

# Astronomy 2019 Diary

Unfortunately an error crept in to the 2019 edition of our book. While the dates, times and event details are correct, the day of the week is out by one. The corrected table is shown here.

| JANUARY              |  |  |
|----------------------|--|--|
| Tue 1 <sup>st</sup>  | m.p. 349 Dembowska 0.4° N of NGC 3628 (G) in Leo                             |  |
| Tue 1 <sup>st</sup>  | m.p. 349 Dembowska 1.0° N of M66 (SG) in Leo                                 |  |
| Tue 1 <sup>st</sup>  | m.p. 349 Dembowska 1.0° N of M65 (SG) in Leo                                 |  |
| Tue 1 <sup>st</sup>  | Mercury at descending node   |  |
| Wed 2 <sup>nd</sup>  | Mercury 0.7° NW of NGC 6401 (GC) in Ophiuchus                                |  |
| Wed 2 <sup>nd</sup>  | 3 am (1 am WST) d.p. 1 Ceres 1.5° N of Moon                                  |  |
| Wed 2 <sup>nd</sup>  | 4 am (2 am WST) Venus 3° S of Moon   |  |
| Wed 2 <sup>nd</sup>  | 4 pm (2 pm WST) Saturn in conjunction with Sun                               |  |
| Thu 3 <sup>rd</sup>  | Venus 1.0° S of star Gamma Librae  |  |
| Thu 3 <sup>rd</sup>  | Noon (10 am WST) star Antares 9° S of Moon                                   |  |
| Thu 3 <sup>rd</sup>  | 3 pm (1 pm WST) Earth at perihelion: 0.983301165 au                          |  |
| Thu 3 <sup>rd</sup>  | 6 pm (4 pm WST) Jupiter 3° S of Moon   |  |
| Sat 5 <sup>th</sup>  | 3 am (1 am WST) Comet C/2016 M1 (PANSTARRS) 0.1° NW of star Epsilon Octantis |  |
| Sat 5 <sup>th</sup>  | 4 am (2 am WST) Mercury 3° S of Moon   |  |
| Sun 6 <sup>th</sup>  | 11:28 am (9:28 am WST) New Moon  |  |
| Sun 6 <sup>th</sup>  | 3 pm (1 pm WST) Venus at greatest elongation West (47.0°)                    |  |
| Mon 7 <sup>th</sup>  | Noon (10 am WST) Uranus stationary   |  |
| Tue 8 <sup>th</sup>  | 3 am (1 am WST) Venus 0.1° SE of star Theta Librae                           |  |
| Wed 9 <sup>th</sup>  | 7 am (5 am WST) m.p. 4 Vesta 2° S of Moon                                    |  |
| Wed 9 <sup>th</sup>  | 2 pm (Noon WST) Moon at apogee: 406,117 km                                   |  |
| Thu 10 <sup>th</sup> | 8 pm (6 pm WST) Neptune 8° N of Moon   |  |
| Fri 11 <sup>th</sup> | 10 pm (8 pm WST) d.p. Pluto in conjunction with Sun                          |  |
| Sat 12 <sup>th</sup> | Mercury at aphelion  |  |
| Sat 12 <sup>th</sup> | 9 pm (7 pm WST) Mars 8° N of Moon  |  |
| Mon 14 <sup>th</sup> | 4:46 pm (2:46 pm WST) First Quarter Moon                                     |  |
| Mon 14 <sup>th</sup> | 10 pm (8 pm WST) Uranus 5° N of Moon   |  |
| Mon 14 <sup>th</sup> | 11 pm (9 pm WST) m.p. 324 Bamberga 0.1° N of star Phi1 Cancr                 |  |
| Tue 15 <sup>th</sup> | Mars at ascending node   |  |
| Wed 16 <sup>th</sup> | Venus 0.4° E of star Chi Ophiuchi  |  |
| Wed 16 <sup>th</sup> | 7 am (5 am WST) star Antares 8° S of Venus                                   |  |
| Thu 17 <sup>th</sup> | Jupiter 0.3° N of NGC 6235 (GC) in Ophiuchus                                 |  |
| Thu 17 <sup>th</sup> | Venus at greatest latitude north   |  |
| Thu 17 <sup>th</sup> | 11 pm (9 pm WST) Comet 46P/Wirtanen 0.1° SE of NGC 2685 (G) in Ursa Major    |  |
| Thu 17 <sup>th</sup> | Midnight (10 pm WST) star Aldebaran 4° S of Moon                             |  |
| Sun 20 <sup>th</sup> | am m.p. 532 Herculina 1.2° SW of star Mu Leonis                              |  |
| Mon 21 <sup>st</sup> | 3 am (1 am WST) star Pollux 6° N of Moon                                     |  |
| Mon 21 <sup>st</sup> | 3:16 pm (1:16 pm WST) Full Moon (357,715 km)                                 |  |
| Tue 22 <sup>nd</sup> | 6 am (4 am WST) Moon at perigee: 357,342 km                                  |  |
| Tue 22 <sup>nd</sup> | 4 pm (2 pm WST) Jupiter 2° S of Venus  |  |
| Wed 23 <sup>rd</sup> | m.p. 44 Nysa 0.5° N of star Kappa Virginis                                   |  |
| Wed 23 <sup>rd</sup> | 3 am (1 am WST) star Regulus 8° S of Moon                                    |  |
| Thu 24 <sup>th</sup> | pm Comet C/2016 M1 (PANSTARRS) 1.0° W of star Mu Hydri                       |  |
| Thu 24 <sup>th</sup> | pm Comet C/2016 M1 (PANSTARRS) 0.9° SE of star Sigma Hydri                   |  |
| Sun 27 <sup>th</sup> | Venus 1.8° SW of NGC 6342 (GC) in Ophiuchus                                  |  |
| Sun 27 <sup>th</sup> | 2 am (Midnight WST, prev day) star Spica 8° S of Moon                        |  |
| Mon 28 <sup>th</sup> | 7:10 am (5:10 am WST) Last Quarter Moon                                      |  |
| Wed 30 <sup>th</sup> | 4 am (2 am WST) d.p. 1 Ceres 2° N of Moon                                    |  |
| Wed 30 <sup>th</sup> | 1 pm (11 am WST) Mercury in superior conjunction                             |  |
| Thu 31 <sup>st</sup> | Jupiter 0.5° N of NGC 6287 (GC) in Ophiuchus                                 |  |
| Thu 31 <sup>st</sup> | 4 am (2 am WST) Jupiter 4° S of Moon   |  |

