



# Astrodienst Ephemeris Tables for the year 1442

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 1442

## geocentric

JANUARY 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	7 15 57	19°31'19	11°28'28	1°58'58	8°57'59	7°R53	2°V26	26°R49	7°R33	10°R18	21°R38	26°E24	26°E54	29°M29	20°V48	M 1
T 2	7 19 54	20°32'25	24°26'26	3°38'10	10°11'11	7°J32	2°35'26	26°B47	7°II31	10°M17	21°E37	26°25'26	26°51'29	29°36'20	20°49'20	T 2
W 3	7 23 50	21°33'29	7°2'2	5°17'11	11°23'7	7°11'24	2°44'26	26°45'7	7°29'10	10°16'21	21°35'26	26°26'26	26°47'29	29°43'20	20°49'20	W 3
T 4	7 27 47	22°34'34	19°20'20	6°55'12	12°35'6	6°49'25	2°52'26	26°44'7	7°28'10	10°15'21	21°34'26	26°R26	26°44'29	29°49'20	20°50'20	T 4
F 5	7 31 44	23°35'37	1°M25	8°33'13	13°47'6	6°27'3	3°2'26	26°42'7	7°26'10	10°14'21	21°33'26	26°26'26	26°41'29	29°56'20	20°51'20	F 5
S 6	7 35 40	24°36'41	13°20'10	10°8'14	14°59'6	6°4'3	3°11'26	26°41'7	7°25'10	10°13'21	21°31'26	26°26'26	26°38'0	29°52'20	20°52'20	S 6
S 7	7 39 37	25°37'44	25°10'11	11°42'16	16°11'5	5°41'3	3°20'26	26°39'7	7°23'10	10°12'21	21°30'26	26°25'26	26°35'0	29°53'20	20°53'20	S 7
M 8	7 43 33	26°38'46	7°1'13	13°14'17	17°23'5	5°18'3	3°29'26	26°38'7	7°22'10	10°11'21	21°29'26	26°D25	26°32'0	29°54'20	20°54'20	M 8
T 9	7 47 30	27°39'48	18°55'14	14°43'18	18°36'4	5°55'3	3°39'26	26°37'7	7°20'10	10°10'21	21°27'26	26°25'26	26°28'0	29°55'20	20°55'20	T 9
W10	7 51 26	28°40'49	0°E57	16°9'19	19°48'4	4°31'3	3°49'26	26°36'7	7°19'10	10°8'21	21°26'26	26°26'26	26°25'0	29°56'20	20°56'20	W10
T 11	7 55 23	29°41'49	13°8'17	17°31'21	21°1'4	4°7'3	3°58'26	26°35'7	7°18'10	10°7'21	21°25'26	26°26'26	26°22'0	29°57'20	20°57'20	T 11
F 12	7 59 19	0°A24'48	25°31'18	18°48'22	22°13'3	3°43'4	4°8'26	26°34'7	7°16'10	10°6'21	21°24'26	26°R26	26°19'0	29°58'20	20°58'20	F 12
S 13	8 3 16	1°43'47	8°6'20	20°0'23	23°26'3	3°19'4	4°18'26	26°33'7	7°15'10	10°5'21	21°22'26	26°26'26	26°16'0	29°59'20	20°59'20	S 13
S 14	8 7 13	2°44'44	20°55'21	21°6'24	24°38'2	5°5'4	4°29'26	26°33'7	7°14'10	10°4'21	21°21'26	26°25'26	26°13'0	29°59'20	20°59'20	S 14
M15	8 11 9	3°45'40	3°58'22	22°6'25	25°51'2	2°31'4	4°39'26	26°32'7	7°13'10	10°2'21	21°20'26	26°25'26	26°9'1	29°59'20	20°59'20	M15
T 16	8 15 6	4°46'35	17°14'22	22°57'27	27°3'2	2°7'4	4°49'26	26°32'7	7°12'10	10°1'21	21°18'26	26°24'26	26°6'1	29°59'20	20°59'20	T 16
W17	8 19 2	5°47'28	0°V44	23°41'28	28°16'1	1°43'5	5°0'26	26°32'7	7°11'10	10°0'21	21°17'26	26°22'26	26°3'1	29°59'20	20°59'20	W17
T 18	8 22 59	6°48'20	14°25'24	24°15'29	29°29'1	1°19'5	5°11'26	26°32'7	7°10'10	9°58'21	21°16'26	26°21'26	26°0'1	29°59'20	20°59'20	T 18
F 19	8 26 55	7°49'11	28°19'24	24°39'0	29°41'0	0°56'5	5°21'26	26°D32	7°9'9	9°57'21	21°14'26	26°21'26	25°57'1	29°59'20	20°59'20	F 19
S 20	8 30 52	8°50'00	12°B22	24°53'1	54°0'3	0°33'5	5°32'26	26°32'7	7°8'9	9°56'21	21°13'26	26°D21	25°53'1	29°59'20	20°59'20	S 20
S 21	8 34 48	9°50'48	26°35'24	24°R56	3°7'0	0°10'5	5°43'26	26°32'7	7°7'9	9°54'21	21°12'26	26°21'26	25°50'1	29°59'20	20°59'20	S 21
M22	8 38 45	10°51'34	10°II55	24°49'4	20°29	29°47	5°54'26	26°32'7	7°7'9	9°53'21	21°11'26	26°22'26	25°47'1	29°59'20	20°59'20	M22
T 23	8 42 42	11°52'18	25°19'24	24°30'5	33°29	25°25	6°5'26	26°33'7	7°6'9	9°52'21	21°9'26	26°23'26	25°44'1	29°59'20	20°59'20	T 23
W24	8 46 38	12°53'01	9°E43	24°1'6	46°29	3°3	6°17'26	26°33'7	7°5'9	9°50'21	21°8'26	26°24'26	25°41'2	29°59'20	20°59'20	W24
T 25	8 50 35	13°53'43	24°3'23	22°22'7	59°28	2°42	6°28'26	26°34'7	7°5'9	9°49'21	21°7'26	26°R25	25°38'2	29°59'20	20°59'20	T 25
F 26	8 54 31	14°54'22	8°J13	22°34'9	12°28	2°21	6°39'26	26°35'7	7°4'9	9°47'21	21°6'26	26°25'26	25°34'2	29°59'20	20°59'20	F 26
S 27	8 58 28	15°55'01	22°11'21	21°39'10	25°28	1°28	6°51'26	26°36'7	7°4'9	9°46'21	21°5'26	26°23'26	25°31'2	29°59'20	20°59'20	S 27
S 28	9 2 24	16°55'38	5°M50	20°38'11	38°27	4°1	7°3'26	26°37'7	7°3'9	9°44'21	21°3'26	26°21'26	25°28'2	29°59'20	20°59'20	S 28
M29	9 6 21	17°56'13	19°10'19	19°32'12	51°27	2°22	7°14'26	26°38'7	7°3'9	9°43'21	21°2'26	26°18'26	25°25'2	29°59'20	20°59'20	M29
T 30	9 10 17	18°56'47	2°10'18	24°14'27	3°27	1°3	7°26'26	26°39'7	7°3'9	9°41'21	21°1'26	26°14'26	25°22'2	29°59'20	20°59'20	T 30
W31	9 14 14	19°57'20	14°49'17	17°15'15	31°26	2°45	7°V38	26°B40	7°II2	9°M40	21°E0	26°E11	25°E18	29°59'20	20°59'20	W31

Delta T = 06m44s

Julian Calendar 1 Jan. 1442 == Greg. Calendar 10 Jan. 1442

FEBRUARY 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	9 18 11	20°57'51	27°A11	16°R8	16°J30	26°R28	7°V50	26°B42	7°R2	9°R38	20°R59	26°R8	25°E15	29°M57	21°V33	T 1
F 2	9 22 7	21°58'21	9°M18	15°33	17°43	26°E11	8°2'26	26°43'7	7°II2	9°M37	20°E58	26°E6	25°12'3	29°57'21	21°36'21	F 2
S 3	9 26 4	22°58'50	21°15'14	14°2'18	57°18	5°55'8	8°14'26	26°45'7	7°2'9	9°35'20	20°57'26	26°D5	25°9'2	29°57'21	21°38'21	S 3
S 4	9 30 0	23°59'18	3°A6	13°6'20	10°25	4°40'8	8°27'26	26°47'7	7°2'9	9°33'20	20°55'26	26°5'25	25°6'3	29°57'21	21°41'21	S 4
M 5	9 33 57	24°59'44	14°57'12	12°17'21	23°25	5°25'8	8°39'26	26°49'7	7°D2	9°32'20	20°54'26	26°7'25	25°3'3	29°57'21	21°43'21	M 5
T 6	9 37 53	26°0'09	26°52'11	13°34'22	37°25	12°8'5	8°51'26	26°51'7	7°2'9	9°30'20	20°53'26	26°8'24	24°59'3	29°57'21	21°45'21	T 6
W 7	9 41 50	27°0'32	8°E57	10°58'23	50°24	5°9'4	8°53'26	26°53'7	7°2'9	9°29'20	20°52'26	26°10'24	24°56'3	29°57'21	21°48'21	W 7
T 8	9 45 46	28°0'54	21°14'10	10°30'25	3°24	4°46'9	9°16'26	26°55'7	7°2'9	9°27'20	20°51'26	26°R11	24°53'3	29°57'21	21°51'21	T 8
F 9	9 49 43	29°1'14	3°A47	10°9'26	16°24	3°35'9	9°29'26	26°57'7	7°2'9	9°25'20	20°50'26	26°11'24	24°50'3	29°57'21	21°53'21	F 9
S 10	9 53 40	0°H'132	16°39'9	55°27	30°24	4°9'42	27°0'26	26°57'7	7°2'9	9°24'20	20°49'26	26°9'24	24°47'3	29°57'21	21°56'21	S 10
S 11	9 57 36	1°1'49	29°49'9	48°28	43°24	14°9'54	27°2'26	26°57'7	7°3'9	9°22'20	20°48'26	26°6'24	24°44'4	29°57'21	21°59'21	S 11
M12	10 1 33	2°2'04	13°H18	9°D48	29°57'24	5°10'7	27°5'26	26°57'7	7°3'9	9°20'20	20°47'26	26°1'24	24°40'4	29°57'21	22°1'21	M12
T 13	10 5 29	3°2'17	27°1'9	55°1	18°23	5°23	10°20'26	26°57'7	7°3'9	9°19'20	20°46'26	25°55'24	24°37'4	29°57'21	22°4'21	T 13
W14	10 9 26	4°2'28	10°V58	10°7'2	23°23	5°50'10	10°33'27	26°57'7	7°4'9	9°17'20	20°45'26	25°48'24	24°34'4	29°57'21	22°7'21	W14
T 15	10 13 22	5°2'37	25°2'10	25'10	25'3	43°10	10°46'27	26°57'7	7°4'9	9°15'20	20°45'26	25°43'24	24°31'4	29°57'21	22°10'21	T 15
F 16	10 17 19	6°2'44	9°B12	10°49'4	50°23	37°10	10°59'27	26°57'7	7°5'9	9°14'20	20°44'26	25°38'24	24°28'4	29°57'21	22°13'21	F 16
S 17	10 21 15	7°2'49	23°23'11	17'6	4'23	32°11	11°12'27	26°57'7	7°6'9	9°12'20	20°43'26	25°36'24	24°24'4	29°57'21	22°16'21	S 17
S 18	10 25 12	8°2'52	7°II34	11°50'7	17'23	28°11	11°26'27	26°57'7	7°6'9	9°10'20	20°42'26	25°D35	24°21'4	29°57'21	22°19'21	S 18
M19	10 29 9	9°2'52	21°41'12	28'8	31°23	24°11	11°39'27	26°57'7	7°7'9	9°9'20	20°41'26	25°35'24	24°18'4	29°57'21	22°22'21	M19
T 20	10 33 5	10°2'51	5°E44	13°9'9	44°23	21°11	11°52'27	26°57'7	7°8'9	9°7'20	20°40'26	25°37'24	24°15'5	29°57'21	22°25'21	T 20
W21	10 37 2	11°2'47	19°42'13	55°10	58°23	19°12	12°6'27	26°57'7	7°9'9	9°5'20	20°39'26	25°R38	24°12'5	29°57'21	22°28'21	W21
T 22	10 40 58	12°2'41	3°J33	14°44'12	11'23	18°12	12°19'27	26°57'7	7°9'9	9°4'20	20°39'26	25°37'24	24°9'5	29°57'21	22°31'21	T 22
F 23	10 44 55	13°2'32	17°16'15	36°13	25°23	18°D18	12°33'27	26°57'7	7°10'9	9°2'20	20°38'26	25°35'24	24°5'5	29°57'21	22°34'21	F 23
S 24	10 48 51	14°2'22	0°M49	16°31'14	38°23	18°12	12°46'27	26°57'7	7°11'9	9°0'20	20°37'26	25°31'24	24°2'5	29°57'21	22°37'21	S 24
S 25	10 52 48	15°2'09	14°9'17	29°15	52°23	19°13	13°0'27	26°57'7	7°12'9	8°59'20	20°37'26	25°24'23	23°59'5	29°57'21	22°41'21	S 25
M26	10 56 44	16°1'54	27°16'18	30°17	5°23	21°13	13°13'27	26°57'7	7°14'9	8°57'20	20°36'26	25°16'23	23°56'5	29°57'21	22°44'21	M26
T 27	11 0 41	17°1'38	10°A6	19°33'18	19°18	23°23	13°27'27	26°57'7	7°15'9	8°55'20	20°35'26	25°6'23	23°53'5	29°57'21	22°47'21	T 27
W28	11 4 38	18°H'119	22°41'20	39°19	32°19	23°26	13°V41	28°B1	7°II16	8°M54	20°E35	24°E57	23°E50	29°57'21	22°V50	W28

