ 15	28 ⁵⁰ 50	17 ⁵³ 53	28 ⁸ 45	3 ⁴⁶ 46	23 ¹⁵ 15	3 ³⁴ 34	20 ³¹ 31	18 ⁵⁰ 50	27 ⁴⁸ 48	26 ²³ 23	8 ⁹ 9	23 ⁴¹ 41	W 1
T 2	18 41 47	10 ²⁴ 27	5 ⁵⁶ 56	28 ⁵⁰ 50	19 ⁶ 6	29 ²⁷ 27	3 ⁵⁸ 58	23 ¹⁶ 16	3 ³⁷ 37	20 ³¹ 31	18 ⁴⁹ 49	27 ⁴⁹ 49	26 ²⁰ 20	8 ¹⁶ 16	23 ⁴⁷ 47	T 2
F 3	18 45 44	11 ²¹ 38	19 ²² 22	28 ⁴⁶ 46	20 ²⁰ 20	0 ¹¹ 9	4 ¹¹ 11	23 ¹⁶ 16	3 ⁴¹ 41	20 ³¹ 31	18 ⁴⁸ 48	27 ⁵⁰ 50	26 ¹⁷ 17	8 ²³ 23	23 ⁵² 52	F 3
S 4	18 49 40	12 ¹⁸ 49	2 ³⁵ 35	28 ³⁸ 38	21 ³⁴ 34	0 ⁵² 52	4 ²⁴ 24	23 ¹⁶ 16	3 ⁴⁴ 44	20 ³¹ 31	18 ⁴⁷ 47	27 ⁵⁰ 50	26 ¹³ 13	8 ²⁹ 29	23 ⁵⁷ 57	S 4
S 5	18 53 37	13 ¹⁶ 00	15 ³⁶ 36	28 ²⁵ 25	22 ⁴⁷ 47	1 ³⁴ 34	4 ³⁶ 36	23 ¹⁶ 16	3 ⁴⁸ 48	20 ³² 32	18 ⁴⁶ 46	27 ⁴⁹ 49	26 ¹⁰ 10	8 ³⁶ 36	24 ³ 3	S 5
M 6	18 57 34	14 ¹³ 11	28 ²⁴ 24	28 ⁷ 7	24 ¹ 1	2 ¹⁶ 16	4 ⁴⁹ 49	23 ¹⁶ 16	3 ⁵¹ 51	20 ³² 32	18 ⁴⁵ 45	27 ⁴⁵ 45	26 ⁷ 7	8 ⁴³ 43	24 ⁸ 8	M 6
T 7	19 1 30	15 ¹⁰ 22	11 ³ 2	27 ⁴⁵ 45	25 ¹⁵ 15	2 ⁵⁸ 58	5 ² 2	23 ¹⁵ 15	3 ⁵⁵ 55	20 ³² 32	18 ⁴⁴ 44	27 ³⁹ 39	26 ⁴ 4	8 ⁵⁰ 50	24 ¹³ 13	T 7
W 8	19 5 27	16 ⁷ 33	23 ²⁹ 29	27 ²⁰ 20	26 ²⁹ 29	3 ⁴⁰ 40	5 ¹⁵ 15	23 ¹⁵ 15	3 ⁵⁸ 58	20 ³² 32	18 ⁴³ 43	27 ³² 32	26 ¹ 1	8 ⁵⁶ 56	24 ¹⁹ 19	W 8
T 9	19 9 23	17 ⁴ 44	5 ⁴⁵ 45	26 ⁵⁰ 50	27 ⁴² 42	4 ²² 22	5 ²⁸ 28	23 ¹⁵ 15	4 ² 2	20 ³² 32	18 ⁴² 42	27 ²³ 23	25 ⁵⁷ 57	9 ³ 3	24 ²⁴ 24	T 9
F 10	19 13 20	18 ¹ 56	17 ⁵² 52	26 ¹⁸ 18	28 ⁵⁶ 56	5 ⁴ 4	5 ⁴¹ 41	23 ¹⁴ 14	4 ⁵ 5	20 ³³ 33	18 ⁴¹ 41	27 ¹⁴ 14	25 ⁵⁴ 54	9 ¹⁰ 10	24 ²⁹ 29	F 10
S 11	19 17 16	18 ⁵⁹ 08	29 ⁵¹ 51	25 ⁴² 42	0 ¹⁰ 10	5 ⁴⁶ 46	5 ⁵³ 53	23 ¹³ 13	4 ⁹ 9	20 ³³ 33	18 ⁴⁰ 40	27 ⁵ 5	25 ⁵¹ 51	9 ¹⁶ 16	24 ³⁵ 35	S 11
S 12	19 21 13	19 ⁵⁶ 21	11 ⁴⁵ 45	25 ⁵ 5	1 ²³ 23	6 ²⁷ 27	6 ⁶ 6	23 ¹³ 13	4 ¹³ 13	20 ³³ 33	18 ³⁸ 38	26 ⁵⁸ 58	25 ⁴⁸ 48	9 ²³ 23	24 ⁴⁰ 40	S 12
M 13	19 25 9	20 ⁵³ 34	23 ³⁷ 37	24 ²⁵ 25	2 ³⁷ 37	7 ⁹ 9	6 ¹⁹ 19	23 ¹² 12	4 ¹⁶ 16	20 ³³ 33	18 ³⁷ 37	26 ⁵² 52	25 ⁴⁵ 45	9 ³⁰ 30	24 ⁴⁵ 45	M 13
T 14	19 29 6	21 ⁵⁰ 48	5 ⁴⁰ 40	23 ⁴⁵ 45	3 ⁵¹ 51	7 ⁵¹ 51	6 ³² 32	23 ¹¹ 11	4 ²⁰ 20	20 ³⁴ 34	18 ³⁶ 36	26 ⁴⁸ 48	25 ⁴² 42	9 ³⁷ 37	24 ⁵⁰ 50	T 14
W 15	19 33 3	22 ⁴⁸ 02	17 ²⁹ 29	23 ⁵ 5	5 ⁵ 5	8 ³² 32	6 ⁴⁵ 45	23 ¹⁰ 10	4 ²³ 23	20 ³⁴ 34	18 ³⁵ 35	26 ⁴⁷ 47	25 ³⁸ 38	9 ⁴³ 43	24 ⁵⁵ 55	W 15
T 16	19 36 59	23 ⁴⁵ 17	29 ³⁸ 38	22 ²⁵ 25	6 ¹⁸ 18	9 ¹⁴ 14	6 ⁵⁸ 58	23 ⁹ 9	4 ²⁷ 27	20 ³⁵ 35	18 ³⁴ 34	26 ⁴⁷ 47	25 ³⁵ 35	9 ⁵⁰ 50	25 ⁰ 0	T 16