| FEBRUARY             |   |  |
|----------------------|---|--|
| Fri 1 <sup>st</sup>  | Mercury at greatest latitude south  |  |
| Fri 1 <sup>st</sup>  | 4 am (2 am WST) Venus 0.09° S of Moon   |  |
| Fri 1 <sup>st</sup>  | pm Comet C/2016 M1 (PANSTARRS) 0.6° W of star Nu Hydri                          |  |
| Sat 2 <sup>nd</sup>  | Venus 0.5° S of NGC 6440 (GC) in Sagittarius                                    |  |
| Sat 2 <sup>nd</sup>  | 4 am (2 am WST) Saturn 6° S of Moon   |  |
| Sat 2 <sup>nd</sup>  | 11 pm (9 pm WST) m.p. 324 Bamberga 0.1° NE of star Chi Geminorum                |  |
| Sun 3 <sup>rd</sup>  | am m.p. 349 Dembowska 0.2° N of star Theta Leonis                               |  |
| Sun 3 <sup>rd</sup>  | 6 am (4 am WST) d.p. Pluto 0.5° S of Moon                                       |  |
| Mon 4 <sup>th</sup>  | Mars 0.4° S of NGC 524 (G) in Pisces  |  |
| Mon 4 <sup>th</sup>  | Saturn 0.4° S of star Omicron Sagittarii  |  |
| Tue 5 <sup>th</sup>  | 7:04 am (5:04 am WST) New Moon  |  |
| Tue 5 <sup>th</sup>  | 7 pm (5 pm WST) Moon at apogee: 406,555 km                                      |  |
| Wed 6 <sup>th</sup>  | 7 pm (5 pm WST) m.p. 4 Vesta 2° S of Moon                                       |  |
| Wed 6 <sup>th</sup>  | pm m.p. 89 Julia 0.2° S of star Delta Cancr                                     |  |
| Thu 7 <sup>th</sup>  | Venus 0.3° W of star Mu Sagittarii  |  |
| Thu 7 <sup>th</sup>  | Venus 0.5° N of NGC 6568 (OC) in Sagittarius                                    |  |
| Thu 7 <sup>th</sup>  | 4 pm (2 pm WST) Neptune 3° N of Moon  |  |
| Fri 8 <sup>th</sup>  | 9 pm (7 pm WST) Comet C/2016 M1 (PANSTARRS) 0.15° NW of star Theta Hydri        |  |
| Sun 10 <sup>th</sup> | 8 pm (6 pm WST) Mars 8° N of Moon   |  |
| Sun 10 <sup>th</sup> | 8 pm (6 pm WST) Uranus 9° N of Moon   |  |
| Sun 10 <sup>th</sup> | pm m.p. 89 Julia 1.7° S of M44 Beehive Cluster (OC) in Cancer                   |  |
| Mon 11 <sup>th</sup> | 11 pm (9 pm WST) Comet 46P/Wirtanen 0.3° W of star Theta Ursae Majoris          |  |
| Wed 13 <sup>th</sup> | m.p. 3 Juno 1.2° SE of star Nu Tauri  |  |
| Wed 13 <sup>th</sup> | 8:26 am (6:26 am WST) First Quarter Moon  |  |
| Thu 14 <sup>th</sup> | 6 am (4 am WST) Uranus 1° S of Mars   |  |
| Thu 14 <sup>th</sup> | 2 pm (Noon WST) star Aldebaran 1.5° S of Moon                                   |  |
| Sat 16 <sup>th</sup> | 3 am (1 am WST) Venus 0.15° W of star Xi2 Sagittarii                            |  |
| Sun 17 <sup>th</sup> | Venus 0.9° NW of star Omicron Sagittarii  |  |
| Sun 17 <sup>th</sup> | 8 pm (6 pm WST) star Pollux 7° N of Moon  |  |
| Mon 18 <sup>th</sup> | Midnight (10 pm WST) Saturn 1° S of Venus                                       |  |
| Mon 18 <sup>th</sup> | pm m.p. 324 Bamberga 1.3° SE of star Pollux                                     |  |
| Tue 19 <sup>th</sup> | Venus 0.6° E of star Pi Sagittarii  |  |
| Tue 19 <sup>th</sup> | am m.p. 11 Parthenope 0.9° N of star Gamma Librae                               |  |
| Tue 19 <sup>th</sup> | 7 pm (5 pm WST) Moon at perigee: 356,761 km                                     |  |
| Tue 19 <sup>th</sup> | 9 pm (7 pm WST) Neptune 1° S of Mercury   |  |
| Tue 19 <sup>th</sup> | 9 pm (7 pm WST) Comet C/2016 M1 (PANSTARRS) 0.6° E of NGC 1313 (G) in Reticulum |  |
| Tue 19 <sup>th</sup> | Midnight (10 pm WST) star Regulus 3° S of Moon                                  |  |
| Wed 20 <sup>th</sup> | Mercury at ascending node   |  |
| Wed 20 <sup>th</sup> | 1:54 am (11:54 pm WST, prev day) Full Moon (356,843 km, closest for this year)  |  |
| Thu 21 <sup>st</sup> | am m.p. 32 Pomona 0.3° S of star Omega1 Scorpii                                 |  |
| Sat 23 <sup>rd</sup> | 7 pm (5 pm WST) d.p. Pluto 1.5° S of Venus                                      |  |
| Sun 24 <sup>th</sup> | 9 pm (7 pm WST) Comet C/2016 M1 (PANSTARRS) 1.2° NW of star Beta Reticuli       |  |
| Mon 25 <sup>th</sup> | Mercury at perihelion   |  |
| Tue 26 <sup>th</sup> | am d.p. 1 Ceres 1.0° N of star Phi Ophiuchi                                     |  |
| Tue 26 <sup>th</sup> | 9:28 pm (7:28 pm WST) Last Quarter Moon   |  |
| Tue 26 <sup>th</sup> | Midnight (10 pm WST) star Antares 8° S of Moon                                  |  |
| Wed 27 <sup>th</sup> | 1 am (11 pm WST, prev day) d.p. 1 Ceres 2° N of Moon                            |  |
| Wed 27 <sup>th</sup> | 11 am (9 am WST) Mercury at greatest elongation East (18.1°)                    |  |
| Wed 27 <sup>th</sup> | Midnight (10 pm WST) Jupiter 2° S of Moon                                       |  |
| Thu 28 <sup>th</sup> | am m.p. 20 Massalia 0.8° S of star Beta 1 Scorpii                               |  |
| MARCH                |   |  |
| Fri 1 <sup>st</sup>  | pm m.p. 64 Angelina 0.2° N of NGC 3423 (G) in Sextans                           |  |
| Sat 2 <sup>nd</sup>  | 4 am (2 am WST) d.p. Pluto 4° S of Moon   |  |

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| Sat | 2 <sup>nd</sup>  | 4 am (2 am WST) Saturn 0.5° S of Moon                            |
| Sun | 3 <sup>rd</sup>  | 3 am (1 am WST) m.p. 20 Massalia 0.05° SE of star Omega1 Scorpii |
| Sun | 3 <sup>rd</sup>  | 4 am (2 am WST) Venus 1° N of Moon                               |
| Mon | 4 <sup>th</sup>  | 9 pm (7 pm WST) Moon at apogee: 406,391 km                       |
| Tue | 5 <sup>th</sup>  | Noon (10 am WST) m.p. 2 Pallas stationary                        |
| Tue | 5 <sup>th</sup>  | 3 pm (1 pm WST) Mercury stationary                               |
| Tue | 5 <sup>th</sup>  | 11 pm (9 pm WST) m.p. 7 Iris 0.1° NW of NGC 4984 (G) in Virgo    |
| Thu | 7 <sup>th</sup>  | Mercury at greatest latitude north                               |
| Thu | 7 <sup>th</sup>  | 2:04 am (12:04 am WST) New Moon                                  |
| Thu | 7 <sup>th</sup>  | 11 am (9 am WST) Neptune in conjunction with Sun                 |
| Fri | 8 <sup>th</sup>  | 8 am (6 am WST) m.p. 4 Vesta in conjunction with Sun             |
| Sun | 10 <sup>th</sup> | 7 pm (5 pm WST) Uranus 4° N of Moon                              |
| Mon | 11 <sup>th</sup> | 7 pm (5 pm WST) Mars 6° N of Moon                                |
| Wed | 13 <sup>th</sup> | 9 pm (7 pm WST) star Aldebaran 2° S of Moon                      |
| Thu | 14 <sup>th</sup> | Venus 0.7° N of star Theta Capricorni                            |
| Thu | 14 <sup>th</sup> | Venus at descending node   |
| Thu | 14 <sup>th</sup> | 8:27 pm (6:27 pm WST) First Quarter Moon                         |
| Fri | 15 <sup>th</sup> | Noon (10 am WST) Mercury in inferior conjunction                 |
| Sat | 16 <sup>th</sup> | 8 pm (6 pm WST) star Pollux 7° N of Moon                         |
| Sat | 16 <sup>th</sup> | pm m.p. 7 Iris 0.3° S of NGC 4902 (G) in Virgo                   |
| Sun | 17 <sup>th</sup> | m.p. 3 Juno 0.2° N of star Pi 1 Orionis                          |
| Mon | 18 <sup>th</sup> | am m.p. 32 Pomona 0.2° N of star Omega Ophiuchi                  |
| Mon | 18 <sup>th</sup> | pm m.p. 7 Iris 0.3° N of NGC 4856 (G) in Virgo                   |
| Tue | 19 <sup>th</sup> | 1 am (11 pm WST, prev day) star Regulus 8° S of Moon             |
| Wed | 20 <sup>th</sup> | 6 am (4 am WST) Moon at perigee: 359,377 km                      |
| Thu | 21 <sup>st</sup> | 8 am (6 am WST) Equinox  |
| Thu | 21 <sup>st</sup> | 11:43 am (9:43 am WST) Full Moon (360,768 km)                    |
| Fri | 22 <sup>nd</sup> | 10 pm (8 pm WST) star Spica 8° S of Moon                         |
| Tue | 26 <sup>th</sup> | m.p. 324 Bamberga 0.4° NE of star Kappa Geminorum                |
| Tue | 26 <sup>th</sup> | 4 am (2 am WST) star Antares 9° S of Moon                        |
| Tue | 26 <sup>th</sup> | Midnight (10 pm WST) d.p. 1 Ceres 5° N of Moon                   |
| Wed | 27 <sup>th</sup> | 4 am (2 am WST) Jupiter 5° S of Moon                             |
| Wed | 27 <sup>th</sup> | 10 pm (8 pm WST) Mercury stationary                              |
| Thu | 28 <sup>th</sup> | 2:10 pm (12:10 pm WST) Last Quarter Moon                         |
| Fri | 29 <sup>th</sup> | 5 am (3 am WST) d.p. Pluto 8° E of Moon                          |
| Fri | 29 <sup>th</sup> | 5 am (3 am WST) Saturn 5° E of Moon                              |
| Sat | 30 <sup>th</sup> | Mars 3.2° S of M45 the Pleiades (OC) in Taurus                   |
| Sat | 30 <sup>th</sup> | Mercury at descending node                                       |