Delta T = 06m43s

# ASTRODIENST EPHEMERIS for the year 1442

## geocentric

MARCH 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	11 8 34	19°05'59	5°00'00	21°47'47	20°46'46	23°30'30	13°54'54	28°05'05	7°11'17	8°R52	20°R34	24°R48	23°46'46	6°47'47	22°54'54	T 1
F 2	11 12 31	20°03'37	17°00'00	22°57'57	21°59'59	23°35'35	14°08'08	28°10'10	7°18'18	8°R50	20°R33	24°R41	23°43'43	6°11'11	22°57'57	F 2
S 3	11 16 27	21°01'13	29°00'00	24°10'10	23°13'13	23°40'40	14°22'22	28°14'14	7°20'20	8°49'49	20°33'33	24°36'36	23°40'40	6°18'18	23°01'01	S 3
S 4	11 20 24	21°59'47	10°47'55	25°24'24	24°26'26	23°45'45	14°36'36	28°19'19	7°21'21	8°47'47	20°32'32	24°33'33	23°37'37	6°24'24	23°04'04	S 4
M 5	11 24 20	22°59'20	22°45'45	26°40'40	25°40'40	23°52'52	14°50'50	28°23'23	7°23'23	8°46'46	20°32'32	24°D32	23°34'34	6°31'31	23°08'08	M 5
T 6	11 28 17	23°58'51	4°34'40	27°58'58	26°54'54	23°59'59	15°04'04	28°28'28	7°24'24	8°44'44	20°31'31	24°33'33	23°30'30	6°38'38	23°11'11	T 6
W 7	11 32 13	24°58'20	16°44'44	29°18'18	28°07'07	24°07'07	15°18'18	28°33'33	7°26'26	8°42'42	20°31'31	24°34'34	23°27'27	6°44'44	23°15'15	W 7
T 8	11 36 10	25°57'47	29°03'03	0°39'39	29°21'21	24°15'15	15°32'32	28°38'38	7°27'27	8°41'41	20°30'30	24°R34	23°24'24	6°51'51	23°18'18	T 8
F 9	11 40 06	26°57'12	11°44'41	2°03'03	0°34'34	24°24'24	15°46'46	28°43'43	7°29'29	8°39'39	20°30'30	24°32'32	23°21'21	6°58'58	23°22'22	F 9
S 10	11 44 03	27°56'36	24°42'42	3°27'27	1°48'48	24°33'33	16°00'00	28°48'48	7°30'30	8°38'38	20°30'30	24°29'29	23°18'18	7°04'04	23°25'25	S 10
S 11	11 48 00	28°55'57	8°38'38	4°54'54	3°02'02	24°43'43	16°14'14	28°53'53	7°32'32	8°36'36	20°29'29	24°22'22	23°15'15	7°11'11	23°29'29	S 11
M 12	11 51 56	29°55'17	21°56'56	6°21'21	4°15'15	24°54'54	16°28'28	28°58'58	7°34'34	8°35'35	20°29'29	24°14'14	23°11'11	7°18'18	23°32'32	M 12
T 13	11 55 53	0°54'34	6°54'54	7°51'51	5°29'29	25°05'05	16°42'42	29°03'03	7°36'36	8°33'33	20°28'28	24°03'03	23°08'08	7°25'25	23°36'36	T 13
W 14	11 59 49	1°53'50	20°29'29	9°22'22	6°42'42	25°17'17	16°56'56	29°09'09	7°38'38	8°32'32	20°28'28	23°53'53	23°05'05	7°31'31	23°40'40	W 14
T 15	12 03 46	2°53'03	5°08'08	10°54'54	7°56'56	25°29'29	17°11'11	29°14'14	7°39'39	8°30'30	20°28'28	23°43'43	23°02'02	7°38'38	23°43'43	T 15
F 16	12 07 42	3°52'14	19°37'37	12°28'28	9°10'10	25°42'42	17°25'25	29°20'20	7°41'41	8°29'29	20°28'28	23°34'34	22°59'59	7°45'45	23°47'47	F 16
S 17	12 11 39	4°51'23	4°11'11	14°03'03	10°23'23	25°55'55	17°39'39	29°25'25	7°43'43	8°27'27	20°27'27	23°28'28	22°55'55	7°51'51	23°51'51	S 17
S 18	12 15 35	5°50'29	18°28'28	15°40'40	11°37'37	26°09'09	17°53'53	29°31'31	7°45'45	8°26'26	20°27'27	23°25'25	22°52'52	7°58'58	23°55'55	S 18
M 19	12 19 32	6°49'33	2°03'03	17°18'18	12°50'50	26°23'23	18°08'08	29°37'37	7°48'48	8°24'24	20°27'27	23°D24	22°49'49	8°05'05	23°58'58	M 19
T 20	12 23 29	7°48'35	16°33'33	18°58'58	14°04'04	26°38'38	18°22'22	29°42'42	7°50'50	8°23'23	20°27'27	23°R24	22°46'46	8°11'11	24°02'02	T 20
W 21	12 27 25	8°47'34	0°02'02	20°39'39	15°18'18	26°53'53	18°36'36	29°48'48	7°52'52	8°21'21	20°27'27	23°24'24	22°43'43	8°18'18	24°06'06	W 21
T 22	12 31 22	9°46'31	13°47'47	22°22'22	16°31'31	27°09'09	18°50'50	29°54'54	7°54'54	8°20'20	20°27'27	23°23'23	22°40'40	8°25'25	24°10'10	T 22
F 23	12 35 18	10°45'26	27°07'07	24°06'06	17°45'45	27°25'25	19°05'05	0°11'11	7°56'56	8°19'19	20°27'27	23°19'19	22°36'36	8°31'31	24°13'13	F 23
S 24	12 39 15	11°44'19	10°16'16	25°51'51	18°58'58	27°42'42	19°19'19	0°06'06	7°59'59	8°17'17	20°27'27	23°12'12	22°33'33	8°38'38	24°17'17	S 24
S 25	12 43 11	12°43'09	23°14'14	27°39'39	20°12'12	27°59'59	19°33'33	0°12'12	8°01'01	8°16'16	20°D27	23°03'03	22°30'30	8°45'45	24°21'21	S 25
M 26	12 47 08	13°41'57	6°01'01	29°27'27	21°26'26	28°16'16	19°48'48	0°18'18	8°03'03	8°15'15	20°27'27	22°51'51	22°27'27	8°51'51	24°25'25	M 26
T 27	12 51 04	14°40'43	18°36'36	1°17'17	22°39'39	28°34'34	20°02'02	0°25'25	8°06'06	8°13'13	20°27'27	22°38'38	22°24'24	8°58'58	24°29'29	T 27
W 28	12 55 01	15°39'27	0°15'15	3°09'09	23°53'53	28°52'52	20°17'17	0°31'31	8°08'08	8°12'12	20°27'27	22°24'24	22°21'21	9°05'05	24°33'33	W 28
T 29	12 58 58	16°38'09	13°11'11	5°02'02	25°06'06	29°11'11	20°31'31	0°37'37	8°11'11	8°11'11	20°27'27	22°12'12	22°17'17	9°11'11	24°36'36	T 29
F 30	13 02 54	17°36'49	25°13'13	6°57'57	26°20'20	29°30'30	20°45'45	0°44'44	8°13'13	8°10'10	20°27'27	22°01'01	22°14'14	9°18'18	24°40'40	F 30
S 31	13 06 51	18°35'28	7°07'07	8°53'53	27°34'34	29°49'49	21°00'00	0°11'11	8°16'16	8°09'09	20°R27	21°R53	22°R11	9°25'25	24°44'44	S 31

Delta T = 06m43s

Julian Calendar 1 March 1442 == Greg. Calendar 10 March 1442

APRIL 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	13 10 47	19°34'04	18°57'57	10°51'51	28°47'47	0°02'02	21°14'14	0°11'11	8°11'11	8°R07	20°R27	21°R47	22°R08	9°47'47	24°48'48	S 1
M 2	13 14 44	20°32'39	0°34'46	12°50'50	0°17'17	0°29'29	21°29'29	1°03'03	8°21'21	8°R06	20°27'27	21°R45	22°05'05	9°38'38	24°52'52	M 2
T 3	13 18 40	21°31'13	12°39'39	14°51'51	1°14'14	0°49'49	21°43'43	1°10'10	8°23'23	8°05'05	20°27'27	21°44'44	22°01'01	9°45'45	24°56'56	T 3
W 4	13 22 37	22°29'44	24°42'42	16°53'53	2°28'28	1°10'10	21°57'57	1°17'17	8°26'26	8°04'04	20°28'28	21°43'43	21°58'58	9°52'52	25°00'00	W 4
T 5	13 26 33	23°28'14	6°45'59	18°56'56	3°42'42	1°31'31	22°12'12	1°23'23	8°29'29	8°03'03	20°28'28	21°43'43	21°55'55	9°58'58	25°04'04	T 5
F 6	13 30 30	24°26'43	19°37'37	21°01'01	4°55'55	1°52'52	22°26'26	1°30'30	8°32'32	8°02'02	20°28'28	21°41'41	21°52'52	10°05'05	25°08'08	F 6
S 7	13 34 27	25°25'09	2°39'39	23°07'07	6°09'09	2°14'14	22°41'41	1°37'37	8°34'34	8°01'01	20°29'29	21°38'38	21°49'49	10°12'12	25°11'11	S 7
S 8	13 38 23	26°23'34	16°09'09	25°14'14	7°22'22	2°36'36	22°55'55	1°44'44	8°37'37	8°00'00	20°29'29	21°31'31	21°46'46	10°18'18	25°15'15	S 8
M 9	13 42 20	27°21'57	0°17'17	27°22'22	8°36'36	2°59'59	23°09'09	1°51'51	8°40'40	7°59'59	20°29'29	21°22'22	21°42'42	10°25'25	25°19'19	M 9
T 10	13 46 16	28°20'19	14°30'30	29°30'30	9°49'49	3°21'21	23°24'24	1°58'58	8°43'43	7°58'58	20°30'30	21°11'11	21°39'39	10°32'32	25°23'23	T 10
W 11	13 50 13	29°18'39	29°13'39	1°39'39	11°03'03	3°44'44	23°38'38	2°05'05	8°46'46	7°57'57	20°30'30	21°00'00	21°36'36	10°38'38	25°27'27	W 11
T 12	13 54 09	0°16'57	14°08'08	3°48'48	12°17'17	4°08'08	23°52'52	2°12'12	8°49'49	7°56'56	20°30'30	20°49'49	21°33'33	10°45'45	25°31'31	T 12
F 13	13 58 06	1°15'13	29°08'08	8°57'57	13°30'30	4°31'31	24°07'07	2°19'19	8°52'52	7°55'55	20°31'31	20°40'40	21°30'30	10°52'52	25°35'35	F 13
S 14	14 02 02	2°13'27	14°11'11	8°05'05	14°44'44	4°55'55	24°21'21	2°26'26	8°55'55	7°54'54	20°31'31	20°34'34	21°26'26	10°58'58	25°39'39	S 14
S 15	14 05 59	3°11'40	28°40'40	10°14'14	15°57'57	5°19'19	24°35'35	2°33'33	8°58'58	7°54'54	20°32'32	20°30'30	21°23'23	11°05'05	25°43'43	S 15
M 16	14 09 55	4°09'50	13°02'02	12°21'21	17°11'11	5°43'43	24°50'50	2°40'40	9°01'01	7°53'53	20°32'32	20°29'29	21°20'20	11°12'12	25°47'47	M 16
T 17	14 13 52	5°07'58	27°03'03	14°27'27	18°24'24	6°08'08	25°04'04	2°48'48	9°04'04	7°52'52	20°33'33	20°D29	21°17'17	11°18'18	25°50'50	T 17
W 18	14 17 49	6°06'05	10°04'45	16°31'31	19°38'38	6°33'33	25°18'18	2°55'55	9°07'07	7°51'51	20°34'34	20°R29	21°14'14	11°25'25	25°54'54	W 18
T 19	14 21 45	7°04'09	24°08'08	18°34'34	20°52'52	6°58'58	25°32'32	3°02'02	9°10'10	7°51'51	20°34'34	20°28'28	21°11'11	11°32'32	25°58'58	T 19
F 20	14 25 42	8°02'11	7°15'15	20°34'34	22°05'05	7°24'24	25°47'47	3°10'10	9°13'13	7°50'50	20°35'35	20°24'24	21°07'07	11°38'38	26°02'02	F 20
S 21	14 29 38	9°00'11	20°07'07	22°33'33	23°19'19	7°49'49	26°01'01	3°17'17	9°16'16	7°49'49	20°35'35	20°19'19	21°04'04	11°45'45	26°06'06	S 21
S 22	14 33 35	9°58'10	2°47'47	24°29'29	24°32'32	8°15'15	26°15'15	3°24'24	9°19'19	7°49'49	20°36'36	20°10'10	21°01'01	11°52'52	26°10'10	S 22
M 23	14 37 31	10°56'06	15°16'16	26°22'22	25°46'46	8°41'41	26°29'29	3°32'32	9°23'23	7°48'48	20°37'37	20°00'00	20°58'58	11°58'58	26°13'13	M 23
T 24	14 41 28	11°54'01	27°36'36	28°12'12	26°59'59	9°07'07	26°43'43	3°39'39	9°26'26	7°48'48	20°38'38	19°48'48	20°55'55	12°05'05	26°17'17	T 24
W 25	14 45 24	12°51'54	9°14'46	29°59'59	28°13'13	9°34'34	26°57'57	3°47'47	9°29'29	7°47'47	20°38'38	19°35'35	20°52'52	12°12'12	26°21'21	W 25
T 26	14 49 21	13°49'46	21°49'49	1°14'43	29°26'26	10°01'01	27°11'11	3°54'54	9°32'32	7°47'47	20°39'39	19°24'24	20°48'48	12°18'18	26°25'25	T 26
F 27	14 53 18	14°47'37	3°47'37	3°24'44	3°24'44	0°40'40	10°28'28	27°25'25	4°02'02	9°36'36	7°46'46	20°40'40	19°14'14	20°45'45	12°25'25	F 27
S 28	14 57 14	15°45'25	15°35'35	5°01'01	1°53'53	1°53'53	10°55'55	27°39'39	4°09'09	9°39'39	7°46'46	20°41'41	19°07'07	20°42'42	12°32'32	S 28
S 29	15 01 11	16°43'13	27°24'24	6°35'35	3°07'07	11°22'22	27°53'53	4°17'17	9°42'42	7°45'45	20°41'41	19°02'02	20°39'39	12°38'38	26°36'36	S 29
M 30	15 05 07	17°40'59	9°32'12	8°11'11	4°32'12	11°05'05	28°07'07	4°11'11	9°41'41	7°45'45	20°42'42	19°00'00	20°36'36	12°45'45	26°40'40	M 30

