



Astrodienst Ephemeris Tables for the year 1515

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 1515

geocentric

JANUARY 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|-----|---------|-----------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|-------|-----|
| M 1 | 7 17 12 | 19°34'11" | 24°46' | 8° 8' | 6°50' | 14°54' | 6°R44 | 3°46' | 22°7' | 16°44' | 28°16' | 23°R28 | 24°Ω59 | 29°48' | 4°42' | M 1 |
| T 2 | 7 21 9 | 20°49'16" | 9°42' | 9°22' | 7°52' | 15°30' | 6°II40 | 3°51' | 22°7' | 16°46' | 28°18' | 23°Ω26 | 24°55' | 29°54' | 4°48' | T 2 |
| W 3 | 7 25 6 | 21°50'21" | 24°38' | 10°30' | 8°54' | 16° 6' | 6°36' | 3°57' | 22°8' | 16°48' | 28°20' | 23°D25 | 24°52' | 0°1' | 4°54' | W 3 |
| T 4 | 7 29 2 | 22°51'25" | 9°42' | 11°33' | 9°55' | 16°43' | 6°32' | 4° 2' | 22°8' | 16°50' | 28°22' | 23°26' | 24°49' | 0° 8' | 5° 0' | T 4 |
| F 5 | 7 32 59 | 23°52'28" | 23°58' | 12°28' | 10°56' | 17°19' | 6°29' | 4° 8' | 22°9' | 16°53' | 28°24' | 23°27' | 24°46' | 0°14' | 5° 6' | F 5 |
| S 6 | 7 36 55 | 24°53'31" | 8°13' | 13°16' | 11°56' | 17°56' | 6°25' | 4°13' | 22°10' | 16°55' | 28°26' | 23°29' | 24°43' | 0°21' | 5°12' | S 6 |
| S 7 | 7 40 52 | 25°54'34" | 22° 9' | 13°56' | 12°56' | 18°32' | 6°22' | 4°18' | 22°11' | 16°57' | 28°28' | 23°R29 | 24°40' | 0°28' | 5°18' | S 7 |
| M 8 | 7 44 48 | 26°55'36" | 5°46' | 14°26' | 13°56' | 19° 9' | 6°20' | 4°24' | 22°12' | 16°59' | 28°30' | 23°29' | 24°36' | 0°34' | 5°24' | M 8 |
| T 9 | 7 48 45 | 27°56'37" | 19° 4' | 14°47' | 14°55' | 19°45' | 6°17' | 4°29' | 22°12' | 17° 1' | 28°32' | 23°28' | 24°33' | 0°41' | 5°29' | T 9 |
| W10 | 7 52 41 | 28°57'38" | 2° 6' | 14°R56 | 15°54' | 20°22' | 6°14' | 4°34' | 22°13' | 17° 3' | 28°34' | 23°25' | 24°30' | 0°48' | 5°35' | W10 |
| T11 | 7 56 38 | 29°58'39" | 14°52' | 14°55' | 16°52' | 20°58' | 6°12' | 4°39' | 22°14' | 17° 6' | 28°35' | 23°21' | 24°27' | 0°54' | 5°41' | T11 |
| F12 | 8 0 35 | 0°59'39" | 27°25' | 14°42' | 17°50' | 21°35' | 6°10' | 4°44' | 22°15' | 17° 8' | 28°37' | 23°18' | 24°24' | 1° 1' | 5°47' | F12 |
| S13 | 8 4 31 | 2° 0'38" | 9°34' | 14°17' | 18°47' | 22°12' | 6° 8' | 4°49' | 22°17' | 17°10' | 28°39' | 23°14' | 24°20' | 1° 7' | 5°52' | S13 |
| S14 | 8 8 28 | 3° 1'36" | 21°57' | 13°42' | 19°43' | 22°49' | 6° 7' | 4°53' | 22°18' | 17°12' | 28°41' | 23°11' | 24°17' | 1°14' | 5°58' | S14 |
| M15 | 8 12 24 | 4° 2'33" | 3°59' | 12°57' | 20°39' | 23°26' | 6° 5' | 4°58' | 22°19' | 17°14' | 28°43' | 23° 9' | 24°14' | 1°21' | 6° 4' | M15 |
| T16 | 8 16 21 | 5° 3'28" | 15°54' | 12° 2' | 21°35' | 24° 3' | 6° 4' | 5° 3' | 22°20' | 17°17' | 28°45' | 23° 8' | 24°11' | 1°27' | 6° 9' | T16 |
| W17 | 8 20 17 | 6° 4'23" | 27°44' | 11° 1' | 22°30' | 24°40' | 6° 3' | 5° 7' | 22°22' | 17°19' | 28°47' | 23°D 7 | 24° 8' | 1°34' | 6°15' | W17 |
| T18 | 8 24 14 | 7° 5'17" | 9°31' | 9°53' | 23°24' | 25°17' | 6° 2' | 5°12' | 22°23' | 17°21' | 28°48' | 23° 8' | 24° 5' | 1°41' | 6°20' | T18 |
| F19 | 8 28 10 | 8° 6'09" | 21°18' | 8°42' | 24°17' | 25°54' | 6° 2' | 5°16' | 22°24' | 17°23' | 28°50' | 23° 9' | 24° 1' | 1°47' | 6°26' | F19 |
| S20 | 8 32 7 | 9° 6'59" | 3°17' | 7°29' | 25°10' | 26°31' | 6° 1' | 5°21' | 22°26' | 17°26' | 28°52' | 23°11' | 23°58' | 1°54' | 6°31' | S20 |
| S21 | 8 36 4 | 10° 7'49" | 15° 6' | 6°16' | 26° 2' | 27° 8' | 6° 1' | 5°25' | 22°27' | 17°28' | 28°54' | 23°12' | 23°55' | 2° 1' | 6°37' | S21 |
| M22 | 8 40 0 | 11° 8'37" | 27°15' | 5° 6' | 26°53' | 27°45' | 6°D 1 | 5°29' | 22°29' | 17°30' | 28°55' | 23°13' | 23°52' | 2° 7' | 6°42' | M22 |
| T23 | 8 43 57 | 12° 9'23" | 9°34' | 4° 0' | 27°43' | 28°23' | 6° 1' | 5°33' | 22°30' | 17°32' | 28°57' | 23°R13 | 23°49' | 2°14' | 6°47' | T23 |
| W24 | 8 47 53 | 13°10'08" | 22°26' | 3° 0' | 28°33' | 29° 0' | 6° 2' | 5°37' | 22°32' | 17°35' | 28°59' | 23°13' | 23°46' | 2°21' | 6°53' | W24 |
| T25 | 8 51 50 | 14°10'51" | 5°11' | 2° 6' | 29°22' | 29°37' | 6° 2' | 5°41' | 22°34' | 17°37' | 29° 1' | 23°13' | 23°42' | 2°27' | 6°58' | T25 |
| F26 | 8 55 46 | 15°11'32" | 19°12' | 1°19' | 0°10' | 0°14' | 6° 3' | 5°45' | 22°35' | 17°39' | 29° 2' | 23°12' | 23°39' | 2°34' | 7° 3' | F26 |
| S27 | 8 59 43 | 16°12'12" | 3°31' | 0°40' | 0°57' | 0°52' | 6° 4' | 5°49' | 22°37' | 17°42' | 29° 4' | 23°11' | 23°36' | 2°40' | 7° 8' | S27 |
| S28 | 9 3 39 | 17°12'50" | 17°47' | 0° 8' | 1°43' | 1°29' | 6° 5' | 5°53' | 22°39' | 17°44' | 29° 5' | 23°10' | 23°33' | 2°47' | 7°13' | S28 |
| M29 | 9 7 36 | 18°13'27" | 2°40' | 29°345 | 2°28' | 2° 7' | 6° 7' | 5°56' | 22°41' | 17°46' | 29° 7' | 23°10' | 23°30' | 2°54' | 7°18' | M29 |
| T30 | 9 11 33 | 19°14'02" | 17°47' | 29°30' | 3°11' | 2°44' | 6° 8' | 6° 0' | 22°43' | 17°48' | 29° 9' | 23°D 9 | 23°26' | 3° 0' | 7°23' | T30 |
| W31 | 9 15 29 | 20°14'35" | 2°59' | 29°322 | 3°15' | 3°21' | 6°II10 | 6° 3' | 22°45' | 17°51' | 29°10' | 23°Ω 9 | 23°Ω23 | 3°17' | 7°28' | W31 |

Delta T = 258.46 sec

Julian Calendar 1 Jan. 1515 == Greg. Calendar 11 Jan. 1515

FEBRUARY 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|-----|----------|-----------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|-------|-------|-----|
| T 1 | 9 19 26 | 21°15'07" | 18°17' | 29°D22 | 4°17' | 3°59' | 6°II12 | 6° 7' | 22°47' | 17°55' | 29°12' | 23°Ω10 | 23°Ω20 | 3°14' | 7°33' | T 1 |
| F 2 | 9 23 22 | 22°15'38" | 3°13' | 29°328 | 5°17' | 4°36' | 6°14' | 6°10' | 22°49' | 17°55' | 29°13' | 23°10' | 23°17' | 3°20' | 7°38' | F 2 |
| S 3 | 9 27 19 | 23°16'07" | 17°38' | 29°41' | 5°56' | 5°14' | 6°17' | 6°13' | 22°51' | 17°58' | 29°14' | 23°R10 | 23°14' | 3°27' | 7°43' | S 3 |
| S 4 | 9 31 15 | 24°16'35" | 1°49' | 29°59' | 6°34' | 5°51' | 6°19' | 6°16' | 22°53' | 18° 0' | 29°16' | 23°10' | 23°11' | 3°34' | 7°48' | S 4 |
| M 5 | 9 35 12 | 25°17'01" | 15°35' | 0°24' | 7°11' | 6°29' | 6°22' | 6°19' | 22°55' | 18° 2' | 29°17' | 23°10' | 23° 7' | 3°40' | 7°52' | M 5 |
| T 6 | 9 39 8 | 26°17'26" | 28°55' | 0°53' | 7°46' | 7° 7' | 6°25' | 6°22' | 22°57' | 18° 4' | 29°19' | 23°D10 | 23° 4' | 3°47' | 7°57' | T 6 |
| W 7 | 9 43 5 | 27°17'50" | 11°35' | 1°28' | 8°20' | 7°44' | 6°28' | 6°25' | 23° 0' | 18° 7' | 29°20' | 23°10' | 23° 1' | 3°54' | 8° 2' | W 7 |
| T 8 | 9 47 2 | 28°18'13" | 24°30' | 2° 7' | 8°53' | 8°22' | 6°31' | 6°28' | 23° 2' | 18° 9' | 29°21' | 23°10' | 22°58' | 4° 0' | 8° 6' | T 8 |
| F 9 | 9 50 58 | 29°18'34" | 6°51' | 2°50' | 9°24' | 8°59' | 6°35' | 6°30' | 23° 4' | 18°11' | 29°23' | 23°11' | 22°55' | 4° 7' | 8°11' | F 9 |
| S10 | 9 54 55 | 0°18'53" | 19° 0' | 3°36' | 9°53' | 9°37' | 6°39' | 6°33' | 23° 7' | 18°13' | 29°24' | 23°11' | 22°51' | 4°14' | 8°15' | S10 |
| S11 | 9 58 51 | 1°19'11" | 0°59' | 4°26' | 10°21' | 10°15' | 6°43' | 6°36' | 23° 9' | 18°16' | 29°25' | 23°12' | 22°48' | 4°20' | 8°20' | S11 |
| M12 | 10 2 48 | 2°19'27" | 12°51' | 5°20' | 10°48' | 10°52' | 6°47' | 6°38' | 23°11' | 18°18' | 29°26' | 23°13' | 22°45' | 4°27' | 8°24' | M12 |
| T13 | 10 6 44 | 3°19'41" | 24°40' | 6°16' | 11°12' | 11°30' | 6°51' | 6°40' | 23°14' | 18°20' | 29°28' | 23°R13 | 22°42' | 4°33' | 8°28' | T13 |
| W14 | 10 10 41 | 4°19'54" | 6°17' | 7°16' | 11°35' | 12° 8' | 6°55' | 6°42' | 23°16' | 18°22' | 29°29' | 23°13' | 22°39' | 4°40' | 8°32' | W14 |
| T15 | 10 14 37 | 5°20'05" | 18°15' | 8°18' | 11°55' | 12°45' | 7° 0' | 6°44' | 23°19' | 18°24' | 29°30' | 23°12' | 22°36' | 4°47' | 8°36' | T15 |
| F16 | 10 18 34 | 6°20'14" | 0°17' | 9°22' | 12°14' | 13°23' | 7° 5' | 6°46' | 23°21' | 18°27' | 29°31' | 23°10' | 22°32' | 4°53' | 8°40' | F16 |
| S17 | 10 22 31 | 7°20'20" | 12° 1' | 10°29' | 12°31' | 14° 1' | 7°10' | 6°48' | 23°24' | 18°29' | 29°32' | 23° 8' | 22°29' | 5° 0' | 8°44' | S17 |
| S18 | 10 26 27 | 8°20'25" | 24° 4' | 11°37' | 12°46' | 14°39' | 7°15' | 6°50' | 23°27' | 18°31' | 29°33' | 23° 6' | 22°26' | 5° 7' | 8°48' | S18 |
| M19 | 10 30 24 | 9°20'28" | 6°18' | 12°48' | 12°58' | 15°16' | 7°20' | 6°52' | 23°29' | 18°33' | 29°34' | 23° 3' | 22°23' | 5°13' | 8°52' | M19 |
| T20 | 10 34 20 | 10°20'29" | 18°45' | 14° 1' | 13° 9' | 15°54' | 7°26' | 6°53' | 23°32' | 18°35' | 29°35' | 23° 1' | 22°20' | 5°20' | 8°56' | T20 |
| W21 | 10 38 17 | 11°20'27" | 1°28' | 15°16' | 13°17' | 16°32' | 7°31' | 6°55' | 23°35' | 18°37' | 29°36' | 23° 0' | 22°17' | 5°27' | 9° 0' | W21 |
| T22 | 10 42 13 | 12°20'23" | 14°32' | 16°32' | 13°23' | 17°10' | 7°37' | 6°56' | 23°38' | 18°40' | 29°37' | 23°D 0 | 22°13' | 5°33' | 9° 4' | T22 |
| F23 | 10 46 10 | 13°20'17" | 17°58' | 17°51' | 13°26' | 17°48' | 7°43' | 6°58' | 23°40' | 18°42' | 29°38' | 23° 1' | 22°10' | 5°40' | 9° 7' | F23 |
| S24 | 10 50 6 | 14°20'09" | 11°50' | 19°10' | 13°R27 | 18°25' | 7°49' | 6°59' | 23°43' | 18°44' | 29°39' | 23° 2' | 22° 7' | 5°47' | 9°11' | S24 |
| S25 | 10 54 3 | 15°19'59" | 26° 6' | 20°32' | 13°26' | 19° 3' | 7°55' | 7° 0' | 23°46' | 18°46' | 29°40' | 23° 3' | 22° 4' | 5°53' | 9°14' | S25 |
| M26 | 10 57 59 | 16°19'46" | 10°46' | 21°54' | 13°22' | 19°41' | 8° 2' | 7° 1' | 23°49' | 18°48' | 29°41' | 23° 4' | 22° 1' | 6° 0' | 9°18' | M26 |
| T27 | 11 1 56 | 17°19'31" | 25°45' | 23°19' | 13°16' | 20°19' | 8° 9' | 7° 2' | 23°52' | 18°50' | 29°41' | 23°R 5 | 21°57' | 6° 7' | 9°21' | T27 |
| W28 | 11 5 53 | 18°19'14" | 10°56' | 24°45' | 13°17' | 20°57' | 8°II15 | 7° 3' | 23°55' | 18°52' | 29°42' | 23°Ω 4 | 21°Ω54 | 6°13' | 9°24' | W28 |