F 17	19 40 56	24 ⁴² 33	12 ⁸ 4	21 ⁴⁶ 46	7 ³² 32	9 ⁵⁵ 55	7 ¹¹ 11	23 ⁷ 7	4 ³¹ 31	20 ³⁵ 35	18 ³³ 33	26 ⁴⁸ 48	25 ³² 32	9 ⁵⁷ 57	25 ⁵ 5	F 17
S 18	19 44 52	25 ³⁹ 50	24 ⁴⁹ 49	21 ⁸ 8	8 ⁴⁶ 46	10 ³⁶ 36	7 ²⁴ 24	23 ⁶ 6	4 ³⁴ 34	20 ³⁶ 36	18 ³¹ 31	26 ⁴⁸ 48	25 ²⁹ 29	10 ³ 3	25 ¹⁰ 10	S 18
S 19	19 48 49	26 ³⁷ 08	8 ¹¹ 0	20 ³⁴ 34	9 ⁵⁹ 59	11 ¹⁸ 18	7 ³⁸ 38	23 ⁵ 5	4 ³⁸ 38	20 ³⁶ 36	18 ³⁰ 30	26 ⁴⁸ 48	25 ²⁶ 26	10 ¹⁰ 10	25 ¹⁵ 15	S 19
M 20	19 52 45	27 ³⁴ 26	21 ³⁷ 37	20 ² 2	11 ¹³ 13	11 ⁵⁹ 59	7 ⁵¹ 51	23 ³ 3	4 ⁴² 42	20 ³⁷ 37	18 ²⁹ 29	26 ⁴⁵ 45	25 ²³ 23	10 ¹⁷ 17	25 ²⁰ 20	M 20
T 21	19 56 42	28 ³¹ 45	5 ³² 32	19 ³⁴ 34	12 ²⁷ 27	12 ⁴⁰ 40	8 ⁴ 4	23 ² 2	4 ⁴⁵ 45	20 ³⁷ 37	18 ²⁸ 28	26 ⁴⁰ 40	25 ¹⁹ 19	10 ²⁴ 24	25 ²⁵ 25	T 21
W 22	20 0 38	29 ²⁹ 05	20 ¹² 12	19 ¹¹ 11	13 ⁴¹ 41	13 ²¹ 21	8 ¹⁷ 17	23 ⁰ 0	4 ⁴⁹ 49	20 ³⁸ 38	18 ²⁷ 27	26 ³³ 33	25 ¹⁶ 16	10 ³⁰ 30	25 ³⁰ 30	W 22
T 23	20 4 35	0 ²⁶ 26	5 ¹ 1	18 ⁵² 52	14 ⁵⁴ 54	14 ² 2	8 ³⁰ 30	22 ⁵⁸ 58	4 ⁵³ 53	20 ³⁹ 39	18 ²⁵ 25	26 ²⁵ 25	25 ¹³ 13	10 ³⁷ 37	25 ³⁵ 35	T 23
F 24	20 8 32	1 ²³ 47	20 ¹ 1	18 ³⁹ 39	16 ⁸ 8	14 ⁴³ 43	8 ⁴³ 43	22 ⁵⁶ 56	4 ⁵⁷ 57	20 ³⁹ 39	18 ²⁴ 24	26 ¹⁵ 15	25 ¹⁰ 10	10 ⁴⁴ 44	25 ⁴⁰ 40	F 24
S 25	20 12 28	2 ²¹ 09	5 ¹⁹ 2	18 ³¹ 31	17 ²² 22	15 ²³ 23	8 ⁵⁶ 56	22 ⁵⁴ 54	5 ⁰ 0	20 ⁴⁰ 40	18 ²³ 23	26 ⁶ 6	25 ⁷ 7	10 ⁵¹ 51	25 ⁴⁵ 45	S 25
S 26	20 16 25	3 ¹⁸ 32	19 ⁵⁵ 55	18 ²⁸ 28	18 ³⁶ 36	16 ⁴ 4	9 ¹⁰ 10	22 ⁵² 52	5 ⁴ 4	20 ⁴¹ 41	18 ²¹ 21	25 ⁵⁸ 58	25 ³ 3	10 ⁵⁷ 57	25 ⁵⁰ 50	S 26
M 27	20 20 21	4 ¹⁵ 55	4 ³³ 33	18 ³² 32	19 ⁴⁹ 49	16 ⁴⁵ 45	9 ²³ 23	22 ⁵⁰ 50	5 ⁸ 8	20 ⁴² 42	18 ²⁰ 20	25 ⁵³ 53	25 ⁰ 0	11 ⁴ 4	25 ⁵⁴ 54	M 27
T 28	20 24 18	5 ¹³ 18	18 ⁵⁰ 50	18 ⁴² 42	21 ³ 3	17 ²⁵ 25	9 ³⁶ 36	22 ⁴⁸ 48	5 ¹¹ 11	20 ⁴³ 43	18 ¹⁹ 19	25 ⁵⁰ 50	24 ⁵⁷ 57	11 ¹¹ 11	25 ⁵⁹ 59	T 28
W 29	20 28 14	6 ¹⁰ 43	2 ⁴⁶ 46	18 ⁵⁸ 58	22 ¹⁷ 17	18 ⁶ 6	9 ⁴⁹ 49	22 ⁴⁵ 45	5 ¹⁵ 15	20 ⁴³ 43	18 ¹⁸ 18	25 ⁴⁹ 49	24 ⁵⁴ 54	11 ¹⁷ 17	26 ⁴ 4	W 29
T 30	20 32 11	7 ⁸ 07	16 ²¹ 21	19 ²¹ 21	23 ³⁰ 30	18 ⁴⁶ 46	10 ² 2	22 ⁴³ 43	5 ¹⁹ 19	20 ⁴⁴ 44	18 ¹⁶ 16	25 ⁴⁹ 49	24 ⁵¹ 51	11 ²⁴ 24	26 ⁸ 8	T 30
F 31	20 36 7	8 ¹ 53	29 ³⁶ 36	19 ⁵⁰ 50	24 ⁴⁴ 44	19 ²⁷ 27	10 ¹⁵ 15	22 ⁴⁰ 40	5 ²² 22	20 ⁴⁵ 45	18 ¹⁵ 15	25 ⁴⁹ 49	24 ⁴⁸ 48	11 ³¹ 31	26 ¹³ 13	F 31