### APRIL

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|-----|------------------|---|
| Tue | 2 <sup>nd</sup>  | 5 am (3 am WST) Venus 5° N of Moon                      |
| Wed | 3 <sup>rd</sup>  | Mercury 0.4° NW of star Phi Aquarii                     |
| Wed | 3 <sup>rd</sup>  | 5 am (3 am WST) Neptune 0.5° S of Mercury               |
| Wed | 3 <sup>rd</sup>  | 9 am (7 am WST) Mercury 4° N of Moon                    |
| Wed | 3 <sup>rd</sup>  | 9 am (7 am WST) Neptune 3° N of Moon                    |
| Thu | 4 <sup>th</sup>  | pm Comet 46P/Wirtanen 1.2° SW of star 21 Leonis Minoris |
| Fri | 5 <sup>th</sup>  | 6:50 pm (4:50 pm WST) New Moon                          |
| Sat | 6 <sup>th</sup>  | Venus 0.7° SE of star Lambda Aquarii                    |
| Sat | 6 <sup>th</sup>  | 11 pm (9 pm WST) Uranus 5° N of Moon                    |
| Tue | 9 <sup>th</sup>  | Neptune 0.1° NW of star Phi Aquarii                     |
| Tue | 9 <sup>th</sup>  | 7 am (5 am WST) d.p. 1 Ceres stationary                 |
| Tue | 9 <sup>th</sup>  | 6 pm (4 pm WST) star Aldebaran 5° E of Moon             |
| Tue | 9 <sup>th</sup>  | 7 pm (5 pm WST) Mars 4° N of Moon                       |
| Wed | 10 <sup>th</sup> | Venus 0.6° SW of star Phi Aquarii                       |
| Wed | 10 <sup>th</sup> | Mercury at aphelion                                     |
| Wed | 10 <sup>th</sup> | 11 am (9 am WST) m.p. 2 Pallas at opposition            |
| Wed | 10 <sup>th</sup> | 2 pm (Noon WST) Neptune 0.5° N of Venus                 |
| Thu | 11 <sup>th</sup> | 3 am (1 am WST) Jupiter stationary                      |
| Thu | 11 <sup>th</sup> | pm m.p. 2 Pallas 0.2° NW of star Eta Bootis             |

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| Thu | 11 <sup>th</sup> | pm m.p. 7 Iris 0.9° SW of M104 Sombrero Galaxy (SG) in Virgo       |
| Fri | 12 <sup>th</sup> | 6 am (4 am WST) Mercury at greatest elongation West (27.7°)        |
| Sat | 13 <sup>th</sup> | Mars 0.4° N of star Kappa 1 Tauri                                  |
| Sat | 13 <sup>th</sup> | 5:06 am (3:06 am WST) First Quarter Moon                           |
| Sat | 13 <sup>th</sup> | 7 pm (5 pm WST) star Pollux 9° N of Moon                           |
| Mon | 15 <sup>th</sup> | 7 pm (5 pm WST) star Regulus 3° S of Moon                          |
| Wed | 17 <sup>th</sup> | 8 am (6 am WST) Moon at perigee: 364,205 km                        |
| Wed | 17 <sup>th</sup> | 8 am (6 am WST) star Aldebaran 7° S of Mars                        |
| Thu | 18 <sup>th</sup> | Venus at aphelion  |
| Fri | 19 <sup>th</sup> | Mars 0.4° N of star Tau Tauri                                      |
| Fri | 19 <sup>th</sup> | 4 am (2 am WST) star Spica 10° S of Moon                           |
| Fri | 19 <sup>th</sup> | 9:12 pm (7:12 pm WST) Full Moon (368,584 km)                       |
| Mon | 22 <sup>nd</sup> | 10 pm (8 pm WST) star Antares 9° S of Moon                         |
| Tue | 23 <sup>rd</sup> | 3 am (1 am WST) d.p. 1 Ceres 3° N of Moon                          |
| Tue | 23 <sup>rd</sup> | 9 am (7 am WST) Uranus in conjunction with Sun                     |
| Tue | 23 <sup>rd</sup> | 10 pm (8 pm WST) Jupiter 1.5° S of Moon                            |
| Thu | 25 <sup>th</sup> | 7 pm (5 pm WST) d.p. Pluto stationary                              |
| Thu | 25 <sup>th</sup> | Midnight (10 pm WST) m.p. 4 Vesta 3° S of Mercury                  |
| Thu | 25 <sup>th</sup> | Midnight (10 pm WST) Saturn 0.5° N of Moon                         |
| Fri | 26 <sup>th</sup> | Mars 0.3° W of NGC 1746 (OC) in Taurus                             |
| Fri | 26 <sup>th</sup> | 6 am (4 am WST) d.p. Pluto 0.07° S of Moon                         |
| Fri | 26 <sup>th</sup> | pm m.p. 44 Nysa 1.0° SW of star Iota Virginis                      |
| Fri | 26 <sup>th</sup> | pm Comet 46P/Wirtanen 0.5° SW of NGC 3245 (G) in Leo Minor         |
| Sat | 27 <sup>th</sup> | 8:18 am (6:18 am WST) Last Quarter Moon                            |
| Mon | 29 <sup>th</sup> | 4 am (2 am WST) Moon at apogee: 404,582 km                         |
| Tue | 30 <sup>th</sup> | Mercury at greatest latitude south                                 |
| Tue | 30 <sup>th</sup> | Noon (10 am WST) Saturn stationary                                 |
| Tue | 30 <sup>th</sup> | 9 pm (7 pm WST) m.p. 349 Dembowska 0.03° NE of NGC 3239 (G) in Leo |

### MAY

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| Wed | 1 <sup>st</sup>  | am m.p. 20 Massalia 0.3° N of star Omega1 Scorpii               |
| Wed | 1 <sup>st</sup>  | 5 am (3 am WST) Neptune 6° W of Moon                            |
| Wed | 1 <sup>st</sup>  | 10 am (8 am WST) Moon at apogee: 405,577 km                     |
| Thu | 2 <sup>nd</sup>  | Mercury 0.7° N of NGC 488 (G) in Pisces                         |
| Thu | 2 <sup>nd</sup>  | am m.p. 20 Massalia 0.5° S of star Beta 1 Scorpii               |
| Thu | 2 <sup>nd</sup>  | 10 pm (8 pm WST) Venus 4° N of Moon                             |
| Thu | 2 <sup>nd</sup>  | 11 pm (9 pm WST) m.p. 4 Vesta 0.2° S of Moon                    |
| Fri | 3 <sup>rd</sup>  | 4 pm (2 pm WST) Mercury 3° N of Moon                            |
| Fri | 3 <sup>rd</sup>  | 6 pm (4 pm WST) m.p. 4 Vesta 4° S of Venus                      |
| Sun | 5 <sup>th</sup>  | 8:45 am (6:45 am WST) New Moon                                  |
| Tue | 7 <sup>th</sup>  | 8 am (6 am WST) star Aldebaran 2° S of Moon                     |
| Tue | 7 <sup>th</sup>  | 10 am (8 am WST) Mars 3° N of Moon                              |
| Tue | 7 <sup>th</sup>  | 11 pm (9 pm WST) m.p. 44 Nysa 0.07° NE of NGC 5427 (G) in Virgo |
| Fri | 10 <sup>th</sup> | Venus at greatest latitude south                                |
| Fri | 10 <sup>th</sup> | 2 pm (Noon WST) star Pollux 6° N of Moon                        |
| Sun | 12 <sup>th</sup> | 11:12 am (9:12 am WST) First Quarter Moon                       |
| Sun | 12 <sup>th</sup> | 10 pm (8 pm WST) star Regulus 5° S of Moon                      |
| Tue | 14 <sup>th</sup> | 5 am (3 am WST) Venus 0.03° E of star Omicron Piscium           |
| Tue | 14 <sup>th</sup> | 8 am (6 am WST) Moon at perigee: 369,009 km                     |
| Tue | 14 <sup>th</sup> | pm m.p. 32 Pomona 0.2° N of star Chi Ophiuchi                   |
| Thu | 16 <sup>th</sup> | 5 pm (3 pm WST) star Spica 8° S of Moon                         |
| Thu | 16 <sup>th</sup> | 11 pm (9 pm WST) m.p. 8 Flora 0.1° SE of star Beta Librae       |
| Sat | 18 <sup>th</sup> | 6 pm (4 pm WST) Uranus 1° N of Venus                            |
| Sun | 19 <sup>th</sup> | Mars 0.3° NW of M35 (OC) in Gemini                              |
| Sun | 19 <sup>th</sup> | Mercury at ascending node                                       |
| Sun | 19 <sup>th</sup> | 7:11 am (5:11 am WST) Full Moon (378,793 km)                    |
| Mon | 20 <sup>th</sup> | 3 am (1 am WST) star Antares 8° S of Moon                       |
| Mon | 20 <sup>th</sup> | 4 am (2 am WST) d.p. 1 Ceres 1° N of Moon                       |