Delta T = 258.27 sec

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1515
geocentric

MARCH 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|-----------|---------|--------|--------|---------|---------|-------|--------|--------|--------|--------|--------|-------|--------|------|
| T 1 | 11 9 49 | 19°18'55 | 26°9 | 26°12 | 12°R55 | 21°835 | 8°II22 | 7°3 | 23°V58 | 18°54 | 29°43 | 23°R 2 | 21°Ω51 | 6°X20 | 9°Z27 | T 1 |
| F 2 | 11 13 46 | 20°18'34 | 11°15 | 27°40 | 12°V41 | 22°12 | 8°29 | 7°4 | 24°1 | 18°56 | 29°43 | 22°Ω58 | 21°48 | 6°27 | 9°30 | F 2 |
| S 3 | 11 17 42 | 21°18'11 | 26°5 | 29°10 | 12°25 | 22°50 | 8°36 | 7°4 | 24°4 | 18°58 | 29°44 | 22°54 | 21°45 | 6°33 | 9°33 | S 3 |
| S 4 | 11 21 39 | 22°17'46 | 10°M30 | 0°X42 | 12°6 | 23°28 | 8°44 | 7°5 | 24°7 | 19°0 | 29°45 | 22°50 | 21°42 | 6°40 | 9°36 | S 4 |
| M 5 | 11 25 35 | 23°17'19 | 24°28 | 2°14 | 11°45 | 24°6 | 8°51 | 7°5 | 24°10 | 19°2 | 29°45 | 22°47 | 21°38 | 6°46 | 9°39 | M 5 |
| T 6 | 11 29 32 | 24°16'51 | 7°X57 | 3°48 | 11°21 | 24°44 | 8°59 | 7°5 | 24°13 | 19°4 | 29°46 | 22°44 | 21°35 | 6°53 | 9°42 | T 6 |
| W 7 | 11 33 28 | 25°16'21 | 20°59 | 5°23 | 10°56 | 25°22 | 9°7 | 7°5 | 24°16 | 19°6 | 29°46 | 22°D43 | 21°32 | 7°0 | 9°45 | W 7 |
| T 8 | 11 37 25 | 26°15'49 | 3°Z37 | 7°0 | 10°28 | 25°59 | 9°15 | 7°R 5 | 24°19 | 19°8 | 29°47 | 22°43 | 21°29 | 7°6 | 9°47 | T 8 |
| F 9 | 11 41 22 | 27°15'15 | 15°55 | 8°38 | 9°58 | 26°37 | 9°23 | 7°5 | 24°22 | 19°10 | 29°47 | 22°44 | 21°26 | 7°13 | 9°50 | F 9 |
| S 10 | 11 45 18 | 28°14'40 | 27°58 | 10°17 | 9°27 | 27°15 | 9°31 | 7°5 | 24°25 | 19°12 | 29°48 | 22°46 | 21°23 | 7°20 | 9°53 | S 10 |
| S 11 | 11 49 15 | 29°14'02 | 9°X52 | 11°58 | 8°54 | 27°53 | 9°39 | 7°5 | 24°29 | 19°14 | 29°48 | 22°47 | 21°19 | 7°26 | 9°55 | S 11 |
| M12 | 11 53 11 | 0°V13'23 | 21°39 | 13°40 | 8°20 | 28°31 | 9°48 | 7°4 | 24°32 | 19°15 | 29°49 | 22°R48 | 21°16 | 7°33 | 9°57 | M12 |
| T 13 | 11 57 8 | 1°12'42 | 3°X25 | 15°23 | 7°45 | 29°9 | 9°56 | 7°4 | 24°35 | 19°17 | 29°49 | 22°48 | 21°13 | 7°40 | 10°0 | T 13 |
| W14 | 12 1 4 | 2°11'59 | 15°13 | 17°8 | 7°8 | 29°47 | 10°5 | 7°3 | 24°38 | 19°19 | 29°49 | 22°45 | 21°10 | 7°46 | 10°2 | W14 |
| T 15 | 12 5 1 | 3°11'14 | 27°5 | 18°54 | 6°31 | 0°II24 | 10°14 | 7°3 | 24°41 | 19°21 | 29°50 | 22°41 | 21°7 | 7°53 | 10°4 | T 15 |
| F 16 | 12 8 57 | 4°10'27 | 9°V 2 | 20°41 | 5°54 | 1°2 | 10°23 | 7°2 | 24°45 | 19°23 | 29°50 | 22°34 | 21°3 | 8°0 | 10°6 | F 16 |
| S 17 | 12 12 54 | 5°9'37 | 21°8 | 22°30 | 5°16 | 1°40 | 10°32 | 7°1 | 24°48 | 19°24 | 29°50 | 22°27 | 21°0 | 8°6 | 10°8 | S 17 |
| S 18 | 12 16 51 | 6°8'46 | 3°Z23 | 24°20 | 4°38 | 2°18 | 10°41 | 7°0 | 24°51 | 19°26 | 29°50 | 22°19 | 20°57 | 8°13 | 10°10 | S 18 |
| M19 | 12 20 47 | 7°7'52 | 15°48 | 26°12 | 4°1 | 2°56 | 10°50 | 6°59 | 24°55 | 19°28 | 29°50 | 22°11 | 20°54 | 8°20 | 10°12 | M19 |
| T 20 | 12 24 44 | 8°6'57 | 28°25 | 28°5 | 3°24 | 3°34 | 11°0 | 6°58 | 24°58 | 19°29 | 29°51 | 22°3 | 20°51 | 8°26 | 10°13 | T 20 |
| W21 | 12 28 40 | 9°5'59 | 11°II15 | 29°59 | 2°47 | 4°12 | 11°9 | 6°56 | 25°1 | 19°31 | 29°51 | 21°58 | 20°48 | 8°33 | 10°15 | W21 |
| T 22 | 12 32 37 | 10°4'58 | 24°21 | 1°V55 | 2°12 | 4°49 | 11°19 | 6°55 | 25°5 | 19°33 | 29°51 | 21°55 | 20°44 | 8°40 | 10°16 | T 22 |
| F 23 | 12 36 33 | 11°3'56 | 7°Z43 | 3°52 | 1°38 | 5°27 | 11°29 | 6°54 | 25°8 | 19°34 | 29°R51 | 21°D54 | 20°41 | 8°46 | 10°18 | F 23 |
| S 24 | 12 40 30 | 12°2'51 | 21°25 | 5°51 | 1°5 | 6°5 | 11°38 | 6°52 | 25°11 | 19°36 | 29°51 | 21°54 | 20°38 | 8°53 | 10°19 | S 24 |
| S 25 | 12 44 26 | 13°1'44 | 5°Ω27 | 7°51 | 0°34 | 6°43 | 11°48 | 6°50 | 25°15 | 19°37 | 29°51 | 21°55 | 20°35 | 8°59 | 10°21 | S 25 |
| M26 | 12 48 23 | 14°0'34 | 19°49 | 9°52 | 0°5 | 7°21 | 11°58 | 6°49 | 25°18 | 19°39 | 29°51 | 21°R56 | 20°32 | 9°6 | 10°22 | M26 |
| T 27 | 12 52 19 | 14°59'22 | 4°M29 | 11°54 | 29°X37 | 7°59 | 12°9 | 6°47 | 25°22 | 19°40 | 29°51 | 21°55 | 20°28 | 9°13 | 10°23 | T 27 |
| W28 | 12 56 16 | 15°58'08 | 19°22 | 13°58 | 29°12 | 8°36 | 12°19 | 6°45 | 25°25 | 19°42 | 29°50 | 21°52 | 20°25 | 9°19 | 10°24 | W28 |
| T 29 | 13 0 13 | 16°56'52 | 4°Ω23 | 16°3 | 28°49 | 9°14 | 12°29 | 6°43 | 25°28 | 19°43 | 29°50 | 21°47 | 20°22 | 9°26 | 10°25 | T 29 |
| F 30 | 13 4 9 | 17°55'33 | 19°21 | 18°8 | 28°28 | 9°52 | 12°40 | 6°41 | 25°32 | 19°45 | 29°50 | 21°40 | 20°19 | 9°33 | 10°26 | F 30 |
| S 31 | 13 8 6 | 18°V54'13 | 4°M 8 | 20°V14 | 28°X 9 | 10°II30 | 12°II50 | 6°X39 | 25°V35 | 19°X46 | 29°X50 | 21°Ω31 | 20°Ω16 | 9°X39 | 10°Z27 | S 31 |