ASTRODIENST EPHEMERIS for the year 1442  
geocentric

MAY 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	15 9 4	18♂38'44	21♂6	9♂33	5♂34	12♂18	28♂21	4♂32	9♂49	7♂45	20♂43	18♂59	20♂32	12♂52	26♂43	T 1
W 2	15 13 0	19°36'28	3♂8	10°57	6°48	12°45	28°35	4°40	9°52	7♂44	20°44	19♂0	20°29	12°58	26°47	W 2
T 3	15 16 57	20°34'11	15°25	12°16	8°1	13°14	28°49	4°48	9°56	7°44	20°45	19°R 1	20°26	13°5	26°51	T 3
F 4	15 20 53	21°31'53	28°0	13°33	9°15	13°42	29°3	4°55	9°59	7°44	20°46	19°0	20°23	13°12	26°54	F 4
S 5	15 24 50	22°29'33	10♂59	14°45	10°28	14°10	29°17	5°3	10°3	7°44	20°47	18°59	20°20	13°18	26°58	S 5
S 6	15 28 47	23°27'13	24°26	15°54	11°42	14°39	29°30	5°11	10°6	7°44	20°48	18°55	20°17	13°25	27°2	S 6
M 7	15 32 43	24°24'51	8♂22	16°59	12°55	15°8	29°44	5°19	10°9	7°43	20°49	18°49	20°13	13°32	27°5	M 7
T 8	15 36 40	25°22'29	22°46	18°0	14°9	15°37	29°58	5°26	10°13	7°43	20°50	18°42	20°10	13°39	27°9	T 8
W 9	15 40 36	26°20'05	7♂34	18°57	15°22	16°6	0♂11	5°34	10°16	7°43	20°51	18°34	20°7	13°45	27°12	W 9
T 10	15 44 33	27°17'41	22°39	19°50	16°36	16°36	0°25	5°42	10°20	7°D43	20°52	18°27	20°4	13°52	27°16	T 10
F 11	15 48 29	28°15'15	7♂51	20°39	17°49	17°5	0°38	5°50	10°23	7°43	20°53	18°20	20°1	13°59	27°19	F 11
S 12	15 52 26	29°12'48	23°0	21°23	19°3	17°35	0°52	5°58	10°27	7°43	20°54	18°16	19°58	14°5	27°23	S 12
S 13	15 56 22	0♂10'20	7♂57	22°4	20°17	18°5	1°5	6°5	10°30	7°43	20°55	18°14	19°54	14°12	27°26	S 13
M14	16 0 19	1°7'51	22°34	22°40	21°30	18°35	1°19	6°13	10°34	7°43	20°56	18°D13	19°51	14°19	27°30	M14
T 15	16 4 16	2°5'20	6♂48	23°12	22°44	19°5	1°32	6°21	10°37	7°44	20°58	18°14	19°48	14°25	27°33	T 15
W16	16 8 12	3°2'48	20°37	23°39	23°57	19°36	1°45	6°29	10°41	7°44	20°59	18°15	19°45	14°32	27°36	W16
T 17	16 12 9	4°0'14	4♂2	24°1	25°11	20°6	1°59	6°37	10°44	7°44	21°0	18°R16	19°42	14°39	27°40	T 17
F 18	16 16 5	4°57'40	17°6	24°20	26°24	20°37	2°12	6°45	10°48	7°44	21°1	18°15	19°38	14°45	27°43	F 18
S 19	16 20 2	5°55'04	29°52	24°33	27°38	21°8	2°25	6°52	10°52	7°44	21°2	18°13	19°35	14°52	27°46	S 19
S 20	16 23 58	6°52'27	12♂22	24°42	28°51	21°38	2°38	7°0	10°55	7°45	21°4	18°8	19°32	14°59	27°49	S 20
M21	16 27 55	7°49'48	24°40	24°R46	0♂5	22°10	2°51	7°8	10°59	7°45	21°5	18°2	19°29	15°5	27°53	M21
T 22	16 31 51	8°47'09	6♂47	24°46	1°19	22°41	3°4	7°16	11°2	7°45	21°6	17°56	19°26	15°12	27°56	T 22
W23	16 35 48	9°44'29	18°47	24°41	2°32	23°12	3°17	7°24	11°6	7°46	21°8	17°49	19°23	15°19	27°59	W23
T 24	16 39 45	10°41'48	0♂42	24°32	3°46	23°44	3°30	7°32	11°9	7°46	21°9	17°42	19°19	15°25	28°2	T 24
F 25	16 43 41	11°39'06	12°33	24°19	4°59	24°15	3°42	7°39	11°13	7°47	21°10	17°37	19°16	15°32	28°5	F 25
S 26	16 47 38	12°36'23	24°22	24°2	6°13	24°47	3°55	7°47	11°16	7°47	21°11	17°33	19°13	15°39	28°8	S 26
S 27	16 51 34	13°33'40	6♂11	23°41	7°26	25°19	4°8	7°55	11°20	7°48	21°13	17°31	19°10	15°45	28°11	S 27
M28	16 55 31	14°30'56	18°3	23°17	8°40	25°51	4°20	8°3	11°24	7°48	21°14	17°D30	19°7	15°52	28°14	M28
T 29	16 59 27	15°28'12	0♂1	22°50	9°54	26°23	4°33	8°11	11°27	7°49	21°16	17°31	19°4	15°59	28°17	T 29
W30	17 3 24	16°25'27	12°7	22°20	11°7	26°55	4°45	8°19	11°31	7°49	21°17	17°32	19°0	16°5	28°20	W30
T 31	17 7 21	17°12'42	24♂27	21♂48	12♂21	27♂28	4♂57	8♂26	11♂34	7♂50	21♂18	17♂34	18♂57	16♂12	28♂23	T 31

Delta T = 06m43s

Julian Calendar 1 May 1442 == Greg. Calendar 10 May 1442

JUNE 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	17 11 17	18♂19'57	7♂3	21°R15	13♂34	28♂0	5♂10	8♂34	11♂38	7♂51	21♂20	17♂35	18♂54	16♂19	28♂26	F 1
S 2	17 15 14	19°17'11	20°0	20♂41	14°48	28°33	5°22	8°42	11°41	7°51	21°21	17°R35	18°51	16°25	28°29	S 2
S 3	17 19 10	20°14'25	3♂22	20°7	16°2	29°5	5°34	8°50	11°45	7°52	21°23	17°35	18°48	16°32	28°31	S 3
M 4	17 23 7	21°11'39	17°10	19°33	17°15	29°38	5°46	8°57	11°48	7°53	21°24	17°33	18°44	16°39	28°34	M 4
T 5	17 27 3	22°8'53	1♂25	18°59	18°29	0♂11	5°58	9°5	11°52	7°54	21°26	17°30	18°41	16°45	28°37	T 5
W 6	17 31 0	23°6'07	16°5	18°27	19°43	0°44	6°10	9°13	11°55	7°55	21°27	17°27	18°38	16°52	28°39	W 6
T 7	17 34 56	24°3'20	1♂4	17°57	20°56	1°18	6°22	9°20	11°59	7°55	21°29	17°24	18°35	16°59	28°42	T 7
F 8	17 38 53	25°0'34	16°14	17°30	22°10	1°51	6°34	9°28	12°2	7°56	21°30	17°21	18°32	17°5	28°44	F 8
S 9	17 42 50	25°57'47	1♂25	17°5	23°24	2°24	6°45	9°36	12°6	7°57	21°32	17°20	18°29	17°12	28°47	S 9
S 10	17 46 46	26°55'00	16°29	16°44	24°37	2°58	6°57	9°43	12°9	7°58	21°33	17°D19	18°25	17°19	28°49	S 10
M11	17 50 43	27°52'13	1♂16	16°26	25°51	3°31	7°8	9°51	12°13	7°59	21°35	17°20	18°22	17°25	28°52	M11
T 12	17 54 39	28°49'25	15°41	16°13	27°5	4°5	7°20	9°59	12°16	8°0	21°36	17°21	18°19	17°32	28°54	T 12
W13	17 58 36	29°46'37	29°41	16°4	28°18	4°39	7°31	10°6	12°20	8°1	21°38	17°22	18°16	17°39	28°57	W13
T 14	18 2 32	0♂43'48	13♂14	15°D59	29°32	5°13	7°42	10°14	12°23	8°2	21°39	17°23	18°13	17°45	28°59	T 14
F 15	18 6 29	1°40'59	26°22	15°59	0♂46	5°47	7°53	10°21	12°26	8°3	21°41	17°R24	18°10	17°52	29°1	F 15
S 16	18 10 25	2°38'10	9♂8	16°4	2°0	6°21	8°5	10°29	12°30	8°5	21°42	17°24	18°6	17°59	29°3	S 16
S 17	18 14 22	3°35'20	21°35	16°14	3°13	6°56	8°15	10°36	12°33	8°6	21°44	17°23	18°3	18°5	29°5	S 17
M18	18 18 19	4°32'30	3♂48	16°29	4°27	7°30	8°26	10°44	12°37	8°7	21°46	17°22	18°0	18°12	29°8	M18
T 19	18 22 15	5°29'40	15°49	16°49	5°41	8°4	8°37	10°51	12°40	8°8	21°47	17°20	17°57	18°19	29°10	T 19
W20	18 26 12	6°26'50	27°43	17°14	6°55	8°39	8°48	10°58	12°43	8°9	21°49	17°19	17°54	18°25	29°12	W20
T 21	18 30 8	7°23'59	9♂34	17°44	8°8	9°14	8°58	11°6	12°47	8°11	21°50	17°17	17°50	18°32	29°14	T 21
F 22	18 34 5	8°21'09	21°22	18°19	9°22	9°48	9°9	11°13	12°50	8°12	21°52	17°16	17°47	18°39	29°15	F 22
S 23	18 38 1	9°18'19	3♂13	18°59	10°36	10°23	9°19	11°20	12°53	8°13	21°54	17°15	17°44	18°45	29°17	S 23
S 24	18 41 58	10°15'29	15°6	19°44	11°50	10°58	9°29	11°28	12°56	8°15	21°55	17°D15	17°41	18°52	29°19	S 24
M25	18 45 54	11°12'39	27°6	20°33	13°3	11°33	9°39	11°35	13°0	8°16	21°57	17°15	17°38	18°59	29°21	M25
T 26	18 49 51	12°9'50	9♂13	21°28	14°17	12°8	9°49	11°42	13°3	8°17	21°59	17°16	17°35	19°5	29°23	T 26
W27	18 53 48	13°7'01	21°30	22°28	15°31	12°44	9°59	11°49	13°6	8°19	22°0	17°16	17°31	19°12	29°24	W27
T 28	18 57 44	14°4'13	3♂59	23°32	16°45	13°19	10°9	11°56	13°9	8°20	22°2	17°16	17°28	19°19	29°26	T 28
F 29	19 1 41	15°1'25	16°44	24°41	17°59	13°54	10°19	12°3	13°12	8°22	22°4	17°17	17°25	19°25	29°27	F 29
S 30	19 5 37	15♂58'37	29♂45	25♂54	19♂13	14♂30	10♂28	12♂10	13♂16	8♂23	22♂5	17♂17	17♂22	19♂32	29♂29	S 30