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| Mon 20 <sup>th</sup> | pm d.p. 1 Ceres 0.8° S of star Phi Ophiuchi         |
| Tue 21 <sup>st</sup> | 3 am (1 am WST) Jupiter 1.5° S of Moon              |
| Tue 21 <sup>st</sup> | 11 pm (9 pm WST) Mercury in superior conjunction    |
| Thu 23 <sup>rd</sup> | 5 am (3 am WST) Saturn 2° E of Moon                 |
| Thu 23 <sup>rd</sup> | 2 pm (Noon WST) d.p. Pluto 0.07° N of Moon          |
| Fri 24 <sup>th</sup> | Mercury at perihelion                               |
| Sun 26 <sup>th</sup> | 11 pm (9 pm WST) Moon at apogee: 404,138 km         |
| Mon 27 <sup>th</sup> | 2:34 am (12:34 am WST) Last Quarter Moon            |
| Tue 28 <sup>th</sup> | 3 am (1 am WST) Neptune 4° N of Moon                |
| Wed 29 <sup>th</sup> | 9 am (7 am WST) d.p. 1 Ceres at opposition          |
| Fri 31 <sup>st</sup> | m.p. 64 Angelina 0.2° NW of NGC 3423 (G) in Sextans |
| Fri 31 <sup>st</sup> | 5 am (3 am WST) m.p. 4 Vesta 1° S of Moon           |
| Fri 31 <sup>st</sup> | 8 pm (6 pm WST) Uranus 5° N of Moon                 |

## JUNE

|                      |   |
|----------------------|---|
| Sat 1 <sup>st</sup>  | Mars 0.9° S of star Epsilon Geminorum                             |
| Sun 2 <sup>nd</sup>  | 4 am (2 am WST) Venus 3° N of Moon                                |
| Sun 2 <sup>nd</sup>  | pm m.p. 8 Flora 0.5° S of star Delta Librae                       |
| Mon 3 <sup>rd</sup>  | Mercury at greatest latitude north                                |
| Mon 3 <sup>rd</sup>  | Noon (10 am WST) m.p. 2 Pallas stationary                         |
| Mon 3 <sup>rd</sup>  | 8:02 pm (6:02 pm WST) New Moon                                    |
| Wed 5 <sup>th</sup>  | 2 am (Midnight WST, prev day) Mercury 4° N of Moon                |
| Wed 5 <sup>th</sup>  | 5 pm (3 pm WST) Mars 5° E of Moon                                 |
| Thu 6 <sup>th</sup>  | Mercury 1.2° N of M35 (OC) in Gemini                              |
| Thu 6 <sup>th</sup>  | 8 pm (6 pm WST) star Pollux 6° N of Moon                          |
| Fri 7 <sup>th</sup>  | m.p. 349 Dembowska 0.2° S of NGC 3338 (G) in Leo                  |
| Sat 8 <sup>th</sup>  | 9 am (7 am WST) Moon at perigee: 368,504 km                       |
| Sat 8 <sup>th</sup>  | 8 pm (6 pm WST) star Regulus 9° E of Moon                         |
| Mon 10 <sup>th</sup> | Mercury 0.6° W of star Epsilon Geminorum                          |
| Mon 10 <sup>th</sup> | 3:59 pm (1:59 pm WST) First Quarter Moon                          |
| Tue 11 <sup>th</sup> | 1 am (11 pm WST, prev day) Jupiter at opposition                  |
| Wed 12 <sup>th</sup> | 11 pm (9 pm WST) star Spica 8° S of Moon                          |
| Sat 15 <sup>th</sup> | m.p. 349 Dembowska 0.1° NE of M105 (EG) in Leo                    |
| Sat 15 <sup>th</sup> | m.p. 349 Dembowska 0.9° NE of M96 (SG) in Leo                     |
| Sat 15 <sup>th</sup> | 8 pm (6 pm WST) m.p. 349 Dembowska 0.01° N of NGC 3384 (G) in Leo |
| Sun 16 <sup>th</sup> | 1 am (11 pm WST, prev day) d.p. 1 Ceres 1° S of Moon              |
| Sun 16 <sup>th</sup> | 11 am (9 am WST) star Antares 8° S of Moon                        |
| Sun 16 <sup>th</sup> | pm m.p. 18 Melpomene 0.3° N of NGC 6712 (GC) in Scutum            |
| Mon 17 <sup>th</sup> | 5 am (3 am WST) Jupiter 2° S of Moon                              |
| Mon 17 <sup>th</sup> | 6:31 pm (4:31 pm WST) Full Moon (389,563 km)                      |
| Mon 17 <sup>th</sup> | pm d.p. 1 Ceres 1.6° N of star Beta 1 Scorpii                     |
| Tue 18 <sup>th</sup> | 7 am (5 am WST) star Aldebaran 5° S of Venus                      |
| Wed 19 <sup>th</sup> | 1 am (11 pm WST, prev day) Mars 0.2° S of Mercury                 |
| Wed 19 <sup>th</sup> | 9 pm (7 pm WST) d.p. Pluto 0.07° N of Moon                        |
| Wed 19 <sup>th</sup> | 9 pm (7 pm WST) Saturn 5° W of Moon                               |
| Fri 21 <sup>st</sup> | 3 pm (1 pm WST) star Pollux 6° N of Mercury                       |
| Sat 22 <sup>nd</sup> | 2 am (Midnight WST, prev day) Solstice                            |
| Sat 22 <sup>nd</sup> | 2 pm (Noon WST) Neptune stationary                                |
| Sun 23 <sup>rd</sup> | 5 pm (3 pm WST) star Pollux 6° N of Mars                          |
| Sun 23 <sup>rd</sup> | 6 pm (4 pm WST) Moon at apogee: 404,548 km                        |
| Mon 24 <sup>th</sup> | 2 am (Midnight WST, prev day) Neptune 6° N of Moon                |
| Mon 24 <sup>th</sup> | 9 am (7 am WST) Mercury at greatest elongation East (25.2°)       |
| Tue 25 <sup>th</sup> | 7:46 pm (5:46 pm WST) Last Quarter Moon                           |
| Tue 25 <sup>th</sup> | pm Jupiter 0.4° N of NGC 6287 (GC) in Ophiuchus                   |
| Tue 25 <sup>th</sup> | pm m.p. 18 Melpomene 0.8° N of M26 (OC) in Scutum                 |
| Wed 26 <sup>th</sup> | Mercury at descending node  |
| Thu 27 <sup>th</sup> | m.p. 64 Angelina 0.3° S of NGC 3640 (G) in Leo                    |
| Fri 28 <sup>th</sup> | 5 am (3 am WST) m.p. 4 Vesta 4° E of Moon                         |
| Fri 28 <sup>th</sup> | 5 am (3 am WST) Uranus 5° N of Moon                               |
| Sat 29 <sup>th</sup> | m.p. 4 Vesta 0.4° S of star Xi2 Ceti                              |
| Sat 29 <sup>th</sup> | m.p. 9 Metis 0.6° S of NGC 520 (G) in Pisces                      |