Delta T = 21.72 sec

Greg. Calendar

AUGUST 1789

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	20 40 4	9♌ 2°59	12♏ 34	20♊ 26	25♏ 58	20♏ 7	10♌ 29	22♏ 38	5♌ 26	20♊ 46	18♏ 14	25♏ 48	24♌ 44	11♏ 38	26♏ 17	S 1
S 2	20 44 1	10° 0'26	25° 17	21° 8	27° 11	20° 47	10° 42	22♏ 35	5° 30	20° 47	18♏ 12	25♌ 45	24° 41	11° 44	26° 22	S 2
M 3	20 47 57	10° 57'54	7♊ 49	21° 56	28° 25	21° 27	10° 55	22° 32	5° 34	20° 48	18° 11	25° 39	24° 38	11° 51	26° 26	M 3
T 4	20 51 54	11° 55'22	20° 11	22° 50	29° 39	22° 7	11° 8	22° 29	5° 37	20° 49	18° 10	25° 30	24° 35	11° 58	26° 31	T 4
W 5	20 55 50	12° 52'52	2♊ 24	23° 50	0♏ 52	22° 47	11° 22	22° 26	5° 41	20° 50	18° 8	25° 19	24° 32	12° 4	26° 35	W 5
T 6	20 59 47	13° 50'22	14° 30	24° 57	2° 6	23° 27	11° 35	22° 23	5° 45	20° 51	18° 7	25° 6	24° 29	12° 11	26° 40	T 6
F 7	21 3 43	14° 47'54	26° 30	26° 9	3° 20	24° 7	11° 48	22° 20	5° 48	20° 52	18° 6	24° 53	24° 25	12° 18	26° 44	F 7
S 8	21 7 40	15° 45'27	8♏ 26	27° 27	4° 33	24° 46	12° 1	22° 17	5° 52	20° 54	18° 4	24° 40	24° 22	12° 25	26° 48	S 8
S 9	21 11 36	16° 43'01	20° 17	28° 50	5° 47	25° 26	12° 14	22° 14	5° 56	20° 55	18° 3	24° 28	24° 19	12° 31	26° 52	S 9
M10	21 15 33	17° 40'36	2♏ 8	0♌ 17	7° 1	26° 5	12° 27	22° 10	5° 59	20° 56	18° 2	24° 19	24° 16	12° 38	26° 56	M10
T 11	21 19 30	18° 38'13	14° 0	1° 50	8° 14	26° 45	12° 41	22° 7	6° 3	20° 57	18° 0	24° 13	24° 13	12° 45	27° 0	T 11
W12	21 23 26	19° 35'51	25° 58	3° 27	9° 28	27° 24	12° 54	22° 4	6° 7	20° 58	17° 59	24° 9	24° 9	12° 51	27° 4	W12
T 13	21 27 23	20° 33'31	8♊ 6	5° 8	10° 41	28° 4	13° 7	22° 0	6° 10	21° 0	17° 58	24° 7	24° 6	12° 58	27° 8	T 13
F 14	21 31 19	21° 31'13	20° 28	6° 53	11° 55	28° 43	13° 20	21° 56	6° 14	21° 1	17° 56	24° 7	24° 3	13° 5	27° 12	F 14
S 15	21 35 16	22° 28'56	3♏ 10	8° 41	13° 9	29° 22	13° 33	21° 53	6° 17	21° 2	17° 55	24° 7	24° 0	13° 12	27° 16	S 15
S 16	21 39 12	23° 26'40	16° 17	10° 32	14° 22	0♊ 1	13° 46	21° 49	6° 21	21° 4	17° 54	24° 6	23° 57	13° 18	27° 20	S 16
M17	21 43 9	24° 24'27	29° 52	12° 25	15° 36	0° 40	13° 59	21° 45	6° 25	21° 5	17° 52	24° 3	23° 54	13° 25	27° 24	M17
T 18	21 47 5	25° 22'15	13♊ 57	14° 20	16° 49	1° 19	14° 12	21° 41	6° 28	21° 7	17° 51	23° 57	23° 50	13° 32	27° 28	T 18
W19	21 51 2	26° 20'05	28° 30	16° 17	18° 3	1° 57	14° 26	21° 38	6° 32	21° 8	17° 50	23° 49	23° 47	13° 38	27° 31	W19
T 20	21 54 59	27° 17'56	13♌ 27	18° 15	19° 16	2° 36	14° 39	21° 34	6° 35	21° 9	17° 48	23° 39	23° 44	13° 45	27° 35	T 20
F 21	21 58 55	28° 15'48	28° 39	20° 14	20° 30	3° 15	14° 52	21° 30	6° 39	21° 11	17° 47	23° 28	23° 41	13° 52	27° 38	F 21
S 22	22 2 52	29° 13'43	13♏ 56	22° 13	21° 44	3° 53	15° 5	21° 25	6° 42	21° 12	17° 46	23° 17	23° 38	13° 59	27° 42	S 22
S 23	22 6 48	0♏ 11'38	29° 6	24° 12	22° 57	4° 32	15° 18	21° 21	6° 46	21° 14	17° 45	23° 8	23° 35	14° 5	27° 45	S 23
M24	22 10 45	1° 9'35	14♊ 0	26° 12	24° 11	5° 10	15° 31	21° 17	6° 49	21° 16	17° 43	23° 2	23° 31	14° 12	27° 49	M24
T 25	22 14 41	2° 7'34	28° 31	28° 11	25° 24	5° 48	15° 43	21° 13	6° 53	21° 17	17° 42	22° 58	23° 28	14° 19	27° 52	T 25
W26	22 18 38	3° 5'33	12♌ 36	0♏ 10	26° 38	6° 26	15° 56	21° 9	6° 56	21° 19	17° 41	22° 56	23° 25	14° 25	27° 55	W26
T 27	22 22 34	4° 3'34	26° 14	2° 8	27° 51	7° 4	16° 9	21° 4	6° 59	21° 20	17° 39	22° D56	23° 22	14° 32	27° 58	T 27
F 28	22 26 31	5° 1'37	9♏ 27	4° 5	29° 5	7° 42	16° 22	21° 0	7° 3	21° 22	17° 38	22° R56	23° 19	14° 39	28° 1	F 28
S 29	22 30 28	5° 59'41	22° 20	6° 1	0♊ 18	8° 20	16° 35	20° 56	7° 6	21° 24	17° 37	22° 55	23° 15	14° 46	28° 4	S 29
S 30	22 34 24	6° 57'46	4♊ 55	7° 57	1° 31	8° 58	16° 48	20° 51	7° 10	21° 25	17° 36	22° 52	23° 12	14° 52	28° 7	S 30
M31	22 38 21	7° 55'52	17♊ 16	9° 51	2♊ 45	9° 36	17° 0	20♏ 47	7° 13	21♊ 27	17° 34	22♌ 47	23♌ 9	14♏ 59	28♏ 10	M31