Delta T = 258.09 sec

Julian Calendar 1 March 1515 == Greg. Calendar 11 March 1515

APRIL 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|-----------|--------|--------|--------|---------|---------|-------|--------|--------|--------|--------|--------|--------|--------|------|
| S 1 | 13 12 2 | 19°V52'51 | 18°M37 | 22°V21 | 27°R53 | 11°II 8 | 13°II 1 | 6°R36 | 25°V39 | 19°X47 | 29°R50 | 21°R22 | 20°Ω13 | 9°X46 | 10°Z27 | S 1 |
| M 2 | 13 15 59 | 20°51'27 | 2°X40 | 24°28 | 27°X39 | 11°46 | 13°12 | 6°X34 | 25°42 | 19°49 | 29°X49 | 21°Ω14 | 20°9 | 9°53 | 10°28 | M 2 |
| T 3 | 13 19 55 | 21°50'01 | 16°15 | 26°35 | 27°28 | 12°23 | 13°23 | 6°32 | 25°46 | 19°50 | 29°49 | 21°7 | 20°6 | 9°59 | 10°28 | T 3 |
| W 4 | 13 23 52 | 22°48'34 | 29°22 | 28°43 | 27°19 | 13°1 | 13°34 | 6°29 | 25°49 | 19°51 | 29°49 | 21°2 | 20°3 | 10°6 | 10°29 | W 4 |
| T 5 | 13 27 48 | 23°47'05 | 12°Z 4 | 0°B49 | 27°13 | 13°39 | 13°45 | 6°26 | 25°53 | 19°53 | 29°48 | 20°59 | 20°0 | 10°13 | 10°29 | T 5 |
| F 6 | 13 31 45 | 24°45'34 | 24°24 | 2°55 | 27°9 | 14°17 | 13°56 | 6°24 | 25°56 | 19°54 | 29°48 | 20°D59 | 19°57 | 10°19 | 10°30 | F 6 |
| S 7 | 13 35 42 | 25°44'02 | 6°X28 | 5°0 | 27°D 7 | 14°54 | 14°7 | 6°21 | 25°59 | 19°55 | 29°47 | 20°59 | 19°54 | 10°26 | 10°30 | S 7 |
| S 8 | 13 39 38 | 26°42'28 | 18°21 | 7°4 | 27°8 | 15°32 | 14°18 | 6°18 | 26°3 | 19°56 | 29°47 | 20°R59 | 19°50 | 10°33 | 10°30 | S 8 |
| M 9 | 13 43 35 | 27°40'52 | 0°X 9 | 9°6 | 27°11 | 16°10 | 14°29 | 6°15 | 26°6 | 19°57 | 29°47 | 20°59 | 19°47 | 10°39 | 10°R30 | M 9 |
| T 10 | 13 47 31 | 28°39'15 | 11°55 | 11°6 | 27°17 | 16°48 | 14°41 | 6°12 | 26°10 | 19°58 | 29°46 | 20°57 | 19°44 | 10°46 | 10°30 | T 10 |
| W11 | 13 51 28 | 29°37'36 | 23°46 | 13°3 | 27°24 | 17°26 | 14°52 | 6°9 | 26°13 | 20°0 | 29°45 | 20°52 | 19°41 | 10°53 | 10°30 | W11 |
| T 12 | 13 55 24 | 0°B35'55 | 5°V43 | 14°58 | 27°34 | 18°3 | 15°4 | 6°6 | 26°17 | 20°1 | 29°45 | 20°45 | 19°38 | 10°59 | 10°29 | T 12 |
| F 13 | 13 59 21 | 1°34'13 | 17°50 | 16°50 | 27°46 | 18°41 | 15°16 | 6°3 | 26°20 | 20°2 | 29°44 | 20°35 | 19°34 | 11°6 | 10°29 | F 13 |
| S 14 | 14 3 17 | 2°32'29 | 0°B 8 | 18°40 | 28°0 | 19°19 | 15°27 | 6°0 | 26°24 | 20°3 | 29°44 | 20°24 | 19°31 | 11°13 | 10°29 | S 14 |
| S 15 | 14 7 14 | 3°30'43 | 12°38 | 20°26 | 28°17 | 19°57 | 15°39 | 5°56 | 26°27 | 20°4 | 29°43 | 20°11 | 19°28 | 11°19 | 10°28 | S 15 |
| M16 | 14 11 11 | 4°28'56 | 25°21 | 22°8 | 28°35 | 20°34 | 15°51 | 5°53 | 26°30 | 20°4 | 29°42 | 19°58 | 19°25 | 11°26 | 10°28 | M16 |
| T 17 | 14 15 7 | 5°27'06 | 8°II15 | 23°47 | 28°54 | 21°12 | 16°3 | 5°49 | 26°34 | 20°5 | 29°42 | 19°47 | 19°22 | 11°32 | 10°27 | T 17 |
| W18 | 14 19 4 | 6°25'15 | 21°21 | 25°22 | 29°16 | 21°50 | 16°15 | 5°46 | 26°37 | 20°6 | 29°41 | 19°38 | 19°19 | 11°39 | 10°26 | W18 |
| T 19 | 14 23 0 | 7°23'22 | 4°Ω39 | 26°54 | 29°39 | 22°28 | 16°27 | 5°42 | 26°41 | 20°7 | 29°40 | 19°32 | 19°15 | 11°46 | 10°26 | T 19 |
| F 20 | 14 26 57 | 8°21'27 | 18°9 | 28°21 | 0°V 5 | 23°5 | 16°39 | 5°39 | 26°44 | 20°8 | 29°39 | 19°29 | 19°12 | 11°52 | 10°25 | F 20 |
| S 21 | 14 30 53 | 9°19'30 | 1°Ω52 | 29°45 | 0°31 | 23°43 | 16°51 | 5°35 | 26°47 | 20°9 | 29°39 | 19°28 | 19°9 | 11°59 | 10°24 | S 21 |
| S 22 | 14 34 50 | 10°17'31 | 15°47 | 1°II 4 | 0°59 | 24°21 | 17°4 | 5°31 | 26°51 | 20°9 | 29°38 | 19°27 | 19°6 | 12°6 | 10°23 | S 22 |
| M23 | 14 38 46 | 11°15'30 | 29°56 | 2°20 | 1°29 | 24°59 | 17°16 | 5°27 | 26°54 | 20°10 | 29°37 | 19°27 | 19°3 | 12°12 | 10°22 | M23 |
| T 24 | 14 42 43 | 12°13'27 | 14°M17 | 3°31 | 2°0 | 25°36 | 17°28 | 5°23 | 26°58 | 20°11 | 29°36 | 19°26 | 18°59 | 12°19 | 10°20 | T 24 |
| W25 | 14 46 40 | 13°11'23 | 28°49 | 4°38 | 2°33 | 26°14 | 17°41 | 5°20 | 27°1 | 20°11 | 29°35 | 19°22 | 18°56 | 12°26 | 10°19 | W25 |
| T 26 | 14 50 36 | 14°9'16 | 13°Ω26 | 5°40 | 3°7 | 26°52 | 17°53 | 5°16 | 27°4 | 20°12 | 29°34 | 19°15 | 18°53 | 12°32 | 10°18 | T 26 |
| F 27 | 14 54 33 | 15°7'08 | 28°3 | 6°39 | 3°42 | 27°29 | 18°6 | 5°12 | 27°8 | 20°13 | 29°33 | 19°6 | 18°50 | 12°39 | 10°16 | F 27 |
| S 28 | 14 58 29 | 16°4'58 | 12°M33 | 7°32 | 4°18 | 28°7 | 18°18 | 5°8 | 27°11 | 20°13 | 29°32 | 18°55 | 18°47 | 12°46 | 10°15 | S 28 |
| S 29 | 15 2 26 | 17°2'47 | 26°48 | 8°21 | 4°56 | 28°45 | 18°31 | 5°4 | 27°14 | 20°14 | 29°31 | 18°43 | 18°44 | 12°52 | 10°13 | S 29 |
| M30 | 15 6 22 | 18°B 0'34 | 10°X43 | 9°II 6 | 5°V35 | 29°II23 | 18°II44 | 4°X59 | 27°V18 | 20°X14 | 29°X30 | 18°Ω32 | 18°Ω40 | 12°X59 | 10°Z12 | M30 |

Delta T = 257.90 sec

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1515

geocentric

MAY 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|--------|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|--------|------|
| T 1 | 15 10 19 | 18°58'20 | 24°15 | 9°46 | 6°15 | 0°0 | 18°57 | 4°R55 | 27°21 | 20°15 | 29°R29 | 18°R23 | 18°Ω37 | 13°16 | 10°R10 | T 1 |
| W 2 | 15 14 15 | 19°56'05 | 7°32 | 10°21 | 6°56 | 0°38 | 19° 9 | 4°15 | 27°24 | 20°15 | 29°R28 | 18°Ω16 | 18°34 | 13°12 | 10°R8 | W 2 |
| T 3 | 15 18 12 | 20°53'49 | 20° 4 | 10°52 | 7°38 | 1°16 | 19°22 | 4°47 | 27°27 | 20°15 | 29°27 | 18°11 | 18°31 | 13°19 | 10° 6 | T 3 |
| F 4 | 15 22 9 | 21°51'31 | 2°26 | 11°17 | 8°21 | 1°53 | 19°35 | 4°43 | 27°31 | 20°16 | 29°26 | 18° 9 | 18°28 | 13°26 | 10° 4 | F 4 |
| S 5 | 15 26 5 | 22°49'12 | 14°32 | 11°38 | 9° 5 | 2°31 | 19°48 | 4°38 | 27°34 | 20°16 | 29°25 | 18° 8 | 18°25 | 13°32 | 10° 2 | S 5 |
| S 6 | 15 30 2 | 23°46'53 | 26°27 | 11°54 | 9°49 | 3° 9 | 20° 1 | 4°34 | 27°37 | 20°16 | 29°23 | 18° 8 | 18°21 | 13°39 | 10° 0 | S 6 |
| M 7 | 15 33 58 | 24°44'32 | 8°16 | 12° 6 | 10°35 | 3°46 | 20°14 | 4°30 | 27°40 | 20°17 | 29°22 | 18° 8 | 18°18 | 13°46 | 9°58 | M 7 |
| T 8 | 15 37 55 | 25°42'10 | 20° 5 | 12°12 | 11°22 | 4°24 | 20°27 | 4°25 | 27°43 | 20°17 | 29°21 | 18° 6 | 18°15 | 13°52 | 9°56 | T 8 |
| W 9 | 15 41 51 | 26°39'47 | 1°59 | 12°R14 | 12° 9 | 5° 2 | 20°40 | 4°21 | 27°46 | 20°17 | 29°20 | 18° 1 | 18°12 | 13°59 | 9°54 | W 9 |
| T 10 | 15 45 48 | 27°37'23 | 14° 1 | 12°11 | 12°57 | 5°39 | 20°53 | 4°17 | 27°49 | 20°17 | 29°19 | 17°54 | 18° 9 | 14° 6 | 9°51 | T 10 |
| F 11 | 15 49 44 | 28°34'59 | 26°16 | 12° 4 | 13°46 | 6°17 | 21° 6 | 4°12 | 27°53 | 20°17 | 29°17 | 17°45 | 18° 5 | 14°12 | 9°49 | F 11 |
| S 12 | 15 53 41 | 29°32'33 | 8°46 | 11°52 | 14°36 | 6°55 | 21°20 | 4° 8 | 27°56 | 20°17 | 29°16 | 17°34 | 18° 2 | 14°19 | 9°46 | S 12 |
| S 13 | 15 57 38 | 0°13'06 | 21°32 | 11°37 | 15°26 | 7°32 | 21°33 | 4° 3 | 27°59 | 20°17 | 29°15 | 17°21 | 17°59 | 14°26 | 9°44 | S 13 |
| M14 | 16 1 34 | 1°27'38 | 4°13 | 11°17 | 16°17 | 8°10 | 21°46 | 3°59 | 28° 2 | 20°R17 | 29°14 | 17° 9 | 17°56 | 14°32 | 9°41 | M14 |
| T 15 | 16 5 31 | 2°25'09 | 17°50 | 10°55 | 17° 8 | 8°48 | 21°59 | 3°54 | 28° 5 | 20°17 | 29°12 | 16°58 | 17°53 | 14°39 | 9°39 | T 15 |
| W16 | 16 9 27 | 3°22'39 | 1°18 | 10°29 | 18° 0 | 9°25 | 22°13 | 3°50 | 28° 8 | 20°17 | 29°11 | 16°49 | 17°50 | 14°46 | 9°36 | W16 |
| T 17 | 16 13 24 | 4°20'08 | 14°57 | 10° 0 | 18°53 | 10° 3 | 22°26 | 3°46 | 28°11 | 20°17 | 29°10 | 16°43 | 17°46 | 14°52 | 9°33 | T 17 |
| F 18 | 16 17 20 | 5°17'36 | 28°45 | 9°30 | 19°46 | 10°41 | 22°39 | 3°41 | 28°14 | 20°17 | 29° 8 | 16°40 | 17°43 | 14°59 | 9°30 | F 18 |
| S 19 | 16 21 17 | 6°15'02 | 12°39 | 8°58 | 20°40 | 11°18 | 22°53 | 3°37 | 28°16 | 20°17 | 29° 7 | 16°D39 | 17°40 | 15° 6 | 9°27 | S 19 |
| S 20 | 16 25 13 | 7°12'27 | 26°40 | 8°25 | 21°35 | 11°56 | 23° 6 | 3°32 | 28°19 | 20°17 | 29° 5 | 16°39 | 17°37 | 15°12 | 9°24 | S 20 |
| M21 | 16 29 10 | 8° 9'51 | 10°47 | 7°51 | 22°29 | 12°33 | 23°20 | 3°28 | 28°22 | 20°17 | 29° 4 | 16°R39 | 17°34 | 15°19 | 9°21 | M21 |
| T 22 | 16 33 7 | 9° 7'14 | 24°57 | 7°18 | 23°25 | 13°11 | 23°33 | 3°23 | 28°25 | 20°16 | 29° 3 | 16°38 | 17°31 | 15°26 | 9°18 | T 22 |
| W23 | 16 37 3 | 10° 4'36 | 9°11 | 6°45 | 24°21 | 13°49 | 23°47 | 3°19 | 28°28 | 20°16 | 29° 1 | 16°35 | 17°27 | 15°32 | 9°15 | W23 |
| T 24 | 16 41 0 | 11° 1'56 | 23°25 | 6°14 | 25°17 | 14°26 | 24° 0 | 3°15 | 28°31 | 20°16 | 29° 0 | 16°30 | 17°24 | 15°39 | 9°12 | T 24 |
| F 25 | 16 44 56 | 11°59'15 | 7°16 | 5°44 | 26°13 | 15° 4 | 24°14 | 3°10 | 28°33 | 20°16 | 28°58 | 16°22 | 17°21 | 15°46 | 9° 9 | F 25 |
| S 26 | 16 48 53 | 12°56'34 | 21°40 | 5°17 | 27°11 | 15°42 | 24°27 | 3° 6 | 28°36 | 20°15 | 28°57 | 16°13 | 17°18 | 15°52 | 9° 6 | S 26 |
| S 27 | 16 52 49 | 13°53'52 | 5°32 | 4°52 | 28° 8 | 16°19 | 24°41 | 3° 2 | 28°39 | 20°15 | 28°55 | 16° 3 | 17°15 | 15°59 | 9° 2 | S 27 |
| M28 | 16 56 46 | 14°51'09 | 19° 8 | 4°30 | 29° 6 | 16°57 | 24°54 | 2°57 | 28°41 | 20°14 | 28°54 | 15°53 | 17°11 | 16° 6 | 8°59 | M28 |
| T 29 | 17 0 42 | 15°48'25 | 2°35 | 4°12 | 0° 5 | 17°35 | 25° 8 | 2°53 | 28°44 | 20°14 | 28°52 | 15°45 | 17° 8 | 16°12 | 8°56 | T 29 |
| W30 | 17 4 39 | 16°45'41 | 15°22 | 3°58 | 1° 3 | 18°12 | 25°21 | 2°49 | 28°46 | 20°13 | 28°51 | 15°39 | 17° 5 | 16°19 | 8°52 | W30 |
| T 31 | 17 8 36 | 17°42'57 | 28°30 | 3°11 | 2° 8 | 18°50 | 25°35 | 2°45 | 28°49 | 20°13 | 28°54 | 15°35 | 17° 2 | 16°16 | 8°49 | T 31 |