## JULY

|                      |  |
|----------------------|--|
| Mon 1 <sup>st</sup>  | 2 am (Midnight WST, prev day) star Aldebaran 2° S of Moon                        |
| Wed 3 <sup>rd</sup>  | 5:16 am (3:16 am WST) New Moon   |
| Thu 4 <sup>th</sup>  | am Comet 260P/McNaught 0.6° SE of star Iota Ceti                                 |
| Thu 4 <sup>th</sup>  | 4 am (2 am WST) star Pollux 6° N of Moon   |
| Thu 4 <sup>th</sup>  | 5 pm (3 pm WST) Mars 1° S of Moon  |
| Thu 4 <sup>th</sup>  | 6 pm (4 pm WST) Mercury 4° S of Moon   |
| Thu 4 <sup>th</sup>  | pm m.p. 18 Melpomene 0.8° S of star Alpha Scuti                                  |
| Fri 5 <sup>th</sup>  | Venus at ascending node  |
| Fri 5 <sup>th</sup>  | 8 am (6 am WST) Earth at aphelion: 1.016754345 au                                |
| Fri 5 <sup>th</sup>  | 3 pm (1 pm WST) Moon at perigee: 363,726 km                                      |
| Sat 6 <sup>th</sup>  | 6 pm (4 pm WST) star Regulus 4° S of Moon  |
| Sun 7 <sup>th</sup>  | Mercury at aphelion  |
| Sun 7 <sup>th</sup>  | 2 pm (Noon WST) Mercury stationary   |
| Sun 7 <sup>th</sup>  | Midnight (10 pm WST) Mars 4° N of Mercury  |
| Mon 8 <sup>th</sup>  | am Comet 260P/McNaught 1.3° NW of NGC 157 (G) in Cetus                           |
| Tue 9 <sup>th</sup>  | 8:55 pm (6:55 pm WST) First Quarter Moon   |
| Wed 10 <sup>th</sup> | 3 am (1 am WST) Saturn at opposition   |
| Thu 11 <sup>th</sup> | m.p. 7 Iris 0.7° SW of NGC 4699 (G) in Virgo                                     |
| Sat 13 <sup>th</sup> | 1 am (11 pm WST, prev day) d.p. 1 Ceres 3° S of Moon                             |
| Sat 13 <sup>th</sup> | 5 pm (3 pm WST) star Antares 8° S of Moon  |
| Sun 14 <sup>th</sup> | m.p. 29 Amphitrite 0.2° W of star Zeta Piscium                                   |
| Sun 14 <sup>th</sup> | am m.p. 135 Hertha 0.4° SE of star Phi Aquarii                                   |
| Sun 14 <sup>th</sup> | 2 am (Midnight WST, prev day) Jupiter 4° S of Moon                               |
| Mon 15 <sup>th</sup> | 1 am (11 pm WST, prev day) d.p. Pluto at opposition                              |
| Tue 16 <sup>th</sup> | m.p. 3 Juno 0.9° N of M67 (OC) in Cancer   |
| Tue 16 <sup>th</sup> | 5 pm (3 pm WST) Saturn 0.2° N of Moon  |
| Wed 17 <sup>th</sup> | m.p. 9 Metis 0.7° S of NGC 676 (G) in Pisces                                     |
| Wed 17 <sup>th</sup> | 3 am (1 am WST) d.p. Pluto 0.04° S of Moon                                       |
| Wed 17 <sup>th</sup> | 7:38 am (5:38 am WST) Full Moon (398,908 km)                                     |
| Thu 18 <sup>th</sup> | Mars at greatest latitude north  |
| Sat 20 <sup>th</sup> | 3 am (1 am WST) d.p. 1 Ceres stationary  |
| Sat 20 <sup>th</sup> | 10 am (8 am WST) Moon at apogee: 405,481 km                                      |
| Sun 21 <sup>st</sup> | 11 pm (9 pm WST) Mercury in inferior conjunction                                 |
| Sun 21 <sup>st</sup> | 11 pm (9 pm WST) Neptune 4° W of Moon  |
| Tue 23 <sup>rd</sup> | 3 am (1 am WST) m.p. 9 Metis 0.1° N of NGC 741 (G) in Pisces                     |
| Wed 24 <sup>th</sup> | am m.p. 135 Hertha 0.3° SE of Neptune  |
| Thu 25 <sup>th</sup> | m.p. 2 Pallas 0.3° SW of star Eta Bootis   |
| Thu 25 <sup>th</sup> | 11:18 am (9:18 am WST) Last Quarter Moon   |
| Fri 26 <sup>th</sup> | 4 am (2 am WST) Uranus 6° W of Moon  |
| Sat 27 <sup>th</sup> | Mercury at greatest latitude south   |
| Sat 27 <sup>th</sup> | pm Jupiter 0.1° N of NGC 6235 (GC) in Ophiuchus                                  |
| Sun 28 <sup>th</sup> | 2 am (Midnight WST, prev day) Comet 260P/McNaught 0.2° N of NGC 428 (G) in Cetus |
| Sun 28 <sup>th</sup> | 5 am (3 am WST) star Aldebaran 4° E of Moon                                      |
| Mon 29 <sup>th</sup> | am m.p. 29 Amphitrite 0.2° SE of NGC 524 (G) in Pisces                           |
| Mon 29 <sup>th</sup> | pm d.p. 1 Ceres 0.1° E of star Lambda Librae                                     |
| Mon 29 <sup>th</sup> | pm m.p. 8 Flora 0.1° SE of star Xi2 Librae                                       |
| Tue 30 <sup>th</sup> | am m.p. 14 Irene 0.8° S of star Alpha Piscium                                    |
| Tue 30 <sup>th</sup> | am m.p. 15 Eunomia 0.8° S of star Beta Aquarii                                   |
| Wed 31 <sup>st</sup> | Noon (10 am WST) Mercury 5° S of Moon  |

## AUGUST

|                     |   |
|---------------------|---|
| Thu 1 <sup>st</sup> | am Comet 260P/McNaught 0.4° SE of NGC 474 (G) in Pisces |
| Thu 1 <sup>st</sup> | 5 am (3 am WST) Mercury stationary                      |
| Thu 1 <sup>st</sup> | 1:12 pm (11:12 am WST) New Moon                         |
| Thu 1 <sup>st</sup> | pm m.p. 44 Nysa 0.9° NE of star Kappa Virginis          |
| Fri 2 <sup>nd</sup> | am Comet 260P/McNaught 0.3° SW of NGC 520 (G) in Pisces |
| Fri 2 <sup>nd</sup> | 5 pm (3 pm WST) Moon at perigee: 359,398 km             |
| Fri 2 <sup>nd</sup> | 10 pm (8 pm WST) star Regulus 3° S of Moon              |
| Mon 5 <sup>th</sup> | pm m.p. 11 Parthenope 0.7° NE of NGC 5878 (G) in Libra  |
| Tue 6 <sup>th</sup> | am Comet 260P/McNaught 0.5° SE of star Mu Piscium       |

|                      |                                   |   |
|----------------------|-----------------------------------|---|
| Tue 6 <sup>th</sup>  | 8 am (6 am WST)                   | star Pollux 9° N of Mercury                           |
| Tue 6 <sup>th</sup>  | 7 pm (5 pm WST)                   | star Spica 8° S of Moon                               |
| Thu 8 <sup>th</sup>  |                                   | Venus at perihelion                                   |
| Thu 8 <sup>th</sup>  | 3:31 am (1:31 am WST)             | First Quarter Moon                                    |
| Thu 8 <sup>th</sup>  | pm                                | Saturn 0.6° S of star Omicron Sagittarii              |
| Fri 9 <sup>th</sup>  | 11 pm (9 pm WST)                  | star Antares 8° S of Moon                             |
| Sat 10 <sup>th</sup> | 1 am (11 pm WST, prev day)        | Jupiter 6° E of Moon                                  |
| Sat 10 <sup>th</sup> | 9 am (7 am WST)                   | Mercury at greatest elongation West (19.0°)           |
| Sun 11 <sup>th</sup> | am m.p.                           | 135 Hertha 0.2° N of Neptune                          |
| Mon 12 <sup>th</sup> | 2 am (Midnight WST, prev day)     | Jupiter stationary                                    |
| Mon 12 <sup>th</sup> | 4 pm (2 pm WST)                   | Uranus stationary                                     |
| Mon 12 <sup>th</sup> | 8 pm (6 pm WST)                   | Saturn 0.04° N of Moon                                |
| Tue 13 <sup>th</sup> | am                                | Comet 260P/McNaught 0.4° N of star Omicron Piscium    |
| Tue 13 <sup>th</sup> | 3 am (1 am WST)                   | d.p. Pluto 4° S of Moon                               |
| Wed 14 <sup>th</sup> | 4 pm (2 pm WST)                   | Venus in superior conjunction                         |
| Thu 15 <sup>th</sup> |                                   | Mercury at ascending node                             |
| Thu 15 <sup>th</sup> | 10:29 pm (8:29 pm WST)            | Full Moon (404,935 km)                                |
| Thu 15 <sup>th</sup> | pm m.p.                           | 135 Hertha 0.4° N of star Phi Aquarii                 |
| Sat 17 <sup>th</sup> |                                   | Mercury 1.1° SE of M44 Beehive Cluster (OC) in Cancer |
| Sat 17 <sup>th</sup> | 9 pm (7 pm WST)                   | Moon at apogee: 406,244 km                            |
| Sat 17 <sup>th</sup> | 11 pm (9 pm WST)                  | Neptune 4° N of Moon                                  |
| Tue 20 <sup>th</sup> |                                   | Mercury at perihelion                                 |
| Wed 21 <sup>st</sup> | 7 pm (5 pm WST) m.p.              | 8 Flora 0.1° E of NGC 5878 (G) in Libra               |
| Thu 22 <sup>nd</sup> | m.p.                              | 11 Parthenope 1.0° SW of star gamma Librae            |
| Thu 22 <sup>nd</sup> | 1 am (11 pm WST, prev day)        | Uranus 5° N of Moon                                   |
| Fri 23 <sup>rd</sup> | 8 am (6 am WST) m.p.              | 3 Juno in conjunction with Sun                        |
| Sat 24 <sup>th</sup> | 12:56 am (10:56 pm WST, prev day) | Last Quarter Moon                                     |
| Sun 25 <sup>th</sup> | 3 am (1 am WST)                   | star Aldebaran 6° S of Moon                           |
| Mon 26 <sup>th</sup> |                                   | Mars at aphelion                                      |
| Tue 27 <sup>th</sup> | pm                                | Jupiter 0.02° S of NGC 6235 (GC) in Ophiuchus         |
| Wed 28 <sup>th</sup> | 1 am (11 pm WST, prev day)        | star Pollux 6° N of Moon                              |
| Fri 30 <sup>th</sup> |                                   | Mercury at greatest latitude north                    |
| Fri 30 <sup>th</sup> |                                   | Venus at greatest latitude north                      |
| Fri 30 <sup>th</sup> | 8:37 pm (6:37 pm WST)             | New Moon  |
| Sat 31 <sup>st</sup> | 2 am (Midnight WST, prev day)     | Moon at perigee: 357,176 km                           |