ASTRODIENST EPHEMERIS for the year 1789

geocentric

SEPTEMBER 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	22 42 17	8 ^h 54'01	29 ^h 32'	11 ^h 45'	3 ^h 58'	10 ^h 13'	17 ^h 13'	20 ^h R42	7 ^h 16'	21 ^h 29'	17 ^h R33	22 ^h R38	23 ^h 6'	15 ^h 6'	28 ^h 13'	T 1
W 2	22 46 14	9 ^h 52'10	11 ^h 33'	13 ^h 37'	5 ^h 12'	10 ^h 51'	17 ^h 26'	20 ^h 38'	7 ^h 19'	21 ^h 31'	17 ^h 32'	22 ^h 28'	23 ^h 3'	15 ^h 12'	28 ^h 16'	W 2
T 3	22 50 10	10 ^h 50'21	23 ^h 29'	15 ^h 28'	6 ^h 25'	11 ^h 28'	17 ^h 38'	20 ^h 33'	7 ^h 23'	21 ^h 32'	17 ^h 31'	22 ^h 15'	23 ^h 0'	15 ^h 19'	28 ^h 19'	T 3
F 4	22 54 7	11 ^h 48'34	5 ^h 24'	17 ^h 18'	7 ^h 38'	12 ^h 5'	17 ^h 51'	20 ^h 29'	7 ^h 26'	21 ^h 34'	17 ^h 30'	22 ^h 2'	22 ^h 56'	15 ^h 26'	28 ^h 21'	F 4
S 5	22 58 3	12 ^h 46'49	17 ^h 16'	19 ^h 7'	8 ^h 52'	12 ^h 42'	18 ^h 4'	20 ^h 24'	7 ^h 29'	21 ^h 36'	17 ^h 28'	21 ^h 50'	22 ^h 53'	15 ^h 33'	28 ^h 24'	S 5
S 6	23 2 0	13 ^h 45'05	29 ^h 8'	20 ^h 55'	10 ^h 5'	13 ^h 19'	18 ^h 16'	20 ^h 20'	7 ^h 32'	21 ^h 38'	17 ^h 27'	21 ^h 38'	22 ^h 50'	15 ^h 39'	28 ^h 26'	S 6
M 7	23 5 56	14 ^h 43'23	11 ^h 0'	22 ^h 41'	11 ^h 18'	13 ^h 56'	18 ^h 29'	20 ^h 15'	7 ^h 35'	21 ^h 40'	17 ^h 26'	21 ^h 29'	22 ^h 47'	15 ^h 46'	28 ^h 29'	M 7
T 8	23 9 53	15 ^h 41'44	22 ^h 55'	24 ^h 27'	12 ^h 32'	14 ^h 33'	18 ^h 41'	20 ^h 11'	7 ^h 39'	21 ^h 42'	17 ^h 25'	21 ^h 23'	22 ^h 44'	15 ^h 53'	28 ^h 31'	T 8
W 9	23 13 50	16 ^h 40'06	4 ^h 57'	26 ^h 11'	13 ^h 45'	15 ^h 10'	18 ^h 53'	20 ^h 6'	7 ^h 42'	21 ^h 44'	17 ^h 24'	21 ^h 19'	22 ^h 40'	15 ^h 59'	28 ^h 34'	W 9
T 10	23 17 46	17 ^h 38'30	17 ^h 7'	27 ^h 54'	14 ^h 58'	15 ^h 47'	19 ^h 6'	20 ^h 1'	7 ^h 45'	21 ^h 45'	17 ^h 23'	21 ^h D18	22 ^h 37'	16 ^h 6'	28 ^h 36'	T 10
F 11	23 21 43	18 ^h 36'57	29 ^h 30'	29 ^h 36'	16 ^h 11'	16 ^h 23'	19 ^h 18'	19 ^h 57'	7 ^h 48'	21 ^h 47'	17 ^h 22'	21 ^h 18'	22 ^h 34'	16 ^h 13'	28 ^h 38'	F 11
S 12	23 25 39	19 ^h 35'25	12 ^h 11'	1 ^h 17'	17 ^h 25'	17 ^h 0'	19 ^h 30'	19 ^h 52'	7 ^h 51'	21 ^h 49'	17 ^h 20'	21 ^h 19'	22 ^h 31'	16 ^h 20'	28 ^h 40'	S 12
S 13	23 29 36	20 ^h 33'56	25 ^h 13'	2 ^h 57'	18 ^h 38'	17 ^h 36'	19 ^h 42'	19 ^h 47'	7 ^h 54'	21 ^h 51'	17 ^h 19'	21 ^h R19	22 ^h 28'	16 ^h 26'	28 ^h 42'	S 13
M14	23 33 32	21 ^h 32'29	8 ^h 41'	4 ^h 36'	19 ^h 51'	18 ^h 12'	19 ^h 55'	19 ^h 43'	7 ^h 57'	21 ^h 53'	17 ^h 18'	21 ^h 18'	22 ^h 25'	16 ^h 33'	28 ^h 44'	M14
T 15	23 37 29	22 ^h 31'05	22 ^h 37'	6 ^h 14'	21 ^h 4'	18 ^h 48'	20 ^h 7'	19 ^h 38'	8 ^h 0'	21 ^h 55'	17 ^h 17'	21 ^h 14'	22 ^h 21'	16 ^h 40'	28 ^h 46'	T 15