Delta T = 257.72 sec

Julian Calendar 1 May 1515 == Greg. Calendar 11 May 1515

JUNE 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|-------|------|
| F 1 | 17 12 32 | 18°40'12 | 10°19 | 3°R42 | 3°R 2 | 19°27 | 25°14 | 2°R40 | 28°51 | 20°R12 | 28°R48 | 15°D34 | 16°Ω59 | 16°13 | 8°R46 | F 1 |
| S 2 | 17 16 29 | 19°37'26 | 22°25 | 3°D41 | 4° 2 | 20° 5 | 26° 2 | 2°13 | 28°54 | 20°12 | 28°46 | 15°Ω34 | 16°56 | 16°39 | 8°R42 | S 2 |
| S 3 | 17 20 25 | 20°34'41 | 4°20 | 3°14 | 5° 2 | 20°43 | 26°16 | 2°32 | 28°56 | 20°11 | 28°45 | 15°34 | 16°52 | 16°46 | 8°39 | S 3 |
| M 4 | 17 24 22 | 21°31'55 | 16°11 | 3°52 | 6° 2 | 21°20 | 26°30 | 2°28 | 28°59 | 20°11 | 28°43 | 15°R35 | 16°49 | 16°52 | 8°35 | M 4 |
| T 5 | 17 28 18 | 22°29'09 | 28° 1 | 4° 4 | 7° 3 | 21°58 | 26°43 | 2°24 | 29° 1 | 20°10 | 28°42 | 15°35 | 16°46 | 16°59 | 8°31 | T 5 |
| W 6 | 17 32 15 | 23°26'22 | 9°57 | 4°21 | 8° 4 | 22°36 | 26°57 | 2°20 | 29° 4 | 20° 9 | 28°40 | 15°34 | 16°43 | 17° 6 | 8°28 | W 6 |
| T 7 | 17 36 11 | 24°23'36 | 22° 3 | 4°43 | 9° 5 | 23°13 | 27°11 | 2°16 | 29° 6 | 20° 9 | 28°39 | 15°30 | 16°40 | 17°12 | 8°24 | T 7 |
| F 8 | 17 40 8 | 25°20'50 | 4°23 | 5°10 | 10° 7 | 23°51 | 27°24 | 2°12 | 29° 8 | 20° 8 | 28°37 | 15°25 | 16°37 | 17°19 | 8°20 | F 8 |
| S 9 | 17 44 5 | 26°18'03 | 17° 0 | 5°41 | 11° 9 | 24°28 | 27°38 | 2° 8 | 29°10 | 20° 7 | 28°36 | 15°18 | 16°33 | 17°26 | 8°17 | S 9 |
| S 10 | 17 48 1 | 27°15'16 | 29°58 | 6°16 | 12°11 | 25° 6 | 27°52 | 2° 4 | 29°12 | 20° 6 | 28°34 | 15°10 | 16°30 | 17°32 | 8°13 | S 10 |
| M11 | 17 51 58 | 28°12'30 | 13°15 | 6°57 | 13°14 | 25°44 | 28° 5 | 2° 1 | 29°15 | 20° 5 | 28°33 | 15° 2 | 16°27 | 17°39 | 8° 9 | M11 |
| T 12 | 17 55 54 | 29° 9'43 | 26°50 | 7°41 | 14°16 | 26°21 | 28°19 | 1°57 | 29°17 | 20° 5 | 28°31 | 14°55 | 16°24 | 17°46 | 8° 6 | T 12 |
| W13 | 17 59 51 | 0° 6'56 | 10°42 | 8°30 | 15°19 | 26°59 | 28°33 | 1°53 | 29°19 | 20° 4 | 28°30 | 14°49 | 16°21 | 17°52 | 8° 2 | W13 |
| T 14 | 18 3 47 | 1° 4'09 | 24°46 | 9°23 | 16°22 | 27°37 | 28°46 | 1°50 | 29°21 | 20° 3 | 28°28 | 14°45 | 16°17 | 17°59 | 7°58 | T 14 |
| F 15 | 18 7 44 | 2° 1'21 | 8°58 | 10°21 | 17°26 | 28°14 | 29° 0 | 1°46 | 29°23 | 20° 2 | 28°27 | 14°D44 | 16°14 | 18° 6 | 7°54 | F 15 |
| S 16 | 18 11 40 | 2°58'34 | 23°14 | 11°23 | 18°29 | 28°52 | 29°14 | 1°43 | 29°25 | 20° 1 | 28°25 | 14°44 | 16°11 | 18°12 | 7°51 | S 16 |
| S 17 | 18 15 37 | 3°55'46 | 7°31 | 12°28 | 19°33 | 29°30 | 29°27 | 1°39 | 29°27 | 20° 0 | 28°24 | 14°45 | 16° 8 | 18°19 | 7°47 | S 17 |
| M18 | 18 19 34 | 4°52'57 | 21°47 | 13°38 | 20°37 | 0°R 8 | 29°41 | 1°36 | 29°29 | 19°59 | 28°22 | 14°46 | 16° 5 | 18°26 | 7°43 | M18 |
| T 19 | 18 23 30 | 5°50'08 | 5°58 | 14°53 | 21°42 | 0°45 | 29°54 | 1°33 | 29°30 | 19°58 | 28°21 | 14°R47 | 16° 2 | 18°32 | 7°39 | T 19 |
| W20 | 18 27 27 | 6°47'19 | 20° 3 | 16°11 | 22°46 | 1°23 | 0°R 8 | 1°29 | 29°32 | 19°57 | 28°19 | 14°46 | 15°58 | 18°39 | 7°35 | W20 |
| T 21 | 18 31 23 | 7°44'30 | 4°11 | 17°32 | 23°51 | 2° 1 | 0°22 | 1°26 | 29°34 | 19°56 | 28°17 | 14°44 | 15°55 | 18°46 | 7°32 | T 21 |
| F 22 | 18 35 20 | 8°41'41 | 17°51 | 18°58 | 24°55 | 2°38 | 0°35 | 1°23 | 29°36 | 19°55 | 28°16 | 14°40 | 15°52 | 18°52 | 7°28 | F 22 |
| S 23 | 18 39 16 | 9°38'51 | 1°29 | 20°28 | 26° 1 | 3°16 | 0°49 | 1°20 | 29°37 | 19°53 | 28°14 | 14°35 | 15°49 | 18°59 | 7°24 | S 23 |
| S 24 | 18 43 13 | 10°36'02 | 14°55 | 22° 1 | 27° 6 | 3°54 | 1° 2 | 1°17 | 29°39 | 19°52 | 28°13 | 14°30 | 15°46 | 19° 6 | 7°20 | S 24 |
| M25 | 18 47 9 | 11°33'13 | 28° 6 | 23°38 | 28°11 | 4°31 | 1°16 | 1°14 | 29°41 | 19°51 | 28°12 | 14°25 | 15°43 | 19°12 | 7°16 | M25 |
| T 26 | 18 51 6 | 12°30'23 | 11°3 | 25°19 | 29°17 | 5° 9 | 1°29 | 1°12 | 29°42 | 19°50 | 28°10 | 14°20 | 15°39 | 19°19 | 7°13 | T 26 |
| W27 | 18 55 3 | 13°27'35 | 23°44 | 27° 3 | 0°R22 | 5°47 | 1°43 | 1° 9 | 29°44 | 19°49 | 28° 9 | 14°17 | 15°36 | 19°26 | 7° 9 | W27 |
| T 28 | 18 58 59 | 14°24'46 | 6°10 | 28°50 | 1°28 | 6°25 | 1°56 | 1° 6 | 29°45 | 19°47 | 28° 7 | 14°16 | 15°33 | 19°32 | 7° 5 | T 28 |
| F 29 | 19 2 56 | 15°21'58 | 18°23 | 0°41 | 2°34 | 7° 2 | 2°10 | 1° 4 | 29°46 | 19°46 | 28° 6 | 14°D15 | 15°30 | 19°39 | 7° 1 | F 29 |
| S 30 | 19 6 52 | 16°19'10 | 0°12 | 2°34 | 3°11 | 7°40 | 2°23 | 1°1 | 29°48 | 19°45 | 28° 4 | 14°Ω16 | 15°Ω27 | 19°16 | 6°58 | S 30 |