Delta T = 06m43s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1442  
geocentric

JULY 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	19 9 34	16 <sup>55</sup> 50	13 <sup>3</sup> 6	27 <sup>11</sup> 12	20 <sup>26</sup> 26	15 <sup>17</sup> 5	10 <sup>8</sup> 38	12 <sup>11</sup> 17	13 <sup>11</sup> 19	8 <sup>17</sup> 25	22 <sup>26</sup> 7	17 <sup>26</sup> 17	17 <sup>26</sup> 19	19 <sup>27</sup> 39	29 <sup>17</sup> 30	S 1
M 2	19 13 30	17 <sup>53</sup> 05	26 <sup>48</sup>	28 <sup>34</sup>	21 <sup>40</sup>	15 <sup>41</sup>	10 <sup>47</sup>	12 <sup>24</sup>	13 <sup>22</sup>	8 <sup>26</sup>	22 <sup>9</sup>	17 <sup>17</sup>	17 <sup>16</sup>	19 <sup>45</sup>	29 <sup>32</sup>	M 2
T 3	19 17 27	18 <sup>50</sup> 20	10 <sup>8</sup> 52	0 <sup>26</sup> 1	22 <sup>54</sup>	16 <sup>17</sup>	10 <sup>56</sup>	12 <sup>31</sup>	13 <sup>25</sup>	8 <sup>28</sup>	22 <sup>10</sup>	17 <sup>17</sup>	17 <sup>12</sup>	19 <sup>52</sup>	29 <sup>33</sup>	T 3
W 4	19 21 23	19 <sup>47</sup> 35	25 <sup>16</sup>	1 <sup>32</sup>	24 <sup>8</sup>	16 <sup>53</sup>	11 <sup>5</sup>	12 <sup>38</sup>	13 <sup>28</sup>	8 <sup>29</sup>	22 <sup>12</sup>	17 <sup>17</sup>	17 <sup>9</sup>	19 <sup>59</sup>	29 <sup>34</sup>	W 4
T 5	19 25 20	20 <sup>44</sup> 52	9 <sup>11</sup> 58	3 <sup>7</sup>	25 <sup>22</sup>	17 <sup>29</sup>	11 <sup>14</sup>	12 <sup>44</sup>	13 <sup>31</sup>	8 <sup>31</sup>	22 <sup>14</sup>	17 <sup>17</sup>	17 <sup>6</sup>	20 <sup>5</sup>	29 <sup>36</sup>	T 5
F 6	19 29 17	21 <sup>42</sup> 09	24 <sup>52</sup>	4 <sup>46</sup>	26 <sup>36</sup>	18 <sup>5</sup>	11 <sup>23</sup>	12 <sup>51</sup>	13 <sup>34</sup>	8 <sup>33</sup>	22 <sup>15</sup>	17 <sup>18</sup>	17 <sup>3</sup>	20 <sup>12</sup>	29 <sup>37</sup>	F 6
S 7	19 33 13	22 <sup>39</sup> 28	9 <sup>26</sup> 51	6 <sup>28</sup>	27 <sup>50</sup>	18 <sup>41</sup>	11 <sup>32</sup>	12 <sup>58</sup>	13 <sup>37</sup>	8 <sup>34</sup>	22 <sup>17</sup>	17 <sup>18</sup>	17 <sup>0</sup>	20 <sup>19</sup>	29 <sup>38</sup>	S 7
S 8	19 37 10	23 <sup>36</sup> 47	24 <sup>47</sup>	8 <sup>14</sup>	29 <sup>4</sup>	19 <sup>17</sup>	11 <sup>40</sup>	13 <sup>5</sup>	13 <sup>40</sup>	8 <sup>36</sup>	22 <sup>19</sup>	17 <sup>18</sup>	16 <sup>56</sup>	20 <sup>25</sup>	29 <sup>39</sup>	S 8
M 9	19 41 6	24 <sup>34</sup> 07	9 <sup>2</sup> 32	10 <sup>4</sup>	0 <sup>18</sup>	19 <sup>53</sup>	11 <sup>49</sup>	13 <sup>11</sup>	13 <sup>43</sup>	8 <sup>38</sup>	22 <sup>20</sup>	17 <sup>18</sup>	16 <sup>53</sup>	20 <sup>32</sup>	29 <sup>40</sup>	M 9
T 10	19 45 3	25 <sup>31</sup> 27	24 <sup>0</sup>	11 <sup>56</sup>	1 <sup>32</sup>	20 <sup>30</sup>	11 <sup>57</sup>	13 <sup>18</sup>	13 <sup>45</sup>	8 <sup>39</sup>	22 <sup>22</sup>	17 <sup>17</sup>	16 <sup>50</sup>	20 <sup>39</sup>	29 <sup>41</sup>	T 10
W 11	19 48 59	26 <sup>28</sup> 47	8 <sup>17</sup> 4	13 <sup>51</sup>	2 <sup>46</sup>	21 <sup>6</sup>	12 <sup>5</sup>	13 <sup>24</sup>	13 <sup>48</sup>	8 <sup>41</sup>	22 <sup>24</sup>	17 <sup>16</sup>	16 <sup>47</sup>	20 <sup>45</sup>	29 <sup>42</sup>	W 11
T 12	19 52 56	27 <sup>26</sup> 09	21 <sup>43</sup>	15 <sup>49</sup>	4 <sup>0</sup>	21 <sup>43</sup>	12 <sup>13</sup>	13 <sup>31</sup>	13 <sup>51</sup>	8 <sup>43</sup>	22 <sup>25</sup>	17 <sup>15</sup>	16 <sup>44</sup>	20 <sup>52</sup>	29 <sup>43</sup>	T 12
F 13	19 56 52	28 <sup>23</sup> 31	4 <sup>2</sup> 57	17 <sup>49</sup>	5 <sup>14</sup>	22 <sup>19</sup>	12 <sup>21</sup>	13 <sup>37</sup>	13 <sup>54</sup>	8 <sup>45</sup>	22 <sup>27</sup>	17 <sup>14</sup>	16 <sup>41</sup>	20 <sup>58</sup>	29 <sup>44</sup>	F 13
S 14	20 0 49	29 <sup>20</sup> 53	17 <sup>46</sup>	19 <sup>50</sup>	6 <sup>28</sup>	22 <sup>56</sup>	12 <sup>29</sup>	13 <sup>43</sup>	13 <sup>57</sup>	8 <sup>46</sup>	22 <sup>29</sup>	17 <sup>13</sup>	16 <sup>37</sup>	21 <sup>5</sup>	29 <sup>44</sup>	S 14
S 15	20 4 46	0 <sup>18</sup> 16	0 <sup>11</sup> 15	21 <sup>53</sup>	7 <sup>41</sup>	23 <sup>33</sup>	12 <sup>37</sup>	13 <sup>49</sup>	13 <sup>59</sup>	8 <sup>48</sup>	22 <sup>30</sup>	17 <sup>12</sup>	16 <sup>34</sup>	21 <sup>12</sup>	29 <sup>45</sup>	S 15
M 16	20 8 42	1 <sup>15</sup> 40	12 <sup>27</sup>	23 <sup>56</sup>	8 <sup>55</sup>	24 <sup>10</sup>	12 <sup>44</sup>	13 <sup>56</sup>	14 <sup>2</sup>	8 <sup>50</sup>	22 <sup>32</sup>	17 <sup>13</sup>	16 <sup>31</sup>	21 <sup>18</sup>	29 <sup>46</sup>	M 16
T 17	20 12 39	2 <sup>13</sup> 04	24 <sup>27</sup>	26 <sup>1</sup>	10 <sup>9</sup>	24 <sup>47</sup>	12 <sup>51</sup>	14 <sup>2</sup>	14 <sup>5</sup>	8 <sup>52</sup>	22 <sup>33</sup>	17 <sup>14</sup>	16 <sup>28</sup>	21 <sup>25</sup>	29 <sup>46</sup>	T 17
W 18	20 16 35	3 <sup>10</sup> 29	6 <sup>2</sup> 19	28 <sup>6</sup>	11 <sup>23</sup>	25 <sup>24</sup>	12 <sup>59</sup>	14 <sup>8</sup>	14 <sup>7</sup>	8 <sup>54</sup>	22 <sup>35</sup>	17 <sup>15</sup>	16 <sup>25</sup>	21 <sup>32</sup>	29 <sup>47</sup>	W 18
T 19	20 20 32	4 <sup>7</sup> 55	18 <sup>8</sup>	0 <sup>11</sup>	12 <sup>37</sup>	26 <sup>1</sup>	13 <sup>6</sup>	14 <sup>14</sup>	14 <sup>10</sup>	8 <sup>56</sup>	22 <sup>37</sup>	17 <sup>16</sup>	16 <sup>22</sup>	21 <sup>38</sup>	29 <sup>47</sup>	T 19
F 20	20 24 28	5 <sup>5</sup> 22	29 <sup>57</sup>	2 <sup>16</sup>	13 <sup>51</sup>	26 <sup>38</sup>	13 <sup>12</sup>	14 <sup>20</sup>	14 <sup>12</sup>	8 <sup>58</sup>	22 <sup>38</sup>	17 <sup>18</sup>	16 <sup>18</sup>	21 <sup>45</sup>	29 <sup>48</sup>	F 20
S 21	20 28 25	6 <sup>2</sup> 49	11 <sup>2</sup> 51	4 <sup>20</sup>	15 <sup>5</sup>	27 <sup>15</sup>	13 <sup>19</sup>	14 <sup>26</sup>	14 <sup>15</sup>	8 <sup>59</sup>	22 <sup>40</sup>	17 <sup>18</sup>	16 <sup>15</sup>	21 <sup>52</sup>	29 <sup>48</sup>	S 21
S 22	20 32 21	7 <sup>0</sup> 18	23 <sup>52</sup>	6 <sup>24</sup>	16 <sup>19</sup>	27 <sup>53</sup>	13 <sup>26</sup>	14 <sup>31</sup>	14 <sup>17</sup>	9 <sup>1</sup>	22 <sup>42</sup>	17 <sup>18</sup>	16 <sup>12</sup>	21 <sup>58</sup>	29 <sup>48</sup>	S 22
M 23	20 36 18	7 <sup>57</sup> 47	6 <sup>2</sup> 2	8 <sup>27</sup>	17 <sup>33</sup>	28 <sup>30</sup>	13 <sup>32</sup>	14 <sup>37</sup>	14 <sup>20</sup>	9 <sup>3</sup>	22 <sup>43</sup>	17 <sup>17</sup>	16 <sup>9</sup>	22 <sup>5</sup>	29 <sup>48</sup>	M 23
T 24	20 40 15	8 <sup>55</sup> 18	18 <sup>24</sup>	10 <sup>30</sup>	18 <sup>48</sup>	29 <sup>8</sup>	13 <sup>38</sup>	14 <sup>43</sup>	14 <sup>22</sup>	9 <sup>5</sup>	22 <sup>45</sup>	17 <sup>15</sup>	16 <sup>6</sup>	22 <sup>12</sup>	29 <sup>49</sup>	T 24
W 25	20 44 11	9 <sup>52</sup> 50	0 <sup>1</sup> 58	12 <sup>31</sup>	20 <sup>2</sup>	29 <sup>45</sup>	13 <sup>44</sup>	14 <sup>48</sup>	14 <sup>25</sup>	9 <sup>7</sup>	22 <sup>46</sup>	17 <sup>12</sup>	16 <sup>2</sup>	22 <sup>18</sup>	29 <sup>49</sup>	W 25
T 26	20 48 8	10 <sup>50</sup> 23	13 <sup>45</sup>	14 <sup>31</sup>	21 <sup>16</sup>	0 <sup>2</sup> 23	13 <sup>50</sup>	14 <sup>54</sup>	14 <sup>27</sup>	9 <sup>9</sup>	22 <sup>48</sup>	17 <sup>9</sup>	15 <sup>59</sup>	22 <sup>25</sup>	29 <sup>49</sup>	T 26
F 27	20 52 4	11 <sup>47</sup> 57	26 <sup>45</sup>	16 <sup>29</sup>	22 <sup>30</sup>	1 <sup>1</sup>	13 <sup>56</sup>	15 <sup>0</sup>	14 <sup>29</sup>	9 <sup>11</sup>	22 <sup>50</sup>	17 <sup>5</sup>	15 <sup>56</sup>	22 <sup>32</sup>	29 <sup>49</sup>	F 27
S 28	20 56 1	12 <sup>45</sup> 33	10 <sup>1</sup> 0	18 <sup>27</sup>	23 <sup>44</sup>	1 <sup>38</sup>	14 <sup>2</sup>	15 <sup>5</sup>	14 <sup>31</sup>	9 <sup>13</sup>	22 <sup>51</sup>	17 <sup>2</sup>	15 <sup>53</sup>	22 <sup>38</sup>	29 <sup>49</sup>	S 28
S 29	20 59 57	13 <sup>43</sup> 11	23 <sup>29</sup>	20 <sup>23</sup>	24 <sup>58</sup>	2 <sup>16</sup>	14 <sup>7</sup>	15 <sup>10</sup>	14 <sup>34</sup>	9 <sup>15</sup>	22 <sup>53</sup>	16 <sup>59</sup>	15 <sup>50</sup>	22 <sup>45</sup>	29 <sup>48</sup>	S 29
M 30	21 3 54	14 <sup>40</sup> 50	7 <sup>12</sup>	22 <sup>18</sup>	26 <sup>12</sup>	2 <sup>54</sup>	14 <sup>13</sup>	15 <sup>15</sup>	14 <sup>36</sup>	9 <sup>17</sup>	22 <sup>54</sup>	16 <sup>58</sup>	15 <sup>47</sup>	22 <sup>52</sup>	29 <sup>48</sup>	M 30
T 31	21 7 50	15 <sup>38</sup> 30	21 <sup>8</sup> 9	24 <sup>11</sup>	27 <sup>12</sup> 6	3 <sup>2</sup> 32	14 <sup>8</sup> 18	15 <sup>11</sup> 21	14 <sup>11</sup> 38	9 <sup>17</sup> 20	22 <sup>56</sup>	16 <sup>58</sup>	15 <sup>43</sup>	22 <sup>58</sup>	29 <sup>48</sup>	T 31