### SEPTEMBER

|                      |                            |  |
|----------------------|----------------------------|--|
| Mon 2 <sup>nd</sup>  | 7 pm (5 pm WST)            | star Spica 8° S of Moon                                      |
| Mon 2 <sup>nd</sup>  | 9 pm (7 pm WST)            | Mars in conjunction with Sun                                 |
| Wed 4 <sup>th</sup>  | d.p.                       | 1 Ceres 0.3° N of M80 (GC) in Scorpius                       |
| Wed 4 <sup>th</sup>  | m.p.                       | 97 Klotho 0.4° NE of star Mu Tauri                           |
| Wed 4 <sup>th</sup>  | Noon (10 am WST)           | Mercury in superior conjunction                              |
| Thu 5 <sup>th</sup>  | Midnight (10 pm WST)       | d.p. 1 Ceres 5° S of Moon                                    |
| Fri 6 <sup>th</sup>  | 5 am (3 am WST)            | star Antares 8° S of Moon                                    |
| Fri 6 <sup>th</sup>  | 1:10 pm (11:10 am WST)     | First Quarter Moon   |
| Fri 6 <sup>th</sup>  | 7 pm (5 pm WST)            | Jupiter 3° S of Moon   |
| Fri 6 <sup>th</sup>  | 11 pm (9 pm WST)           | Neptune 0.005° S of star Phi Aquarii                         |
| Sun 8 <sup>th</sup>  | Midnight (10 pm WST)       | Saturn 0.04° N of Moon                                       |
| Mon 9 <sup>th</sup>  | 1 am (11 pm WST, prev day) | d.p. Pluto 7° E of Moon                                      |
| Tue 10 <sup>th</sup> | 5 pm (3 pm WST)            | Neptune at opposition  |
| Thu 12 <sup>th</sup> | d.p.                       | 1 Ceres 0.2° N of star rho Ophiuchi                          |
| Thu 12 <sup>th</sup> | pm m.p.                    | 135 Hertha 0.6° N of star Lambda Aquarii                     |
| Fri 13 <sup>th</sup> | Midnight (10 pm WST)       | Moon at apogee: 406,377 km                                   |
| Fri 13 <sup>th</sup> | pm m.p.                    | 18 Melpomene 1.2° SW of M17 Omega Nebula (BN) in Sagittarius |
| Sat 14 <sup>th</sup> | am                         | Comet 260P/McNaught 0.9° E of NGC 972 (G) in Aries           |
| Sat 14 <sup>th</sup> | 4 am (2 am WST)            | Neptune 4° N of Moon   |
| Sat 14 <sup>th</sup> | 2:33 pm (12:33 pm WST)     | Full Moon (406,247 km, furthest for this year)               |
| Sun 15 <sup>th</sup> | pm m.p.                    | 18 Melpomene 0.2° SW of M18 (OC) in Sagittarius              |
| Wed 18 <sup>th</sup> | 6 am (4 am WST)            | Uranus 4° N of Moon  |
| Wed 18 <sup>th</sup> | 4 pm (2 pm WST)            | Saturn stationary  |

|                      |                         |  |
|----------------------|-------------------------|--|
| Fri 20 <sup>th</sup> | 5 am (3 am WST) m.p.    | 4 Vesta 5° S of Moon                           |
| Sat 21 <sup>st</sup> | 3 am (1 am WST)         | star Aldebaran 3° S of Moon                    |
| Sun 22 <sup>nd</sup> |                         | Mercury at descending node                     |
| Sun 22 <sup>nd</sup> | 12:41 pm (10:41 am WST) | Last Quarter Moon                              |
| Mon 23 <sup>rd</sup> | 6 pm (4 pm WST)         | Equinox  |
| Tue 24 <sup>th</sup> | 4 am (2 am WST)         | star Pollux 6° N of Moon                       |
| Wed 25 <sup>th</sup> | 3 pm (1 pm WST) m.p.    | 4 Vesta stationary                             |
| Thu 26 <sup>th</sup> |                         | Jupiter 0.15° N of NGC 6287 (GC) in Ophiuchus  |
| Thu 26 <sup>th</sup> | 7 pm (5 pm WST)         | star Regulus 3° S of Moon                      |
| Thu 26 <sup>th</sup> | pm m.p.                 | 18 Melpomene 0.8° N of M25 (OC) in Sagittarius |
| Sat 28 <sup>th</sup> | m.p.                    | 16 Psyche 0.1° NE of star Upsilon Capricorni   |
| Sat 28 <sup>th</sup> | Noon (10 am WST)        | Moon at perigee: 357,802 km                    |
| Sun 29 <sup>th</sup> | 4:26 am (2:26 am WST)   | New Moon                                       |
| Sun 29 <sup>th</sup> | 9 am (7 am WST)         | star Spica 1.5° S of Mercury                   |
| Mon 30 <sup>th</sup> | 3 am (1 am WST)         | Comet 260P/McNaught 0.2° E of star 16 Persei   |
| Mon 30 <sup>th</sup> | 6 am (4 am WST)         | star Spica 8° S of Moon                        |
| Mon 30 <sup>th</sup> | 8 am (6 am WST)         | Mercury 6° S of Moon                           |