Delta T = 257.53 sec

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1515
geocentric

JULY 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|--------|---------|-------|-------|------|-------|-------|--------|--------|--------|-------|-------|-------|------|
| S 1 | 19 10 49 | 17°51'23 | 12°19 | 4°30 | 4°47 | 8°18 | 2°37 | 0°R59 | 29°49 | 19°R44 | 28°R 3 | 14°18 | 15°23 | 19°52 | 6°R54 | S 1 |
| M 2 | 19 14 45 | 18°13'37 | 24° 9 | 6°29 | 5°54 | 8°55 | 2°50 | 0°157 | 29°50 | 19°442 | 28°1 | 14°20 | 15°20 | 19°59 | 6°50 | M 2 |
| T 3 | 19 18 42 | 19°10'51 | 6°40 | 8°29 | 7° 0 | 9°33 | 3° 3 | 0°54 | 29°52 | 19°41 | 28° 0 | 14°21 | 15°17 | 20° 6 | 6°46 | T 3 |
| W 4 | 19 22 38 | 20° 8'06 | 17°56 | 10°32 | 8° 7 | 10°11 | 3°17 | 0°52 | 29°53 | 19°40 | 27°59 | 14°R22 | 15°14 | 20°12 | 6°43 | W 4 |
| T 5 | 19 26 35 | 21° 5'22 | 0°8 2 | 12°36 | 9°14 | 10°49 | 3°30 | 0°50 | 29°54 | 19°38 | 27°57 | 14°21 | 15°11 | 20°19 | 6°39 | T 5 |
| F 6 | 19 30 32 | 22° 2'38 | 12°22 | 14°41 | 10°21 | 11°27 | 3°43 | 0°48 | 29°55 | 19°37 | 27°56 | 14°20 | 15° 8 | 20°26 | 6°36 | F 6 |
| S 7 | 19 34 28 | 22°59'56 | 25° 2 | 16°47 | 11°29 | 12° 4 | 3°57 | 0°46 | 29°56 | 19°35 | 27°54 | 14°18 | 15° 4 | 20°32 | 6°32 | S 7 |
| S 8 | 19 38 25 | 23°57'14 | 8°II 3 | 18°54 | 12°36 | 12°42 | 4°10 | 0°44 | 29°57 | 19°34 | 27°53 | 14°15 | 15° 1 | 20°39 | 6°29 | S 8 |
| M 9 | 19 42 21 | 24°54'33 | 21°27 | 21° 2 | 13°44 | 13°20 | 4°23 | 0°43 | 29°58 | 19°33 | 27°52 | 14°12 | 14°58 | 20°46 | 6°25 | M 9 |
| T 10 | 19 46 18 | 25°51'53 | 5°515 | 23° 9 | 14°51 | 13°58 | 4°36 | 0°41 | 29°59 | 19°31 | 27°50 | 14°10 | 14°55 | 20°52 | 6°22 | T 10 |
| W11 | 19 50 14 | 26°49'14 | 19°24 | 25°16 | 15°59 | 14°36 | 4°49 | 0°40 | 29°59 | 19°30 | 27°49 | 14° 8 | 14°52 | 20°59 | 6°18 | W11 |
| T 12 | 19 54 11 | 27°46'36 | 3°129 | 27°22 | 17° 7 | 15°13 | 5° 2 | 0°38 | 0°8 0 | 19°28 | 27°48 | 14° 7 | 14°49 | 21° 6 | 6°15 | T 12 |
| F 13 | 19 58 8 | 28°43'58 | 18°26 | 29°28 | 18°15 | 15°51 | 5°15 | 0°37 | 0° 1 | 19°27 | 27°47 | 14°D 7 | 14°45 | 21°12 | 6°11 | F 13 |
| S 14 | 20 2 4 | 29°41'22 | 3°11 8 | 1°133 | 19°23 | 16°29 | 5°28 | 0°35 | 0° 2 | 19°25 | 27°45 | 14° 7 | 14°42 | 21°19 | 6° 8 | S 14 |
| S 15 | 20 6 1 | 0°138'45 | 17°49 | 3°37 | 20°32 | 17° 7 | 5°41 | 0°34 | 0° 2 | 19°24 | 27°44 | 14° 8 | 14°39 | 21°26 | 6° 5 | S 15 |
| M16 | 20 9 57 | 1°36'09 | 2°122 | 5°39 | 21°40 | 17°45 | 5°54 | 0°33 | 0° 3 | 19°22 | 27°43 | 14° 9 | 14°36 | 21°32 | 6° 1 | M16 |
| T 17 | 20 13 54 | 2°33'34 | 16°45 | 7°41 | 22°49 | 18°23 | 6° 7 | 0°32 | 0° 4 | 19°20 | 27°42 | 14°10 | 14°33 | 21°39 | 5°58 | T 17 |
| W18 | 20 17 50 | 3°31'00 | 0°1152 | 9°41 | 23°57 | 19° 1 | 6°20 | 0°31 | 0° 4 | 19°19 | 27°41 | 14°R10 | 14°29 | 21°46 | 5°55 | W18 |
| T 19 | 20 21 47 | 4°28'26 | 14°44 | 11°40 | 25° 6 | 19°39 | 6°33 | 0°31 | 0° 4 | 19°17 | 27°39 | 14°10 | 14°26 | 21°52 | 5°52 | T 19 |
| F 20 | 20 25 43 | 5°25'53 | 28°20 | 13°37 | 26°15 | 20°17 | 6°46 | 0°30 | 0° 5 | 19°16 | 27°38 | 14°10 | 14°23 | 21°59 | 5°49 | F 20 |
| S 21 | 20 29 40 | 6°23'21 | 11°139 | 15°32 | 27°24 | 20°55 | 6°58 | 0°29 | 0° 5 | 19°14 | 27°37 | 14° 9 | 14°20 | 22° 6 | 5°46 | S 21 |
| S 22 | 20 33 36 | 7°20'49 | 24°43 | 17°27 | 28°33 | 21°33 | 7°11 | 0°29 | 0° 5 | 19°13 | 27°36 | 14° 8 | 14°17 | 22°12 | 5°43 | S 22 |
| M23 | 20 37 33 | 8°18'19 | 7°332 | 19°19 | 29°42 | 22°10 | 7°24 | 0°28 | 0° 6 | 19°11 | 27°35 | 14° 7 | 14°14 | 22°19 | 5°40 | M23 |
| T 24 | 20 41 30 | 9°15'49 | 20° 8 | 21°10 | 0°552 | 22°48 | 7°36 | 0°28 | 0° 6 | 19° 9 | 27°34 | 14° 7 | 14°10 | 22°26 | 5°37 | T 24 |
| W25 | 20 45 26 | 10°13'20 | 2°32 | 23° 0 | 2° 1 | 23°26 | 7°49 | 0°28 | 0° 6 | 19° 8 | 27°33 | 14° 6 | 14° 7 | 22°32 | 5°34 | W25 |
| T 26 | 20 49 23 | 11°10'53 | 14°45 | 24°48 | 3°11 | 24° 4 | 8° 1 | 0°28 | 0° 6 | 19° 6 | 27°32 | 14°D 6 | 14° 4 | 22°39 | 5°32 | T 26 |
| F 27 | 20 53 19 | 12° 8'26 | 26°48 | 26°35 | 4°20 | 24°42 | 8°13 | 0°D28 | 0°R 6 | 19° 5 | 27°31 | 14° 6 | 14° 1 | 22°46 | 5°29 | F 27 |
| S 28 | 20 57 16 | 13° 6'01 | 8°145 | 28°20 | 5°30 | 25°20 | 8°26 | 0°28 | 0° 6 | 19° 3 | 27°30 | 14° 7 | 13°58 | 22°52 | 5°26 | S 28 |
| S 29 | 21 1 12 | 14° 3'37 | 20°36 | 0°11 3 | 6°40 | 25°58 | 8°38 | 0°28 | 0° 6 | 19° 1 | 27°29 | 14°R 7 | 13°54 | 22°59 | 5°24 | S 29 |
| M30 | 21 5 9 | 15° 1'15 | 2°126 | 1°45 | 7°50 | 26°37 | 8°50 | 0°28 | 0° 6 | 19° 0 | 27°28 | 14° 7 | 13°51 | 23° 6 | 5°21 | M30 |
| T 31 | 21 9 5 | 15°18'54 | 14°116 | 3°11 26 | 9°50 | 27°15 | 9°52 | 0°129 | 0°8 6 | 18°58 | 27°127 | 14°12 | 13°48 | 23°12 | 5°19 | T 31 |