Delta T = 06m43s

Julian Calendar 1 July 1442 == Greg. Calendar 10 July 1442

AUGUST 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	21 11 47	16♌36°13	5♏20	26♌ 3	28♌40	4♏11	14♏23	15♏26	14♏40	9♏22	22♏57	16♏59	15♏40	23♏ 5	29♏R48	W 1
T 2	21 15 44	17°33'57	19°42	27°54	29°54	4°49	14°27	15°31	14°42	9°24	22°59	17° 0	15°37	23°12	29♑Y47	T 2
F 3	21 19 40	18°31'42	4♏13	29°43	1♏ 8	5°27	14°32	15°36	14°44	9°26	23° 1	17° 2	15°34	23°18	29°47	F 3
S 4	21 23 37	19°29'30	18°50	1♏31	2°22	6° 5	14°36	15°41	14°46	9°28	23° 2	17°R 2	15°31	23°25	29°47	S 4
S 5	21 27 33	20°27'19	3♌26	3°17	3°36	6°44	14°41	15°45	14°48	9°30	23° 4	17° 1	15°27	23°32	29°46	S 5
M 6	21 31 30	21°25'09	17°55	5° 2	4°50	7°22	14°45	15°50	14°50	9°32	23° 5	16°58	15°24	23°38	29°45	M 6
T 7	21 35 26	22°23'01	2♏12	6°46	6° 4	8° 1	14°48	15°55	14°52	9°34	23° 7	16°54	15°21	23°45	29°45	T 7
W 8	21 39 23	23°20'54	16°12	8°28	7°19	8°40	14°52	15°59	14°53	9°36	23° 8	16°49	15°18	23°52	29°44	W 8
T 9	21 43 19	24°18'49	29°49	10° 9	8°33	9°18	14°56	16° 4	14°55	9°39	23°10	16°43	15°15	23°58	29°43	T 9
F 10	21 47 16	25°16'45	13♏ 4	11°48	9°47	9°57	14°59	16° 8	14°57	9°41	23°11	16°37	15°12	24° 5	29°42	F 10
S 11	21 51 13	26°14'43	25°55	13°26	11° 1	10°36	15° 2	16°13	14°59	9°43	23°12	16°32	15° 8	24°12	29°42	S 11
S 12	21 55 9	27°12'41	8♏25	15° 3	12°15	11°15	15° 5	16°17	15° 0	9°45	23°14	16°29	15° 5	24°18	29°41	S 12
M 13	21 59 6	28°10'42	20°38	16°39	13°29	11°54	15° 8	16°21	15° 2	9°47	23°15	16°27	15° 2	24°25	29°40	M 13
T 14	22 3 2	29° 8'43	2♏38	18°13	14°43	12°33	15°10	16°25	15° 3	9°49	23°17	16°D27	14°59	24°32	29°39	T 14
W 15	22 6 59	0♏ 6'46	14°30	19°46	15°57	13°13	15°13	16°29	15° 5	9°52	23°18	16°28	14°56	24°38	29°38	W 15
T 16	22 10 55	1° 4'51	26°19	21°18	17°11	13°52	15°15	16°33	15° 6	9°54	23°19	16°29	14°53	24°45	29°36	T 16
F 17	22 14 52	2° 2'57	8♏10	22°49	18°25	14°31	15°17	16°36	15° 8	9°56	23°21	16°30	14°49	24°51	29°35	F 17
S 18	22 18 48	3° 1'04	20° 7	24°18	19°40	15°11	15°19	16°40	15° 9	9°58	23°22	16°R31	14°46	24°58	29°34	S 18
S 19	22 22 45	3°59'14	2≈15	25°46	20°54	15°50	15°20	16°44	15°10	10° 1	23°24	16°29	14°43	25° 5	29°33	S 19
M 20	22 26 42	4°57'24	14°37	27°12	22° 8	16°30	15°22	16°47	15°11	10° 3	23°25	16°26	14°40	25°11	29°31	M 20
T 21	22 30 38	5°55'36	27°14	28°38	23°22	17° 9	15°23	16°51	15°13	10° 5	23°26	16°20	14°37	25°18	29°30	T 21
W 22	22 34 35	6°53'50	10♏ 8	0♏ 2	24°36	17°49	15°24	16°54	15°14	10° 7	23°27	16°13	14°33	25°25	29°28	W 22
T 23	22 38 31	7°52'06	23°18	1°24	25°50	18°29	15°25	16°57	15°15	10° 9	23°29	16° 4	14°30	25°31	29°27	T 23
F 24	22 42 28	8°50'24	6♑42	2°45	27° 4	19° 9	15°25	17° 0	15°16	10°12	23°30	15°55	14°27	25°38	29°25	F 24
S 25	22 46 24	9°48'44	20°18	4° 5	28°18	19°49	15°26	17° 3	15°17	10°14	23°31	15°47	14°24	25°45	29°24	S 25
S 26	22 50 21	10°47'05	4♏ 5	5°23	29°32	20°29	15°26	17° 6	15°18	10°16	23°32	15°40	14°21	25°51	29°22	S 26
M 27	22 54 17	11°45'29	18° 0	6°40	0♏46	21° 9	15°R26	17° 9	15°19	10°18	23°34	15°35	14°18	25°58	29°20	M 27
T 28	22 58 14	12°43'55	2♏ 0	7°55	2° 0	21°49	15°26	17°12	15°19	10°21	23°35	15°33	14°14	26° 5	29°19	T 28
W 29	23 2 11	13°42'24	16° 6	9° 8	3°14	22°29	15°25	17°14	15°20	10°23	23°36	15°D33	14°11	26°11	29°17	W 29
T 30	23 6 7	14°40'55	0♏15	10°20	4°28	23° 9	15°25	17°17	15°21	10°25	23°37	15°33	14° 8	26°18	29°15	T 30
F 31	23 10 4	15♏39'27	14♏26	11♏30	5♏42	23♏50	15♏24	17♏19	15♏22	10♏27	23♏38	15°R34	14♏ 5	26♏25	29♏Y13	F 31

ASTRODIENST EPHEMERIS for the year 1442  
geocentric

SEPTEMBER 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	23 14 0	16 <sup>11</sup> 38'03	28 <sup>28</sup> 38	12 <sup>23</sup> 38	6 <sup>25</sup> 56	24 <sup>23</sup> 30	15°R23	17 <sup>11</sup> 21	15 <sup>11</sup> 22	10 <sup>10</sup> 29	23 <sup>23</sup> 39	15°R33	14 <sup>28</sup> 2	26 <sup>27</sup> 31	29°R11	S 1
S 2	23 17 57	17°36'40	12 <sup>29</sup> 49	13°44	8°10	25°11	15 <sup>18</sup> 22	17°24	15°23	10°32	23°40	15 <sup>28</sup> 30	13°59	26°38	29°V 9	S 2
M 3	23 21 53	18°35'19	26°54	14°48	9°24	25°51	15°20	17°26	15°23	10°34	23°41	15°25	13°55	26°45	29° 7	M 3
T 4	23 25 50	19°34'01	10 <sup>10</sup> 50	15°49	10°39	26°32	15°19	17°28	15°24	10°36	23°43	15°17	13°52	26°51	29° 5	T 4
W 5	23 29 46	20°32'44	24°32	16°48	11°53	27°13	15°17	17°29	15°24	10°38	23°44	15° 7	13°49	26°58	29° 3	W 5
T 6	23 33 43	21°31'29	7 <sup>12</sup> 58	17°44	13° 7	27°54	15°15	17°31	15°25	10°41	23°45	14°55	13°46	27° 5	29° 1	T 6
F 7	23 37 39	22°30'17	21° 5	18°37	14°21	28°34	15°13	17°33	15°25	10°43	23°46	14°44	13°43	27°11	28°58	F 7
S 8	23 41 36	23°29'06	3 <sup>11</sup> 53	19°28	15°35	29°15	15°10	17°34	15°25	10°45	23°47	14°34	13°39	27°18	28°56	S 8
S 9	23 45 33	24°27'57	16°21	20°14	16°49	29°56	15° 8	17°36	15°25	10°47	23°47	14°26	13°36	27°24	28°54	S 9
M10	23 49 29	25°26'50	28°33	20°58	18° 3	0 <sup>11</sup> 38	15° 5	17°37	15°25	10°49	23°48	14°20	13°33	27°31	28°51	M10
T 11	23 53 26	26°25'45	10 <sup>12</sup> 32	21°37	19°17	1°19	15° 2	17°38	15°26	10°51	23°49	14°17	13°30	27°38	28°49	T 11
W12	23 57 22	27°24'41	22°23	22°12	20°31	2° 0	14°59	17°40	15°R26	10°54	23°50	14°16	13°27	27°44	28°47	W12
T 13	0 1 19	28°23'40	4 <sup>13</sup> 11	22°42	21°45	2°41	14°56	17°41	15°26	10°56	23°51	14°D16	13°24	27°51	28°44	T 13
F 14	0 5 15	29°22'40	16° 2	23° 7	22°59	3°23	14°52	17°41	15°26	10°58	23°52	14°R16	13°20	27°58	28°42	F 14
S 15	0 9 12	0 <sup>12</sup> 21'42	28° 2	23°27	24°12	4° 4	14°48	17°42	15°25	11° 0	23°53	14°15	13°17	28° 4	28°39	S 15
S 16	0 13 8	1°20'46	10 <sup>14</sup> 14	23°41	25°26	4°46	14°44	17°43	15°25	11° 2	23°53	14°12	13°14	28°11	28°37	S 16
M17	0 17 5	2°19'51	22°43	23°48	26°40	5°27	14°40	17°43	15°25	11° 4	23°54	14° 7	13°11	28°18	28°34	M17
T 18	0 21 2	3°18'59	5 <sup>15</sup> 33	23°R49	27°54	6° 9	14°36	17°44	15°25	11° 6	23°55	14° 0	13° 8	28°24	28°32	T 18
W19	0 24 58	4°18'08	18°44	23°42	29° 8	6°50	14°31	17°44	15°24	11° 8	23°56	13°49	13° 4	28°31	28°29	W19
T 20	0 28 55	5°17'19	2°V15	23°28	0 <sup>11</sup> 22	7°32	14°27	17°44	15°24	11°11	23°56	13°37	13° 1	28°38	28°26	T 20
F 21	0 32 51	6°16'33	16° 5	23° 6	1°36	8°14	14°22	17°45	15°24	11°13	23°57	13°25	12°58	28°44	28°24	F 21
S 22	0 36 48	7°15'48	0 <sup>13</sup> 8	22°36	2°50	8°56	14°17	17°R45	15°23	11°15	23°58	13°13	12°55	28°51	28°21	S 22
S 23	0 40 44	8°15'06	14°21	21°57	4° 4	9°38	14°12	17°44	15°23	11°17	23°58	13° 4	12°52	28°58	28°18	S 23
M24	0 44 41	9°14'26	28°37	21°11	5°18	10°20	14° 6	17°44	15°22	11°19	23°59	12°57	12°49	29° 4	28°15	M24
T 25	0 48 37	10°13'48	12 <sup>15</sup> 53	20°17	6°31	11° 2	14° 1	17°44	15°22	11°21	24° 0	12°52	12°45	29°11	28°13	T 25
W26	0 52 34	11°13'13	27° 6	19°17	7°45	11°44	13°55	17°43	15°21	11°23	24° 0	12°51	12°42	29°17	28°10	W26
T 27	0 56 31	12°12'41	11 <sup>16</sup> 13	18°11	8°59	12°27	13°49	17°43	15°20	11°25	24° 1	12°50	12°39	29°24	28° 7	T 27
F 28	1 0 27	13°12'10	25°14	17° 1	10°13	13° 9	13°44	17°42	15°19	11°27	24° 1	12°50	12°36	29°31	28° 4	F 28
S 29	1 4 24	14°11'42	9 <sup>17</sup> 9	15°48	11°27	13°51	13°37	17°41	15°19	11°29	24° 2	12°49	12°33	29°37	28° 1	S 29
S 30	1 8 20	15 <sup>11</sup> 11'16	22 <sup>17</sup> 57	14 <sup>23</sup> 35	12 <sup>11</sup> 40	14 <sup>11</sup> 34	13 <sup>18</sup> 31	17 <sup>11</sup> 41	15 <sup>11</sup> 18	11 <sup>10</sup> 31	24 <sup>28</sup> 2	12 <sup>28</sup> 45	12 <sup>28</sup> 30	29 <sup>27</sup> 44	27 <sup>17</sup> 58	S 30