W16	23 41 25	23 ^h 29'42	7 ^h 1'	7 ^h 50'	22 ^h 18'	19 ^h 24'	20 ^h 19'	19 ^h 33'	8 ^h 2'	21 ^h 57'	17 ^h 16'	21 ^h 9'	22 ^h 18'	16 ^h 46'	28 ^h 48'	W16
T 17	23 45 22	24 ^h 28'22	21 ^h 51'	9 ^h 26'	23 ^h 31'	20 ^h 0'	20 ^h 31'	19 ^h 29'	8 ^h 5'	21 ^h 59'	17 ^h 15'	21 ^h 1'	22 ^h 15'	16 ^h 53'	28 ^h 49'	T 17
F 18	23 49 19	25 ^h 27'03	6 ^h 19'	11 ^h 1'	24 ^h 44'	20 ^h 36'	20 ^h 43'	19 ^h 24'	8 ^h 8'	22 ^h 1'	17 ^h 14'	20 ^h 53'	22 ^h 12'	17 ^h 0'	28 ^h 51'	F 18
S 19	23 53 15	26 ^h 25'47	22 ^h 16'	12 ^h 35'	25 ^h 57'	21 ^h 12'	20 ^h 55'	19 ^h 20'	8 ^h 11'	22 ^h 3'	17 ^h 13'	20 ^h 44'	22 ^h 9'	17 ^h 7'	28 ^h 52'	S 19
S 20	23 57 12	27 ^h 24'33	7 ^h 23'	14 ^h 8'	27 ^h 10'	21 ^h 47'	21 ^h 6'	19 ^h 15'	8 ^h 14'	22 ^h 6'	17 ^h 12'	20 ^h 37'	22 ^h 6'	17 ^h 13'	28 ^h 54'	S 20
M21	0 1 8	28 ^h 23'20	22 ^h 31'	15 ^h 40'	28 ^h 23'	22 ^h 23'	21 ^h 18'	19 ^h 11'	8 ^h 16'	22 ^h 8'	17 ^h 11'	20 ^h 32'	22 ^h 2'	17 ^h 20'	28 ^h 55'	M21
T 22	0 5 5	29 ^h 22'10	7 ^h 14'	17 ^h 11'	29 ^h 36'	22 ^h 58'	21 ^h 30'	19 ^h 6'	8 ^h 19'	22 ^h 10'	17 ^h 10'	20 ^h 29'	21 ^h 59'	17 ^h 27'	28 ^h 57'	T 22
W23	0 9 1	0 ^h 21'01	21 ^h 29'	18 ^h 41'	0 ^h 49'	23 ^h 33'	21 ^h 41'	19 ^h 1'	8 ^h 22'	22 ^h 12'	17 ^h 9'	20 ^h D29	21 ^h 56'	17 ^h 33'	28 ^h 58'	W23
T 24	0 12 58	1 ^h 19'54	5 ^h 16'	20 ^h 10'	2 ^h 2'	24 ^h 8'	21 ^h 53'	18 ^h 57'	8 ^h 24'	22 ^h 14'	17 ^h 9'	20 ^h 29'	21 ^h 53'	17 ^h 40'	28 ^h 59'	T 24
F 25	0 16 54	2 ^h 18'49	18 ^h 35'	21 ^h 38'	3 ^h 15'	24 ^h 43'	22 ^h 4'	18 ^h 53'	8 ^h 27'	22 ^h 16'	17 ^h 8'	20 ^h 30'	21 ^h 50'	17 ^h 47'	29 ^h 0'	F 25
S 26	0 20 51	3 ^h 17'46	1 ^h 31'	23 ^h 5'	4 ^h 28'	25 ^h 18'	22 ^h 16'	18 ^h 48'	8 ^h 29'	22 ^h 18'	17 ^h 7'	20 ^h R31	21 ^h 46'	17 ^h 53'	29 ^h 1'	S 26
S 27	0 24 48	4 ^h 16'45	14 ^h 5'	24 ^h 31'	5 ^h 41'	25 ^h 52'	22 ^h 27'	18 ^h 44'	8 ^h 32'	22 ^h 20'	17 ^h 6'	20 ^h 31'	21 ^h 43'	18 ^h 0'	29 ^h 2'	S 27
M28	0 28 44	5 ^h 15'45	26 ^h 24'	25 ^h 56'	6 ^h 54'	26 ^h 27'	22 ^h 38'	18 ^h 39'	8 ^h 34'	22 ^h 22'	17 ^h 5'	20 ^h 28'	21 ^h 40'	18 ^h 7'	29 ^h 3'	M28
T 29	0 32 41	6 ^h 14'47	8 ^h 30'	27 ^h 20'	8 ^h 7'	27 ^h 1'	22 ^h 50'	18 ^h 35'	8 ^h 36'	22 ^h 25'	17 ^h 4'	20 ^h 24'	21 ^h 37'	18 ^h 14'	29 ^h 3'	T 29
W30	0 36 37	7 ^h 13'50	20 ^h 29'	28 ^h 43'	9 ^h 20'	27 ^h 36'	23 ^h 1'	18 ^h 31'	8 ^h 39'	22 ^h 27'	17 ^h 34'	20 ^h 18'	21 ^h 34'	18 ^h 20'	29 ^h 4'	W30