Delta T = 257.34 sec

Julian Calendar 1 July 1515 == Greg. Calendar 11 July 1515

AUGUST 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|----------|----------|--------|--------|---------|--------|-------|--------|--------|--------|--------|--------|--------|-------|------|
| W 1 | 21 13 2 | 16°15'34 | 26°117 | 5°11 5 | 10°510 | 27°153 | 9°514 | 0°129 | 0°R 6 | 18°R56 | 27°R26 | 14°R 6 | 13°145 | 23°119 | 5°R16 | W 1 |
| T 2 | 21 16 59 | 17°54'17 | 8°117 | 6°43 | 11°20 | 28°31 | 9°26 | 0°30 | 0°8 5 | 18°555 | 27°126 | 14°12 | 13°42 | 23°26 | 5°116 | T 2 |
| F 3 | 21 20 55 | 18°52'00 | 20°35 | 8°19 | 12°31 | 29° 9 | 9°38 | 0°30 | 0° 5 | 18°53 | 27°25 | 14°D 6 | 13°39 | 23°32 | 5°12 | F 3 |
| S 4 | 21 24 52 | 19°49'46 | 3°112 | 9°53 | 13°41 | 29°47 | 9°50 | 0°31 | 0° 5 | 18°51 | 27°24 | 14° 6 | 13°35 | 23°39 | 5°10 | S 4 |
| S 5 | 21 28 48 | 20°47'33 | 16°10 | 11°27 | 14°52 | 0°1125 | 10° 2 | 0°32 | 0° 4 | 18°50 | 27°23 | 14° 6 | 13°32 | 23°46 | 5° 8 | S 5 |
| M 6 | 21 32 45 | 21°45'22 | 29°32 | 12°59 | 16° 2 | 1° 3 | 10°14 | 0°33 | 0° 4 | 18°48 | 27°22 | 14° 7 | 13°29 | 23°52 | 5° 6 | M 6 |
| T 7 | 21 36 41 | 22°43'13 | 13°521 | 14°29 | 17°13 | 1°42 | 10°26 | 0°34 | 0° 4 | 18°47 | 27°22 | 14° 8 | 13°26 | 23°59 | 5° 4 | T 7 |
| W 8 | 21 40 38 | 23°41'05 | 27°35 | 15°58 | 18°24 | 2°20 | 10°37 | 0°35 | 0° 3 | 18°45 | 27°21 | 14° 8 | 13°23 | 24° 6 | 5° 2 | W 8 |
| T 9 | 21 44 34 | 24°38'59 | 12°12 | 17°26 | 19°35 | 2°58 | 10°49 | 0°36 | 0° 2 | 18°43 | 27°20 | 14°R 9 | 13°20 | 24°13 | 5° 0 | T 9 |
| F 10 | 21 48 31 | 25°36'55 | 27° 6 | 18°52 | 20°46 | 3°36 | 11° 0 | 0°38 | 0° 2 | 18°42 | 27°20 | 14° 9 | 13°16 | 24°19 | 4°58 | F 10 |
| S 11 | 21 52 28 | 26°34'52 | 12°11 9 | 20°16 | 21°57 | 4°14 | 11°12 | 0°39 | 0° 1 | 18°40 | 27°19 | 14° 8 | 13°13 | 24°26 | 4°56 | S 11 |
| S 12 | 21 56 24 | 27°32'50 | 27°13 | 21°40 | 23° 8 | 4°53 | 11°23 | 0°41 | 0° 0 | 18°38 | 27°19 | 14° 6 | 13°10 | 24°33 | 4°55 | S 12 |
| M13 | 22 0 21 | 28°30'50 | 12°18 | 23° 1 | 24°19 | 5°31 | 11°34 | 0°42 | 29°159 | 18°37 | 27°18 | 14° 5 | 13° 7 | 24°39 | 4°53 | M13 |
| T 14 | 22 4 17 | 29°28'51 | 26°48 | 24°21 | 25°31 | 6° 9 | 11°45 | 0°44 | 29°59 | 18°35 | 27°17 | 14° 3 | 13° 4 | 24°46 | 4°52 | T 14 |
| W15 | 22 8 14 | 0°126'54 | 11°11 7 | 25°39 | 26°42 | 6°48 | 11°56 | 0°46 | 29°58 | 18°34 | 27°17 | 14° 2 | 13° 0 | 24°53 | 4°50 | W15 |
| T 16 | 22 12 10 | 1°24'58 | 25° 2 | 26°56 | 27°54 | 7°26 | 12° 7 | 0°48 | 29°57 | 18°32 | 27°17 | 14°D 1 | 12°57 | 24°59 | 4°49 | T 16 |
| F 17 | 22 16 7 | 2°23'03 | 8°134 | 28°11 | 29° 5 | 8° 4 | 12°18 | 0°50 | 29°56 | 18°30 | 27°16 | 14° 1 | 12°54 | 25° 6 | 4°48 | F 17 |
| S 18 | 22 20 3 | 3°21'10 | 21°44 | 29°24 | 0°117 | 8°43 | 12°29 | 0°52 | 29°55 | 18°29 | 27°16 | 14° 2 | 12°51 | 25°13 | 4°47 | S 18 |
| S 19 | 22 24 0 | 4°19'19 | 4°334 | 0°135 | 1°29 | 9°21 | 12°40 | 0°54 | 29°54 | 18°27 | 27°15 | 14° 3 | 12°48 | 25°19 | 4°46 | S 19 |
| M20 | 22 27 57 | 5°17'28 | 17° 8 | 1°45 | 2°41 | 9°59 | 12°50 | 0°56 | 29°53 | 18°26 | 27°15 | 14° 4 | 12°45 | 25°26 | 4°44 | M20 |
| T 21 | 22 31 53 | 6°15'40 | 29°27 | 2°52 | 3°52 | 10°38 | 13° 1 | 0°58 | 29°52 | 18°24 | 27°15 | 14° 6 | 12°41 | 25°33 | 4°44 | T 21 |
| W22 | 22 35 50 | 7°13'53 | 11°137 | 3°57 | 5° 4 | 11°16 | 13°11 | 1° 1 | 29°51 | 18°23 | 27°14 | 14°R 6 | 12°38 | 25°39 | 4°43 | W22 |
| T 23 | 22 39 46 | 8°12'07 | 23°38 | 5° 0 | 6°16 | 11°55 | 13°22 | 1° 3 | 29°49 | 18°21 | 27°14 | 14° 6 | 12°35 | 25°46 | 4°42 | T 23 |
| F 24 | 22 43 43 | 9°10'24 | 5°133 | 6° 0 | 7°29 | 12°33 | 13°32 | 1° 6 | 29°48 | 18°20 | 27°14 | 14° 5 | 12°32 | 25°53 | 4°41 | F 24 |
| S 25 | 22 47 39 | 10° 8'42 | 17°25 | 6°58 | 8°41 | 13°12 | 13°42 | 1° 9 | 29°47 | 18°18 | 27°14 | 14° 2 | 12°29 | 25°59 | 4°41 | S 25 |
| S 26 | 22 51 36 | 11° 7'02 | 29°15 | 7°53 | 9°53 | 13°50 | 13°52 | 1°12 | 29°45 | 18°17 | 27°14 | 13°58 | 12°26 | 26° 6 | 4°40 | S 26 |
| M27 | 22 55 32 | 12° 5'23 | 11°11 5 | 8°45 | 11° 5 | 14°29 | 14° 2 | 1°14 | 29°44 | 18°15 | 27°13 | 13°53 | 12°22 | 26°13 | 4°40 | M27 |
| T 28 | 22 59 29 | 13° 3'47 | 22°58 | 9°34 | 12°18 | 15° 7 | 14°12 | 1°17 | 29°43 | 18°14 | 27°13 | 13°48 | 12°19 | 26°19 | 4°39 | T 28 |
| W29 | 23 3 26 | 14° 2'13 | 4°156 | 10°19 | 13°30 | 15°46 | 14°21 | 1°20 | 29°41 | 18°12 | 27°13 | 13°43 | 12°16 | 26°26 | 4°39 | W29 |
| T 30 | 23 7 22 | 15° 0'41 | 17° 2 | 11° 1 | 14°43 | 16°24 | 14°31 | 1°24 | 29°40 | 18°11 | 27°13 | 13°39 | 12°13 | 26°33 | 4°39 | T 30 |
| F 31 | 23 11 19 | 15°18'59 | 11°11 20 | 11°139 | 15°156 | 17°11 3 | 14°541 | 1°127 | 29°138 | 18°9 | 27°D13 | 13°136 | 12°10 | 26°139 | 4°39 | F 31 |

Delta T = 257.15 sec

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1515

geocentric

SEPTEMBER 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|----------|------------------------|----------------------|---------------------|---------------------|---------------------|---------------------|-------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|------|
| S 1 | 23 15 15 | 16 ¹⁷ 57'44 | 11 ¹¹ 52 | 12 ¹² 13 | 17 ¹⁷ 08 | 17 ¹⁷ 42 | 14 ¹⁴ 50 | 1 ¹ 30 | 29°R36 | 18°R 8 | 27 ²⁷ 13 | 13°D35 | 12 ¹² 06 | 26 ²⁶ 46 | 4°D39 | S 1 |
| S 2 | 23 19 12 | 17°56'18 | 24°45 | 12°42 | 18°21 | 18°20 | 14°59 | 1°34 | 29°V35 | 18° 7 | 27°13 | 13°D35 | 12° 3 | 26°53 | 4°Z39 | S 2 |
| M 3 | 23 23 8 | 18°54'55 | 8 ⁸ 0 | 13° 7 | 19°34 | 18°59 | 15° 8 | 1°37 | 29°33 | 18° 5 | 27°13 | 13°36 | 12° 0 | 27° 0 | 4°39 | M 3 |
| T 4 | 23 27 5 | 19°53'34 | 21°40 | 13°26 | 20°47 | 19°38 | 15°17 | 1°41 | 29°31 | 18° 4 | 27°13 | 13°38 | 11°57 | 27° 6 | 4°39 | T 4 |
| W 5 | 23 31 1 | 20°52'16 | 5 ⁵ 04 | 13°40 | 22° 0 | 20°17 | 15°26 | 1°44 | 29°30 | 18° 3 | 27°14 | 13°39 | 11°54 | 27°13 | 4°39 | W 5 |
| T 6 | 23 34 58 | 21°50'59 | 20°22 | 13°48 | 23°13 | 20°55 | 15°35 | 1°48 | 29°28 | 18° 1 | 27°14 | 13°R39 | 11°51 | 27°20 | 4°40 | T 6 |
| F 7 | 23 38 55 | 22°49'45 | 5 ⁵ 18 | 13°R49 | 24°26 | 21°34 | 15°44 | 1°52 | 29°26 | 18° 0 | 27°14 | 13°37 | 11°47 | 27°26 | 4°40 | F 7 |
| S 8 | 23 42 51 | 23°48'33 | 20°29 | 13°44 | 25°39 | 22°13 | 15°53 | 1°56 | 29°24 | 17°59 | 27°14 | 13°34 | 11°44 | 27°33 | 4°40 | S 8 |
| S 9 | 23 46 48 | 24°47'22 | 5 ⁵ 45 | 13°32 | 26°53 | 22°52 | 16° 1 | 2° 0 | 29°22 | 17°58 | 27°14 | 13°28 | 11°41 | 27°40 | 4°41 | S 9 |
| M10 | 23 50 44 | 25°46'14 | 20°57 | 13°13 | 28° 6 | 23°31 | 16° 9 | 2° 4 | 29°20 | 17°56 | 27°15 | 13°22 | 11°38 | 27°46 | 4°42 | M10 |
| T 11 | 23 54 41 | 26°45'08 | 5 ⁵ 15 | 12°46 | 29°19 | 24°10 | 16°17 | 2° 8 | 29°18 | 17°55 | 27°15 | 13°16 | 11°35 | 27°53 | 4°43 | T 11 |
| W12 | 23 58 37 | 27°44'03 | 20°26 | 12°11 | 0 ⁰ 33 | 24°48 | 16°26 | 2°12 | 29°16 | 17°54 | 27°15 | 13°10 | 11°31 | 28° 0 | 4°43 | W12 |
| T 13 | 0 2 34 | 28°43'00 | 4 ⁴ 12 | 11°30 | 1°46 | 25°27 | 16°33 | 2°16 | 29°14 | 17°53 | 27°16 | 13° 6 | 11°28 | 28° 6 | 4°44 | T 13 |
| F 14 | 0 6 30 | 29°41'59 | 18° 9 | 10°41 | 3° 0 | 26° 6 | 16°41 | 2°21 | 29°12 | 17°52 | 27°16 | 13° 3 | 11°25 | 28°13 | 4°45 | F 14 |
| S 15 | 0 10 27 | 0 ⁰ 41'00 | 1 ¹ 18 | 9°46 | 4°13 | 26°45 | 16°49 | 2°25 | 29°10 | 17°51 | 27°17 | 13°D 3 | 11°22 | 28°20 | 4°46 | S 15 |
| S 16 | 0 14 23 | 1°40'03 | 14° 4 | 8°45 | 5°27 | 27°24 | 16°56 | 2°30 | 29° 8 | 17°50 | 27°17 | 13° 3 | 11°19 | 28°26 | 4°48 | S 16 |
| M17 | 0 18 20 | 2°39'07 | 26°30 | 7°40 | 6°41 | 28° 3 | 17° 4 | 2°34 | 29° 6 | 17°48 | 27°18 | 13° 4 | 11°16 | 28°33 | 4°49 | M17 |
| T 18 | 0 22 17 | 3°38'13 | 8 ⁸ 41 | 6°32 | 7°54 | 28°42 | 17°11 | 2°39 | 29° 4 | 17°47 | 27°18 | 13°R 5 | 11°12 | 28°40 | 4°50 | T 18 |
| W19 | 0 26 13 | 4°37'21 | 20°41 | 5°22 | 9° 8 | 29°21 | 17°18 | 2°43 | 29° 2 | 17°46 | 27°19 | 13° 5 | 11° 9 | 28°47 | 4°52 | W19 |
| T 20 | 0 30 10 | 5°36'31 | 2 ² 35 | 4°13 | 10°22 | 0 ⁰ 1 | 17°25 | 2°48 | 29° 0 | 17°45 | 27°20 | 13° 3 | 11° 6 | 28°53 | 4°53 | T 20 |
| F 21 | 0 34 6 | 6°35'43 | 14°25 | 3° 6 | 11°36 | 0°40 | 17°32 | 2°53 | 28°57 | 17°45 | 27°20 | 12°58 | 11° 3 | 29° 0 | 4°55 | F 21 |
| S 22 | 0 38 3 | 7°34'56 | 26°15 | 2° 3 | 12°50 | 1°19 | 17°38 | 2°58 | 28°55 | 17°44 | 27°21 | 12°52 | 11° 0 | 29° 7 | 4°56 | S 22 |
| S 23 | 0 41 59 | 8°34'12 | 8 ⁸ Y 6 | 1° 6 | 14° 4 | 1°58 | 17°45 | 3° 3 | 28°53 | 17°43 | 27°22 | 12°42 | 10°57 | 29°13 | 4°58 | S 23 |
| M24 | 0 45 56 | 9°33'29 | 20° 0 | 0°16 | 15°18 | 2°37 | 17°51 | 3° 8 | 28°51 | 17°42 | 27°22 | 12°32 | 10°53 | 29°20 | 5° 0 | M24 |
| T 25 | 0 49 52 | 10°32'49 | 1 ¹ 59 | 29 ²⁹ 36 | 16°32 | 3°16 | 17°57 | 3°13 | 28°48 | 17°41 | 27°23 | 12°20 | 10°50 | 29°27 | 5° 2 | T 25 |
| W26 | 0 53 49 | 11°32'11 | 14° 4 | 29° 5 | 17°46 | 3°56 | 18° 4 | 3°18 | 28°46 | 17°40 | 27°24 | 12° 9 | 10°47 | 29°33 | 5° 4 | W26 |
| T 27 | 0 57 46 | 12°31'35 | 26°17 | 28°45 | 19° 0 | 4°35 | 18° 9 | 3°24 | 28°44 | 17°39 | 27°25 | 12° 0 | 10°44 | 29°40 | 5° 6 | T 27 |
| F 28 | 1 1 42 | 13°31'02 | 8 ⁸ II 39 | 28°D36 | 20°15 | 5°14 | 18°15 | 3°29 | 28°41 | 17°39 | 27°26 | 11°52 | 10°41 | 29°47 | 5° 8 | F 28 |
| S 29 | 1 5 39 | 14°30'31 | 21°14 | 28°38 | 21°29 | 5°53 | 18°21 | 3°34 | 28°39 | 17°38 | 27°26 | 11°47 | 10°37 | 29°53 | 5°10 | S 29 |
| S 30 | 1 9 35 | 15 ¹⁵ 30'02 | 4 ⁴ 28 | 28 ²⁸ 51 | 22 ²² 43 | 6 ⁶ 33 | 18 ¹⁸ 26 | 3 ³ 40 | 28 ²⁸ Y37 | 17 ¹⁷ 37 | 27 ²⁷ 27 | 11 ¹¹ 04 | 10 ¹⁰ 34 | 0 ⁰ Y 0 | 5 ⁵ Z13 | S 30 |