Delta T = 06m42s

Julian Calendar 1 Sept. 1442 == Greg. Calendar 10 Sept. 1442

OCTOBER 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	1 12 17	16 <sup>12</sup> 10'53	6 <sup>10</sup> 37	13°R23	13 <sup>11</sup> 54	15 <sup>11</sup> 16	13°R25	17°R40	15°R17	11 <sup>10</sup> 32	24 <sup>28</sup> 2	12°R39	12 <sup>28</sup> 26	29 <sup>27</sup> 51	27°R55	M 1
T 2	1 16 13	17°10'31	20° 7	12 <sup>12</sup> 14	15° 8	15°59	13 <sup>18</sup> 18	17 <sup>11</sup> 38	15 <sup>11</sup> 16	11°34	24° 3	12 <sup>28</sup> 29	12°23	29°57	27°V53	T 2
W 3	1 20 10	18°10'12	3 <sup>12</sup> 27	11°12	16°22	16°42	13°12	17°37	15°15	11°36	24° 3	12°17	12°20	0 <sup>13</sup> 4	27°50	W 3
T 4	1 24 6	19° 9'55	16°33	10°17	17°36	17°24	13° 5	17°36	15°14	11°38	24° 4	12° 4	12°17	0°11	27°47	T 4
F 5	1 28 3	20° 9'40	29°25	9°31	18°49	18° 7	12°58	17°35	15°13	11°40	24° 4	11°50	12°14	0°17	27°44	F 5
S 6	1 31 59	21° 9'27	12 <sup>11</sup> 1	8°56	20° 3	18°50	12°51	17°33	15°11	11°42	24° 4	11°38	12°10	0°24	27°41	S 6
S 7	1 35 56	22° 9'16	24°22	8°31	21°17	19°33	12°44	17°31	15°10	11°44	24° 4	11°28	12° 7	0°31	27°38	S 7
M 8	1 39 53	23° 9'07	6 <sup>12</sup> 30	8°18	22°31	20°16	12°36	17°30	15° 9	11°45	24° 5	11°20	12° 4	0°37	27°35	M 8
T 9	1 43 49	24° 8'59	18°26	8°D16	23°44	20°59	12°29	17°28	15° 8	11°47	24° 5	11°16	12° 1	0°44	27°32	T 9
W10	1 47 46	25° 8'54	0 <sup>13</sup> 16	8°25	24°58	21°42	12°22	17°26	15° 6	11°49	24° 5	11°14	11°58	0°51	27°29	W10
T 11	1 51 42	26° 8'50	12° 3	8°45	26°12	22°25	12°14	17°24	15° 5	11°51	24° 5	11°D13	11°55	0°57	27°26	T 11
F 12	1 55 39	27° 8'48	23°52	9°15	27°25	23° 9	12° 7	17°21	15° 3	11°52	24° 5	11°R13	11°51	1° 4	27°23	F 12
S 13	1 59 35	28° 8'47	5 <sup>14</sup> 50	9°53	28°39	23°52	11°59	17°19	15° 2	11°54	24° 6	11°13	11°48	1°11	27°20	S 13
S 14	2 3 32	29° 8'48	18° 2	10°40	29°52	24°35	11°51	17°17	15° 0	11°56	24° 6	11°11	11°45	1°17	27°17	S 14
M15	2 7 28	0 <sup>14</sup> 8'51	0 <sup>14</sup> 32	11°35	1 <sup>12</sup> 6	25°19	11°43	17°14	14°59	11°57	24° 6	11° 8	11°42	1°24	27°14	M15
T 16	2 11 25	1° 8'55	13°26	12°36	2°20	26° 2	11°35	17°12	14°57	11°59	24° 6	11° 1	11°39	1°30	27°11	T 16
W17	2 15 22	2° 9'01	26°44	13°42	3°33	26°46	11°27	17° 9	14°56	12° 0	24°R 6	10°52	11°36	1°37	27° 8	W17
T 18	2 19 18	3° 9'09	10 <sup>15</sup> 29	14°54	4°47	27°29	11°19	17° 6	14°54	12° 2	24° 6	10°42	11°32	1°44	27° 5	T 18
F 19	2 23 15	4° 9'18	24°37	16°10	6° 0	28°13	11°11	17° 3	14°52	12° 4	24° 6	10°31	11°29	1°50	27° 2	F 19
S 20	2 27 11	5° 9'29	9 <sup>16</sup> 4	17°29	7°14	28°57	11° 3	17° 0	14°50	12° 5	24° 6	10°21	11°26	1°57	26°59	S 20
S 21	2 31 8	6° 9'42	23°43	18°52	8°27	29°41	10°55	16°57	14°49	12° 7	24° 6	10°12	11°23	2° 4	26°56	S 21
M22	2 35 4	7° 9'57	8 <sup>16</sup> 26	20°17	9°41	0 <sup>15</sup> 24	10°47	16°54	14°47	12° 8	24° 5	10° 6	11°20	2°10	26°53	M22
T 23	2 39 1	8°10'14	23° 6	21°45	10°54	1° 8	10°39	16°51	14°45	12° 9	24° 5	10° 2	11°16	2°17	26°50	T 23
W24	2 42 57	9°10'33	7 <sup>17</sup> 38	23°14	12° 7	1°52	10°31	16°48	14°43	12°11	24° 5	10°D 1	11°13	2°24	26°47	W24
T 25	2 46 54	10°10'54	21°57	24°44	13°21	2°36	10°23	16°44	14°41	12°12	24° 5	10° 1	11°10	2°30	26°44	T 25
F 26	2 50 51	11°11'17	6 <sup>18</sup> 9	26°16	14°34	3°21	10°14	16°41	14°39	12°14	24° 5	10°R 2	11° 7	2°37	26°41	F 26
S 27	2 54 47	12°11'42	19°52	27°49	15°48	4° 5	10° 6	16°37	14°37	12°15	24° 4	10° 2	11° 4	2°44	26°39	S 27
S 28	2 58 44	13°12'09	3 <sup>19</sup> 28	29°22	17° 1	4°49	9°58	16°34	14°35	12°16	24° 4	10° 0	11° 1	2°50	26°36	S 28
M29	3 2 40	14°12'37	16°50	0 <sup>11</sup> 56	18°14	5°33	9°50	16°30	14°33	12°17	24° 4	9°55	10°57	2°57	26°33	M29
T 30	3 6 37	15°13'08	29°59	2°31	19°27	6°18	9°42	16°26	14°31	12°19	24° 4	9°49	10°54	3° 3	26°30	T 30
W31	3 10 33	16 <sup>11</sup> 13'40	12 <sup>25</sup> 56	4 <sup>11</sup> 6	20 <sup>27</sup> 41	7 <sup>17</sup> 2	9 <sup>18</sup> 34	16 <sup>11</sup> 22	14 <sup>11</sup> 29	12 <sup>10</sup> 20	24 <sup>28</sup> 3	9 <sup>18</sup> 40	10 <sup>28</sup> 51	3 <sup>18</sup> 10	26 <sup>17</sup> 27	W31

Delta T = 06m42s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1442  
geocentric