Delta T = 21.70 sec

Greg. Calendar

OCTOBER 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	0 40 34	8♌12°56	2♋23	0♍5	10♎33	28♏10	23♏12	18♐R27	8♑41	22♑29	17♐R 3	20♐R11	21♎31	18♋27	29♊5	T 1
F 2	0 44 30	9°12'03	14°14	1°26	11°46	28°44	23°23	18♋22	8°43	22°31	17♋2	20♍3	21°27	18°34	29°5	F 2
S 3	0 48 27	10°11'13	26°7	2°46	12°59	29°17	23°34	18°18	8°46	22°33	17°2	19°55	21°24	18°40	29°6	S 3
S 4	0 52 23	11°10'24	8♍1	4°4	14°12	29°51	23°44	18°14	8°48	22°36	17°1	19°48	21°21	18°47	29°6	S 4
M 5	0 56 20	12°9'37	19°59	5°21	15°24	0♏25	23°55	18°10	8°50	22°38	17°0	19°43	21°18	18°54	29°6	M 5
T 6	1 0 16	13°8'53	2♊2	6°37	16°37	0°58	24°6	18°6	8°52	22°40	17°0	19°39	21°15	19°1	29°6	T 6
W 7	1 4 13	14°8'10	14°13	7°51	17°50	1°31	24°16	18°2	8°54	22°42	16°59	19°D38	21°11	19°7	29°7	W 7
T 8	1 8 10	15°7'30	26°33	9°4	19°3	2°4	24°27	17°58	8°56	22°44	16°58	19°38	21°8	19°14	29°R 7	T 8
F 9	1 12 6	16°6'52	9♊5	10°15	20°15	2°37	24°37	17°55	8°58	22°47	16°58	19°39	21°5	19°21	29°6	F 9
S 10	1 16 3	17°6'17	21°52	11°25	21°28	3°10	24°47	17°51	9°0	22°49	16°57	19°41	21°2	19°27	29°6	S 10
S 11	1 19 59	18°5'44	4♊56	12°32	22°40	3°43	24°58	17°47	9°2	22°51	16°57	19°42	20°59	19°34	29°6	S 11
M12	1 23 56	19°5'13	18°21	13°37	23°53	4°15	25°8	17°44	9°3	22°53	16°56	19°R43	20°56	19°41	29°6	M12
T 13	1 27 52	20°4'44	2♌9	14°40	25°6	4°48	25°18	17°40	9°5	22°56	16°56	19°42	20°52	19°47	29°5	T 13
W14	1 31 49	21°4'18	16°19	15°41	26°18	5°20	25°28	17°36	9°7	22°58	16°55	19°41	20°49	19°54	29°5	W14
T 15	1 35 45	22°3'54	0♑51	16°39	27°31	5°52	25°37	17°33	9°9	23°0	16°55	19°38	20°46	20°1	29°4	T 15
F 16	1 39 42	23°3'32	15°40	17°33	28°43	6°24	25°47	17°30	9°10	23°2	16°55	19°34	20°43	20°8	29°4	F 16
S 17	1 43 39	24°3'12	0♎40	18°24	29°56	6°55	25°57	17°26	9°12	23°5	16°54	19°30	20°40	20°14	29°3	S 17
S 18	1 47 35	25°2'55	15°42	19°12	1♊8	7°27	26°6	17°23	9°13	23°7	16°54	19°27	20°37	20°21	29°2	S 18
M19	1 51 32	26°2'40	0♍37	19°56	2°21	7°58	26°16	17°20	9°15	23°9	16°54	19°25	20°33	20°28	29°1	M19
T 20	1 55 28	27°2'26	15°17	20°35	3°33	8°29	26°25	17°17	9°16	23°11	16°53	19°D24	20°30	20°34	29°0	T 20
W21	1 59 25	28°2'15	29°36	21°8	4°45	9°0	26°34	17°14	9°17	23°13	16°53	19°24	20°27	20°41	28°59	W21
T 22	2 3 21	29°2'05	13♊29	21°37	5°58	9°31	26°43	17°11	9°19	23°16	16°53	19°25	20°24	20°48	28°58	T 22
F 23	2 7 18	0♍1°58	26°56	21°59	7°10	10°1	26°52	17°9	9°20	23°18	16°53	19°27	20°21	20°55	28°57	F 23
S 24	2 11 14	1°1°51	9♊57	22°15	8°22	10°31	27°1	17°6	9°21	23°20	16°52	19°28	20°17	21°1	28°55	S 24
S 25	2 15 11	2°1°47	22°37	22°23	9°34	11°2	27°10	17°3	9°22	23°22	16°52	19°29	20°14	21°8	28°54	S 25
M26	2 19 8	3°1°44	4♋57	22°R24	10°47	11°31	27°18	17°1	9°23	23°25	16°52	19°R29	20°11	21°15	28°53	M26
T 27	2 23 4	4°1°43	17°4	22°16	11°59	12°1	27°27	16°58	9°25	23°27	16°52	19°29	20°8	21°21	28°51	T 27
W28	2 27 1	5°1°43	29°2	21°59	13°11	12°31	27°35	16°56	9°26	23°29	16°52	19°28	20°5	21°28	28°50	W28
T 29	2 30 57	6°1°45	10♋54	21°33	14°23	13°0	27°43	16°54	9°26	23°31	16°52	19°26	20°2	21°35	28°48	T 29
F 30	2 34 54	7°1°49	22°45	20°57	15°35	13°29	27°51	16°52	9°27	23°33	16°D52	19°24	19°58	21°41	28°46	F 30
S 31	2 38 50	8♍1°54	4♍39	20♍12	16♊47	13♏58	27♏59	16♋50	9♏28	23♏36	16♋52	19♍22	19♍55	21♋48	28♊44	S 31