### OCTOBER

|                      |                               |   |
|----------------------|-------------------------------|---|
| Tue 1 <sup>st</sup>  | am m.p.                       | 97 Klotho 0.5° SW of star Pi3 Orionis                     |
| Thu 3 <sup>rd</sup>  |                               | Mercury at aphelion                                       |
| Thu 3 <sup>rd</sup>  | am                            | Comet 260P/McNaught 1.2° W of star Pi Persei              |
| Thu 3 <sup>rd</sup>  | 7 am (5 am WST)               | d.p. Pluto stationary                                     |
| Thu 3 <sup>rd</sup>  | 8 pm (6 pm WST)               | star Antares 8° S of Moon                                 |
| Thu 3 <sup>rd</sup>  | 9 pm (7 pm WST)               | Jupiter 7° E of Moon                                      |
| Thu 3 <sup>rd</sup>  | 11 pm (9 pm WST)              | d.p. 1 Ceres 5° S of Moon                                 |
| Fri 4 <sup>th</sup>  | am                            | Comet C/2017 T2 (PANSTARRS) 2.6° E of star Beta Tauri     |
| Sat 5 <sup>th</sup>  | 11 pm (9 pm WST)              | Saturn 5° E of Moon                                       |
| Sun 6 <sup>th</sup>  | am m.p.                       | 97 Klotho 0.5° NE of star Pi4 Orionis                     |
| Sun 6 <sup>th</sup>  | am                            | Comet 260P/McNaught 2.8° W of star Beta Persei            |
| Sun 6 <sup>th</sup>  | 2:47 am (12:47 am WST)        | First Quarter Moon  |
| Sun 6 <sup>th</sup>  | 7 pm (5 pm WST)               | d.p. Pluto 0.1° N of Moon                                 |
| Fri 11 <sup>th</sup> | 2 am (Midnight WST, prev day) | Neptune 6° N of Moon                                      |
| Fri 11 <sup>th</sup> | 4 am (2 am WST)               | Moon at apogee: 405,899 km                                |
| Fri 11 <sup>th</sup> | 7 pm (5 pm WST)               | Mercury 0.02° N of m.p. 7 Iris                            |
| Sat 12 <sup>th</sup> | d.p.                          | 1 Ceres 0.4° S of NGC 6284 (GC) in Ophiuchus              |
| Sat 12 <sup>th</sup> | m.p.                          | 18 Melpomene 0.5° N of NGC 6716 (OC) in Sagittarius       |
| Mon 14 <sup>th</sup> | 7:08 am (5:08 am WST)         | Full Moon (402,366 km)                                    |
| Tue 15 <sup>th</sup> | 3 am (1 am WST)               | Uranus 6° N of Moon                                       |
| Thu 17 <sup>th</sup> |                               | Jupiter 0.9° N of NGC 6235 (GC) in Ophiuchus              |
| Thu 17 <sup>th</sup> | pm m.p.                       | 39 Laetitia 0.8° N of star Iota Capricorni                |
| Fri 18 <sup>th</sup> | 4 am (2 am WST)               | star Aldebaran 4° S of Moon                               |
| Sat 19 <sup>th</sup> | pm m.p.                       | 9 Metis 0.7° NW of NGC 864 (G) in Cetus                   |
| Sun 20 <sup>th</sup> | m.p.                          | 69 Hesperia 0.15° N of star Xi Geminorum                  |
| Sun 20 <sup>th</sup> | 2 pm (Noon WST)               | Mercury at greatest elongation East (24.6°)               |
| Mon 21 <sup>st</sup> |                               | Venus 0.4° SE of star Alpha 1 Librae                      |
| Mon 21 <sup>st</sup> | m.p.                          | 2 Pallas 0.2° N of star Alpha Serpentis                   |
| Mon 21 <sup>st</sup> | 10:39 pm (8:39 pm WST)        | Last Quarter Moon   |
| Tue 22 <sup>nd</sup> |                               | Mercury 0.4° S of NGC 5897 (GC) in Libra                  |
| Tue 22 <sup>nd</sup> | 3 am (1 am WST)               | star Pollux 8° N of Moon                                  |
| Wed 23 <sup>rd</sup> |                               | Mercury at greatest latitude south                        |
| Thu 24 <sup>th</sup> | 4 am (2 am WST)               | star Regulus 3° S of Moon                                 |
| Fri 25 <sup>th</sup> |                               | Venus at descending node                                  |
| Sat 26 <sup>th</sup> | d.p.                          | 1 Ceres 0.5° NE of NGC 6355 (GC) in Ophiuchus             |
| Sat 26 <sup>th</sup> | 9 pm (7 pm WST)               | Moon at perigee: 361,311 km                               |
| Sun 27 <sup>th</sup> | 3 am (1 am WST)               | d.p. 1 Ceres 3° S of Jupiter                              |
| Sun 27 <sup>th</sup> | 3 am (1 am WST)               | Mars 5° S of Moon   |
| Sun 27 <sup>th</sup> | 3 am (1 am WST)               | Comet C/2017 T2 (PANSTARRS) 0.6° SE of M36 (OC) in Auriga |
| Mon 28 <sup>th</sup> |                               | Saturn 0.7° S of star Omicron Sagittarii                  |

|                      |   |
|----------------------|---|
| Mon 28 <sup>th</sup> | 1:38 pm (11:38 am WST) New Moon                                   |
| Mon 28 <sup>th</sup> | 6 pm (4 pm WST) Uranus at opposition                              |
| Mon 28 <sup>th</sup> | pm Comet 260P/McNaught 0.4° S of star Theta Persei                |
| Tue 29 <sup>th</sup> | Midnight (10 pm WST) Venus 4° S of Moon                           |
| Wed 30 <sup>th</sup> | 1 am (11 pm WST, prev day) Mercury 7° S of Moon                   |
| Wed 30 <sup>th</sup> | 6 pm (4 pm WST) Venus 3° N of Mercury                             |
| Wed 30 <sup>th</sup> | 11 pm (9 pm WST) star Antares 7° S of Moon                        |
| Thu 31 <sup>st</sup> | 8 pm (6 pm WST) Jupiter 4° S of Moon                              |
| <b>NOVEMBER</b>      |   |
| Fri 1 <sup>st</sup>  | 6 am (4 am WST) Mercury stationary                                |
| Sat 2 <sup>nd</sup>  | 8 pm (6 pm WST) Saturn 1° W of Moon                               |
| Sat 2 <sup>nd</sup>  | 10 pm (8 pm WST) d.p. Pluto 4° E of Moon                          |
| Sun 3 <sup>rd</sup>  | am Comet C/2017 T2 (PANSTARRS) 1.3° E of M38 (OC) in Auriga       |
| Mon 4 <sup>th</sup>  | Venus 1.6° N of star Delta Scorpii                                |
| Mon 4 <sup>th</sup>  | 8:23 pm (6:23 pm WST) First Quarter Moon                          |
| Tue 5 <sup>th</sup>  | Venus 0.8° S of star Omega1 Scorpii                               |
| Tue 5 <sup>th</sup>  | m.p. 4 Vesta 0.3° S of star Omicron Tauri                         |
| Wed 6 <sup>th</sup>  | m.p. 3 Juno 0.3° N of NGC 4030 (G) in Virgo                       |
| Wed 6 <sup>th</sup>  | am m.p. 97 Klotho 0.4° SE of star Pi6 Orionis                     |
| Wed 6 <sup>th</sup>  | pm m.p. 9 Metis 0.3° NW of NGC 741 (G) in Pisces                  |
| Thu 7 <sup>th</sup>  | 7 pm (5 pm WST) Moon at apogee: 405,058 km                        |
| Fri 8 <sup>th</sup>  | Venus 1.0° N of M80 (GC) in Scorpius                              |
| Fri 8 <sup>th</sup>  | 1 am (11 pm WST, prev day) Neptune 4° W of Moon                   |
| Fri 8 <sup>th</sup>  | pm m.p. 16 Psyche 0.2° NW of star Theta Capricorni                |
| Sat 9 <sup>th</sup>  | Venus 1.2° NE of star Rho Ophiuchi                                |
| Sat 9 <sup>th</sup>  | 1 am (11 pm WST, prev day) star Spica 3° S of Mars                |
| Sat 9 <sup>th</sup>  | 9 pm (7 pm WST) star Antares 4° S of Venus                        |
| Sat 9 <sup>th</sup>  | pm m.p. 39 Laetitia 0.8° N of star Gamma Capricorni               |
| Sun 10 <sup>th</sup> | am m.p. 28 Bellona 0.5° SE of star Lambda Orionis                 |
| Sun 10 <sup>th</sup> | am m.p. 28 Bellona 0.3° NW of star Phi2 Orionis                   |
| Mon 11 <sup>th</sup> | Jupiter 0.7° N of NGC 6401 (GC) in Ophiuchus                      |
| Mon 11 <sup>th</sup> | Mercury at ascending node   |
| Mon 11 <sup>th</sup> | 8 pm (6 pm WST) Uranus 4° W of Moon                               |
| Tue 12 <sup>th</sup> | 1 am (11 pm WST, prev day) Mercury in inferior conjunction        |
| Tue 12 <sup>th</sup> | 7 pm (5 pm WST) m.p. 4 Vesta at opposition                        |
| Tue 12 <sup>th</sup> | 11:34 pm (9:34 pm WST) Full Moon (393,972 km)                     |
| Thu 14 <sup>th</sup> | 10 pm (8 pm WST) star Aldebaran 7° S of Moon                      |
| Thu 14 <sup>th</sup> | 10 pm (8 pm WST) m.p. 9 Metis 0.1° N of NGC 676 (G) in Pisces     |
| Fri 15 <sup>th</sup> | am Comet C/2017 T2 (PANSTARRS) 1.0° NE of NGC 1857 (OC) in Auriga |
| Sat 16 <sup>th</sup> | Venus 1.0° N of NGC 6284 (GC) in Ophiuchus                        |
| Sat 16 <sup>th</sup> | Mercury at perihelion   |
| Sat 16 <sup>th</sup> | pm m.p. 39 Laetitia 0.6° N of star Delta Capricorni               |
| Mon 18 <sup>th</sup> | Venus 0.4° S of NGC 6325 (GC) in Ophiuchus                        |
| Mon 18 <sup>th</sup> | 2 am (Midnight WST, prev day) star Pollux 6° N of Moon            |
| Tue 19 <sup>th</sup> | Venus 0.7° N of star Theta Ophiuchi                               |
| Wed 20 <sup>th</sup> | 3 am (1 am WST) star Regulus 7° S of Moon                         |
| Wed 20 <sup>th</sup> | 7:11 am (5:11 am WST) Last Quarter Moon                           |
| Thu 21 <sup>st</sup> | 1 am (11 pm WST, prev day) Mercury stationary                     |
| Fri 22 <sup>nd</sup> | Venus 0.6° S of NGC 6401 (GC) in Ophiuchus                        |
| Fri 22 <sup>nd</sup> | d.p. 1 Ceres 0.7° S of NGC 6553 (GC) in Sagittarius               |
| Sat 23 <sup>rd</sup> | 6 pm (4 pm WST) Moon at perigee: 366,716 km                       |
| Sun 24 <sup>th</sup> | 2 am (Midnight WST, prev day) star Spica 8° S of Moon             |
| Sun 24 <sup>th</sup> | 7 pm (5 pm WST) Mars 4° S of Moon                                 |
| Sun 24 <sup>th</sup> | Midnight (10 pm WST) Jupiter 1.5° N of Venus                      |
| Mon 25 <sup>th</sup> | 1 pm (11 am WST) Mercury 2° S of Moon                             |
| Tue 26 <sup>th</sup> | Mercury at greatest latitude north                                |
| Tue 26 <sup>th</sup> | am Comet C/2017 T2 (PANSTARRS) 1.0° NE of star Epsilon Aurigae    |
| Wed 27 <sup>th</sup> | Venus 0.7° SE of M8 Lagoon Nebula (BN) in Sagittarius             |