Delta T = 256.96 sec

Julian Calendar 1 Sept. 1515 == Greg. Calendar 11 Sept. 1515

OCTOBER 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☽ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|------------------------|----------------------|---------------------|---------------------|--------------------|---------------------|-------------------|----------------------|---------------------|---------------------|-------------------|---------------------|--------------------|--------------------|------|
| M 1 | 1 13 32 | 16 ¹⁶ 29'35 | 17 ¹⁷ 23 | 29 ²⁹ 14 | 23 ²³ 58 | 7 ⁷ 12 | 18 ¹⁸ 31 | 3 ³ 45 | 28°R34 | 17°R37 | 27 ²⁷ 28 | 11°D44 | 10 ¹⁰ 31 | 0 ⁰ Y 7 | 5°Z15 | M 1 |
| T 2 | 1 17 28 | 17°29'11 | 0 ⁰ 44 | 29°47 | 25°12 | 7°52 | 18°36 | 3°51 | 28°Y32 | 17°336 | 27°29 | 11°D44 | 10°28 | 0°13 | 5°17 | T 2 |
| W 3 | 1 21 25 | 18°28'49 | 14°39 | 0 ⁰ 29 | 26°27 | 8°31 | 18°41 | 3°56 | 28°29 | 17°35 | 27°30 | 11°R45 | 10°25 | 0°20 | 5°20 | W 3 |
| T 4 | 1 25 21 | 19°28'30 | 28°59 | 1°19 | 27°41 | 9°11 | 18°46 | 4° 2 | 28°27 | 17°35 | 27°31 | 11°43 | 10°22 | 0°27 | 5°22 | T 4 |
| F 5 | 1 29 18 | 20°28'12 | 13 ¹³ 42 | 2°17 | 28°56 | 9°50 | 18°50 | 4° 8 | 28°25 | 17°34 | 27°32 | 11°40 | 10°18 | 0°34 | 5°25 | F 5 |
| S 6 | 1 33 15 | 21°27'57 | 28°44 | 3°21 | 0 ⁰ 10 | 10°30 | 18°55 | 4°13 | 28°22 | 17°34 | 27°33 | 11°34 | 10°15 | 0°40 | 5°28 | S 6 |
| S 7 | 1 37 11 | 22°27'44 | 13 ¹³ 56 | 4°31 | 1°25 | 11° 9 | 18°59 | 4°19 | 28°20 | 17°33 | 27°35 | 11°25 | 10°12 | 0°47 | 5°31 | S 7 |
| M 8 | 1 41 8 | 23°27'33 | 29° 8 | 5°46 | 2°40 | 11°49 | 19° 3 | 4°25 | 28°17 | 17°33 | 27°36 | 11°15 | 10° 9 | 0°54 | 5°33 | M 8 |
| T 9 | 1 45 4 | 24°27'24 | 14 ¹⁴ 10 | 7° 6 | 3°54 | 12°28 | 19° 7 | 4°31 | 28°15 | 17°32 | 27°37 | 11° 4 | 10° 6 | 1° 0 | 5°36 | T 9 |
| W10 | 1 49 1 | 25°27'17 | 28°51 | 8°29 | 5° 9 | 13° 8 | 19°11 | 4°37 | 28°12 | 17°32 | 27°38 | 10°54 | 10° 3 | 1° 7 | 5°39 | W10 |
| T 11 | 1 52 57 | 26°27'11 | 13 ¹³ 1 | 9°55 | 6°24 | 13°48 | 19°14 | 4°43 | 28°10 | 17°32 | 27°39 | 10°45 | 9°59 | 1°14 | 5°42 | T 11 |
| F 12 | 1 56 54 | 27°27'08 | 26°50 | 11°24 | 7°39 | 14°27 | 19°17 | 4°49 | 28° 7 | 17°31 | 27°41 | 10°39 | 9°56 | 1°20 | 5°46 | F 12 |
| S 13 | 2 0 50 | 28°27'06 | 10 ¹⁰ 3 | 12°56 | 8°53 | 15° 7 | 19°20 | 4°55 | 28° 5 | 17°31 | 27°42 | 10°36 | 9°53 | 1°27 | 5°49 | S 13 |
| S 14 | 2 4 47 | 29°27'06 | 22°54 | 14°28 | 10° 8 | 15°47 | 19°23 | 5° 1 | 28° 2 | 17°31 | 27°43 | 10°35 | 9°50 | 1°34 | 5°52 | S 14 |
| M15 | 2 8 43 | 0 ⁰ 12'07 | 5 ⁵ 20 | 16° 3 | 11°23 | 16°27 | 19°26 | 5° 7 | 28° 0 | 17°31 | 27°44 | 10°35 | 9°47 | 1°40 | 5°55 | M15 |
| T 16 | 2 12 40 | 1°27'10 | 17°29 | 17°38 | 12°38 | 17° 6 | 19°29 | 5°14 | 27°58 | 17°30 | 27°46 | 10°35 | 9°43 | 1°47 | 5°59 | T 16 |
| W17 | 2 16 37 | 2°27'15 | 29°27 | 19°14 | 13°53 | 17°46 | 19°31 | 5°20 | 27°55 | 17°30 | 27°47 | 10°33 | 9°40 | 1°54 | 6° 2 | W17 |
| T 18 | 2 20 33 | 3°27'21 | 11 ¹¹ 18 | 20°51 | 15° 8 | 18°26 | 19°33 | 5°26 | 27°53 | 17°30 | 27°49 | 10°30 | 9°37 | 2° 1 | 6° 6 | T 18 |
| F 19 | 2 24 30 | 4°27'29 | 23° 6 | 22°29 | 16°23 | 19° 6 | 19°35 | 5°33 | 27°50 | 17°30 | 27°50 | 10°24 | 9°34 | 2° 7 | 6°10 | F 19 |
| S 20 | 2 28 26 | 5°27'38 | 4 ⁴ Y57 | 24° 6 | 17°38 | 19°46 | 19°37 | 5°39 | 27°48 | 17°30 | 27°52 | 10°15 | 9°31 | 2°14 | 6°13 | S 20 |
| S 21 | 2 32 23 | 6°27'49 | 16°51 | 25°44 | 18°53 | 20°26 | 19°38 | 5°45 | 27°45 | 17°D30 | 27°53 | 10° 3 | 9°28 | 2°21 | 6°17 | S 21 |
| M22 | 2 36 19 | 7°28'02 | 28°52 | 27°22 | 20° 8 | 21° 6 | 19°40 | 5°52 | 27°43 | 17°30 | 27°54 | 9°49 | 9°24 | 2°27 | 6°21 | M22 |
| T 23 | 2 40 16 | 8°28'17 | 11 ¹¹ 8 | 29° 0 | 21°23 | 21°46 | 19°41 | 5°58 | 27°40 | 17°30 | 27°56 | 9°35 | 9°21 | 2°34 | 6°25 | T 23 |
| W24 | 2 44 12 | 9°28'33 | 23°18 | 0 ⁰ 13 | 22°38 | 22°26 | 19°42 | 6° 5 | 27°38 | 17°30 | 27°58 | 9°20 | 9°18 | 2°41 | 6°28 | W24 |
| T 25 | 2 48 9 | 10°28'51 | 5 ⁵ II 43 | 2°16 | 23°53 | 23° 6 | 19°43 | 6°11 | 27°36 | 17°30 | 27°59 | 9° 8 | 9°15 | 2°47 | 6°32 | T 25 |
| F 26 | 2 52 6 | 11°29'11 | 18°19 | 3°53 | 25° 9 | 23°46 | 19°43 | 6°18 | 27°33 | 17°30 | 28° 1 | 8°57 | 9°12 | 2°54 | 6°36 | F 26 |
| S 27 | 2 56 2 | 12°29'33 | 1 ¹ 28 | 5°31 | 26°24 | 24°26 | 19°44 | 6°25 | 27°31 | 17°31 | 28° 2 | 8°50 | 9° 8 | 3° 1 | 6°41 | S 27 |
| S 28 | 2 59 59 | 13°29'57 | 14° 3 | 7° 8 | 27°39 | 25° 6 | 19°44 | 6°31 | 27°29 | 17°31 | 28° 4 | 8°46 | 9° 5 | 3° 7 | 6°45 | S 28 |
| M29 | 3 3 55 | 14°30'23 | 27°15 | 8°45 | 28°54 | 25°46 | 19°R44 | 6°38 | 27°26 | 17°31 | 28° 6 | 8°44 | 9° 2 | 3°14 | 6°49 | M29 |
| T 30 | 3 7 52 | 15°30'51 | 10 ¹⁰ 04 | 10°22 | 0 ⁰ 18 | 26°27 | 19°44 | 6°45 | 27°24 | 17°31 | 28° 7 | 8°44 | 8°59 | 3°21 | 6°53 | T 30 |
| W31 | 3 11 48 | 16 ¹⁶ 13'21 | 24 ²⁴ 02 | 11 ¹¹ 18 | 1 ¹ 18 | 27 ²⁷ 1 | 19 ¹⁹ 24 | 6 ⁶ 12 | 27 ²⁷ Y22 | 17 ¹⁷ 32 | 28 ²⁸ 1 | 8 ⁸ 04 | 8 ⁸ 05 | 3 ³ Y28 | 6 ⁶ Z57 | W31 |