ASTRODIENST EPHEMERIS for the year 1789
geocentric

NOVEMBER 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	2 42 47	9♉ 2'01	16°V37	19°R17	17°X59	14♉26	28♉ 7	16°R48	9♉29	23♉38	16°X52	19°R21	19♉52	21°X55	28°R42	S 1
M 2	2 46 43	10° 2'10	28°44	18♉15	19°10	14°55	28°15	16°X46	9°30	23°40	16°52	19♉19	19°49	22° 2	28°I40	M 2
T 3	2 50 40	11° 2'20	10°X59	17° 5	20°22	15°23	28°22	16°44	9°30	23°42	16°52	19°19	19°46	22° 8	28°38	T 3
W 4	2 54 37	12° 2'33	23°25	15°50	21°34	15°51	28°30	16°42	9°31	23°44	16°52	19°D19	19°43	22°15	28°36	W 4
T 5	2 58 33	13° 2'47	6°II 3	14°31	22°46	16°18	28°37	16°41	9°31	23°46	16°52	19°19	19°39	22°22	28°34	T 5
F 6	3 2 30	14° 3'03	18°53	13°11	23°57	16°46	28°44	16°39	9°32	23°49	16°52	19°20	19°36	22°28	28°32	F 6
S 7	3 6 26	15° 3'21	1°X57	11°53	25° 9	17°13	28°51	16°38	9°32	23°51	16°53	19°20	19°33	22°35	28°29	S 7
S 8	3 10 23	16° 3'41	15°14	10°40	26°20	17°40	28°58	16°37	9°33	23°53	16°53	19°21	19°30	22°42	28°27	S 8
M 9	3 14 19	17° 4'03	28°46	9°32	27°32	18° 6	29° 5	16°36	9°33	23°55	16°53	19°21	19°27	22°48	28°24	M 9
T 10	3 18 16	18° 4'27	12°X33	8°33	28°43	18°33	29°11	16°35	9°33	23°57	16°53	19°21	19°23	22°55	28°22	T 10
W11	3 22 12	19° 4'53	26°35	7°45	29°55	18°59	29°18	16°34	9°34	23°59	16°54	19°21	19°20	23° 2	28°19	W11
T 12	3 26 9	20° 5'20	10°X50	7° 7	1°X 6	19°24	29°24	16°33	9°34	24° 1	16°54	19°21	19°17	23° 9	28°17	T 12
F 13	3 30 6	21° 5'50	25°16	6°41	2°17	19°50	29°30	16°32	9°34	24° 3	16°54	19°21	19°14	23°15	28°14	F 13
S 14	3 34 2	22° 6'21	9°X50	6°26	3°28	20°15	29°36	16°31	9°R34	24° 5	16°55	19°21	19°11	23°22	28°11	S 14
S 15	3 37 59	23° 6'54	24°25	6°D23	4°39	20°40	29°42	16°31	9°34	24° 7	16°55	19°22	19° 8	23°29	28° 8	S 15
M16	3 41 55	24° 7'29	8°X58	6°31	5°50	21° 5	29°48	16°31	9°34	24° 9	16°56	19°22	19° 4	23°35	28° 5	M16
T 17	3 45 52	25° 8'06	23°21	6°49	7° 1	21°29	29°53	16°30	9°34	24°11	16°56	19°R22	19° 1	23°42	28° 2	T 17
W18	3 49 48	26° 8'44	7°X29	7°17	8°12	21°53	29°58	16°30	9°34	24°13	16°57	19°22	18°58	23°49	27°59	W18
T 19	3 53 45	27° 9'23	21°18	7°53	9°23	22°16	0°X 4	16°D30	9°33	24°15	16°57	19°21	18°55	23°55	27°56	T 19
F 20	3 57 41	28°10'04	4°X46	8°36	10°34	22°40	0° 9	16°30	9°33	24°17	16°58	19°20	18°52	24° 2	27°53	F 20
S 21	4 1 38	29°10'46	17°50	9°27	11°45	23° 3	0°13	16°30	9°33	24°19	16°58	19°19	18°49	24° 9	27°50	S 21
S 22	4 5 35	0°X11'29	0°X34	10°23	12°55	23°25	0°18	16°30	9°32	24°21	16°59	19°17	18°45	24°16	27°47	S 22
M23	4 9 31	1°12'13	12°58	11°24	14° 6	23°47	0°23	16°31	9°32	24°23	16°59	19°16	18°42	24°22	27°43	M23
T 24	4 13 28	2°12'59	25° 7	12°30	15°16	24° 9	0°27	16°31	9°31	24°25	17° 0	19°15	18°39	24°29	27°40	T 24
W25	4 17 24	3°13'45	7°X 6	13°39	16°26	24°31	0°31	16°32	9°31	24°27	17° 1	19°D15	18°36	24°36	27°37	W25
T 26	4 21 21	4°14'32	18°58	14°52	17°37	24°52	0°35	16°32	9°30	24°28	17° 1	19°16	18°33	24°42	27°33	T 26
F 27	4 25 17	5°15'20	0°X49	16° 8	18°47	25°12	0°39	16°33	9°30	24°30	17° 2	19°17	18°29	24°49	27°30	F 27
S 28	4 29 14	6°16'09	12°44	17°26	19°57	25°33	0°42	16°34	9°29	24°32	17° 3	19°18	18°26	24°56	27°26	S 28
S 29	4 33 10	7°16'59	24°45	18°46	21° 6	25°53	0°46	16°35	9°28	24°34	17° 4	19°20	18°23	25° 2	27°23	S 29
M30	4 37 7	8°X17'50	6°X58	20°X 8	22°X16	26°X12	0°X49	16°X36	9°X27	24°X36	17°X 4	19°X21	18°X20	25°X 9	27°X19	M30