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| Wed 27 <sup>th</sup> | am Comet C/2017 T2 (PANSTARRS) 2.4° SW of star Capella                            |
| Wed 27 <sup>th</sup> | 1:06 am (11:06 pm WST, prev day) New Moon   |
| Thu 28 <sup>th</sup> | Venus at aphelion   |
| Thu 28 <sup>th</sup> | 6 am (4 am WST) Neptune stationary  |
| Thu 28 <sup>th</sup> | 7 pm (5 pm WST) Jupiter 2° S of Moon  |
| Thu 28 <sup>th</sup> | 7 pm (5 pm WST) Venus 6° E of Moon  |
| Thu 28 <sup>th</sup> | 8 pm (6 pm WST) Mercury at greatest elongation West (20.1°)                       |
| Fri 29 <sup>th</sup> | 8 am (6 am WST) d.p. 1 Ceres 4° S of Moon   |
| Sat 30 <sup>th</sup> | Venus 0.4° W of M28 (GC) in Sagittarius   |
| Sat 30 <sup>th</sup> | 8 pm (6 pm WST) d.p. Pluto 3° W of Moon   |
| Sat 30 <sup>th</sup> | 8 pm (6 pm WST) Saturn 6° W of Moon   |
| Sat 30 <sup>th</sup> | 10 pm (8 pm WST) d.p. 1 Ceres 2° S of Venus                                       |
| <b>DECEMBER</b>      |   |
| Sun 1 <sup>st</sup>  | Venus 0.7° N of star Lambda Sagittarii  |
| Sun 1 <sup>st</sup>  | am m.p. 7 Iris 0.8° N of star Lambda Ceti   |
| Tue 3 <sup>rd</sup>  | Venus 1.0° SE of M22 (GC) in Sagittarius  |
| Tue 3 <sup>rd</sup>  | m.p. 3 Juno 0.3° N of NGC 4546 (G) in Virgo                                       |
| Tue 3 <sup>rd</sup>  | Noon (10 am WST) m.p. 2 Pallas in conjunction with Sun                            |
| Wed 4 <sup>th</sup>  | 4:58 pm (2:58 pm WST) First Quarter Moon  |
| Wed 4 <sup>th</sup>  | 10 pm (8 pm WST) Neptune 4° N of Moon   |
| Thu 5 <sup>th</sup>  | 2 pm (Noon WST) Moon at apogee: 404,446 km  |
| Fri 6 <sup>th</sup>  | Venus 1.8° N of star Sigma Sagittarii   |
| Sun 8 <sup>th</sup>  | 9 pm (7 pm WST) Uranus 5° N of Moon   |
| Mon 9 <sup>th</sup>  | 10 pm (8 pm WST) m.p. 4 Vesta 4° S of Moon  |
| Wed 11 <sup>th</sup> | 3 pm (1 pm WST) Saturn 2° N of Venus  |
| Wed 11 <sup>th</sup> | 10 pm (8 pm WST) star Aldebaran 3° S of Moon                                      |
| Thu 12 <sup>th</sup> | 3:12 pm (1:12 pm WST) Full Moon (382,864 km)                                      |
| Fri 13 <sup>th</sup> | Mars 0.2° NE of star alpha 1 Librae   |
| Fri 13 <sup>th</sup> | d.p. 1 Ceres 0.3° N of star Phi Sagittarii  |
| Fri 13 <sup>th</sup> | 10 pm (8 pm WST) d.p. Pluto 1° N of Venus   |
| Fri 13 <sup>th</sup> | pm Comet C/2017 T2 (PANSTARRS) 0.7° NE of NGC 1545 (OC) in Perseus                |
| Sun 15 <sup>th</sup> | 4 am (2 am WST) star Pollux 5° N of Moon  |
| Sun 15 <sup>th</sup> | pm Comet C/2017 T2 (PANSTARRS) 0.4° NE of NGC 1528 (OC) in Perseus                |
| Mon 16 <sup>th</sup> | 2 am (Midnight WST, prev day) star Antares 5° S of Mercury                        |
| Tue 17 <sup>th</sup> | 3 pm (1 pm WST) star Regulus 4° S of Moon   |
| Tue 17 <sup>th</sup> | pm m.p. 69 Hesperia 0.7° S of NGC 2264 (OC) in Monoceros                          |
| Thu 19 <sup>th</sup> | Venus 0.4° SW of M75 (GC) in Sagittarius  |
| Thu 19 <sup>th</sup> | m.p. 15 Eunomia 0.8° SE of star Alpha Aquarii                                     |
| Thu 19 <sup>th</sup> | Mercury at descending node  |
| Thu 19 <sup>th</sup> | 6 am (4 am WST) Moon at perigee: 370,265 km                                       |
| Thu 19 <sup>th</sup> | 2:57 pm (12:57 pm WST) Last Quarter Moon  |
| Thu 19 <sup>th</sup> | 10 pm (8 pm WST) Comet C/2017 T2 (PANSTARRS) 0.15° SE of NGC 1496 (OC) in Perseus |
| Fri 20 <sup>th</sup> | Venus at greatest latitude south  |
| Sat 21 <sup>st</sup> | 3 am (1 am WST) star Spica 10° S of Moon  |
| Sun 22 <sup>nd</sup> | 2 pm (Noon WST) Solstice  |
| Mon 23 <sup>rd</sup> | Noon (10 am WST) Mars 4° S of Moon  |
| Tue 24 <sup>th</sup> | 6 pm (4 pm WST) star Antares 7° S of Moon   |
| Wed 25 <sup>th</sup> | pm m.p. 69 Hesperia 0.7° N of NGC 2251 (OC) in Monoceros                          |
| Thu 26 <sup>th</sup> | 3:13 pm (1:13 pm WST) New Moon  |
| Fri 27 <sup>th</sup> | 10 pm (8 pm WST) Saturn 1° N of Moon  |
| Sat 28 <sup>th</sup> | 1 am (11 pm WST, prev day) d.p. Pluto 0.5° N of Moon                              |
| Sat 28 <sup>th</sup> | 4 am (2 am WST) Jupiter in conjunction with Sun                                   |
| Sun 29 <sup>th</sup> | 8 pm (6 pm WST) Venus 3° W of Moon  |
| Mon 30 <sup>th</sup> | m.p. 15 Eunomia 0.9° NW of star Zeta1 Aquarii                                     |
| Mon 30 <sup>th</sup> | Mercury at aphelion   |
| Tue 31 <sup>st</sup> | m.p. 3 Juno 0.4° N of NGC 4941 (G) in Virgo                                       |
| Tue 31 <sup>st</sup> | 9 pm (7 pm WST) Neptune 7° N of Moon  |
| Tue 31 <sup>st</sup> | pm m.p. 9 Metis 0.3° S of star Omicron Piscium                                    |