NOVEMBER 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	3 14 30	17 <sup>11</sup> 14'14"	25 <sup>11</sup> 41	5 <sup>11</sup> 41	21 <sup>11</sup> 54	7 <sup>11</sup> 47	9 <sup>11</sup> 26	16 <sup>11</sup> R18	14 <sup>11</sup> R27	12 <sup>11</sup> 21	24 <sup>11</sup> R 3	9 <sup>11</sup> R30	10 <sup>11</sup> 48	3 <sup>11</sup> 17	26 <sup>11</sup> R24	T 1
F 2	3 18 26	18 <sup>11</sup> 14'50"	8 <sup>11</sup> 14	7 <sup>11</sup> 16	23 <sup>11</sup> 7	8 <sup>11</sup> 31	9 <sup>11</sup> 18	16 <sup>11</sup> II14	14 <sup>11</sup> II24	12 <sup>11</sup> 22	24 <sup>11</sup> 2 2	9 <sup>11</sup> 20	10 <sup>11</sup> 45	3 <sup>11</sup> 23	26 <sup>11</sup> Y22	F 2
S 3	3 22 23	19 <sup>11</sup> 15'27"	20 <sup>11</sup> 35	8 <sup>11</sup> 51	24 <sup>11</sup> 20	9 <sup>11</sup> 16	9 <sup>11</sup> 10	16 <sup>11</sup> 10	14 <sup>11</sup> 22	12 <sup>11</sup> 23	24 <sup>11</sup> 2	9 <sup>11</sup> 11	10 <sup>11</sup> 41	3 <sup>11</sup> 30	26 <sup>11</sup> 19	S 3
S 4	3 26 20	20 <sup>11</sup> 16'06"	2 <sup>11</sup> 45	10 <sup>11</sup> 26	25 <sup>11</sup> 34	10 <sup>11</sup> 0	9 <sup>11</sup> 2	16 <sup>11</sup> 6	14 <sup>11</sup> 20	12 <sup>11</sup> 24	24 <sup>11</sup> 2	9 <sup>11</sup> 3	10 <sup>11</sup> 38	3 <sup>11</sup> 37	26 <sup>11</sup> 16	S 4
M 5	3 30 16	21 <sup>11</sup> 16'47"	14 <sup>11</sup> 45	12 <sup>11</sup> 2	26 <sup>11</sup> 47	10 <sup>11</sup> 45	8 <sup>11</sup> 54	16 <sup>11</sup> 2	14 <sup>11</sup> 18	12 <sup>11</sup> 26	24 <sup>11</sup> 1	8 <sup>11</sup> 58	10 <sup>11</sup> 35	3 <sup>11</sup> 43	26 <sup>11</sup> 14	M 5
T 6	3 34 13	22 <sup>11</sup> 17'28"	26 <sup>11</sup> 38	13 <sup>11</sup> 37	28 <sup>11</sup> 0	11 <sup>11</sup> 30	8 <sup>11</sup> 46	15 <sup>11</sup> 58	14 <sup>11</sup> 15	12 <sup>11</sup> 27	24 <sup>11</sup> 1	8 <sup>11</sup> 55	10 <sup>11</sup> 32	3 <sup>11</sup> 50	26 <sup>11</sup> 11	T 6
W 7	3 38 9	23 <sup>11</sup> 18'11"	8 <sup>11</sup> 25	15 <sup>11</sup> 12	29 <sup>11</sup> 13	12 <sup>11</sup> 15	8 <sup>11</sup> 39	15 <sup>11</sup> 53	14 <sup>11</sup> 13	12 <sup>11</sup> 28	24 <sup>11</sup> 0	8 <sup>11</sup> D54	10 <sup>11</sup> 29	3 <sup>11</sup> 57	26 <sup>11</sup> 8	W 7
T 8	3 42 6	24 <sup>11</sup> 18'55"	20 <sup>11</sup> 11	16 <sup>11</sup> 47	0 <sup>11</sup> 26	13 <sup>11</sup> 0	8 <sup>11</sup> 31	15 <sup>11</sup> 49	14 <sup>11</sup> 11	12 <sup>11</sup> 29	23 <sup>11</sup> 59	8 <sup>11</sup> 54	10 <sup>11</sup> 26	4 <sup>11</sup> 3	26 <sup>11</sup> 6	T 8
F 9	3 46 2	25 <sup>11</sup> 19'41"	1 <sup>11</sup> 59	18 <sup>11</sup> 22	1 <sup>11</sup> 39	13 <sup>11</sup> 45	8 <sup>11</sup> 23	15 <sup>11</sup> 44	14 <sup>11</sup> 8	12 <sup>11</sup> 29	23 <sup>11</sup> 59	8 <sup>11</sup> 56	10 <sup>11</sup> 22	4 <sup>11</sup> 10	26 <sup>11</sup> 3	F 9
S 10	3 49 59	26 <sup>11</sup> 20'27"	13 <sup>11</sup> 55	19 <sup>11</sup> 57	2 <sup>11</sup> 52	14 <sup>11</sup> 30	8 <sup>11</sup> 16	15 <sup>11</sup> 40	14 <sup>11</sup> 6	12 <sup>11</sup> 30	23 <sup>11</sup> 58	8 <sup>11</sup> 57	10 <sup>11</sup> 19	4 <sup>11</sup> 17	26 <sup>11</sup> 1	S 10
S 11	3 53 55	27 <sup>11</sup> 21'14"	26 <sup>11</sup> 4	21 <sup>11</sup> 32	4 <sup>11</sup> 5	15 <sup>11</sup> 15	8 <sup>11</sup> 9	15 <sup>11</sup> 35	14 <sup>11</sup> 3	12 <sup>11</sup> 31	23 <sup>11</sup> 58	8 <sup>11</sup> R58	10 <sup>11</sup> 16	4 <sup>11</sup> 23	25 <sup>11</sup> 58	S 11
M 12	3 57 52	28 <sup>11</sup> 22'03"	8 <sup>11</sup> 31	23 <sup>11</sup> 7	5 <sup>11</sup> 18	16 <sup>11</sup> 0	8 <sup>11</sup> 2	15 <sup>11</sup> 31	14 <sup>11</sup> 1	12 <sup>11</sup> 32	23 <sup>11</sup> 57	8 <sup>11</sup> 57	10 <sup>11</sup> 13	4 <sup>11</sup> 30	25 <sup>11</sup> 56	M 12
T 13	4 1 49	29 <sup>11</sup> 22'52"	21 <sup>11</sup> 20	24 <sup>11</sup> 41	6 <sup>11</sup> 31	16 <sup>11</sup> 45	7 <sup>11</sup> 54	15 <sup>11</sup> 26	13 <sup>11</sup> 59	12 <sup>11</sup> 33	23 <sup>11</sup> 56	8 <sup>11</sup> 55	10 <sup>11</sup> 10	4 <sup>11</sup> 37	25 <sup>11</sup> 54	T 13
W 14	4 5 45	0 <sup>11</sup> 23'42"	4 <sup>11</sup> Y36	26 <sup>11</sup> 16	7 <sup>11</sup> 43	17 <sup>11</sup> 30	7 <sup>11</sup> 47	15 <sup>11</sup> 21	13 <sup>11</sup> 56	12 <sup>11</sup> 34	23 <sup>11</sup> 56	8 <sup>11</sup> 51	10 <sup>11</sup> 7	4 <sup>11</sup> 43	25 <sup>11</sup> 51	W 14
T 15	4 9 42	1 <sup>11</sup> 24'33"	18 <sup>11</sup> 20	27 <sup>11</sup> 50	8 <sup>11</sup> 56	18 <sup>11</sup> 15	7 <sup>11</sup> 41	15 <sup>11</sup> 17	13 <sup>11</sup> 54	12 <sup>11</sup> 34	23 <sup>11</sup> 55	8 <sup>11</sup> 46	10 <sup>11</sup> 3	4 <sup>11</sup> 50	25 <sup>11</sup> 49	T 15
F 16	4 13 38	2 <sup>11</sup> 25'25"	2 <sup>11</sup> 32	29 <sup>11</sup> 25	10 <sup>11</sup> 9	19 <sup>11</sup> 1	7 <sup>11</sup> 34	15 <sup>11</sup> 12	13 <sup>11</sup> 51	12 <sup>11</sup> 35	23 <sup>11</sup> 54	8 <sup>11</sup> 40	10 <sup>11</sup> 0	4 <sup>11</sup> 56	25 <sup>11</sup> 47	F 16
S 17	4 17 35	3 <sup>11</sup> 26'18"	17 <sup>11</sup> 8	0 <sup>11</sup> 59	11 <sup>11</sup> 21	19 <sup>11</sup> 46	7 <sup>11</sup> 27	15 <sup>11</sup> 7	13 <sup>11</sup> 49	12 <sup>11</sup> 36	23 <sup>11</sup> 54	8 <sup>11</sup> 34	9 <sup>11</sup> 57	5 <sup>11</sup> 3	25 <sup>11</sup> 45	S 17
S 18	4 21 31	4 <sup>11</sup> 27'12"	2 <sup>11</sup> II 2	2 <sup>11</sup> 33	12 <sup>11</sup> 34	20 <sup>11</sup> 31	7 <sup>11</sup> 21	15 <sup>11</sup> 2	13 <sup>11</sup> 46	12 <sup>11</sup> 36	23 <sup>11</sup> 53	8 <sup>11</sup> 30	9 <sup>11</sup> 54	5 <sup>11</sup> 10	25 <sup>11</sup> 42	S 18
M 19	4 25 28	5 <sup>11</sup> 28'07"	17 <sup>11</sup> 6	4 <sup>11</sup> 8	13 <sup>11</sup> 47	21 <sup>11</sup> 17	7 <sup>11</sup> 14	14 <sup>11</sup> 57	13 <sup>11</sup> 44	12 <sup>11</sup> 37	23 <sup>11</sup> 52	8 <sup>11</sup> 26	9 <sup>11</sup> 51	5 <sup>11</sup> 16	25 <sup>11</sup> 40	M 19
T 20	4 29 24	6 <sup>11</sup> 29'03"	2 <sup>11</sup> 21	5 <sup>11</sup> 42	14 <sup>11</sup> 59	22 <sup>11</sup> 2	7 <sup>11</sup> 8	14 <sup>11</sup> 53	13 <sup>11</sup> 41	12 <sup>11</sup> 38	23 <sup>11</sup> 51	8 <sup>11</sup> D25	9 <sup>11</sup> 47	5 <sup>11</sup> 23	25 <sup>11</sup> 38	T 20
W 21	4 33 21	7 <sup>11</sup> 30'01"	17 <sup>11</sup> 7	7 <sup>11</sup> 16	16 <sup>11</sup> 12	22 <sup>11</sup> 48	7 <sup>11</sup> 2	14 <sup>11</sup> 48	13 <sup>11</sup> 39	12 <sup>11</sup> 38	23 <sup>11</sup> 50	8 <sup>11</sup> 25	9 <sup>11</sup> 44	5 <sup>11</sup> 30	25 <sup>11</sup> 36	W 21
T 22	4 37 18	8 <sup>11</sup> 30'59"	1 <sup>11</sup> 47	8 <sup>11</sup> 50	17 <sup>11</sup> 24	23 <sup>11</sup> 33	6 <sup>11</sup> 56	14 <sup>11</sup> 43	13 <sup>11</sup> 36	12 <sup>11</sup> 39	23 <sup>11</sup> 49	8 <sup>11</sup> 26	9 <sup>11</sup> 41	5 <sup>11</sup> 36	25 <sup>11</sup> 34	T 22
F 23	4 41 14	9 <sup>11</sup> 31'59"	16 <sup>11</sup> 8	10 <sup>11</sup> 25	18 <sup>11</sup> 36	24 <sup>11</sup> 19	6 <sup>11</sup> 51	14 <sup>11</sup> 38	13 <sup>11</sup> 34	12 <sup>11</sup> 39	23 <sup>11</sup> 49	8 <sup>11</sup> 28	9 <sup>11</sup> 38	5 <sup>11</sup> 43	25 <sup>11</sup> 32	F 23
S 24	4 45 11	10 <sup>11</sup> 33'00"	0 <sup>11</sup> Y 7	11 <sup>11</sup> 59	19 <sup>11</sup> 49	25 <sup>11</sup> 5	6 <sup>11</sup> 45	14 <sup>11</sup> 33	13 <sup>11</sup> 31	12 <sup>11</sup> 40	23 <sup>11</sup> 48	8 <sup>11</sup> 29	9 <sup>11</sup> 35	5 <sup>11</sup> 50	25 <sup>11</sup> 30	S 24
S 25	4 49 7	11 <sup>11</sup> 34'01"	13 <sup>11</sup> 44	13 <sup>11</sup> 33	21 <sup>11</sup> 1	25 <sup>11</sup> 51	6 <sup>11</sup> 40	14 <sup>11</sup> 28	13 <sup>11</sup> 28	12 <sup>11</sup> 40	23 <sup>11</sup> 47	8 <sup>11</sup> R29	9 <sup>11</sup> 32	5 <sup>11</sup> 56	25 <sup>11</sup> 28	S 25
M 26	4 53 4	12 <sup>11</sup> 35'04"	27 <sup>11</sup> 1	15 <sup>11</sup> 8	22 <sup>11</sup> 13	26 <sup>11</sup> 36	6 <sup>11</sup> 34	14 <sup>11</sup> 23	13 <sup>11</sup> 26	12 <sup>11</sup> 40	23 <sup>11</sup> 46	8 <sup>11</sup> 29	9 <sup>11</sup> 28	6 <sup>11</sup> 3	25 <sup>11</sup> 27	M 26
T 27	4 57 0	13 <sup>11</sup> 36'08"	9 <sup>11</sup> 59	16 <sup>11</sup> 42	23 <sup>11</sup> 25	27 <sup>11</sup> 22	6 <sup>11</sup> 29	14 <sup>11</sup> 18	13 <sup>11</sup> 23	12 <sup>11</sup> 41	23 <sup>11</sup> 45	8 <sup>11</sup> 26	9 <sup>11</sup> 25	6 <sup>11</sup> 10	25 <sup>11</sup> 25	T 27
W 28	5 0 57	14 <sup>11</sup> 37'13"	22 <sup>11</sup> 40	18 <sup>11</sup> 17	24 <sup>11</sup> 37	28 <sup>11</sup> 8	6 <sup>11</sup> 24	14 <sup>11</sup> 13	13 <sup>11</sup> 21	12 <sup>11</sup> 41	23 <sup>11</sup> 44	8 <sup>11</sup> 23	9 <sup>11</sup> 22	6 <sup>11</sup> 16	25 <sup>11</sup> 23	W 28
T 29	5 4 54	15 <sup>11</sup> 38'19"	5 <sup>11</sup> II 8	19 <sup>11</sup> 52	25 <sup>11</sup> 49	28 <sup>11</sup> 54	6 <sup>11</sup> 20	14 <sup>11</sup> 8	13 <sup>11</sup> 18	12 <sup>11</sup> 41	23 <sup>11</sup> 43	8 <sup>11</sup> 20	9 <sup>11</sup> 19	6 <sup>11</sup> 23	25 <sup>11</sup> 21	T 29
F 30	5 8 50	16 <sup>11</sup> 39'26"	17 <sup>11</sup> II24	21 <sup>11</sup> 57	27 <sup>11</sup> 3 1	29 <sup>11</sup> 540	6 <sup>11</sup> 15	14 <sup>11</sup> II 3	13 <sup>11</sup> II16	12 <sup>11</sup> 42	23 <sup>11</sup> 42	8 <sup>11</sup> 16	9 <sup>11</sup> 16	6 <sup>11</sup> 30	25 <sup>11</sup> Y20	F 30