Delta T = 21.67 sec

Greg. Calendar

DECEMBER 1789

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	4 41 4	9♉18'42	19°X25	21°X32	23°X26	26°X31	0°X52	16°X37	9°R26	24°X37	17°X 5	19°R22	18°X17	25°X16	27°R16	T 1
W 2	4 45 0	10°19'36	2°II 8	22°57	24°35	26°50	0°55	16°38	9°X26	24°39	17° 6	19°M21	18°14	25°22	27°II12	W 2
T 3	4 48 57	11°20'30	15° 6	24°23	25°45	27° 8	0°58	16°40	9°25	24°41	17° 7	19°19	18°10	25°29	27° 8	T 3
F 4	4 52 53	12°21'25	28°21	25°50	26°54	27°26	1° 0	16°41	9°24	24°42	17° 8	19°17	18° 7	25°36	27° 5	F 4
S 5	4 56 50	13°22'21	11°X51	27°17	28° 3	27°43	1° 3	16°43	9°22	24°44	17° 9	19°13	18° 4	25°43	27° 1	S 5
S 6	5 0 46	14°23'18	25°33	28°46	29°12	28° 0	1° 5	16°45	9°21	24°46	17°10	19° 9	18° 1	25°49	26°57	S 6
M 7	5 4 43	15°24'16	9°X25	0°X15	0°X21	28°16	1° 7	16°46	9°20	24°47	17°11	19° 6	17°58	25°56	26°53	M 7
T 8	5 8 39	16°25'16	23°25	1°45	1°30	28°32	1° 9	16°48	9°19	24°49	17°12	19° 3	17°55	26° 3	26°49	T 8
W 9	5 12 36	17°26'16	7°X31	3°15	2°38	28°48	1°10	16°50	9°18	24°50	17°13	19° 1	17°51	26° 9	26°46	W 9
T 10	5 16 33	18°27'18	21°39	4°45	3°46	29° 3	1°12	16°53	9°16	24°52	17°14	19°D 1	17°48	26°16	26°42	T 10
F 11	5 20 29	19°28'21	5°X49	6°16	4°55	29°17	1°13	16°55	9°15	24°53	17°15	19° 1	17°45	26°23	26°38	F 11
S 12	5 24 26	20°29'24	19°59	7°47	6° 3	29°31	1°14	16°57	9°14	24°55	17°16	19° 3	17°42	26°29	26°34	S 12
S 13	5 28 22	21°30'29	4°X 7	9°18	7°11	29°44	1°15	17° 0	9°12	24°56	17°17	19° 4	17°39	26°36	26°30	S 13
M14	5 32 19	22°31'35	18°10	10°50	8°18	29°57	1°15	17° 2	9°11	24°58	17°18	19°R 5	17°35	26°43	26°26	M14
T 15	5 36 15	23°32'41	2°X 5	12°21	9°26	0°X 9	1°16	17° 5	9° 9	24°59	17°19	19° 4	17°32	26°50	26°22	T 15
W16	5 40 12	24°33'48	15°51	13°53	10°33	0°20	1°16	17° 7	9° 7	25° 0	17°21	19° 2	17°29	26°56	26°18	W16
T 17	5 44 8	25°34'56	29°23	15°26	11°40	0°31	1°R16	17°10	9° 6	25° 2	17°22	18°57	17°26	27° 3	26°14	T 17
F 18	5 48 5	26°36'04	12°X34	16°58	12°47	0°42	1°16	17°13	9° 4	25° 3	17°23	18°51	17°23	27°10	26°11	F 18
S 19	5 52 2	27°37'13	25°39	18°31	13°54	0°52	1°15	17°16	9° 2	25° 4	17°24	18°44	17°20	27°16	26° 7	S 19
S 20	5 55 58	28°38'22	8°X20	20° 4	15° 0	1° 1	1°15	17°19	9° 1	25° 6	17°25	18°37	17°16	27°23	26° 3	S 20
M21	5 59 55	29°39'31	20°45	21°37	16° 7	1° 9	1°14	17°23	8°59	25° 7	17°27	18°30	17°13	27°30	25°59	M21
T 22	6 3 51	0°X40'40	2°X55	23°10	17°13	1°17	1°13	17°26	8°57	25° 8	17°28	18°25	17°10	27°36	25°55	T 22
W23	6 7 48	1°41'50	14°54	24°43	18°19	1°24	1°12	17°29	8°55	25° 9	17°29	18°21	17° 7	27°43	25°51	W23
T 24	6 11 44	2°42'59	26°46	26°17	19°24	1°31	1°11	17°33	8°53	25°10	17°31	18°19	17° 4	27°50	25°47	T 24
F 25	6 15 41	3°44'08	8°X36	27°51	20°29	1°37	1° 9	17°36	8°51	25°11	17°32	18°D19	17° 0	27°56	25°43	F 25
S 26	6 19 37	4°45'18	20°29	29°26	21°34	1°42	1° 7	17°40	8°49	25°12	17°33	18°20	16°57	28° 3	25°39	S 26
S 27	6 23 34	5°46'27	2°X31	1°X 0	22°39	1°46	1° 5	17°44	8°47	25°13	17°35	18°22	16°54	28°10	25°35	S 27
M28	6 27 31	6°47'36	14°46	2°35	23°44	1°50	1° 3	17°48	8°45	25°14	17°36	18°R23	16°51	28°16	25°32	M28
T 29	6 31 27	7°48'45	27°18	4°10	24°48	1°53	1° 1	17°52	8°43	25°15	17°38	18°22	16°48	28°23	25°28	T 29
W30	6 35 24	8°49'54	10°II12	5°46	25°52	1°55	0°59	17°56	8°41	25°16	17°39	18°20	16°45	28°30	25°24	W30
T 31	6 39 20	9°X51'03	23°II27	7°X22	26°X55	1°X57	0°X56	18°X 0	8°X39	25°X17	17°X40	18°X15	16°X41	28°X37	25°X20	T 31

Delta T = 21.66 sec

Greg. Calendar