Delta T = 256.77 sec

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1515

geocentric

NOVEMBER 1515 JC

00:00 UT

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

Delta T = 256.58 sec

Julian Calendar 1 Nov. 1515 == Greg. Calendar 11 Nov. 1515

DECEMBER 1515 JC

00:00 UT

| Day | Sid.t | ☉ | ☾ | ♂ | ♀ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | ♂ | Day |
|------|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|-----------------------|-----------------------|------|
| S 1 | 5 14 2 | 17 ^h 57'26 | 17 ^h 43'39 | 0 ^h 34'41 | 10 ^h 23'23 | 18 ^h 10'10 | 17 ^h 56'56 | 10 ^h 28'28 | 26 ^h 25'25 | 17 ^h 58'58 | 29 ^h 10'10 | 6 ^h 2'2 | 7 ^h 17'17 | 6 ^h 55'55 | 9 ^h 33'33 | S 1 |
| S 2 | 5 17 58 | 18 ^h 58'33 | 2 ^h 31'5 | 2 ^h 14'14 | 11 ^h 39'39 | 18 ^h 51'51 | 17 ^h 50'50 | 10 ^h 35'35 | 26 ^h 23'23 | 18 ^h 0'0 | 29 ^h 12'12 | 5 ^h 57'57 | 7 ^h 14'14 | 7 ^h 2'2 | 9 ^h 38'38 | S 2 |
| M 3 | 5 21 55 | 19 ^h 59'41 | 16 ^h 32'32 | 3 ^h 47'47 | 12 ^h 54'54 | 19 ^h 33'33 | 17 ^h 44'44 | 10 ^h 42'42 | 26 ^h 22'22 | 18 ^h 1'1 | 29 ^h 14'14 | 5 ^h 50'50 | 7 ^h 11'11 | 7 ^h 9'9 | 9 ^h 44'44 | M 3 |
| T 4 | 5 25 51 | 21 ^h 0'49 | 0 ^h 54'54 | 5 ^h 20'20 | 14 ^h 10'10 | 20 ^h 14'14 | 17 ^h 37'37 | 10 ^h 49'49 | 26 ^h 21'21 | 18 ^h 3'3 | 29 ^h 16'16 | 5 ^h 42'42 | 7 ^h 8'8 | 7 ^h 15'15 | 9 ^h 49'49 | T 4 |
| W 5 | 5 29 48 | 22 ^h 1'58 | 15 ^h 6'6 | 6 ^h 52'52 | 15 ^h 25'25 | 20 ^h 55'55 | 17 ^h 31'31 | 10 ^h 56'56 | 26 ^h 20'20 | 18 ^h 4'4 | 29 ^h 18'18 | 5 ^h 35'35 | 7 ^h 5'5 | 7 ^h 22'22 | 9 ^h 55'55 | W 5 |
| T 6 | 5 33 44 | 23 ^h 3'08 | 29 ^h 2'2 | 8 ^h 23'23 | 16 ^h 41'41 | 21 ^h 37'37 | 17 ^h 24'24 | 11 ^h 3'3 | 26 ^h 19'19 | 18 ^h 5'5 | 29 ^h 20'20 | 5 ^h 29'29 | 7 ^h 1'1 | 7 ^h 29'29 | 10 ^h 1'1 | T 6 |
| F 7 | 5 37 41 | 24 ^h 4'18 | 12 ^h 38'38 | 9 ^h 54'54 | 17 ^h 56'56 | 22 ^h 18'18 | 17 ^h 17'17 | 11 ^h 10'10 | 26 ^h 18'18 | 18 ^h 7'7 | 29 ^h 22'22 | 5 ^h 24'24 | 6 ^h 58'58 | 7 ^h 36'36 | 10 ^h 6'6 | F 7 |
| S 8 | 5 41 38 | 25 ^h 5'28 | 25 ^h 5'53 | 11 ^h 25'25 | 19 ^h 12'12 | 23 ^h 0'0 | 17 ^h 10'10 | 11 ^h 17'17 | 26 ^h 17'17 | 18 ^h 8'8 | 29 ^h 25'25 | 5 ^h 22'22 | 6 ^h 55'55 | 7 ^h 42'42 | 10 ^h 12'12 | S 8 |
| S 9 | 5 45 34 | 26 ^h 6'39 | 8 ^h 45'45 | 12 ^h 54'54 | 20 ^h 27'27 | 23 ^h 41'41 | 17 ^h 3'3 | 11 ^h 24'24 | 26 ^h 16'16 | 18 ^h 10'10 | 29 ^h 27'27 | 5 ^h 22'22 | 6 ^h 52'52 | 7 ^h 49'49 | 10 ^h 18'18 | S 9 |
| M10 | 5 49 31 | 27 ^h 7'49 | 21 ^h 16'16 | 14 ^h 22'22 | 21 ^h 43'43 | 24 ^h 23'23 | 16 ^h 56'56 | 11 ^h 31'31 | 26 ^h 15'15 | 18 ^h 12'12 | 29 ^h 29'29 | 5 ^h 23'23 | 6 ^h 49'49 | 7 ^h 56'56 | 10 ^h 23'23 | M10 |
| T 11 | 5 53 27 | 28 ^h 9'00 | 3 ^h 31'31 | 15 ^h 48'48 | 22 ^h 58'58 | 25 ^h 4'4 | 16 ^h 49'49 | 11 ^h 38'38 | 26 ^h 14'14 | 18 ^h 13'13 | 29 ^h 31'31 | 5 ^h 24'24 | 6 ^h 46'46 | 8 ^h 2'2 | 10 ^h 29'29 | T 11 |
| W12 | 5 57 24 | 29 ^h 10'10 | 15 ^h 33'33 | 17 ^h 13'13 | 24 ^h 14'14 | 25 ^h 46'46 | 16 ^h 41'41 | 11 ^h 45'45 | 26 ^h 14'14 | 18 ^h 15'15 | 29 ^h 33'33 | 5 ^h 26'26 | 6 ^h 42'42 | 8 ^h 9'9 | 10 ^h 35'35 | W12 |
| T 13 | 6 1 20 | 0 ^h 11'21 | 27 ^h 27'27 | 18 ^h 36'36 | 25 ^h 29'29 | 26 ^h 27'27 | 16 ^h 34'34 | 11 ^h 51'51 | 26 ^h 13'13 | 18 ^h 16'16 | 29 ^h 35'35 | 5 ^h 27'27 | 6 ^h 39'39 | 8 ^h 16'16 | 10 ^h 40'40 | T 13 |
| F 14 | 6 5 17 | 1 ^h 12'31 | 9 ^h 18'18 | 19 ^h 56'56 | 26 ^h 45'45 | 27 ^h 9'9 | 16 ^h 26'26 | 11 ^h 58'58 | 26 ^h 12'12 | 18 ^h 18'18 | 29 ^h 37'37 | 5 ^h 27'27 | 6 ^h 36'36 | 8 ^h 22'22 | 10 ^h 46'46 | F 14 |
| S 15 | 6 9 13 | 2 ^h 13'41 | 21 ^h 11'11 | 21 ^h 13'13 | 28 ^h 0'0 | 27 ^h 51'51 | 16 ^h 19'19 | 12 ^h 5'5 | 26 ^h 12'12 | 18 ^h 20'20 | 29 ^h 40'40 | 5 ^h 25'25 | 6 ^h 33'33 | 8 ^h 29'29 | 10 ^h 52'52 | S 15 |
| S 16 | 6 13 10 | 3 ^h 14'52 | 3 ^h 11'11 | 22 ^h 26'26 | 29 ^h 16'16 | 28 ^h 32'32 | 16 ^h 11'11 | 12 ^h 12'12 | 26 ^h 11'11 | 18 ^h 22'22 | 29 ^h 42'42 | 5 ^h 21'21 | 6 ^h 30'30 | 8 ^h 36'36 | 10 ^h 58'58 | S 16 |
| M17 | 6 17 7 | 4 ^h 16'01 | 15 ^h 21'21 | 23 ^h 36'36 | 0 ^h 31'31 | 29 ^h 14'14 | 16 ^h 3'3 | 12 ^h 19'19 | 26 ^h 10'10 | 18 ^h 23'23 | 29 ^h 44'44 | 5 ^h 17'17 | 6 ^h 26'26 | 8 ^h 43'43 | 11 ^h 3'3 | M17 |
| T 18 | 6 21 3 | 5 ^h 17'11 | 27 ^h 27'27 | 24 ^h 40'40 | 1 ^h 47'47 | 29 ^h 56'56 | 15 ^h 56'56 | 12 ^h 25'25 | 26 ^h 10'10 | 18 ^h 25'25 | 29 ^h 46'46 | 5 ^h 12'12 | 6 ^h 23'23 | 8 ^h 49'49 | 11 ^h 9'9 | T 18 |
| W19 | 6 25 0 | 6 ^h 18'21 | 10 ^h 12'22 | 25 ^h 39'39 | 3 ^h 2'2 | 0 ^h 38'38 | 15 ^h 48'48 | 12 ^h 32'32 | 26 ^h 10'10 | 18 ^h 27'27 | 29 ^h 48'48 | 5 ^h 6'6 | 6 ^h 20'20 | 8 ^h 56'56 | 11 ^h 15'15 | W19 |
| T 20 | 6 28 56 | 7 ^h 19'30 | 23 ^h 25'25 | 26 ^h 32'32 | 4 ^h 18'18 | 1 ^h 20'20 | 15 ^h 40'40 | 12 ^h 39'39 | 26 ^h 9'9 | 18 ^h 29'29 | 29 ^h 50'50 | 5 ^h 2'2 | 6 ^h 17'17 | 9 ^h 3'3 | 11 ^h 21'21 | T 20 |
| F 21 | 6 32 53 | 8 ^h 20'40 | 6 ^h 40'40 | 27 ^h 18'18 | 5 ^h 33'33 | 2 ^h 1'1 | 15 ^h 32'32 | 12 ^h 45'45 | 26 ^h 9'9 | 18 ^h 30'30 | 29 ^h 52'52 | 4 ^h 58'58 | 6 ^h 14'14 | 9 ^h 9'9 | 11 ^h 26'26 | F 21 |
| S 22 | 6 36 49 | 9 ^h 21'49 | 20 ^h 11'11 | 27 ^h 55'55 | 6 ^h 49'49 | 2 ^h 43'43 | 15 ^h 24'24 | 12 ^h 52'52 | 26 ^h 9'9 | 18 ^h 32'32 | 29 ^h 55'55 | 4 ^h 56'56 | 6 ^h 11'11 | 9 ^h 16'16 | 11 ^h 32'32 | S 22 |
| S 23 | 6 40 46 | 10 ^h 22'58 | 3 ^h 55'55 | 28 ^h 23'23 | 8 ^h 4'4 | 3 ^h 25'25 | 15 ^h 16'16 | 12 ^h 58'58 | 26 ^h 9'9 | 18 ^h 34'34 | 29 ^h 57'57 | 4 ^h 55'55 | 6 ^h 7'7 | 9 ^h 23'23 | 11 ^h 38'38 | S 23 |
| M24 | 6 44 42 | 11 ^h 24'07 | 17 ^h 49'49 | 28 ^h 42'42 | 9 ^h 20'20 | 4 ^h 7'7 | 15 ^h 8'8 | 13 ^h 5'5 | 26 ^h 8'8 | 18 ^h 36'36 | 29 ^h 59'59 | 4 ^h 56'56 | 6 ^h 4'4 | 9 ^h 30'30 | 11 ^h 44'44 | M24 |
| T 25 | 6 48 39 | 12 ^h 25'15 | 1 ^h 51'51 | 28 ^h 50'50 | 10 ^h 35'35 | 4 ^h 49'49 | 15 ^h 0'0 | 13 ^h 11'11 | 26 ^h 8'8 | 18 ^h 38'38 | 0 ^h 1'1 | 4 ^h 57'57 | 6 ^h 1'1 | 9 ^h 36'36 | 11 ^h 49'49 | T 25 |
| W26 | 6 52 36 | 13 ^h 26'24 | 15 ^h 58'58 | 28 ^h 47'47 | 11 ^h 51'51 | 5 ^h 31'31 | 14 ^h 52'52 | 13 ^h 18'18 | 26 ^h 8'8 | 18 ^h 40'40 | 0 ^h 3'3 | 4 ^h 58'58 | 5 ^h 58'58 | 9 ^h 43'43 | 11 ^h 55'55 | W26 |
| T 27 | 6 56 32 | 14 ^h 27'33 | 0 ^h 9'9 | 28 ^h 32'32 | 13 ^h 6'6 | 6 ^h 13'13 | 14 ^h 44'44 | 13 ^h 24'24 | 26 ^h 8'8 | 18 ^h 42'42 | 0 ^h 5'5 | 5 ^h 0'0 | 5 ^h 55'55 | 9 ^h 50'50 | 12 ^h 1'1 | T 27 |
| F 28 | 7 0 29 | 15 ^h 28'41 | 14 ^h 20'20 | 28 ^h 5'5 | 14 ^h 22'22 | 6 ^h 55'55 | 14 ^h 35'35 | 13 ^h 31'31 | 26 ^h 8'8 | 18 ^h 44'44 | 0 ^h 7'7 | 5 ^h 0'0 | 5 ^h 52'52 | 9 ^h 56'56 | 12 ^h 7'7 | F 28 |
| S 29 | 7 4 25 | 16 ^h 29'50 | 28 ^h 29'29 | 27 ^h 26'26 | 15 ^h 37'37 | 7 ^h 37'37 | 14 ^h 27'27 | 13 ^h 37'37 | 26 ^h 8'8 | 18 ^h 46'46 | 0 ^h 9'9 | 5 ^h 0'0 | 5 ^h 48'48 | 10 ^h 3'3 | 12 ^h 13'13 | S 29 |
| S 30 | 7 8 22 | 17 ^h 30'58 | 12 ^h 35'35 | 26 ^h 37'37 | 16 ^h 53'53 | 8 ^h 20'20 | 14 ^h 19'19 | 13 ^h 43'43 | 26 ^h 9'9 | 18 ^h 48'48 | 0 ^h 11'11 | 4 ^h 59'59 | 5 ^h 45'45 | 10 ^h 10'10 | 12 ^h 18'18 | S 30 |
| M31 | 7 12 18 | 18 ^h 32'06 | 26 ^h 36'36 | 25 ^h 38'38 | 18 ^h 3'3 | 9 ^h 2'2 | 14 ^h 51'51 | 13 ^h 49'49 | 26 ^h 9'9 | 18 ^h 50'50 | 0 ^h 13'13 | 4 ^h 57'57 | 5 ^h 42'42 | 10 ^h 17'17 | 12 ^h 24'24 | M31 |