Delta T = 06m42s

Julian Calendar 1 Nov. 1442 == Greg. Calendar 10 Nov. 1442

DECEMBER 1442 JC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	5 12 47	17 <sup>11</sup> 40'33"	29 <sup>11</sup> III31	23 <sup>11</sup> 5 2	28 <sup>11</sup> 313	0 <sup>11</sup> 26	6 <sup>11</sup> R11	13 <sup>11</sup> R58	13 <sup>11</sup> R13	12 <sup>11</sup> 42	23 <sup>11</sup> R41	8 <sup>11</sup> R12	9 <sup>11</sup> 13	6 <sup>11</sup> 36	25 <sup>11</sup> R18	S 1
S 2	5 16 43	18 <sup>11</sup> 41'42"	11 <sup>11</sup> 59	24 <sup>11</sup> 37	29 <sup>11</sup> 25	1 <sup>11</sup> 12	6 <sup>11</sup> 7	13 <sup>11</sup> II53	13 <sup>11</sup> II11	12 <sup>11</sup> 42	23 <sup>11</sup> 40	8 <sup>11</sup> 9	9 <sup>11</sup> 9	6 <sup>11</sup> 43	25 <sup>11</sup> Y17	S 2
M 3	5 20 40	19 <sup>11</sup> 42'50"	23 <sup>11</sup> 22	26 <sup>11</sup> 13	0 <sup>11</sup> 36	1 <sup>11</sup> 58	6 <sup>11</sup> 3	13 <sup>11</sup> 48	13 <sup>11</sup> 8	12 <sup>11</sup> 42	23 <sup>11</sup> 39	8 <sup>11</sup> 8	9 <sup>11</sup> 6	6 <sup>11</sup> 49	25 <sup>11</sup> 15	M 3
T 4	5 24 36	20 <sup>11</sup> 44'00"	5 <sup>11</sup> 31	27 <sup>11</sup> 48	1 <sup>11</sup> 48	2 <sup>11</sup> 44	5 <sup>11</sup> 59	13 <sup>11</sup> 43	13 <sup>11</sup> 5	12 <sup>11</sup> 42	23 <sup>11</sup> 38	8 <sup>11</sup> D 7	9 <sup>11</sup> 3	6 <sup>11</sup> 56	25 <sup>11</sup> 14	T 4
W 5	5 28 33	21 <sup>11</sup> 45'09"	16 <sup>11</sup> 57	29 <sup>11</sup> 24	2 <sup>11</sup> 59	3 <sup>11</sup> 31	5 <sup>11</sup> 55	13 <sup>11</sup> 39	13 <sup>11</sup> 3	12 <sup>11</sup> 42	23 <sup>11</sup> 37	8 <sup>11</sup> 7	9 <sup>11</sup> 0	7 <sup>11</sup> 3	25 <sup>11</sup> 13	W 5
T 6	5 32 29	22 <sup>11</sup> 46'20"	28 <sup>11</sup> 44	1 <sup>11</sup> 3 0	4 <sup>11</sup> 11	4 <sup>11</sup> 17	5 <sup>11</sup> 52	13 <sup>11</sup> 34	13 <sup>11</sup> 0	12 <sup>11</sup> R42	23 <sup>11</sup> 35	8 <sup>11</sup> 8	8 <sup>11</sup> 57	7 <sup>11</sup> 9	25 <sup>11</sup> 11	T 6
F 7	5 36 26	23 <sup>11</sup> 47'30"	10 <sup>11</sup> 35	2 <sup>11</sup> 36	5 <sup>11</sup> 22	5 <sup>11</sup> 3	5 <sup>11</sup> 48	13 <sup>11</sup> 29	12 <sup>11</sup> 58	12 <sup>11</sup> 42	23 <sup>11</sup> 34	8 <sup>11</sup> 9	8 <sup>11</sup> 53	7 <sup>11</sup> 16	25 <sup>11</sup> 10	F 7
S 8	5 40 23	24 <sup>11</sup> 48'40"	22 <sup>11</sup> 33	4 <sup>11</sup> 12	6 <sup>11</sup> 34	5 <sup>11</sup> 49	5 <sup>11</sup> 45	13 <sup>11</sup> 24	12 <sup>11</sup> 55	12 <sup>11</sup> 42	23 <sup>11</sup> 33	8 <sup>11</sup> 11	8 <sup>11</sup> 50	7 <sup>11</sup> 23	25 <sup>11</sup> 9	S 8
S 9	5 44 19	25 <sup>11</sup> 49'51"	4 <sup>11</sup> 42	5 <sup>11</sup> 48	7 <sup>11</sup> 45	6 <sup>11</sup> 36	5 <sup>11</sup> 43	13 <sup>11</sup> 19	12 <sup>11</sup> 53	12 <sup>11</sup> 42	23 <sup>11</sup> 32	8 <sup>11</sup> 12	8 <sup>11</sup> 47	7 <sup>11</sup> 29	25 <sup>11</sup> 8	S 9
M10	5 48 16	26 <sup>11</sup> 51'01"	17 <sup>11</sup> 6	7 <sup>11</sup> 24	8 <sup>11</sup> 56	7 <sup>11</sup> 22	5 <sup>11</sup> 40	13 <sup>11</sup> 14	12 <sup>11</sup> 50	12 <sup>11</sup> 42	23 <sup>11</sup> 31	8 <sup>11</sup> 13	8 <sup>11</sup> 44	7 <sup>11</sup> 36	25 <sup>11</sup> 7	M10
T 11	5 52 12	27 <sup>11</sup> 52'12"	29 <sup>11</sup> 50	9 <sup>11</sup> 0	10 <sup>11</sup> 7	8 <sup>11</sup> 9	5 <sup>11</sup> 38	13 <sup>11</sup> 10	12 <sup>11</sup> 48	12 <sup>11</sup> 42	23 <sup>11</sup> 30	8 <sup>11</sup> R13	8 <sup>11</sup> 41	7 <sup>11</sup> 43	25 <sup>11</sup> 6	T 11
W12	5 56 9	28 <sup>11</sup> 53'22"	12 <sup>11</sup> Y57	10 <sup>11</sup> 36	11 <sup>11</sup> 18	8 <sup>11</sup> 55	5 <sup>11</sup> 35	13 <sup>11</sup> 5	12 <sup>11</sup> 46	12 <sup>11</sup> 42	23 <sup>11</sup> 29	8 <sup>11</sup> 13	8 <sup>11</sup> 38	7 <sup>11</sup> 49	25 <sup>11</sup> 5	W12
T 13	6 0 5	29 <sup>11</sup> 54'32"	2 <sup>11</sup> 31	12 <sup>11</sup> 12	12 <sup>11</sup> 28	9 <sup>11</sup> 42	5 <sup>11</sup> 33	13 <sup>11</sup> 0	12 <sup>11</sup> 43	12 <sup>11</sup> 41	23 <sup>11</sup> 27	8 <sup>11</sup> 12	8 <sup>11</sup> 34	7 <sup>11</sup> 56	25 <sup>11</sup> 4	T 13
F 14	6 4 2	0 <sup>11</sup> 55'42"	10 <sup>11</sup> 32	13 <sup>11</sup> 48	13 <sup>11</sup> 39	10 <sup>11</sup> 28	5 <sup>11</sup> 32	12 <sup>11</sup> 56	12 <sup>11</sup> 41	12 <sup>11</sup> 41	23 <sup>11</sup> 26	8 <sup>11</sup> 11	8 <sup>11</sup> 31	8 <sup>11</sup> 3	25 <sup>11</sup> 3	F 14
S 15	6 7 5	1 <sup>11</sup> 56'52"	25 <sup>11</sup> 0	15 <sup>11</sup> 23	14 <sup>11</sup> 50	11 <sup>11</sup> 15	5 <sup>11</sup> 30	12 <sup>11</sup> 51	12 <sup>11</sup> 38	12 <sup>11</sup> 41	23 <sup>11</sup> 25	8 <sup>11</sup> 10	8 <sup>11</sup> 28	8 <sup>11</sup> 9	25 <sup>11</sup> 2	S 15
S 16	6 11 55	2 <sup>11</sup> 58'02"	9 <sup>11</sup> II52	16 <sup>11</sup> 59	16 <sup>11</sup> 0	12 <sup>11</sup> 1	5 <sup>11</sup> 29	12 <sup>11</sup> 47	12 <sup>11</sup> 36	12 <sup>11</sup> 41	23 <sup>11</sup> 24	8 <sup>11</sup> 10	8 <sup>11</sup> 25	8 <sup>11</sup> 16	25 <sup>11</sup> 2	S 16
M17	6 15 52	3 <sup>11</sup> 59'12"	24 <sup>11</sup> 59	18 <sup>11</sup> 33	17 <sup>11</sup> 10	12 <sup>11</sup> 48	5 <sup>11</sup> 27	12 <sup>11</sup> 42	12 <sup>11</sup> 34	12 <sup>11</sup> 40	23 <sup>11</sup> 22	8 <sup>11</sup> 9	8 <sup>11</sup> 22	8 <sup>11</sup> 22	25 <sup>11</sup> 1	M17
T 18	6 19 48	5 <sup>11</sup> 0'22"	10 <sup>11</sup> 514	20 <sup>11</sup> 7	18 <sup>11</sup> 21	13 <sup>11</sup> 35	5 <sup>11</sup> 27	12 <sup>11</sup> 38	12 <sup>11</sup> 31	12 <sup>11</sup> 40	23 <sup>11</sup> 21	8 <sup>11</sup> D 9	8 <sup>11</sup> 19	8 <sup>11</sup> 29	25 <sup>11</sup> 0	T 18
W19	6 23 45	6 <sup>11</sup> 1'31"	25 <sup>11</sup> 26	21 <sup>11</sup> 40	19 <sup>11</sup> 31	14 <sup>11</sup> 21	5 <sup>11</sup> 26	12 <sup>11</sup> 33	12 <sup>11</sup> 29	12 <sup>11</sup> 39	23 <sup>11</sup> 20	8 <sup>11</sup> 9	8 <sup>11</sup> 15	8 <sup>11</sup> 36	25 <sup>11</sup> 0	W19
T 20	6 27 41	7 <sup>11</sup> 2'41"	10 <sup>11</sup> II26	23 <sup>11</sup> 12	20 <sup>11</sup> 40	15 <sup>11</sup> 8	5 <sup>11</sup> 25	12 <sup>11</sup> 29	12 <sup>11</sup> 27	12 <sup>11</sup> 39	23 <sup>11</sup> 19	8 <sup>11</sup> 9	8 <sup>11</sup> 12	8 <sup>11</sup> 42	24 <sup>11</sup> 59	T 20
F 21	6 31 38	8 <sup>11</sup> 3'51"	25 <sup>11</sup> 7	24 <sup>11</sup> 42	21 <sup>11</sup> 50	15 <sup>11</sup> 55	5 <sup>11</sup> 25	12 <sup>11</sup> 25	12 <sup>11</sup> 25	12 <sup>11</sup> 39	23 <sup>11</sup> 17	8 <sup>11</sup> R 9	8 <sup>11</sup> 9	8 <sup>11</sup> 49	24 <sup>11</sup> 59	F 21
S 22	6 35 34	9 <sup>11</sup> 5'00"	9 <sup>11</sup> III23	26 <sup>11</sup> 11	23 <sup>11</sup> 0	16 <sup>11</sup> 42	5 <sup>11</sup> D25	12 <sup>11</sup> 21	12 <sup>11</sup> 22	12 <sup>11</sup> 38	23 <sup>11</sup> 16	8 <sup>11</sup> 9	8 <sup>11</sup> 6	8 <sup>11</sup> 56	24 <sup>11</sup> 59	S 22
S 23	6 39 31	10 <sup>11</sup> 6'10"	23 <sup>11</sup> 12	27 <sup>11</sup> 38	24 <sup>11</sup> 9	17 <sup>11</sup> 28	5 <sup>11</sup> 25	12 <sup>11</sup> 17	12 <sup>11</sup> 20	12 <sup>11</sup> 37	23 <sup>11</sup> 15	8 <sup>11</sup> 9	8 <sup>11</sup> 3	9 <sup>11</sup> 2	24 <sup>11</sup> 59	S 23
M24	6 43 27	11 <sup>11</sup> 7'20"	6 <sup>11</sup> 334	29 <sup>11</sup> 2	25 <sup>11</sup> 19	18 <sup>11</sup> 15	5 <sup>11</sup> 25	12 <sup>11</sup> 13	12 <sup>11</sup> 18	12 <sup>11</sup> 37	23 <sup>11</sup> 13	8 <sup>11</sup> D 9	7 <sup>11</sup> 59	9 <sup>11</sup> 9	24 <sup>11</sup> 58	M24
T 25	6 47 24	12 <sup>11</sup> 8'29"	19 <sup>11</sup> 32	0 <sup>11</sup> 23	26 <sup>11</sup> 28	19 <sup>11</sup> 2	5 <sup>11</sup> 26	12 <sup>11</sup> 9	12 <sup>11</sup> 16	12 <sup>11</sup> 36	23 <sup>11</sup> 12	8 <sup>11</sup> 9	7 <sup>11</sup> 56	9 <sup>11</sup> 16	24 <sup>11</sup> 58	T 25
W26	6 51 21	13 <sup>11</sup> 9'39"	2 <sup>11</sup> III 8	1 <sup>11</sup> 41	27 <sup>11</sup> 37	19 <sup>11</sup> 49	5 <sup>11</sup> 26	12 <sup>11</sup> 5	12 <sup>11</sup> 14	12 <sup>11</sup> 36	23 <sup>11</sup> 11	8 <sup>11</sup> 9	7 <sup>11</sup> 53	9 <sup>11</sup> 22	24 <sup>11</sup> 58	W26
T 27	6 55 17	14 <sup>11</sup> 10'49"	14 <sup>11</sup> 28	2 <sup>11</sup> 54	28 <sup>11</sup> 46	20 <sup>11</sup> 36	5 <sup>11</sup> 27	12 <sup>11</sup> 1	12 <sup>11</sup> 12	12 <sup>11</sup> 35	23 <sup>11</sup> 10	8 <sup>11</sup> 10	7 <sup>11</sup> 50	9 <sup>11</sup> 29	24 <sup>11</sup> D58	T 27
F 28	6 59 14	15 <sup>11</sup> 11'58"	26 <sup>11</sup> 34	4 <sup>11</sup> 3	29 <sup>11</sup> 54	21 <sup>11</sup> 23	5 <sup>11</sup> 28	11 <sup>11</sup> 57	12 <sup>11</sup> 10	12 <sup>11</sup> 34	23 <sup>11</sup> 8	8 <sup>11</sup> 11	7 <sup>11</sup> 47	9 <sup>11</sup> 36	24 <sup>11</sup> 58	F 28
S 29	7 3 10	16 <sup>11</sup> 13'07"	8 <sup>11</sup> 531	5 <sup>11</sup> 6	1 <sup>11</sup> 3 3	22 <sup>11</sup> 10	5 <sup>11</sup> 30	11 <sup>11</sup> 54	12 <sup>11</sup> 8	12 <sup>11</sup> 34	23 <sup>11</sup> 7	8 <sup>11</sup> 12	7 <sup>11</sup> 44	9 <sup>11</sup> 42	24 <sup>11</sup> 58	S 29
S 30	7 7 7	17 <sup>11</sup> 14'16"	20 <sup>11</sup> 21	6 <sup>11</sup> 3	2 <sup>11</sup> 11	22 <sup>11</sup> 57	5 <sup>11</sup> 31	11 <sup>11</sup> 50	12 <sup>11</sup> 6	12 <sup>11</sup> 33	23 <sup>11</sup> 6	8 <sup>11</sup> 12	7 <sup>11</sup> 40	9 <sup>11</sup> 49	24 <sup>11</sup> 58	S 30
M31	7 11 3	18 <sup>11</sup> 15'25"	2 <sup>11</sup> 3 9	6 <sup>11</sup> 52	3 <sup>11</sup> 319	23 <sup>11</sup> 344	5 <sup>11</sup> 333	11 <sup>11</sup> II47	12 <sup>11</sup> II 4	12 <sup>11</sup> III2	23 <sup>11</sup> 3 4	8 <sup>11</sup> 513	7 <sup>11</sup> 537	9 <sup>11</sup> 356	24 <sup>11</sup> Y59	M31